Technical Appendix A: **Key Accessibility Standards**

Technical Appendix A: Key Accessibility Standards

This section looks more closely at leading practices related to different accessibility standards that should be considered when making the types of accessibility-related changes and upgrades outlined in this report. They include:

A.1 Sidewalks and Pedestrian Routes

A.2 Crosswalks and Street Crossings

A.3 Accessible Parking

A.4 Van Accessible Parking

A.5 Parks and Trails

A.6 Entrances

A.7 Washrooms

A.8 Other

- A.8.1 Accessible communication/inclusive government
- A.8.2 Service counters, signage and way-finding
- A.8.3 Interior space, steps and stairs
- A.8.4 Work areas and work spaces
- A.8.5 Emergency preparedness planning
- A.8.6 Community mailboxes
- A.8.7 Waste receptacles and recycling bins
- A.8.8 Transit and bus shelters
- A.8.9 Full service gas stations

A.1 Sidewalks and Pedestrian Routes

In thinking about the different sidewalks and pedestrian routes, the following are some of the specific accessibility-related considerations:

- The width of the sidewalk not only affects accessibility but it also affects pedestrian usability.
- A sidewalk that is 1525 mm wide is probably wide enough to accommodate pedestrian traffic in a residential area but a much wider sidewalk is needed to include amenities such as street furniture and newspaper stands.
- The minimum clearance width is defined as the narrowest point on the sidewalk. In Cumberland, the Accessibility Committee has recognized that the current bylaw requiring 1.5m minimum clearance in the case of sidewalk cafes is not enough to allow for the smooth flow of pedestrian traffic and in particular can create some challenges and limitations for individuals with disabilities.
- An inaccessible minimum clearance width can occur when there are additional obstacles such as benches, trees, utility poles or other items that might protrude into the sidewalk and reduce the actual width.
- Most guidelines require sidewalk design widths of at least 1525 mm or larger to accommodate more pedestrians and improve ease of access.
- Passing space is defined as a section of the path wide enough to allow two wheelchair users to pass one another or to travel abreast.
- The passing space provided should be designed to allow one wheelchair user to turn in a complete circle. A wheelchair user would require 1525 mm x 1525 mm to manoeuvre in a complete circle.
- In cases where the sidewalk width is narrow for a prolonged extent because of narrow design width or because of continuous obstacles, it is also necessary to ensure that passing spaces are available.
- It is also necessary to pay attention to changes in levels. Changes in levels are defined as vertical height transitions between adjacent surfaces or along the surface of a path. In the sidewalk environment, curbs without curb ramps, cracks or dislocations in the surface are common examples of changes in level.
- Changes in level can cause obstacle for individuals who rely on the use of a mobility aid and can pose a safety or tripping hazard for pedestrians, particularly individuals with low vision and who might not be able to anticipate the change in level.
- Common safety or tripping hazards can include buckled bricks, cracks in the sidewalk, curbs without ramps, grates, lips at curb ramp frames, roots, heaving in the sidewalks due to frost and uneven transitions.

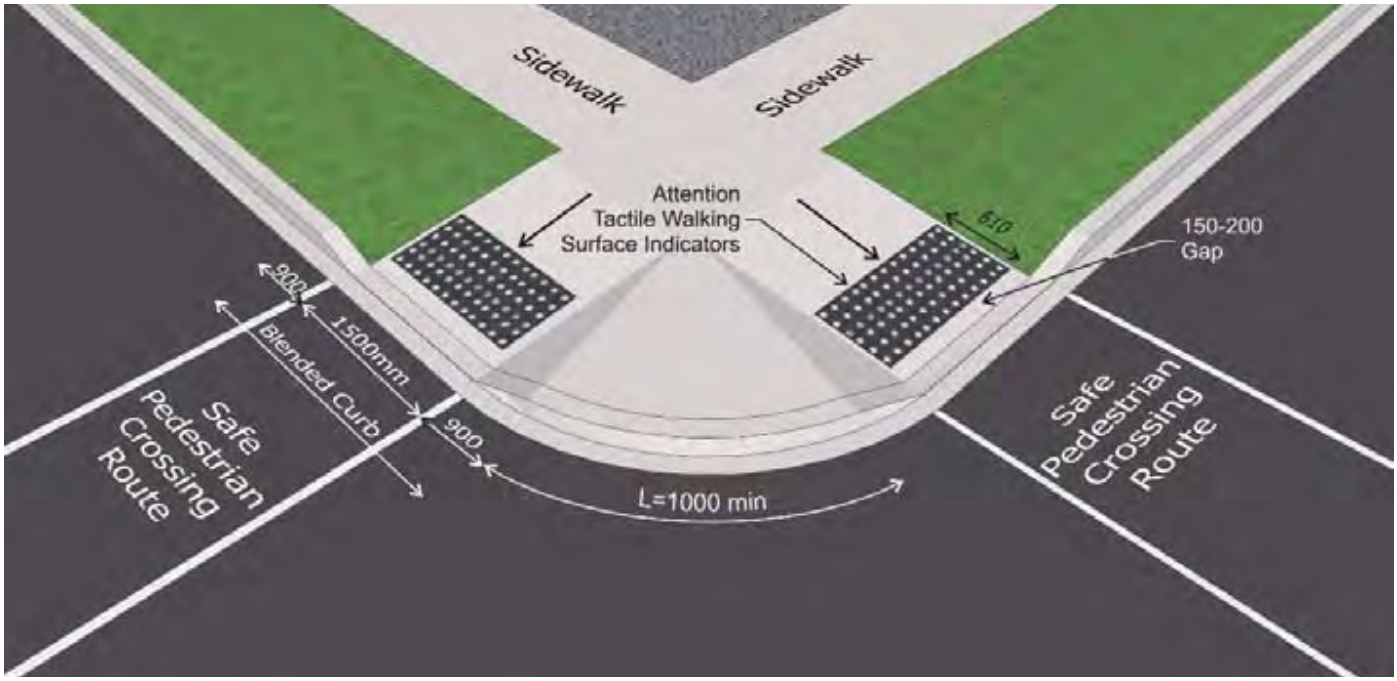
The following is an example of a good sidewalk let down in Vancouver with cane/foot detectable directional lines.

The pictures of the following page provide some types of sidewalks and crosswalks throughout the Village Core that need replacement. This is largely due to the age of the infrastructure and attempts to do "quick fixes" or "patches" to address cracks in pavement. There is no doubt that these would be challenging for people using mobility devices such as wheelchairs or walkers.

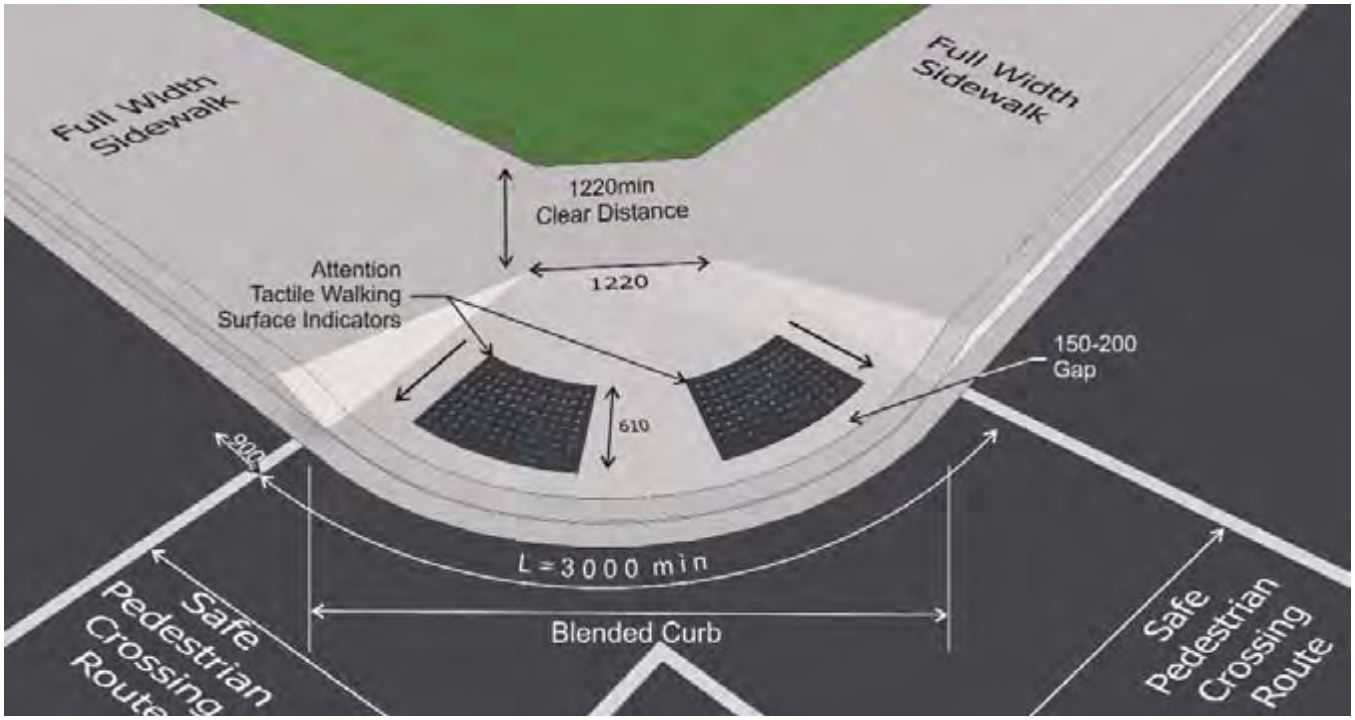
Many of the curb let downs lack visual indicators for people with visual disabilities and can be very steep. Some also seem to have an awkward cross slope.

A.2 Crosswalks and Street Crossing

- Crosswalks should be at least 3000 mm wide and clearly marked by 100 mm painted white lines, or by using distinctive highly contrasting paving materials.
- Curb ramps should be provided at all pedestrian crosswalks.
- Curb ramps should be provided wherever there is a change in level between the sidewalk, or pedestrian pathways, and the road surface at all street corners.
- Curb transitions should have a minimum length of 1500 mm to provide safe sidewalk ramp transition slopes.
- When located on a public thoroughfare the curb ramp should have flared non-slip sides and be of a clearly different cane detectable texture (e.g. incised lines 13 mm deep on 100 mm centres in poured in place concrete) from surrounding sidewalks at right angles to the path of travel.
- As an aid to persons with visual limitations, curb ramps should be finished at the lower end with a cane detectable rounded end of 13mm in height and where possible be in a contrasting colour to the road surface and also be of a different texture of material to allow for easy identification.
- There should be clear and level landing that is a minimum of 1065 mm at the top of the curb ramps in order to allow turning (left or right) of mobility aids. Wherever possible this level area should be 1500 mm deep.
- Grade and elevation changes are important. To be accessible, the grade on roads or sidewalks should be designed so that the slope of the pedestrian routes does not exceed 1:20.



Source: Example of a blended curb at a 4 way intersection from CNIB's Clearing Our Path



Source: Example of a blended curb from CNIB's Clearing Our Path

A.3 Accessible Parking

- Accessible parking should be well-signed so that people with disabilities and their drivers can always easily locate the accessible parking spaces;
- Designated accessible parking space (s) whether internal or external should be provided within 30 m of the entrance to the building and should provide for a safe path of travel;
- All accessible parking spaces should be marked with the "international symbol of accessibility and should include both a paving sign and a sign mounted on a post;
- There should be a suitable curb ramp from the accessible parking space to any adjacent sidewalk or pedestrian routes where the difference in elevation is greater than 13 mm.
- In cases where van accessible parking is provided, it is necessary to align the curb ramps with the accessible transfer space (the area with the diagonal lines). If the curb ramp is not aligned with a transfer space, a parked car could unintentionally block the curb ramp and accessible path of travel;
- Add tactile surface indicators (raised domes or deep cuts in the pavement) to warn people with visual disabilities about the curb ramp;
- When adding paved ramps that protrude into the parking area, be careful that the ramp does not protrude too far into the accessible parking space because it can serve as a barrier for people who rely on side ramps/platform lifts that require level surfaces;
- Increase the overall efficiency in the supply of accessible parking by sharing the transfer spaces between two parking stalls or by alternating van accessible and conventional accessible parking with shared transfer spaces;
- Consider adding van accessible parking spaces in order to better accommodate larger vans and lifts.
- In cases where the number of accessible parking spaces is less than 4 for the first 100 spaces no less than 1 accessible space should be provided where the number of parking spaces provided is less than 25 including at least one van accessible parking space for wheelchair vans.

A.4 Van Accessible Parking

- It is estimated that approximately 6% of people with health and activity limitations are in a wheelchair. This creates demand for van accessible parking.
- Van accessible parking includes stalls that have an adjacent access aisle (with painted diagonal lines). In designing van accessible parking:
    - » The spaces are marked with both a sign on a post and a painted symbol on the paved surface.
    - » Under the *Accessibility for Ontarians with Disability Act* (AODA) the recommended dimensions for van accessible parking include one parking space that is 3.4m wide with a 1.5m access aisle for a total width of 4.9m. If the planning calls for two adjacent van accessible spaces with a shared access aisle, the total width would be 8.3m including the 1.5m access aisle.

  - » Van accessible parking space (3.4m) located adjacent to regular disability parking space (2.4m) with shared access aisle (1.5m) equals a total width of 7.3m.
- *Under the Americans with Disabilities Act* (ADA) the combined width of a van accessible parking space is configured slightly differently with the requirement for the disability parking space being set at 8 feet or 2.44m with a shared access aisle of 5ft or 1.52m.

A.5 Parks and Trails

- The following are the specific accessibility-related considerations for parks and trails:
- All pedestrian routes should be safe and easy to use by a wide range of persons with disabilities.
- Routes should be easily identifiable, clearly separated from vehicular routes and free from obstacles.
- Pedestrian sidewalks should have slopes no greater than 1:20 (5%) and cross slopes not greater than 1:50 or 2% wherever possible.
- Pathways should not be less than 1220 mm wide and wider in cases where frequent pedestrian activity anticipated (e.g. in cases where there is two-way pedestrian traffic sidewalks should be a minimum of 1525 mm and 1675 mm to allow for two wheelchairs to pass one another).
- Where the length of an accessible route is greater than 30 m rest areas should be provided.
- Rest areas are recommended to be placed at intervals of 30 m.
- Rest areas should be located to one side of a walkway and should be at least 1200 mm deep to include space for a bench, wheelchair or scooter.
- Pathways should ideally be wide enough to allow people with disabilities to easily pass by one another if they are going in different directions.
- High use passageways should be at least 1675 mm (5 feet 6 inches) wide.
- In designing user friendly or accessible trails there are a number of key considerations including:
  - » Does the trail offer high aesthetic values with good viewpoints?
  - » Are there are variety of eco-system types represented?
  - » Is there an interesting natural feature present?
  - » Are there cultural or heritage values present?
  - » Is the trail width greater than 1000 mm (1 metre)?
  - » Is there minimal elevation change or gradual elevation changes?
  - » Is the slope less than 6%?
  - » Does the trail present minimal cross slope?

» Is the trail surface compact and obstacle free?

» What is the trail surface (compact, gravel, pavement, or boardwalk)?

» Is there a parking lot at the trail head?

» Are there accessible parking spaces?

» Is public transportation in close proximity?

» Are there benches or rest areas along the trail?

» Are there washroom facilities available and are they accessible?

» Are there accessible picnic tables available?

» Is there good signage and way-finding?

A.6 Entrances

This section focuses on accessibility-related considerations for building entrances:

- There should be a clearly marked pick-up and drop off zone to allow people with disabilities to be dropped off (ideally, it should offer some protection from the weather).
- Entrances (including main entrance doors, gates, emergency exits) must be at least 915 mm (3 feet) wide to allow room for people using mobility aids to manoeuvre.
- Wherever possible automatic doors should be provided.
- In cases where an automatic door is not feasible, lightweight doors should be provided to make it easier for people with limited upper body strength to open. The force required to open an exterior door should be no higher than 38N and can be tested using a pressure gauge.
- Accessible door handles should be used (levered handles or the push plate/door pull) so that people with limited upper body strength will be able to open the doors.
- Levered handles are easier for people to use if they are unable to open their hands fully.
- Doors should have a kick plate to allow people using wheelchairs to push the door open using their legs, while at the same time not scratching the door.
- Doorway thresholds should be gently bevelled and be no more than 13 mm high so that they do not block access. Level thresholds are preferred.
- Doormats should be low pile doormats with gently bevelled edges so that it is easy for people using wheelchairs to wheel over them.
- It is necessary to ensure that the edges of a doormat are stuck down so that they do not roll up and create a tripping hazard.
- All entrances should incorporate an emergency call assistance button located beside the automatic doors to allow people with disabilities to request assistance if the automatic doors are not in service.

A.7 Washrooms

This section focuses specifically on specific accessibility-related considerations related to washroom spaces.

- Washroom should be located in an appropriate location that is easily accessible
- The door to the washroom must be a minimum of 915 mm (3') wide
- The door should have a kick plate on the bottom so that a person using a mobility aid can push the door open without damaging the door.
- An automatic door provides a higher level of accessibility.
- If the washroom door is not automatic, levered door handles should be used as they provide greater accessibility for people with visual impairments.
- Accessible signage should be installed at the entrance of the washroom
- The signage should include raised lettering or tactile markings for people with visual impairments
- Within the washroom, there should be sufficient space to allow people with disabilities to manoeuvre. A minimum of 1500 mm (4 feet 11 inches) x 1500 mm (4 feet 11 inches) to allow someone in a wheel chair to manoeuvre in a complete circle. A larger space may be required for some scooters or larger motorized chairs.
- The stall door should open outwards so that it is easy for people with disabilities to grab onto the door and close it. There should be a handle on the inside of the door that allows people using a wheelchair to grab onto it to close the door.
- The locking system should be easy to lock and unlock for people with limited hand dexterity.
- There should a coat hook on the wall no higher than 1200 mm (3 feet 11 inches) from the floor. This lowered coat hook height makes it reachable by a person in a wheelchair.
- There should be a minimum of 1020 mm (3 feet 4 inches) clearance beside the toilet so people using wheelchairs can pull up alongside the toilet and transfer from their wheelchair to the toilet seat.
- The transfer space should be kept clear of obstructions such as cleaning supplies, and garbage cans.
- Grab bars help when transferring. There should be non-slip grab bars installed by the toilet, on the opposite side of the transfer area. The grab bars should be 30 mm (1.2 inches) to 40 mm (1.6 inches) in diameter so that they are easy to grasp.
- Grab bar should be installed with a clearance between 35 mm and 45 mm from the wall.
- The grab bar should angle upward from its midpoint and should be mounted horizontally between 840 mm and 920 mm from the finished floor. At its mid-point the grab bar should not angle upward more than 60° from the horizontal front of the water closet.
- The toilet tank/water closet should be bolted down or locked into place as some people with disabilities hold onto it for extra support when transferring.

- If tank-type water closets are not used, a second grab bar not less than 600 mm long should be mounted on the wall behind and centred over the water closet with the centre line between 815 mm and 865 mm above the finished floor.
- The toilet seat should be located at the same height as a wheelchair or slightly lower, approximately 475 mm (1 foot 6 inches) high from the floor. This makes it easier for an individual to transfer between the wheelchair and toilet.
- The accessible hand-operated flush control should be on the non-grab bar side of the toilet.
- The sink should be no higher than 865 mm (2 feet 10 inches) above the floor and should have space for someone using a wheelchair to wheel in underneath.
- Ideally, the sink basin should protrude from the wall a minimum of 500 mm, or 1 ft. 7inches. This allows for enough space for someone in a wheelchair to wheel in underneath the sink.
- The pipes underneath the sink should be insulated to protect people with disabilities from getting a burn from a hot pipe.
- Levered style faucet handles are easier for people with limited hand dexterity or strength to use.
- The soap and towel dispensers should be located beside the sink and should be placed at a height of 1200 mm (3 feet 9 inches) off the floor so that they are easy to reach by someone in a wheelchair.

A.8 Other

The following are some specific considerations related to:

A.8.1 Inclusive Government and Accessible Communication

- Advertise event using accessible formats;
- Provide accommodation supports on request;
- Ensure that information programs are available online;
- Ensure that all materials are compatible with screen readers;
- Consider providing access to adapted technology such as a portable FM listening system, portable CCTV's, large screen TV's at a future date;
- Use black or blue felt pens on a whiteboard which are easier to see for people with low vision (use non-toxic felt pens);
- Provide large print copies of meeting materials (such as full page print outs of PowerPoint slides) on request

A.8.2 Service Counters, Signage and Way-finding

- Persons with visual limitations, seniors, persons with cognitive limitations and others may be dependent on a comprehensive signage system for orientation and way-finding.
- The signage that is introduced should be logical, consistent in design and include lettering and images that are legible and easy to comprehend.
- All directional signage and locational signage should be mounted at eye level between 1370 mm and 1525 mm for quick and easy identification.

- Provide a wheelchair accessible counter (to help with completing paperwork;
- Position a service bell at an accessible height (e.g. 1.2 m above the floor);
- Post all signs and notices in accessible formats (large print, Braille);
- Provide a TTY phone for people who are Deaf and Hard of Hearing;
- Advertise event using accessible formats;
- Improve signage leading toward the information desk or service counter;
- The sign should be visible from the point where you walk in the door;
- Consider providing a tactile map for people entering the facility;
- Explore new types of technology which direct people with visual disabilities (e.g. Step-Hear orientation, information and audio messaging system which uses smart phone technology to guide people to their destination);
- Add Braille to all signs;

A.8.3 Interior Spaces, Steps and Stairs

The following includes accessibility considerations related to interior spaces:

Interior Spaces

- Interior and exterior floor surfaces should be non-slip and low glare.
- All level changes, whether at stairs, steps, escalators, or ramps should be marked by both distinct colours/tones and textual changes at the walking surface.
- Changes in texture should occur at least 915 mm, or one pace before the actual level change.
- Modern textures can also be used on wall surfaces as part of the overall way-finding strategy.
- Clearly defined boundaries of carpeting or floor tile can enhance way-finding by defining the junction between walls and floors and by indicating doorway recesses, corridor intersections or potential hazards.

Steps and Stairs

- Yellow paint improves contrast between stairs and stair nosings;
- Circular handrails are easier to grip for someone with limited hand strength or dexterity.
- Tactile stair nosings and a tactile warning strip at the top of the stairs and on the landing areas can help to warn people with visual disabilities that there are stairs;
- Align the starts of the level handrail extensions with the top and bottom of the staircase to help to warn individuals with low vision that it is the start and end of a staircase. At the top, it should be aligned with the top stair nosing. At the bottom, it should be aligned with one tread past the bottom stair riser.
- Exterior steps should be of firm; non-slip materials with a maximum rise of 188 mm and a maximum tread length of 280 mm.

- Tread nosings should be clearly marked with either a brightly painted non-slip finish and/or include an integrated non-slip nosing that clearly contrasts in tone and colour from the tread.
- Continuous handrails should be provided on both sides of all exterior flights of stairs or steps which include 3 or more risers.

A.8.4 Work areas and work spaces

The following includes some considerations around creating accessible work spaces:

- Provide accessible lunch room tables;
- Add tactile buttons to microwave buttons to make them more usable for people with low vision;
- Position tables and other furniture so that they do not block the accessible path of travel;
- Position appliances–microwaves, coffee makers, paper towel dispensers at accessible heights (1.2m);
- Provide office equipment positioned at accessible heights on request;
- Provide accessible pathways that are at least 36" (91.44 cm) wide for all inner hallways;
- Position light fixtures and switches at accessible heights.
- Corridors, hallways and walk ways should be at least 1500 mm (4 feet 11 inches) wide
- Low use pathways and office pathways should be at least 1100 mm (3 feet 7inches) wide
- The minimum width of a pathway or doorway should be 915 mm (3 feet)
- Pathways should be clear of obstructions and furniture which block access.
- Outside pathways should be clear of obstructions such as mailboxes, garbage cans, and trees.

A.8.5 Emergency Preparedness Planning

The following are some specific accessibility considerations related to emergency preparedness planning.

- Municipal emergency preparedness plans should address the needs of people with disabilities.
- First responders need to address the evacuation requirements for vulnerable people in the event of an emergency.
- Some municipal emergency services work in collaboration with municipal Geographic Information Systems specialists to identify households that include people with special needs. By assisting with the delivery of the Parking Permit Program for People with Disabilities the Village will gain greater insight into specific needs in the community;
- Municipal emergency evacuation plans for any municipally owned buildings should also address the needs of people with disabilities including designate areas of refuge for people with disabilities on each floor.
- Ensure that the fire alarm system incorporates strobe lighting;
- Provide emergency alarms with strobe lighting in all bathrooms;

A.8.6 Community Mailboxes

The following are some specific accessibility considerations related to community mailboxes (save Canada Post).

- A minimum clear approach area of 1370 mm by 1525 mm should be provided to allow access by persons using mobility aids.
- Where designated boxes are not available for wheelchair users, a minimum of 10% of boxes should be mounted so that the lock is no higher than 1200 mm and no lower than 460 mm.
- All numbers on the mail boxes should be at least 19 mm high for easy identification and be colour or tone differentiated from the mailbox surface.

A.8.7 Waste Receptacles and Recycling Bins

The following are some specific accessibility considerations related to waste receptacles and recycling bins.

- Waste receptacles and recycling bins should be accessible to persons using various mobility aids.
- Waste receptacles and recycling bins should be permanently located to one side of any path or walk way and should be set back so as not to encroach on the width of the path or walkway.
- In Cumberland, it was recommended that the waste receptacles and recycling bins should be bear-proof. However, the current bear-proof model of waste receptacles used on Dunsmuir Street is not accessible to someone who cannot use the foot pedal to open the garbage can.

A.8.8 Transit and Bus Shelters

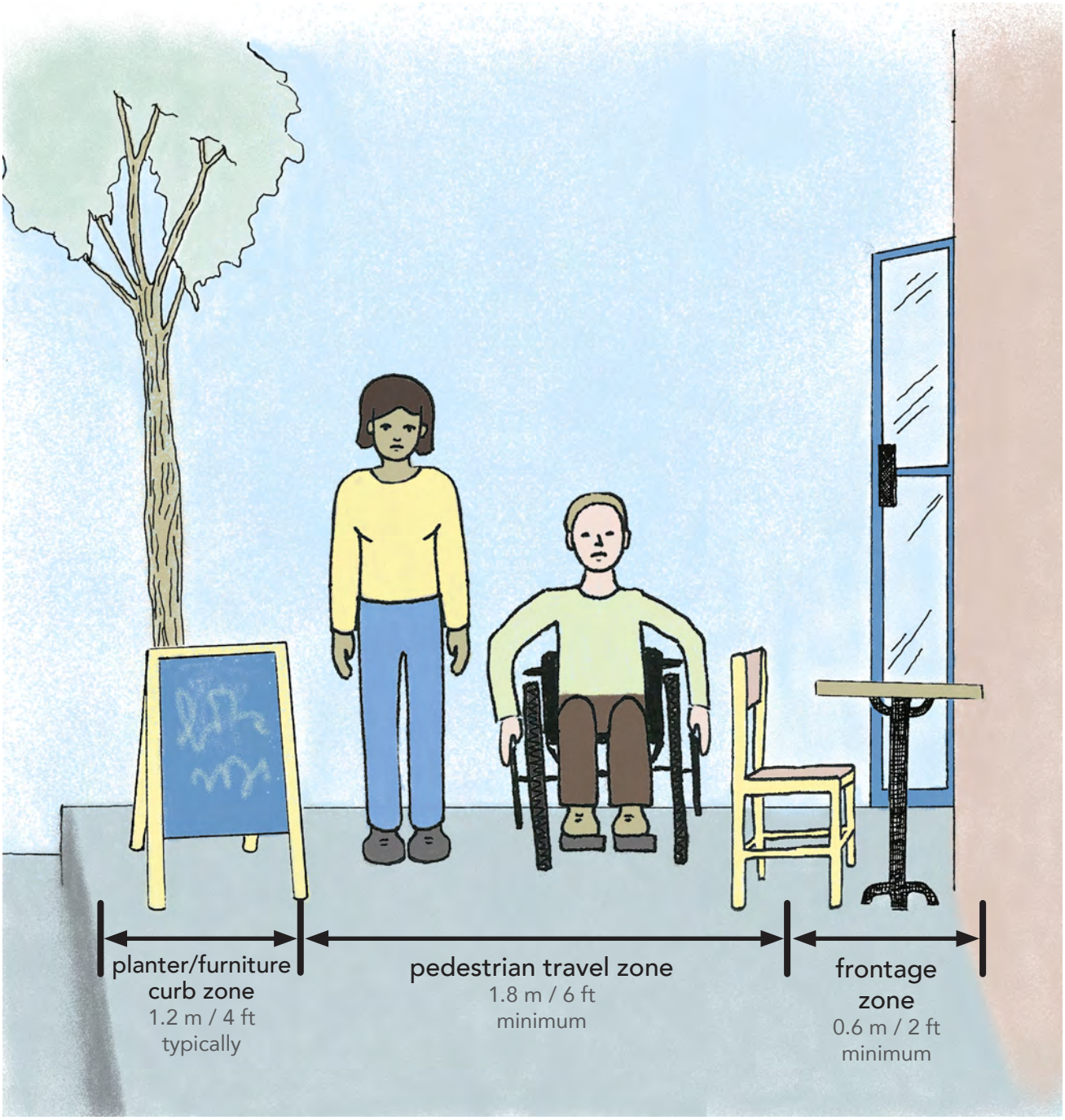
The following are some specific accessibility considerations related to Transit and Bus shelters.

- Bus shelters should be located on a firm and level base approximately 4265 mm by 1830 mm and be at the same elevation as the sidewalk or walkway.
- Clearances around the shelter particularly on the side of the landing pad should be a minimum of 1100 mm. This will allow easy wheelchair or scooter access on all sides used by pedestrians.
- Regular stops for transit vehicles require special lay-by areas. Ideally, these areas should be level and a minimum of 3.050 mm wide by 7.925 mm long. There should be a curb cut located toward the rear of the space.

A.8.9 Full Service Gas Stations

The following are some specific accessibility considerations related to full service gas stations.

- There is a growing trend towards having self-serve gasoline stations that do not provide a full service option. While many consumers benefit from self-serve because it saves money, the absence of a full service option can mean that it is more difficult for someone with disability to get gas. Some communities have already lost all of their full service stations.



Technical Appendix B: **Outreach & Guidance to Local Businesses**