



# TransLink | Transit Fare Review Customer Experience Research

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# Executive Summary

OpenRoad was tasked with performing qualitative research of TransLink's transit customers as part of the Transit Fare Review project, specifically focusing on the following areas of inquiry:

- Legibility of the current fare system and what information matters to customers for the purposes of their trip
- Customers' decision-making process leading to and during the trip
- Valued and important aspects of transit service
- Perceived experiences and level of satisfaction during transit trips
- Meaning of the fares and its relationship to customer experience.

Customer research activities included:

- One customer workshop (18 participants, Dec 2015),
- Multiple one-on-one interviews (11 participants, May-Jun 2016)
- Customer intercept interviews at transit hubs (162 customers, 12 locations, May - Aug 2016)
- HandyDART ride-along (5 customers, 4-hour ride-along, Aug 2016)

Our major findings from this qualitative research are as follows:

## **Partial Knowledge of the Fare System**

Customers were unable to describe all fare products and options available to them, but were capable of describing the products they use and know. Customers only know what they need to know for their transit usage when they need to know it and do not possess a full understanding of the fare structure or system. This partial knowledge shapes their less-than optimal decision-making (choosing products that satisfy their immediate travel needs, but may not provide the best value over time) as well as their perception of value of the system as a whole. Imperfect and partial knowledge of the customer is the default context into which TransLink will design and introduce revised or entirely new fare products, structures, and prices in the future and will need to be contemplated from a marketing, communications, and customer experience design perspective.

### **Paying Attention to Fares Increases Over Time and Frequent Usage**

Customers' information needs vary as their experience and familiarity with the system increases over time. Infrequent or novice transit customers pay more attention to the fundamentals of wayfinding, routes, and modes of transit in relation to fare products and fare costs than frequent or habitual users of transit. Once the basic mastery of making a particular trip or mode is achieved (the questions of "How do I get from A to B" and "What route/mode will take me there?" are answered by lived experience and become known) the questions of "How much is this?" and "How much am I spending on transit?" increasingly become more top of mind. The geography of travel and time spent travelling tend to be the initial focus of customers until such point that they develop a certain level of competence around transit system usage. At that point, the overall value (time for money, service for money) comes more into focus as they contemplate the experience of transit (their safety, their security, the level of civility or cleanliness, their emotional state while travelling) and the overall cost.

### **Is transit affordable? Compared to what?**

Affordability of transit may have been expressed as a "yes" or "no" answer by customers, but is always compared to another aspect of the customers' financial situation. The customer's overall income and other major costs of living such as rent, food, and driving were used as reference points in their answers. Fixed/ limited income customers are concerned about increases in cost of transit, as their income is not increasing and many other costs of living currently are in metro Vancouver. Customers also compare the price paid on TransLink to other transit systems nationally and internationally that they have experienced in the past.

### **Assessing the value and cost of a fare goes beyond the ticket price**

Customers evaluate the overall value proposition of TransLink's service in its totality, often including the memories, sensations, and experiences of their trips that go beyond the simple evaluation of whether transit took them to where they wanted to go and whether the price paid was fair. The customer's perception of safety, security, and physical comfort are examples of other factors customers reported that contribute to their overall assessment of whether transit is good value. The price of a trip, while an essential part of the fare system, is not the only dimension of cost in the overall transit value equation.

### **The obligations of a public transit provider**

Customers appear to hold TransLink to certain standards of behaviour and have ideas on how TransLink should operate based on its status as a public service. As one interviewee stated, TransLink as a "government thing" should uphold its responsibility

of equality by providing access to transit for all citizens and not behave like a profit-seeking company. It is possible to infer from customer interviews that equity (currently seen in the form of special passes, concession fares) is an acceptable approach to providing access to transit for citizens with varied abilities and financial means.

# 1. Research Findings

This section describes the major research findings, organized by topic areas used during workshops, interviews, and customer intercepts. The findings contain a summary of the answers provided by customers alongside verbatim quotes and provide a brief analysis of the content where appropriate.

For policy design implications arising from these research findings and how they affect the Transit Fare Review draft evaluation framework see the Policy Considerations section below.

## **INFORMATION NEEDS & SYSTEM LEGIBILITY**

Any new or revised transit fare policy and its products, structures, and prices will need to be designed and communicated by TransLink and understood by customers, throughout all customer experience touchpoints across the system. What customer information needs exist when it comes to understanding fares? How legible is the existing fare system? Do customers understand fares and how do they come to that understanding?

### **1. What are customers' current understanding of fares and payment options?**

During the interviews, customers spoke about their use of a variety of fare products. They described a number of passes (Monthly Pass, U-Pass, disability pass, DayPass) in addition to single fares. Customers also provided the price they pay for their fare products (\$91/ \$124 for 1 or 2-zone monthly passes, \$201 for West Coast Express, \$45/year for BC Bus Pass). Interestingly, when providing the single fare pricing, only 1-zone fare prices (\$2.10 or \$2.75) were provided. Multiple zone single fare prices were not mentioned, although there is a general awareness amongst customers of zones affecting price.

The Compass Card was a commonly mentioned fare media. Customers knew of the deposit and that the card can be loaded with a pass or money (Stored Value). There was mention of being able to load up the Compass Card online by credit card. Customers were able to acquire the Compass Card at a 3rd party vendor (e.g. 7-Eleven). FareSavers were also mentioned as fare media/fare products.

The final form of payment mentioned was cash, especially in the case where customers take bus trips without the Compass Card.

HandyDART customers engaged in this study were familiar with Fare Savers as a payment option for their trip because it was the form of payment they currently use. Some were not aware of other payment options while others could describe cash as an alternative. One rider was switching to a monthly pass the next month.

## **Analysis**

While we collected feedback on a number of aspects related to fares and payment options, no individual provided a holistic or complete view of fares and payment options. Customers' understanding of fares and payment are derived through their personal experience of travel on the system, which results in good understanding of a small subset of products and fares. Conversely, customers appeared either unable to mention or to describe other products or fares, other than the ones they use. Customers' tend to know and talk about the products they use or have used in the past and the price they pay.

This observation is exemplified via responses received from customers as we asked about current fares and fare product options, to which some responses were:

- “Is there a senior discount eventually?”
- “Other cities have day passes, I don't know what we have here.”
- “What is concession?”

These products and structures are already in place today, but are unknown to customers who do not currently make use of the offerings. Even if known by name as the last question about concession fares suggests, customers don't know what the fare structure is and how it applies to them.

Knowledge of the fare system can be thought of as two forms of knowledge: know-how (firsthand experience of travel and the associated modes of payment) and know-that (awareness of a structure, product, or price but no first-hand experience through usage). As an example of “know-that”: the high level of awareness of the Compass Card for many customers. Even though awareness of the Card's existence was high, typically those who had not used the stored value card were unable to describe product details or specifics about how it worked.

In developing “know-how” - customers go through a learning process and formulate their own understanding or mental model of transit fare and fare products (and the entire transit system [modes, geographic reach, etc.]) from their own experiences (which may include problem-solving strategies like up-front research, trial-and-error, analogous thinking about how other transit systems work in other cities, etc.). As such, most transit customers at any given moment have only partial knowledge of fares and

payment options - the ones they require to satisfy their immediate travel needs, itself a subset of the total system-wide service options available to them.

The customer experience design implication of this insight is that customers of all levels of exposure to the transit system may go through a learning process when interacting with a part of a system they are not familiar with or have little or no exposure to previously. As customers, we are all novices on the system at some point in time both in the past and potentially again in the future. Even a daily commuter who travels frequently (5 days / week, twice daily) may have no other lived experience of the rest of the system - a deep expert in one dimension of their particular route and no knowledge across the breadth of other routes.

Likewise, “optimal” fare product-purchasing behaviours, which assumes the ability of the customers to rationally evaluate all of their fare product options and choose effectively, may simply be overridden by finding something that works and sticking with it. While this may come about through trial-and-error decision making in the moment standing at a Compass Vending Machine at a SkyTrain station, it generally follows the pattern of what consumer psychologists call “satisficing”: a decision-making strategy or cognitive heuristic that entails searching through the available alternatives until an acceptability threshold is met, ending the evaluation with settling on a fare product that is “good enough.” Satisficing as a customer decision-making strategy is contrasted with maximizing: a style of decision-making characterized by seeking the best option through an exhaustive search through all alternatives.

## 2. What information do customers pay attention to about the fare system and why?

During interviews, transit customers identified the following materials and concepts as important in their understanding of how to ride the system:

- **Map:** A means of illustrating geographic coverage of transit, where it goes
- **Website:** To learn more about the transit system and for trip planning
- **Modes:** Options available that can take them from place to place (Bus, SkyTrain, SeaBus, WCE)
- **Fare media-products:** In contrast with the discrete fare policy concepts of “media” and “product,” customers mainly described the brand representation associated with media and an implied product. Compass Card as a fare media is well established. Compass Ticket and cash were mentioned in cases where customers did not use the Compass Card. FareSavers were also mentioned as a form of media customers had used in the past.



- **Price:** How much it would cost, typically given as a trip (per one-way single fare trip) or as a product (monthly pass)

Only after prompting would customers describe the zones. Riders provided a vague description (boundaries, imaginary lines) and a general understanding that zones and price were correlated.

### Analysis

While there is no clear order amongst the concepts of the transit system listed above from the perspective of more frequent customers of whom we asked the question, observations of the novice (e.g. tourist) customers showed an ordering or hierarchy starting with the need for information regarding wayfinding (mode, map) coming before information regarding fare media and price. However, as customers use the overall transit system more regularly and the skill of wayfinding becomes a more unconscious competence, price becomes an important aspect customers pay increasing attention to.

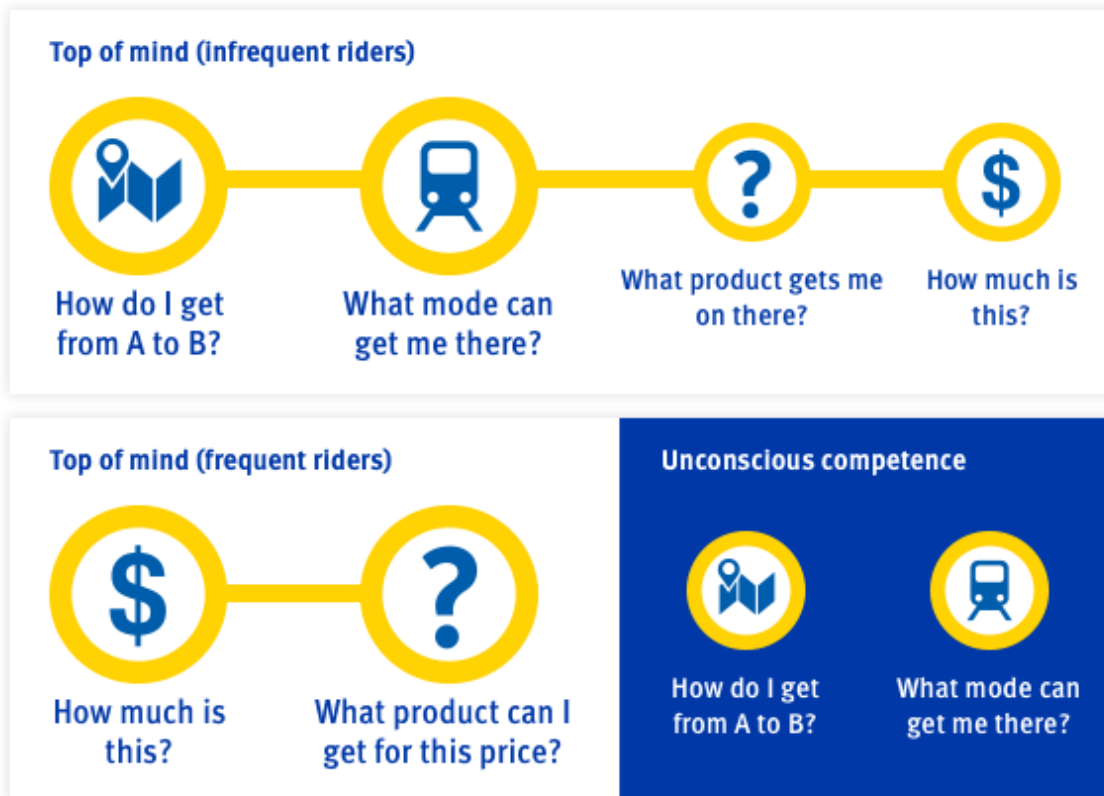


Diagram: Hierarchy of information for infrequent vs. frequent customers

What information customers pay attention to (and what information they do not notice) can have an impact on customer experience. As customers understanding of the fare system information is partial, it can also be factually incorrect. This has lead customers to question the overall value of their transit service experience as illustrated by one customer story where a customer threw away FareSavers after one use, not realizing that there was a 90-minute transfer window. The gap in knowledge of the transfer window led to a misinformed evaluation of the transit system being more expensive for the customer than it actually was.

Customers' incomplete knowledge of the fare system can lower their perceived value of the transit system. It not only has an effect on how customers may approach their trip (from a wayfinding or a fare product decision perspective) but also their ability to make full use of the fare product purchased and their corresponding satisfaction.

## **DECISION MAKING**

TransLink's customers make millions of transit decisions daily across the region. How do customers choose which product is right for them? How do customers choose transit over other modes of transportation? How do fares and products play into those decisions?

### **3. What are the factors and thought processes behind how and why customers choose between transit and transportation modes? How do these factors relate to price and payment?**

#### **Meeting Basic Needs**

Customers weigh a number of factors when making decisions regarding their travel plans including the cost (and affordability), personal comfort, and timeliness. When transit fails to satisfy the core needs customers have of transit, they consider other alternatives, even if the alternative is a costlier option. There is additional emphasis on civility for HandyDART riders as their condition may make it difficult for taking other modes of public transit. "When you get older and you can't move like you used to, this is ideal."

Examples of where alternatives are chosen when customer needs are not met include:

- Transit is not a good use of time  
A mother drove to university (despite having paid for the U-Pass in her tuition) because transit could not get her on time to pick up her children after her classes ended.

- Transit is not a good use of money  
“[It’s a] good service, but if you take your family, it’s \$20 - \$30, too expensive. Think about going to multiple places in a day with multiple people...”

### **Affordability**

Customers reported choosing the perceived cheapest viable option for their trip. Transit was often referred to as the more affordable option as customers compare costs associated with other modes of travel, in particular the costs of owning and driving a car (mainly referenced through parking costs or some high-level estimated monthly/annual overall cost consisting of gas, insurance, and payments) and in comparison to the cost they are willing to pay for transportation to sustain their current lifestyles given their current financial budget.

One HandyDART rider found the service more affordable when compared to taking a taxi. “[You] get on a taxi [and] the ticker starts at \$5. I pay \$2.75”. An elderly rider on the HandyDART also mentioned that the service was an economical choice given her limited income.

Affordability was acutely felt for people who are budget-conscious, fixed-income, or lower-income as fluctuations in the cost of one area of life can cause trade-offs and difficult choices to other parts of their lives to compensate. One low income interviewee reported forgoing a two-zone monthly pass, instead purchasing single zone tickets and walking a significant and effort-laden distance to the nearest one-zone boundary stop when they could not make their monthly financial ends meet.

As mentioned prior, travelling in groups was a customer example of a time when the cost of transit is perceived as exceeding the cost of other modes (such as taking a taxi or driving and parking) and a taxi was chosen for these trips instead.

### **Emotional Costs**

Several customers mentioned a lower emotional cost for the transit customer as the stress of dealing with driving and traffic is passed on to the transit system and its operators. While transit is not the cheapest monetary option (e.g. walking, biking may be cheaper), it was often perceived as the cheapest viable option, an option where a minimum set of needs are met based on the price paid, including fare price, acceptable travel time, and personal comfort level. Again, this re-enforces the notion that “transportation options” are not simply being evaluated against monetary terms and customers are taking into account the other needs and demands articulated by Walker (respect, safety, time, reliability, freedom).

## **Alternatives to Transit**

Several alternatives were mentioned in comparison to taking transit to make a trip:

### Driving

Echoing some key reasons from the 2013 TransLink/Arup Regional Transportation Strategy (RTS) research paper “Driving: Global Context”, people drive when transit is (or is perceived as) not available at either the origin or destination of the intended trip. Interviewees described driving as a reliable, more convenient option, allowing drivers to choose their own routes (freedom) and supports additional needs such as transporting larger items. There is a sense of privacy and personal space that allows for behaviours people may not necessarily exhibit on transit, a public social setting. One parent of small children referred to the privacy of driving and not having to worry about “the kids’ misbehaviour being on public display.” Taking transit is a social activity and individuals consider their social identity and self-image during travel.

### Cycling

Cycling was another alternative to transit that was considered more direct (being able to get from door-to-door) and potentially faster than transit for short urban trips. Combining biking trips with public transit use only came up in the context of a few comments about bike racks on buses being difficult to use and customers feeling bus drivers should be more helpful in assisting with bike rack difficulties.

### Taxi

Taxis were mentioned as alternatives to transit, typically as “more expensive” or “unable to afford.” They were also seen as an alternative to transit when large items (boxes) were being transported.

### Walking

Walking was described both as an alternative “If the bus is busy, I’m open to walking” and “occasionally if I have an hour to waste, I walk” as well as a perceived cost to evaluate (e.g. how much walking effort/time is required) when choosing to drive or take transit. It was also seen as an alternative for short trips to avoid the cost of a bus ride.

### Car sharing

While one customer made passing mention of using EVO after a friend signed her up for an account, car sharing was not spoken of as an alternative during the interviews.

This omission may have been due to interview participant recruitment or the lack of any questions specifically related to the use of car sharing.

### **Lack of Alternatives**

Some customers reported as having no other personally viable transportation options other than transit and felt resigned that it was "just the way it is." While they might have preferred or desired other modes of travel, they were unable to use them for financial reasons or other life circumstance.

### **4. Why do customers choose to use a particular fare product for their trip?**

The amount of attention spent on determining a fare product for a trip varies.

Through our research we've observed 4 approaches to the decision making process, spanning a spectrum of decision-making strategies:

1. Maximizing: do meticulous calculations to see what option is best with research into as many fare products as possible prior to purchase
2. Decision via experimentation (trial and error): try a particular product, and if it works, stick with it. If it doesn't, change as required
3. Decision via past experience: draw upon knowledge from a similar context, derived from experience of other cities' transit systems and previous behaviours and fare products from that city (e.g. I had a monthly pass in Toronto, so I'll find the same product here).
4. Unconscious decision-making: not invested in the decision making process or not self-aware; just buy a ticket at a Compass Vending Machine or pay cash on the bus.

Customers who engage in a more rigorous decision-making process tend to consider their predicted future usage within a set duration of time (day or month) where some frequency of usage is likely to occur. This leads to an evaluation of TransLink's current day and month pass offering as to whether it meets customer needs. Back-of-the-envelope calculations performed by customers tend to rely upon a single ticket fare as the reference transaction times the number of total trips compared against the per-trip price inferred by the monthly or day pass.

**Customer reasons given for buying Compass ticket or day pass**

Compass ticket	Day pass
<p>Uncertainty of plans later on [in the day] lead customers to get the fare product meeting minimum needs</p>	<p>Need more than the 90-minute transfer window</p> <p>Flexibility to hop on and off transit multiple times in a day</p>

**Customer reasons given for buying Compass stored value or monthly pass**

Compass stored value	Compass monthly pass
<p>Cannot afford to pay for monthly pass up front</p> <p>Offloads the customer's work of having to calculate fares from customer to the Compass reader (on tap at entry on the bus or on exit at SkyTrain)</p>	<p>Reduces cost per trip for high frequency customers</p> <p>Tax deductible</p> <p>Flexibility to travel more if needed without paying extra - "flat rate"</p>

## VALUE

What does value mean to TransLink's transit customers? What aspects of the system and service are important to customers? What is the relationship between value and the total perceived cost of transit including concepts like safety, time well spent, and comfort?

### **5. What aspects of transit service are important to customers and why? How do these aspects relate to one another?**

Our customer research findings echo the work of Jarrett Walker's concept of the Customer's 7 Demands of Transit Service (see Appendix).

#### **Where & When: Legible System Information**

The fundamental dimension of Walker's first demand is whether or not transit service exists across the customer's travel plans. A few customers mentioned the lack of service in suburban areas of the region, including an area in Surrey not physically proximate to any service.

At the root of whether customers are able to evaluate if transit serves their travel plans (both where and when) is relevant and legible wayfinding and scheduling information. Many customers described the current level of information regarding wayfinding as insufficient - signage was reported as minimal and information conveyed is not clear "I got out the wrong exit at Lougheed - there was no signage."

Inconsistent information regarding fare products was also seen as a barrier to its purchase, as observed when customers at YVR tried to match map information regarding travel across zones to purchasing their fare at a Compass Vending Machine that did not have the expected fare product due to zone pricing not being in effect on weekends. In this instance, they were expecting to purchase a multiple zone ticket, but no such option existed on the weekend, leaving them feeling uncomfortable, as though they were about to pay insufficient fare for their travel.

#### **Respect: Social Norms & Ergonomics**

Social norms establish and reinforce customer expectations of the experience on transit. There is a certain level of courtesy and respect customers expect of TransLink enterprise staff (drivers, call centre agents, attendants) as well as of each other as fellow passengers. While not always the case, there is a perception that bus drivers do not exhibit an acceptable level of respect and courtesy. Respectful and courteous driver interactions were called out as extraordinary and left an impression upon customers, "Met the most amazing bus driver - braked well, respectful for elderly..."

Respect also comes in the form of physical comfort or the perceived discomfort associated with riding public transit. Ergonomics of the bus and other physical conditions such as crowdedness, cleanliness, and air quality have customers question whether it is a good use of their money as a customer commented “And I’m paying for that?” in response to less than ideal conditions, adding insult to proverbial injury.

Ergonomics is a key aspect for HandyDART customers, especially those who are less mobile and “can’t move like [they] used to.” As one HandyDART rider was leaving the vehicle with the driver’s help, she pointed to the stairs at the entrance of the vehicle and said, “Too bad they don’t have these on cars.... Makes it easy”.

### **Value for Money**

Cost (in this case referring to fare price) is a very important aspect, especially for budget-conscious customers. Fluctuations in the cost of living have budget-conscious customers reflect on their spending overall and considerations are given to how transit usage can be adjusted within financial limitations, amidst competing costs of living including basic necessities like food and housing.

### **Freedom**

Access to transit also gives customers autonomy and a sense of freedom. It allows people to support themselves and go where they need. A senior on disability was especially concerned with the changes to the BC Bus Pass. The increase in cost not only has an effect on her, but also family members supporting her as she will need to rely on them to purchase her transit pass or even take vacation days to drive her to specialist appointments. “Please don’t take this away from me!”

## **6. How do customers perceive the cost of transit between different transit modes and why? How do they perceive the value between modes?**

Customers were asked about the costs (monetary and otherwise) of different modes and their corresponding value (benefits). When customers answered, their responses expressed how concepts of cost and value, which appear discrete and standalone are often folded into each other through comparisons. Travel by bus is compared against travel by SkyTrain. SkyTrain is evaluated through the lens of a typical trip across multiple zones, and so on.



Here's how transit customers perceive the cost and value of the different modes.

<b>Bus</b>	Cost	Cheaper (than SkyTrain) <sup>1</sup>
	Value	One zone fare price only (predictable price) No need to worry about tapping
<b>SkyTrain</b>	Cost	Costly when crossing zones
	Value	Speed of service More predictable than the bus
<b>SeaBus</b>	Cost	No comments received during research activities <sup>2</sup>
	Value	Scenic Unique offering crossing the waters
<b>West Coast Express</b>	Cost	Varied from affordable, reasonable, too much, not fair (no consensus)
	Value	Comfortable Scenic Amenities (coffee bar) Better than SkyTrain, bus
<b>HandyDART</b>	Cost	Affordable, economical (compared to a taxi in one instance)
	Value	Convenience Safety Ergonomics

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<sup>1</sup> Note that the research activities took place shortly after the implementation of the temporary AFS "bus anywhere on one-zone" fare structure.

<sup>2</sup> Note: Interesting omission given AFS and 1-zone comparable trips between Vancouver and North Van exist

## **“My time is worth more than that” vs. “I don’t take the SkyTrain because of zones”**

When customers were presented with a scenario of travelling the same trip (Burrard SkyTrain Station to Metrotown) via either the bus or the SkyTrain, the cost and speed trade-off between the bus and SkyTrain became apparent. Customers viewed the comparable trip as a question of “how much is my time worth?” highlighting the personal value of their time in comparison to transit’s fare price. “It (the bus) should be cheaper, because of time - but who wants to sit in a bus for that long?”

Those who value their time perceive the higher cost of SkyTrain service fair and are willing to pay more than the bus for this time savings. Those who value cost savings were more willing adjust their travel behaviours and transfer or take more time.

## **Avoiding Transfers and Sure Wins**

When multiple modes are used for a trip, the number of transfers and frequency of service are contemplated in the cost/ benefit equation. In an attempt to minimize waiting time and its associated uncertainty (whether the bus is ever going to come and at what time), customers reported valuing the option with the least number of transfers and higher frequency services over the speed of service.

This behaviour can be explained through Kahneman and Tversky’s behavioural economic work on Prospect Theory: “how people choose between different options (or prospects) and how they estimate (many times in a biased or incorrect way) the perceived likelihood of each of these options. When choosing among several alternatives, people avoid losses and optimize for sure wins because the pain of losing is greater than the satisfaction of an equivalent gain.” A slower bus with no transfers is the sure win - it is chosen over a faster combination of two buses that pose a risk of loss, the chance that a transfer will not be made due to a missed connection.

The uncertainty about the length of waiting in addition to the unexplained or unknown nature of potential delays at transfer points cause waits to feel longer. This finding echoes David Maister in his work on the psychology of waiting, as “unknown waits feel longer than known waits.”

## **7. When do customers feel they have received good value or “got a deal” and when do they not?**

The perception of value (good or bad) and in particular the sense of having “got a deal” is always framed in terms of a comparison to some other related concept. It is not an absolute - it is always relative.

### **Maximizing and Exceeding Product Utility**

There are many dimensions to a trip and the associated product used for the trip including, but not limited to, the price, mode, transfer window and geographical coverage. When customers maximize their usage of transit by these factors, there is a perceived sense of positive value. For example, making as many trips as possible within the 90-minute transfer window or making as many trips as possible beyond the “break even” cost on a monthly pass (naive accounting / napkin math of when buying single ticket fares for the same number of trips is more expensive) is deemed as good value. Being able to take multiple buses within the same trip was also perceived as a good deal. Many customers are trying to get the most out of what they paid.

### **Underutilizing a Product**

Conversely, while a zone covers a large geographical area, customers may feel a lack of value if there are regions they never travel to because even though it is included in the fare product they purchased (e.g. buying a monthly 1-zone pass for commuting in Surrey and not going out to White Rock). On a related note, customers in areas with low service coverage (compared implicitly to those that have lots of coverage) evoked the language of being unsatisfied taxpayers, who pay for the system that lacks direct tangible benefit for them (but has benefit for others). “Tax on gas goes to TransLink - in a way unfair, (as) we paid the tax but we did not have TransLink (service).”

### **Cheaper than Others**

Transit is a deal when seen as the cheaper option amongst many. For example, one HandyDART rider compared fares to the cost of taxi to illustrate the cost benefit of the HandyDART service. Those with special passes (U-Pass, BC Bus Pass (aka “disability pass”), concession pass) also perceive those products as great value knowing that others would have needed to pay more for the same service they are receiving. Interestingly the reverse comparison was never mentioned and customers did not mention a regular pass being bad value when compared to those who hold special passes. From this, we may be able to infer that the equitable policy intent behind passes and concessions to provide is generally socially accepted, although direct questions about whether special passes or concessions are equitable and fair were not asked during the interviews.

However, there are cases where the most extreme case of “good value” for one customer may be seen as a bad value for another, in the form of drivers allowing fare evasion. A customer described a situation where the bus driver let customers on who don't pay as frustrating and disruptive.

## **Mental Model Mismatches & Entitlements**

When the transit system doesn't work or doesn't align with customer's mental models of how it should work, this causes customers to conclude that transit is bad value. Crossing zones on short trips, being charged twice for a bus to SkyTrain trip, the YVR surcharge, \$6 deposit on the Compass Card, and being charged a 3-zone trip for 2 separate 2-zone trips (likely within a 90-minute window), having to use two FareSavers to make one trip because of traffic are all examples given when customers feel "ripped off," stemming from a mismatch of expectations versus reality.

Riders perceive the monetary cost of their trip in the price they pay for their fares. One customer commented that travelling from Surrey to Vancouver feels like a rip off because they have to pay a lot of money. While a 3-zone trip does have the highest costs, customers do not consider the cost over distance traveled (which would reveal that a 3-zone trip is actually the cheapest when measured by kilometers traveled).

As per Kahneman in his article "Fairness as a Constraint in Profit Seeking" and the entitlements of vendors and customers, the entitlement TransLink has in passing on costs to its customers (or customer perception of a lack of entitlement) forms the basis of the unfairness assessment of the \$6 Compass Card cost: "\$6 fee for a card that TransLink got for free... that's cheating. Makes me mad, cheating me." If TransLink's costs were (correctly) known by the customer, it is likely this opinion may change, as detailed by Kahneman.

## **Service with a Smile**

Customer service also has a place in contributing to the perceived value as a customer mentioned that it was a deal when the driver was "particularly friendly". Helping to improve a customer's mood while on transit can be seen as getting a deal, an unexpected benefit of a commute with low service expectations.

Allowing customers to get the most out of the fare product they have purchased and increasing the legibility of the fare structure (so that customers know what to expect) can help customer feel a sense of good value on transit or mitigate situations where transit is perceived as bad value.

## **8. How does the cost of transportation fit into customers' overall spending?**

While our line of inquiry during our research did not specifically hone in on affordability and general spending, related comments came up spontaneously as we talked about the overall transit system and its fare structure.

### **Transit Versus Basic Life Needs**

Budget conscious, low income, and limited/fixed-income customers are keenly aware of fluctuations in their costs of living in Greater Vancouver and are worried about fare increases. Customers must evaluate where to allocate their money as they “nickel and dime” and “live paycheque to paycheque”. Even a minimum loading balance of \$10 at the CVM can be too much to lock in for transit when customers need to make use of that money for other necessities. Food and shelter sit at the foundation of basic needs and customers may already be on a tight budget for those. One customer mentioned that the budget for 3 meals a day was \$6.50. Another compared fares with the cost of rent, that “\$2.75 [is] okay if rent were cheaper”.

Given a minimum standard of living to maintain, “[do I] use less toilet paper?” and other aspects of life are considered to balance the budget, transit being a possible option to downsize on. This downsizing of transit options increases the emotional cost for the customer. One customer felt exhausted and terrible after having to make the switch from a 2-zone monthly pass to single use tickets and increased walking because she didn’t make enough in the past month to afford a pass.

### **Income and Minimum Wage**

For those earning minimum wage or on a fixed/ low income, they cannot keep up with the costs of living in Greater Vancouver, in which transit cost is a part of the equation. “Everything else is rising” yet income has not necessarily been able to keep up – a 1.95% increase in minimum wage over 3 years from 2012 to 2015 while rental costs were permitted to increase anywhere between 2.5% to 4.3% every year throughout that period as an example.

Concerns arise as customers question the value of transit in supporting their livelihood. A student just coming out of school felt the effects immediately as the cost of fares round trip (\$8 for 2-zone travel) making up self-reported 20% of the \$40 they earned that day at work. On minimum wage, a customer would have to work roughly 1.5 hours to make up for their trip to work, which was “just too much”. In the case when transit doesn’t get customers to work on time, they “have to swallow the cost of paying for fares and get impacted for being late for work.”

### **Beliefs and Perceptions of Government’s Role in Affordability**

There is a perception of the stance the Provincial government and TransLink should take with regards to how service should be provided. Transit is perceived as a public service (“a government thing, not a marketing [for-profit/private] thing”) and as such, TransLink has a duty to provide service to everyone. “[The] government works for us,

[it's] not our boss” conveys the sense that government should be looking out for the wellbeing of its citizens and listening to their needs.

Though this perception exists, stories shared suggest that neither TransLink nor the government is fulfilling that image. TransLink is seen as a profit driven organization where they put “profit before people” and customers have a distrust of TransLink as a corporation. In part this stems from customers not knowing about TransLink’s financial position, which became apparent in the interviews: “Have they really lost that much from fare evasion?” or “Not sure if TransLink makes a profit.”

Those with a BC Bus Pass are aware of the changes and its effects on their budget, but some misinformation persists about upcoming changes. One customer with the pass felt that the Provincial government is “robbing them and [the money is] going into TransLink pockets”.

### **Equity and Equality**

Those with special passes (U-Pass, BC Bus Pass, Concession pass) also perceive those products as great value knowing that others would have needed to pay more for the same service they are receiving. Interestingly the reverse comparison was never mentioned and customers did not mention a regular pass being bad value when compared to those who hold special passes. Again, it may be possible to infer that people generally believe the concepts of equity embedded in the logic of concession and discounted pass products is an acceptable response to individual and societal differences of ability and financial means.

### **9. How do customers define fairness for a public transit system?**

Fairness is relational and contextual, not fixed and absolute. Fairness is always determined in context, through a comparison process. As mentioned above, value as a concept was also communicated in this way, whether people were basing their judgement in comparison to the cost of driving vs. public transit or the cost of public transit in another city vs. metro Vancouver.

Following the language of Kahneman, et al in their 1986 economics paper entitled “Fairness as a Constraint on Profit Seeking”, fairness in the system is established by the firm (TransLink) who makes a pricing decision (the fare) that has an outcome evaluated by the transactors (customers) through an exchange.

Determinants of fairness judgements are a) reference transactions (another transaction where a comparison point is established), b) the outcomes to TransLink

and its customers, and c) the occasion for the action (the pricing decision) of TransLink. (Kahneman)

We explored fairness by asking five scenario questions and one open-ended question regarding the current “fairness” of the system and what fair might look like in the future.

Scenario questions tested concepts around demand-based pricing, time-of-day pricing, a short trip crossing a zone boundary, different modes across a zone boundary, and increasing operating costs being passed on (firm entitlement).

**Scenario 1: Trip cost to downtown rises from \$2.75 to \$4.00 due to an event in the downtown core.**

As the Kahneman paper suggests, most customers deemed this situation unfair where the firm (TransLink) is taking advantage of the short-run increase in demand.

- “It’s a public service! What does [the] event have to do with price?”
- “Unfair to people who rely on public transit.”
- “Greedy, should be [the] same [price] all the time.”
- “I feel like I’m being punished.”

**Scenario 2: A crowded morning commute from Richmond to downtown for \$4.00 and a quiet commute home later at night for \$2.75.**

Those who found this pricing difference acceptable saw the price difference as a discount while those who found it unfair saw the higher price was taking advantage of the peak times. The reference transaction differed for the two camps of responses.

**Scenario 3: Starting at Joyce, going 15 minutes in one direction to Waterfront costs \$2.75 while going 15 minutes in the other direction takes you to Columbia costs \$4.00.**

With time held constant, customers perceived the distance traveled in both directions to be relatively equal and thus cost associated with both trips should be the same. Since that is not the case, the difference in cost doesn’t make sense and the scenario deemed as unfair, suggesting some flexibility around crossing zones (especially for those living near the border) is required. “\$2.75 [for 1-zone trip], but if it’s 1-zone plus 1 stop, it goes up - it feels like robbery.”

**Scenario 4: Taking the SkyTrain from Burrard to Metrotown takes 15 minutes and costs \$4.00. The same trip on bus takes 1 hour 10 minutes and costs \$2.75.**

This scenario revealed a set of customers who valued their time and can justify the extra cost of taking the faster option. When responding, customers did not attribute the extra cost to crossing zones (or the alternate fare structure [AFS] / one-zoning of the bus fares), they attributed this cost difference to the speed of service. However, when asked if they knew why there was a cost difference, some customers were able to point out zone crossing.

However, the question of equity vs. equality comes into play as customers question “why a public service is beneficial for the rich” and feels it should be “the same all around”. It “makes it feel as if whoever can afford it gets better service”, which in this case was deemed as unfair.

**Scenario 5: Fares increase as a result of gas prices going up and maintenance required on bus fleets.**

In a similar scenario to one Kahneman presented, it is acceptable for firms to protect themselves from losses even when their transactors suffer as a result. However, responses from customers we talked to were mixed and erring on the side of unfair.

Those who find it acceptable rationalized that prices are expected to go up over time and that it just has to be done to keep service operating. As well, it would be acceptable if TransLink could explain the correlation of the price increase to the reason. Fares were also deemed the right place for those who believe that the people who use it should pay for it (and not non-customers / taxpayers).

### **Analysis**

Responses that differ from Kahneman’s research and deem this scenario unfair may stem from the perception that TransLink provides a public service, and as such, they believe that the government and taxes paid should take care of those costs. Those on disability or welfare cannot keep up with price increases, implying that if prices were to increase, people’s earning power would also need to increase to support costs of living in the city. Also, customers’ lack of knowledge on TransLink’s finances leads to misinformed assumptions of how TransLink spends their money, leaving the impression that TransLink is able to manage these cost increases by better managing their spend. “Revenue stream is plenty, stop bonuses to big CEO’s.”

With the scenarios as a precursor, we then asked customers in a more open-ended fashion to assess the fairness of the current transit system and fare structure. Specific



to the fare structure, zones continue to be deemed unfair. “\$2.75 [for 1-zone trip], but if it’s 1-zone plus 1 stop, it goes up - it feels like robbery.” The price was also seen as unfair when customers view TransLink as profit seeking (“marketing thing” - in context it implied a for-profit corporate motivation) while those who deem the price to be fair compared to other transit systems in Canada and in the world.

**10. What is a fair price for transit fares and what is unfair?**

Customers offered numbers as fair or unfair prices compared to past experiences, other transit systems, the costs of other modes of transportation, and personal affordability.

- “Compared to Winnipeg, Regina - we have a pretty good deal”. Toronto, Mexico and Hong Kong were also mentioned when assessing fairness.
- “How can I use it when it costs \$150 a month? Need a car.” This was shared in comparison to the cost of operating a car that was also about \$150 for the customer when taking into account insurance, fuel, and maintenance.

Some customers may find that current prices are acceptable, but are worried about future increases. Customer quotes of “Salaries don’t go up” or “Don’t increase fares! I’m happy now. Money is tight for many people,” speak to affordability concerns associated with potential fare increases in the future. “If [on] minimum wage, [you] have to work 1.5 hours to pay for [the] trip, just too much” speaks to the cost of transit in relation to minimum wage.

However, satisfaction and fairness regarding the way fares are determined isn’t always something customers think about (if at all) especially for customers who don’t take transit often. Infrequent customers expressed indifference or resignation that TransLink is the only public transportation option. It was clear the question was difficult to answer and not much thought had been put into it previously.

A range of numbers was offered (mainly based on a 1-zone trip basis).

**Suggested prices for Compass Ticket / Stored Value**

Price	Context and quotes
\$0.50	“In Mexico, it’s about 10 cents.”
\$1.00 - \$2.00	Comparing to Hong Kong
\$1.50	“Vancouver is expensive. I would be okay with \$2.75 if rent were

	cheaper”
\$1.75	“Satisfied. I only pay \$1.75 per trip”.
\$2.00	“\$2.00 is good. [I] travel around the world, average is \$2.00”
\$2.10	“\$2.10 is good/ fair. \$2.75 is too much”
\$3.00	“Discouraging.” Does not expect any service increase if price was \$3.00
\$3.25	“I would pay more money for expansion [of service], can go up to \$3.25.”
\$10.00	“Any more [than \$10.00 a day] would be too expensive.”
\$100.00	“\$100, not too bad.” (Monthly cost travelling between Metrotown and Douglas College.)

#### Suggested prices for Pass Products

Price	Context and quotes
\$10.00	“Price [is] comparable, Toronto [is] about \$10.” (Day Pass)
\$52.00	“\$52.00 is a lot for me.” (concession pass)
\$70.00	“Could be \$20 cheaper” (1-zone monthly pass)
\$100.00	“Dropping by \$25.00 would make a big difference to a lot of people, including me.” (2-zone monthly pass)
\$100.00	“Fares gone up too much in the last 3 years. Used to pay less - it was reasonable (under \$100) [and] now [it's] \$200 monthly (WCE monthly pass)
\$201.00	“Not really fair, creates more overload for families”.

## **DIMENSIONS OF TRANSIT CUSTOMER EXPERIENCE**

If value is comprised of monetary and non-monetary, experiential elements, what can we learn about how customers experience transit to better inform fare design? How do customers perceive their transit experience? What stands out as memorable and valuable?

### **11. How do customers experience transit? What are key moments that stand out for them in the journey?**

Customer experience is influenced by interactions with the whole of the transit service ecosystem, including their encounters with all five kinds of service touchpoints: people (TransLink staff as well as other customers), props (buses, CVM's, signage, fare media - all the objects that make up TransLink's physical dimension), processes (customer service protocols, nightly maintenance windows for SkyTrain, enrolment processes for HandyDART), partners, (7-Eleven, London Drugs, MVT Canadian Bus) and places (bus-stops, SkyTrain stations, WCE stations, Compass Card customer service office, perhaps even the SkyTrain itself in some customer's minds).

Customer journeys, typically metaphorical in the language of customer experience and service design, are in transit's case literal - from origin to destination across distance and through time, encompassing highs and lows of emotional states and a range of attention and inattention to the journey (from heightened vigilance to sleeping while commuting). From these specific moments, customers form some general sense of their satisfaction of the service, the difference between their service expectations and their perception of the delivery, the most common subjective measure of any service and its customer experience.

Certain key customer experience moments were described more frequently than others, often unprompted, during the interviews and volunteered by customers in their recollection of their transit experiences. The highlighted moments are described below.

#### **Interactions with bus drivers**

Bus drivers' behaviour, in particular, shape many customers' experience with the transit system - be it a positive or negative one. Spontaneous stories of great experiences with bus drivers who go out of their way to be helpful and courteous were shared. These positive experiences increase the perceived value provided by the transit system. Similarly, customers shared stories of bus drivers behaving in an unfair or unprofessional manner (e.g., passing by and not stopping, closing doors and leaving the station when they see people running, appearing disengaged or not willing to help, giving false information - "bus tickets are good on the SkyTrain").

- "Bus drivers are great!"
- "Drivers should be more welcoming - some are nice, others not so much."
- "Bus drivers are too self-righteous"
- "Bus driver goes away from under your nose - they do that a lot"

### **Sense of community**

Some frequent commuter customers build personal relationships with transit personnel (this was particularly prominent at the West Coast Express station) and each other. This sense of community contributes to the need / desire for civility and respect on the system (Walker's 5th Demand). Similarly, on the HandyDART, some customers know drivers and other customers by name and can even describe the purpose of other customer's trips on the HandyDART. Riders on the HandyDART are very satisfied with the degree of civility offered by the HandyDART service.

### **Unfulfilled customer needs / un-kept service promises**

When the transit system fails to satisfy the expectations that customers have of transit, their experience is degraded. Waiting times, frequency of service, personal comfort and security, privacy (or lack thereof), overcrowding, and cleanliness of buses were all mentioned as factors influencing their experience. These themes are described in detail elsewhere and constitute much of the content of the evaluation as to whether or not transit is a good use of time and money.

Lack of appropriate information for wayfinding in vehicles, in and around bus and SkyTrain stations leads to confusion and frustration. On this point, we diverge slightly from Walker's 1st Demand: It takes me where I want to go. Walker is describing the geometry of transit service in his description of this idea: origins, destinations and connectivity - his object of focus is the physical coverage provided by the system across the geography it serves.

What is clear through customer interviews is that reading and comprehending information and wayfinding artifacts like maps are either an enabler or barrier to coming to a conclusion about whether the system's geometry proves to meet travel needs. If a customer can't determine whether they can get from point A to point B through information provided, the evaluation of the first demand is failure, even if the system does in fact go between point A and point B. The customer's perception of the geometry through information and wayfinding artifacts is the experience design issue, not the connectivity itself: "perception is reality."

## **Overcrowding / Effects of High Demand**

Overcrowding was mentioned repeatedly in relation to customers' comfort while taking transit, but also as a reason behind bus drivers passing by and not stopping at bus stations. In some cases this leads to cascading losses: customers losing their connections, being late for work, or paying more for their fare because their transfer window has ended.

## **Tapping In and Tapping Out**

While interactions with bus drivers are crucial to the experience of bus customers, SkyTrain customers often mentioned the requirement for tapping in and tapping out. This requirement is top of mind for customers due to concerns about being overcharged or fearing a card not working properly /not opening the gate when trying to enter a station. Customers expressed worry about forgetting to tap and frustration about machines not registering the tap, or card not working altogether due to insufficient funds. A few customers complained specifically about insufficient confirmation of a successful tap and error notification. Worry about tapping was enough for one customer to avoid using SkyTrain.

- "The whole tapping thing is a pain"
- "Compass doesn't always work. You have to tap multiple times. Some people think it is confusing. To me, it just would not work sometimes"

## **Personal Safety & Security**

When customers' security is at risk, it can have long lasting effects on their perception on transit and even influence their future travel choices. A few stories of harassment (e.g., being harassed by other passengers for reading the Quran) were shared while customers were in transit vehicles or waiting at stops or stations. One bad experience was enough to stop a customer from taking transit and teaching her child to avoid transit. Another customer felt unsafe at Columbia station and wondered, "Why do security staff focus on checking tickets instead of making people feel safe?"

## **12. How do customers adjust their travel plans based on events that happen in life and how does the fare structure support these changes?**

While we did not specifically focus on this topic, some customers spontaneously offered some comments based on recent changes in their lives. Customers do not feel that there is enough flexibility in the transit system to accommodate these changes, whether they are predictable or not (e.g., when they go away on vacation, change jobs, lose their monthly pass, or have guests).

Customers try to plan around predicted use of transit over longer periods of time. To minimize spending, one customer who went on vacation switched from her Compass Card monthly pass to Compass Card stored value for the duration of her trip. She mentioned she had trouble switching from stored value back to monthly pass using the Compass website.

Another customer on a low income shared her story of starting a contract in the middle of the month and not being able to take advantage of the saving offered by a monthly pass. She later purchased a 2-zone pass just in case her client meetings require 2-zone travel but felt the system was not flexible enough. "I feel like I'm not getting value sometimes if all my clients are in 1-zone, I still have to plan for 2-zones."

In the case of losing a pass, customers need to revert to daily passes or other fare products. In addition to not being able to take advantage of the monthly pass savings, customers also need to go through a learning process to get familiar with and evaluate their options. One customer who lost her pass several times found a way to prevent this from happening by placing it in a luggage tag.

Customers also expressed the need for more fare product options, for example for people who visit for a short period of time. When a customer's parents arrived for a week-long visit, the customer went to TransLink staff to inquire about the fare options that offered the best value. As with other short-term visitors we spoke to, he was wondering whether a weekly and/or group pass was available.

## 2. Considerations for Improvements

This section describes key themes arising from the qualitative research (one-on-one interviews, etc.) looking at how the customer's perspective can be used to refine and improve the concepts set forth in the Transit Fare Review project's draft evaluation framework. The research does not touch upon all the policy areas in the evaluation framework, especially those related to implementation of the policy, as customers have no personal stake in how TransLink implements policy other than how implementation affects their customer experience.

### 1. IMPROVE THE CUSTOMER EXPERIENCE

**Proposed Goal #1: The transit fare system contributes to an exceptional transit customer experience**

#### **SIMPLICITY**

Is the overall transit system simple to understand?

#### **Legibility & Learnability**

Is the system easy to understand? Is it quick to learn? What are some barriers in the way to affording the learnability and legibility of the system that were observed during the research?

#### Zones

While there is awareness that zones affect the pricing, customers have a fuzzy understanding of the boundaries and do not understand their purpose. Zones were described as an "imaginary line", "confusing", and "not fair". Those who live or travel close to zone boundaries find it especially unfair.

If zone boundaries remain, considerations should be made for short trips around zone boundaries.

#### One Zone Weekends/ Past 6:30pm

Observing customers at the YVR airport during the weekend revealed a mismatch between maps of the transit system, their depiction of zones, and corresponding products available for purchase at the Compass Vending Machine. Walking through the wayfinding at the Compass Vending Machine, customers can arrive at the conclusion that they need a 2-zone pass (to get from YVR to the downtown core) but

cannot find the associated product when making the purchase as machines only offer a 1-zone ticket or a day pass on weekends and past 6:30pm. This mismatch increases customers' cognitive effort required at the time of product purchase.

### 90-Minute Transfer Window

In cases where customers are not aware of this transfer window, it leads to increased costs for the customer (throwing out ticket after single use) and subsequently an evaluation that transit is expensive. Even if customers are aware of this window, they do not understand its intricacies, as a customer could not figure out why there was a 3-zone charge when 2 separate 2-zone trips were made. Another customer also questioned the rationale for having the same transfer window for all zones of travel as they were stuck behind the gate on the way out from a trip spanning multiple zones.

Customers need to get to their destination first and foremost, thinking about their travel at a trip level while the element of time is in the background. The information that a ticket expires was physically printed on FareSavers and was made legible to customers. Compass tickets no longer possess this information and the Compass Card itself is entirely opaque unless used in combination with a card reader upon exit at a station or at a Compass Vending Machine. It is unable to communicate, "how much time is left on my trip?" as a standalone artifact.

### Bus to SkyTrain Transfer

Non-Compass Card customers were caught by surprise with single fare trip originating from the bus and transferring to the SkyTrain after having paid cash to purchase a single ticket upon entry to the bus. Customers "want people to think of it as one system", and expect it to work that way "I want a card that works for everything" but learn through experience that it's not the case for trips that start by bus and later transfer on to the SkyTrain. It is "ridiculous to separate [the] bus from SkyTrain... have to pay for both separately". A customer stopped taking the bus to the SkyTrain and opted for walking instead to avoid being charged twice.

### **Predictability of Trip Cost**

Predictability of trip cost for customers without a pass product hinges on service availability. In times when service is down, or cannot accommodate the customer, due to overcrowding, this can push customers over their 90-minute transfer window. Customers are not only unsatisfied with the extra cost of having to pay again, but also the negative experience of an unreliable service.



### **Consistency of Trip Cost in Both Directions**

The biggest example of the customer perception of inconsistency in this category is the surcharge when leaving the YVR airport. The perception of this surcharge is generally negative. Customers don't understand why this charge is taken and it is seen as "ridiculous gouging", and "free money for TransLink". Transparency on the reason of the surcharge can help demystify some negative perceptions. The fact that the YVR AddFare is designed to help pay for the Canada Line, from which they directly benefit when leaving YVR and continuing beyond Sea Island is not known, overlooked, or ignored by customers.

### **EQUITY (FAIRNESS, AFFORDABILITY, & VALUE FOR MONEY)**

Does the system align with the customers' perception of value? Does the system provide opportunities to differentiate price for particular user groups based on ability to pay? Is cost consistent across a number of factors: distance, timing of travel, speed of journey, service frequency and transit mode?

### **Connection Between Price and Distance Travelled**

When asked how far customers travelled for their trip, they were unable to provide answers and ventured guesses at best, commonly defaulting to the unit of time duration as the quantification of the distance "takes 10 to 15 minutes." Customers' unit of measurement for distance is also commonly described using the origin and destination of travel pairs (SkyTrain stations for example). As such, short trips crossing zone boundaries do not make sense from a price perspective for customers as the distance traveled is short, yet there is a spike in price. While comments around multiple zone travel being expensive, no one contemplated the cost per kilometre of their travel that may be cheaper in some instances.

### **Connection Between Price and Journey Time**

When presented as a cost and time trade off, there was a set of customers who value their time and can justify the extra cost of crossing zone boundaries taking the SkyTrain. However, the attribution of the extra cost was associated with the time-savings and not to crossing zones (though when probed, customers could provide the zone crossing as the reason for the price difference). Those who value money over their time may go out of their way to take a bus, or walk to avoid the cost of crossing zone boundaries. Because of the different motivations for different groups of customers, options and alternatives should be kept in mind to address these different motivations.

The perceived value obtained from a 15-minute trip is less than from a 90-minute trip, even though the price paid is the same. This is perhaps the closest understanding of

cost per kilometer. Time is again a proxy for distance and is contingent upon the speed of the transportation mode: bike, bus, car or train.

### **Connection Between Price and Service Quality**

Some customers clearly made the connection between price and the speed of the journey - this was tested in the scenario about whether they would pay more to travel on the SkyTrain to Metrotown from Burrard rather than take the bus over the same distance at a slower speed and for less money. However, the customer's conception of service quality was often conflated with elements of the civility of public transit, their personal comfort, the courtesy of TransLink staff and fellow passengers, and their security. Customers expressed feeling insulted when faced with a lower than acceptable level of civility and unsatisfying conditions regardless of speed or frequency of service. As one customer added in frustration, "...and I'm paying for that?!?"

### **Connection Between Price and System Demand**

In our customer interviews we posed a scenario regarding the price difference between the crowded rush hour commute to work and off-peak commute home across multiple zones and asked customers to assess the fairness of the particular situation. Peak time was used as a proxy for overall system demand, recognizing that it is possible to take a trip on an underutilized vehicle during peak time. The perception of peak / off-peak pricing was contingent upon which price the customer was using as their reference transaction or baseline price. Those who viewed the off-peak pricing as a "discount" from peak pricing thought that it was fair and the connection between price and system demand made sense. Riders who see peak pricing as an additional cost on top of off-peak pricing find the situation unfair and seen as "taking advantage of peak time". We assume that the typical time of day a customer travels is responsible for setting the reference transaction. Peak-time customers travelling in off-peak times felt they were getting a deal, while off-peak customers travelling in peak time felt it was unfair.

In terms of the relationship between price and demand, customers either do not see a connection between the two or see the costs as being shared. One customer offered a comparison to how other countries work where vehicle rides are shared - "the more people in the car, the less you have to pay".

### **Connection Between Price and Ability to Pay**

Increases to the cost of transit can have a big effect on the budget for fixed/ low-income customers. A plethora of comments illustrate the struggles fixed/ low-income customers have in their ability to pay for transit.

- "Seniors [have] limited income, everything else is rising."
- In response to a fare increase: "People on disability and welfare don't get the same raise - not fair, just for the rich"
- "When no [disability] pass, [cost to take transit is] prohibitive."
- "Difficult to manage for students... Minimum wage needs to increase... [There are] other expenses [such as] rent..."
- "Willing to pay \$100 [for a 2-zone monthly pass] ... Have to budget, 3 meals a day is \$6.50. [It's] expensive to live in Vancouver. Dropping by \$25 would make a big difference to a lot of people, including me."

The products that exist to provide equitable access to transit (U-Pass, BC Bus Pass, Concession) are greatly valued by those who have them. Riders are anxious and angry when changes to these products impact their standard of living (changes to the BC Bus Pass disability allowance were often mentioned for example).

### **Opportunities to Choose Lower-Cost Trip Options**

Customers who value their money over time reported having the opportunity to bus or even walk in an attempt to avoid the charges of crossing zones or simply avoid having to pay for a short trip on transit. Some customers reported other benefits associated with not using transit like the physical and mental health related merits of spending their time walking or cycling. However, some of these lower-cost trips are not made as a matter of choice, but as a necessity when needing to budget for living expenses. A lower-cost monthly pass product would likely be well received by some customers who claimed the current up-front cash outlay for a monthly pass was not feasible given their personal financial circumstances.

### **Degree to Which a Customer is Guaranteed the Best Price**

Some customers take the initiative to find the right product at the best price by going through a more rigorous decision making process, forecasting their future usage and calculating the projected costs. Riders with more knowledge of the fare structure are better able to make this guarantee for themselves. No customers talked about TransLink guaranteeing the best price, it was described as an individual responsibility.

### **Risk of Customer Overpaying (Fare Error)**

Customers may overpay for their trip as a result of either forgetting to tap out (when gates were not closed) or from a tap that did not register properly. "[I] didn't realize it didn't work and got overcharged" as a customer described how she did not notice the different sound of an erroneous tap. It was difficult to know if customers were even aware they were overpaying, having purchased a more expensive fare product when a cheaper one would have sufficed. Fare errors were therefore understood as a bi-

product of the ergonomics of tapping, not due to a misunderstanding of the product and its utility.

### **Fairness**

As the conclusion of the Kahneman paper states, “judgements of fairness are susceptible to substantial framing effects” and as such, “firms that have an incentive to frame the terms of exchanges to as to make them appear ‘fair.’” Even in our brief five scenarios, we witnessed the effects of framing with customers. Very similar conditions framed differently, as demonstrated by the two scenarios of a special event which begets demand and demand begets a higher fare price versus the scenario of time-of-day pricing that corresponds to peak demand during rush hour, were generally reported by customers to be seen as unfair and fair respectively.

Customers will use many different kinds of reference transactions as their comparison starting point in evaluating any new fare policy. We assume an initial reference transaction will likely be formulated as the customer’s current product usage and total spend during a particular period of time, if all other things stay constant (no new service, no new vehicles, no change in overcrowding, etc.). This is a consideration for the implementation and design of the new policy and associated products. Customers will compare new products to previous products and TransLink has an incentive to consider how customers will frame this comparison.

### **SERVICE QUALITY**

How do fares contribute to improvements in service quality?

#### **Service Hour Increases**

Current hours of operation exclude a set of customers from the option for taking transit. Customers who work late shifts or weekends find that transit service cannot meet their needs. Late night service was also seen as providing customers with a secure option of travel.

- “This is not only for party goers, there are people who work at night!”
- “[On] Sunday, the first SeaBus is 8:16 - too late.”
- “Need to have night buses. People go out for dinner, then have to drive [after]?”
- “They are now cancelling the 5 or 6 bus in downtown - night bus - [a] big concern. SkyTrain stops at 1, [and] now no bus. How can you not drink and drive?”
- “Even for safety - you walk? Alone at night? Disappointed with TransLink.”

## **Overcrowding**

Overcrowding came up repeatedly during negative evaluations of transit. It fails to meet the demand of respect, as it does not respect customers' personal space. It gets "frustrating" and "miserable" not only while taking transit, but also as transit cannot accommodate customers when overcapacity. This is a factor customers consider while considering their travel options.

## **Customer Safety & Security**

Even though there may be transit police and front line staff on premise, events still occur on transit that may impact the safety and security of customers. The customers' perception of whether they are safe and secure in turn impacts their overall perception of the value of the transit service and relates to the question of how much they are paying for the service.

A few customers mentioned the physics and ergonomics of transit being a source of risk. Sudden stops or unanticipated movements on moving vehicles can put customers' well-being and safety at risk. Customers also mentioned infrastructure posing a challenge, like when less physically able customers are required to ascend or descend stairs when elevators or escalators are out of service.

A handful of customers interviewed shared security incident stories. Those who shared stories appear to place safety and security high on the list of what they value. Their perception of the system and its value appeared to have been altered quickly and significantly for the worse after the incident occurred. The design question we are left to consider in future phases: "How can a revised fare policy improve customer safety and security?"

## **Customer Financial Security**

There was only one customer who mentioned their Compass Card balance being viewable on a fare gate at a SkyTrain station and no personal security-related comments were recorded along with the comment. The question was not directly asked of customers (e.g. "How do you feel about your balance being displayed and viewable by those around you upon exit of a SkyTrain station when tapping out?") so this requires further investigation to better understand customer sentiment.

## **2. INCREASE RIDERSHIP IN SUPPORT OF REGIONAL TARGETS**

**Proposed Goal #2: The transit fare system helps deliver transit service that meets regional needs**

### **Transit capacity utilization**

At certain times of day and on certain routes (e.g. 99 B-Line during morning commute), transit is already over capacity as customers' frequently described the overcrowding situation and the compromise to their level of personal comfort. Increasing capacity on such routes is unlikely. Increasing utilization on already busy routes negatively affects the experience of being on transit and is directly in tension with a less busy, less utilized, and correspondingly more expensive to run vehicle. Charging more for certain modes or routes would likely exclude customers and control demand, while being in contradiction of an equitable, accessible, and just system. When increasing utilization through lower fares, TransLink will need to consider how it may negatively impact the policy object for service quality.

### **Connection between price and cost to provide service**

We asked customers about TransLink's ability to pass on its costs to customers, through one of the scenario where fares increased as a result of gas prices going up and additional maintenance required on bus fleets. The customer response generally deemed the passing on of costs as unfair, which contradicted the expected results proposed by Kahneman's economic work on the entitlements of firms to pass on costs. As TransLink's service is subsidized through other forms of revenue (gas tax and property tax) it seems as though the public has a different expectation of TransLink's ability to keep fare prices low and withstand cost increases elsewhere. We would recommend more research into this aspect if it were seen as an important framing device in the fare policy communication.

### **Other Policy Objectives and Implementation Objectives**

As stated previously, the focus of the qualitative research was primarily concerned with the frame of the customer and their experience of transit and the fare system. Other evaluation framework objectives (e.g. support for compact region, total fare revenue) have not been contemplated, as they are best served through the other modes of technical analysis or modelling. Likewise, as the implementation objectives of feasibility and adaptability are attributes of proposed solutions, and this paper has not yet suggested any proposed options or solutions, we have not made any comments on the implementation objectives of the proposed evaluation framework.

# Appendix

## Research Approach and Methodology

This section describes the research approach and methods used in order to gain insights about fare policy and the customer experience of fare policy. It details the method, the rationale for its inclusion in the project, participants, the output and outcomes. Key findings, insights and implications are detailed in the main report.

## Approach

OpenRoad was tasked with performing qualitative research of TransLink's transit customers as part of the Transit Fare Review Project, specifically focusing on the following areas of inquiry:

- Legibility of the current fare system and what information matters to customers for the purposes of their trip
- Customers' decision making process leading to and during the trip
- Valued and important aspects of transit service
- Perceived experiences and level of satisfaction during transit trips
- Meaning of the fares and its relationship to customer experience.

Based on this focus, a number of questions were posed to customers through user interviews and brief in-context intercepts with customers.

The Research Findings section describes what we observed and gathered through that process, as well as why it matters for TransLink and the Transit Fare Review Project.

- 18 customers were part of the customer narrative workshop
- 11 customers were engaged for in depth 1:1 interviews.
- 162 customers gave input through contextual inquiries at 12 different transit hubs (stops, stations).

Interview and intercept activities began in mid-May 2016 and mainly concluded at the end of June 2016, with a ride-along conducted on the HandyDART at the beginning of August 2016. However, we would recommend further research conducted for the HandyDART audience in the form of 1:1 user interviews to get a more in depth understanding of their views.

### **Method: Customer Narrative Workshop (December 2015)**

Stories and anecdotes about the problem / subject area (in this case fares) are gathered from customers via in-person story circles. Customer workshop participants then index and categorize different aspects of the stories (issues, themes, characters) by applying labels and descriptors in a group activity.

Front-line staff at TransLink (SkyTrain attendants, transit police, bus drivers) previously participated in a similar narrative workshop sharing their stories of interactions with transit customers during the 2014 Customer Experience Journey Mapping project.

#### **Why:**

Storytelling is a natural and oblique method that allows us to get inside of not only the action taking place, but its meaning. Rich insights and “thick descriptions” of experience emerge through storytelling. Indexing activities using schema derived by the storytellers themselves seeks to remove the bias of an “expert” coding of the stories.

#### **How:**

Small group story circles (4 to 5 people per table) are used to collect the stories. A group-based affinity mapping activity generates the issues, themes, and archetypes.

#### **Who:**

- 18 TransLink customers
- OpenRoad workshop facilitators
- TransLink Transit Fare Review team member
- SDG consultant (observer)

#### **Output:**

- A collection of anecdotes, small stories
- Issues and themes that suggested additional areas of probing in customer interviews and contextual inquiry work
- Summary presentation deck (December 2015) summarizing issues & themes

#### **Outcomes:**

- Insights into the meaning of stories, actors, issues, and big themes that categorize people’s relationship with a service



- Narrative validity (the stories are through the customer's words and are signified through their lens, not the expert)
- Powerful anecdotes (concrete examples) that tie to abstract issues and themes (examples)
- Powerful consensus amongst participants about issues and themes
- A body of narrative and its meaning (integrated as part of this report)
- Specific topics of inquiry which became a guide for the customer interviews and contextual inquiry including:
  - The legibility and fairness of zone structures and fares
  - Value and pricing
  - Flexibility in fare options
  - Low income fare pricing
  - Customer service and training
  - Rider security
  - Communication and awareness of system changes
  - TransLink's perceived profit motive
- Larger themes that provided context for the inquiry, also folded into the customer interview and contextual inquiry design including:
  - Public transit's upside/benefit
  - Public transit's downside/costs
  - TransLink's public context and role in a democracy
  - Customer-focused organizational behaviours vs. political opportunism
  - Alternatives to transit and ongoing evaluations of transit against them
  - Hope for TransLink's future

### **Method: Customer Interviews/ Contextual Inquiry (May - August 2016)**

Critical to design research, interviewing customers consists of meeting and speaking with customers preferably in the context of use of the service or product (contextual inquiry). This allows for observation of what people do as well as what people say (behaviour and opinion/preference are gathered simultaneously).

#### **Why:**

Customers will provide you with their point of view, using their language and terms, not the organization's. Empathy, a key quality for designing an innovative concept from the eyes of the customer, is afforded through 1:1 encounters with customers.

#### **How:**

Design an interview guide, a research plan on how to recruit or intercept customers in context. Visit customers in designated locations, speak with them, take notes and/or record interview dialogue. Save and set aside for Define stage analysis activities.

#### **Who:**

- 11 customer interviews over 1-hour duration
- 162 customer interviews in short contextual inquiry engagements over 5 Bus Loops, 5 SkyTrain stations, the Compass Customer Service Centre and West Coast Express Office
- OpenRoad Interviewer / Design Researcher
- OpenRoad Co-Researcher/ Transcriber (shadows interviewer, also takes notes)

#### **Output:**

- Transcription (from high-level to specific verbatim text) of interview

#### **Outcomes:**

- Insights into research questions as outlined in the research plan and in this document, some interpretation in notes of the interview.
- Empathy for the customer
- Language, terms, and concepts used by customers
- Usage and opinions in context

## Concepts & Terminology

### Concept: Jarrett Walker's 7 Demands of Transit

In his book *Human Transit*, Walker outlines “seven broad expectations that potential customers have of a transit service that they would consider riding:”

1. It takes me *where* I want to go.
2. It takes me *when* I want to go.
3. It's a good use of my *time*.
4. It's a good use of my *money*.
5. It *respects* me in the level of safety, comfort and amenity it provides (civility).
6. I can *trust* it.
7. It gives me *freedom* to change my plans.

While a fare review project might imply a research focus on only the fourth demand (it's a good use of my *money*), the concept of transit's **value** is much broader than the monetary amount of the transaction between TransLink and the customer and their resulting customer experience and satisfaction. The other six demands were frequently a topic of discussion during the interviews and contextual inquiries.

### Terminology

To provide context and better understanding of the research findings, here are some specific terms we use and their associated meanings.

These terms have importance as they either come from a common usage from customers (how customers describe concepts, in their own words) or they are newly coined terms that help us as researchers differentiate against an existing “similar-but-different” term frequently used inside TransLink.

**Cost:** The term cost is not in reference to TransLink's costs of operating transit, but to the cost a customer incurs for taking transit, whether that is monetary, emotional, or other aspects. Cost in this sense *includes the fare price*, but is a larger concept inclusive of their sense of subjective wellbeing. It may also include back of the envelope estimations of the value of their time in dollar figures.

## Transit fare concepts:

This report makes use of the technical language of the Transit Fare Review project:

fare structures	means by which fares are calculated such as distance, time of day and/or mode
pricing	price paid by the customer for a product
products	single use ticket or pass across structures (zones, periods of time, mode)
discounts	reductions in price present in some products
concessions	reduced price travel products for certain groups (age or ability)
media	the physical form of the product, like a Compass Card or FareSaver ticket

**Describing customers:** While different customer profiles exist within the TransLink enterprise and different methods of segmentation and representation of the customers exist (e.g. Ipsos Reid’s Customer Service Performance Quarterly Reports customer segments) we did not base our interviews around validating interviewees against these customer types.

We attempt to utilize common language found in the Ipsos Reid Quarterly Reports when describing general customer behavioural attributes (like frequent or infrequent users) or an implied type or role embedded in a travel purpose (e.g. tourist). Findings attributed to a particular customer type or interpreted through the lens of a social or policy construct (e.g. low income customers) are described within the context of the interviews and may not be generalizable or valid to the population as a whole. For example, in the case of a low-income context we did not ask or verify the income of the interviewee during the scope of the research nor benchmark against other commonly accepted definitions (Stats Canada, BC Stats).

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