



# MILLENNIUM LINE BROADWAY EXTENSION

## Phase 2 Engagement Summary Report

May – July 2017

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# 1 EXECUTIVE SUMMARY

TransLink and its partner, the City of Vancouver, are conducting a three-phased stakeholder and public engagement process to inform the planning and design of the Millennium Line Broadway Extension (the Project). When full funding is secured, the Project will extend the Millennium Line westward, from its current terminus at VCC-Clark to Arbutus Street, via a six-kilometre underground route with six stations near major intersections. A future phase of investment will connect rapid transit all the way to UBC's Point Grey campus.

This report summarizes activities and findings from public and stakeholder engagement that took place between May and July of 2017.

## 1.1 ENGAGEMENT OPPORTUNITIES

Engagement took place during May and July 2017 and included eleven stakeholder meetings, four stakeholder workshops, three public open houses, and an online questionnaire. The goals of the engagement process were to provide stakeholders along the route and the public with an update on the Project, report back on what has been heard throughout consultation and engagement to date, and gather more feedback on construction impacts and design features and considerations. These sessions also presented an opportunity to listen to other input and respond to questions about the Project.

*Table 1: Engagement Snapshot - Stakeholder Presentations*

Stakeholder Presentations	Date	Attendees (103 total)
Joint Business Improvement Associations	24 May	6
Vancouver City Planning Commission	7 June	8
Active Transportation Policy Council	7 June	16
Transportation 2040 Working Group	8 June	13
Health Precinct	9 June	7
Persons with Disabilities Advisory Committee (Transportation Sub-Committee)	13 June	6
Seniors' Advisory Committee	16 June	12
TransLink Users Advisory Committee	22 June	5
Downtown Vancouver BIA	26 June	2
Urban Aboriginal People's Advisory Committee	July 17	14
Children, Youth and Families Advisory Committee	July 20	14

Table 2: Engagement Snapshot - Stakeholder Workshops

Stakeholder Workshops	Date	Attendees (71 total)	Notifications
Great Northern Way Workshop	21 June	20	Promotion at previous presentations, area mail drop, emails, follow-up calls
Arbutus Workshop	21 June	15	Promotion at previous presentations, area letter hand delivery, emails, follow-up calls
General Workshop #1	22 June	27	Promotion at previous presentations, email invitation.
General Workshop #2	22 June	9	Promotion at previous presentations, email invitation.

Table 3: Engagement Snapshot - Public Open Houses

Stakeholder Open Houses	Date	Attendees (876 total)	Notifications
Open House #1	24 June	339	<ul style="list-style-type: none"> <li>• Postcards distributed by street team June 19 and June 22</li> </ul>
Open House #2	27 June	311	<ul style="list-style-type: none"> <li>• Postcards mailed to Arbutus area June 6</li> <li>• 200 posters placed June 12</li> </ul>
Open House #3	28 June	226	<ul style="list-style-type: none"> <li>• Newspaper ads in 24 Hours/Metro and Georgia Straight June 15/16/20</li> <li>• Social media posts and website promotion.</li> </ul>

## 1.2 KEY FINDINGS

### 1.2.1 STAKEHOLDER PRESENTATIONS

The following points summarize themes heard on key topics at stakeholder presentations.

#### Process:

- Stakeholders would like to have a Business and Community Liaison Office established during the project implementation phase, so that there is a point of contact for Project information and resources. In addition, health precinct stakeholders expressed support for a health precinct working group so that the existing planning initiatives on can be aligned with the planning, design, and construction of the Project. There is also interest in coordinating the Project with the City's land use planning initiatives.

#### Construction:

- Stakeholders expressed concerns about the potential impacts of construction on mobility along the Broadway Corridor. Some business owners are worried about customer parking and access. Other stakeholders also raised concerns about potential traffic diversions to other routes. Stakeholders also emphasized the importance of maintaining safe and accessible pedestrian and cycling routes.
- Arbutus area businesses expressed specific concerns regarding potential construction impacts at Arbutus.

#### Station Design:

- Suggestions from stakeholders regarding Station design features focused on amenities and accessibility. Many stakeholders have a desire for accessible washrooms at or near stations. Other accessibility-related station design features confirmed by stakeholders include sufficient elevators and both up and down escalators, as well as pick-up and drop-off areas. Stakeholders would also like to see wayfinding and signage throughout the system to make it easier to use. They would also like to see infrastructure that supports walking and cycling during trips integrated into station design.

### 1.2.2 STAKEHOLDER AND PUBLIC EVENTS

During this round of engagement, 71 stakeholders attended four stakeholder workshops in mid- to late-June 2017, and 876 members of the public attended three open houses in late-June 2017. In addition, 3050 members of the public completed the questionnaire – either online or by completing hard-copies at engagement events. Online results are summarized in the next section.

Feedback from the events indicates that the large majority of event participants and questionnaire respondents strongly support the Project. There is a desire to see the Project completed with manageable construction-related disruptions. Feedback shows that participants see the Project as an opportunity to improve the transit experience along the Broadway Corridor with a multi-modal transportation system that can accommodate growth in Metro Vancouver. They also responded that the Project is an opportunity to improve wayfinding, accessibility, and safety in transit stations, which are important locations for community connection and place-making.

When asked to share concerns about the Project, participants raised issues and questions regarding: the construction process and potential impacts on businesses and mobility along the Broadway Corridor; potential impacts on land use; the project timeline; Arbutus Station area and bus connections; and how TransLink and the City of Vancouver will continue to work with stakeholders to ensure alignment with related ongoing initiatives.

- **Extending rapid transit to UBC.** There was significant interest in the project timeline, with a desire to see construction of rapid transit all the way to the University of British Columbia (UBC) as soon as possible, rather than at a later stage. Many comments expressed a desire to build the Project as soon as possible and to shorten the duration of construction as much as possible. Supporting comments included: cost savings of completing extension to UBC in one phase and minimizing impacts to the Arbutus area, which will require two excavations if the line is delivered in two phases.

- **Access and Mobility.** Participants expect that construction along Broadway, a major transportation corridor in the region, will affect mobility and access to certain businesses for some time. Concerns related to the duration and magnitude of impacts. Participants suggested mitigation efforts to efficiently re-route traffic for pedestrians, transit riders, bicyclists, and drivers. Continued transit access, pick-up and drop-off areas, deliveries access, and parking access during construction were priorities.
- **Ongoing engagement.** Stakeholders expressed a desire for continued consultation and engagement. Stakeholders are optimistic that continued consultation and engagement can help address issues quickly and effectively. Questions were raised about the nature and extent of community and business support during construction, ranging from building on the Business and Community Liaison Office system used during Canada Line construction to increased support and information for businesses and community members.
- **Station design.** Participants shared many ideas about the design of stations. There was strong support for various features contemplated for stations, with an emphasis on accessibility-focused design (including up and down escalators), pick-up and drop-off areas, bicycle parking and access, seating, retail, and safety features. Many stakeholders voiced a desire for accessible public washrooms at or near stations. Integrating public art into stations so that each station is unique (to help with wayfinding) was another idea raised. Pedestrian access to stations was another key theme.
- **Land Use.** Many participants recognized that the Project is an opportunity to increase jobs and housing along the alignment. However, some stakeholders identified certain concerns associated with land use growth in the corridor.

### 1.2.3 ONLINE ENGAGEMENT

Between June 19 to July 8, 2017, TransLink hosted an online questionnaire on the TransLink project website. A total of 3050 respondents completed the questionnaire.

#### Design Features and Considerations:

- 86% of 2,782 respondents to the question about design features inside the stations felt that the design features met their expectations.
  - 70% of 1,040 respondents to this question made additional comments related to design features inside stations, while 22% of those comments mentioned washrooms.
- 95% of 2,829 respondents who answered the question about design features outside the stations, identified waiting space with weather protection as their priority; while another 89% identified street furniture, like waste and recycling bins, and benches; and 85% identified making locations recognizable as rapid transit stations.
  - 32% of 615 respondents to this question made additional comments related to standard design features outside stations.

#### Construction Impacts:

- 78% of 2,787 respondents who answered the question about managing transportation impacts during construction felt that the strategies would be effective.

- 32% of 623 respondents to that question identified a standard feature; while 13% identified not repeating the "Cambie/Canada Line" process; and 12% identified minimizing impacts to businesses/shopping as the most common construction impact considerations.
- 76% of 2,685 respondents to the question about suggested strategies for supporting business access and addressing community needs, thought the strategies would be effective.
  - 18% of 516 open-ended responses to this question made comments about supporting business access and addressing community needs identified minimizing impacts to businesses/shopping; while 16% identified not repeating the "Cambie/Canada Line" process, and 15% identified other strategies.

**Additional Considerations:**

- 27% of 719 responses to the open-ended question about additional considerations for the Great Northern Way area identified concerns about protecting art outside of stations; 19% identified other concerns; and 8% offered rerouting suggestions.
- 37% of 854 responses to the open-ended question about additional considerations for the Arbutus area included suggestions to continue the Millennium Line beyond Arbutus now; 24% identified other considerations; 7% provided general negative comments regarding considerations for the Arbutus area; 7% identified minimizing impact to residents and the neighbourhood.

**Public Engagement Process:**

There were also some general comments about the public engagement process. These included: comments requests for visuals to accompany online questionnaire text; concerns regarding how public input would be responded to; comments asking for more detail on the proposed design features; and comments asking for clarification on features or terminology.

### 1.3 NEXT STEPS

The third round of stakeholder and public engagement for the Project will take place in 2018. Participants in this next phase will have an opportunity to share their feedback on how the Project Team is addressing the input we received in previous phases and information from the Environmental Review.

## 2 INTRODUCTION

This report summarizes the public and stakeholder engagement conducted by TransLink and the City of Vancouver during May, June, and July 2017 for the Project.

The goal of this engagement phase was to inform people about the work that the Project Team has done to date and seek feedback from stakeholders along the Broadway Corridor and the greater public about construction impacts and mitigation, and design guidelines inside and outside the stations. Engagement activities also presented an opportunity to listen to general thoughts and questions about the Project.

### 2.1 BACKGROUND

#### Mayors' Council on Regional Transportation

The TransLink Mayors' Council on Regional Transportation is comprised of the 21 mayors in Metro Vancouver, as well the elected representative of Electoral Area 'A' and the Chief of Tsawwassen First Nation. The Mayors' Council approves TransLink's long-term regional transportation strategies and 10-year transportation investment plans, and performs regulatory oversight functions.

In February 2014, the Minister of Transportation and Infrastructure asked the Mayors' Council to confirm its transportation vision and to clarify the costs, priorities, and phasing for investments and actions.

In June 2014, the Mayors' Council responded with a Vision outlining transit and transportation investments to keep Metro Vancouver moving. This Vision has a 30-year planning horizon, and calls for rapid transit along the Broadway Corridor, connecting to UBC.

#### 10-Year Vision

The Vision sets out specific investment, management, and partnership actions for ten years, referred to as the 10-Year Vision for Metro Vancouver Transit and Transportation. One of the investment actions is to extend the Millennium Line westward from its current terminus at VCC-Clark Station to Arbutus within the initial 10-year period of the Vision:

- Phase 1 will extend the Millennium Line from the existing VCC-Clark Station to Arbutus Street, underground along the Broadway Corridor.
- Phase 2 will connect rapid transit to UBC.

Consistent with the 10-Year Vision, TransLink and the City of Vancouver have prioritized implementing rapid transit along the Central Broadway Corridor to address the densest population and employment areas on the corridor in the first phase.

#### Phase One Plan

In November 2016, the TransLink Board of Directors and the Mayors' Council approved TransLink's 2017-2026 Investment Plan: Phase One of the 10-Year Vision (Phase One Plan). The Phase One Plan includes

funding for pre-construction activities for the Project. Full capital funding for the Project will be confirmed through a future update to TransLink’s Investment Plan.

## 2.2 ENGAGEMENT PROCESS

The Millennium Line Broadway Extension is one of the most significant infrastructure investments for the region’s future and is the City of Vancouver’s number one transportation priority. TransLink is leading a three-phase engagement process in partnership with the City of Vancouver to inform the design development of the Project.

During this period, multiple technical, intergovernmental, and engagement activities are underway, including: design development; further geotechnical investigation; environmental review; business case refinement; technical specifications development; procurement document preparation; engagement with stakeholders, the public, and First Nations; and other efforts.

This report summarizes public and stakeholder activities and feedback conducted in May, June, and July 2017, as indicated as “Engage” in the process diagram below.

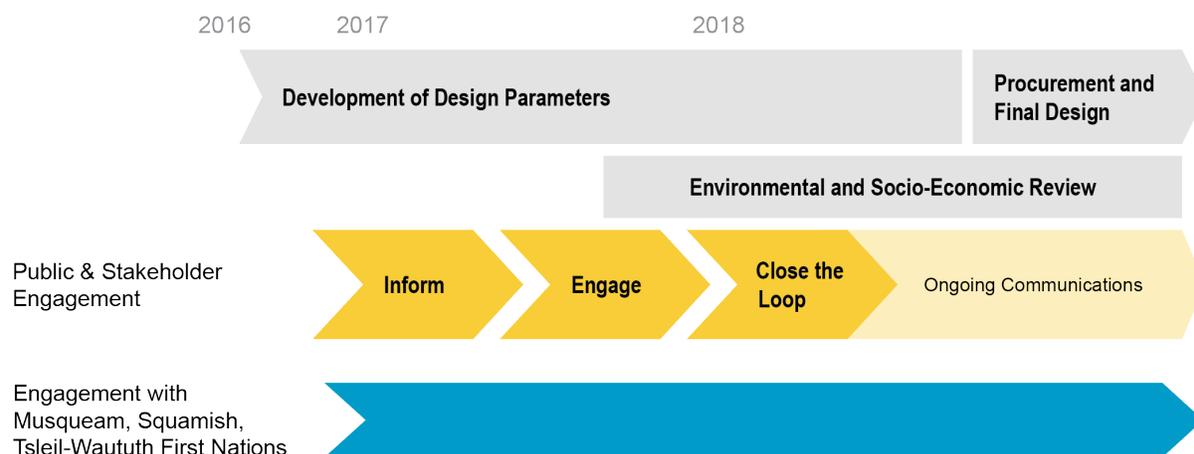


Figure 1: Engagement Process Timeline

This report is organized as follows:

- Summary of Engagement Opportunities
- Summary of Engagement Findings
- Outreach Extent and Methods

Verbatim written feedback gathered from events and online engagement are included in the Appendix, organized by input opportunity.

## 3 ENGAGEMENT OPPORTUNITIES

TransLink, with its partner the City of Vancouver, hosted 15 stakeholder presentations, four stakeholder workshops, three open houses, and an online questionnaire, during May, June and July 2017.

This section summarizes the purpose, format, and level of participation for each engagement opportunity. The following section, “Engagement Findings,” summarizes the feedback received across all input opportunities. Verbatim written comments are included in the Appendix.

### 3.1 STAKEHOLDER PRESENTATIONS

TransLink and City of Vancouver staff gave eleven stakeholder presentations between May and July 2017. The purpose of these presentations was to provide an update to the Project, to review engagement findings to date, explain how that feedback was being incorporated, and to give an opportunity to ask questions and provide feedback.

At each stakeholder presentation, the Project Team presented a Project overview, what was heard in the last phase of engagement, what topics TransLink and the City were engaging on in this phase, next steps for the Project, and responded to questions and concerns from attendees.

### 3.2 STAKEHOLDER WORKSHOPS

Stakeholders were invited to attend one of four stakeholder workshops:

- Wednesday, June 21, 1 p.m. – 3 p.m. (Great Northern Way) at the Creekside Community Centre
- Wednesday, June 21, 5 p.m. – 7 p.m. (Arbutus Station) at the Kitsilano Community Centre
- Thursday, June 22, 2 p.m. – 4 p.m. (Corridor-wide) at the Vancouver Masonic Centre
- Thursday, June 22, 6 p.m. – 8 p.m. (Corridor-wide) at the Vancouver Masonic Centre

Invitations for these events were distributed in the following ways:

- Promotion at previous stakeholder presentations;
- Email invitations;
- Follow-up calls;
- Mail-drop invitation letters to residents in the Great Northern Way area;
- Invitation letters were emailed to Great Northern Way stakeholders with a reminder email and follow up phone calls; and
- Businesses along Broadway, between Cypress Street and Vine Street, were hand-delivered invitations to the Arbutus Station workshop and postcards informing them of the open houses.

Stakeholders from a cross-section of community associations; local businesses; education; healthcare; accessibility; and transportation and transportation advocacy groups attended these sessions.

### 3.2.1 GREAT NORTHERN WAY & ARBUTUS WORKSHOPS

On June 20, 2017, the Project Team hosted two stakeholder workshops: one focused on the Great Northern Way area, and the other focused on the Arbutus area. These two key areas were chosen to focus engagement efforts as these are the two locations will experience greater construction impacts.

Participants at these workshops were asked to consider the following questions, regarding their respective areas:

- What station considerations are most important at [the area in question at the workshop]?
- What else do we need to keep in mind when planning construction in this area?

A member of the engagement team facilitated discussion about these questions, while a subject matter expert from the City or TransLink answered questions and responded to concerns. Approximately 35 stakeholders attended these two workshops.

### 3.2.2 CORRIDOR-WIDE WORKSHOPS

On June 21, 2017, the Project Team hosted two other stakeholder workshops, both of which focused on station design considerations and construction impacts. Participants at these workshops were asked join facilitated discussions of their choice at two of the following four stations:

- Station Design Features: Inside the stations
- Station Design Considerations: Outside the stations
- Construction Impacts: Transportation
- Construction Impacts: Supporting business access and addressing community needs

A member of the engagement team facilitated discussion about these topics, while a subject matter expert from the City or TransLink answered questions and responded to concerns. Approximately 34 stakeholders attended these two workshops.

## 3.3 PUBLIC OPEN HOUSES

The Project Team hosted three open houses at the City of Vancouver's engagement space at 511 West Broadway to inform the public about the Project, to gather ideas, and to listen to questions:

- Saturday, June 24, 10 a.m. – 2 p.m.
- Tuesday, June 27, 4 p.m. – 7 p.m.
- Wednesday, June 28, 4 p.m. – 7 p.m.

At these events, participants were asked to review contextual information on a series of boards, while providing feedback on others regarding several topics:

- Station Design Features: Inside the stations
  - “Did we miss anything? Please use a sticky note to describe...”
- Station Design Considerations: Outside the stations

- “To help us inform the design of stations, tell us what you think of the following considerations. Please use one sticky dot per item.”
- “Did we miss anything? Please use a sticky note to describe...”
- Construction Impacts: Transportation
  - “How effective do you think these strategies will be in managing transportation impacts? Use one sticky dot on the scale below to tell us.”
  - “Did we miss anything? Please use a sticky note to describe...”
- Construction Impacts: Supporting business access & addressing community needs
  - “How effective do you think these strategies will be in managing business access and addressing community needs during construction? Use one sticky dot on the scale below to tell us”
  - “Did we miss anything? Please use a sticky note to describe...”
- Additional Considerations: Great Northern Way Area
  - “What do we need to consider about the Great Northern Way area to guide the construction management strategies and design considerations?”
- Additional Considerations: Arbutus Street Area
  - “What do we need to consider about the Arbutus area to guide the construction management strategies and design considerations?”

### 3.3.1 EVENTS PROMOTION

These events were promoted in both traditional and online media. Promotion for the public open houses included:

- TransLink website (10,587 page views between June 19 and July 8, 2017)
- City of Vancouver website (3,239 page views between June 1 and July 31, 2017)
- City of Vancouver’s Greenest City newsletter (4,193 subscribers)
- Email notification to 14,859 TalkVancouver panelists (6,381 opened the email)
- TransLink and the City of Vancouver social media accounts:
  - 4,357 TransLink Facebook impressions, 55 reactions/comments/shares, 184 clicks
  - 1,520 City of Vancouver Facebook impressions, 10 reactions/comments/shares
  - 11 TransLink tweets and 21 re-tweets
  - 397 Buzzer Blog views and two comments
  - 24,000 Twitter followers on City of Vancouver Twitter -One tweet from City of Vancouver specific to Broadway and another regarding the Greenest City newsletter, including the engagement sessions
- TransLink “Next Bus” text feature (262,930 views and 3,658 clicks between June 19 and July 8, 2017)
- Posters for local coffee shops and community centres (100+)
- Posters available for stakeholders at the stakeholder workshops (200)
- Postcards distributed by street teams along the corridor on June 19 and June 22, 2017 during morning and evening peak hours at Commercial-Broadway Station, Broadway-City Hall Station, Granville Street at Broadway, and VCC-Clark Station (3,500)
- Postcards mailed out to residents in Arbutus area
- Postcards available for stakeholders at stakeholder meetings (1,500)

- Print advertisements in:
  - 24 Hours (June 15)
  - Metro (June 20)
  - The Georgia Straight (June 16)
- Invitation letters sent to residents in the Great Northern Way area

### 3.3.2 EVENT PARTICIPATION

In total, 887 people attended the three public open houses. All three events followed the same format, which included informational display boards, display boards for collecting public feedback, and the online questionnaire. Participants at these events were asked specific questions related to station design features, including features both inside and outside the stations; construction impacts on supporting business access and addressing community needs, and on transportation; as well as specific considerations at either end of the proposed alignment, at Great Northern Way and Arbutus. TransLink and City of Vancouver staff were available at the display boards to answer questions and listen to concerns.

## 3.4 ONLINE QUESTIONNAIRE

Between June 19 to July 8, 2017, TransLink hosted an online questionnaire on the project website, promoted through the website and on social media. It was available on tablet computers at the three open houses. More than 3,000 respondents completed the questionnaire.

A high-level summary of questionnaire findings is included in this engagement summary, and detailed findings are included in the Appendix.

## 4 ENGAGEMENT FINDINGS

This section summarizes key themes based on feedback gathered in June and July of 2017. Feedback includes written comments received at stakeholder presentations, public open houses, and the online questionnaire. The four stakeholder workshops and three open houses generated over 850 individual written comments about the Project. Participants at these events were asked specific questions related to station design features, construction impacts, and specific considerations at either end of the Project. This section summarizes comments from each of these topics and provides some quotes from participants as examples. An additional 3,050 responses were received through the online questionnaire, and this feedback is also incorporated into the summaries of feedback by category.

Example quotes from each session are labeled as follows to assist with cross-referencing with detailed findings in the Appendix:

<i>Great Northern Way Workshop</i>	<i>GNW</i>
<i>Arbutus Workshop</i>	<i>ARB</i>
<i>Stakeholder Workshop 3</i>	<i>SW3</i>
<i>Stakeholder Workshop 4</i>	<i>SW4</i>
<i>Open House 1</i>	<i>OH1</i>
<i>Open House 2</i>	<i>OH2</i>
<i>Open House 3</i>	<i>OH3</i>

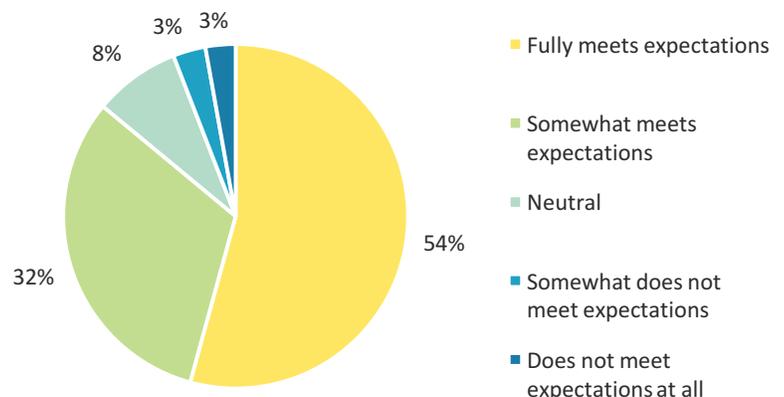
### 4.1 STATION DESIGN FEATURES AND CONSIDERATIONS

#### 4.1.1 INSIDE THE STATIONS

##### Online Engagement

Of respondents who took the online questionnaire, 2782 respondents ranked whether the internal design features suggested by the Project Team met respondents’ expectations in the following way:

- Suggested features met the expectations of 86% of the respondents that answered this question; indicating “Fully meets expectations” (54%) or “Somewhat meets expectations” (32%)
- 5% suggested the features didn’t meet expectations; indicating “Does not meet expectations at all” (3%) or “Somewhat does not meet expectations” (3%)
- 8% responded with “Neutral”



Of 1040 open-ended questionnaire responses, the following themes were mentioned:

- Mentioned a standard feature, neutral comments (729, 70%)
- Washrooms (235, 22%)
- General negative comments regarding proposed inside-station design (88, 8%)
- A desire for multiple entrances/exits (73, 7%)
- Bike racks/storage (57, 5%)
- Security features (43, 4%)
- Security personnel (40, 3%)
- Continue line beyond Arbutus now (28, 2%)
- General positive comments regarding inside-station design (20, 1%)
- Prefer alternate transit technology (17, 1%)
- Seating (16, 1%)
- Concerns about protecting art galleries outside of stations (15, 1%)
- Wi-Fi or cellular service (13, 1%)
- Direct transfer connections (12, 1%)
- Safety rail/wall (10, 0%)
- Garbage/recycling/compost bins (7, 0%)
- Do not want rapid transit expansion (7, 0%)
- Negative comments regarding engagement process (6, 0%)
- Other (49, 4%)
- No other comments (29, 2%)
- Declined to answer (3, 0%)
- Don't know (6, 0%)

### Stakeholder Workshops & Open Houses

Stakeholders and members of the public shared a total of 492 comments on station design principles. Of these, 323 comments related to design features inside of stations and 169 related to design considerations for areas outside of stations.

Comments on design features and considerations for station design are focused into several themes:

- Desired amenities (112 comments)
- Accessibility (78 comments)
- Functionality of stations (70 comments)
- Wayfinding improvements (33 comments)
- Safety improvements (16 comments)
- Aesthetic preferences (10 comments)
- Other considerations (4 comments)

Comments from the events are summarized below.

### Amenities inside stations (112 comments)

One hundred twelve participants expressed a desire for amenities inside stations, including infrastructure for weather protection (such as awnings), more seating, washrooms, retail stores, recycling bins and garbage cans, wireless internet (Wi-Fi), cellphone service and charging stations, bicycle infrastructure, water fountains, and public art spaces.

The most frequently-mentioned amenities were washrooms (44 comments), retail stores (16 comments) and bicycle infrastructure (16 comments). Forty-four comments indicated support for public washrooms, and some expressed support for washrooms to be provided by retail stores to be more cost effective. The types of retail stores participants would like to see inside of stations are local businesses that sell small convenience items, such as water and newspapers. Sixteen would like retail stores to be located inside of fare paid areas so that they are easily accessible for those waiting for trains, while others prefer them outside of fare paid areas to make them more accessible. Some participants also mentioned the possibility of using retail spaces to help pay for the maintenance of stations. The types of bicycle infrastructure participants would like inside of stations ranges from adapting existing infrastructure to accommodate bikes, like wider fare gates, elevators and escalators, to bike-specific infrastructure, such as provision for cars on-board trains and secure bike parking at station.

- “Washrooms are as much a core issue as escalators or bike racks.” GW1
- “It would be nice to have small kiosks selling water, mints, newspapers, etc. inside the paid gates of the stations. So, if you need something (like emergency water) you don't have to go outside of the station pay gates and then get back in again.” OH1
- “Stations planned around bike movement through stations.” GW1

### Impacts of stations design on accessibility (78 comments)

Seventy-eight comments focused on station design principles that could improve the accessibility of stations, particularly for people with disabilities and seniors. Participants suggested that stations should have wider platforms, be more visually stimulating, with adequate lighting and high contrast colours to make navigation easier for those with visual impairments. Stations should also have more descriptive audio communications for hearing impaired customers. Stations should include more elevators with faster service with enough room to accommodate multiple wheelchairs, strollers, or bikes. Participants would also like to see up and down escalators and more fare gates with wider entrances, seating areas to rest during trips, washrooms, protection for guide dogs, and staff to help vulnerable populations move through the system.

- “Colour contrast and tactile wayfinding guide inside stations from entrance to gates, elevators, escaladers, and stairs.” GW2
- “When the voice-over is announcing the next stop, please say which direction to exit. (e.g. "Next station Cambie. Exit the train on your left").” OH3
- All fare gates should be the same width! All wide.” OH2

### Functionality (70 comments)

Seventy participants provided comments to enhance the flow of commuters through the system. In order to do this, participants suggested longer platforms to accommodate larger trains that can move more people, having multiple entrances and exits, supporting multi-modal connections (particularly between bicycles and trains), more escalators with better durability, underground connections between train lines, integration

between stations and popular nearby destinations, a “double track” at the end of the line, and building stations that are large enough to accommodate future increases in ridership as the region grows. Some participants were specifically interested in how buses will be accommodated at the Arbutus station.

- “Shuttle service or tunnel into health campus.” GW1
- “Make sure enough there are enough fare gates. Separate entrances and exits would be helpful too.” OH2

### Wayfinding inside of stations (33 comments)

Thirty-three participants left comments about wayfinding in stations. Comments expressed that wayfinding in existing stations is a challenge for those with visual impairments and for non-English speakers. Comments suggested addressing this through signage that is larger with symbols instead of writing. If writing is necessary, plain language should be used. Stations also need more lighting, so it is easy for all to see. Some participants would like signage to be specific to modes of transportation (e.g. pedestrians and cyclists). Specific types of signage were suggested for new stations, including more visible station signs at entrances, clear directions to trains and elevators, more visible upcoming station names in cars and on platforms, and information to help passengers exit to their desired location. Participants commented on the value that décor and art can play in supporting wayfinding by distinguishing stations from one another. Some comments mentioned that wayfinding should be more interactive, suggesting more staff at stations to direct passengers or computers for people to use if they are lost. One participant mentioned that wayfinding efforts inside of stations should build on the existing wayfinding in station areas (e.g. Vancouver General Hospital Corridor Stewardship Group wayfinding initiatives).

- “Stations should be easy and fast to identify from inside a crowded train. As well as signs, with distinctive art work (e.g. Oak tree art would instantly identify Oak St. Station).” OH3
- “Interactive computer wayfinding station!” GW1
- “Make sure station signs are visible from inside the train (i.e., like Toronto or New York).” OH1

### Station design impacts on safety (16 comments)

Sixteen participants noted that the planning of new stations could improve safety inside of stations. Three people thought that security personnel presence would be a good idea. Three more would like to see washrooms inside stations. Other safety features participants would like to see include security cameras, multiple station entrances so that streets outside of stations are less congested, greater buffers between train tracks and platforms, and lighting throughout stations.

- “Multiple accesses so people save time and don't have to cross busy streets.” OH1

### Aesthetic preferences (10 comments)

Ten participants expressed their aesthetic preferences for inside stations. Their preferences include “creative,” “iconic” and “attractive” architecture, design that integrates with the surrounding community’s character, and interactive spaces that change over time and represent the local community. Participants also mentioned station cleanliness as an important aesthetic feature.

- “Good architecture! Make public space fun, imaginative and creative!” OH2
- “Try LED boards to display art, so that it could be easily changed - daily, weekly, etc.” OH3

Other considerations (4 comments)

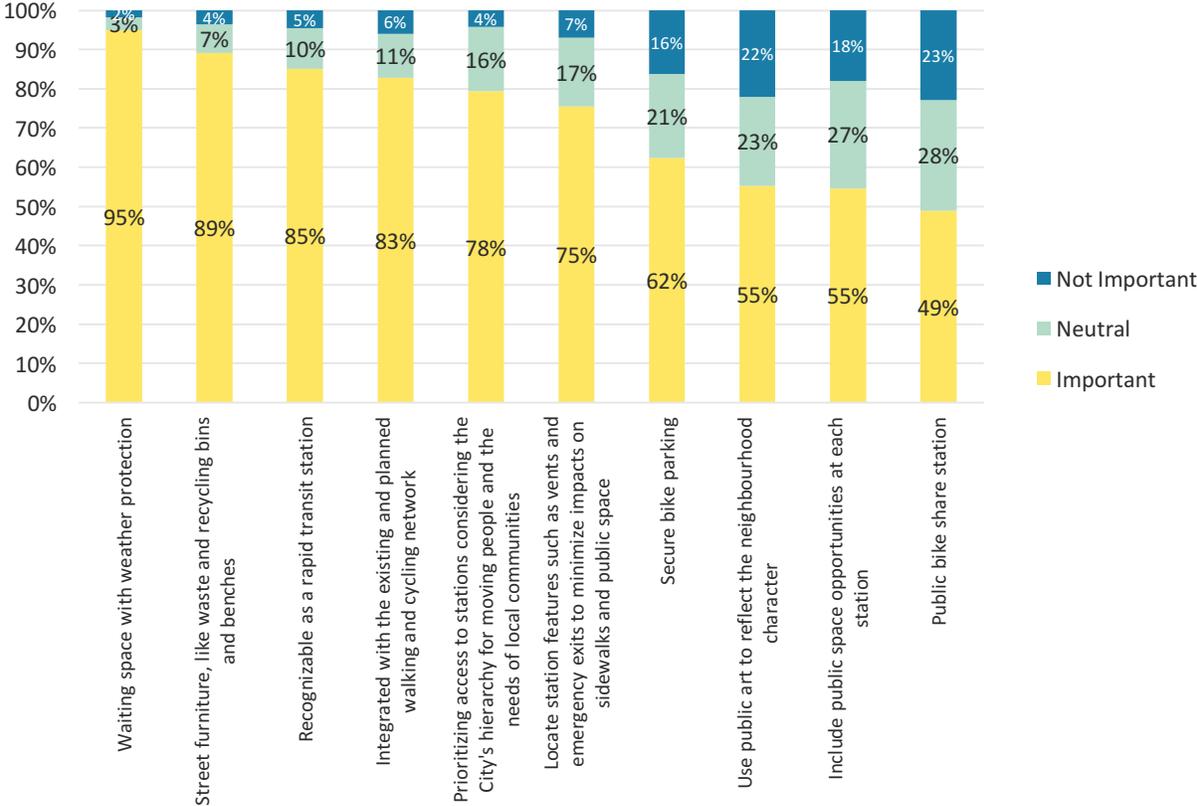
Four other comments that did not fit the above themes, two of which related to station design considering and monitoring noise and air quality inside stations.

4.1.2 OUTSIDE THE STATIONS

Online Engagement

Of respondents who took the online questionnaire, approximately 2829 respondents ranked the importance of suggested considerations in the following ways:

- “Waiting space with weather protection” was ranked important by the highest percentage of respondents; 95% responded important – “Somewhat important” (21%) or “Very important” (74%).
- The next highest percentage of considerations ranked important were “Street furniture, like waste and recycling bins and benches” (87%), “Recognizable as a rapid transit station” (85%), and “Integrated with the existing and planned walking and cycling network” (83%).
- “Public bike share station” was ranked unimportant by the highest percentage of respondents; 23% responded unimportant – “Somewhat unimportant” (11%) or “Not important at all” (12%).
- The next highest percentage of considerations ranked unimportant were “Use public art to reflect the neighbourhood character” (22%) and “Include public space opportunities at each station” (18%).



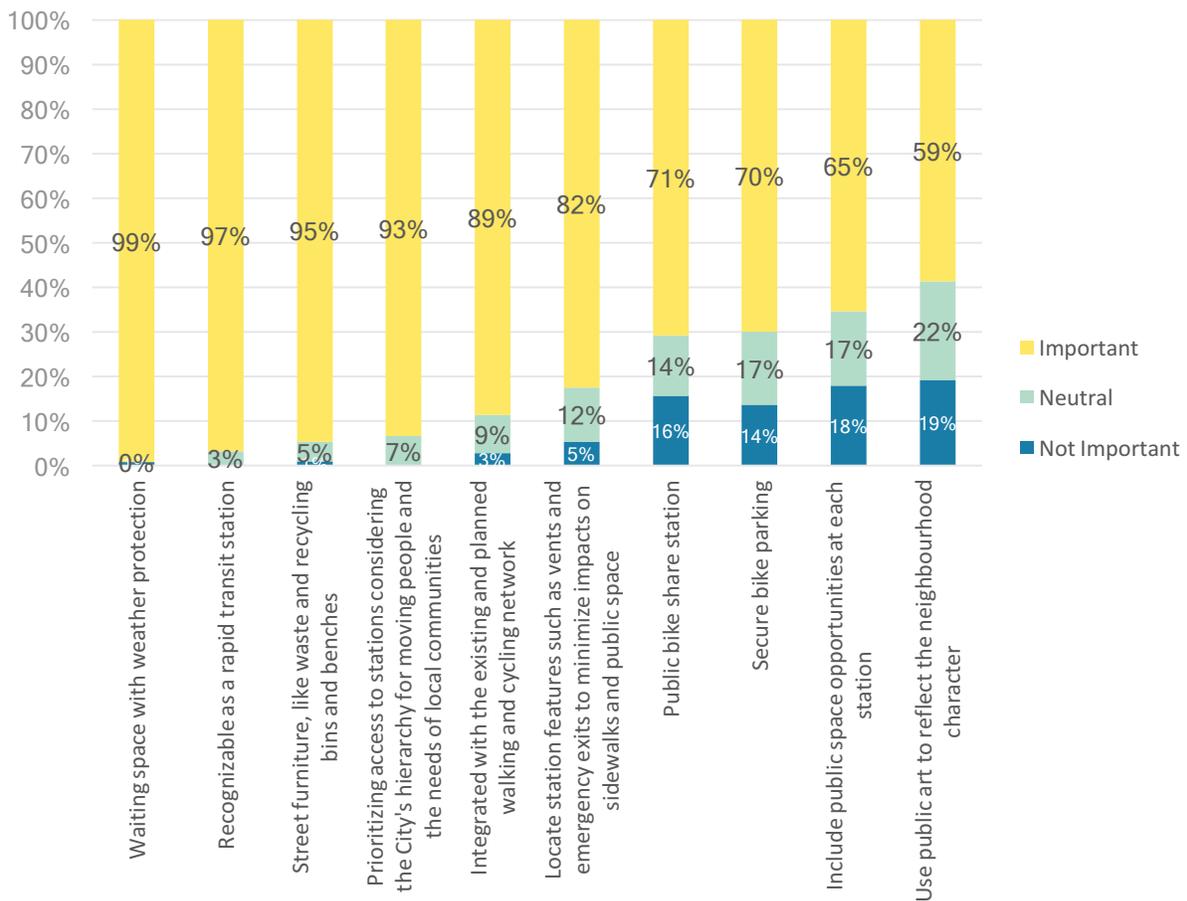
Of 615 open-ended questionnaire responses, the following themes were mentioned:

- Mentioned a standard feature, neutral comments (194, 32%)
- A desire for multiple entrances/exits (includes access from both sides of the street) (54, 9%)
- General negative comments regarding proposed outside-station design features (47, 8%)
- Washrooms (42, 7%)
- Clear wayfinding and passenger info (39, 6%)
- Easy access to and from buses (37, 6%)
- What does 'Prioritizing access to stations.' mean? (29, 5%)
- Security features (26, 4%)
- Drop off/ Pick up zones (26, 4%)
- Public parking (24, 4%)
- Retail opportunities (20, 3%)
- Security personnel (14, 2%)
- Green space / landscaping (13, 2%)
- Quality architectural design (13, 2%)
- Concerns about protecting art galleries outside of stations (10, 2%)
- Wheelchair accessibility (6, 1%)
- General positive comments regarding outside-station design (2, 0%)
- Negative comments regarding engagement process (7, 1%)
- Other (36, 6%)
- No other comments (25, 4%)
- Prefer alternate transit technology (14, 2%)
- Do not want rapid transit expansion (3, 1%)

### Stakeholder Workshops & Open Houses

When asked to rate the importance of given considerations for outside the stations between 74 and 134 (depending on the given consideration) participants responded in the following ways:

- “Waiting space with weather protection was ranked important by the highest percentage of respondents; 99% responded important – “Somewhat important” (13%) or “Very Important” (73%).
- The next highest percentage of considerations ranked important were “Recognizable as a rapid transit station” (97%), “Street furniture, like waste and recycling bins and benches” (95%), and “Prioritizing access to stations considering the City's hierarchy for moving people and the needs of local communities” (93%).
- “Use public art to reflect neighbourhood character” was ranked unimportant by the highest percentage of respondents; 19% responded unimportant – “Somewhat unimportant” (5%) or “Not important at all” (14%).
- The next highest percentage of considerations ranked unimportant were “Include public space opportunities at each station” (18%) and “Secure bike parking” (14%).



Participants made 169 comments related to design principles for areas outside of stations. Comments on design principles for areas outside of stations are focused into several themes: amenities, functionality, accessibility, safety, development, wayfinding, and aesthetic preferences. The comments made are summarized below.

- Amenities (49 comments)
- Functionality (37 comments)
- Accessibility (18 comments)
- Safety (17 comments)
- Aesthetic preferences (14 comments)
- Development (14 comments)
- Wayfinding (14 comments)
- Other considerations (7 comments)

#### Amenities outside stations (49 comments)

Forty-nine participants commented on amenities they would like to have outside of stations. Popular amenities include bike share, secure bike parking, parking, weather protected areas with benches (not metal), washrooms, retail store and services, wireless internet (Wi-Fi) and public art. The only amenity that

some participants did not want to see was public art, as those respondents commented that art was too subjective and not an appropriate means of spending public money.

- “Transit stations in Tokyo have these amazing (and huge) bike parking facilities underground, adjacent to the entrance, prior to the fare gates. Check ‘em out!” OH2
- “Art is too subjective for spending our tax money.” OH2

### Functionality (37 comments)

Thirty-seven participants suggested ways that the movement of people through areas outside of stations could be improved by decreasing congestion and making flows of people more efficient. Comments focused on increasing the space available for people in high traffic areas outside of stations, integrating stations with other transportation infrastructure such as bus stops and greenways, increasing the number of entrances, and accommodating different modes of transportation in these areas – particularly pedestrians and bicyclists. Some participants also stressed the importance of “last mile” transportation options, such as taxis and private vehicles, and the infrastructure needed to support these modes (e.g., parking and drop-off / pick-up areas). Several comments also provided specific suggestions for enhancing integration between the Project and the medical precinct.

- “Convenient access to West 10th Ave Medical Precinct from stations preferably inside station.” GW1
- “Will still need a #9 bus for those going to VGH.” OH1
- “Design for waiting areas. Broadway station is impossible to walk past as a pedestrian when bus lines are large.” OH2
- “Have station accesses at several corners of the intersection, not just at one.” OH2
- “Use underground pedestrian walkways to cross major streets.” OH1

### Accessibility (18 comments)

Eighteen participants commented on the importance of ensuring station areas are accessible to all, especially people with disabilities and seniors. Design features that could help increase accessibility for these groups include more colour contrast in the space, infrastructure that is large enough to accommodate wheelchairs, walkers, and other personal mobility devices (e.g., focus should be on the quantity of elevators as well as the size for redundancy), access to washrooms, large and clear signage, and access to age-friendly street furniture, such as benches with armrests.

- “Wheelchairs should be at the top [of the transportation hierarchy].” OH1
- “Special attention to VCC station as it will service people that go to blind and hearing school.” GW1
- “I work with kids and individuals with developmental disabilities; this [clear signage outside of stations] is very important. Will also be helpful for tourists and visitors / residents with a language barrier.” OH3

### Safety (17 comments)

Seventeen participants provided suggestions to improve safety in areas outside of stations. Some participants would like to see more mixed development in these areas, with businesses, homes and public spaces to increase the number of ‘eyes on the street’ and make them safer. Others would like to have security cameras outside stations. One participant suggested having police present. Design improvement suggestions that could enhance safety include: better lighting, multiple entrances to decrease congestion, and more traction in station area surfaces.

- “Development integration – retail and residential. Bring activity to the stations and “eyes on the street.” GW1
- “Also consider sufficient lighting, smooth surfaces, and appropriate spacing of benches.” GW1
- “What is the plan if you require help and have no cellphone? Will there be a pay phone?” GW2

### Aesthetic preferences (14 comments)

Fourteen participants commented on aesthetic preferences for station areas. One participant cited that the design of these areas should be minimal at first and integrate into the surrounding community as development occurs. Some would like to have public art integrated in these areas, although four mentioned they didn’t like some existing public art in station areas. One comment suggested water features, such as fountains. Two participants mentioned the importance of cleanliness to maintaining the aesthetics of areas outside stations.

- “Station design (from outside) should be minimal before [further] developments are integrated.” GW1
- “Plazas that are around stations must be maintained and kept clean.” OH3

### Development (14 comments)

Fourteen participants commented on the type of development they would like to see in areas outside of stations. Ten would like stations to integrate with a mix of development in these areas, including housing, retail services and office space. Four participants suggested sharing spaces to make the most of buildings near stations.

- “We can share spaces.” OH1
- “Transit oriented development is important. Station houses shouldn't stand alone, but be part of offices or housing developments.” OH3

### Wayfinding (14 comments)

Fourteen participants commented on wayfinding that would help make it easier to move between stations and other areas in the City. Signage outside of the stations came up as an important consideration. Signage is also needed to direct commuters to nearby bus stops and help them navigate between train lines. Six participants would also like to have the time and next train departures posted to help commuters plan their trips. One participant suggested having staff outside of stations to help direct commuters.

- “Standardized system – think of the lines painted on the ground at Commercial-Broadway Station, but better and could be recognized and understood immediately by tourists.” GW1

### Other considerations (7 comments)

Seven participants provided feedback on other considerations outside of stations, with some comments relating to using station design outside of stations to encourage a modal shift.

- “Essential to support reduction of vehicle ownership, improve modal shift.” SW3

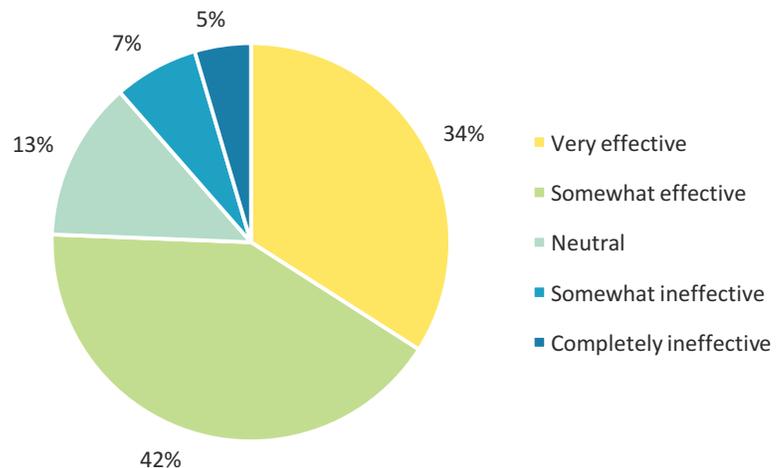
## 4.2 CONSTRUCTION IMPACTS

### 4.2.1 SUPPORTING BUSINESS ACCESS & ADDRESSING COMMUNITY NEEDS

#### Online Engagement

Of respondents who took the online questionnaire, 2685 respondents ranked the effectiveness of suggested strategies for supporting business access and addressing community needs during construction in the following ways:

- Suggested strategies were effective in the opinion of 76% of the respondents that answered this question; indicating “Very effective” (34%) or “Somewhat effective” (42%).
- 12% suggested that these strategies were ineffective; indicating “Completely ineffective” (5%) or “Somewhat ineffective” (7%)
- 13% responded with “Neutral”



Of 516 open-ended questionnaire responses, the following themes were mentioned:

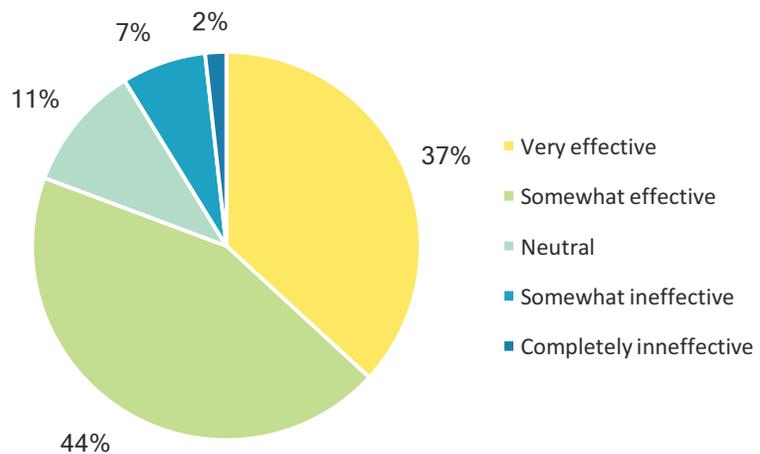
- Minimize impact to businesses/shopping (91, 18%)
- Do not repeat “Cambie/Canada Line” approach (80, 16%)
- Mentioned a standard feature, neutral comments (50, 10%)
- Concerns about protecting art galleries outside of stations (47, 9%)
- General negative comments regarding transportation related strategies that support business access and address community (41, 8%)
- Ongoing communication with stakeholders (27, 5%)
- Do not use cut and cover; use tunnel boring (23, 4%)
- General positive comments regarding transportation related strategies that support business access and address community (23, 4%)
- Expedite construction (21, 4%)
- Concerns with traffic impacts (21, 4%)
- Provide more detail on how these strategies will be accomplished (19, 4%)
- Be honest and realistic in what you are proposing (18, 3%)
- Minimize impact for cyclists (3, 1%)
- Negative comments regarding engagement process (3, 1%)
- Other (75, 15%)
- No other comments (19, 4%)
- Prefer alternate transit technology (14, 3%)
- Do not want rapid transit expansion (5, 1%)

- Don't know (5, 1%)

### Stakeholder Workshops & Open Houses

When asked to rate the effectiveness of given strategies for supporting business access and addressing community needs during construction 57 participants responded in the following ways:

- 81% of 57 participants rated the suggested strategies as effective; indicating "Very effective" (37%) or "Somewhat effective" (44%)
- 9% rated these strategies as ineffective; indicating "Completely ineffective" (2%) or "Somewhat ineffective" (7%)
- 11% responded with "Neutral"



Stakeholders and members of the public shared a total of 151 comments on construction impacts in person. Of these, 73 comments related to supporting business access and addressing community needs, and 78 comments related to impacts on transportation.

Comments related to supporting business access and addressing community needs were categorized into several themes, including:

- Minimizing dust, sound, and vibration (13 comments)
- Directly supporting businesses during construction (12 comments)
- Communication (11 comments)
- Public realm and accessibility (9 comments)
- Parking (5 comments)
- Bicycles (4 comments)
- Other considerations (20 comments)

Comments are summarized below.

#### Minimizing dust, sound & vibration (13 comments)

Thirteen participants expressed concerns that construction would result in dust, sound, and vibration along the Broadway Corridor. Four comments suggested that construction would cause unwanted dust and poor air quality. Six comments suggested that construction would cause noise and vibration, with some asking for clarity on what strategies to minimize and manage noise and vibration would look like.

- “Construction toxicity, from dust, drilling fumes for years on Arbutus station! It has to be environmentally conscious.” OH2
- “What about air quality? Especially for workers on site?” OH3
- “What will the ‘strategies to minimize and manage noise and vibration’ be?” OH1
- “A noise management plan is necessary - which should be ... to avoid nuisance outside working hours!” OH2

### Directly supporting businesses during construction (12 comments)

Twelve participants gave suggestions for how to better and more directly support small businesses during construction. Four suggested that small businesses, that may be affected by construction, be given a tax break of some kind as compensation (either through a property tax deferral or through some other tax break). Three participants suggested that maintaining easy access to businesses during construction should be a priority. Others expressed concerns that their business would close, or be relocated, because of construction, and that support should be in place to help these businesses.

- “Property tax deferral to help business successfully through construction” GW1
- “No patio fee during construction” GW1
- “Provide continuous and predictable access to homes & businesses, including safe cycling routes and cycling crossings (not asking cyclists to dismount)” OH1
- “Assist businesses relocated due to construction” OH2
- “Remember if the businesses close it affects other small businesses too!” OH3

### Communication (11 comments)

Eleven participants asked for good communication regarding the Project throughout the construction process. Some suggested that transparent, up-to-date, and effective communication be presented across multiple platforms (not just the website). Other comments suggested a range of different stakeholder groups for the Project Team to communicate with; including one-to-one consultation with business owners, involving affected residents (renters and homeowners), and the construction and development industry.

- “Need effective communications (proactive) - needs to be easy to access and easy to understand.” GW2
- “Authentic one-to-one consultation with business owners to understand their needs to thrive during construction.” GW1
- “Involve residents that are effected by construction – renters as well as condo owners.” GW1

### Public realm & accessibility (9 comments)

Nine participants suggested that construction presented an opportunity to improve the public realm, both during and after construction. Five comments suggested that public art could be included on construction hoarding to minimize impact and improve the quality of the public realm. Three of those comments also suggested that free ad space could be given to affected businesses on construction hoarding. Other comments related to ensuring that sidewalks were accessible.

- “One step further: provide free ad space on construction areas (hoarding) for impacted businesses and/or apply public art to external construction areas during construction to improve look and feel over 2 years.” OH3

- “Access to sidewalks, bus stop essential (for elderly, disabled, etc.).” OH1

### Parking (5 comments)

Five participants made comments related to increasing parking during construction; either to compensate for lost parking for businesses and shoppers, or to provide parking for construction workers.

- “Offsite parking for contractor staff (e.g., Yaletown Canada Line Station).” GW1
- “Maybe add a temporary parking lot near businesses to encourage people to visit the shops.” OH2

### Bicycles (4 comments)

Four participants made bicycle-related comments regarding construction impacts to residents and local businesses. These comments suggested that bike racks remain near construction areas, to ensure that cyclists and couriers will still be able to lock up their bicycles.

- “Extra bike racks to promote cycling.” GW1
- “Ensure adequate hard point left on sidewalks for bike couriers to easily lock to.” OH3

### Other considerations (20 comments)

An additional 20 comments could not be coded into the above categories. Comments included suggestions to look at best practices of working with, and minimizing impact on, the medical precinct; that persons with disabilities have adequate support and consideration; that a system of monitoring and evaluation be set up prior to starting construction; that there be a strategy for goods movement in place; and that a system of monitoring and evaluation be set up.

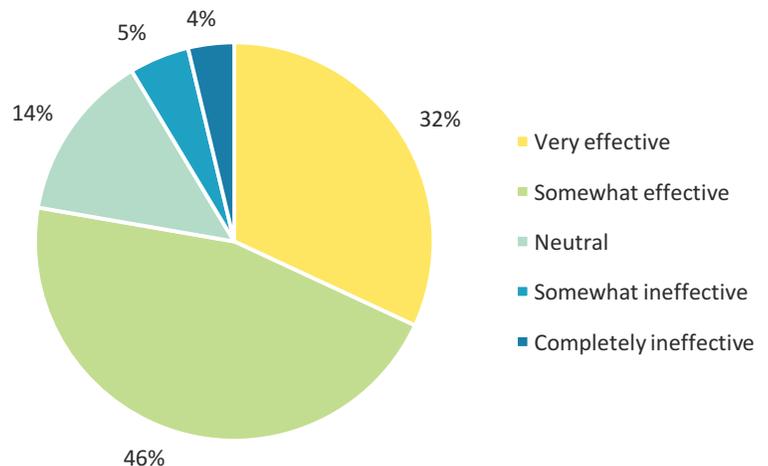
- “Best practice of working with TransLink, City of Vancouver, Vancouver General Hospital, West 10th Group (Hospital Precinct).” GW2
- “Being alert to pedestrians with white canes and guide dogs that might need assistance during construction period.” GW2
- “Predetermined indicators/measures of effectiveness in addressing needs evaluation/monitoring.” GW1
- “Clear goods movement strategy – including review of loading spaces and delivery times.” GW1

## 4.2.2 TRANSPORTATION

### Online Engagement

Of respondents who took the online questionnaire, 2787 respondents ranked the effectiveness of suggested strategies for managing the transportation impacts of construction in the following ways:

- Suggested strategies were effective in the opinion of 78% of the respondents that answered this question; indicating “Very effective” (32%) or “Somewhat effective” (46%).
- 9% suggested that these strategies were ineffective; indicating “Completely ineffective” (4%) or “Somewhat ineffective” (5%)
- 14% responded with “Neutral”



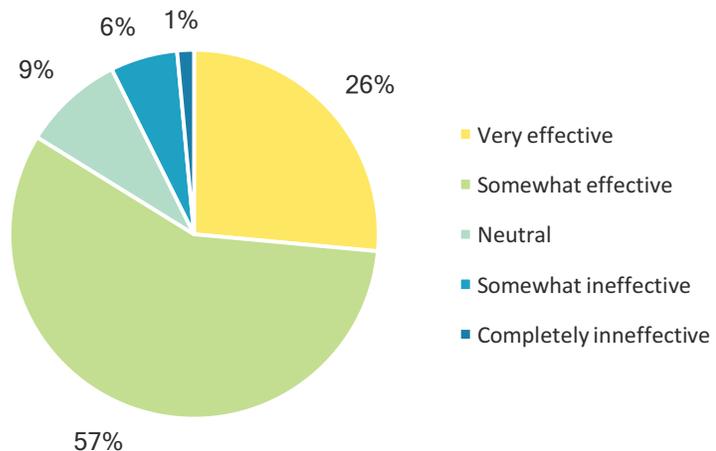
Of 623 open-ended questionnaire responses, the following themes were mentioned:

- Mentioned a standard strategy (197, 32%)
- Do not repeat “Cambie/Canada Line” approach, general comments (79, 13%)
- Minimize impacts to businesses/shopping (74, 12%)
- General negative comments regarding transportation related construction management strategies (62, 10%)
- Concerns with traffic impacts (45, 7%)
- Provide more detail on how these strategies will be accomplished (44, 7%)
- Do not use cut and cover/use tunnel boring (36, 6%)
- General positive comments regarding transportation related construction management strategies (24, 4%)
- Use alternative truck routes (14, 2%)
- Minimize impact for cyclists (13, 2%)
- Expedite construction (13, 2%)
- Continue line beyond Arbutus at this time (12, 2%)
- Add bus service on alternate routes to UBC (9, 2%)
- Other (33, 5%)
- No other comments (22, 4%)
- Prefer alternate transit technology (13, 2%)
- Don't know (5, 1%)

### Stakeholder Workshops & Open Houses

When asked to rate the effectiveness of suggested strategies for managing the transportation impacts of construction 68 participants responded in the following ways:

- 83% of 68 participants rated the suggested strategies as effective; indicating “Very effective” (26%) or “Somewhat effective” (57%)
- 7% rated these strategies as ineffective; indicating “Completely ineffective” (1%) or “Somewhat ineffective” (6%)
- 9% responded with “Neutral”



Stakeholders and members of the public shared 78 comments about reducing transportation impacts during construction. Comments were categorized into several themes, including:

- Bus service (14 comments)
- Parking (12 comments)
- Communication (8 comments)
- Bicycles (7 comments)
- Multi-modal transportation system (5 comments)
- Local streets (5 comments)
- Alternate routes (5 comments)
- Other considerations (22 comments)

Comments are summarized below.

#### Bus service (14 comments)

Fourteen participants made comments related to the impact of construction on bus service. Three comments related to increasing local bus service, with three additional comments suggesting that bus-only, for longer hours, should be included along the Broadway Corridor during construction. Four comments suggested increasing bus service along alternate corridors during construction. Two comments were made about maintaining current bus service. Two comments were made about ensuring that large wayfinding signs and advanced notice is given for bus stop relocations.

- “How about bus-only, longer hours lanes on Broadway, like we did for the Olympics.” OH3
- “Improve alternative corridors in advance e.g., transit priority and signal optimization on parallel corridors e.g., service improvements to alternate transit corridors.” GW1
- “Large wayfinding signs and advanced notice for bus stop relocations.” OH3

### Parking (12 comments)

Twelve participants expressed concerns regarding parking during construction. Six comments supported extending the no parking times along Broadway during construction. Some comments expressed a concern about people choosing to park on 12th Avenue or other adjacent streets, in lieu of losing parking on Broadway. Other comments asked for clarification about a possible parking strategy from the City of Vancouver, with one comment suggesting that all parking costs be increased across the city.

- “Have parking dis-incentives along Broadway been considered?” GW1
- “Maintain/have conversation current parking patterns.” GW2
- “Extend the no parking along Broadway during construction.” OH3

### Communication (8 comments)

Eight participants had specific comments and suggestions regarding communications and engagement regarding the Project construction impacts. Four comments related to disseminating information and project updates, including providing more detail later in the process and having several channels for getting information to the public.

- “Hotline to provide information about construction.” GW1
- “Ensuring detours are integrated into major GPS providers in a timely manner.” GW2
- “‘The ‘Devil is in the details’ - would like to know more later in the planning process.” GW1
- “Is there a good understanding of where commuters are coming and going (what is the opportunity/potential); can we quantify this?” GW1

### Bicycles (7 comments)

Seven participants made comments about bicycles. Four comments mentioned ‘cyclists dismount’ signs. Two comments were for cyclists dismounting and two were against this requirement. Three comments were made in favor of preserving space for cyclists; keeping them out of car and truck lanes.

- “Preserve bike lanes and bike safety during construction.” OH1
- “Don't require cyclists to dismount. Risk of falls increases...” OH1
- “As a pedestrian not wanting to get run over, feel free to add as many "cyclists dismount" signs as necessary.” OH2

### Multi-modal transportation system (5 comments)

Five participants expressed an interest in considering and encouraging a multi-modal transportation system through construction of the Project. Four comments directly addressed the opportunity of Broadway Extension construction to change transportation choice and behaviour in favor of alternatives to single-occupancy vehicles.

- “Opportunity to change behaviour, reduce single-occupancy vehicle capacity, increase transit, use mini buses.” GW1
- “When line is operational, expand sidewalks, add bike lanes. Only 2-4 lanes of cars max (include parking lane).” OH3

### Local streets (5 comments)

Five participants expressed concerns about local streets being used to short-cut past traffic. Three comments explicitly mentioned restricting access to some local streets for residents only.

- “I am concerned about car drivers taking shortcuts through my neighbourhood – those drivers are fast and aggressive. May need restrictions to enter some streets/one-way.” OH1
- “Protect against drivers shortcutting or parking in the neighbourhood.” OH3

### Alternate routes (5 comments)

Five participants suggested that alternate routes be designated for vehicle traffic.

- “Designating alternate routes for 1. Trucks and 2. General traffic volume.” GW1
- “Advise alternate routes for travel (esp. for tourists).” OH1

### Other considerations (22 comments)

An additional 22 comments could not be coded into the above categories. Comments included suggestions to learn from and coordinate with other jurisdictions that have done similar projects; coordinate with the medical precinct, and minimize impact to emergency response vehicles; set up a system for monitoring and evaluating; and providing pick-up and drop-off areas, especially for persons with disabilities and the elderly.

- “Connect with Metrolinx in Ontario for their lessons learned during Eglinton Crosstown LRT construction.” OH1
- “Establish critical access system that prioritizes travel to/from medical precinct.” GW1
- “How would the traffic alterations during construction affect emergency response like ambulance access to VGH?” GW1
- “How are you going to monitor and evaluate effectiveness on a real-time basis?” GW1
- “How are you going to manage the staging areas for HandyDART and pick-up/drop-off zones - seniors and people with disabilities?” GW2

## 4.3 ADDITIONAL CONSIDERATIONS

### 4.3.1 ARBUTUS EXCHANGE

#### Online Engagement

Of 854 open-ended questionnaire responses, the following themes were mentioned:

- Continue line beyond Arbutus now (316, 37%)
- General negative comments regarding considerations for Arbutus area (61, 7%)
- Minimizing impact to residents/neighbourhood (61, 7%)
- Concerns about traffic congestion/rerouting (44, 5%)
- General positive comments regarding considerations for Arbutus area (43, 5%)
- Need more information (27, 3%)
- Plan for future use of bus loop (26, 3%)

- Minimize impacts to pedestrians (23, 3%)
- Keep tunneling equipment in place for future (22, 3%)
- Continue line beyond Arbutus in the future (17, 2%)
- Minimize impacts to cyclists/bike paths (16, 2%)
- Concerns about environmental impact (6, 1%)
- Other (204, 24%)
- No other comments (23, 3%)
- Prefer alternate transit technology (29, 3%)
- Do not want rapid transit expansion (4, 0%)

### Stakeholder Workshops & Open Houses

Stakeholders and members of the public shared 63 comments related to construction for the Arbutus exchange and design considerations for this station. Comments were categorized into several themes, including:

- Business impacts (18 comments)
- Bus exchange (9 comments)
- Buses (6 comments)
- Connectivity (6 comments)
- Arbutus Greenway (5 comments)
- Communication and coordination around construction (4 comments)
- Loading and access (3 comments)
- Other considerations (12 comments)

### Business impacts (18 comments)

Eighteen participants shared many comments regarding the impact that the construction and final exchange would have on the area, particularly on the surrounding businesses. Maintaining business access during construction emerged as a strong concern, as well as how businesses would be affected by noise, dust, vibration, and fumes. Five comments also highlighted a need for more information, with participants expressing a desire to know the exact location of the station, its footprint, and how large the total area impacted by construction would be.

- “Concern with kids getting to Lord Tennyson School (Maple and 10th) safely during construction. This school will be rebuilt for seismic upgrading starting 2019 so very busy area.” OH2
- “Very concerned about fumes, dust for people to breathe in while construction is going on especially on Arbutus.” OH2
- “How many feet will be affected by surface construction?” ARB

### Bus exchange (9 comments)

Nine participant comments related to the bus exchange at Arbutus highlighted concern about where the buses would turn around, what shape the exchange would take, and how Arbutus would accommodate this station without creating further traffic congestion in the area. Respondents also stressed safety as a top priority, expressing concern for crime, loitering, and passenger safety while loading and unloading. One comment advocated for a queuing system like Commercial-Broadway Station to accommodate ridership

boarding the 99 B-Line at this stop, while another stated that keeping as much of the transition from SkyTrain to bus underground is a preferred feature for the design.

- “Sometimes there are five or six 99s waiting at Commercial Broadway. Where will they park and wait at Arbutus station? Street narrower than Commercial Drive.” OH2
- “Concern: Transition from underground SkyTrain to above ground buses? Please keep as much as you can underground (except of course the buses).” ARB

### Buses (6 comments)

Six comments related specifically to bus service. Further details are desired regarding how many buses the exchange will accommodate at one time, where they will go, and how they will get up Arbutus in snowy road conditions. Participants also asked whether buses will be permitted to idle and if bus stops will be enhanced in any way.

- “Buses often get stuck on the hill leading up to Arbutus when it snows – consider how this adds to already congested area from construction and alter routes.” OH3
- “Where will the above ground buses be idling?” ARB

### Connectivity (6 comments)

Six participants stressed the need for the Project to provide smooth connectivity as part of a multi-modal system. Comments highlighted the importance of easy access to the Arbutus Greenway, the 99 B-Line and nearby bike routes, as well as provisions for transfers to potential future at-grade Arbutus Streetcar.

- “Please be sure to provide good connection to bike routes after getting off the train at Arbutus Terminal.” OH2
- “Build Millennium Line at sufficient depth to allow Arbutus "at grade" line to crossover. Plan for 20 years.” OH2
- “Connectivity to Arbutus Greenway – safe, secure, direct, AAA (all ages and abilities).” OH1

### Arbutus Greenway (5 comments)

Five participants highlighted that the Arbutus exchange should allow for safe bike and pedestrian access to the greenway, with suggestions for this taking the form of an underpass or overpass to cross Broadway. Comments stressed the need for connectivity to the greenway that is secure and direct, and accessible by all ages and abilities at all hours.

- “Station must have a 24/7 accessible underpass so greenway users can safely and quickly cross Broadway quickly without having to use signalled crosswalks.” OH3
- “Bicycle oriented connection to greenway (overpass) or walk bike thru station to access greenway.” ARB

### Communication & coordination around construction (4 comments)

Four participants called for a clear plan for timely communication to the businesses affected by the construction, allowing them to navigate issues such as building leases, staffing and updating clients. Two comments also recommended coordinating construction with other developments in the area to help minimize the impact on the neighbourhood.

- “Provide info so businesses can prepare – leases, staffing, etc.” ARB

### Loading & access (3 comments)

Three comments were related to loading and access during construction, serving as a reminder that it is not just businesses impacted by construction, it is also suppliers who will need continuous access for deliveries to establishments in the Arbutus area.

- “Not just stores impacted by store delivery. Suppliers also impacted in terms of business.” ARB

### Other considerations (12 comments)

Twelve comments were made that did not fit into any of the above categories. These included comments related to bicycles and bicycle parking, specific station design considerations for Arbutus, parking, and performance metrics.

## 4.3.2 GREAT NORTHERN WAY (23 COMMENTS)

### Online Engagement

Of 729 open-ended questionnaire responses, the following themes were mentioned:

- Concerns about protecting art outside of stations (194, 27%)
- A desire to explore other route options through this area (56, 8%)
- General positive comments regarding considerations for Great Northern Way area (47, 6%)
- Concerns about traffic congestion/rerouting (43, 6%)
- Minimize impacts to pedestrians (29, 4%)
- Safety concerns (27, 4%)
- Minimize impacts to cyclists/bike paths (22, 3%)
- General negative comments regarding considerations for Great Northern Way area (22, 3%)
- Ensure easy access and exit (21, 3%)
- Minimize impact to neighbours/residents (20, 3%)
- Minimizing impact to students (e.g., Emily Carr, VCC) (16, 2%)
- Need more information (13, 2%)
- Try to use nearby rail lines (10, 1%)
- Do not want rapid transit expansion (6, 1%)
- Better description of guideway (concerns that this is intended as a walkway rather than a section of track) (6, 1%)
- Other (141, 19%)
- No other comments (53, 7%)
- Prefer alternate transit technology (30, 4%)
- Don't know (4, 1%)
- Refused (2, 0%)

### Stakeholder Workshops & Open Houses

Stakeholders and members of the public shared 60 comments related to construction for the Great Northern Way area and design considerations for this station. Comments were categorized into several themes, including:

- Safety (15 comments)
- Minimizing dust, sound and vibration (8 comments)
- Connectivity (7 comments)
- Public realm (5 comments)
- Private interest (4 comments)
- Wayfinding (3 comments)
- Traffic (3 comments)
- Other considerations (14 comments)

### Safety (15 comments)

Fifteen participants identified safety as the top consideration at the Great Northern Way station. Seven comments related to pedestrian and bicycle safety during and after construction. Four comments related to the importance of lighting and visibility. Other comments related to safety considerations for the nearby schools, traffic during and after construction, and a concern about crime in the neighbourhood.

- “Need better lighting on pedestrian cycle route along Great Northern Way (between Thornton and VCC-Clark Station).” OH1

### Minimizing dust, sound & vibration (8 comments)

Eight participants expressed concerns about noise and vibration in the area around the station, both during and after construction.

- “How will construction impact students at new campus near this area? Provide students noise cancelling headphones to help study?” OH3
- “Even if drilling isn’t going to take place directly under where I live will I feel the drilling from a few blocks away?” OH3

### Connectivity (7 comments)

Seven participants suggested ways to improve connectivity in the Great Northern Way area. Three participants suggested that a guideway or overpass be included to move people more efficiently to the station. Two participants identified Great Northern Way as a barrier that the new station could help to overcome.

- “Need North / South access to SkyTrain station across the train tracks (unlike VCC-Clark Station).” OH1
- “Please create a bike path from Great Northern Way North to Vernon while you’re at it to access False Greek Flats.” OH3

### Public realm (5 comments)

Five participants made comments related to design considerations regarding the public realm at Great Northern Way. Comments related to including public art and integration with the community.

### Private interest (4 comments)

There were four comments that related to specific impacts to property and private interest around the Great Northern Way Station.

### Wayfinding (3 comments)

Three comments related to providing information through wayfinding and signage during construction.

### Traffic (3 comments)

Three participants expressed concerns about traffic; one mentioning a concern about shortcutting through the neighbourhood.

- “I live in this area, and am concerned about more commuters taking shortcuts along Scotia / 5th etc. Needs traffic calming.” OH1

### Other considerations (14 comments)

Fourteen participants made comments that did not fit the above categories. These included concerns about parking, pick up and drop off areas and coordination, maintaining local bus service, and having adequate bicycle integration and storage at the Great Northern Way Station.

## 4.4 OTHER

An additional 98 comments did not directly relate to the questions asked and activities undertaken at the stakeholder workshops, public open houses, or online questionnaire. Twenty-three of these comments related to extending the Millennium Line to UBC sooner than the current timeline indicates. Eleven comments related to Project funding. Eleven other comments provided feedback about this phase of engagement. Nine comments suggested that the project timeline be shortened, or that the phasing of the Project be reconsidered. Nine comments were related to land use, zoning, and development around stations. Six comments were made regarding the construction method. Six comments suggested that the Project Team consider other technology choices. Other comments related to the transportation hierarchy, project alignment, among other topics.

## 4.5 STAKEHOLDER PRESENTATIONS

The following points summarize key themes heard during presentations through June 20, 2017.

### 4.5.1 PROCESS

#### Set up ongoing working group for health precinct

Due to the complexity of the healthcare precinct (and ownership), the nature of the equipment, and the upcoming construction and planning projects, setting up a periodic meeting would be an effective way to share information to inform the Environmental Review work and keep lines of communication open. There are also public realm lessons learned from the 10<sup>th</sup> Avenue planning process to incorporate. The health precinct is starting a master plan process that should coincide with the corridor land use planning process anticipated for 2018. VGH is planning the renovation of suites in Jim Pattison N. building in 2018-19, so it will be important to look at potential conflicts.

### Baseline business measures

Conduct baseline measures of business vacancy, business ownership turnover, safety, and customer/employee travel modes (i.e. pedestrian counts).

### Set up Business and Community Liaison Office early

The Business and Community Liaison Office (BCLC) should be established early. Ideally, the BCLC is up and running a year before construction to help businesses get ready and to build the communications network. Helpful programs include monthly meetings, workshops for business owners (i.e. professional photography, customer heat-mapping), toolkit for businesses, funding and transparent governance for mitigation measures (i.e. window washing, awning cleaning/replacement, entrance mat cleaning/replacement), promotional materials and events (i.e. shopping bags, family-friendly construction tours, celebrating milestones, celebrating holidays, ads for Central Broadway businesses at transit stations in the network, social media promotion), research on who is visiting businesses during special events, coordinated and positive communications led by champions, and in-person outreach. It is important to sufficiently staff and fund this office. The office should meet monthly with representatives from BIAs plus a business owner from each Business Improvement Association in the morning (7:30 or 8:00 a.m.). It is very important that the chair of these meetings is diplomatic and can build consensus.

### Land use planning

Some stakeholder groups have significant interest in area land use planning, how this will affect area rents, leases, and property values, and whether the Project funding can be supported by capturing land value gains.

### New BIAs

Participants emphasized the important role that Business Improvement Associations played during Canada Line construction to represent business interests. There are some gaps in Business Improvement Association coverage along the alignment, and some business owners have begun early discussions to explore the options for new Business Improvement Associations.

## 4.5.2 CONSTRUCTION

### Parking and access

Concerns from businesses about customer and delivery access on a continuous basis. Concerns about potential loss of parking.

### Traffic and transit

Concern about increased traffic on 10th Avenue (bike route). Concern about construction diverting people off sidewalks onto road, which (if there are no ramps, or the ground is uneven) leads to accessibility concerns. Queue-jumping for buses during construction was a popular idea.

### 4.5.3 STATION DESIGN

#### Accessible washrooms

This was an issue raised by most of the advisory committees. Desire to see public washrooms included in stations or in the station area. The idea of placing washrooms inside businesses at stations was raised by some stakeholders.

#### Wayfinding

A desire to see higher visibility, consistent wayfinding in stations. The team has explained that the Millennium Line and Expo Line now have new standards. Wayfinding outside of stations is important, too, with clear connections to buses and destinations.

#### Curbside use and drop-off areas

At the Oak Street station, HandyDART drop-off will be very important as patients travel to and from medical destinations. Desire to see more HandyDART (and other) drop-off areas close to stations.

#### Walking and cycling integration

The Canada Line has specific locations for people to bring their bikes on the train and the 99 B-Line has bike racks with space for two bikes on the front of the bus, so there is a desire to see this on the Millennium Line Extension, too. Train cars need space for bikes/luggage/strollers/wheelchairs without competing for space. Stations also need runnels on staircases to help people bring bikes upstairs, elevators that can fit larger bikes, or bikes with trailers or ride-along extensions (ideally with entrance through one door and exit through another). There is a desire to see a safer streetscape outside station for people walking and on bikes, which could include more than one access / entrance.

#### Elevators and escalators

Desire to minimize number of elevators required to get to the surface. Elevators should be large enough to accommodate bikes, strollers, scooters, luggage. Desire for redundancy with elevators and escalators so that if there is a maintenance issue, people do not have to travel to another station to get to the surface and then travel back at grade to their destination. Support for up and down escalators.

## 5 OUTREACH EXTENT AND METHODS

The online questionnaire tracked the geographic diversity of participants by asking participants to respond with how they would like to be involved in the process going forward.

More information is included in the Appendix.

## 6 NEXT STEPS

The next round of stakeholder and public engagement will be in 2018.

More information about the Project, including engagement opportunities, is available on both TransLink and the City's websites at [translink.ca/broadwayextension](http://translink.ca/broadwayextension) or [vancouver.ca/broadwayextension](http://vancouver.ca/broadwayextension).