



Access to Transit

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EXECUTIVE SUMMARY

1. Introduction

The following report, *Access to Transit*, made possible through a grant to the District of Saanich from the Union of BC Municipalities (UBCM), identifies design issues that currently impede accessibility between the conventional public transit and handyDART systems and the built environment on public rights-of-way and private property, specifically commercial, office, and multi-family residential buildings; and possible accessible design solutions that could be incorporated into various District planning and regulatory documents.

To address these objectives, interviews with key stakeholders, three focus groups with seniors and persons with different disabilities, and a review of universal design best practices related to public transportation and the built environment in other municipalities were undertaken. The Appendices includes the findings from these activities.

2. The Need for Improved Accessibility in the Built Environment

The need to design the built environment so people can participate as fully as possible in community life is an increasingly important component of municipal administration, including land use planning and development decisions. The need is compelling: at any time, a large portion of the population has some sort of identified permanent, long-term, medium term, or occasional limitation in some of their daily activities. Generally, these limitations increase with age and, as seniors become a larger proportion of the population (e.g. by 2010 it is estimated that one in five Saanich residents will be over 65 years of age), the need is clear.

People's mobility and accessibility is significantly affected by the built environment. Typical barriers include: architectural, physical, informational, attitudinal, technological, communicative, policy/ practice, participatory, financial, and employment.

Much of the accommodation for people with disabilities has been in the form of specialized designs intended to assist those with a particular limitation (e.g. barrier-free design, often found in building codes and standards). Purposely designing the built environment to improve accessibility shifts more of the burden from the individual to the community – universal design has grown out of a recognition that, because most of the features needed by people with disabilities are useful to others, there is justification in making their inclusion common practice to encourage participation and provide choices rather than limitations.

In developing a universal design framework, it is important that a range of human factors along a continuum in the life cycle are considered, e.g. vision, hearing, dexterity, upper and lower body strength and mobility, cognition, communication, balance, and stature; and that these factors are accommodated, based on generally recognized principles. Designs should be: marketable, flexible, uncomplicated and understandable, safe, require only reasonable effort, easy to access and use, and sustainable.

3. Access to Transit in the Local Built Environment

The focus groups and interviews provided many useful insights into the challenges individuals face in the built environment when accessing transit, anecdotal and concrete local examples of what works well and what does not, and key priority areas.

- **Priority 1 – handyDART:** lack of pick-up/drop-off areas, or areas not well defined; dimensions of driveways and pick-up/drop-off points of insufficient size; waiting areas not weather protected; lack of adequate lighting; poor access/sightlines between waiting and pick-up/drop-off areas; lack of vehicular/pedestrian area separation; lack of curb cuts for unloading; and poor on-road pick-up/ drop-off facilities.
- **Priority 2 - Conventional Bus Stops:** lack of flat loading platforms; lack of curbs for kneeling buses; cement lip a barrier to bus shelters; dimensions of shelters too small for wheelchairs/scooters; not every bus stop is accessible; bus stops not always accurately labeled; lack of adequate weather protection; obstacles in the way at bus stops; lack/location/ design of seating at bus stops; and illegible maps and schedules.
- **Priority 3 - Sidewalks:** uneven surfaces/ treatment; weeds and debris; obstacles in pathway; inadequate width; discontinuous sidewalks; slope at driveways; construction areas not well marked; lack of resting places; and inadequate wayfinding cues.
- **Priority 4 - Corners and Crosswalks:** inadequate time to cross at signaled intersections; too few curb cuts; curb cut lip too big; lack of/ poor tactile/visual markings; signal button too small/ not easily accessible; lack of audible crossing signals; and dimensions of islands too small – often cluttered.
- **Priority 5 - Pathways to Buildings/ Building Entranceways:** pathway slope too steep; lack of/ poorly designed ramps; lack of automated doors; inadequate lighting; inadequate protection from the weather; pathway width too narrow and edges inadequately marked; no/ few parking spaces for scooters; lack of/ poorly located directional signage; and obstacles on pathway.

4. Recommended Practices / Design Solutions and Standards

Using and adapting the City of Portland, Oregon's *Pedestrian Design Guide*, the following principles provide a framework for ensuring improved mobility and access in the built environment: the built environment should be accessible to all; an accessible public transit system accommodates greater freedom and mobility; the built environment should be safe; the built environment should connect to places people want to go; the built environment should be easy to use; and improvements to the built environment should be economical.

There are some generally recognized minimum standards, many studies, jurisdictions, and organizations that have looked at and developed standards or guidelines for ensuring access to transit in the built environment. Some of the 'standards' and guidelines vary, making it difficult, in some cases, to identify a single solution – and in those cases, it is sometimes only possible to identify a range of possible 'solutions'.

However, by reviewing the literature and best practices, and utilizing the advice and insights gathered from the stakeholder interviews and focus groups, a number of recommended best practices/ possible solutions and standards have been identified with respect to handyDART (e.g. design, pick-up/drop-off zones, street drop-off locations; roadways, waiting areas, and safety); conventional bus stops (e.g. location, design, seating, shelters, signage, and safety); sidewalks (e.g. markings, grade, surfaces, width, lighting, landscaping, driveways, shoulders, orientation, wayfinding and warning); crosswalks and corners (e.g. intersections and crossing locations, signals, obstacles, curb cuts, markings, and traffic islands); pathway to buildings (e.g. surface, grade, cross slope, width, landscaping, markings, maintenance, wayfinding, and safety); building entranceways (e.g. space, steps, obstacles, lighting, markings, scooter parking, ramps, and doors).

5. Implementation

The built environment is the result of cumulative actions (some conscious, some unintentional) taken by many people over time. As a result, changing the built environment can be a complex endeavour. It involves action: involvement, cooperation and commitment by many in both the private and public realms and a variety of legislative, regulatory, administrative, and development practices. On-going involvement of key community organizations and individuals is essential. There is much benefit from 'doing it right the first time' and there is an opportunity for the municipality, working in partnership with the community to be an advocate for change.

Recommended actions and responsibility for implementation include:

Priority 1 - handyDART: adopt DP guidelines and Zoning Bylaw amendments to set standards for private developments; work with the development industry, professional organizations/ individuals, major institutions, and businesses to raise awareness, implement changes, and ensure on-going maintenance - Saanich Planning, Saanich Engineering (for on-road issues), and BCT

Priority 2 - Conventional Bus Stops: adopt guidelines for locating seniors residences close to bus stops; review standards for bus shelters and access to them; and on-going maintenance - Saanich Planning Engineering, and Public Works and BCT

Priority 3 – Sidewalks: establish a better maintenance program (than complaint basis) to prune vegetation away from the sidewalk; increase the width standard for sidewalks to 2.0 m to provide a wider path of travel; use bump-outs where obstacles are imbedded into the sidewalk to maintain required width; relocate imbedded obstacles over time; enforce construction area site marking regulations; incorporate appropriate wayfinding indicators into sidewalk design; identify areas where additional benches can be provided, especially on hills; and on-going maintenance - Saanich Planning Engineering, Parks, and Public Works

Priority 4 - Corners and Crosswalks: install more pedestrian crossing timers; review signal crossing times and make changes where appropriate/ feasible; increase the standards for curb cuts at corners; review curb cut standard to reduce size of lip; provide tactile markings for new crosswalks and retrofit existing crosswalks; replace signal buttons with positive feedback “palm buttons”; consider audible crosswalk signals as appropriate; increase standard of sidewalk width to 2.0 m and remove imbedded obstacles over time; consult with MoT regarding dimensions of pedestrian islands to provide adequate maneuverability and imbedded obstacles; and on-going maintenance - Saanich Engineering, and Public Works

Priority 5 - Pathways to Buildings/ Building Entrancesways: adopt DP guidelines and Zoning Bylaw amendments to set standards for private developments; Work with development industry, professional and trade organizations/ individuals, major institutions, and businesses to raise awareness, implement changes, and ensure on-going maintenance - Saanich Planning

Access to Transit

1. Introduction

The following report, *Access to Transit*, was made possible through a grant to the District of Saanich from the Union of BC Municipalities (UBCM) – Seniors Housing and Support Initiatives Program. The project is intended to aid the District in continuing its work towards its vision where “*In 2025, Saanich is a safe, affordable, accessible community in which to live and work.*” The specific goals of the project were to:

- identify design issues that currently impede accessibility between the conventional public transit and handyDART systems and the built environment on public rights-of-way and private property, specifically commercial, office, and multi-family residential buildings;
- develop possible accessible design solutions that could be incorporated into the District’s Zoning Bylaw and/or development permit guidelines and develop possible accessible design principles and recommendations that could be incorporated into the District’s Master Transportation Plan, Official Community Plan, and long range planning documents (scheduled to be reviewed in 2006).

Saanich’s Zoning Bylaw regulates parking and loading space requirements, the Subdivision Bylaw Schedule ‘H’ regulates sidewalk and road standards within public rights-of-way, and the recently adopted Adaptable Housing regulations address access into and within multi-family residential buildings and dwelling units – but none of these provide comprehensive design solutions or standards to address accessibility of loading and unloading areas for users of accessible public transit (i.e. handyDART) or accessibility to the conventional public transit system from the building to the road. Improving accessibility can potentially increase demand for public transit by an additional 20 to 30%. (BC Transit study)

2. Approach

To carry out the project, the following activities were undertaken:

- a preliminary review of best practices of universal design related to public transportation and the built environment in other municipalities – this material was used to inform the survey, interview guide, and focus group questions;
- the development of stakeholder interview questions in consultation with District staff and the conduct of interviews to identify design-related issues as outlined above;
- the development of focus group questions in consultation with District staff and the organization and conduct of three focus groups, comprised of seniors and persons with different disabilities, (held at Saanich Silver Threads, September 11, 2006, Access UVIC, September 13, 2006, and Highgate Lodge, September 18, 2006), to identify design-related issues or problems associated with accessibility between the conventional public transit and handyDART systems and the built environment as outlined above;
- the compilation, documentation, analysis and summary of the data gathered from focus group sessions and surveys and, together with the best practices review, the development of possible design principles, solutions, and recommendations;
- the preparation of a draft report for Saanich staff their feedback; and,

- the preparation of a final report (in hard copy and electronic formats) that includes a summary of the data analysis, best practices, design principles, design solutions, recommendations, and an appendices of all raw data, survey results, interviews, etc., based on the partners' review.

(The review of best practices, stakeholder interview questions, list of persons interviewed, interview notes, focus group questions and responses are included in the Appendices.)

3. The Need for Improved Accessibility in the Built Environment

The need to design the built environment in such a way that people can participate as fully as possible in community life is an increasingly important component of municipal administration, including land use planning and development decisions.

The need is compelling. At any time, a large portion of the population has some sort of identified permanent, long-term, medium term, or occasional limitation in some of their daily activities – to lift, concentrate, see or focus, move, or reach. This may be short term, e.g. a broken leg or other injury, carrying heavy luggage or awkward bags of groceries; holding onto an active child; and any number of other things that might limit one's ability. This may be longer term, particularly as people grow older because the incidence of disability increases with age.¹

There are some groups who typically face greater challenges, including:

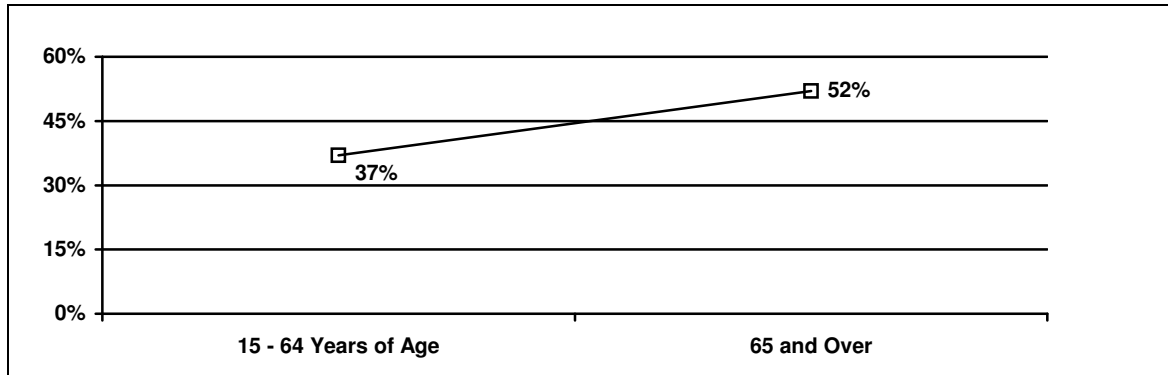
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|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| ▪ a parent with a stroller | ▪ a person with limited use of their hands |
| ▪ a person who is getting older with less mobility | ▪ a small child |
| ▪ a person with a disability (i.e. limited use of their hands, difficulty hearing or seeing, limited mobility, respiratory difficulties, epilepsy, etc.) | ▪ a pregnant woman |
| someone who uses a wheelchair, scooter, cane, walker, or crutches | ▪ a large person |
| | ▪ a person of small stature |
| | ▪ a person with a cognitive disability |
| | ▪ a person from another culture whose primary language is not English or French |

Projections indicate that by 2010 one in five Saanich residents will be over 65 years of age. With increasing age comes reduced mobility – between 35 and 40% of people over 65 years of age experience some reduced mobility. One in eight Canadians lives with a disability and approximately 14% of the BC population has at least one disability. Nearly 300,000 British Columbians with disabilities are within the working age population.² As shown in the following chart, the use and/or the need for disability supports increases with age for individuals with disabilities in BC.

¹ This and the following list were drawn from: Waterloo Region Trends Research Project, April 2001

² A Profile of Persons with Disabilities in British Columbia: Employment Labour Market and Occupational Projections, Ministry of Employment and Income Assistance, December 2003.

Age-related Increase in Use and or Need for Disability Supports - BC



Source: Statistics Canada, Participation and Activity Limitation Survey, 2001.

4. Barrier Free and Universal Design Principles

People's mobility and accessibility is significantly affected by the built environment (e.g. the design of buildings, landscapes, sidewalks, paths, roads and vehicles) and the policies, by-laws, systems, and information and the social services, transportation systems, information services, roads and vehicles that support their use.

Designing for everyone, without stigmatizing or excluding particular groups or individuals, is part of creating inclusive and caring communities.
(Waterloo Region Trends Research Project)

Purposely designing the built environment to improve accessibility shifts more of the burden from the individual to the community; rather than assuming that people must accommodate to the built environment, it assumes that the built environment should accommodate all users as much as feasible, should encourage participation and provide choices rather than limitations.

Typical barriers to accessibility include:³

- **Physical** – e.g. hard to open doorknob for elderly person; curb cuts, ramps and railway crossings that are too steep or not properly maintained, or contain abrupt changes in slope; lack of accessible parking spaces – size of spaces, location, number and enforcement of accessible parking spaces; physical barriers created by business advertisements or patios on narrow walkways and other public spaces;
- **Architectural** – e.g. door too narrow for wheelchair;
- **Informational** – e.g. small typeface not easily readable by visually impaired, lack of information; lack of textural changes and colour contrasts for staircases, entrances, ramps and curb cuts; inadequate signage and lighting that can help persons with memory disabilities, as well as those who are blind or have low vision;
- **Attitudinal** – e.g. staff not trained on how to serve customers with disabilities
- **Technological** – e.g. web site not accessible by blind persons;
- **Communicative** – e.g. communications tools; information not communicated appropriately; lack of audible traffic signals at key intersections;
- **Policy/practice** – e.g. policies that encourage persons with disabilities to apply for particular jobs; discriminatory policies or practices in securing housing or subsidized housing programs; lack of snow clearance on a priority basis at intersections, transit stops and buildings of all sorts;

³ Appendix F – City of Guelph – Barriers Identified – 2003

- **Participatory** – e.g. inability to participate in community or public consultation due to lack of interpreter or other necessary services, unreadable documents, etc.;
- **Financial** – e.g. barriers within fee subsidy programs that may limit access to programs or services; and
- **Employment** – encourage and support the community to identify employment strategies.

4.1 Barrier-Free Design

Much of the accommodation for people with disabilities has been in the form of specialized designs intended to assist those with a particular limitation. Barrier-free design is "predominantly a disability-focused movement" and uses building codes, regulations and guidelines to achieve designs and features that are usable by people with disabilities. The Province of Ontario has defined a barrier-free municipality as one "that successfully strives to prevent and remove all obstacles in order to promote equal opportunity and participation by residents and visitors with disabilities."⁴

Building codes and standards (usually called "barrier-free or access codes") provide regulations to create the minimum level of accessibility. They tend to concentrate on persons with mobility impairments, particularly manual wheelchair users. This has created some problems for persons with other types of disabilities: users with sensory disabilities have been neglected in the codes/ standards/ guidelines with inadequate requirements for tactile and audible signage, tactile warning surfaces, assistive listening systems, audible fire alarms, etc. The powered equipment (e.g. power wheelchairs and electric scooters) has significantly different characteristics than the standard manual wheelchair (for example, they do not always have the same manoeuvrability or capabilities and are much heavier.⁵

4.2 Universal Design

Universal design has grown out of a recognition that, because most of the features needed by people with disabilities are useful to others, there is justification to make their inclusion common practice.⁶

Traditionally, most designs have been oriented to the "average" person who is able-bodied and at least moderately capable in most areas, but design standards and practices based on an "average" person fail to accommodate many potential users. While it may be impossible to accommodate all people, all the time, the ultimate objective should be to consider as many people in as many situations as possible. The phrase "to the greatest extent possible" is usually used. This qualifier is "not meant to limit, but rather to provide the motivation to constantly strive to improve our environments to be more inclusive to more people."⁷

In developing a universal design framework, it is important to consider a range of human factors – factors that are not a description of one special group, but rather a continuum in the life-cycle, in combination with "Statements of Good Design". The human factors include:

- Vision: from easy to not possible seeing with or without aids
- Hearing: from easy to not possible hearing with or without aids

⁴ *Planning for Barrier-Free Municipalities*, Province of Ontario Ministry of Municipal Affairs and Housing

⁵ Canadian Standard Association (CSA) Barrier-Free Standard B651-95

⁶ Waterloo Region Trends Research Project, April 2001

⁷ http://www.winnipeg.ca/ppd/planning/pdf_folder/epc_univdesign.pdf

- Dexterity: from easy to not possible coordinating eye-hand movements
- Upper Body Strength and Mobility: from easy to not possible lifting, gripping, or grasping
- Lower Body Strength and Mobility: from easy to not possible walking, standing, or rising
- Cognition: from easy to not possible remembering or understanding
- Communication: from easy to not possible speaking, reading, hearing
- Balance: from easy to not possible remaining upright
- Stature: from tall to short, seated or standing, wide to thin

The following Universal Design criteria (or statements of good design) have been developed by the City of Winnipeg. They are similar to the generally recognized and accepted principles of universal design developed by the University of North Carolina and include:

- designs should be marketable: and available to a wide range of users, cost viable, and saleable;
- designs should be flexible: accommodate a wide range of preferences and capacities, provide choice and adjust to changing needs;
- designs should be uncomplicated and understandable: easy to understand regardless of the user's experience, knowledge, skills, or concentration level, using a variety of methods of presentation (pictorial, verbal, tactile); and provides adequate contrast;
- designs should be safe: minimize hazards and errors and provide fail-safe features;
- designs should require only reasonable effort: can be used efficiently and comfortably
- designs should be easy to access and use: provide for easily getting to, getting at, reaching, using, and handling objects and spaces; and
- designs should be sustainable: provide an appropriate use of resources and consideration of environmental issues, as well as user's sensitivity to particular materials

5. Access to Transit in the Local Built Environment

The focus groups and interviews provided many useful insights into the challenges individuals face in the built environment when accessing transit, as well as concrete local examples of what works well and what does not.

5.1 Barriers to Accessing Transit

The following comments from the interviews and focus groups provide anecdotal illustrations of the typical barriers in the local built environment that seniors and persons with a wide variety of disabilities encounter when accessing transit, both or either the conventional bus or handyDART. Specific examples in the built environment of what works well or doesn't, as provided by focus group participants and those interviewed, are listed in Appendix 8.

handyDART Drop-off/ Pick-up Points

handyDART is used extensively by seniors living in supportive housing projects. For example, it was suggested that as many as 50% of residents use handyDART in one senior's supported housing residence. In some situations, the use of handyDART is affected where the residence runs its own bus or van to take people to various locations in the municipality/ region. Examples of design features incorporated into several local handyDART pick-up/ drop-off areas are provided in Appendix 7.

Focus Group and Interview Comments

- **Height of entranceway:** in some facilities, the covered entrance way is too low; this may become a bigger problem as handyDART vehicles get larger
- **Size** staging areas are commonly not long enough – usually 30 feet, but vehicles now are 9 metres (27') and they need another 2 metres for the ramp at the rear and another metre to disembark off the ramp
- **Shared use:** designated spots are often used by others; traffic gets blocked in parking lots that cannot adequately handle the parked handyDART vehicle; sometimes commercial vehicles (and others) inadvertently or purposely park or block the staging area
- **Pull-outs:** there are no pull-outs for handyDARTs at some destinations, including medical buildings
- **Protection from weather:** uncovered spots are windy, wet, and cold and scooter controls can short out if they get wet and their batteries run down in the cold; there is frequently no where to wait inside and, the outside area commonly only has minimum cover and is unheated (cold in winter); wind, rain have a big impact on customers
- **Lighting:** there is little or no lighting at night-time and, as a result, people feel unsafe as they wait in some places
- **Safety:** waiting outside may not be safe; with a lack of signage at handyDART pick-up points, no one knows why a person is waiting around; not enough lighting can be a problem in some locations
- **Telephones:** when businesses close there are no phones around (e.g. for emergencies, to contact BCT, etc.); the only phone available at the Gorge Road Hospital is on 4th floor, so it is easy to miss the bus when a person goes to phone to find out where it is
- **Location:** drivers often have to go to the back of apartment buildings to load/unload—sometimes this is better (the area is more level, especially in older buildings), sometimes though it is dark, uncovered, and a long way to the entrance; loading zones are often not accessible for handyDART
- **Vehicular separation:** it may be necessary to cross traffic from the drop-off/pick-up area to access a building
- **Traffic circles:** tiny circles are inadequate for handling several buses at once, so vans jostle for position (e.g. RJH has 400 drop-offs a day)
- **Curb cuts:** the design does not always consider that handyDART vans have 'rear load', so there are no cut-aways or they don't line-up with the rear-loading location; if there are no aligned curb cuts for unloading wheelchairs, may have to drive around to the back of the building
- **Sight-lines:** passengers cannot always see the bus or the driver can't see them, especially at seniors' residences/ activity centres; drivers don't always come in to find their passengers; it's a "major problem" that drivers don't come in and passengers miss the bus
- **Service:** although handyDART service is not the focus of this project, exacerbation with the service compounds other problems that users encounter, e.g. erratic services – not on time, long waits, may leave without a picking person up ("persons with disabilities 'don't have a life' – a 'schedule doesn't matter'"); no spontaneity (e.g. booking time wait), increases isolation; may have to use the washroom or telephone and then miss the bus;

there is not always seating in the waiting area; drivers don't always come into a building to find their passengers if they are not waiting in a visible location

Conventional Bus Drop-Off/ Pick-up Points

Focus Group and Interview Comments

- **Exiting and entrancing:** there is not enough time and passengers can be left standing when the bus moves off; drivers can miss passengers at crowded bus stops and multiple bus stops; where multiple buses stop, they may not put their number signs up till just before they leave, so it is easy to stand or sit in the wrong spot and miss the bus – and then there is a long wait; bus drivers don't always stop for wheelchairs and people with white canes, are frequently impatient with slow moving passengers/boarders; people with invisible (but real) disabilities can have more problems than persons with visible disabilities; the lack of curbs for kneeling buses or a sidewalk that slopes away from the bus can sometimes mean that the bus exit ramp is too steep, making getting of the bus more difficult; flagging a bus from a wheelchair is difficult (can't wave down because the person in a chair is using their hands to drive), but there would be time for the bus driver to put down the ramp while the person catches up
- **Signage and labelling:** there is not always adequate wayfaring for people to easily find the bus stop; the route signs on buses are usually okay, but with glare at certain times of the day, it is sometimes hard to distinguish the number (double-deckers are good); some bus stops are incorrectly labelled; blue signs at bus stops mean that ramps can be used, yellow signs mean that the stop should be checked out first to make sure you can use it – accessible, but not for everyone
- **Location:**; the distance to bus stops can be too great (e.g. the student residences at UVIC); depending on where people live; they may have to go a stop or two further to get a low floor bus – not every stop is an accessible stop
- **Shelter area:** bus shelters are difficult/impossible to access because the cement base has a raised lip or side – users can't get into the shelter when there are no lip cuts provided or the platform is not flush with the surrounding area; shelter construction is "iffy" – they don't always shelter from the weather, especially from the wind and the rain when it is windy; some shelters are located too close to the curb – really hard to get into or they do not have enough room inside to turn around, so users have to back in
- **Service:** during peak hours especially – not every bus is accessible or the 2 designated seats (new buses have 3 seats) are full – users may have to wait and in winter this can be a problem; bus routes that use old, not accessible buses (e.g. #14, #51, #27, and #28), often all through the day; people with baby carriages don't/can't always fold them up and so use the disabled spaces, competing for scarce space – sometimes bus drivers will not insist on carriages being folded and will make the person in a wheelchair wait for the next bus

Sidewalks

Focus Group and Interview Comments

- **Lack of sidewalks:** when the sidewalk ends (onto mud/ grass) there is no warning and turning around becomes a problem for getting back (this is complicated further when a person cannot turn their neck to see going backwards); the lack of sidewalks forces

users onto the road (made more difficult when there is no curb cut); there may not always be a dip at the end of a sidewalk, particularly on side streets – don't know where to walk at night, or where to cross

- **Sloped sidewalks:** sloping sidewalks at driveways make scooter users feel they might fall off; for people with a visual impairment or in a manual wheelchair, the down-slope causes people to lose control; power chairs can be flipped because of the slope and dip
- **Even surfaces:** sidewalk connectivity from the bus stop to the front door is a key issue, choppy surfaces discourage people from going to some places; pieces of raised sidewalks make the ride in a scooter/chair bumpy (scooters need rear and front suspension, as hips and backs get sore because of the bumps on sidewalks/ sidewalk section joints hurt user backs/necks with the bumps as each section is crossed); people who have had strokes, use canes, or are visually impaired may also have trouble with uneven surfaces and lips (e.g. they are afraid they will trip) and the red spray used on cracks is not helpful as they can't see it easily;
- **Surface maintenance:** glass all over the sidewalks and roads can result in flat tires on scooters; tree roots that push up sidewalks can be tripping hazard for those with mobility problems and the visually impaired
- **Surface treatment:** bricks/pavement treatments often settle resulting in uneven surfaces; brick work means a bumpier ride, creates pain; the recent trend of brick installation is "really difficult" and sometimes dangerous for the mobility challenged; when the surface is soft (particularly a problem for power chairs), it is difficult to access sidewalks in some places
- **Narrow sidewalks:** many older sidewalks are too narrow; bridges are a problem because the sidewalk is often too narrow if the sidewalk is being used by others and there is no room to move – can't cross over because of the traffic and obstructions in the way; paths near bus stops are sometimes not wide enough for wheelchair users, so they are forced to go onto street
- **Obstacles:** obstacles such as trees, bushes, lampposts, hydro poles, fire hydrants, bollards, bike racks, bus benches, telephone booths, traffic signals, and sign posts can be a problem when passing them, as are movable obstacles such as sandwich boards, vehicles, mail boxes, newspaper vending machines, waste receptacles, and recycling boxes; telephone poles/ trees in sidewalks make it necessary to go onto the road; unpruned branches from adjacent trees, shrubs or hedges encroaching into or overhanging the sidewalk (minimizing the usable width) make walking difficult; sign posts installed into sidewalks (rather than installed beside the sidewalk on concrete footings) force the user to move around them
- **Construction sites:** unmarked/poorly marked construction sites pose a hazard⁸
- **Edges:** the visually impaired who use canes follow edges, if there is not either a grass edge or a building edge people can stray off a path, slip or fall at the edges sidewalk

⁸ "I have had some problems when Saanich was doing some construction work. Most of the time you get traffic warnings that there is some construction going on. Usually this means that there is road construction and the sidewalks are clear to use. However, sometimes the sidewalks are not useable but there is no warning that this is so. It isn't until you are near the work zone that you realize that you can't go any further. Many times it is well into a phase of the route that has a long sidewalk without any curb cuts in it. Sometimes it comes at a place where there is little or no room to turn around. If there was a warning well in advance, especially near a curb cut, then it would be possible to plan another safe route, and save some time and frustration. If you are going for an appointment with a specified time then the problem of retracing your route and getting on another one could be the difference between being late or missing your appointment altogether."

sales and outside seating areas for restaurants can be a problem when there are no railings marking the edges

- **Resting places:** there are sometimes no benches for people with mobility/age challenges to rest – this is particularly important on hills

Crosswalks, Corners, and Intersections

Focus Group and Interview Comments

- **Crossing time:** There is often not enough time, even with a scooter “turned on full, especially when a person tired and slower or in a wheelchair”; the amount of time to cross is more of a problem for people with walkers/canes than people with visual impairments; some lights shut off too quickly – have to leave the curb as soon as the signal changes; people often need time to cross and the signals don’t always tell how much time there is to cross; crosswalk times vary depending on the amount of traffic, but this is not as important as the distance to be crossed; the variation in the amount of time to cross at different intersections is a problem (e.g. at Hillside and Shelbourne, there is more time than at Shelbourne and Cedar Hill X Road); less busy intersections are more of a problem than busier ones – when no one else is crossing, traffic can be more dangerous; people can still be in the crosswalk when the light turns red and traffic starts to turn; the lack of boulevards makes crossing a wide street harder
- **Size:** crosswalks are not wide enough – particularly when there is more than 1 disabled person using them, narrow crosswalks obstruct connections with other people
- **Islands:** islands are “extremely dangerous” – drivers do not look, islands are often too small to allow wheelchairs/ scooters to turn around, in some cases the button is on a second island, or can’t be reached because there is not enough room to manoeuvre; often the location of a pole blocks the ability to get through the island
- **Curb cuts:** the lack of curb cuts is a problem for getting onto the sidewalk, particularly at night – driveways are often a better way; users may not always know where the cut is and have to go into traffic to find one; half circle curb cuts are hard on the visually impaired – the two cuts need to be separated or a visually impaired person heads off diagonally across the intersection; when the whole corner is lowered it is a problem (tactile and visual markings can help in these situations); curb cuts are useful for aligning visually impaired persons for safe crossing; slopes on curbs are often too steep – “some are really steeped – happens especially when a road gets repaired”; a lack of curbs or rolled curbs is a problem if there are no clear tactile and visual markings, or more defined edge; curb cuts are too narrow in width and don’t allow many people to enter and “then light changes and a person doesn’t get across”
- **Curb lips:** lips are inconsistent in height; lips that are too high can be a problem for walkers, persons with a walker; wheelchairs and “anything else with wheels”; they can tip a chair forward when someone is pushing a person in a wheelchair who cannot lift their feet to get over the curb cut lip
- **Crosswalk markings:** faded paint at crosswalks is a problem, curb cuts can help the visually impaired, but often a visually impaired person relies more on painted markings; the lack of tactile signals for cane users makes crossing harder; bulging sidewalks at diagonal crossings, pose a problem when what is needed is a straight line with tactile imprints in the sidewalk
- **Buttons:** a power chair can usually get to the button, but scooters have more trouble; bushes get in the way; sloped surfaces at access points tip chair/scooter users; buttons

can be in the wrong location – often the button is on the far side, and users have to back up to get into the crosswalk; small buttons require users to be “right on”; small buttons for people arthritis are particularly difficult; shorter people cannot always reach the button;; when there is no walk button, crosswalk users have to watch/ listen to make sure that traffic has stopped before crossing

Audible signals: chirp signals help when the “sun gets in your eyes”; some people may not be aware of the different signals or be able to distinguish what direction they are facing (e.g. east/west or north/south); people need to learn what each means; audible signals can be confusing – “have to really listen as one beep can go off almost at the same time as another”, “have to be able see the signals to feel “okay – at busy intersections this is a big problem, so try not to cross alone”; they can be distracting for other people

- **Speed humps:** have to hit dead middle to avoid tipping

Pathways to Buildings

Focus Group and Interview Comments

- **Protected/ covered pathway areas:** sometimes people get drenched because they move slowly (e.g. “one person who lives in a particular building takes 5 minutes to walk the short distance to the door, and commonly gets drenched in the process”); when it is raining – people walk even slower to avoid slipping; moisture and ice can build up if walkways are not covered
- **Widths:** often too narrow
- **Surfaces:** not slip-resistant
- **Edges:** no clearly marked sides or unsafe railings (people can fall through the rail)

Entranceways to Buildings

Focus Group and Interview Comments

- **Location:** older apartment buildings do not always have ramps especially at the front, but they might be at the back of the building, however public transit drops you at the front – so it is a long trip
- **Doors:** some buildings have doors that open out towards a person; heavy doors are common, including at doctor’s offices; a lack of automatic doors is problematical; handles/knobs are also a problem; sliding doors that close too fast can be hazardous; wheelchair accessible doors are sometimes left locked and are therefore inaccessible; if one of the double doors is locked, the one that is open may not open the right way; doors need to be wide enough to take people with walkers – they are sometimes too narrow
- **Buttons:** there is not enough room to access the button without getting in the way of others; buttons are often too small (especially for the visually impaired); the colour of the buttons affects the ability of the visually impaired to see them (especially silver on black); seeing eye dogs cannot distinguish between red and blue which is a common colour combination on some button boxes
- **Signage:** Braille signs are often too high (even have been put up upside down); the visually impaired often can’t read the name box or code to use to get in the door; a lack of signage from parking areas for access to the ramp and route into the building is not always marked clearly

- **Lighting:** especially at night is frequently inadequate; stairs in particular are not clearly marked
- **Stairs and railings:** people can often use stairs as long as there is a banister – “if there isn’t one, they don’t use the stairs”; stairs can be too high/steep; railings on ramps are commonly observed to be too low (one handyDART driver has seen someone fall over a rail; the BC Building Code deals with handrails, but the range is broader than proscribed)
- **Sloped entranceways/ ramps:** often too steep; often not enough room to allow for turns and comebacks; switchbacks are too tight and there is no staging area to re-group; the BC Building Code ratio is 1:10 which is too steep for the average senior or young person; the BC Building Code was written with wheelchairs in mind, but scooters can’t turn as easily as a wheelchair
- **Scooter parking spaces:** there are very few parking spaces, particularly in shopping areas

5.2 Prioritizing the Challenges – Focus Group Survey Results

In each of the focus groups, participants were asked to indicate the most common problems they encountered in the built environment. A list, based on issues raised in the interviews and the literature review of best practices, was handed out to, and filled out by, participants. For participants with vision challenges, the list was read out to each individual. The specific features included in the handout focused on: crosswalks/corners, sidewalks, building entranceways, pathways to buildings, and handyDART pick-up/ drop-off areas.

Based on the responses from the focus group participants (see Attachment 6) and using a weight averaging system (e.g. 2 points for ‘often’ and 1 point for ‘sometimes’), it is possible to work out the ranking (albeit somewhat simply) of the most common barriers encountered. While the sample is small and people with different mobility challenges encounter different barriers (i.e. some questions were not applicable to all respondents), the responses are still instructive.

Barrier	Often	Sometimes	Combined Total
handyDart pick-up/drop-off points not heated	14	0	14
Entranceway door handles hard to operate/ lack of automatic doors	14	0	14
Sidewalks not well maintained (i.e. cracks, weeds)	12	2	14
Uneven sidewalk surface that makes walking, use of wheelchairs and scooters difficult	12	2	14
Overhanging trees/bushes on sidewalks	12	2	14
Not enough time to cross the street in the crosswalk	10	4	14
handyDART pick-up/drop-off points have no protection from the weather (i.e. not covered)	12	1	13
handyDART pick-up/drop-off points not well lit	12	1	13
handyDART pick-up/drop-off points not signed	12	0	12
Lack of seating while waiting for handyDART	10	3	13
Entranceway doors open towards you	10	2	12
Steps/stairs	10	2	12
Sloped sidewalks where driveways cross	8	4	12
Lack of sidewalks	8	3	11
Handrails too high/low	8	3	11

Not enough space for easy handyDART loading/unloading	8	3	11
Lack of countdown signals at crosswalks	10	0	10
Lack of ramps	8	2	10
Lack of handrails	8	2	10
handyDART pick-up/drop-off point not separated from vehicular traffic	8	2	10
Entranceway has no protection from the weather (i.e. not covered)	6	4	10
Pathway is too narrow	4	6	10
Pathway to entrance has no colour or textural variation easily seen	8	1	9
Crosswalk curb cuts - none/not enough	6	3	9
Not enough turn-around space on ramps for wheelchairs/scooters	6	3	9
Entranceway door button/voice box are too high/too low	6	3	9
Crosswalk curb cut lip too high	6	2	8
Lack of audible traffic signals at crosswalks	6	2	8
Obstacles in the way on sidewalks	2	6	8
Ramp slope is too steep	4	4	8
Pedestrian crossing signals at crosswalks are not easy to see	4	3	7
Sidewalk not wide enough for a wheelchair/ scooter	4	3	7
Pathway surface is too sloped	4	3	7
Pathway to door is not well maintained (weeds, cracks, overgrown, obstacles in the way)	4	3	7
Entranceway door button requires too much strength to operate	4	3	7
No designated area for handyDART pick-up/drop-off	4	2	6
Distance from handyDART or bus stop to building is too far	4	2	6
Pathway surface is slippery or hard to maneuver a wheelchair or scooter along	2	4	6

In the two focus groups where participants filled in the five/six most common problems they encounter, the results were as follows:

Focus Group 1 (Saanich Silver Threads)	Focus Group 2 (UVIC Access)
<ol style="list-style-type: none"> 1. Sidewalks not accessible. Road crossing. Crosswalk button is in too awkward a place to be able to use it safely. Slopes on sidewalks – cracks, weeds, bushes, etc. 2. Bus stops not accessible. Road islands – dangerous!! Glass on sidewalk/road. Door handles require too much strength. 3. Bus shelter platforms too high. Saanich sidewalks. 	<ol style="list-style-type: none"> 1. Construction sites. The way handyDART eliminates spontaneity and the impact on social opportunities. Traffic light problems. Steps/stairs at entryways. 2. Not having well enough marked crosswalks (no audible signals, paint is faded). The amount of time spent waiting for the handyDART. No protection from weather at entranceways. 3. Obstacles on path (bushes, trees that obscure traffic flow).

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Sloped sidewalks.
Hand rails too high.</p> | <p>That the handyDART does not come to the regular bus stop (on campus).
Not for me in particular, but there is no texturing for vision impairment.</p> |
| <p>4. Lights are not long enough to cross.
Cars/pedestrians almost hitting one.
Curbs too high.
Not enough curbs in sidewalks.</p> | <p>4. Stairs not marked (lighting at night, grooves, railings).
That there is nowhere specified as a 'bus stop' to wait for handyDART on campus.
Overhanging bushes block way down to Cadboro Bay.</p> |
| <p>5. Cloverdale at Blanchard very dangerous.
Doors too heavy/ lack of entrance button.
Curb cuts too big.</p> | <p>5. Lack of clear sight lines to see handyDART coming.
Ramps are often too steep and too narrow.</p> |
| | <p>6. Lack of protection from the weather on campus.</p> |

6. Recommended Practices / Design Solutions and Standards

There are some generally recognized minimum standards for designing an accessible built environment, e.g. the BC Building Code. However, as noted previously, these standards are not always effective in meeting the different accessibility needs of seniors and persons with disabilities and their efficacy is sometimes further impacted by emerging technological changes (e.g. scooters).

There are also many studies, jurisdictions, and organizations that have looked at and developed standards or guidelines for ensuring access to transit in the built environment (examples of which are included in Attachment 9). Some of the 'standards' and guidelines vary, making it difficult, in some cases, to identify a single solution – and in those cases, it is sometimes only possible to identify a range of possible 'solutions'. However, by reviewing the literature and best practices, and utilizing the advice and insights gathered from the stakeholder interviews and focus groups, a number of recommended best practices/ possible solutions and standards are identified in the following sections.

6.1 Principles of an Accessible Built Environment

Not all 'solutions' can or will be able to fit everyone's needs. However, a common approach for ensuring improved mobility and access in the built environment and used in various jurisdictions, is to develop a framework or set of principles within which possible 'solutions' can be assessed. Key to developing an effective framework is consideration of a range of human factors that reflect the continuum of the life cycle and the elements of universal design.

Using and adapting the City of Portland, Oregon's *Pedestrian Design Guide*, the following principles provide a framework for ensuring improved mobility and access in the built environment.

- **The built environment should be accessible to all.** Regardless of one's level of mobility, a continuously accessible pedestrian realm enhances the community and creates a usable environment that accommodates a wide range of preferences and capacities, provides choice and adjusts to changing needs.

- **An accessible public transit system accommodates greater freedom and mobility.** It is not uncommon for people with varying degrees of mobility, to use the handyDART service because they cannot get to or from the conventional bus stop. Improving the links between conventional transit stops and residential and commercial/institutional buildings promotes better utilization of an existing resource, providing citizens greater travel flexibility and freeing up the handyDART service to those members of the community who are completely dependent on door-to-door service.
- **The built environment should be safe.** Sidewalks, pathways, and crossings should be designed and built to be free of hazards and minimize conflicts with external factors such as noise, vehicular traffic, and protruding architectural and landscape elements.
- **The built environment should connect to places people want to go.** The pedestrian network should provide continuous director routes and convenient connections between destinations and transit – including homes, schools, shopping areas, institutional uses, services, and recreational opportunities.
- **The built environment should be easy to use.** Sidewalks, pathways, crossings, and wayfinding should be designed so people can efficiently and comfortably find a direct route to a destination and minimize delays.
- **Improvements to the built environment should be economical.** Pedestrian improvements should be designed to achieve the maximum benefit for their cost, including initial and maintenance costs, as well as reduced reliance on more expensive modes of transportation. Where possible, improvements in the right-of-way should stimulate, reinforce and connect with adjacent private improvements.

6.2 handyDART

Recommendations – Pick up and Drop off Zones

- The designated drop off area should be 12 metres (33').
- Line painting on the surface should be used to delineate the area reserved for handyDART.
- Zebra lines should be installed in the area designated for rear-loading.
- Signage should be provided to mark the zone, e.g. "handyDART Pick-up/Drop Off Zone - Do Not Block".
- The drop-off area should be located within the range of 5 m (16')⁹ to 16m¹⁰ (50') of front door¹¹.
- A curb-cut should be installed adjacent and lined-up to the rear-loading area. (See Figure 1.)
- Where heavy volumes of handyDART vehicles are expected, staging and maneuverability should be considered.



High activity areas may require extra staging



Covered walkways are preferred

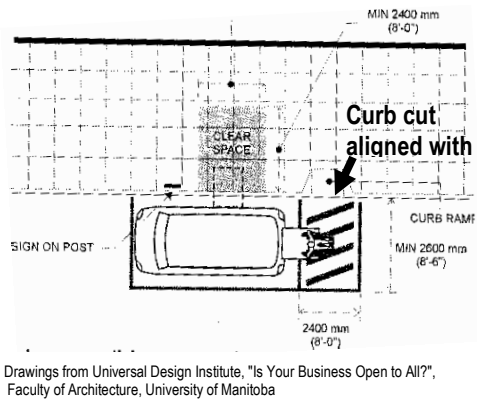
⁹ Paul McDonald, Far West

¹⁰ Universal Design Institute, Faculty of Architecture, University of Manitoba

¹¹ Acceptable distance to the door appears to vary widely. An acceptable range may be the most useful standard, to offer a guide that is context sensitive.

- (h) A covered walkway should be installed from the pick-up/drop off area to the front door. The height should be a minimum 2.95 metres (9' 6").
- (i) If the pick-up/drop-off point is located within an underground parking area, the height of the entrance should be a minimum 2.95 metres (9' 6").

Figure 1 - Curb cut location



Recommendations – handyDART Drop-off Location at Street

- (a) Where the drop-off area utilizes the public street, the curb cut should be located at the rear-loading area.
- (b) The locations should be of sufficient length to accommodate the bus/van.
- (c) The location should be signed appropriately for use only by the handyDart vehicle.
- (d) The travel path to the front door should be reviewed for continuous connectivity and accessibility.



This drop off area behind the museum is isolated, with no shelter or other amenities.



A better drop off zone is on the street, nearer the entrance. This design should take priority over on street parking stalls

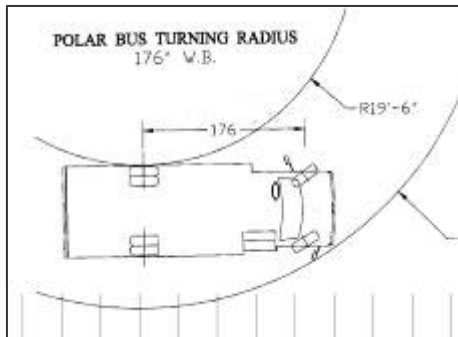
Recommendations – Roadway for handyDART Vehicles

- (a) The driveway should be wide enough to allow a 7.4 m (24' 3") vehicle (Polar vehicles)¹² to turn without backing up. The radius required is 4.47m (14'6"). (See Figure 2.)

¹² Far West also uses smaller capacity vehicles such as the Corbeil and the Girardin design, approximately 3' shorter and 6" narrower.

- (b) Speed-humps should be designed to minimize impact on passengers - speed tables are preferred or speed buttons spaced to allow the wheels of the handyDART vehicle to pass between the humps.

Figure 2 - Vehicle Radius



Drawing courtesy of FarWest/BC Transit

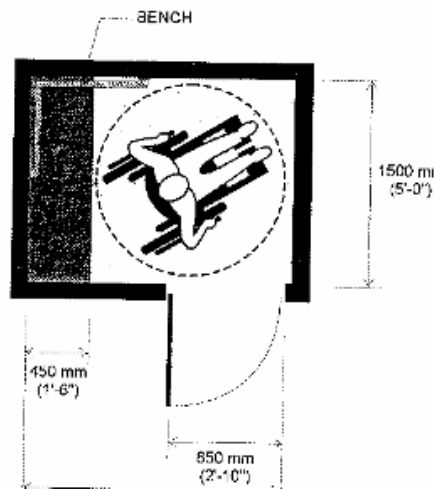


Islands and traffic circles must be designed with the turning radius of handyDART vehicles. Mountable curbs can be used to overcome space restrictions

Recommendations – handyDART Waiting Areas

- (a) An enclosed waiting area is preferred.
- (b) The waiting area should be located to accommodate sightlines to the pick-up/drop-off area.
- (c) The waiting area should be heated and provide comfortable seating.
- (d) Enough space should be provided to accommodate and allow maneuverability for 2 or more (relative to the expected demand generated at the site) scooters.
- (e) The turning diameter should be 1500 mm (5') per wheelchair. (See Figure 3.)
- (f) A courtesy phone should be available – an easy and inexpensive way (for the user) is to provide a telephone inside an office, commercial or institutional building.
- (g) As technology permits, considerations should be given to the installation of a touch screen, wired computer, linked to the handyDART website for real-time information and online bookings and updates.
- (h) CPTED and Women's Safety Audit principles should be integrated (e.g. lighting and defensible space, natural surveillance, and activity areas).
- (i) Background noise (e.g. air conditioning units, etc.) should be minimized.
- (j) Evacuation signage and maps should be provided. (See "Signage" section.)
- (k) Plug-in areas for electrically charged vehicles should be provided.
- (l) Washroom facilities and signage should be located near the waiting area.

Figure 3 - Turning Diameter



Drawings from Universal Design Institute, "Is Your Business Open to All?",
Faculty of Architecture, University of Manitoba

6.3 Conventional Bus Stops

The location and design of bus stops relative to the origin and destination of the trip is important to accessibility. Planning for bus routes, location, and design of bus stops should be an essential and integral part of any major development planning.

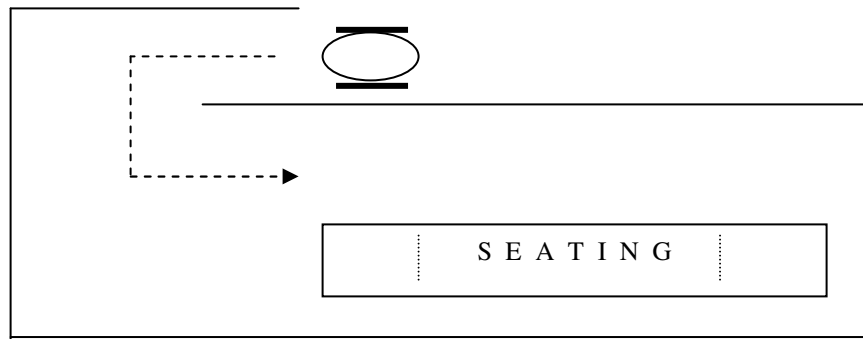
Bus stops and shelters are comprised of a number of individual elements. Each bus stop and shelter should be designed to meet user needs within the available right-of-way conditions and be compatible with the neighbourhood environment. Bus shelters primarily provide overhead protection and a certain degree of climatic protection.

Recommendations – Bus Stops and Shelters

- (a) Bus stops should be located as close to seniors' homes, hospitals, institutions and other high transit usage locations, as practically as possible to reduce walking distances. Developers of seniors' homes and high-density developments should consider locating their facilities close to transit routes/stops.
- (b) Bus stops for each direction should be located as close to each other as possible.
- (c) A crosswalk should be located close to the two bus stops.
- (d) Wide crossings (greater than 2 lane cross-sections) can be mitigated with the installation of a median refuge island or curb extensions integrated into the transit stop
- (e) The bus stop should be clear of any obstacles, such as benches, newspaper boxes, garbage containers, trees and other street furniture. Regular maintenance is important to remove snow, ice and other debris.
- (f) Bus stops should be located on sections of tangent and relatively flat roadway, and stops on steep slopes should be avoided if possible.

- (g) Bus stop waiting areas should be set back enough to accommodate scooters and wheelchairs.
- (h) The waiting pad or street-side sidewalk at the bus stop should be of sufficient length and width to allow wheelchair and scooter users to get on and off a bus and to connect with adjacent sidewalks.
- (i) The surface of the waiting pad should be non-slip, solid, smooth, well drained (desirable cross slope of 2%), and paved (usually with concrete).
- (j) Bus stop design should mitigate weather and wind protection (see inset):

Weather Resistant Shelter Design

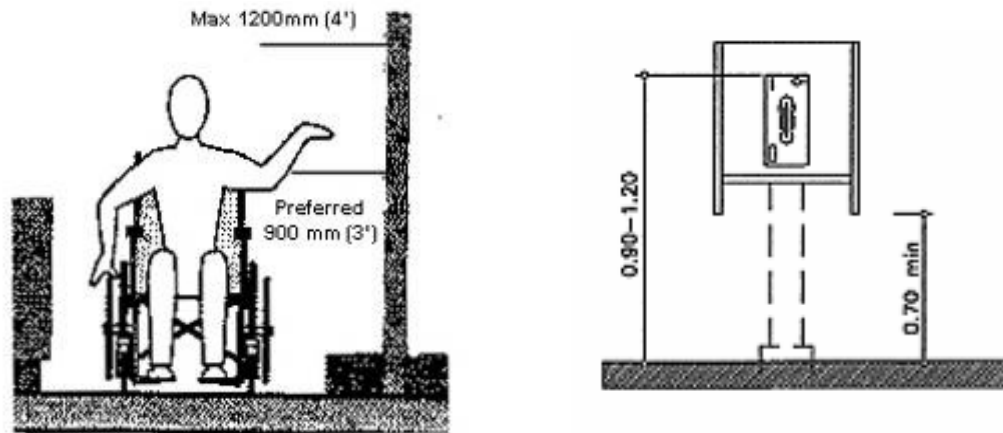


- (k) Seating should be provided, either inside or outside a bus shelter – with sufficient space for wheelchairs and scooters to move around.
- (l) Seating benches should be placed outside the circulation of pedestrians and should not encroach upon sidewalks or bus pads.
 - Seats should be located a minimum of 600 mm from the walkways so that legs do not protrude into pedestrian traffic.
 - Typical dimensions are: 450 mm to 500 mm high and 400 mm to 500 mm deep.
 - Lengths are determined by the availability of space.
 - Armrests of 180 mm to 250 mm above seat height are desirable.
- (m) CPTED and Women's Safety Audit principles should be integrated (e.g. illumination for orientation and security, transparent sides for visibility and marked with horizontal contrasting strips).
- (n) Bus stops should be upgraded to accessible bus stop standards – including accommodation for low-floor vehicles:
- (o) The international symbol, signifying compliance with standards, should be posted.¹³
- (p) Where public telephones are provided, at least one telephone should be accessible by persons using wheelchairs. It must be located so that the receiver, coin slot and control are no more than 900 mm (3') above the floor (See Figure 4)
- (q) There should not be steps or a curb lip between the sidewalk/ bus pad and the shelter.
- (r) Shelter openings should be 900 mm (3') wide to allow a wheelchair/ scooters to pass through with ease.

¹³ Blue signs signify the bus stop is universally accessible - ramps can be used; yellow signs signify the stop is accessible for some, but not all - user is advised to determine for themselves if it is accessible.

- (s) Maps and schedules should be easily readable by people using wheelchairs and, to the extent possible, people with a visual impairment.

Figure 4 - Height of objects for wheelchair users



Recommendations – Signage

- (a) Signs should be mounted or hung in a prominent location at a height that all users can read comfortably:
- E.g. optimal placement is where the centre line is at 1350mm (4'6") from the floor and 150mm (6") on the wall from the latch side of the door.
- (b) Signs should be well lit.
- (c) Lettering on signs should be easily discernible in sans serif fonts such as Arial.
- (d) The contrasts between the lettering and the background should be maximized (black on white).
- (e) Universal symbols should be used.
- (f) Printed tactile signs should be raised between 0.8 mm and 1.5 mm (1/32" and 1 1/16 " , in upper case and 25 mm and 50 mm (1 to 2") in height.
- (g) The band for Braille lettering should be 5 mm (3/16) in height.
- (h) Confer with CNIB office for assistance for site specific sign location and orientation.

6.4 Sidewalks

The sidewalk corridor functions to provide an environment for travel separated from vehicle movement. Walkways or sidewalks are the essential link between the origin/destination of the trip and the bus stop. Their proper design and regular maintenance are important in providing a barrier-free path of travel for all persons.

Recommendations – Sidewalks

- (a) The surface should be level, stable, slip resistant, and glare-free (e.g. broom finish concrete).

(b) If paving stones are used, they should not be placed across the main path of travel where they would be a barrier or possible hazard to some. The outside edge (adjacent to curb) is preferred. Measures should also be taken to ensure that the effects of frost heave and/or differential settlement of paving stones are minimized.

(c) The grade should optimally be 1:20.

(d) The sidewalk width should have a minimum unobstructed pathway of 1.5 m (5')

- Where there is heavy pedestrian traffic, an optimal unobstructed pathway is 2.5m (8').
- Where there is shared and mixed use activity in the pedestrian realm (e.g. commercial or business areas or in the vicinity of educational or health care facilities) the unobstructed pathway should be 1.9 m (6').¹⁴
- Locate street furniture in the boulevard, in predictable locations – placed to highlight the location of the sidewalk or ends of the bus zone. Visually impaired pedestrians typically travel along the edges of a pathway or next to buildings, where they commonly come into contact with obstructions. Where buildings are constructed adjacent to sidewalks, it is best to place street furniture on the curbside of the walkway to provide a greater offset between the path of travel and the vehicular traffic. The absence of obstructions along the face of buildings is desirable.
- Locate drainage grates on the covers of catch basins or manholes and grates for non-drainage structures (e.g. electrical vaults or access hatches) off the clear path of travel, where possible.
- Install tactile and colour contrast markings. To assist persons with visual impairments, the surface of the walkways should be easily discernible from the surrounding areas. Use different textures (grass, concrete, paving stone), contrasting colours, and curbs to delineate paths.

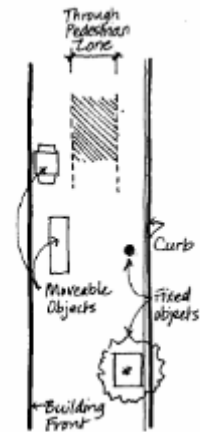


Illustration taken from the Portland Pedestrian Design Guidelines

(e) Sidewalks should be well maintained, including the removal of glass, leaves, overhanging tree branches, protruding bushes and shrubs, snow, ice, and puddles.

(f) Lighting should be evenly well lit, downlighting (to prevent glare).

(g) Landscaping should not encroach:

- Set back a minimum of 30 cm (1')
- Ensure minimum clearance height of 198 cm (6'6').

(h) The pathway should be a distinct route, separated from automobile travelways.

(i) Special design considerations at the driveway to the property should be considered – a separated pathway is preferred.

(j) Construction sites should be appropriately marked. Pedestrian detour routes should not be designed with only the able bodied in mind.



This pathway does not consider the encroaching parked vehicle.

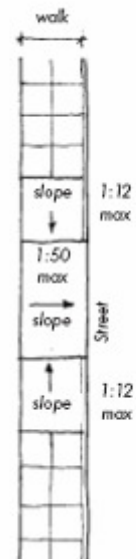
¹⁴ Standards established by the Portland Pedestrian Design Guidelines www.portlandonline.com/transportation/index

Recommendations – Widened Shoulder

- While the use of a widened shoulder for the pedestrian corridor is not preferred, there may be conditions that do not allow for the installation of a separated path.
- The minimum width should be 1.2m (4')¹⁵ – the width should ultimately be established by the Engineering Department in consideration of issues such as speed, level of traffic, road design.
- The surface should be smooth asphalt and regularly maintained to accommodate wheelchairs, scooters, people with canes, strollers.
- Clear signage and markings should be installed to restrict parking in the pathway area.
- Additional safety measures such as guardrails, buttons or raised sidewalk and curbs may be necessary in areas where there are safety concerns.

Recommendations – Driveways

- Where possible, driveway aprons should not intrude into the pedestrian pathway.
- The sidewalk grade and cross-slope should be maintained across the driveway (sidewalk extension) with the driveway slope maintained in the boulevard or street furniture zone.
- Where the right of way is constrained and a drop driveway is the only option, the maximum slope should be no greater than 1:12 with the cross slope maintained at 1:50 (see inset).
- The sidewalk markings should be maintained.
- Tactile markings should be installed to warn pedestrians of an upcoming driveway.
- The surface area of the apron should have a stamped concrete effect on both sides of the sidewalk, to warn drivers that they are in a pedestrian zone.



Recommendations – Orientation, Wayfinding and Warning¹⁶

- To ensure a logical unbroken path of travel from the sidewalk to the bus boarding area:
 - Visual as well as tactile cues and landmarks should be provided within designs (examples: sidewalks with grass shoulders or borders; street furnishings such as benches, trash containers, planters located adjacent to but not within path of travel; high contrasts on the shelter door frames, benches and planters) to highlight the location of the sidewalk or ends of the bus zone.
 - Walkways, hazards and waiting areas for orientation and security purposes should be illuminated.
 - Colour contrast, sound, light and shade should be used to accentuate paths of travel between the bus shelter, sidewalk and bus boarding area.

Illustration taken from the Portland Pedestrian Design Guidelines

¹⁵ City of Portland standard – *Pedestrian Design Guide*

¹⁶ Guidelines for Design of Safe Accessible Pedestrian Environments, Province of Alberta

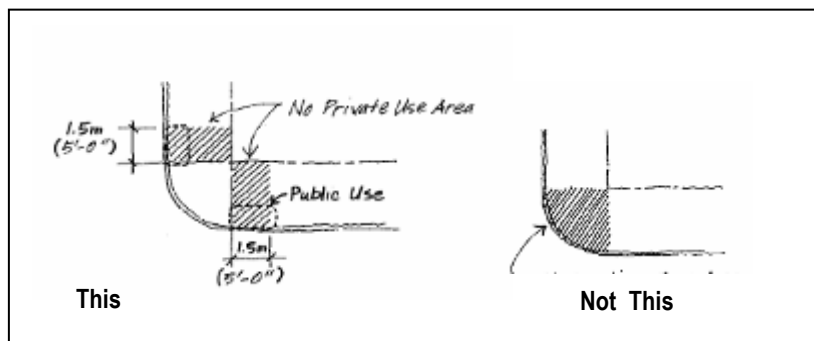
- Tactile wayfinding tiles, in rare circumstances, may be used to accentuate paths of travel if the pedestrian pathway is broken or wayfinding is complicated (note, however, such wayfinding tiles should be consistent in design and well differentiated from tactile warning strips). Wayfinding tiles are usually of gentle and corduroy textures, whereas warning tiles are typically of raised dot textures.
- Tactile indicators such as tactile warning tiles may be used in rare circumstances to accentuate a large difference in elevation (note, however, such warning tiles must be consistent in design and well differentiated from tactile wayfinding tiles).

6.5 Corners and Crosswalks

Pedestrian activities are concentrated at street corners and crosswalks. Corners are the place where access between the crosswalk at street grade and the (usually raised sidewalk must be provided) and they are often the location for hardware such as street name signs and traffic control signs or signal bases. The design of the corner also affects the speed of traffic maneuvering through an intersection. Crosswalks keep pedestrians together where they can be seen by motorists, and where they can cross most safely with the flow of vehicular traffic. Pedestrian crossings are often at intersections, but may also be at other points on busy roads that would otherwise be perilous to attempt to cross.

Recommendations – Intersections/Crossing Locations

- (a) Corners should be free of clutter (utility boxes, poles, etc.) providing sufficient space for the typical number of pedestrians waiting to cross, including sufficient space to accommodate a scooter (660 mm wide or 26").
 - Exceptions to this include the installation of low posts for pedestrian activated call buttons and bollards installed for separation from traffic.
- (b) The visibility of the travel lanes should be measured from the perspective of a wheelchair user: sightlines at 850mm (2'10") high
- (c) Curb cuts should not have a lip – they should be flush with connecting surface.
- (d) There should preferably be two curb cuts per corner – directing pedestrians into the crosswalk (see inset).

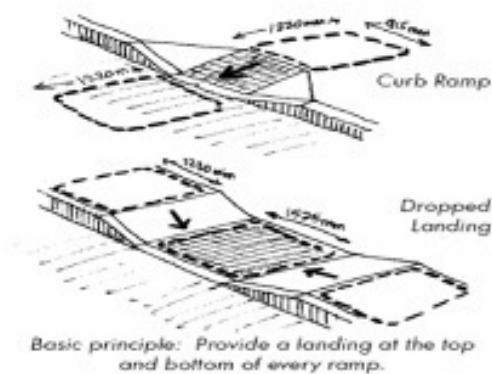


- (e) Innovative audible crossing signals (e.g. in use in Japan and Australia) should be investigated.
- (f) Audible crossing signals should be installed.

- (g) Tactile markings (e.g. bar tiles and 'dot tiles') should be installed.
- (h) Sufficient crossing times (1 second per metre crossing distance) should be ensured.
- (i) Countdown pedestrian crossing signals should be installed.
- (j) Positive feedback “palm buttons” are preferred.

Recommendations – Flared Curb-Cuts

- (a) No lip should be created – the ramp should be flush with the pathway.
- (b) The minimum width of a ramp on a curb cut should be 915 mm (3').
- (c) There should always be a staging area at the top and the bottom of each cut (see inset).



High contrast colours should be used to warn pedestrians of potential hazards

Recommendations – Traffic Islands

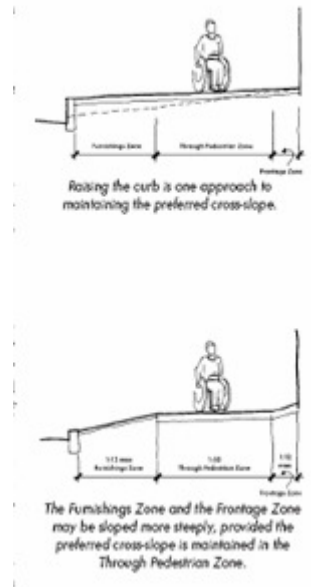
- (a) The traffic island depth should not be less than 1.50 metres.
- (b) The width of a traffic island should not be less than 1.50 metres.
- (c) A coloured tactile marking strip at least 600 mm (2') wide should mark the beginning and the end of a traffic island, to guide pedestrians with impaired vision to its location.

6.6 Pathways to Buildings and Building Entranceways

Pathways to buildings are usually in the private realm, but like sidewalks, they serve as vital connections in the built environment. If a building is inaccessible (e.g. because it is hard to find, or there are stairs, or inappropriate doors), other improvements to the built environment may be negated. For businesses, institutions, and offices providing an accessible entrance should be a top priority – if potential users cannot get into your building, they will take their business elsewhere, or in some cases not be able to access needed services.

Recommendations – Pathway to Building

- (a) The surface should be level, hard, stable and slip resistant.
 - Smooth concrete is preferred; for aesthetic purposes, stamped concrete is preferred over unit pavers, however they are suitable in the street furniture zone and around trees.
- (b) The optimal grade is 1:20.
 - Under demonstrable constraints, 1:13 is acceptable.
- (c) All abrupt vertical changes in grade greater than 305 mm (1') should be retained by a modular or poured in place concrete retaining wall designed to resist the lateral pressure of the retained material. Vertical grade changes greater than 610 mm (2'-0") should have a 1070 mm (3'-6") high guardrail.
- (d) The cross slope should be 1:50, however where topography creates constraints, the area outside the pedestrian through zone may have a greater slope - or have the curb sufficiently built up (see inset diagrams).
- (e) The path should be 1.5m (5') in width and be clear and unobstructed – pathway furniture (including benches, garbage cans, signage, newspaper boxes etc.) should be placed off the path of travel and be colour contrasted to the surroundings.
- (f) Lighting should be evenly spaced and well lit with downlighting (to prevent glare).
- (g) Landscaping should not encroach and should support orientation and wayfaring.
- (h) Tactile and colour contrast markings should be installed.
- (i) Ensure that the maintenance of walkways is on-going and problems are promptly attended to, e.g. weeds, puddles, ice, snow, and cracks.
- (j) Ensure the pathway is a distinct route, separated from automobile travelways.
- (k) If wayfinding is needed (i.e. the design of the building does not make it readily apparent where the entrance, handyDART area, or where the public transit stop is) signage should be installed directing riders to the drop-off zone and to the main entrance (see "Signage" section).
- (l) CPTED and Women's Safety Audit principles should be integrated (e.g. movement predictors, sightlines, isolation).





This is an excellent example of integrating attractive landscaping features with practical transit oriented, accessible design considerations.

Recommendations – Landscaping

- (a) Landscaping materials should either be low or create a canopy to ensure open views and sightlines and to remove "hiding areas".
- (b) Regular maintenance is imperative to ensure landscaping does not encroach on the pathway.
- (c) Sprinklers should not create puddles or slippery surfaces.
- (d) Vertical grade changes greater than 610mm (2') should be required to have a 850mm to 950 mm (38") high railing.
- (e) Landscape design and fences should be used to effectively direct and orient the visually impaired:
 - Plantings on either side of the entranceway and the pathway help to establish parameters.
 - Thorny or berry plants and fruit-bearing trees should be avoided.
- (f) Trees should be located to reduce maintenance as a result of falling leaves.

Recommendations – Building Entrances

- (a) The space in front of the door should be a least 1.5m x 1.5m (5'x5') to maneuver wheelchairs and carriages, 2250 mm (7'6") is required for power chairs, and 3150 mm (10'6") for scooters.
- (b) Steps should be avoided, or at least provided with handrails/banisters or an alternative accessible means of access.
- (c) Space should be provided beside the latch side of the door for wheelchair accessibility; push side 600 mm (2') and pull side 300 mm (1').
- (d) The entranceway should be free of obstacles (e.g. advertising boards that might block a person in a mobility device or cause a person with a vision disability to fall over them).
- (e) The entranceway should be clearly marked (e.g. painted in a color that contrasts with the surroundings). Entry for persons with disabilities should be at primary entrances, not service areas.



Automatic sliding doors are the preferred entrance

- (f) The entranceway should be well lit.
- (g) The entranceway should provide protection from the weather (i.e. be covered).
- (h) Space for parking scooters should be provided, particularly if scooters cannot enter the building.



IF YOU REQUIRE ASSISTANCE
WITH OPENING THE DOOR
PLEASE KNOCK LOUDLY ON
WINDOW

This alcove entrance is restrictive. People in wheelchairs and scooters are advised to knock on the window for assistance - because the door bell is presumably out of reach

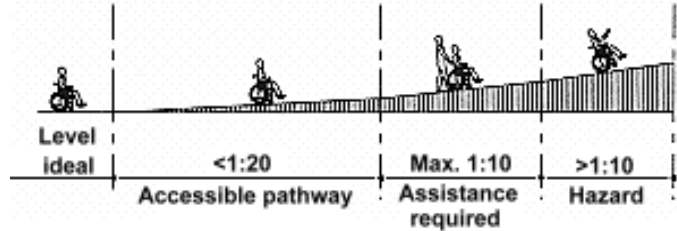
Recommendations – Ramps

- (a) Width for a ramp will vary according to use, configuration and slope.
- (b) The minimum width of a ramp should be 915 mm (3').
- (c) The ramp slope should not exceed 1:16, and is optimally 1:20.
- (d) Handrails should be 850mm to 950 mm (38") from the ground.
- (e) Diameter of handrails should be 31-38 mm (1.25 - 1.5").
- (f) Flat, level staging areas should be provided at the entrance and at locations where there are hairpin turns, 1.5m x 1.5 m (5'x5').
- (g) The surface area should provide traction.
- (h) Curbs should be provided for edge protection – minimum 75mm (3").
- (i) Clearance at the bottom of the ramp should be 1.5 m (5').



This ramp directs the user into the active parking lot

Maximum slope	Maximum length	Maximum rise
1:20 i.e., 5%	-	-
1:16 i.e., 6%	8 m	0.50 m
1:14 i.e., 7%	5 m	0.35 m
1:12 i.e., 8%	2 m	0.15 m
1:10 i.e., 10%	1.25 m	0.12 m
1:08 i.e., 12%	0.5 m	0.06 m



The ramps located next to the museum were identified as a good example.

Recommendations - Doors

- (a) Power-assisted doors should be provided.
 - Where there are two sets of doors, both should be power-assisted.
 - A minimum of 1.5 m (5') clearance plus the width of the open doors should be provided.
 - Sliding doors are preferred.
 - The minimum clear opening width should be 850 mm (2'10").
 - Glass doors should have a horizontal contrasting warning strip 100-125 mm (4'5") wide at 1350 mm (4'6") above the floor.
 - The door frame should be a contrasting colour to the walls.
 - Secured entrances should consider card-reader lock systems, rather than keyed entrances.
- (b) The Preferred opening control is an electronic eye to avoid the need for manual controls.
 - Manual controls should be the wide, flat button design.
 - Controls should be located at two levels - one at 915 mm (3ft) and the other at 225 mm (9") from the floor.
 - The location of the control should be 1.5m (5') from the entranceway.
- (c) Manual opening door hardware should be located between 915 to 1225 mm (40") from the floor.
 - Any door handles should be of the lever design.

7. Implementation

Making access to transit in the built environment easier is of interest to many: citizens of all ages, socio-economic groups, neighbourhoods, businesses, and institutional uses can benefit by having environments and programs incorporate accessible design and practice. Designs that are more accessible to people with disabilities typically benefit able-bodied users. A March 1997 poll by Omnite reported that 77% of Canadians know or regularly interact with a family member, friend, or other person who has a disability. When going out with friends or family members who have a disability these consumers would also be more likely to patronize accessible locations.¹⁷

Traditional designs that limit people's ability to work, live, or function independently in their environment can increase costs for individual employers and the broader community by requiring special modifications and accommodation – “retrofitting infrastructure and buildings after the fact is more expensive”. There is much benefit from 'doing it right the first time'. Building more accessible municipal infrastructure, public facilities and transportation systems is not more expensive if accessible principles are incorporated in the initial stages of building and design.¹⁸ Designing for everybody in the first place can result in significant economic benefits because future retrofits and modifications can save resources over the long term.

In the short term, however, there may be some situations in which designing for everyone may cost more or may seem to constrict the design. In these cases, the rationale for using accessible practices and design solutions is either that the short-term cost is worth the long-term return, that these practices and solutions reasonably increase the value of the design, or that there is an ethical bottom line rather than an economic one. With careful and informed design, providing spaces that everyone can use can have a bottom financial line that is usually at least comparable to traditional designs.¹⁹

The built environment is the result of cumulative actions (some conscious, some unintentional) taken by many people over time. As a result, changing the built environment can be a complex endeavour. It will involve action: involvement, cooperation and commitment by many in both the private and public realms and a variety of legislative, regulatory, administrative, and development practices.

To help ensure the recommended practices, design solutions, and standards are put into action on a broad front, the following section identifies key issues, actions and the decision-makers who have responsibility for implementation.

¹⁷ Waterloo Region Trends Research Project, April 2001

¹⁸ *Planning for Barrier-Free Municipalities*, Province of Ontario Ministry of Municipal Affairs and Housing

¹⁹ Waterloo Region Trends Research Project, April 2001

Priority 1: handyDART		
Problem	Action	Responsibility
<ul style="list-style-type: none"> ▪ Lack of handyDART pick-up/drop-off areas, or areas not well defined ▪ Dimensions of driveways and /pick-up/drop-off points of insufficient size ▪ Waiting areas not weather protected ▪ Lack of adequate lighting ▪ Poor access/sightlines between waiting and pick-up/drop-off areas ▪ Lack of vehicular/pedestrian area separation ▪ Lack of curb cuts for unloading ▪ Poor on-road pick-up/drop-off facilities 	<ul style="list-style-type: none"> ▪ See Section 6.2 recommended practices and standards ▪ Adopt DP guidelines and Zoning Bylaw amendments to set standards for private developments ▪ Work with the development industry (e.g. developers, property owners/managers, UDI and CHBA), professional organizations/ individuals (e.g., architects/designers, landscape architects, and engineers), major institutions, and businesses to raise awareness, implement changes, and ensure on-going maintenance 	<ul style="list-style-type: none"> ▪ Saanich Planning ▪ Saanich Engineering (for on-road issues) ▪ BCT
Priority 2: Conventional Bus Stops		
Problem	Action	Responsibility
<ul style="list-style-type: none"> ▪ Lack of flat loading platforms ▪ Lack of curbs for kneeling buses ▪ Cement lip a barrier to bus shelters ▪ Dimensions of shelters too small for wheelchairs/scooters ▪ Not every bus stop is accessible ▪ Bus stops not always accurately labeled ▪ Lack of adequate weather protection ▪ Obstacles in the way at bus stops ▪ Lack/location/ design of seating at bus stops ▪ Illegible maps and schedules 	<ul style="list-style-type: none"> ▪ See Section 6.3 recommended practices and standards ▪ Adopt guidelines for locating seniors residences close to bus stops ▪ Review standards for bus shelters and access to them (level access, weather protection, obstacles, seating, space, safety, and signs/ information) ▪ On-going maintenance 	<ul style="list-style-type: none"> ▪ Saanich Planning Engineering and Public Works ▪ BCT
Priority 3: Sidewalks		
Problem	Action	Responsibility
<ul style="list-style-type: none"> ▪ Uneven surfaces/ treatment ▪ Weeds and debris ▪ Obstacles in pathway ▪ Inadequate width ▪ Discontinuous sidewalks ▪ Slope at driveways ▪ Construction areas not well marked ▪ Lack of resting places ▪ Inadequate wayfinding cues 	<ul style="list-style-type: none"> ▪ See Section 6.4 recommended practices and standards ▪ Establish a better maintenance program (than complaint basis) to prune vegetation away from the sidewalk ▪ Increase the width standard for sidewalks to 2.0 m to provide a wider path of travel ▪ Use bump-outs where obstacles are imbedded into the sidewalk to maintain min. 1.5m clear of obstacles ▪ Relocate imbedded obstacles over time ▪ Enforce construction area site marking regulations 	<ul style="list-style-type: none"> ▪ Saanich Planning Engineering, Parks, and Public Works

Priority 3: Sidewalks (cont'd)		
Problem	Action	Responsibility
	<ul style="list-style-type: none"> ▪ Incorporate appropriate wayfinding indicators into sidewalk design Identify areas where additional benches can be provided, especially on hills ▪ On-going maintenance 	
Priority 4: Corners and Crosswalks		
Problem	Action	Responsibility
<ul style="list-style-type: none"> ▪ Inadequate time to cross at signaled intersections ▪ Too few curb cuts ▪ Curb cut lip too big ▪ Lack of/ poor tactile/visual markings ▪ Signal button too small/ not easily accessible ▪ Lack of audible crossing signals ▪ Dimensions of islands too small – often cluttered 	<ul style="list-style-type: none"> ▪ See Section 6.5 recommended practices and standards ▪ Install more pedestrian crossing timers ▪ Review signal crossing times and make changes where appropriate/ feasible ▪ Increase/improve the standards for curb cuts at corners ▪ Review curb cut standard to reduce size of lip ▪ Implement curb cut improvements prioritizing key areas ▪ Provide tactile markings for new crosswalks and retrofit ▪ Replace signal buttons with positive feedback “palm buttons” ▪ Consider audible crosswalk signals as appropriate ▪ Increase standard of sidewalk width to 2.0 m and remove imbedded obstacles over time ▪ Consult with MoT regarding dimensions of pedestrian islands to provide adequate maneuverability and mitigate imbedded obstacles ▪ On-going maintenance 	<ul style="list-style-type: none"> ▪ Saanich Engineering, and Public Works
Priority 5: Pathways to Buildings/ Building Entranceways		
Problem	Action	Responsibility
<ul style="list-style-type: none"> ▪ Pathway slope too steep ▪ Lack of/ poorly designed ramps ▪ Lack of automated doors ▪ Inadequate lighting ▪ Inadequate protection from the weather ▪ Pathway width too narrow and edges inadequately marked ▪ No/ few parking spaces for scooters ▪ Lack of/ poorly located directional signage ▪ Obstacles on pathway 	<ul style="list-style-type: none"> ▪ See Section 6.6 recommended practices and standards ▪ Adopt DP guidelines and Zoning Bylaw amendments to set standards for private developments ▪ Work with development industry (e.g. developers, property owners/managers, UDI and CHBA), professional and trade organizations/individuals (e.g., architects/designers, landscape architects, and engineers, and electrical contractors) major institutions, and businesses to raise awareness, implement changes, and improve maintenance 	<ul style="list-style-type: none"> ▪ Saanich Planning

Improving access to transit in the built environment involves (as noted above) many decision makers. Some of the recommended practices and policies have implications for senior government legislation and regulations, and many for the private sector. For change to occur, it will be important for the municipality to work with both.

As well, improvements will only occur by involving the community – those for whom the recommended practices and solutions are vital. For the recommendations to move to implementation, on-going discussions with and involvement of key community organizations and individuals are essential. This can be undertaken in a variety of ways: providing information and updates (in print and electronically); involvement in municipal advisory or special committees (a practice employed in many jurisdictions throughout North America); and continued contact and consultation to identify areas needing change and review the effectiveness of changes made. There is an opportunity for the municipality, working in partnership with the community to be an advocate for change.

Attachments

1. Glossary
2. Interview Guide
3. Interview List
4. Interview Notes
5. Focus Group Questions and Handout Questionnaire
6. Focus Group Notes
7. Examples of Design Features in the Local Built Environment – What Works, What Doesn't
8. Local Examples of handyDART Pick-Up/ Drop-Off Areas
9. Examples of Best Practices

Attachment 1: Glossary

Accessible	A program, activity, meeting, hearing, or other event or process is readily usable by an individual, regardless of his or her abilities. When used in reference to a building or facility, it means that a facility can be approached, entered and used by any individual, regardless of his or her abilities. (Ontario)
Accessibility	A set of qualities of a product, service or facility that enables people with disabilities and seniors to get to, find, reach and use it, with or without the help of special assistive devices. Barriers to accessibility faced by people with disabilities are found in employment, communication, public transportation, the built environment, government services, the use of everyday products and access to education. (Ontario)
Adaptable or Flexible Design	Easily adjusted or renovated to meet individual needs, usually related to housing and disability related needs. (Victoria)
Amenity Strip	A portion of the sidewalk that is distinguished by colour and texture, and is dedicated to the placement of utilities, signs, newspaper boxes, bicycle racks and other items that could otherwise inhibit the movement of pedestrians and persons with disabilities using mobility aids. (Ontario)
Assistive Devices	Products, instruments, equipment or technological aids used by people with disabilities that help prevent, compensate, relieve or neutralize a disability. (Ontario)
Barrier	Defined by the <i>Ontarians with Disabilities Act</i> means anything that prevents a person with a disability from fully participating in all aspects of society because of his or her disability, including a physical barrier, an architectural barrier, an information or communications barrier, an attitudinal barrier, a technological barrier, a policy or a practice. (Ontario)
Barrier-Free	Defined by the <i>Ontario Building Code</i> means that a building and its facilities can be approached, entered and used by persons with physical and sensory disabilities. (Ontario)
Barrier-Free Design	Giving users the ability to move around without restriction. The term barrier-free design is commonly interpreted as removing physical and attitudinal obstacles that prevent the free movement of persons with disabilities in a manner that is consistent with regulations, standards or codes of practice. (Ontario)
Curb Cut	A short ramp cutting through a curb that eliminates the step between the sidewalk and the road. (Ontario)
Curb Ramp	A sloped, paved area leading from a sidewalk to a curb cut at an intersection with vehicular traffic. (Ontario)
Design	Refers to a creative process that is used when developing something new. The scope goes beyond the term that is frequently understood as the purview of architects, and interior and industrial designers. Individuals design their lives, community groups design strategies and programs, governments design policies and laws, service providers design programs, etc. (Winnipeg)
Detectable Surface	Flooring material that is colour/brightness contrasted with the surrounding floor material and is of a different texture from the surrounding floor material. Textures should be immediately detectable, but should not present a tripping hazard. Markings should be colour fast, durable, easily cleaned and crowned to drain. (Ontario)
Disability	Defined by the ODA and the <i>Ontario Human Rights Code</i> means: <ol style="list-style-type: none"> 1. any degree of physical disability, infirmity, malformation or disfigurement that is caused by bodily injury, birth defect or illness and, without limiting the generality of the foregoing, includes diabetes mellitus, epilepsy, a brain injury, any degree of paralysis, amputation, lack of physical co-ordination, blindness or visual impediment, deafness or hearing impediment, muteness or speech impediment, or physical reliance on a guide dog or other animal or on a wheelchair or other remedial appliance or device,

	<ol style="list-style-type: none"> 2. a condition of mental impairment or a developmental disability, 3. a learning disability, or a dysfunction in one or more of the processes involved in understanding or using symbols or spoken language, 4. a mental disorder, or 5. an injury or disability for which benefits were claimed or received under the insurance plan established under the <i>Workplace Safety and Insurance Act, 1997</i>. (Ontario)
	<p>Definition of Persons with Disabilities:</p> <ul style="list-style-type: none"> • A person with disabilities is a person with a physical or mental impairment who is significantly restricted in his or her ability to perform daily living activities either "continuously or periodically for extended periods" and, as a result of these restrictions, requires assistance with daily living activities. Assistance could come from another person, an assistance animal or an assistive device. • The legislation establishes a disability "designation" which is maintained unless a review shows that a person's situation has changed. Periodically, the ministry will review files. If during the review additional information from a health professional is needed, the person will be asked to submit a new physician and/or assessor report. • The legislation focuses on functional limitations, which makes the definition of disability consistent with human rights case law. • The criteria specifically address those individuals with mental health disorders. • The criteria also include those with episodic illnesses by acknowledging that restrictions to daily living activities can be continuous or periodic for extended periods. (BC) <p><i>(Fact Sheet Minister's Council on Employment for Persons with Disabilities Updated: November 21, 2005)</i></p>
Environment	Includes all those things that surround us; buildings, work places, recreational centres, products, services, transportation systems, etc. (Winnipeg)
Inclusive Design	Often used interchangeably with "universal design." Inclusiveness means right to access, right to use and enjoy without special status or burden. (Ontario)
Mobility Impairment	A limitation in somebody's ability to walk, which may require use of a walker or wheelchair. (Victoria)
Multiple Format	A form of communicating information that may be oral, written, in large type, sign language, audio cassette, use computer technology or other means that are readily understandable to, and usable by a person, regardless of his or her disability. (Ontario)
Tactile	An object that can be perceived using the sense of touch. (Ontario)
Universal design	Sometimes known as barrier-free building design, "is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. The intent of universal design is to simplify life for everyone by making products, communications, and the built environment more usable by as many people as possible at little or no extra cost." Universal design recognizes that people have a range of capabilities and [they] need designs [of buildings and tools] to include this range." (Waterloo)
	"Universal design embraces and extends [the purpose of accommodating people with disabilities] with the idea that it should serve as a philosophy for all design disciplines connected with the environment; a philosophy advocating design that considers the changes taking place throughout the entire life span, from childhood to old age." (Wilkoff and Abed, <i>Practicing Universal Design</i>)
	Universal design creates environments that respond to the needs of the population to the greatest extent possible. It is an evolution from accessible or barrier-free design to one that is even more inclusive. While barrier-free design refers to specific solutions for specific disabilities, universal design acknowledges that people come in various sizes and have various strengths and abilities (City of Winnipeg, <i>Universal Design Policy</i> , October 2001).

Attachment 2: Interview Guide

Questions asked will depend on who is being interviewed, i.e. not all questions will have the same relevance for each person.

Person Interviewed (name, position, organization)	
Date	

Explain the Purpose of the Project/ Interview

We have been contracted by the District of Saanich to identify issues, design principles and possible design solutions related to accessibility between the conventional public transit and handyDART systems and the built environment on public rights of way and private property, specifically commercial, office, and multi-family residential buildings.

Note: the emphasis is on handyDART/ public transit and public and private multi-family buildings.

The focus is not on transit itself (BC Transit is currently conducting their own study for improving accessibility). Rather, it is about design elements within private/public multi-family developments, and destinations at the other end: malls and other commercial buildings, hospitals, medical office buildings, libraries, recreation centres, seniors' centres.

Questions

1. How do your clients/customers usually get to your business/ office/ service? (please rank)

Travel Mode	Rank	Travel Mode	Rank
Bus		Walk	
handyDART		Scooter	
Drive own car		Wheelchair	
Passenger in car		Other (specify)	

2. Pick-Up/ Drop-Off Areas for handyDART and Public Transit

- Do you have a designated handyDART and/or Public Transit pick-up / drop-off area for your building/ business/ office/ service? ___ yes ___ no ___not sure
- If you do not have a designated handyDART and/or Public Transit pick-up/ drop-off point, why not?
- If you do not have a designated handyDART and/or Public Transit pick-up/ drop-off point, where do people get picked-up/ dropped-off?
- Has the lack of a designated handyDART and/or Public Transit pick-up/ drop-off point been a problem for your residents/ customers? ___ yes ___ no ___not sure Please Comment
- What do you see as the benefits of having a good handyDART and/or Public Transit pick-up/ drop-off point?
- What features do you think should be included in the design of a good handyDART and/or Public Transit pick-up / drop-off area?

Feature	
▪ Amount of space to park vehicles (loading and unloading room)	▪ Maintenance of the pick-up/ drop-off point
	▪ Seating provided/ not provided
▪ Location of the space	▪ Level of entrance (grade, slope)

▪ Distance from the pick-up/ drop-off point to/ from the building entrance?	▪ Ramps, handrails, etc.
▪ Separation from other vehicle areas	▪ Signage (clearly marked)
▪ Separation from pedestrian travel areas	▪ Safety features (emergency call)
▪ Cover/ no cover of pick-up/ drop-off point	▪ Pick-up/ drop-off point surface (hard and slip resistant)
▪ Heated waiting area – inside/outside	▪ Are their any other features that you want to comment on?
▪ Lighting of pick-up/ drop-off point	▪ Other(s)
▪ Telephone (pay or courtesy)	
▪ Schedule information	

- Do you have any comments about the features?
- If you have a designated handyDART and/or Public Transit pick-up/ drop off point, have you considered making improvements to your facility? ___ yes ___ no ___ not sure
- If yes, what kinds of improvements?
- If no, what are the factors that prevent you from making improvements? (e.g. cost, no need)
- Have you ever received any complaints about your handyDART and/or Public Transit pick-up/drop-off area? ___ yes ___ no
- What is the nature of these comments? (satisfaction, problems cited)
- Were you able to respond to the comments or requests? If so, in what way?

3. Entrance Routes

- What features do you think should be included in the design of the entranceway to your building (including both the entranceway on your property and in the public areas (sidewalks, boulevards, street, etc.) to facilitate access to handyDART and public transit?

Feature	
▪ Route easy to travel (surface, even, not cracked, not overgrown)	▪ Maintenance (snow, overhanging trees, weeds, etc.)
▪ Location of street furniture on path	▪ Seating provided/ not provided
▪ Cover/ no cover	▪ Level of entrance (grade, slope)
▪ Heated waiting area – inside/outside	▪ Ramps, handrails, grab bars, curb cuts, etc.
▪ Distance to/ from the building entrance	▪ Signage indicating entrance (clearly marked)
▪ Separation from other vehicle areas	▪ Doorways (easily operated handles, location of handles, automatic doors)
▪ Separation from pedestrian travel areas	▪ Are their any other features that you want to comment on?
▪ Curb cuts	▪ Other(s)
▪ Lighting	
▪ Well defined path of travel (tactile and colour contrast)	

- Do you have any comments about the features?

4. Alternative questions depending on who is being interviewed:

- What do you think are the most important issues that need to be considered in making the getting to handyDART/ public transit as easy as possible?

Issue	Comment (Why?)
▪ Pathways/ sidewalks (surface, slope, markings)	
▪ Entranceways (doors, access)	
▪ Designated pick-up/drop-off points	
▪ Location of bus stops	

▪ Street design (curb cuts, driveway slopes, traffic calming devices –e.g. speed bumps, etc.)	
▪ Crosswalks (time, visible/ audible signals)	
▪ Lighting	
▪ Personal Safety - to and from destination	
▪ Other(s)	

- Could you prioritize the most significant issues?
 - Do you have any comments about the following? Access to public transit/ Access to handyDART
 - Do you have any data, reference material, or reports that we can reference or use for this project?
 yes no
5. **Do you have any suggestions or observations to support the work of the District of Saanich to ensure developments integrate excellent and accessible pick-up and drop off areas for handyDART and transit users?**
 6. **Can you provide 3 examples of pick-up/drop-off points that you considered good/work well – and why?**
 7. **Can you provide 3 examples of pick-up/drop-off points that you considered less than satisfactory/don't work well – and why.**
 8. **Do you have any other comments?**

Attachment 3: Interview List

Name	Organization	Date
Scott Bowerbank	Senior	
Julie McGaghey	Assistant Director, Saanich Silver Threads	August 28, 2006
Mark Blandford	VIHA	August 28, 2006
Linda Bishop	Highgate Lodge	August 28, 2006
Elaine Gallagher	UVIC Centre for Aging	August 29, 2006
Doug Nutting	Integrated Recreation	August 29, 2006
June Klassen	BC Transit	August 30, 2006
Gordon Argyle	Facilities Manager, UVIC	September 1, 2006
Kendra King	Activity Coordinator, Berwick House	September 4, 2006
David Bartum	Victorian on McKenzie	September 4, 2006
Anne Nelson	The Cedars (Assisted Living)	September 6, 2006
Rob Hunter	Property Manager, Devon Properties	September 8, 2006
Mike Lai	Manager, Transportation, District of Saanich	September 13, 2006
Paul McDonald	Far West	September 14, 2006
Joanne Neubauer	Action Committee for Persons with Disabilities	November 6, 2006

Attachment 4: Interview Notes

Scott Bowerbank - Senior

- handyDART is very erratic at times – not reliable, can arrive early, have to wait long time on occasion.
- Drivers usually come into the building (hospital)
- There is seating at RJH, but some people can't wait inside and outside there is no seating.
- Scooters need rear and front suspension because of bumps on the sidewalks – otherwise hips and backs get sore
- Sloping sidewalks at driveways quite a thing, feel you will fall off scooter – need to put ramp at curb
- Curb cuts often have a bump at the edge – need to fill in with some asphalt
- Crosswalks – have to leave curb as soon as signal changes to get across Douglas
- Street furniture – Telus had a truck parked on sidewalk – blocked them, not really a problem but sometimes recycling boxes are in the way
- Bushes on side can be a problem when passing.
- There are very few parking spaces for scooters.

Julie McGaghey – Silver Threads

- Clients use the following travel modes to get to Silver Threads: Bus, handyDART, Drive own car, Passenger in car, Walk, Scooter, and Wheelchair
- Side door in driveway. pull off main driveway, ample space to unload
- 10 feet to door
- separated from other vehicle areas – yes
- separated from pedestrian travel areas – yes
- not covered
- pretty well lit – activities mostly finished by 4
- cement and tarmac
- ramp to door with slight slope, handrails provided
- seating provided indoors – site lines good
- bus driver sees them to the door, comes in to pick up
- no signage
- cut some bushes back last year
- chief benefit is safety

Mark Blandford – VIHA

Concerns when putting in services

- where is the front door of the building in relation to the street/ drop-off point
- what is the street like – camber, how well lit
- doorways – button hardware - often too high for people in wheelchairs, lacking arm strength – there are other ways for opening doors e.g. automatic card readers
- doorway width and how it opens in relation to where the button is is important for people in wheelchairs
- test for sliding doors vs doors that open in/out
- hardware on posts at crosswalks is a big issue – tiny button in wrong location
- length of time on crosswalk signal not adequate – person in wheelchair cannot get across
- sloped sidewalk a problem – need a flat pathway – make driveway big enough to accommodate this
- Good example – Shoal Centre (Sidney) – upgraded the sidewalk, changed the layout of the pedestrian crosswalk; The Cedars at CHX – nice job with drop-off, on a hill moved the bus stop to get it closer; new Cridge Building – landscaped the hill area to make walking easier
- Bad example – Pacifica on Fisgard – tree in front of the gate – lack of coordinated planning
- Hit and miss approach e.g. path near bus stop not wide enough for wheelchair users so forced to go on street
- Generally prefer a covered waiting area – request that this be put in, architects try to accommodate.

Linda Bishop – Highgate Lodge

- Have a visitor parking area used for handyDART pick-up/ drop off – not specific to them – put in after the fact, bus comes in and although not separated from other traffic, they cannot get round the bus – works well
- Outside lighting, glass door with button to open – no complaints
- No complaints with p/do
- Have another possible pickup/do – at side (space does not belong to them and is shared – means residents go out front door, have to walk further and it is not visible from the lodge)
- Seating area inside the door and the door looks right out into the site
- If the resident doesn't come out, the bus driver comes in
- There is a ramp to the p/d off point – about 20 steps – low grade, handrails on both sides, cement
- Major problem is for people going down hill 1 and 1/2 blocks, use crosswalk and then have to go up hill 1 and 1/2 blocks to Luther Court where most activities take place. Would like crosswalk closer, but 'it is not going to happen'
- Crosswalk – no enough time to cross, but it is audible.

Elaine Gallagher – UVIC Centre for Aging

- Currently doing a project for WHO of which transportation is one of eight areas being looked at – will provide a summary of the focus groups mid October Has a grant to hire researchers to do things like a literature search
- Has no documents/ reports/stats that she can provide

Doug Nutting – Integrated Recreation

- Depending on where people live may have to go a stop or two further to get a low floor buss – not every stop is an accessible stop
- During peak hours especially – not every bus is accessible or the 2 seats are full – may have to wait and in winter this can be a problem (new buses have 3 seats)
- Conventional system bus stops have the international symbol at the stop
- People prefer, if they can use it the conventional system
- Crosswalks – lights (LED lights are backlit and are brighter and people with partial vision prefer them), people like the countdown feature – reassuring; amount of time to cross is more of a problem for people with walkers/canes;
- Lack of curb cuts
- Lack of sidewalks and having to use roadway
- Can't access sidewalk in some places because surface is soft – particularly a problem for power chairs
- Hasn't heard any pick-up/drop-off complaints
- Pick-up/drop-off points – hard level surface, connected to pathway and sidewalk; shelter – set far back enough and large enough for a person in a wheelchair to use
- 99% of drivers are helpful
- lighting can be a problem depending on some locations – not enough
- handrails and ramps – code has taken care of new buildings.
- Good examples – Town and Country – an exchange/hub so don't have long wait; Nigel House next to Garth Homer – pretty good transit service as a major exchange area; community dial-up buses on Peninsula liked

Gordon Argyle – Facilities Manager, UVIC

- Community Travel Training Program (BCT – handyDART) – Susan Sowden runs it
- Blue signs at bus stops mean that ramps can be used; yellow signs mean that the stop should be checked out first to make sure you can use it – accessible, but not for everyone
- Municipalities have a partnership program with BCT to make bus stops and nearby sidewalks upgraded

- Come curb cuts are really steeped – happens especially when a road gets repaired
- Hillside – curb cuts on Shelbourne a problem going to UVIC – driveways often a better way to get onto the sidewalk – this is a particular problem at night
- Spray paint uneven curbs
- Royal Oak – crossing between Broadmead Lodge and Highway and over to bus stops (Has this been fixed)
- Some facilities – covered entrance ways too low. – may become a bigger problem as handyDART vehicles get larger
- Street furniture on Douglas a problem for the visually impaired – make sure trees don't stick out
- The visually impaired walk down the side of the sidewalk, not the centre – and yet everyone puts things on the side to keep them out of the way
- Multiple stops for 4-5 buses – drivers training to look for those left behind
- Yates and Douglas – bulging sidewalks – originally put in to make a diagonal crossing – need straight line with tactile imprints in the sidewalk
- Bulldog buttons on lampposts
- BC Building Code handles, handrails, etc. (3 feet/1 metre desirable – but range is broader). Written with wheelchairs in mind – scooters can't turn as easily as a wheelchair.
- Ramp inclines - BC Building Code ratio is 1:10 – too steep for average senior or young person. 1:20 is optimum (at UVIC nothing below 1:13)
- Use sloped sidewalks coming out of buildings – often need to make a turn and come back – when planning a building need to ensure there is enough room to put in the sloped sidewalk - Aesthetics vs functionality
- Can take a scooter on the bus
- Buttons at entranceway should be 5 feet from the door – out of the way of others, won't go through the glass if pushed from behind
- Sliding doors – slow better than fast
- Loading/unloading – often have to drive to back of apartment – sometimes this is better – more level, especially in older buildings
- Blinking lights (countdown lights)
- Las Vegas – probably the most accessibility city – elevators and escalators to overhead crosswalks
- Centre boulevards can be helpful in crossing a wide street
- Douglas Street from the Old Bay to Town and Country – proposal is to run buses down the centre land – this may be a problem for the visually impaired and for those needed a waiting place (room)
- Pick-up/drop-off – make sure it doesn't block all other traffic (good example is Somerset House), need good site lines, seating outside nice, but not essential
- Corner of Hillside and Shelbourne commercial/ medical offices – parking lot cannot take handyDART – blocks all traffic when there
- Malls are pretty good – Hillside has 2 spots – one at Sears, other at Zellers – but may have to cross traffic to access; Mayfair – Toys R Us and main entrance at other side; RJH – tiny circle inadequate for handling several buses at once (400 drop offs a day) – vans jostle for position; Town and Country – redesign will be a good opportunity to have input
- Community transit – uses regular routes, but rear loading – in most areas where used there are no curb cuts/ sidewalks so looking for a side loading vehicle – answers a lot of problems – accessible but main target is people who are ambulatory
- Contact Joanne Neubauer – Action Committee for People with Disabilities
- Contact Susan Sowden re: Elder Friendly Group
- Contact: UVIC Resource Centre for Students with Disabilities – Laurie Keenan / Access UVIC – Kevin Petersen 383-4795

Kendra – Activity Coordinator, Berwick House

- handyDART is used a lot by the residents – 50 % or more. Only complaint is the cumbersome way you sign up for it.
- handyDART come up to the front door – covered access from front door into vehicle.
- Only two or three people have scooters – 90% have walkers.
- There is a bus stop right in front of the property on Shelbourne but not used much.

- Berwick owns an 18-seater bus.
- Taxis used a lot – many people have taxi saver coupons which you can only get if you have handyDART access.
- Had not heard of any complaints from residents re: access in other destinations.
- There has been improved lighting around Berwick and up at Home Depot.
- The residents like to take the route on Cedar Hill Road to go to University Heights. The residents would like to see some improvements on paving. It's choppy and they are afraid they will trip.

David – Victorian on McKenzie

- handyDART frequently used – no complaints. Drivers very courteous.
- The Victorian has its own 20-seater bus therefore few people use the transit system.
- Many walkers, 4 scooters.
- The handyDART comes up to the front door.
- Covered overhang.
- Bus stop – 30 metres away – bench at the bus stop.

Anne Nelson – The Cedars (Assisted Living)

- Over 50% use handyDART. Car ownership minimal.
- handyDART drives up to the front door – very convenient.
- Vestibule overhang.
- Sloped drive way doesn't have enough room to flatten out to Cedar Hill road. Some people a bit nervous going down the slope and afraid won't stop before the road.
- Bus stop right outside front door less than 100 ft bench on one side.
- Big need – more wheel chair accessible taxis. Also have to book up to a week in advance.
- Anne Nelson – and some of the residents are involved in the WHO – Saanich named as age friendly city – consulting with seniors. She wondered if this was part of that initiative.

Rob Hunter – Property Manager, Devon Properties

- Mentioned how expensive it is to build handicapped suites.
- Manages older buildings all over the place, but is not aware of any particular issues re: accessibility etc.

Mike Lai – Manager, Transportation, District of Saanich

- Sidewalk connectivity from bus stop to front door is a key issue
- Capital budget – additional sidewalks and how wide they should be
- Wayfinding – are people able to find the bus stop
- Translink has been doing a study on Transit Accessibility – contact Maria Su

June Klassen – BC Transit

- BC Transit offers a "Family of Services" - where the majority are ambulatory (meaning, no wheelchair or scooter).
- It is very important to do whatever is possible to improve the 'path of travel' from the conventional bus stop to the door of the destination, in order to improve the accessibility of the Bus Service to a wider range of ambulatory riders - allowing the handyDART to better accommodate those who simply cannot use transit. (Some service providers (Calgary, not Victoria) use the quality of the path of travel as criteria for eligibility for handyDART service.
- handyDART will not come to people who are ambulatory and within a block of transit. UNLESS the topography is challenging.
- There is a huge waiting list for accessible housing. One of her board members waited 9 years! Accessible design should be integrated into basement, ground level suites, to alleviate the pressure.

And most importantly, and most overlooked, is the loading zone for these places. Often they are simply not accessible for handyDART

- Land Use decisions play into this discussion. VIHA ensures the highest building standards are met with respect to accessibility, and then, the applicants want to establish a facility in the middle of Metchosin - where it is not feasible to service the residents with any regularity or convenience. The planning dept. should just say 'no' or at the very least, collaborate!

Observations:

- Curb cuts must line up with the rear-loading location. Often they do not.
- Sightlines should allow the person in the waiting area, to see when the bus is coming (e.g. the Royal Museum loading area is at the back of the building!
- Staging is an issue for some sites where there is high volume of handyDART service. For example - this site (see inset) there are 8 darts that arrive simultaneously, two times per day.
- The recent trend of brick installation is really difficult and sometimes dangerous for mobility challenged. Better to use stamped concrete

Paul McDonald – Far West

Observations on Design Elements:

- Handrails (aka 'Assistance Rail') are commonly observed to be too low. Driver has seen a young man fall over the rail at the Garth Homer Centre.
- When designing accessible entrances to main buildings - the design forgets to consider that handyDARTs have 'rear load' - so there are no cut aways (curb cuts).
 - An example of this is the Veteran's Hospital at the Memorial Pavilion at the Jubilee. The drivers have to stop on Richmond Rd, in the Bike lane. However, if there is a wheelchair, they have to drive around to the back because there is no area to unload. They do this approximately 50 to 60 times per day.
- Pathway widths on ramps are often too narrow - An ideal width is that of the Courthouse. In fact, the railing is excellent there too and the grade. Perfect example.
 - Slip resistant surface is also important - Courthouse entrance is also good as an example of good surface.
 - Another example of a good ramp is at the main entrance to the Glengarry in Fairfield. There are cement sides - cannot fall through the rail.
 - Another good example is the Victoria Conference Centre - they have a good grade, good railing system, good width.
 - However - the switchbacks are too tight. This could be remedied with a staging area at the switchbacks; if they lose control, they can regroup at the staging area.
- Doors - should always be power doors and should be double sized. Preference is for *sliding* doors over swing doors - because they don't have to stay open as long, no wind impact, and don't have to step back.
- Automatic button should be a big plate and located 'hip height' which is 36 inches - that way everyone can reach it. Example of a poor button is at the Glenwarren Hospital - Central Park.
- Weather protection on pathways. The ultimate goal would be to have a covered pathway from the drop off area to the door. Sometimes people get drenched because they move slowly - some drivers carry umbrellas, but not all.
- Covered walkways prevent moisture from building up, thereby reduce incidence of ice forming
 - An example is 1711 Cook Street - the person who lives there takes 5 minutes to walk the short distance to the door, and commonly gets drenched in the process.
 - Another bad example is 1947 Cook Street (CRD). They have to drop people off at the back of the building - there is a 10 metre walkway, wide open, no railing.
 - A good example is the Victoria General Hospital.
 - Any trip over 5 metres in length should be protected with a cover.
 - When it is raining - people walk even slower, to avoid slipping.
- Staging areas are commonly not long enough. Usually 30 feet. The vehicles now are 9 metres (27') plus they need another 2 m for the ramp at the rear and another metre to disembark off the ramp. Total staging area then should be 12 metres or 39 feet.

- Bully Parking - Sometimes commercial vehicles (and others) inadvertently or purposely park or block the staging area. Proper signage, and line markings to delineate the space needed for rear loading, would likely fix the problem.
- Integration of Technology - if waiting areas are being built, it would be good to integrate state-of-the-art technologies
 - It is possible to book trips on-line, so installing a terminal with a touch screen - customers could log in with their number. They could also check as to expected arrival times or could cancel or change their plans.
- Siting - Wind, rain have a big impact on customers. At the design stage, it is important to build with the typical and known weather conditions in mind. E.g. shelters should be designed to block the wind.
- Regarding the feasibility of Shared Stops (Conventional and handyDART use)
 - Generally, the two services have such a different focus that it is not convenient. handyDART's mandate is 'door to door service' - so parking away from the door, on the street adds time and inconvenience.
 - An example is the Hillside and Shelbourne stop 1641 Hillside - the Lansdowne Professional Building. There is no other choice, so they share.
 - However, if the stops were on-site, then it is possible. See drawing for some design concepts.
- Regarding mechanism for reporting issues or concerns: Currently, the drivers report to Bob and Bob then communicates with BC Transit at their handyDART Committee (check with June to get the name right).

Joanne Neubauer – Action Committee for Persons with Disabilities

- Absence of crosswalks and light – e.g. on Quadra
- Knowing where the bus stop is – not easy to see always
- Where multiple buses stop, if they don't put their sign well before they leave, it is easy to stand/sit in the wrong spot so can miss a bus and then there is a long wait
- Number of disabled spaces on buses can be a problem – may have to wait a long time for a bus
- People with baby carriages should fold them up, but they often use the disabled spaces (competing for scarce space) – sometimes bus drivers will not insist on carriages being folded and will make the person in a wheelchair wait for the next bus
- Sidewalks – rough spots, bumpy sidewalks hard on the neck, Saanich sidewalks 'rough in general' where the join is – asphalt is better as it is smoother
- Curb cuts are too steep at times
- Whole corner lowered – not good – needs to be in line with crosswalk and also needs tactile markings
- Dip is sometimes too narrow in width and can't allow many people to enter and then light changes and person doesn't get across
- May not always know where the dipped corner is – have to go into traffic to find one
- Lips are inconsistent – some too high and it is difficult to get on to the sidewalk
- Bus flagging from a wheelchair – difficult – can't wave down because person in chair is using their hands to drive, but there would be time to put down the ramp while the person catches up
- Entranceways: not accessible (big bump to get in), too narrow, double doors when one is locked and one that is open may not open the right way; automatic door openers really help
- Slope sidewalks – e.g. exit ramp from bus too steep (Shoppers/Eatons)
- Avoid places with stairs
- Often store aisles are too narrow and/ or too crowded, till area too narrow/tight
- Shelters – construction 'iffy' – don't shelter from the weather, especially from the wind and the rain when windy, some are really hard to get into – have to turn around and back in

Miscellaneous Comments from SPARC Event – Thursday, September 28, 2006

- lack of barrier free path from parking to bldg entry
- lack of curbs for kneeling buses
- general need for barrier-free sidewalks (e.g. sandwich boards, sign posts, hydro poles, etc.)
- no pull-outs for buses or handyDARTs at destinations/medical buildings

Attachment 5: Focus Group Questions and Handout Questions

1. Do you encounter any of the following problems in getting to transit – either from your residence or a place you are visiting (e.g. shopping mall, business, medical office, library, recreation centre, etc.? Often, Sometimes, Rarely?

<p><u>Crosswalks/Corners</u></p> <ul style="list-style-type: none"> ▪ Lack of audible traffic signals at crosswalks ▪ Pedestrian crossing signals at crosswalks not easy to see ▪ Not enough time to cross the street in the crosswalk ▪ Lack of countdown signals ▪ Crosswalk button too high/too low ▪ Crosswalk button on lamp post too small ▪ No curb cuts ▪ Curb cut lip too high ▪ Pedestrian crossing signal not visible ▪ Other <p><u>Sidewalks</u></p> <ul style="list-style-type: none"> ▪ Not well maintained (i.e. cracks, weeds) ▪ Sloped where the sidewalk crosses driveways ▪ Lack of sidewalks ▪ Sidewalk surface that makes walking, use of wheelchairs and scooters difficult ▪ Overhanging trees/bushes on sidewalks ▪ Sidewalk not wide enough for a wheelchair/ scooter ▪ Obstacles in the way ▪ Other <p><u>Entranceways to buildings</u></p> <ul style="list-style-type: none"> ▪ Door button/voice box are too high/too low ▪ Door button requires too much strength to operate ▪ Doors open towards you ▪ Door handles hard to operate/ lack of automatic doors ▪ Steps/stairs ▪ No protection from the weather (i.e. not covered) ▪ Other 	<p><u>Pick-up-drop off points for handyDART</u></p> <ul style="list-style-type: none"> ▪ No designated area for pick-up/drop-off ▪ Lack of seating while waiting for the bus ▪ No protection from the weather (i.e. not covered) ▪ Pick-up/drop-off points not heated. ▪ Pick-up/drop-off points not well lit ▪ Pick-up/drop-off points not signed ▪ Not enough space for easy loading/unloading ▪ Pick-up/drop-off point not separated from vehicular traffic ▪ Lack of clear sight-lines to see when bus arrives ▪ Other <p><u>Pathways to buildings</u></p> <ul style="list-style-type: none"> ▪ Distance from handyDART or bus stop) to building is too far ▪ Pathway surface is too sloped ▪ Lack of ramps ▪ Ramp slope is too steep ▪ Not enough turn-around space on ramps for wheelchairs/scooters ▪ Lack of handrails ▪ Handrails too high/too low ▪ Pathway is too narrow ▪ Surface is slippery or hard to maneuver a wheelchair or scooter along ▪ Pathway to door not well maintained (weeds, cracks, overgrown, obstacles in the way) ▪ Pathway has no colour or textural variation to be easily seen ▪ Other
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2. From the above lists, can you tell us what are the top 5 problems you encounter?
3. Can you tell us what works well/ what doesn't about the following:

▪ Cross walks/corners (e.g. no curb cuts, lip too high, not enough time, signals)
▪ Sidewalks (e.g. cracked, narrow, surface, none)

- | |
|--------------------------------------------------------------------------------------------------------------|
| ▪ Drop-off-pick-up points (e.g. not covered, not separated from other traffic, too far from building) |
| ▪ Entranceways (e.g. no automatic doors, stairs, ramps, |

4. **Are there some places you do not go because it is too difficult to get there or get into the building? Examples?**
5. **At times, do you ever avoid using the bus or handyDART to go somewhere? Why?**
6. **What could be done to improve your mobility and access to transit?**

Attachment 6: Focus Group Notes

Saanich Silver Threads Focus Group - Monday, September 11, 2006, 1-3 p.m.

Attended by: Julie McGaghey, Assistant Director +6 senior women (one with cane, one with walker, one in power chair, one on scooter, one with two canes (who left scooter outside) + a geriatric worker from VIHA

Discussion

Filled out form on most common problems.

CROSSWALKS/CORNERS

	Often	Sometimes	Rarely
Lack of audible traffic signals at crosswalks	2	1	
Pedestrian crossing signals at crosswalks are not easy to see		1	2
Not enough time to cross the street in the crosswalk	3	1	
Lack of countdown signals	2		1
Crosswalk button too high/too low		1	1
Crosswalk button on lamp post too small		1	1
No curb cuts/not enough	2	1	1
Curb cut lip too high	2	1	1
Other			
Button too difficult to reach from scooter	1		

SIDEWALKS

	Often	Sometimes	Rarely
Not well maintained (i.e. cracks, weeds)	3		1
Sloped where the sidewalk crosses driveways	3	1	
Lack of sidewalks	2		2
Sidewalk surface that makes walking, use of wheelchairs and scooters difficult	3		1
Overhanging trees/bushes on sidewalks	3		1
Sidewalk not wide enough for a wheelchair/ scooter	2	1	
Obstacles in the way	1	3	
Other			
Glass on sidewalk/road causes scooter wheels to puncture	1		

PATHWAYS TO BUILDINGS

	Often	Sometimes	Rarely
Distance from handyDART or bus stop to building is too far	1		3
Pathway surface is too sloped	2	1	1
Lack of ramps	2	1	1
Ramp slope is too steep	2	1	1
Not enough turn-around space on ramps for wheelchairs/scooters	2	1	1
Lack of handrails	2		1
Handrails too high/low	1	1	2
Pathway is too narrow	1	2	1
Pathway surface is slippery or hard to maneuver a wheelchair or scooter along	1	2	1
Pathway to door is not well maintained (weeds, cracks, overgrown, obstacles in the way)	1	1	2
Pathway has no colour or textural variation to be easily seen	1	1	2
Other			

PICK-UP-DROP OFF POINTS FOR handyDART

	Often	Sometimes	Rarely
No designated area for pick-up/drop-off		1	2
Lack of seating while waiting for the bus	2	1	1
No protection from the weather (i.e. not covered)	2	1	1
Pick-up/drop-off points not heated	3		1
Pick-up/drop-off points not well lit	2	1	1
Pick-up/drop-off points not signed	3		1
Not enough space for easy loading/unloading	1	1	1
Pick-up/drop-off point not separated from vehicular traffic	2	1	1
Lack of clear sight-lines to see when bus arrives		2	1
Other			

ENTRANCEWAYS TO BUILDINGS

	Often	Sometimes	Rarely
Door button/voice box are too high/too low	1	2	1
Door button requires too much strength to operate	2	1	1
Doors open towards you	3		1
Door handles hard to operate/ lack of automatic doors	3		1
Steps/stairs	2	1	1
No protection from the weather (i.e. not covered)	1	2	1
Other			

From the above lists, can you tell us what are the top 5 problems you encounter?

1.	Sidewalks not accessible Road crossing Crosswalk button is in too awkward a place to be able to use it safely Slopes on sidewalks – cracks, weeds, bushes, etc.
2.	Bus stops not accessible Road islands – dangerous!! Glass on sidewalk/road Door handles require too much strength
3.	Bus shelter platforms too high Saanich sidewalks Sloped sidewalks Hand rails too high
4.	Lights are not long enough to cross Cars/pedestrians almost hitting one Curbs too high Not enough curbs in sidewalks
5.	Cloverdale at Blanchard very dangerous Doors too heavy/ lack of entrance button Curb cuts too big

Crosswalks/corners

- Not enough time, even with scooter turned on full
- Islands are extremely dangerous – cars do not look
- Islands to reach Mayfair Mall too small and the button is on the second one.
- Islands at Tillicum and the Highway – triangular and narrow – the button is hard to reach because of the narrowness of the island, can't turn around, uses the tunnel to avoid the island and get to the Goose
- Town and Country/ Cloverdale – take you life in your hands – islands, cars, not enough time to cross
- A good island is by Tillicum Mall
- Often the location of a pole blocks the ability to get through the island (it has been fixed on the good ones)

- A power chair can get to the button, but scooters have more trouble
- Maddock and Tillicum – button is on a pole, but bushes are in the way, and there is a slope and tip over
- Speed humps – have to hit dead middle to avoid tipping
- Countdowns - wish they were all like that, some of the lights shut off too quick
- Often the button is on the far side, and have to back up and to get into crosswalk
- Chirp helps when sun gets in your eyes
- Some people may not be aware of the different signals or be able to distinguish what direction they are facing (e.g. east/west or north/south)
- Half circle curb cut is hard on the visually impaired – the two cuts need to be separated or a visually impaired person heads off diagonally across the intersection
- Like big silver buttons – don't have to be right on

Sidewalks

- Slanted sidewalks – people with a visual impairment or in a manual wheelchair – downslope causes people to lose control
- Slope and dip – flips power chairs
- Telephone pole/trees in sidewalks – have to go onto road
- Old sidewalks are too narrow
- Sloped driveways are a problem
- Sidewalk sections – hurt back with the bumps as you cross each section
- Quadra from Tolmie to Cloverdale – sidewalks are falling apart
- Sidewalks on Burnside also falling apart
- When the sidewalk ends (onto mud/grass) there is no warning and turning around becomes a problem so one can get back – can't turn neck to see going backwards
- May not always be a dip at the end of a sidewalk
- Vanalman and Glanford – piece of sidewalk raised - spray to mark raised portions should be bright yellow not red
- Courtenay – doesn't allow anything on sidewalks – questions of aesthetics vs functionality
- Glass all over the sidewalks, roads > flat tires
- Brick work means a bumpier ride, creates pain – bricks/pavement treatments often settle resulting in uneven surface
- People who have had strokes, use canes have trouble with uneven surfaces and lips
- Gorge/Tillicum by Fairway Market – ramp in middle of sidewalk - to get of may have to go onto grass
- Can't use bus shelters because the cement base has a raised lip or side
- Shelters – can't get into – no curb cut provided
- Colquitz Creek – no sidewalks – use road but no curb cut
- Bridges are a problem because the sidewalk is too narrow (Craigflower Bridge is used by fisherman at certain times of the year and they won't move, or there is no room to move – can't cross over because of the traffic and obstructions in the way)
- Conference Centre ramp is steep, Wax museum ramp is good and has lots of turning room (can't use other end of the Causeway – get down carefully, but can't get up)

handyDART Pick-Up/Drop-Off Points

- Some of the stops are incorrectly labelled – this needs to be checked
- Designated spots are often used by others
- Spot at Sears is not covered – windy, wet, cold – scooter control can short out if wet, batteries run down in the cold
- Little or no lighting at night-time – when businesses close there are no phones around > feel unsafe as they wait in some places
- Need plug-ins for inboard chargers on power chairs and scooters, also need air pump – could this be provided by way of a small station (use hotels to plug in now)

Entranceways

- Banks have doors that come out at you e.g. TD opposite Saanich Centre
- Zellers – has double doors, it would be nice if the button opened both as it does at the Brass Duck at Tillicum
- Make sure button is beside the door that opens but there is enough room to access it
- Doors should go out, not in
- Saanich Municipal Hall – needs signage from parking for access to the ramp and route into the building
- Elevators that don't take scooters or are so small that once the scooter is in, the controls are inaccessible
- Doctor's appointments in older buildings - the elevator doesn't accommodate the electric scooter. One client has to wait in the lobby and the doctor comes down to treat her!

The best of all possible worlds

- No curbs – so could get off sidewalk anytime as at Selkirk Water – would take the jarring from the surface over curbs
- Driver/pedestrian education
- Heavy doors, especially at doctor's offices with no automatic doors
- Take someone in a wheelchair, scooter, power chair on a tour of Saanich to point out the problems.

Access UVIC Focus Group - Wednesday, September 13, 2006, 3-5 p.m.

Attended by: 6 participants – 2 visually impaired, 1 with arthritis, 2 with mobility problems, 1 coordinator who works with students. Most use conventional bus system, most of the time.

Discussion

Filled out form on most common problems.

CROSSWALKS/CORNERS

	Often	Sometimes	Rarely
Lack of audible traffic signals at crosswalks		1	3
Pedestrian crossing signals at crosswalks are not easy to see	1	1	2
Not enough time to cross the street in the crosswalk	1	2	
Lack of countdown signals	2		1
Crosswalk button too high/too low		1	2
Crosswalk button on lamp post too small	1		1
▪ can usually find			
No curb cuts/not enough	1	2	
▪ these are handy for knowing that the alignment is right			
Curb cut lip too high	1	1	2
Other			
▪ Tactile signal in the pavement would help, i.e. cane detectable texture or pattern to signal the location			

SIDEWALKS

	Often	Sometimes	Rarely
Not well maintained (i.e. cracks, weeds)	1	2	
▪ depends on area			
Sloped where the sidewalk crosses driveways	1	2	1
Lack of sidewalks	1	2	1
Sidewalk surface that makes walking, use of wheelchairs and scooters difficult	1	2	1

Overhanging trees/bushes on sidewalks ▪ hard to see a crossing if there are overhanging branches, bushes	2	2	
Sidewalk not wide enough for a wheelchair/ scooter	1	2	
Obstacles in the way ▪ construction sites		2	1
Other ▪ Construction sites are a real hazard – if the pathway is not clearly marked or the netting has been pulled down – can fall into the hole			

PATHWAYS TO BUILDINGS

	Often	Sometimes	Rarely
Distance from handyDART or bus stop to building is too far	1	1	2
Pathway surface is too sloped		2	2
Lack of ramps	2	1	
Ramp slope is too steep		3	
Not enough turn-around space on ramps for wheelchairs/scooters	1	2	
Lack of handrails ▪ Useful when there are stairs or a ramp	1	2	
Handrails too high/low	2	2	
Pathway is too narrow		3	1
Pathway surface is slippery or hard to maneuver a wheelchair or scooter along		2	1
Pathway to door is not well maintained (weeds, cracks, overgrown, obstacles in the way)	1	2	1
Pathway has no colour or textural variation to be easily seen	3		1
Other			

PICK-UP-DROP OFF POINTS FOR handyDART

	Often	Sometimes	Rarely
No designated area for pick-up/drop-off	1	1	1
Lack of seating while waiting for the bus	3		
No protection from the weather (i.e. not covered)	3		
Pick-up/drop-off points not heated	3		
Pick-up/drop-off points not well lit	3		
Pick-up/drop-off points not signed	2		1
Not enough space for easy loading/unloading	1	2	
Pick-up/drop-off point not separated from vehicular traffic	1	1	
Lack of clear sight-lines to see when bus arrives	1	1	
Other ▪ Unspecified time for pick-up. Days notice to book transport			

ENTRANCEWAYS TO BUILDINGS

	Often	Sometimes	Rarely
Door button/voice box are too high/too low	2	1	1
Door button requires too much strength to operate		1	3
Doors open towards you	2	2	
Door handles hard to operate/ lack of automatic doors	3		1
Steps/stairs If not marked by railings, trim (yellow, grooves), depends on time of day	3		
No protection from the weather (i.e. not covered)	2	1	
Other			

From the above lists, can you tell us what are the top 5 problems you encounter?

1.	Construction sites The way it eliminates spontaneity and the impact on social opportunities. Traffic lights problem. Steps/stairs at entryways.
2.	Not having well enough marked crosswalks (no audible signals, paint is faded). The amount of time spent waiting for the handyDART. No protection from weather at entranceways.
3.	Obstacles on path (bushes, trees that obscure traffic flow). That the handyDART does not come to the regular bus stop (on campus). Not for me in particular, but there is no texturing for vision impairment.
4.	Stairs not marked (lighting at night, grooves, railings). That there is nowhere specified as a 'bus stop' to wait for handyDART on campus. Overhanging bushes block way down to Cadboro Bay.
5.	Lack of clear sight lines to see handyDART coming. Ramps are often too steep and too narrow.
6.	Lack of protection from the weather on campus.

Crosswalks/corners

- Pushing a person in a wheelchair who could not lift feet and couldn't get over curb cut lip
- Curb cuts are useful for aligning self for crossing safely (visually impaired)
- Faded paint at crosswalks is a problem, curb cuts help (visually impaired) – relies more on paint
- Audible mechanisms – need to learn what each means, distracting for other people, Melbourne uses different ones with a difference in tempo (post clicks and tells you you are in an intersection, another signal tells you it is safe to cross, but they don't tell you which direction you are headed in)
- Size of button is important (visually impaired, especially silver on black (a seeing eye dog cannot distinguish between red and blue which is a common colour combination on some button boxes)
- Small buttons – with arthritis, fingers find it hard to find
- Slopes on curbs often too steep
- Markings should be yellow or white (especially for night time)
- Crosswalks are not big enough – what happens when there is more than 1 disabled person, obstructs the connection with other people
- Tactile signals for cane users – grooves at edge of curb, in Japan all kinds of information is included in the pavement for anyone using a cane
- Time of day affects ability to cross – needs time to cross and signals don't tell how much time there is, crosswalk times vary depending on the amount of traffic, but this is less important to the person who needs enough time depending on the distance
- Countdown signals are useful, especially when tired and slower
- Sinclair/ Cadboro Bay intersection needs paint and audible signals

Sidewalks

- Interlocking brick is good for contrast (tactile and visual difference)
- Tree roots that push up sidewalks are a problem for the visually impaired (Sinclair to Cadboro Bay)
- Often too narrow and bushes and branches and slopes make walking difficult (Sinclair to Cadboro Bay)
- Lack of sidewalks on side streets – don't know where to walk at night
- Laval Road near Mount Doug to UVIC - very narrow sidewalk on 1 side, none on the other side – no way for visually impaired people to cross
- Red spray on cracks not helpful
- People who use canes (visually impaired) follow edges – either a grass edge or a building edge
- Sidewalk sales can be a problem
- Need to find a way to have street furniture and a clear pathway – create pathways with textural differences and make the sidewalk wider
- Railings defining outside seating areas for restaurants are useful

- Stamped surfaces work well, as opposed to brick paving treatments
- Lack of curbs or rolled curbs could be a problem if there are no clear tactile and visual markings – need a more defined edge – could mark in different ways, Gastown in Vancouver uses posts/chains before you get to the intersection

Entranceways

- Buttons should be large and located appropriately
- Door handles/knobs are a problem – use latches/levers that are broad or automatic
- Doors are often too heavy
- How does the door open – prefer going in or 2 doors for entrance and exit
- Braille signs are often too high (even upside down)
- Lighting in entranceways, especially at night, - stairs not clearly marked
- Older apartment buildings do not have ramps especially at the front, but they might be at the back, but public transit drops you at the front – so it is a long trip
- Need Braille at bus stops to help plan a trip

Other Comments

- handyDART has no spontaneity, increases isolation,
- Lack of signage at handyDART pick-up points – no one knows why you are waiting around
- Why can't a regular bus stop be used in some locations – would help to integrate, feel less isolated – not separated and different – needs to be labelled as a bus stop so other people know what you are doing
- Long wait for handyDART – need to go to bathroom and can miss the bus
- Persons with disabilities “don't have a life” – a ‘schedule doesn't matter’
- Waiting outside may not be safe
- Have to be visible to the driver (note this is not always the case, especially at seniors' residences/ activity centres)
- Taxi Saver coupon program not well known – should be made better known
- Problem bus routes using old buses (not accessible) - #14, #51, #27, #28, often all through the day
- Signs on buses – some are okay but with glare, time of day it is sometimes hard to distinguish the number, double-deckers are good
- Bus drivers don't always stop for wheelchairs and people with white canes, are frequently impatient with slow moving passengers/boarders - training is needed
- People with invisible (but real) disabilities can have more problems than persons with visible disabilities
- \$25 annual bus pass for persons with disabilities – problem with people on Federal disability not being able to access
- student residences – need an actual address, taxis won't pick up, handyDART come down street – distance to transit is far
- need accessible websites, ability to download into Braille (including BCT)
- parks and beaches, areas for outdoor recreation are particularly inaccessible
- wheelchair accessible doors are often left locked and therefore inaccessible
- Charter of Rights is stronger than US Disabilities Act (which see improvements as benefits and not rights), although implementation has been slower

The best of all possible worlds

- Bit more understanding for non-visible disabilities
- Inclusiveness
- Driver training
- Respect for rights and dignity
- Don't like to ask for help constantly – inclusion makes life easier

Follow-up correspondence

On the way home, I was thinking about all the problems we run into with our various forms of transportation, and I thought of another one. Please bear with me while I try to explain it to you. I sometimes have trouble coming up with the right words or phrasing.

I have had some problems when Saanich was doing some construction work. Most of the time you get traffic warnings that there is some construction going on. Usually this means that there is road construction and the sidewalks are clear to use. However, sometimes the sidewalks are not useable but there is no warning that this is so. It isn't until you are near the work zone that you realize that you can't go any further. Many times it is well into a phase of the route that has a long sidewalk without any curb cuts in it. Sometimes it comes at a place where there is little or no room to turn around. If there was a warning well in advance, especially near a curb cut, then it would be possible to plan another safe route, and save some time and frustration. If you are going for an appointment with a specified time then the problem of retracing your route and getting on another one could be the difference between being late or missing your appointment altogether.

Highgate Lodge Focus Group – Monday, September 18, 2006, 10:30-11:45 am

Attended by: 6 participants (1 with walker, cane, 2 visually impaired, 3 frail elderly (one of whom had used transit with her husband with a walker. Participants used both conventional bus system and handyDART.

Discussion

Filled out form on most common problems.

CROSSWALKS/CORNERS

	Often	Sometimes	Rarely
Lack of audible traffic signals at crosswalks	1		1
Pedestrian crossing signals at crosswalks are not easy to see	1	1	1
Not enough time to cross the street in the crosswalk	1	1	1
Lack of countdown signals	1		1
Crosswalk button too high/too low			2
Crosswalk button on lamp post too small			2
No curb cuts/not enough			1
Curb cut lip too high			1
Other			

SIDEWALKS

	Often	Sometimes	Rarely
Not well maintained (i.e. cracks, weeds)	2		1
Sloped where the sidewalk crosses driveways		1	
Lack of sidewalks	1	1	1
Sidewalk surface that makes walking, use of wheelchairs and scooters difficult	2		
Overhanging trees/bushes on sidewalks	1		
Sidewalk not wide enough for a wheelchair/ scooter			
Obstacles in the way		1	
Other			

PATHWAYS TO BUILDINGS

	Often	Sometimes	Rarely
Distance from handyDART or bus stop to building is too far		1	1
Pathway surface is too sloped			
Lack of ramps			
Ramp slope is too steep			
Not enough turn-around space on ramps for wheelchairs/scooters			
Lack of handrails	1		
Handrails too high/low	1		

Pathway is too narrow	1	1	
Pathway surface is slippery or hard to maneuver a wheelchair or scooter along			
Pathway to door is not well maintained (weeds, cracks, overgrown, obstacles in the way)			
Pathway has no colour or textural variation to be easily seen			
Other			

PICK-UP-DROP OFF POINTS FOR handyDART

	Often	Sometimes	Rarely
No designated area for pick-up/drop-off	1		2
Lack of seating while waiting for the bus		2	1
No protection from the weather (i.e. not covered)	1		1
Pick-up/drop-off points not heated	1		
Pick-up/drop-off points not well lit	1		
Pick-up/drop-off points not signed	1		
Not enough space for easy loading/unloading	2		1
Pick-up/drop-off point not separated from vehicular traffic	1		
Lack of clear sight-lines to see when bus arrives			1
Other			
<ul style="list-style-type: none"> ▪ Unspecified time for pick-up. Days notice to book transport 			

ENTRANCEWAYS TO BUILDINGS

	Often	Sometimes	Rarely
Door button/voice box are too high/too low			1
Door button requires too much strength to operate		1	
Doors open towards you			
Door handles hard to operate/ lack of automatic doors	1		
Steps/stairs If not marked by railings, trim (yellow, grooves), depends on time of day		1	
No protection from the weather (i.e. not covered)		1	
Other			

5 top problems

- wait time for handyDART – half an hour is a long time, but not allowed to phone to find out what has happened to bus unless it is 30 minutes late – 20 minutes would be better
- driver doesn't always come in to find you and can't see the bus arrive in lots of places (at Highgate Lodge they can hear the bus backing in, but can't see them arrive – major problem is that they don't come in and they can miss the bus)

Crosswalks/ Corners

- Audible signals are confusing – have to really listen as one beep can go off almost at the same time as another – have to be able see the signals to feel okay. At busy intersections this is a big problem – so try not to cross alone.
- Curb lips can be a problem with a walker.
- At north side of MacKenzie at Shelbourne – no pull in for some buses, sidewalk is too narrow and there are overhanging bushes and trees. There is no walk button for crossing Shelbourne (red light stops traffic and have to watch/listen that traffic has stopped before crossing)
- Often finds they have taken only 6-7 steps and the light turns red, a problem when traffic starts to turn left and you are still in the crosswalk)
- Variation in amount of time to cross at different intersections is a problem. (e.g. at Hillside and Shelbourne, there is more time than at Shelbourne and Cedar Hill X Road.
- Less busy intersections are more of a problem than busier ones – no one else is crossing, traffic can be more dangerous.

- Like bigger button that has been put in at Pear and Shelbourne.
- Buttons too high for shorter people.

Sidewalks

- Cedar Hill and Cedar Hill X Road – no sidewalk up from Highgate Lodge to corner, buses overhanging, get in the way
- Spikey hedge on north side of Cedar Hill X going down to Shelbourne narrows sidewalk. Problem as well for people with walkers because the lamppost is right on the sidewalk.
- Need bench half way between Highgate and Shelbourne on north side to rest while going up hill.
- Yellow is the best colour to mark sidewalk cracks/ stairs.

Pick-up/Drop-off Points

- Like choice at Hillside Mall
- Pull in at Sears is not a problem
- Telephones at stops very important (emergencies, but mostly to be able to contact BCT to find out what has happened to the bus)
- handyDART Saturday shopping trips are 'marvellous'.
- Exiting and entrancing the conventional bus can be a problem – not enough time and left standing when bus moves off
- At Gorge Road Hospital – no where to wait inside, gazebo outside is barely covered and has no heat (cold in winter). If bus doesn't come, only phone available is on 4th floor – so can miss bus when going to phone to find out where it is.

Entranceways

- Parallel automatic doors are best
- Location of button for sliding door is usually ok
- Ramp rails height is ok
- Can use stairs as long as there is a banister – if there isn't one, don't use the stairs.
- For the visually impaired often can't read name box or code to use to get in door.

Difficult places/ places to avoid

- Often signage for disabled access is not very good – where is the ramp, etc.
- Doors need to be wide enough to take walkers
- Movie theatres are too dark inside (Royal and Mac Ok). Gardens, parks are a problem if you want to go off the pathway, so don't go

Attachment 7: Local Examples of handyDART Pick-up/Drop-off Areas

The interviews and focus groups provided the following examples of design features incorporated into several local handyDART pick-up/ drop-off areas.

<p>Saanich Silver Threads</p> <ul style="list-style-type: none"> ▪ Side door in driveway, pull off main driveway. ▪ Ample space to unload. ▪ 10 feet to door. ▪ Separated from other vehicle areas. ▪ Separated from pedestrian travel areas. ▪ Not covered. ▪ Pretty well lit – activities mostly finished by 4 p.m. ▪ Cement and tarmac. ▪ Ramp to door with slight slope, handrails provided. ▪ Seating provided indoors – site lines good. ▪ Bus driver sees them to the door, comes in to pick up. ▪ No signage. ▪ Cut some bushes back last year.
<p>Highgate Lodge</p> <ul style="list-style-type: none"> ▪ Have a visitor parking area used for handyDART pick-up/ drop off – not specific to them – put in after the fact, bus comes in and although not separated from other traffic, other traffic cannot get round the bus, although on the whole it works well. ▪ Outside lighting, glass door with button to open – no complaints. ▪ No complaints with pick-up/drop-off site. ▪ Have another possible pick-up/drop-off – at side (space does not belong to them and is shared – means residents go out front door, have to walk further and it is not visible from the Lodge. ▪ Seating area inside the door and the door looks right out into the site. ▪ If the resident doesn't come out, the bus driver comes in. ▪ There is a ramp to the pick-up/ drop-off point – about 20 steps – low grade, handrails on both sides, cement. ▪ Major problem is for people going down hill 1 and 1/2 blocks, use crosswalk and then have to go up hill 1 and 1/2 blocks to Luther Court where most activities take place. Would like crosswalk closer, but 'it is not going to happen'. ▪ Crosswalk – no enough time to cross, but it is audible.
<p>Berwick House</p> <ul style="list-style-type: none"> ▪ handyDART comes up to the front door. ▪ Covered access from front door into vehicle. ▪ There has been improved lighting around Berwick.
<p>Victorian on McKenzie</p> <ul style="list-style-type: none"> ▪ handyDART comes up to the front door. ▪ Covered overhang.
<p>Cedars</p> <ul style="list-style-type: none"> ▪ handyDART drives up to the front door – very convenient. ▪ Vestibule overhang. ▪ Sloped driveway doesn't have enough room to flatten out to Cedar Hill Road. Some people a bit nervous going down the slope and afraid won't stop before the road.

VIHA

When developing new facilities, VIHA considers the following:

- where is the front door of the building in relation to the street/ drop-off point
- what is the street like – camber, how well lit
- doorways – button hardware – often too high for people in wheelchairs, lacking arm strength – there are other ways for opening doors e.g. automatic card readers
- doorway width and how it opens in relation to where the button is (important for people in wheelchairs)
- test for sliding doors vs doors that open in/out
- generally prefer a covered waiting area – request that this be put in, architects try to accommodate.

Attachment 8: Examples of Design Features in the Local Built Environment – What Works, What Doesn't

Focus group participants and those interviewed offered numerous examples (good and poor) of design elements in the local built environment. While this is not an exhaustive list, the list is helpful in identifying what works and what does not (and needs fixing or improving).

Good Examples		
Ramps	Width is excellent - someone can pass Surface is non slip	Courthouse entrance off Burdette
	BC Building Code ratio is 1:10 – too steep for average senior or young person	1:20 is optimum – at UVIC nothing below 1:13
	Adequate	Victoria Conference Centre
	Not too steep	Glengarry at Fairfield Victoria Conference Centre Royal BC Museum
	Ramp is good and has lots of turning room	Wax Museum
	Cement sides - can't fall through	Glengarry at Fairfield
	Slip resistant ramp surface	Court House
Railings	Proper height	Glengarry at Fairfield Victoria Conference Centre
	Very good example	BC Museum
Pedestrian paths	Landscaped hill area to make walking easier	New Cridge Building
	Covered walkway	Victoria General Hospital
Sidewalks	Upgraded and layout of pedestrian crosswalk changed	Shoal Centre (Sidney)
	Where a person in a wheelchair or scooter does not have their mobility range controlled by the locations of curb cuts.	Selkirk Waterfront
Road islands	Good example	Tillicum Mall
Crosswalk buttons	Bigger button	Pear and Shelbourne
Drop-off/pick-up areas	"handyDART Only" signage	Helmken Hospital
	Covered, level, flat - built main entrance with the elderly in mind	4000 Douglas - on Mackenzie
	Waiting area covered and really nice drop-off, moved the bus stop to get it closer to the drop-off	Cedars at Cedar Hill Cross Road
	An exchange/hub so don't have long wait	Town and Country Shopping Mall Nigel House next to Garth Homer
Doors	Designated doors - choice	Zellers a and Sears at Hillside Mall Toys R Us and main entrance at other side at Mayfair Mall
	Button that opens double doors (not just one)	Brass Duck at Tillicum Mall
Information	A rating system for accessibility to community events in Greater Victoria	Accesstown.com

Poor Examples		
Ramps	Switchbacks are too tight	Victoria Conference Centre
	Ramp in middle of sidewalk – may to go onto the grass to go around the ramp	Gorge/Tillicum by Fairway Market
	Too steep	Victoria Conference Centre
Railings	Too low	Garth Homer
Pathways	Not covered - but could be	1711 Cook Street
	10 m. uncovered walkway, no railing	1947 Cook Street (CRD)
	Tree in front of the gate – lack of coordinated planning	Pacifica on Fisgard
	Poor sightlines - the loading area is at the back of the building	Royal BC Museum
	Sidewalks are falling apart	Quadra from Tolmie to Cloverdale Burnside
	Piece of sidewalk raised	Vanalman and Glanford
	No sidewalks force users onto the road, made more difficult when there is no curb cut	Colquitz Creek Cedar Hill and Cedar Hill X Road
	Narrow sidewalk used by fisherman at certain times of the year, who won't move	Craigflower Bridge
	Very narrow sidewalk on 1 side, none on the other side	Laval Road near Mount Doug to UVIC
	Tree roots that push up sidewalks are a problem for the visually impaired, bushes and branches and slopes make walking difficult	Sinclair to Cadboro Bay
	Bushes/ hedges, lamppost	North side of Cedar Hill X going down to Shelbourne
	No pull in for some buses, sidewalk is too narrow and there are overhanging bushes and trees.	North side of MacKenzie at Shelbourne
Road islands	Islands to reach too small, can't turn around and the button is on the second one or hard to reach because of the narrowness of the island	Mayfair Mall Tillicum and the Highway
Crosswalks	Button is on a pole, but bushes are in the way, and there is a slope so tip over	Maddock and Tillicum
	No walk button	North side of MacKenzie at Shelbourne
	Markings and signals - intersection needs paint and audible signals	Sinclair/ Cadboro Bay
	Lack of curb cuts to get onto sidewalk on a problem going driveways often a better way to get onto the sidewalk – this is a particular problem at night	Shelbourne at Hillside to UVIC
Drop-off/pick-up areas	Lack of coverage, no drop off area When there are no cars in the area - the driveway requires a 4 point turn. WITH cars however, it is a 16 point turn!	799 Blackberry Rainbow
	Narrow Turning radius	Admiral's Walk at Lukawwmen (just passed the light)
	The traffic circle has a planter in it - not a button, so it cannot be navigated easily	Ophir
	Very tight - is an 'eyeball approach'	3710 Cedar Hill

Drop-off/pick-up areas Cont'd	Tiny circle inadequate for handling several buses at once – vans jostle for position;	RJH
	"Bully Parking" - Commercial vehicles commonly blocks the parking (no signage or consequences)	Jubilee Hospital
	Parking away from the door, on the street – adds time and inconvenience	Hillside and Shelbourne stop 1641 Hillside - the Lansdowne Professional Building
	No where to wait inside, gazebo outside is barely covered and has no heat	Gorge Road Hospital
	No convenient rear loading/ unloading area aligned with curb cuts for wheelchairs	Veteran's Hospital at the Memorial Pavilion at the Jubilee
	Have to go to the back of the museum - isolated, long trip, yet there is a great location in front - but City doesn't want to lose parking spots	Royal BC Museum
	Lack of vehicular separation - parking lot cannot take handyDART – blocks all traffic when it stops	Corner of Hillside and Shelbourne commercial/ medical offices
Access	Challenging access onto Foul Bay. Vehicle has to back up onto roadway.	Shellmarie Rest Home - 630 Foul Bay
Doors	No automatic door	CanWest (West Shore)Mall
	Heavy non-automatic door	Tillicum Mall
	Automatic outside door, but not the inside door	Holiday Inn
	Doors that come out at you	TD bank opposite Saanich Centre
Resting places	Lack of benches	Between Highgate Lodge and Shelbourne on north side
Uneven surfaces	Choppy pavement	Cedar Hill Road to University Heights

Attachment 9: Examples of Best Practices

Developing and sharing information on best practices can be helpful. Municipalities are in a position to implement accessibility strategies for persons with disabilities, whether it is through specific programs or the development of financing initiatives. The following list of steps municipalities have taken to plan for and improve accessibility in their communities is not exhaustive, but it does provide a sampling.

■ Province of Ontario, *Disabilities Act* (ODA)

The Province of Ontario, *Ontarians with Disabilities Act* (ODA) passed in 2002 to improve opportunities for persons with disabilities and to provide for their involvement in the identification, removal and prevention of barriers to their full participation in the life of the province, requires all municipalities to complete an accessibility plan annually. Municipalities with 10,000 or more people must also establish an accessibility advisory committee. If a municipality has an accessibility advisory committee, the committee may request to review site plans and drawings, described in Section 41 of the *Planning Act*, that are submitted to support applications. Municipal councils must supply such plans and drawings in a timely manner.

The ODA requires that accessibility plans include the following:

- a report on the measures the municipality has taken to identify, remove and prevent barriers to persons with disabilities;
- the measures in place to ensure that the municipality assesses its proposals for bylaws, policies, programs, practices and services to determine their effect on accessibility for persons with disabilities;
- a list of the bylaws, policies, programs, practices and services that the municipality will review in the coming year in order to identify barriers to persons with disabilities;
- the measures that the municipality intends to take in the coming year to identify, remove and prevent barriers to persons with disabilities; and all other information that the regulations prescribe for the purpose of the plan.

■ Planning for Barrier-Free Municipalities, Province of Ontario – Ministry of Municipal Affairs and Housing

The Province of Ontario has produced a handbook – *Planning for Barrier-Free Municipalities* – to raise awareness among municipalities, planning boards and the development industry on how to eliminate barriers for people with disabilities in their planning and development decisions, especially decisions involving public facilities and outdoor public spaces. This handbook provides suggestions for municipalities to develop barrier-free policies and options that will suit their local circumstances and resources. This handbook can be used together with *the Ontario Building Code*, and other standards set out by the Canadian Standards Association (CSA), where applicable.

The handbook includes a self-assessment questionnaire that municipal officials and staff can complete to help determine the AQ-Accessibility Quotient of their municipalities. This questionnaire allows a municipality to assess its present status in various areas of municipal service delivery, including the land use planning and development process, infrastructure design and maintenance.

The handbook suggests that ongoing collaboration between planners, other staff on an interdepartmental basis, accessibility advisory committees, community groups, developers, and design professionals should occur to ensure there are opportunities to provide input or ideas during each stage of the planning process.

■ City of Peterborough

The City of Peterborough formed the Council for Persons with Disabilities in 1988–1989 to integrate and assist people with disabilities in the community. The document *Access Guidelines* was published in 1992 and updated in 1995. Revised guidelines were approved by the city's Planning Committee in October

2002. The guidelines are used locally in land use planning, site development and property design initiatives.

Access Guidelines acknowledges the needs of the elderly and persons with disabilities. The guidelines attempt to strike a balance between the design and planning requirements for different types of disabilities. The guidelines are applied to the entire community and include sections on curb cuts, walkways, recreation areas, universally designed playgrounds, accessible transportation and hosting events. In addition, the guidelines contain an excerpt from the city's zoning bylaw regarding motor vehicle parking requirements to serve disabled people.

The Council for Persons with Disabilities includes a buildings committee to deal with accessibility issues. The terms of reference for the buildings committee require that it monitor the accessibility of local buildings; provide input to the site plan committee to ensure accessibility is considered in site plan approvals; provide information to local departments and the private sector on access requirements; ensure building code standards pertaining to accessibility are incorporated and enforced; and respond to accessibility issues raised in the community.

The City of Peterborough has developed a one-hour sensitivity training model that can be used to train volunteers and staff.

City of Windsor

Since 1981, the City of Windsor has had a standing committee of city council with a mandate to increase the awareness in the community of the needs of persons with disabilities. City staff are also available as resources to the committee. The mandate of the Windsor Accessibility Advisory Committee is to: advise city council and staff; undertake needs assessments; promote community awareness; encourage co-ordinated services; and act as policy advocates. Sub-committees are responsible for: barrier-free design; curb cuts, sidewalks and railway crossings; employment issues; health services; and transportation matters.

City of Guelph

In June 2001, the City of Guelph and the Guelph-Wellington Barrier Free Advisory Committee released *Accessibility Guidelines*. The guidelines are meant to assist the planning, design and development process to realize a barrier-free Guelph. (www.guelph.ca) The guidelines were developed using standards and knowledge gathered from other cities and organizations across North America, including the *National Building Code and Accessibility Standards (Canada)*, the Canadian Standards Association, the *Americans with Disabilities Act*, and the Guelph-Wellington Barrier-Free Advisory Committee. The city has adopted the following goal:

The City of Guelph, as an employer and provider of services, is committed to barrier-free access and thus will:

- *take a leadership role in achieving and setting an example to the business, institutional and volunteer sectors in terms of access and integration, employment equity, communications, recreation, transportation, housing and education;*
- *establish a process to identify barriers and gaps in existing services and facilities;*
- *continuously improve the level of accessibility of existing municipal services and facilities;*
- *actively encourage input from all segments of the community in the design, development and operation of new and renovated municipal services and facilities; and*
- *provide resources and support to give effect to this policy.*

The City's Accessibility Plan (formatted in 14 point type and available in Braille, audio and on CD) includes actions related to the following operational areas within City services:

- General municipal practices
- Communications/information technology
- Human resources
- Planning, Zoning Development, & Public Works
- Transportation and Traffic services

- Parking and By-Law Enforcement
- Recreation, Leisure, and Neighbourhood services
- Riverrun, Museum, Library
- Facilities, Property and Project Management
- Housing (this area is not under jurisdiction of Municipality)
- Tourism & Economic Development
- Fire & Police Services

City of Winnipeg

The City of Winnipeg was Canada's first municipality to adopt a universal design policy in December 2001, thereby making a commitment to creating a city that is truly inclusive of all citizens through endorsing and incorporating the concept of universal design with the following goals:

- to accept that the population in Winnipeg has a variety of different abilities, strengths, heights, etc., and that this should not exclude or segregate anyone from participating in community life and accessing and using municipal services;
- to reduce the need and costs associated with providing disability-specific solutions by providing a generalized approach to design that accommodates a wider range of people;
- to ensure that new civic buildings, environments, products, services and programs are designed to be useable by a wide range of citizens; and
- to promote a city that is comfortable, attractive and inclusive.

The City is committed to:

- taking a leadership role in achieving and setting an example to the business, institutional and volunteer sectors in terms of access and integration, employment equity, communications, recreation, transportation, housing and education;
- establishing a process to identify barriers and gaps in existing services and facilities;
- continuously improving the level of accessibility of existing municipal services and facilities;
- actively encouraging input from all segments of the community in the design, development and operation of new and renovated municipal services and facilities; and
- providing resources and support to give effect to this policy.

During 1998 and 1999, the City of Winnipeg conducted an accessibility audit that can be used by other municipalities as a model. The City's Access Advisory Committee, which advises council on access to information, services and properties, oversaw the project. People with disabilities assisted in designing the research, conducting the audit and analyzing data (Ringaert, 2000).

Winnipeg is fostering universal design because it believes a universally designed city will be accessible, safe and aesthetically pleasing. It will be able to attract more tourists, convention dollars and improve the quality of life of its own residents, as it gives everyone the opportunity to take full advantage of the city's services and amenities. (http://www.winnipeg.ca/ppd/planning/pdf_folder/epc_univdesign.pdf)

The City of Winnipeg will institute a Universal Design Review Process for Exterior Environments and Transportation Systems:

- All civic exterior environments with planned new construction or major renovation, as well as transportation systems, will be reviewed to identify potential compatibility with Universal Design criteria. The designated departmental universal design staff person will be responsible to determine what changes are required using the written Checklist described in #2 above and then follow up as changes are made in the plans. A copy of the Checklist is to be maintained by the departmental designate and an annual update be provided to the Access Advisory Committee.
- For projects estimated at \$250,000.00 or more, an outside consultant with expertise in design and universal design criteria will be contracted by the City of Winnipeg to perform a detailed audit of the plan. The need for an outside consultant will be reviewed after the policy has been enforced for five years. For projects ranging from \$100,000.00 to \$250,000.00 an external Universal Design audit is optional, however an internal Universal Design audit is required. Universal Design considerations will be given to all projects less than \$100,000.00 without a formal audit process.

The City of Richmond has adopted *Affordable Seniors Supportive Housing Design Guidelines* to guide the planning, design, review and approval of senior's supportive housing. The Guidelines set out community standards and expectations, but are minimal required provisions.

Neighbourhood:

- Should be located in an area that is safe, attractive and provides access to community amenities including transit, shopping, services, parks and recreation and social activities.
- Once a specific project has been selected, surrounding walking routes in the immediate area should be assessed to determine if there are any hazards such as narrow sidewalks, unmarked crosswalks, inadequate lighting or other environmental factors which could be mitigated to improve seniors' independence and mobility.

Access:

Safe, convenient and comfortable access is required for pedestrian and vehicular circulation between the building and the street. Provisions are to include:

- Automatic doors at the building entrance, with security system including monitoring capacity.
- Weather protection at entrance to maintain comfort in the lobby and waiting areas at the entrance.
- Seating within the building which allows visual surveillance of the entry area so that residents can comfortably wait to be picked up by a car or taxi.
- A covered portico at the passenger pick up/ drop off area. This area is to be located at or near the front entrance if possible.
- A continuous and level walkway, suitable for walking, scooters, and wheelchairs, from the building entrance to the public sidewalk. The walkway is to be separated from vehicle circulation, or, as a minimum alternative, be delineated as a defined walkway (for example, with contrasting paving).
- Lighting along pathways and at the approach and entrance to the building.
- Designated wheelchair accessible short term parking near the main building entrance.
- Stairways should be avoided, and a ramp is required adjacent to stairways where feasible.
- Enterphones and signage should have large scale buttons and large scale, high contrast lettering and numbering. Enterphones are to be located to facilitate access and use by persons in wheelchairs.

Doorways:

- All doorways are required to provide a clear opening of not less than 915 mm (3')
- Lever handles on all doors.

Independent Living BC

In 2002 the BC government introduced *Independent Living BC* (ILBC), a housing-for-health program that meets the needs of seniors with low to moderate incomes and people with disabilities who require some care but do not need 24-hour facility care. The ILBC program is coordinated by BC Housing, in partnership with the regional health authorities, CMHC, and the private and non-profit sectors.

ILBC encompasses two types of housing: independent housing with some support services, and assisted living for those who need a greater level of care. These self-contained housing units will be designed to be accessible to persons with disabilities. Support services for tenants include hospitality services such as meals, housekeeping, and laundry. Personal care services (such as assistance with bathing and dressing), recreational opportunities, and a 24-hour emergency response system will also be available.

The *Independent Living BC Non-Profit Housing Design and Construction Standards* (referred to hereafter as the *ILBC Standards*) provide technical guidelines and standards for the design and

construction of projects being considered for funding under the ILBC program.

The objective of these standards is to ensure that *Independent Living BC* projects incorporate features that will: allow tenants to achieve their optimal quality of life, independence and health; accommodate the changing needs related to the physical frailties that may affect tenants; provide tenants with a sense of personal security and community; facilitate the delivery of support services to tenants; and minimize operating costs through durable, easily maintained building components.

The ILBC Standards are organized into five sections:

1. Drawing and Specification Requirements – identifies the level of detail required for drawings and specifications for each stage of the BC Housing project review process.
2. Design Guidelines – provides the site planning and building design requirements, primarily applicable to the Expression of Interest (schematic design) and Project Commitment (design development) stages.
3. Building Envelope Design Guidelines – summarizes the requirements related to the design and construction of the project's building envelope.
4. Construction Standards – outlines the minimum requirements or referenced standards that must be incorporated in the construction documents. This section is primarily applicable to the project specifications.
5. Inspection Standards – describes the terms of reference for Consultant Inspectors engaged by BC Housing, including the plan review and construction field review procedure.

The *ILBC Standards* are the minimum standards required for all projects funded by the program. Compliance with these standards is mandatory unless the proposed alternative is specifically approved by BC Housing.

■ City of Portland, Oregon

The public right-of-way houses many transportation activities, including walking, bicycling, transit, freight movement, and automobile travel. It harbours the hardware, such as traffic signals and street lights, that supports those activities. In many cases the right-of-way also contains public utilities. Each of these functions has specific design needs and constraints. The variety of functions is administered by people in several agencies, both inside and outside the City of Portland. In the past, conflicts between the design needs of competing functions occasionally have produced conditions that discourage pedestrian travel.

The purpose of Portland's *Pedestrian Design Guide* is to integrate the wide range of design criteria and practices into a coherent set of new standards and guidelines that, over time, will promote an environment conducive to walking.

The guidelines in the *Pedestrian Design Guide* were developed through a consensus-building process involving participation by each of the programs and agencies responsible for the form and function of the right-of-way. Throughout, the guidelines attempt to balance pedestrian needs with the design needs and constraints of each of the other uses of the right-of-way. In a few cases this balance resulted in guidelines that maintain the quality of the overall system but may be less than the ideal for pedestrians.

In many cases, the practices that are covered by these guidelines are also the subject of other regulations or codes. This document attempts to knit together these disparate requirements (e.g. the Americans with Disabilities Act). The guidelines for the ADA include the minimum dimensions required to achieve that access. In many cases, the guidelines in the *Pedestrian Design Guide* go beyond the minimum requirements of ADA to promote the vision of a pedestrian network for Portland that is not only accessible but safe, convenient, and attractive.

Every project that is designed and built in the City of Portland should conform to these guidelines. Site conditions and circumstances often make applying a specific solution difficult. The *Pedestrian Design Guide* should reduce the need for ad hoc decisions by providing a published set of guidelines that are applicable to most situations. Throughout the guidelines, however, care has been taken to provide flexibility to the designer so that she or he can tailor the standards to unique circumstances. Even when the specific guideline cannot be met, the designer should attempt to find the solution that best meets the design principles.

King County Metro Transit

King County Metro Transit, greater Seattle's public transportation system, in an effort to enable as many riders as possible to use fixed-route service, ACCESS has initiated a pathways review process that is looking at the pathways between paratransit customer trip origins and destinations and the nearest bus stop. The pathway review program provides information (e.g. uneven terrain, curb cuts, and details that affect an individual's ability to get around) needed to determine conditional (trip-by-trip) eligibility for those customers who could ride fixed-route if an accessible path of travel exists to and from the bus stop. If a narrow or uneven sidewalk or a missing curb cut in Seattle prevents a would-be transit rider from getting to a bus stop, that rider won't have access to the convenience of fixed-route transit and may instead need to rely on ACCESS, King County's complementary paratransit service as defined under the Americans with Disabilities Act. Several years ago, King County Metro's Accessible Services office created a map of accessible pathways in the downtown and updates it periodically. This map, available online at http://transit.metrokc.gov/tops/accessible/paccessible_map.html.

The pathways review process includes the following steps:

- After an individual is certified eligible for ADA complementary paratransit and begins using the service, a pathway review is conducted between the person's home and the closest bus stop(s). If an accessible pathway is found, the customer is contacted and presented information about using the fixed-route bus. No paratransit eligibility restrictions arise from this information as this is only one of at least two paths a customer would need to travel to use the bus.
- Next, for trips customers make at least once a week between the same origin and destination, the county does a full pathway review, curb to curb, using the fixed-route service, including pathways taken to transfer between bus routes. Reviewers seek information on the accessibility of the bus stop boarding and deboarding areas (called zones), transfers required to complete the trip on fixed-route, walking distances between starting and ending locations to and from bus stops, and walking information if a transfer is involved and the two buses do not share the same stop. This yields a full itinerary of the pathways available.
- Next, a mobility specialist conducts an in-person assessment of each walking segment of the trip to determine the pathway with the fewest barriers. Specialists walk along the pathway and record any barriers related to uneven terrain, any inclines greater than 8 percent (measured using an inclinometer), lack of curb cuts, complex traffic, and the actual distance in feet (measured using a foot meter). Accessibility barriers are digitally photographed. The accessibility of the bus stop zone itself is also verified.
- If the full pathway review reveals that the rider could use the fixed-route service (that is, an accessible pathway was found for all segments of the trip), the customer would become ineligible for paratransit for this particular trip. In this case, ACCESS sends the customer written information about the barrier-free pathway to the bus as well as trip plans that include bus route information and sources for further information. Sometimes the accessible pathway involves crossing the street – the sidewalk may be inaccessible on one side of the street but accessible on the other side.
- There is a 30-day period before the trip restriction takes effect to allow the customer time to transition to fixed-route service. If the customer disagrees with the findings, a second review is conducted for specific obstacles identified by the customer on the pathway. Sometimes, a customer's ability to travel the path has changed because his level of functional ability has decreased and he needs to recertify. Trip eligibility can also be reinstated if new obstacles appear along a trip pathway.

Province of Alberta

Recognizing the need to provide access for all persons to public environments such as sidewalks, plazas, public transit and other services and to ensure some degree of consistency amongst design professionals, municipal public works departments, government agencies, and developers, the Province of Alberta (Transportation & Utilities) created *Guidelines for Design of Safe Accessible Pedestrian Environments*. The *Guidelines* include: principles of good design and design solutions (in text and graphic form, with a particular focus on principles of mobility and elements of an accessible environment for accessible bus stops and bus transfer stations.

Greater Vancouver - Translink

TransLink has begun a comprehensive review of the region's transit system – *Access Transit Plan* – to ensure that the region has a transit system as accessible as possible to the greatest number of people, recognizing the physical, cognitive or other difficulties they may have in getting around. Based on input received from a 'Visioning' Workshop held in June 2005, users and stakeholders want “a seamless and inclusive public transit system that welcomes every member of the region's diverse community with a fully integrated range of bus, rail, ferry and custom transit services that is inviting, responsive, safe, comfortable and affordable and that fully meets the needs of all people to access transit vehicles, amenities, information, customer service, training and other programs.” The planning process has included: public consultation, planning analysis, research on best practices worldwide, and a review of system accessibility. Part of the planning process included an *Accessible Transit Workshop* in June, 2005. A summary of the workshop is available on their website – www.translink.bc.ca/Plan_projects/Access_Transit

Transport: The Most Important Concern of Disabled People (www.dptac.gov.uk)

For nearly half of disabled people (48%) transport is the most important local concern but only a fifth (21%) believe those responsible for transport planning and development give about the right amount of attention to disabled people, according to a report published today by the Disabled Persons Transport Advisory Committee (DPTAC).

Jane Wilmot OBE, Chair of DPTAC said: “There is a clear message to Government from this research, confirming that disabled people experience significant difficulties with transport, but that they expect these issues to be addressed at the earliest possible opportunity. DPTAC will use the findings of this survey to inform its advice to Government on ensuring access issues arising from the more commonly recognised forms of disability are mainstreamed in transport provision.”

Although the report identifies that disabled people currently travel a third less often than the general public, around half say improvements to public transport would have a positive impact on their quality of life (47%). Taxis and minicabs are used much more frequently by disabled people (67% more), as well as buses (around 20% more) than non-disabled people.

Disabled people have high expectations for the future public transport system and will use improved services. Two thirds of disabled people (65%) were dissatisfied with pavement maintenance, of which half were very dissatisfied. However, around half say they would go out more if improvements were made to walking conditions (48%).

Austin, Texas

The purpose of the Americans with Disabilities Act (ADA) Coordinator's Office has been to facilitate the implementation of the Americans with Disabilities Act within the City of Austin as an organization. To help facilitate communication and discussion, the ADA Office invites and encourages ADA Department Coordinators to attend training sessions and events sponsored by the Mayor's Committee for People with Disabilities. The ADA Task Force meets every other month to address current accessibility issues, discuss City accessibility policies, and update the project priority list.

Austin Curb Ramp Program Annual Summary

To facilitate the selection and prioritization of sidewalk and curb ramp projects, the Transportation, Planning and Sustainability Department (TPSD) works with the ADA Task Force to produce project selection criteria and a project selection matrix. A project selection matrix has been created to assist in prioritizing proposed accessibility projects based on criteria established by the Americans with Disabilities Act (ADA). The priority project list is managed by TPSD and is used to track the status of prioritized projects and the project budgets.

The Program has initiated the Pedestrian Master Plan that will be a planning, construction, and maintenance tool for the City's pedestrian infrastructure. The master plan will consist of an inventory of

the existing sidewalks and curb ramps and the condition of those elements. The inventory will assist in further developing the program's selection criteria and will establish priority corridors for providing pedestrian accessibility in the city's rights-of-way. Proposed projects will be evaluated through the established criteria that will provide priority ranking for construction.

Street and Bridge crews constructed new sidewalk and curb ramps throughout the city with the Task Force's direction. The cost of these facilities is minimal compared to the sidewalk and curb ramp projects constructed by private construction companies.

The Program also participates in a program to add or reconstruct curb ramps as part of continuing traffic signal installations throughout the City. Approximately twenty substandard curb ramps have been reconstructed throughout the city in conjunction with the traffic signal upgrade program.

■ **Accesstown.com**

Accesstown.com was developed with funding from the City of Victoria and the Queen Alexandra Foundation for Children, under the guidance of the Victoria Disability Resource Centre and the Promoting Accessibility at Victoria Events (PAVE) committee. The PAVE committee is a community-based working group established in 2004 with the goal of encouraging persons with disabilities to participate more fully in local community events. The Accesstown.com web site features in-depth information about community events and a comment section about the events. Accesstown.com uses a rating system that includes the following categories: not applicable, unknown, poor, fair, good, overall access, information (availability in various formats), admission, getting there (parking and street access), pathways, washrooms, and seating (access to viewing areas).

■ **The Easter Seals Project**

The Easter Seals Project ACTION (Accessible Community Transportation In Our Nation) was initiated in 1988 by the US Congress as a research and demonstration project to improve access to public transportation for people with disabilities. With the passage of the ADA two years later, their goals expanded to help transportation operators implement the law's transportation provisions. The Project offers various resources, as well as training and technical assistance: e.g. the Easter Seals Project ACTION Clearinghouse (offers, free of charge, more than 90 print, video, audio, and multimedia products which cover various topics of accessible transportation). For example, as part of the Distance Learning Seminar Series the proceedings of an upcoming seminar 'Pathway to Mobility: Assessing the Path of Travel for Transit Customers' will be available from the Clearinghouse.

Selected resources related to path of travel assessment include:

- *Toolkit for the Assessment of Bus Stop Accessibility and Safety*: This toolkit is intended to be a convenient resource that can be used to enhance the accessibility of specific bus stops, or help in the development of a strategic plan to achieve system-wide accessibility.
- *Guidelines for Accessible Public Rights-of-Way*: The US Architectural & Transportation Barriers Compliance Board publishes a handbook addressing regulatory requirements and best practices for public rights-of-way accessibility. Guidance is provided on all types of public right-of-way, and contains a useful summary of ADA and ADAAG regulations as well as industry design practices on bus stops, curb ramps, pedestrian crossings and street furniture relevant to bus stop accessibility. The 1999 edition of a user-friendly guide based on these guidelines offers photographs of well and poorly designed bus stops. An update is currently under way and revised draft guidelines were published in Nov. 2005.

Sidewalks, street crossings, and other elements of the public rights-of-ways present unique challenges to accessibility for which specific guidance is considered essential. The Board is developing new guidelines for public rights-of-way that will address various issues, including access for blind pedestrians at street crossings, wheelchair access to on-street parking, and various constraints posed by space limitations, roadway design practices, slope, and terrain. The new guidelines will cover pedestrian access to sidewalks and streets, including crosswalks, curb ramps,

street furnishings, pedestrian signals, parking, and other components of public rights-of-way. The Board had developed a draft set of guidelines based on recommendations from an advisory committee. The draft guidelines are being revised based on the input received from the public and will be available for public comment once published.

Access Guide Canada

Access Guide Canada (AGC) provides information on accessible resources such as community organizations and accessible public spaces from various geographical locations across Canada. Access Guide Canada is a project of the Canadian Abilities Foundation and is part of the organization's vast web site, EnableLink (www.enablelink.org). The Canadian Abilities Foundation's mandate is to provide information and promote the full integration of people with disabilities into all aspects of community life. As part of this, the Foundation has produced a number of Access Guides that can be accessed at www.abilities.ca/agc – the online guide to accessible places in Canada. Examples of Access Guide Assessments include: places of worship, stores/shopping areas, park & outdoor areas, meeting facilities, lodgings, and entertainment venues. These assessment guides include such elements as drop-off/pick-up, parking, entrances, public telephones, and safety.

Active Living Alliance for Canadians with a Disability (ALACD)

The Active Living Alliance for Canadians with a Disability' Manitoba Initiative is a partnership approach to enhancing provincial and territorial networks for the purpose of furthering active living opportunities for persons living with a disability. One of its most recent projects was a series of access assessments of recreation facilities and sites that offer inclusive recreation programs – *Universal Design and Recreation Facilities/ Sites*. The document provides information from the Universal Design Institute (located at the Faculty of Architecture, University of Manitoba) on what is involved in an access assessment and preferred barrier-free design based on National Building Code requirements. An 11-Point Accessibility Check List (adapted from the *Ten-Point Accessibility Check List for Small Business* from the booklet *Is Your Business Open to All?* by Laurie Ringaert, Bev Knudtson and David Rapson (2000) Universal Design Institute) and recommendations cover a number of elements pertinent to this project (e.g. route to entrance, entrance, door hardware, and communication/ signage).