Guide to Removing Communication Barriers for Travellers with Disabilities

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Introduction

The Canadian Transportation Agency (hereafter, the Agency) created this guide to help air, rail and ferry terminals and carriers implement the provisions of the *Code of Practice: Removing Communication Barriers for Travellers with Disabilities* (hereafter the Communication Code) and thereby make their operations more accessible for persons with disabilities.

Each section of the guide begins by stating the requirement in the Communication Code, followed by a “Rationale” section that provides insight into the obstacles that the criteria are meant to address. The rest of the guide provides references to resources that can be used to find effective ways to become more accessible. A section on “Best Practices” is also included to highlight examples of various organizations or businesses that provide excellent communication tools for persons with disabilities.

Web site addresses or other references in the document are subject to change without notice and were accurate at the time of publication. This guide should be considered a work in progress. We welcome your feedback about web site addresses or other references in the document that you find are no longer current. You are also encouraged to provide examples of “Best Practices” from your own operations of which we might not be aware. Your examples may be highlighted in future editions of the guide.

To ensure that this resource remains relevant and helpful, we ask you to provide information about your level of satisfaction with this guide. The Agency has developed a short survey at Appendix D. We will use your responses to determine what material should be added or removed in the future. Your feedback will help us create a communications guide that will help you make your operations more accessible to all members of the travelling public.

You can provide your comments using the following contact information:

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By Web site	**www.cta.gc.ca**

Section 1: General Provisions

1.1 Provision of Transportation-Related Information in Multiple Formats

Code Requirement

Transportation service providers are to develop and follow their own Multiple Format Policy to ensure that information related to the successful execution of a trip is available to all travellers in a format that is accessible to them.

Definition of Multiple Formats: formats that substitute or complement conventional print and video products and that address the communication needs of persons with visual and hearing disabilities and persons with cognitive disabilities. These include: computer diskette or electronic copy, large print, audio tape, Braille, captioned video, sign language video and described video.

Rationale

Not everyone is capable of reading traditional print. For instance, 92,455 Canadians require large print to be able to read written documents[1]. For others, the only way to access information independently is by using formats such as an electronic copy or Braille. Creating your own multiple format policy will tell travellers and personnel what information is available in which format and how much time is necessary to obtain a copy.

1 *Selected Characteristics of Persons with Disabilities Residing in Households 1991 Health and Activity Limitation Survey*, Page 112

Canadian Guidelines

- The *Manager's Guide to Multiple Format Production* was produced for the Government of Canada through the Assistive Devices Industry Office of Industry Canada. It was created as a guide to make government publications easier to understand for persons who are print-disabled. It answers many questions about multiple formats and gives practical reasons why they should be provided. This guide emphasizes creating a "full text template" of the original document. It is located online at **www.nlc-bnc.ca/accessinfo/s36-202.001-e.html**. It also has an on-line tutorial at **www.liens-ta.gc.ca/guide**.

- *Plain Language Clear and Simple* contains tips on producing clearly written documents. To request this or any other federal publication electronically, you can link to the *Federal Publications Inc*. web site **www.fedpubs.com**.

- The Canadian Braille Authority's web site **www.canadianbrailleauthority.ca** contains the *UEBC* (Unified English Braille Code) *Format Guidelines* for producing Braille documents.

Guidelines From Other Countries

- The American Access Board's *Telecommunications Act Accessibility Guidelines* discusses the steps involved in producing many multiple formats and also includes costing information. For more details, see the appendix regarding Subpart C, Section 1193.33 of this document at **www.access-board.gov/telecomm/html/telfinl2.htm**.

Technical Information

Electronic formats are the most frequently requested type of multiple format. Refer to Section 1.2 on “Web Site Accessibility” for details about making your web site even more accessible.

- Any information conveyed in pictures or graphics should be accessible to persons with visual impairments. This can be done by providing a brief description of the image.

- The Canadian National Institute of the Blind’s (CNIB) web site **www.cnib.ca** contains a link called “Technical Aids” that includes information about how machines that produce Braille (called Braille embossers) and computer screen reading technology operate. This site also includes references to companies that provide this equipment.

- “Braille Products” in the Accessible Procurement Toolkit discusses the technology needed to create Brailled documents using different equipment such as Braille embossers or text to Braille translators. For further information, see **www.apt.gc.ca/dchildProdsE.asp?Action=”&Id=269**

Tips for Creating Large Print Documents[2] [3]

- Set columns at a width between 3 to 7 inches

- Use a combination of upper and lowercase letters

2 Fact Sheet 2 Providing Effective Communication, The Americans with Disabilities Act Fact Sheet Series, Adaptive Environments Centre, 1992.

3 “Alternative formats: Factors to consider”: *Accommodating Disabilities*, CCH Inc, 1994. Pages 11-12.

- Use dark lettering on a white or yellow background

- Simple sans serif fonts should be used. Arial, the font used throughout this guide, is an example of a sans serif font.

Tips for Ordering or Producing Documents in Multiple Formats

When ordering or producing documents in multiple formats in an effective manner, consider these five tips suggested by Diane Croft of the National Braille Press:

1. **Think about the life span of the document.** Is it a “throw away” or does it have lasting value? Making every document available in Braille or large print is not practical. It makes more sense to invest your time and effort producing multiple formats for resources that will be used primarily for long-term purposes.

2. **Consider the content of the information.** Some types of information are conveyed better in different formats. Travellers may only want to access information randomly when searching for specific details about their trips. For such cases, electronic copy, diskettes, large print and Braille are highly accessible formats. For large easy reading documents, however, audio cassettes may be a better alternative.

3. **Consider the privacy needs of the individual.** Reading information aloud may sometimes be an effective means of communicating. However, you must ensure you do not embarrass travellers or read confidential information when conveying information verbally.

4. **Think about whether it is necessary to access the information immediately.** Ensure you know which materials are required right away so that they can be supplied on demand.

5. **Think through all options.** Be creative and realistic in thinking about the most effective ways to provide multiple formats for your customers.

> **REMEMBER:** When a travel document is first produced, it is a good idea to create a plain text version of the document, which includes a description of all pictures and graphics. This version can be used to convert the text into other formats such as large print or Braille.[4]

Manufacturers

- To find a list of companies that produce communication products in multiple formats, go to Industry Canada's web site at **www.strategis.ic.gc.ca/adio**, click on "Register, Update or View Assistive Device Companies", then click on "Multiple Format Companies".

Checklist: Make sure guidelines discussing the following items are included in your multiple format policy:

- Individual travel information requested by travellers and general travel information to the general public are available in multiple formats.

- A reasonable and consistent time frame is specified for providing documents requested in multiple formats.

- Personnel are informed about which formats are available so they can be provided when requested.

- Personnel are informed about the amount of time required to produce different formats.

4 Manager's Guide to Multiple Formats, **www.nlc-bnc.ca/accessinfo/s36-202.001-e.html**

- Adequate substitutes are suggested if a requested format is unavailable.
- Requests for more than one format and/or more than one copy of any available format are honoured.
- Plain language and appropriate terminology for persons with disabilities is used.
- All multiple formats are priced the same as printed materials.
- Graphic materials (i.e. charts and graphs) are described in text. (See the examples in this guide.)
- Multiple formats maintain the same quality as printed materials.
- The availability of multiple formats is promoted.

REMEMBER: By consulting with members of the disability community, you will be able to learn which formats are the most useful and practical.

1.2 Web Site Accessibility

Code Requirement

Transportation service providers' web sites are to be made accessible to persons with disabilities by following the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines. Web pages are to be produced so they can be accurately converted into other formats by the user. Information provided on the Internet is to be linked to text-based options for browsers used by persons with disabilities. Web based transportation-related information is also to be made available by other means of communication upon request.

Rationale

Creating an accessible web site will provide access to on-line information to a greater number of travellers. For example, persons with visual impairments who use screen readers or large print will be able to access web sites to obtain frequently updated information that they may not be able to access in print formats.

World Wide Web Consortium (W3C) Guidelines

The W3C is an organization that creates universal guidelines to help make the Internet accessible to any online user. The W3C offers various levels of guidelines to make web sites accessible throughout the different stages of web site design.

For instance:

- *Web Content Accessibility Guidelines 1.0* contains 'checkpoints' to help web developers understand the most essential criteria when making or updating an accessible web site. See the Internet address **www.w3.org/TR/WAI-WEBCONTENT**.

- For a full list of all of the "Guidelines", "Checkpoints" or other information supplied by the W3C, refer to the organization's Web Accessibility Initiative (WAI) Resources web page **www.w3.org/WAI/Resources/#gl**.

- *Creating Pages that Conform to WCAG 1.0* found at the web address **www.webaim.org/tutorials** offers examples of both accessible and inaccessible web pages, making it easier to see how to comply with W3C guidelines.

REMEMBER: Start with the goal of making your web site compliant with the W3C's *Web Content Accessibility Guidelines 1.0.* This will make it easier to comply with more advanced W3C guidelines as you upgrade your web site.

Technical Information

- A collection of information about evaluation, repair, and transformation tools to make web sites more accessible is available at **www.w3.org/WAI/ER/existingtools.html**.

- A-Prompt is another software that evaluates Web pages for accessibility barriers and provides fast and easy ways to make the necessary repairs. A-Prompt is developed and made available by the Adaptive Technology Resource Centre of the University of Toronto and is available free of charge at **http://aprompt.snow.utoronto.ca/index.html**.

- The Treasury Board Secretariat`s CLF Self-Assessment Guide (**http://www.cio-dpi.gc.ca/clf-nsi/guide/guide_e.asp**) is another useful tool that has been developed for Government of Canada departments and agencies to determine the compliance level of their Internet Web sites with the Common Look and Feel Standards.

Tips for Building Accessible Web Sites

- Provide information such as schedules, available services, maps, and contact numbers on the web site.

- Use cascading style sheets when possible.

- Avoid using a lot of graphics or provide the option of viewing a text- only version.

- Use plain text and a simple format.

- Discuss accessibility features with persons with disabilities who are most likely to use the web site.

Manufacturers

- Industry Canada has a list of companies that consult on web site accessibility: go to the web site **www.strategis.ic.gc.ca/adio**, click on "Register, Update or View Assistive Device Companies", then click on "Accessible Web Consultants".

Best Practices

The Toronto Transit Commission (TTC)

- The TTC's web site identifies "accessible bus stops" and wheelchair accessible buses. This site includes a link to the TTC online brochure "Easier Access Information" which discusses the accessibility of terminals and carriers, important telephone and TTY numbers, safety tips, and schedule information. See the TTC's web site at **www.city.toronto.on.ca/ttc/accessible.htm**.

NOTE: Not all of the TTC's terminals and vehicles are completely accessible. By informing passengers about which terminals and vehicles do have accessibility features, the TTC allows travellers to plan their trips with full information and with greater confidence.

1.3 Transportation-Related Dispensing Machines and Automated Information Kiosks

Code Requirement

Where dispensing machines or computerized information kiosks are used to provide a product or service related to the successful execution of a trip, at least one of those machines in each separate service area should allow a person who uses a wheelchair, is blind or visually impaired, has a speech impairment or is Deaf or hard of hearing, to use the machine independently and securely.

Prior to introducing any transportation-related dispensing machines or information kiosks, consultations with organizations of and for persons with disabilities are to be held to make it as accessible as possible.

Where a transportation-related dispensing machine or information kiosk has not yet been made accessible to persons with disabilities, an equivalent level of service is to be provided to those persons who are unable to use the dispensing machine or information kiosk independently.

Rationale

Automated information kiosks and ticket dispensers speed the flow of travel through the terminal. Accessible design allows persons with disabilities to use these machines to purchase tickets and find information about the facility individually and at their own pace. As a result, more travellers will have the confidence to use these machines to receive the information or documentation they require.

Canadian Guidelines

- No Canadian guidelines currently exist for automated kiosks and ticket dispensers. The Canadian Standards Association (CSA), is currently developing a standard for this type of automated technology. Contact the CSA for information on the development of this new standard. They can be reached online at **www.csa.ca**.

- To learn more about the accessible features that are required for a similar automated technology, the automated banking machine, you can refer to the CSA's CAN/CSA B651.1-01 *Barrier Free Design for Automated Banking Machines*. See CSA's Product Information Store at **www.csa-intl.org/onlinestore**.

Guidelines From Other Countries

- The Americans with Disabilities Act (ADA) *Accessibility Guidelines for Buildings and Facilities* section 4.34 "Automated Teller Machines" sets out American standards about the floor space and an accessible reaching level for people in wheelchairs. See **www.access-board.gov/adaag/html/adaag.htm#4.34**. This document is currently being updated to include guidelines about colour contrasted screens and keypads. Contact the Access Board's web site **www.access-board.gov** to learn more about these developments.

- The *ITM Accessibility Checklist* created by the United States Department of Justice (DOJ) can be used as a reference point to discover if your information transaction machines (ITMs) incorporate universal design. This tool can be found on the web at **www.usdoj.gov/crt/508/archive/olditm.html**.

Technical Information

- *Which button? Designing user friendly interfaces for people with visual impairments* was created by the Royal National Institute for the Blind (RNIB). This document discusses the font style and size, the illumination of the keyboard and screen and the size of the keypad that should be used on all kiosks. It also explains the importance of increasing the amount of time allowed to complete the transaction and clearing the screen of clutter and flashing text. The RNIB can be contacted via email at **webeditor@rnib.org.uk**.

- Smart Card Technology: Basic user information can be stored on a smart card that triggers a custom configuration. Smart Cards can cause a device to increase the font size on a display screen or activate speech output, increase volume, lengthen the response time between operations, or allow two keys to be pressed sequentially instead of simultaneously. For more information see the Telecommunications Act Accessibility Guidelines from the U.S. Access Board at **www.access-board.gov/telcomm/html/telfinal.htm**.

Manufacturers

- The Compar Corporation in Markham, Ontario is an example of a supplier of information kiosks which provide audio output and are wheelchair accessible. This Canadian company's "Compar Kiosk Virtual Showroom" can be found at the web address **www.comparcorporation.com/index.cfm?mode=kiosk&sub=showcase**.

- King Products and Solutions of Mississauga, Ontario, is another example of a Canadian company that sells accessible kiosks in the "m200" and "Touch Web" series. These kiosks offer audio output with volume control and the option to use the keyboard or smart card technology to complete a transaction. King Products and Solutions is available online at **www.kingproducts.com**.

Best Practices

Florida Tri-Rail Stations

- In many Florida Tri-Rail stations, automated ticket dispensers have been installed which are accessible to persons with visual impairments. As well as providing tactile and Braille markings on the keypad, these machines also incorporate audio output. Pressing a button activates a recorded message which states the location of different rail stations and the different methods of payment accepted for ticket purchases. See the press release on the web page “Evaluation of Audio/Tactile Instructions for Tri-Rail Ticket Vending Machines” of the Tri-Rail web page **www.tri-rail.org/tvm**.

1.4 Telecommunications Systems for Reservations and Information

Code Requirement

Transportation service providers who use telephone lines for reservations, information or any services related to the successful execution of a trip are to provide an equal level of service to passengers with disabilities through the use of alternative communication systems, such as a TTY line.

Information on how to access alternative communication systems (i.e. TTY phone numbers) is to be clearly indicated in all publications, promotions, advertisements, web sites or other information products where telephone numbers are listed.

When automated voice messaging systems are used on reservation or information lines, a readily accessible link to a live operator should be prominently featured and/or the option of leaving a message to have the call returned should be provided. The option to have automated messages or menus repeated should also be provided. Automated voice messaging systems are not accessible to TTY users. As such, all information and services available though these systems are to be available by using an alternative communication system such as a TTY line.

Rationale

Due to the various telecommunication tools used by different travellers, alternatives to a voice telephone line such as a TTY line, e-mail or web-based reservation or information systems are often prerequisites for direct communication with some travellers with disabilities.

TTY numbers need to be publicized wherever voice telephone numbers are printed so that travellers who are Deaf or hard of hearing can also take advantage of promotions and specials available to other travellers.

An automated messaging system may be a quick and convenient way to book a trip or provide information, but can also create barriers to effective communication for travellers with hearing, speech or cognitive disabilities and for many seniors. Travellers with disabilities may also have questions or reservation requirements that can not be addressed within the standard options provided. Communicating with a live operator will assure travellers that their questions are answered adequately and that their reservations have been completed successfully.

Comments from the Public

In the 2000 Air Accessibility Survey, only 40% of participants who were Deaf and 21% of participants who were hard of hearing stated that there was a TTY line available to make reservations.

Guidelines From Other Countries

- The *Train and Station Services for Disabled Passengers: A Code of Practice* for England states that a reservation system for travellers with disabilities must be supplied by rail operators. Rail operators must promote the reservation system. TTY numbers should be offered so persons with hearing impairments can make reservations. To access this information, you can refer to the Strategic Rail Authority's (SRA) General Publications web site **www.sra.gov.uk**, click on " Publications ", then click on "Consultation Documents ".

Technical Information

- For definitions describing TTYs / TDDs and telephone relay services, refer to Appendix D of the Communication Code.

- *Telecommunication Breakdown: An Overview of Challenges Facing Persons with Disabilities*, by the American organization United Cerebral Palsy (UCP), highlights major problems that persons with disabilities face when using telecommunication systems such as automated messaging. See the web page **www.atnet.org**.

- Network Telephony Services (NTS) systems are attached to a computer modem and operate much like email messaging, but are more secure than an Internet messaging system. One major advantage is that it can be used to communicate with TTY users. Like a traditional TTY, the NTS system can take messages as well as save and print conversations. This system also allows conference calls to be made with TTY users. A flashing alarm alerts people that there is someone placing a call. For more information, you can explore the NXi web site **www.nxicom.com**.

Tips on TTY Etiquette[5]

- If you contact the customer, let the TTY ring at least 10 times. When it is answered, tell the customer why you are calling and provide them with your own name as well as your company's name.

- Use "xxx" when you make an error instead of trying to re-type the word. Type at the same speed as the customer. Use abbreviations only if the customer does.

- Write "hold please" while putting a customer on hold so they know what is happening.

- After each message type "GA" for "Go Ahead". This tells people that you are done typing your message.

- "SK" means "Stop Keying". It expresses that the conversation is about to end. Type "SK" when you want to end a message.

- Common ways to say goodbye include "bye for now","bfn, "or "bye-bye".

5 "TTY Etiquette" *Get Connected to Your TTY*. The Canadian Hearing Society. **www.chs.ca/info/TTY/index.html#Anchor-TTY-35882**

Tip From the Agency

- To make sure that all services requested in the reservation stage are passed on, terminal operators can use the reservation checklist supplied by the Agency. This checklist allows employees to record the services needed as well as the date on which it was requested, the traveller's name and the carrier number. Refer to the "Reservation Checklist – Air Travel" on our web page **www.cta-otc.gc.ca/index_e.html** and click on "Accessible Transportation," then "Reservation Checklist".

Manufacturers

- A Kanata, Ontario company, Sinclair, Nicholson and Associates, (SNA) has been working with an American company, NXi Communication, to incorporate the NTS system into Canadian organizations. More information can be obtained on the SNA web site **www.sna.com**.

- The Canadian Hearing Society's web site offers an online store at the address **www.chs.ca/shopping/shopdisplaycategories.asp**. The web page includes pictures as well as product information and prices. This information is available by clicking on "Text Telephones TTYs/TDDs" in the "Technical Devices" subcategory in "Product Categories".

Best Practices

VIA Rail and Bell's Visual Ear

- VIA Rail Canada informs travellers about the availability of its TTY reservation line by providing the number on their web site and other travel documentation. VIA Rail also provides the option to make a Telephone Relay Service call. Link to VIA Rail's "Need Help ?" web page at **www.viarail.ca/planner/en_plan_beso_audi.html** to email VIA for more information.

Section 2: Terminal Provisions

2.1 Telecommunication Systems in Terminals

Code Requirement

Where public telephones are provided, terminal operators are to ensure that there is an adequate number of accessible public telephones that allow a person who uses a wheelchair, is blind or visually impaired, has a speech impairment, or is Deaf, deafened or hard of hearing, to use the machine independently. At least one accessible public telephone (including a TTY or other alternative communication system) is to be provided in each separate unrestricted and restricted departure and arrival area, 24-hours a day. At a minimum, accessible public phones and TTYs (or other alternative communication systems) are to be located in each of the following areas if public telephones are provided: arrival and departure areas, boarding gate or track areas, baggage claim areas and corridors leading to each of these areas.

Accessible telephones and TTYs are to be clearly identified using the international symbol of access or the identification symbol for TTYs. Signs providing direction to public telephones are also to provide direction to the nearest TTY or alternative communication system using the appropriate symbol. Also, where a bank of regular telephones is not equipped with an alternative communication system, directional signage indicating the location of the nearest device is to be placed adjacent to this bank, using the appropriate symbol.

Rationale

Accessible public telephones are essential to allow all passengers to communicate delays, cancellations, or the time of their arrival to other people. Persons with hearing or speech impairments require public TTY's. Persons using wheelchairs require telephones placed at lower levels, so that coin slots and other controls are within reach. When installing any new public phones, choosing equipment with the most accessible features will allow a broader diversity of travellers to use this equipment.

Canadian Guidelines

- Industry Canada's *Accessible Procurement Toolkit* includes specifications for installing telecommunication equipment in office settings based on section 508 of the American *Rehabilitation Act*. It states that telecommunication equipment should be installed so persons with mobility impairments do not have difficulty operating the equipment. Providing an equal level of service to TTY users is also discussed. See the "Requirements for Desk/Wall Phones (wired)" at **www.apt.gc.ca/dProcClausesE.asp?Action="&Id=432**.

Canadian Standards

- Section 6.2.6 of the *CSA B651-95 Barrier Free Design* discusses the requirements for installing accessible public telephones and TTYs. To order this resource, access the CSA's "Information Product Store" at **www.csa-intl.org/onlinestore**.

Guidelines From Other Countries

- The Americans with Disabilities Act (ADA) *Accessibility Guidelines for Buildings and Facilities* set out regulations concerning volume control, floor space, and installation requirements for TTYs and accessible public phones in American facilities. These American regulations are available at **www.access-board.gov/adaag/html/adaag.htm#4.31** or **www.access-board.gov/adaag/html/adaag.htm#10.3.1(12**).

- The "Telephones" guideline in the *Train and Station Services for Disabled Passengers: A Code of Practice* for England states that accessible telecommunication equipment needs to be placed near other pay phones and include signage. This document can be downloaded from the Strategic Rail Authority's (SRA) web site at **www.sra.gov.uk**, click on "Publications", then click on "Consultation Documents".

Technical Information

- The international symbol of access and the international symbol for TTYs are provided in Appendix C.

- Section 5.4 of *Going Places Access Needs of Visually Impaired Travellers in Transportation Terminals: Design Guidelines* by the CNIB states that installing a 'direct line' telephone near the entrance lets travellers with visual impairments discover information about the facility more easily. For contact information, link to the CNIB's web site **www.cnib.ca/eng/contact.htm#nationaloffice**.

- Sections 3 and 4 of *Comments by the RNIB: Public Payphones – OFTEL Consultation, November 2001*, by the Royal National Institute for the Blind (RNIB) explains why accessible public telecommunication equipment is still required in spite of the widespread use of wireless equipment. For more details, refer to **www.rnib.org.uk/campaign/oftel_pubpayphone.htm**.

Manufacturers

- The Canadian Hearing Society makes the international symbol for hearing accessibility sign available in their online store. This information can be accessed by linking to “General Store Products” of the “Product Categories” web page **www.chs.ca/shopping/shopdisplaycategories.asp**.

- The American company Ultratec is an example of a company which supplies “vandal resistant” TTYs. Product information is available by selecting “TTYs for Public Places” in the “Text Telephone” Product category of the web page **www.ultratec.com/ShopATTY.html**. The “Contact Us” web page **www.ultratec.com/info/Contact.html** allows you to request a free catalogue.

Best Practices

TELUS and the Alberta Provincial Government

- In a joint effort, the telecommunications company TELUS and the Alberta Government have established public TTYs at various rest stops in the province. The word “TTY” will appear on highway signs to direct travellers to the next rest stop where this equipment is available. When using these machines, people can either make a TTY call or use the Telephone Relay Service. Go to the Government of Alberta’s News Release “TTY Payphones Installed at Provincially Owned Rest Stops” at **www.gov.ab.ca/acn/200008/9548.html** for more information.

2.2 Signage

Code Requirement

Signage provided in all public areas of terminals is to be accessible to all passengers and is to satisfy the criteria set out in Section 2.2 of the Communication Code.

Rationale

Accessible signs improve access to key orientation information for all travellers, and particularly persons with disabilities. Placing signs at eye-level allows passengers who have low vision to read the signs at close range and provides a better viewing angle for persons who use wheelchairs. Proper colour contrast improves signage visibility for all users and is critical for persons with low vision or colour-blindness. Signs supplemented with Braille or tactile symbols allows more blind passengers to travel independently. Clear signage is also of great importance to persons have difficulty communicating verbally or who can not hear public announcements.

This is a picture of a bilingual sign for a washroom that includes Braille and tactile pictograms and lettering. The sign says TOILET/TOILETTE.

Comments from the Public

- In the Air Accessibility Survey conducted by the Agency in 2000, 63% of respondents who were blind,13% of respondents with low vision, and 7% of persons who are hard of hearing found signage problematic. Many travellers who are blind had difficulty locating key points in the terminal.

Canadian Standards

- The Canadian Standards Association's (CSA) CAN/CSA B651-95 *Barrier Free Design Standard* states all signage must use contrasting colour and be glare free. It also specifies acceptable viewing distances and font size and styles that are to be used. See the CSA's online "Information Product Store" at **www.csa-intl.org/onlinestore**.

- Section 4.3 B "Tactile Signage: Sign System and Installation Guide" of the *Federal Identity Program Manual* describes how to install effective tactile signage. It describes the installation procedure for different wall surfaces and specifications for signage companies when purchasing tactile signs. This document applies to installing tactile signage in Government buildings, but it is a useful resource for everyone. The Treasury Board of Canada's web page **www.tbs-sct.gc.ca** contains contact information on how to order this document.

Technical Information

- The ideal contrast between two colours is 70 percent. You can refer to the back insert of *Going Places Access Needs of Visually Impaired Travellers in Transportation Terminals: Design Guidelines* by the CNIB which contains a colour differential chart from 3M. This chart makes it easy to compare two colours to see if they meet the 70 percent contrast level. Sections 2.3 and 9 of this document also contain advice on creating accessible signage. See the CNIB's web page at **www.cnib.ca/eng/contact.htm#nationaloffice**.

- Many electronic LED signs come with a "tricolour" option which allows red, green, or amber to be used to represent the sign's text or symbols. Altering the colour from red to amber and avoiding scrolling or flashing text will make the text much easier to read for travellers with visual impairments, including colour blindness.

The following chart shows accessible viewing distances for signs using lettering of different font sizes:

Lettering Minimum Character Height (in mm)	Maximum Viewing Distance (in metres)	Sample Sign Locations
200mm	6 metres	terminal entrance
150mm	4.6 metres	station name, line name (for trains & subways)
100mm	2.5 metres	vehicle name (subways & buses)
75mm	2.3 metres	line transfer information
50mm	1.5 metres	route information, display maps
25mm	0.75 metres	doors, rooms
20mm	0.75 metres	washrooms with universal symbol

Tips for Creating Accessible Signage

- Consistent symbols, colours, and formats on signs makes it easier for people to understand where they need to go.

- Colour combinations of yellow/grey, yellow/white, blue/green, black/violet, and red/black do not provide an adequate contrast. Red and black is the most difficult colour combination for people with any type of visual impairment to interpret.[6] Amber and black is the preferred colour combination for electronic signs with LED readouts.

- When tactile signs are installed in an entrance with no doorway, they should be located to the right of the entrance, not in the interior of the entrance. It can be awkward and embarrassing for persons with visual impairments to enter the wrong washroom before reading the tactile or Braille sign.

Manufacturers

- The Canadian company Eye Catch Signs is a supplier of signs that include Braille and tactile markings. This company's web address is **www.eyecatchsigns.com**.

- Adaptive Micro Systems Incorporated supplies Alpha LED signs that come with the "tri-colour" option. PCM Electronic Signs is a Canadian company that sells Alpha equipment. See their web site at **www.pcmsigns.com/Alpha.htm**.

6 *Going Places Access Needs of Visually Impaired Travellers in Transportation Terminals: Design Guidelines* by the Canadian National Institute for the Blind, Aug. 1997 Page 15 and 41-42.

Best Practices

Marine Atlantic

- One company that realizes the importance of signage is the Canadian ferry company Marine Atlantic. Accessible signage is installed both in its terminals and on its ferries. This company uses its web site to promote this feature and many other services for persons with disabilities. By describing accessible services, Marine Atlantic reduces the anxiety that some people may feel about taking a trip, and people who visit their web site will feel more assured that they will be able to navigate the terminals and ferries. Visit Marine Atlantic's web page at **www.marine-atlantic.ca**, click "Services", then the category "Special Needs".

2.3 Public Announcements in Terminals

Code Requirement

Public announcements related to the successful execution of a trip are to be provided in both audio and visual formats in all passenger service areas inside terminals. These announcements include, but are not limited to: information concerning departure delays, gate or track assignments and schedule or connection changes.

Public announcements are to be of good quality with clear enunciation, in plain language and spoken slowly enough to be easily understood. Messages should be repeated. Prerecorded messages are to be used as often as possible to improve the clarity of announcements.

Rationale[7]

One in four Canadians have some level of hearing impairment and often experience difficulty in accessing information from public announcements. A simple way to correct this problem is to supply a visual as well as a verbal message. Providing both types of announcements is beneficial to all travellers, as travel information will be understood better when repeated and confirmed visually.

Comments from the Public

- In the Air Accessibility Survey of 2000, 23% of participants who were blind, 38% of participants with low vision, 66% of participants who were Deaf, and 43% of participants who were hard of hearing indicated that they found spoken announcements difficult to understand.

- Travellers with disabilities indicated that they are anxious while waiting to depart from the terminal because they fear that they are going to miss information spoken over the public address system.

Guidelines From Other Countries

- Terminal rail operators in Britain must install speakers so announcements can be heard comfortably in major sections of terminals. Public address systems must also be connected to assistive listening systems in these areas. Announcements must give people enough time to make any necessary changes to their travel schedules. Pages 90-91 of *Train and Station Services for Disabled Passengers: A Code of Practice* contains further details. It can be downloaded from the SRA's General Publications web site **www.sra.gov.uk**, click on "Publications", then click on "Consultation Documents".

7 *Selected Characteristics of Persons with Disabilities Residing in Households, 1991 Health and Activity Limitation Survey*.

Tips for Creating Clear Public Announcements

- Speak slowly.
- Repeat messages to allow people to remember them more easily.
- Use pre-recorded messages which are clearer to understand.
- Reinforce the verbal announcement with a textual message on a display board.
- Try to minimize background noise in areas where announcements are made.
- Provide pens and paper at key points throughout the terminal to allow personnel to communicate announcements to travellers with hearing impairments.

Manufacturers

- 'Audiostat', by the Canadian company Smart Speaker, is an example of a product that can make public announcements clearer for all travellers. This technology changes the speaker volume depending on the current noise level in the terminal. A description of 'Audiostat' can be found on the web page **www.smartspeaker.com/whatis01.shtml#practicle**.
- Another example is the American company Innovative Electronic Designs. This company supplies public address systems that monitor noise in the facility, can "self test" to correct any errors that may exist in the system, and supply the announcement through a visual as well as verbal means[8]. This company's web site is available at **www.iedaudio.com**.

8 "IEDs' Transit Public Announcement System. Computer managed Public Address System (PAS) provides centralized management." *Products of IED Innovative Electronic Designs* web site, January 12, 1998, **www.iedaudio.com**.

- With the current popularity of wireless technology, automated messaging is an excellent way to tell people about important travel details. 'Tel Alert UMS', created by the American company Vytek, allows messages to be sent to or received from travellers who have cellular equipment. "Tel-Alert Urgent Messaging System" at web site **www.vytek.com** has a more in-depth description of this technology.

- Centrum Sound is an example of an American company that makes loud-speakers, amplifiers, and mixers which help create clearer announcements. Product information under "Sound Reinforcement Systems and Audio Products for Optimal Speech Intelligibility in Public Facilities" is available from the web site **www.centrumsound.com/pa.html**.

Best Practices

Air Canada and Mobile Services

- Air Canada's "mobile services" offers a new way to make announcements. Details about delays, departures, and arrival times are frequently updated and can be viewed by people who have cellular equipment. "Mobile services" can be especially useful to travellers with hearing or mobility disabilities. It enables them to discover last minute changes that they might not otherwise be able to access. For more details, see "Mobile Services" at **www.aircanada.ca/traveller/mobile**.

Canadian Airports Making Accessible Public Announcements

- Many Canadian airports such as the Calgary, Dorval, Toronto, and Vancouver airports have installed public address systems created by Innovative Electronic Designs (IED). These systems monitor noise levels to ensure verbal announcements are always spoken at a suitable volume for all travellers. The “monitor test system” promptly tells terminal personnel that the system is not operating properly. IED’s web site **www.iedaudio.com** supplies more details regarding the Vancouver airport’s announcement system.

2.4 Arrival/Departure Monitors and Other Electronic Signage

Code Requirement

Some or all monitors are to be installed at eye level (1.5 metres above the floor +/-25 mm) in each area where monitors are used. Where monitors are placed above eye level, they are to be placed at a height of 2.03 metres +/- 25 mm so that they can easily be seen by a person in a wheelchair. The information displayed on the monitors is to be in plain language that is easy to read, avoiding acronyms where possible.

When monitors or other electronic signs are used, good colour contrast is to be provided, such as a light colour on a dark background or a dark colour on a light background, with light on dark being preferable. Monitors are to be positioned to avoid glare. Red lettering on a black background is not to be used. Scrolling, flashing or dot matrix text also create accessibility barriers for some users and are to be avoided, where possible.

You can find more information about accessible signage in Section 2.2.

Rationale

Placing monitors at eye level allows people using wheelchairs to see this information at a better viewing angle and allows people with low vision to read the screen at very close range. Proper colour-contrast for text improves clarity for all passengers and is especially important for passengers with low vision or colour-blindness. Clear visual information is also critical for people who cannot hear spoken announcements. Incorporating these universal design features gives everyone the opportunity to navigate a terminal independently where some people might otherwise require assistance from personnel.

Comments from the Public

- In the 2000 Air Accessibility Survey, 74% of participants who were blind, 30% of participants with low vision, 14% of participants who were Deaf and 13% of participants who were hard of hearing found the screens of electronic signs difficult to read.

Canadian Guidelines

- Industry Canada's *Accessible Procurement Toolkit* contains specifications made by the CSA for installing computer monitors in an accessible format. The *Toolkit* discusses brightness and contrast levels. It states screens should be placed in people's line of vision. 'Glare screens' should be used to help minimize the amount of glare on the monitor. While the *Toolkit* discusses how to make office environments more accessible, this information can also be used to make arrival and departure monitors more accessible also. See "Prerequisites for Monitor" on the *Toolkit* at **www.apt.gc.ca/dProdSpecE.asp?Action="&Id=569**.

2.5 Information on Ground Transportation

Code Requirement

Where information on ground transportation is available, terminal operators are to specify in their contracts with ground transportation service providers that:

a) accessible directional signage is to be placed at the arrival area indicating the location of each type of available ground transportation;

b) information is to be made available in multiple formats about the choices of ground transportation available at the terminal, including schedules and prices. Alternatively, the terminal is to ensure that personal services are provided to passengers who require this information.

Refer to section 1.1 on "Multiple Formats" and section 2.2 on "Signage".

Rationale

If a traveller requires communication tools such as accessible signage when dealing with carriers and navigating terminals, they will need to access those same tools when finding and arranging for ground transportation as well. Ensuring that travellers with disabilities can find ground transportation (where it is available) and can access key information about services and costs will help prevent travellers from feeling stranded at a terminal.

Comments from the Public

- In the 2000 User's Survey on Air Accessibility, 13% of all participants with disabilities responded that they need access to an accessible taxi cab.

- 12% of all travellers with disabilities needed access to an accessible shuttle bus.

Guidelines From Other Countries

- The *Best Practice Manual for the Publication and Display of Public Transport Information* was created by the NSW (New South Wales) Ageing and Disability Department. It states the importance of using many tools such as colour contrasting, consistent and clear information, tactile markings and plain language. See **www.its.usyd.edu.au/bus_and_coach_themes/BestPractice.pdf**.

REMEMBER: The Internet is a useful way to provide ground transportation scheduling and pricing information.

2.6 Designated Seating at Boarding Gates and Departure Areas

Code Requirement

Where seating is provided, designated seating for passengers with disabilities is to be provided at boarding gates and departure areas within viewing distance of communication boards and/or personnel, and identified by the universal symbol of access.

Rationale

Designating seating within viewing distance of communication boards or personnel will allow travellers with disabilities to monitor changes to their travel itinerary or to contact personnel when they require assistance. Creating a designated seating area will also allow personnel to locate people who require additional assistance when boarding or who need to be informed of schedule changes.

Comments from the Public

- Complaints filed with the Agency reveal that many persons with mobility impairments believed that when they are left in an unmarked area of a terminal, personnel remain unaware that they need assistance. As a result, many experienced a long wait before being helped and feared that they might not make it to the boarding gate on time.

Guidelines From Other Countries

- "Seating" in section B 4.4 of *Train and Station Services for Disabled Passengers: A Code of Practice* states that designated seats should be installed at different height levels. To accommodate people in wheelchairs, a space of 900 x 1350 mm per wheelchair is required. Their travelling companions should also be permitted to sit beside them. Seating areas must also be located in key areas of the building. This British Code of Practice can be downloaded at the SRA's web site **www.sra.gov.uk**, click on "Publications", then click on "Consultation Documents".

REMEMBER: There are many ways to promote the availability of designated seating for persons with disabilities. Depending on the amount of space in the terminal, signs can be placed on the wall, on a standing board, or even stickers on the back of each chair.

Here is an example of a designated seating sign, which shows a person with a cane at a seat, and says "Priority seats". Please offer these seats to disabled people.

2.7 Security at Airports

Code Requirement

Security personnel are to use both audible and visual means to advise passengers of the following: when to proceed into the security area; directions for placing carry-on baggage and other materials on the belt for x-ray; when they can proceed through the magnetometer; and when the security inspection is complete and they can proceed. Audible and visual cues are especially important when additional procedures such as an additional hand search of carry-on baggage or a secondary search of the person is required.

Rationale

Supplying both audible and visual cues allows persons with visual impairments and persons with hearing impairments to understand what is expected of them during the security check. Clear instruction is likely to reduce the anxiety passengers feel about this process, allowing the security checks to proceed in an efficient manner.

Section 3: Provisions Regarding On-Board Communication

3.1 Communication of Equipment Features

Code Requirement

Upon request, crews on-board aircraft, rail cars and ferries are to give oral, written or visual information about the equipment features of the vehicle or the vessel (such as the location and function of call or control buttons at seating, and washroom features) to passengers with disabilities. This information should also be made available in multiple formats, where possible.

Rationale

Some travellers require extra assistance in locating the call buttons, the on-board washroom features or the safety briefing material. Taking the time to provide a thorough orientation to passengers who require it may prevent confusion about how to use the features on-board during the trip. To make use of these on-board features, passengers also require information about the equipment in a format that they can understand.

Tips for Facilitating Effective On-Board Communication

- Using the latest technology is not always the best way to facilitate better communication with passengers with disabilities. For example, pen and paper is an acceptable way to converse with travellers with hearing impairments.

- When discussing on-board equipment, be sure to speak directly to travellers and not to their attendants.

- Providing information about on-board equipment in the pre-travel period can give passengers a general understanding of equipment features.

- Many formats such as large print and Braille can be used to describe on-board equipment features. Refer to section 1.1 to learn about companies that produce Brailled documents.

Best Practices

KLM Royal Dutch Airlines

- To improve on-board communication, KLM flight attendants use “embossed floor plans” to inform passengers with visual impairments about the location of on-board features (i.e. the galley and the washroom) in relation to their seats. This airline also supplies booklets that give an in-depth description of on-board safety features in both Braille and large print formats. This document allows travellers with visual impairments to understand what a verbal description might not have adequately conveyed. See the April 19, 2001 press release “KLM Introduces Flight Safety Instructions in Braille” at **http://www.klm.com/corporate_en/**.

3.2 Safety Videos

Code Requirement

Carriers are to ensure that all information presented in on-board safety videos in a visual format is described verbally; and that all audible information is presented visually.

Rationale

By presenting safety information visually and verbally, the risk of misinformation regarding safety features and procedures is greatly reduced. One way to do this is to ensure that the audio component of the safety message is represented in visual images by checking that the safety message is complete when either the audio or the video image is turned off. This presentation of information can help all passengers remember and understand the instructions in the safety video and is critical to passengers with hearing impairments. Another way this can be accomplished is by captioning safety videos. Captioning is particularly helpful to travellers with hearing impairments and reassures them that they have not missed any critical safety information.

Guidelines From Other Countries

- *Captioning Key: Guidelines and Preferred Styles* was created by the Captioned Media Program (CMP) to assist American captioning agencies in creating high quality captioned products. This guide states how text should appear on the screen, the font styles to use, when editing is acceptable, and how to determine the length of time text should remain on-screen. See the web site **www.cfv.org/caai.asp**.

Technical Information

- "Frequently Asked Questions" by Motif DVD Studios states DVDs (Digital Video Discs) have many benefits in comparison to VHS tapes. They have the capacity to store more information such as, multiple languages, captions, and subtitles. DVDs also have a longer lifespan. Using this technology, you can find an easy and cost effective way to caption your safety videos. This information is available at **www.motifdvd.com/educate/faqs.html**.

Manufacturers

- To find a list of specialized companies for various types of assistive devices, go to Industry Canada's web site at **www.strategis.ic.gc.ca/adio**, click on "Register, Update or View Assistive Device Companies".

- Line 21 Media Services Limited, of Vancouver, British Columbia, offers closed captioning services for videos. Line 21 uses a "multi-pass" approach in which they carefully consider the timing element to ensure that the captioning flows smoothly with the rest of the video.[9] See their web site at **www.line21cc.com/index.html**.

9 "Closed Captioning Services" Line 21 Media Services Ltd. can be found at web site **www.line21cc.com/closed_captioning.html**.

Appendix A – References

There is a wealth of useful information available online. As a way to keep the guide brief, in many instances we only offer a reference to an Internet address where these resources can be found. However, we realize that this information may not always be sufficient. For instance, Internet addresses often change. We also realize that every reader may not have easy access to the Internet. You will be able to find more complete contact information in this appendix that provides an alternative means to gain access to the material referenced throughout the guide.

> **NOTE:** many of the documents that have been established by the Government of Canada can be ordered on the Federal Publications Inc. "Ordering" web page. See the web site **www.fedpubs.com**.

Accessible Procurement Toolkit

Assistive Devices Industry Office, Industry Canada
P.O. Box 11490 Station H, Ottawa, Ontario K2H 8S2

Telephone	(613) 990-4316 (Mary Frances Laughton, Chief) or
	(613) 990-4297 (Deb Finn, Project Officer)
TTY	(613) 998-3288
Fax	(613) 998 5923
Toolkit web site	**www.apt.gc.ca**
Email	**laughton@crc.ca** or **finn.deb@ic.gc.ca**

Access Valet

Web site	**http://valet.htmlhelp.com/access**

ADA Accessibility Guidelines for Buildings and Facilities

The Access Board
1331 F Street NW, Suite 1000, Washington, DC 20004-1111, U.S.A.
Guidelines web page **www.access-board.gov/adaag/html/adaag.htm**
Telephone (202) 272-0080 or toll free 1-800-872-2253
TTY (202) 272-0082 or toll free 1-800-993-2822
Fax (202) 272-0081
Web site **www.access-board.gov**
Email **info@access-board.gov** or **pubs@access-board.gov**

"Alternative formats: Factors to consider"

Diane Croft, Director,
Marketing for the American Organization, National Braille Press
Telephone (617) 266-6160 ext. 21

Best Practice Manual for the Publication and Display of Public Transport Information

The NSW (New South Wales) Department of Ageing,
Disability, and Home Care
Level 13, 83 Clarence Street
Sydney, NSW 2000
Telephone 02 8270 2000
TTY 02 8270 2167
Web site (main) **www.add.nsw.gov.au**
Email **publications@dadhc.nsw.gov.au**

Bobby Test

Web site **http://bobby.watchfire.com**
Email **bobbysupport@watchfire.com**
Watchfire Canadian Headquarters
1 Hines Rd., Kanata, ON K2K 3C7
Fax (613) 599-4661
Telephone (613) 599 3888 or 1-888-245-5550

CAN/CSA B651-95 Barrier Free Design Standard

The Canadian Standards Association
5060 Spectrum Way Suite 100
Mississauga, Ontario L4W 5N6
Telephone (416) 747-4000 or 1-800-463-6727
Fax (416) 747-2473
SALES (416) 747-4044 or 1-800-463-6727
Fax (416) 747-2510
Web site **www.csa.ca**
Email **sales@csa.ca**

Canadian Hearing Society

271 Spadina Road
Toronto, Ontario M5R 2V3
Telephone (416) 964-9595
TTY (416) 964-0023
Fax (416) 928-2506
Web site **www.chs.ca**
Email **info@chs.ca**

Captioning Key: Guidelines and Preferred Styles

The Captioned Media Program
National Association of the Deaf
1447 E. Main Street
Spartanburg, SC 29307, U.S.A.
Telephone (864) 585-1778 or 1-800-237-6213
TTY (864) 585-2617 or 1-800-237-6819
Fax (864) 585-2611 or 1-800-538-5636
Captioned Media Program web site (main): **www.cfv.org**
Email **info@cfv.org**

Centrum Sound Systems

572 La Conner Drive
Sunnyvale California, 94087, U.S.A.
Telephone (408) 736-6500
Fax (408) 736-6552
Web site **www.centrumsound.com**
Email **sales@centrumsound.com**

Comments by the RNIB: Public Payphones – OFTEL Consultation, November 2001

The Royal National Institute of the Blind
Telephone 0845 - 702 - 3153
TTY (Minicom) 0845 - 58 - 5691
Fax 01733 - 37 - 15 - 55
Web site **www.rnib.org.uk**
Email **webeditor@rnib.org.uk**

Compar Corporation

85 Spy Court
Markham, Ontario L3R 4Z4
Telephone (905) 475-8508
Fax (905) 475-1722
Web site **www.comparcorporation.com**
Email **sales@comparcorporation.com**

Creating Pages that Conform to WCAG 1.0

Centre for Persons with Disabilities
6800 Old Main Hill, Utah State University
Logan, Utah 84322-6800, U.S.A.
Telephone (435) 797-7138
TTY (435) 797-1981
Fax (435) 797-3944

DVD Demystified

Web site **www.dvddemystified.com/dvdfaq.html**
Email **jtfrog@usa.net**

Eye Catch Signs International

2482 Maynard Street,
Halifax, Nova Scotia B3K 3V4
Telephone 1-888-840-1997
Fax (902) 423 6144
Web site **www.eyecatchsigns.com**
Email **eyecatch@eyecatchsigns.com**

"Fact Sheet 2 Providing Effective Communication" from the Americans with Disabilities Act Fact Sheet Series.

The Southeast Disability and Business Technical Assistance Center.
Atlanta, Georgia 30318, U.S.A.
Telephone and TTY (404) 385-0636 or 1-800-949-4232
Fax (404) 385-0641
Web site **www.sedbtac.org**
Email **se-dbtac@mindspring.com**

"Frequently Asked Questions"

Motif DVD Studios
Telephone (604) 880-6670
Web site **www.motifdvd.com**
Email **info@motifdvd.com**

Going Places Access Needs of Visually Impaired Travellers in Transportation Terminals: Design Guidelines.

Canadian National Institute for the Blind (National Office)
1929 Bayview Avenue, Toronto, Ontario M4G 3E8
Telephone (416) 480-7016
Web site **www.cnib.ca**

How to provide Multiple Formats

The Distribution Centre of Treasury Board of Canada Secretariat
Room P-135, West Tower, 300 Laurier Avenue West,
Ottawa, Ontario K1A 0G5
Telephone (613) 995-2855
Fax (613) 996-0518
Web site **www.tbs-sct.gc.ca**
Email **services-publications@tbs.sct.gc.ca**

Innovative Electronic Designs

IED Corporate Headquarters
9701 Taylorsville Road, Louisville, Kentucky, 40299, U.S.A
Telephone (502) 267-7436 or 267-9070
Fax (502) 267-9070
Web site **www.iedaudio.com**

Canadian Sales: Ivan Vallee, Canadian Region Sales Manager
Telephone (514) 697-8028
Fax (514) 697-5821

ITM Accessibility Checklist

U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, D.C. 20530 -0001, U.S.A
Web site **www.usdoj.gov/crt/508/archive/olditm.html**
Email **AskDOJ@usdoj.gov**

King Products and Solutions

2525 Meadowvale Blvd.,
Mississauga, Ontario L5N 5S2
Telephone (905) 812-5464
Fax (905) 816-1190
Web site **www.kingproducts.com**
Email **info@kingproducts.com**

Line 21 Media Services Limited

122-1058 Mainland Street
Vancouver, British Columbia V6B 2TA
Telephone (604) 662-4600
Fax (604) 662-4606
Web site **www.line21cc.com**
Email **line21@line21cc.com**

PCM Electronic Signs

Telephone (905) 728-2892 or 1-800-275-0595
Web site **www.pcmsigns.com**

Plain Language Clear and Simple

Canada Communication Group – Publishing
Ottawa, Ontario K1A 0S9
Telephone 1 (800) 661-2868
Fax (613) 954-5779
1 (800) 565-7757
Email **publications@communication.gc.ca**

Precision Transfer Technologies

Ottawa Office
22 Hamilton Avenue North
Ottawa, Ontario K1V 1B6
Telephone (613) 729-8987

Toronto Office
47 Colborne Street suite 48
Toronto, Ontario M5E 1P8
Telephone (416) 366-7525

Web site **www.precisiontransfer.com**
Email **salestor@precisiontransfer.com**

Selected Characteristics of Persons with Disabilities Residing in Households 1991 Health and Activity Limitation Survey.

Statistics Canada
Telephone 1-800-263-1136
TTY 1-800-363-7629
Fax 1-877-287-4369

Sinclair, Nicholson and Associates

Telephone (613) 599-1284
Fax (613) 599-1245
TTY (613) 599-1246
Web site **www.sna.com**

Smart Speaker (manufacturer of Audiostat)

Telephone 1-800-700-3291
Web site **www.smartspeaker.com**

Telecommunications Act Accessibility Guidelines (USA)

The Access Board
1331 F Street, NW Suite 1000,
Washington D.C. 20004-1111
Telephone (202) 272-0080 or 1-800-872-2253
TTY (202) 272-0082 or 1-800-993-2822
Fax (202) 272-0081
Web site **www.access-board.gov**

Telecommunication Breakdown: An Overview of Challenges facing Persons with Disabilities

United Cerebral Palsy
1660 L Street NW, Suite 700,
Washington, DC 20036
Telephone 1-800-872-5827; TTY (202) 973-7191
Web site **www.ucp.org**

Train and Station Services for Disabled Passengers: A Code of Practice (Great Britain)

The Strategic Rail Authority
55 Victoria Street,
London, England SW1H 0EU
Telephone 020 7654 6318
Fax 020 7654 6048
Web site **www.sra.gov.uk**
Email **accesscop@sra.gov.uk**

UEBC (Unified English Braille Code) Format Guidelines

The Canadian Braille Authority
Email **charltj@lib.cnib.ca** (for general inquiries)
Web site **www.canadianbrailleauthority.ca**

Ultratec, Inc.

450 Science Drive
Madison, Wisconsin, 53711, U.S.A.
Telephone (608) 238-5400
Fax (608) 238-3008
Web site **www.ultratec.com**

W3C Guidelines

Massachusetts Institute of Technology
Laboratory for Computer Science
200 Technology Square, Cambridge, MA 02139, U.S.A.
Telephone (617) 253-2613
Fax (617) 258-5999
"How to Contact W3C" web-site: **www.w3.org/Consortium/Contact**
W3C web site **www.w3c.org**

Appendix B – Making Print-Based Formats Accessible

While the section on Multiple Formats provides some information on making print-based formats accessible, we feel it would be useful to provide diagrams and examples to accompany the descriptions.

For instance, sans serif fonts are more accessible than serif fonts. Sans serif fonts do not have any “tails” that finish off the stroke of a letter, such as T versus T. Some examples of sans serif fonts include:

– Arial

– Humans

– Zurich

Examples of serif fonts include:

– Times New Roman

– Garamond

– CG Times

The size of the font is also important. Using a font size between 14 and 18 will allow some people with a reduced level of vision to read the document.
This document is produced in a 14 point Arial font.

Information should be presented in a clear and simple format. Avoid using italics or outlining when using a visual display of information.

Italics can be harder to read because the italic lettering makes it difficult to distinguish the letters from one another.

Bold text should be used sparingly. Using shadowing also makes it more difficult to distinguish information on signs or travel documents.

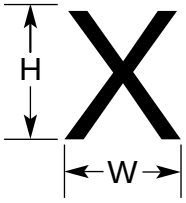
USING ALL CAPITAL LETTERS MAKES IT DIFFICULT TO DIFFERENTIATE BETWEEN DIFFERENT WORDS. **THIS IS ESPECIALLY THE CASE WHEN BOTH BOLD TEXT AND CAPITAL LETTERING ARE USED TOGETHER**.

Using good colour contrasting is also important. If information appears on a background that is similar to that of the text, it will take longer to understand the information on the document or the sign.

These two graphics illustrate how information should appear on a sign. The first picture shows dark-coloured text on a light background. The second picture shows light-coloured text on a dark background.

Width-to-height ratios should meet the criteria in the images below:

WIDTH

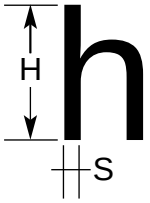


Ratio of width to height for an upper case letter ‘X’ should be between 3:5 and 1:1. Fonts for an upper case X should not be wider than they are tall.[10]

HEIGHT

Ratio for the height of a lower case letter ‘x’ to the height of an upper case letter ‘X’ should be about 3:4 (lower case letters should be about 75% the height of upper case letters).

WEIGHT

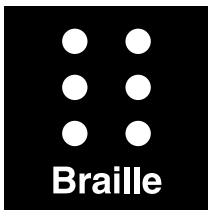


The stroke width to height ratio should be between 1:5 and 1:10. Text should not be too thin and light (for example, the Bernhard font) or too heavy (such as the **Kabel Ult** font).

10 Transportation Development Centre, Transport Canada. *Guidelines for Making Information Accessible – Draft Report*. March 1996.

Appendix C – Common Accessibility Symbols

Accessible to people with low vision



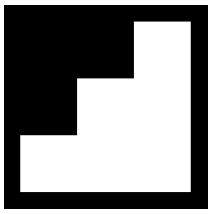
Braille

Information

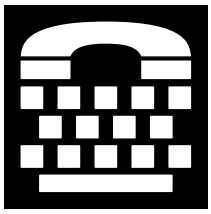
International symbol of access

Services available for people with hearing impairments

Staff trained to help



Stairs



TTY

Volume control telephone

Wheelchair accessible bus

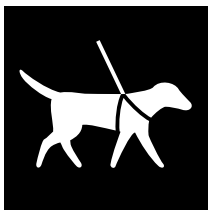
Wheelchair accessible parking

Wheelchair accessible restaurant

Wheelchair accessible taxi

Wheelchair accessible telephone

Wheelchair accessible washroom



Working dogs welcome

Appendix D – Satisfaction Survey

Dear Reader,

We hope that you have found this document to be a useful resource. To ensure that we have selected the most practical information, we ask you to complete this Satisfaction Survey. We will use the feedback to make changes to future editions of the guide. After completing this survey, you can send your response using the following contact information:

By Mail Accessible Transportation Directorate
Canadian Transportation Agency
Ottawa ON Canada K1A ON9

By Phone (819) 997-6828 or 1-888-222-2592

By TTY (819) 953-9705 or 1-800-669-5575 {Canada ONLY}

By Fax (819) 953-6019

By E-mail **guide.communicationcode@cta-otc.gc.ca**

By Web site **www.cta.gc.ca**

Satisfaction Survey on the Guide to Removing Communication Barriers for Travellers with Disabilities

1. The guide is organized in a way that made it easy to find the information I needed:

   ❑ Never ❑ Rarely ❑ Sometimes ❑ Often ❑ Always

2. The web site addresses in the guide are in working order:

   ❑ Never ❑ Rarely ❑ Sometimes ❑ Often ❑ Always

3. If a web site address was no longer current, the other information about the resource (i.e. title, organization name) still allowed me to easily access the material:

   ❑ Never ❑ Rarely ❑ Sometimes ❑ Often ❑ Always

4. The contact information given for the printed documents in the guide provides easy access to the information:

   ❑ Never ❑ Rarely ❑ Sometimes ❑ Often ❑ Always

5. The resources, organization contacts, best practices and tips in the guide were useful and practical:

   ❑ Never ❑ Rarely ❑ Sometimes ❑ Often ❑ Always

6. The guide highlights effective ways to increase accessibility for a terminal or carrier:

   ❑ Never ❑ Rarely ❑ Sometimes ❑ Often ❑ Always

7. My overall satisfaction with this users' guide is:

❑ Very Low ❑ Low ❑ Moderate ❑ High ❑ Very High

8. Please indicate which type of respondent you represent:

❑ Air Carrier

❑ Rail Carrier

❑ Ferry Operator

❑ Airport Operator

❑ Rail Terminal Operator

❑ Ferry Terminal Operator

❑ Association of/for persons with disabilities

❑ Media

❑ Government

❑ Other (please specify:) _____

Additional Comments: Do you have any other comments about the guide or suggestions for information that could be included in future editions? (Attach additional sheets as needed):

Thank you for your participation.

Accessible Transportation Directorate
Canadian Transportation Agency