Orientation & Mobility

A PROVINCIAL PERSPECTIVE (ALBERTA)

Niels Nicolajsen MEd, COMS
Teacher of the Visually Impaired,
Orientation & Mobility Specialist (certified)

Presentation Outline

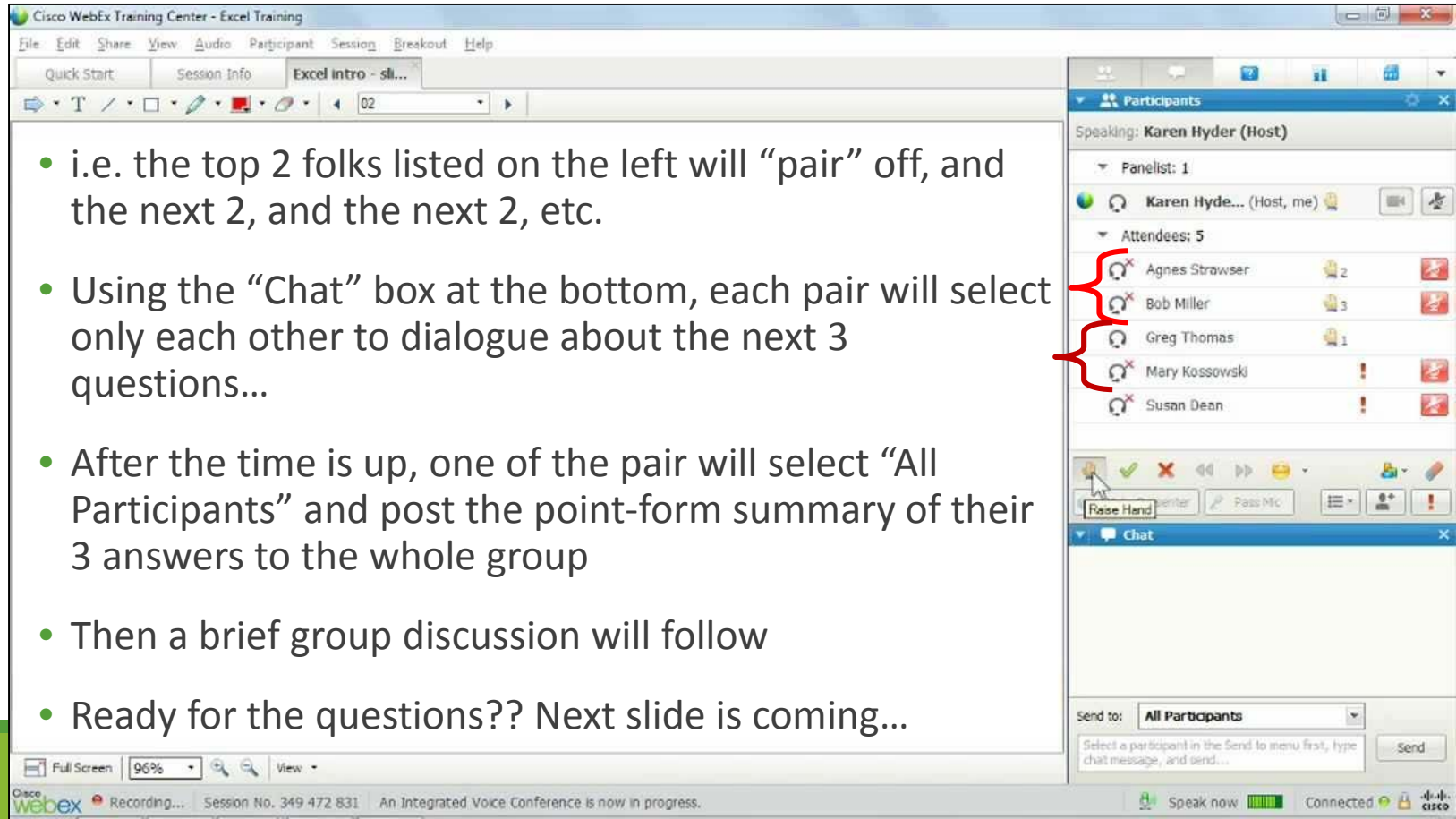
- About me
- Trends in Orientation and Mobility (O&M)
  - “trends” = fads, ideas that come-and-go
  - “trends” = improvements, movements or ideas that helped and remained
- Major issues and hurdles in O&M over time, specific to Alberta
- White canes
  - Assessment
  - where to acquire canes
  - parental involvement
  - the ID cane and its importance
- The role of the Teacher of the Visually Impaired (TVI), in context of the previous topics…

About Me

- Alberta born & raised
- Finished my BEd in 1999, began supply teaching (off-and-on) for 5 yrs
- Finished “Mastering Literary Braille” course in Spring 2000 (?)
- In Fall 2000 worked almost 1 year as an EA-Braillist for a Grade 3 student who is blind
- Began Teacher of the Visually Impaired (TVI) Masters coursework at UBC in Summer 2001
- Began O&M post-graduate studies at UNCO in 2006
  - Traveled to NJ and NY in March 2007(?) as part of my studies to tour *The Seeing Eye* and the *Helen Keller National Center* respectively
- Finished certification (COMS) in 2008; recertified in 2013

An Opportunity for “Discussion”

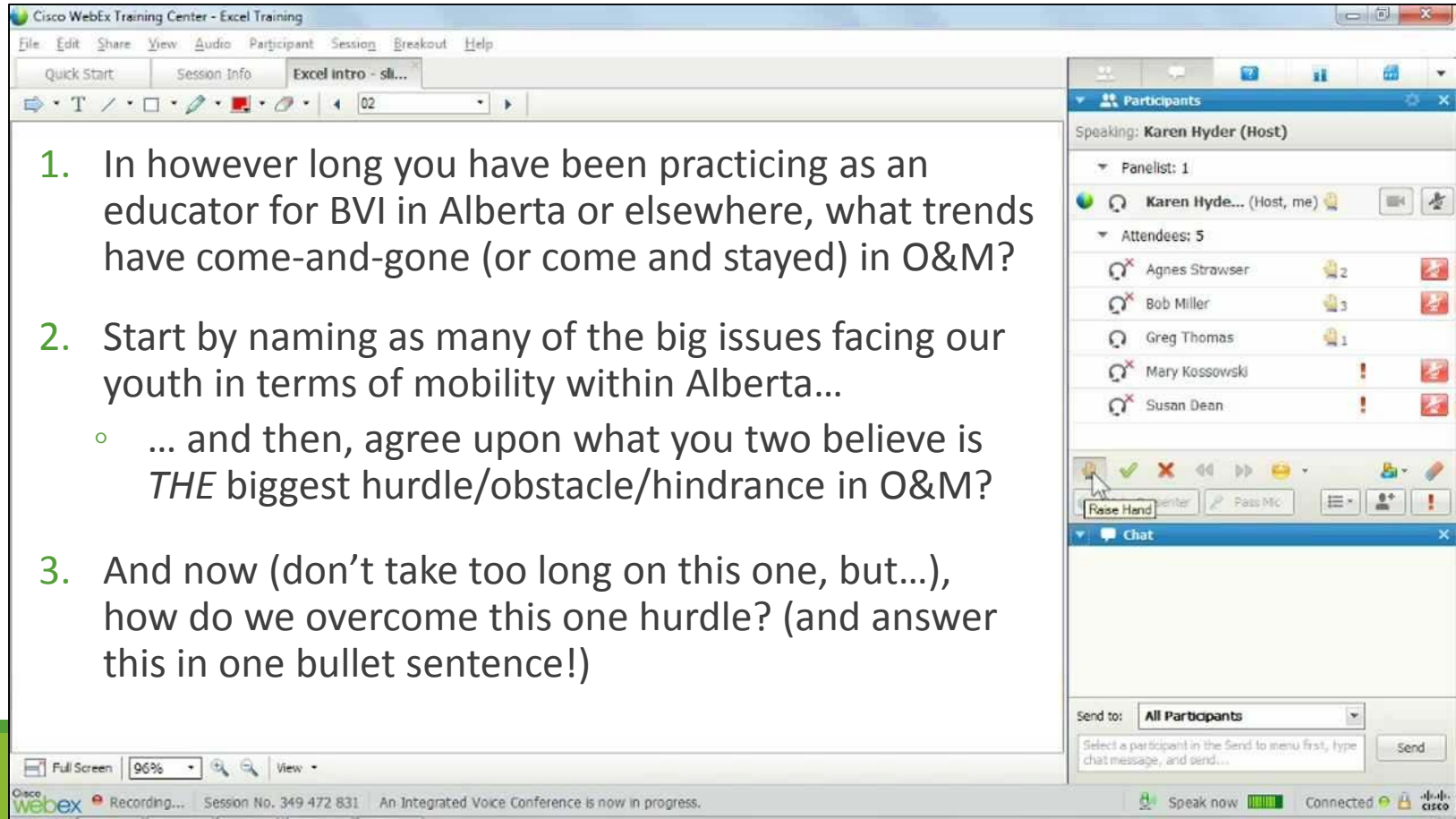
- Using the “Chat” feature, “Participants” from the list at left are to pair off (alphabetically) to complete a 5-6 minute discussion activity:



- i.e. the top 2 folks listed on the left will “pair” off, and the next 2, and the next 2, etc.
- Using the “Chat” box at the bottom, each pair will select only each other to dialogue about the next 3 questions…
- After the time is up, one of the pair will select “All Participants” and post the point-form summary of their 3 answers to the whole group
- Then a brief group discussion will follow
- Ready for the questions?? Next slide is coming…

An Opportunity for “Discussion”

- Using the “Chat” feature, “Participants” from the list at left are to pair off (alphabetically) to complete a 5-6 minute discussion activity:



1. In however long you have been practicing as an educator for BVI in Alberta or elsewhere, what trends have come-and-gone (or come and stayed) in O&M?
2. Start by naming as many of the big issues facing our youth in terms of mobility within Alberta…
   - … and then, agree upon what you two believe is *THE* biggest hurdle/obstacle/hindrance in O&M?
3. And now (don’t take too long on this one, but…), how do we overcome this one hurdle? (and answer this in one bullet sentence!)

Trends in O&M

For good or bad, some are here to stay… and some are definitely an improvement in society (whereas others… well, were not!)

- Public awareness
- Electronic travel aids
- GPS to navigate
- New and improved white cane
- Accessible environments

Public Awareness: in stamps

2008 Canadian stamp

1964 Dutch stamp

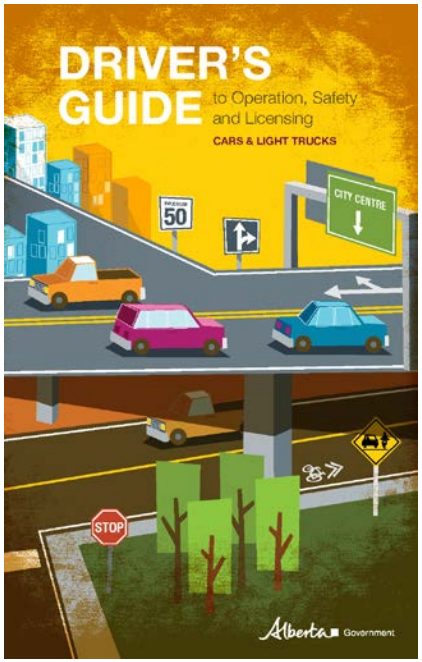
1981 UK stamp

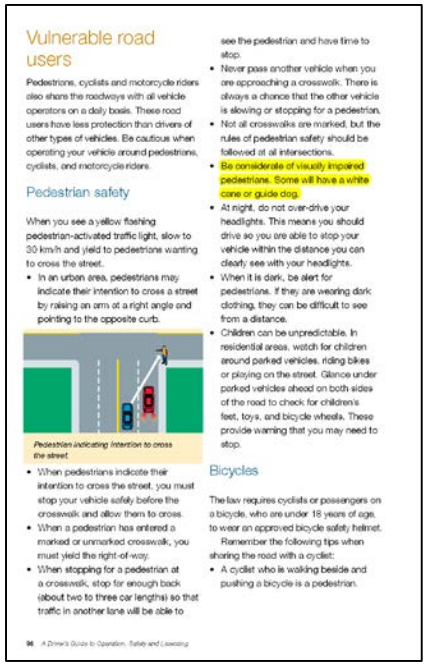
1967 Swiss stamp with white cane
"highlighting right of way for blind people"

http://www.mrcophth.com/stampsandophthalmology/stampindex.html

Public Awareness: Driver Education

FROM THE LATEST (2014)
"DRIVER'S EDUCATION" MANUAL:





Vulnerable road users

Pedestrians, cyclists and motorcycle riders also share the roadways with all vehicle operators on a daily basis. These road users have less protection than drivers of other types of vehicles. Be cautious when operating your vehicle around pedestrians, cyclists, and motorcycle riders.

Pedestrian safety

When you see a yellow flashing pedestrian-activated traffic light, slow to 30 km/h and yield to pedestrians wanting to cross the street.

- In an urban area, pedestrians may indicate their intention to cross a street by raising an arm at a right angle and pointing to the opposite curb.

Pedestrian indicating intention to cross the street

- When pedestrians indicate their intention to cross the street, you must stop your vehicle safely before the crosswalk and allow them to cross.
- When a pedestrian has entered a marked or unmarked crosswalk, you must yield the right-of-way.
- When stopping for a pedestrian at a crosswalk, stop far enough back (about two to three car lengths) so that traffic in another lane will be able to see the pedestrian and have time to stop.
- Never pass another vehicle when you are approaching a crosswalk. There is always a chance that the other vehicle is slowing or stopping for a pedestrian.
- Not all crosswalks are marked, but the rules of pedestrian safety should be followed at all intersections.
- Be considerate of visually impaired pedestrians. Some will have a white cane or guide dog.
- At night, do not over-drive your headlights. This means you should drive so you are able to stop your vehicle within the distance you can clearly see with your headlights.
- When it is dark, be alert for pedestrians. If they are wearing dark clothing, they can be difficult to see from a distance.
- Children can be unpredictable. In residential areas, watch for children around parked vehicles, riding bikes or playing on the street. Glance under parked vehicles ahead on both sides of the road to check for children's feet, toys, and bicycle wheels. These provide warning that you may need to stop.

Bicycles

The law requires cyclists or passengers on a bicycle, who are under 18 years of age, to wear an approved bicycle safety helmet.

Remember the following tips when sharing the road with a cyclist:

- A cyclist who is walking beside and pushing a bicycle is a pedestrian.

96 *A Driver's Guide to Operation, Safety and Licensing*

… AT LAST, INFO REGARDING BVI!

Page 96, under "Vulnerable road users:

"Be considerate of visually impaired pedestrians. Some will have a white cane or guide dog."

"Miniguide"

ETAs (Electronic Travel Aids)

"Wii Cane"

"Proximity Glasses" concept by Videre

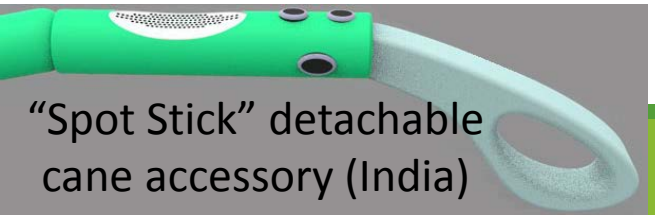
"Bat K sonar cane"

"~~eSight glasses~~"

"Smart Cane"

"Mowat Sensor" (1973)

"Ultracane"



"Spot Stick" detachable cane accessory (India)

Accessible GPS

1st generation SmartPhone with TTS GPS

Mobile GEO

original “Trekker” Maestro

“Trekker Breeze”

tactile braille compass

BrailleNote with A+ GPS

original “Kapten”

iPhone! iPhone! iPhone!

touchgraphics.com

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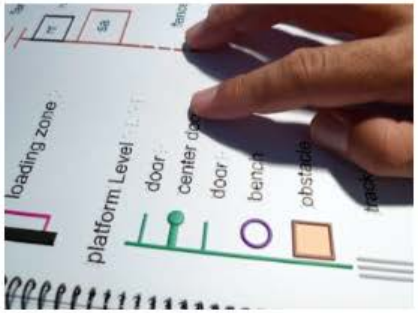
Portfolio

View / Orientation

All | Education | Exhibits | Orientation | Universal

Perkins School for the Blind Talking Model



Bay Area Rapid Transit (BART) Maps

Highlights from the San Diego Museum of Art: A Tactile Art Book

Carroll Center Talking Campus Map

WiiCane

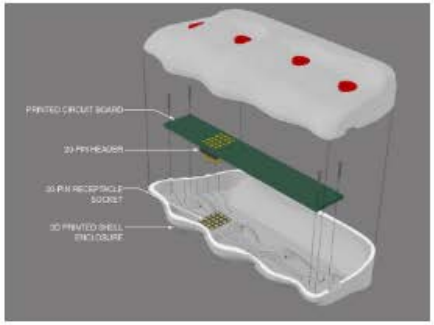
Ping! – User-Activated Audio Beacons

Tmap

Tactile Maps and Guides

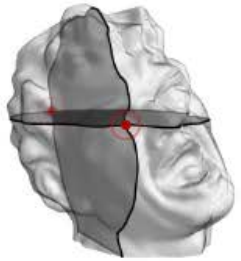
Research

Pixel Board

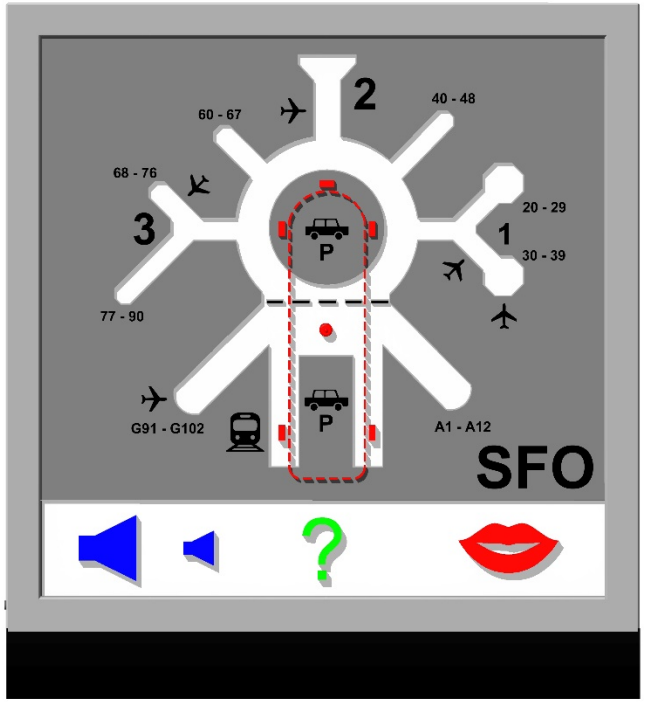


smartGrips

Brooklyn Bridge Universal Exhibits



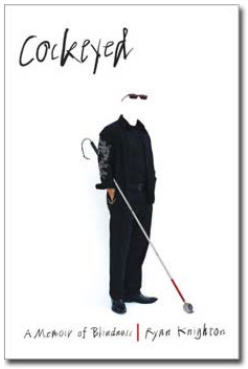
Talking Tactile Head

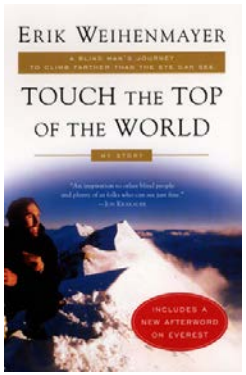


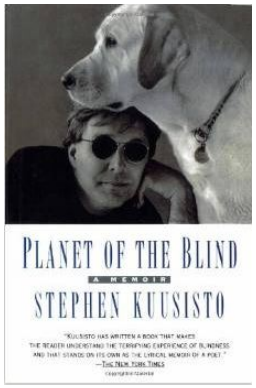
http://touchgraphics.com/

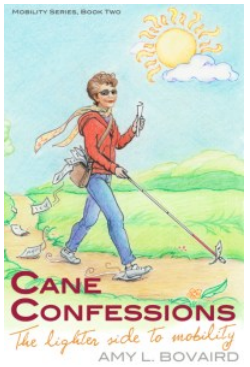
Quick Little Soapbox Moment:

1. Read personal tales, if you can (examples below)









*

* 15 minute clip, "Cane Confessions“: http://amybovaird.com/cane-confessions/

- talks to her revelation of the use of a white cane indoors in unfamiliar/new environments, or even familiar-but-not-your-home venues

2. Advocacy for **use of ID canes** for children with low vision…

Quick Little Soapbox Moment:

3. Echolocation
   - 2011 Daniel Kish on Pop!Tech – 23 min. funny but informative video:

https://youtu.be/GYWpxmcHTOc

4. Insurance
   - Hard to find, especially in Canada
   - US provider, http://www.ftj.com/

Forrest T. Jones & Company
3130 Broadway
Kansas City, MO 64111-2406
(800) 821-7303

Quick Little Soapbox Moment:

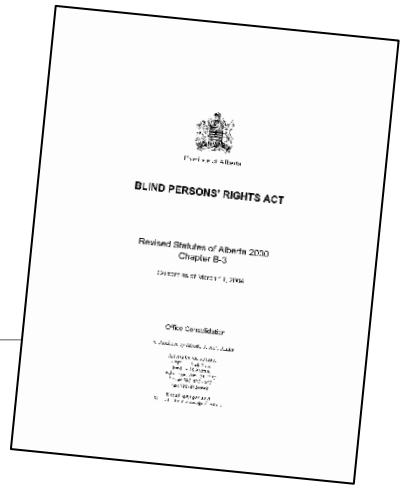
5. CANES vs. DOGS

Trend, or not…?

Guide Ponies / Horses:

- 2011 photo at right taken at an airport using a Blackberry (courtesy of Ross Ehalt)
- Guide Horse Foundation - Miniature horses for the blind www.guidehorse.com
- There are advantages!
  - longer working lifespan
  - easier clean-up

Blind Person's Rights Act


BLIND PERSONS' RIGHTS ACT

Revised Statutes of Alberta 2000
Chapter B-3

Office Consolidation

AB Legislation, amended (2004):

- BPRA defines "'white cane' means a cane or walking stick, the whole or the upper 2/3 of which is painted white"
- only "a blind person shall carry or use a white cane in a public place…"
  - "liable to a fine not exceeding $250" (older un-amended version of the act cited $25 fine!)
- BPRA also speaks to dog guides:
  - impersonating a dog guide user is "liable to a fine not exceeding $300"
  - denying access to a dog guide user is "liable to a fine not exceeding $3000" (old = $300)
    - "Nothing in this section shall be construed to entitle… a blind person to require any accommodation, service or facility in respect of a guide dog <u>other than the right to be accompanied by the guide dog</u>"
  - "does not apply if the blind person does not control the behaviour of the guide dog"

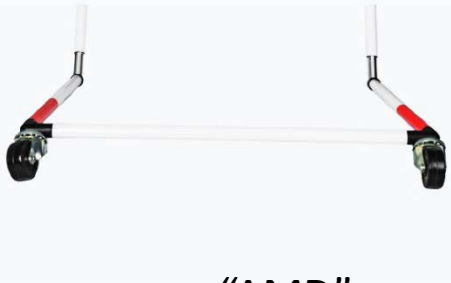
BC's GUIDE DOG AND SERVICE DOG ACT (2015) replaces GUIDE ANIMAL ACT (1997)

- Newer act drops all mention of white cane (i.e. no more "A person who is not a blind person according to accepted medical standards must not carry or use a white cane")
- Fine increased from the old act of $200 to the newer one at $3000

telescopic cane

ID cane

WHITE CANES:



"AMD"s (Adaptive Mobility Devices)

Support "quad" cane

Mobility canes

WHITE CANE grips:

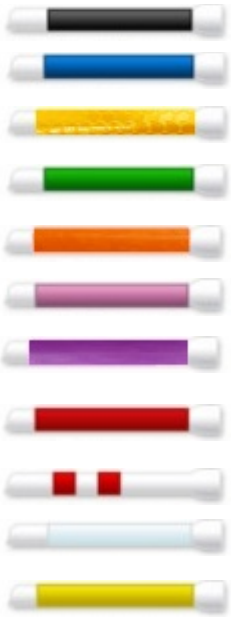
White canes by Comde-Derenda (near Berlin)

White canes by Ambutech (Winnipeg)

“WHITE” CANE shaft colours:

Ambutech’s choices:

- Black
- Blue
- Gold
- Green
- Orange
- Pink
- Purple
- Red
- Red stripes (main shaft only*)
- White
- Yellow



→

Comre-Derenda (Berlin):

- “Design” cane with black flower

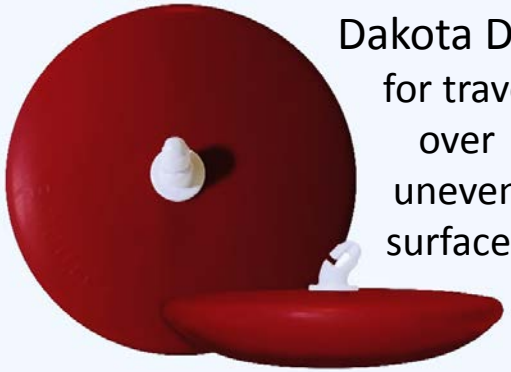
White Canes: different tips

Bundu basher
(not available in Canada)

ceramic tip

metal button tip

push broom tip



Dakota Disc:
for travel over uneven surfaces

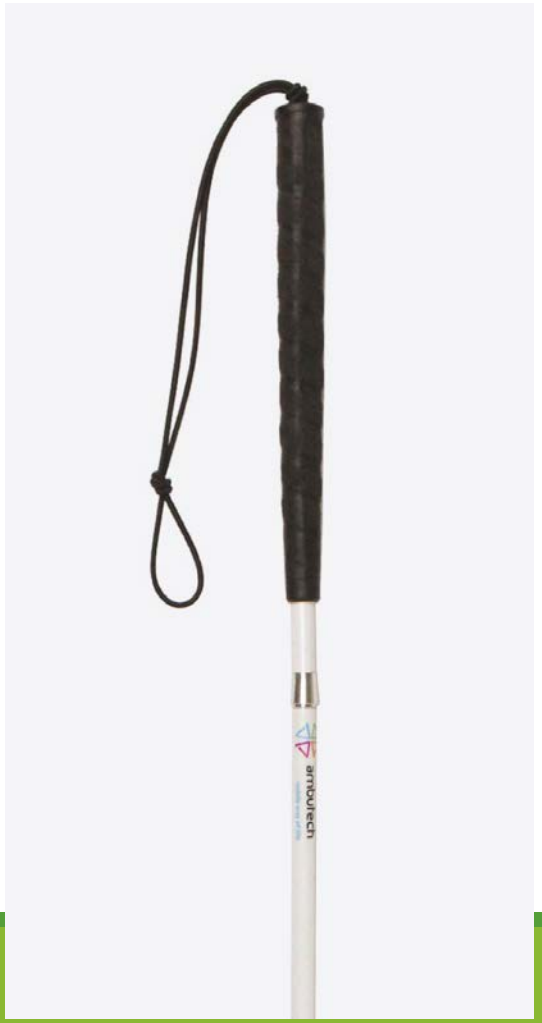
Flex hook tip:

bell-shaped with a flexible neck for bounce/give

high-mileage roller tip

Roller marshmallow in matching hood colours

Improving the WHITE CANE…



Improved grommets #1

Improved grommets #2

Trend, or not…?

Multi-coloured, or solid-colour, "white" canes:

- Photo below is one of my mother-in-law's canes (also an all black one)
  - stylish (e.g. Grad ceremony)
  - fun… but legally not considered a "white cane"

A more fun way to
“dress” up the white
cane, tag onto
various seasonal
celebrations, and
add teachable
moments with
possible concept
development

Nashua Telegraph

. . . New Hampshire's Largest Evening Newspaper . . .

VOL. 113 NO. 19 continuing the New Hampshire Telegraph Established October 20, 1832 NASHUA, NEW HAMPSHIRE, MONDAY, MARCH 23, 1981 PHONE 882-2741 36 PAGES 25 CENTS

Buzzer aids the blind

QUINCY, Mass (AP) — It only cost $100, but the loud traffic buzzer installed for the blind at the intersection of Hancock and Squantum has taken the "Russian roulette" out of crossing the busy thoroughfares.

"It has really helped," said Jerry Birr, who with his wife, Lisa, who is also blind, used to take a cab to the subway station three blocks away rather than risk crossing the intersection. "It stops all traffic, and you can follow the sound."

The buzzer was installed after City Councilwoman Joanne Condon received a letter from the mother of a blind person, detailing the difficulties of crossing the intersection.

In the letter, Mrs. Francis Devin said crossing the intersection was like playing "Russian roulette" with your eyes "open or closed."

Before the buzzer was installed," said Birr, "you would just go up to the corner and hope someone would help you across it. Because you can't count on that as a reliable thing, we sometimes took a cab."

Audible/Vibrating Signals

PATENT PENDING

Article: "Audible Beaconing with Accessible Pedestrian Signals"

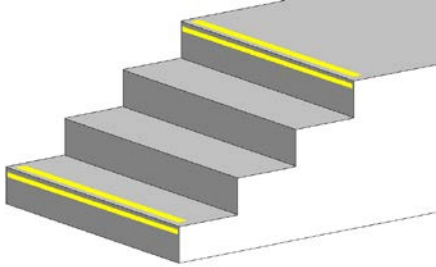
by Janet M Barlow, MEd; Alan C Scott, PhD; and Billie Louise Bentzen, PhD.

AER Journal, Fall 2009; 2(4): p.149–158.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2901122/

ABSTRACT: Although accessible pedestrian signals often are assumed to provide wayfinding information, the type of accessible pedestrian signals that has typically been installed in the United States has not had positive effects on finding crosswalks, locating pushbuttons, or providing directional guidance. This article reports the results of research on crossings at complex signalized intersections by pedestrians who are blind, before and after the installation of accessible pedestrian signals with innovative audible beaconing features designed to improve wayfinding.

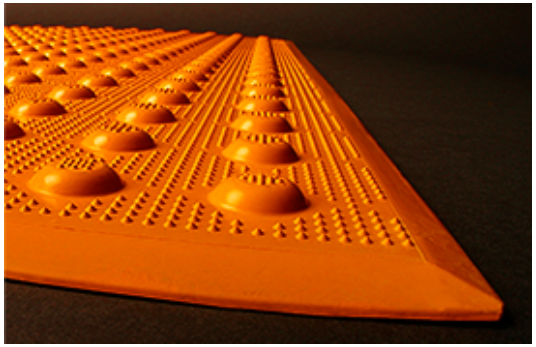
Objective data on measures of street-crossing performance by 56 participants were obtained at four intersections, two each in Charlotte, North Carolina, and Portland, Oregon. In the first round of testing, accessible pedestrian signals with beaconing features resulted in only slightly improved wayfinding. Revisions to the audible beaconing features resulted in improved performance on four measures of wayfinding as compared with the preinstallation condition: beginning crossings within the crosswalk, ending crossings within the crosswalk, independence in finding the starting location, and independence in aligning to cross. Use of accessible pedestrian signals that provide beaconing from the far end of the crosswalk show promise of improving wayfinding at street crossings.

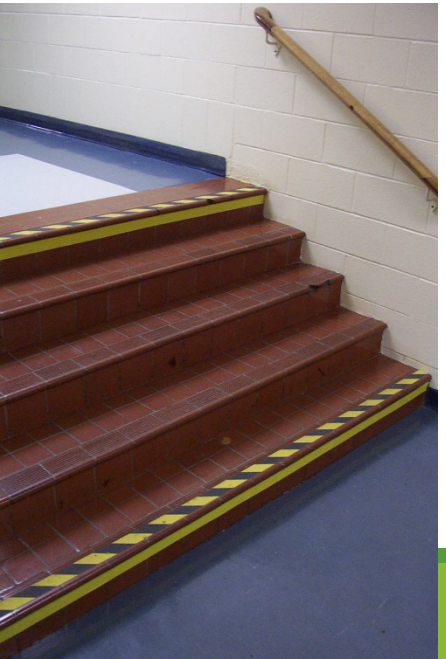


Environmental ACCESS

Examples:

- marked / textured stairwells
- “truncated domes” on drop-offs, sidewalks

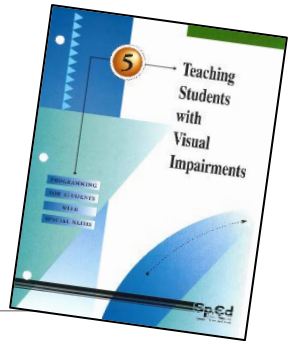




11:32 AM
EMERGENCY EXIT
SORTIE D'URGENCE
4800

Departures Board
Dec 28, 2013
10:33 AM
106 Lessard
10:44a
4 Capilano
10:45a
7 Jasper Place
10:47a
BTS Live

Alberta Education's 2004 VI Document



Prior to 2004, the only document (1996) to mention O&M was Section V "Orientation and Mobility", from *Teaching Students With Visual Impairments*, Volume 5, AB Ed SpEd Branch…

In the 2004 *Essential Components* document and the Expanded Core Curriculum appendix, O&M is a key area:

- Member of the Learning Team
- Disability-specific skills
- Assessment
- Access to Service
- Programming options
- Transition planning

TVIs Supporting O&M

Teaching students / staff / parents etc. …

- Human guide (aka sighted-guide);
- indoor skills such as trailing, protective techniques, room familiarization, search patterns;
- reinforcing white cane skills;
- concepts such as directional skills (laterality, etc.);
- map-and-tactile reading skills

Conducting environmental assessments, making recommendations, and advocacy

Leave the following up to the O&M Specialist:

- skills related to using a white cane in new ways
- determine and distribute the appropriate cane
- outdoor skills, and/or independent mobility training
- assess a person's O&M skills to set up an O&M program

TVIs Supporting O&M

Conducting environmental assessments, making recommendations, and advocacy:

- Snow removal
- New construction, insights into BVI
- Modifying existing environments
- Liaisoning with schools/district maintenance & facilities:
  - Not to confuse the O&M of “Orientation and Mobility” with the O&M of “Operations and Maintenance”!

“Truncated Domes”

- As a crossing indicator
- 90° placement (“perpendicular”) to sidewalk direction and traffic flow
- Opposite one across the street to aid with straight line of travel

Used in California to indicate slope,
as well as intersecting sidewalks

Ahh, snow windrows…
sometimes make it easy to “shoreline”

Weather! Its impact on O&M:

Snow
- muffles sound
- unshoveled pathways
- ice
- cold

family matters

BY GINGER IRWIN, COMS, INSTRUCTOR

Tips for Traveling in Winter

Solutions/Resources:
- “mobility mittens”
- ice-grippers
- AFB's FamilyConnect® Website For parents of children with visual impairments, “Traveling with Your Cane in Winter Weather”:

http://www.familyconnect.org/parentsite.aspx?SectionID=66&TopicID=321&SubTopicID=206&DocumentID=5377&rewrite=0

Truncated domes packed with ice,
making “squaring off” difficult…

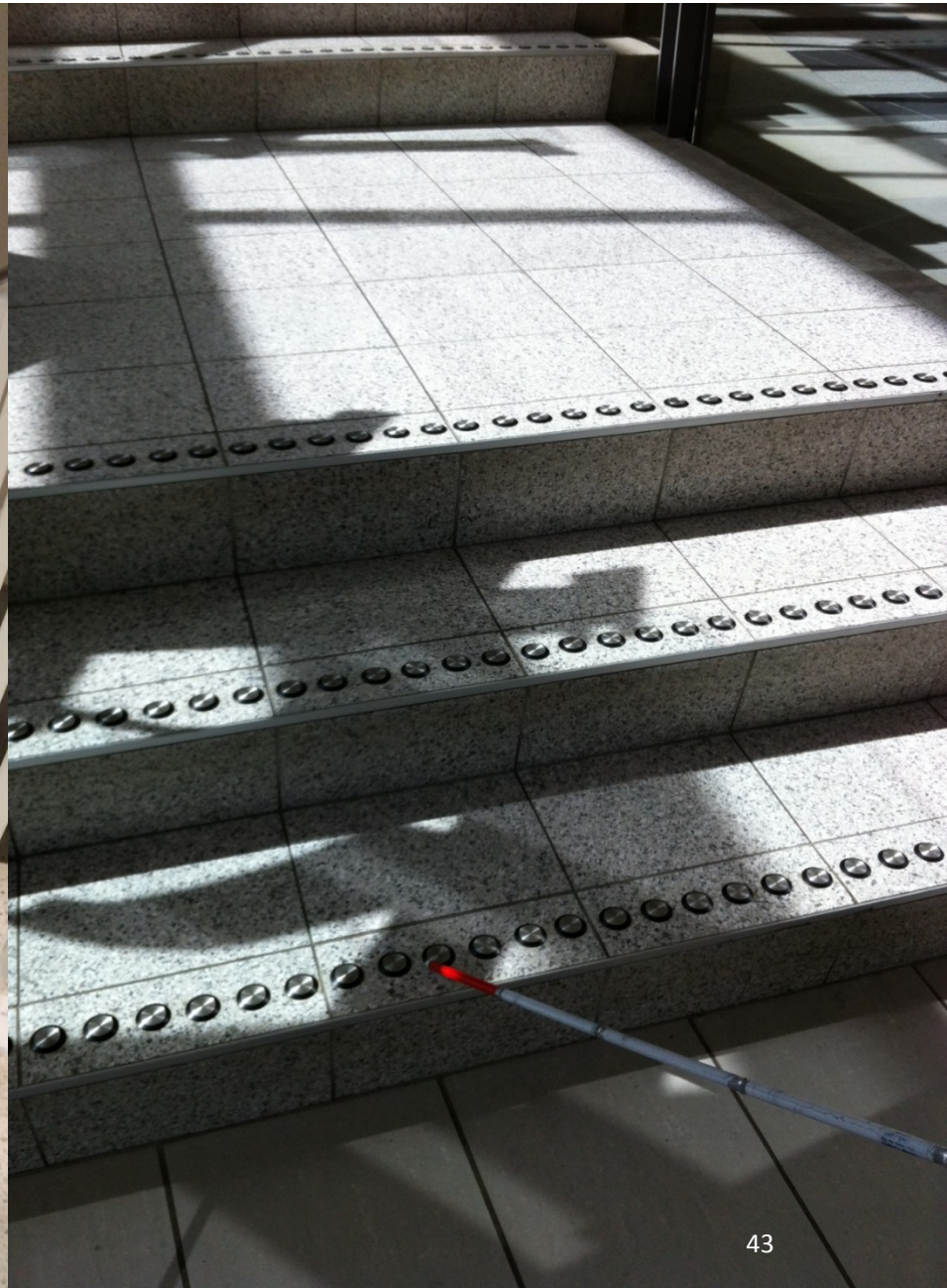
The ideal “Truncated Domes” on LRT platforms meet up with the realities of Alberta winters!

(Harder to distinguish its texture under the cane tip)

Bus steps with
poorer contrast,
one short handle

Better contrast,
two longer handles

Stairs with poor contrast, including landings



Again, poor contrast (ergo not good for those with low vision)

Common Area:
poor contrast / recessed

Music Room: before picture

Music Room:
after picture
(modified with
Velcro tape)

Example of poor contrast door posts, modified for better visibility (UDL)

Example of stairs
& landings with
poor contrast,
modified for
better visibility

Questions or Comments?

Email Niels in Eastern Edge RCSD:

niels.nicolajsen@eips.ca

EE-RCSD LIT website, including the Resource page on O&M:

http://bit.ly/ee-rcsd or

https://sites.google.com/a/eips.ca/ee-rcsd/

Regarding the 2018 “Seeing Beyond the Horizon” CVTC:

Niels’ email: tvi.coms.ab@gmail.com

Website: https://sites.google.com/site/2018cvtc/

"Orientation & Mobility: A Provincial Perspective (Alberta)"
BVI-PLC webinar presentation comments from the online Chat,
and the responses generated thereafter by the presenter:

"With Mohawk [College's O&M program] *gone and need for certified O&M we are needing to overcome this. The lack of service to our students* [is] *because we have no experienced people."*

- **A lingering problem over the years, and has more recently been exacerbated by our province's RCSD model, with the BVI professionals spread further out & with less FTE in each than there collectively used to be. There is a collection of RCSD managers along with Roy attempting to address the O&M issue in the very short future**

"Perhaps there needs to be a more significant component to O&M as a part of the BVI degrees"

- **Not completely in agreement there… there is a good reason why the O&M training provided for TVIs ends at a certain point. The tasks beyond that are the scope and responsibility/liability of a fully-trained O&M instructor.**

- **Also, with that role of the O&M Specialist comes all that extra liability; not something every TVI is willing to take on**

"Is there a document or any guidelines that outline the O&M concepts that can be taught or supported by a TVI - esp. WRT O&M in the school?"

- **I can suggest one looks to BC's FIT document (Framework for Independence, 1999) – print page 11 and onwards speak to the concepts students need to work on, and almost all of them do <u>not</u> need to be exclusively taught by an O&M Instructor (i.e. the TVI can work on these, school staff, parents…)**

  Framework for Independent Travel: A Resource for Orientation and Mobility Instruction
  https://www.bced.gov.bc.ca/specialed/docs/fit.pdf

"Orientation & Mobility: A Provincial Perspective (Alberta)"
BVI-PLC webinar presentation comments from the online Chat,
and the responses generated thereafter by the presenter:

"Do you have resources to give to high school students who can't get their driver's licenses?"

- **There used to be an "Undrivers Course", a book resource to teach them the rules of the road for those whose vision prevents getting a license. Not sure where to find that resource anymore, as was published years ago…**

- **With my print copy of the present AB drivers manual (Class 5), I have often thought of having it rendered into both electronic large print and UEB braille with tactile diagrams for the various signs. Would love to have this taught to our students as they approach 16, so they too know the "rules of the road" before crossing streets more and more…**

"A way to get parents onboard to invest more time in travel training?"

- **If there's ever a panel of youth people discussing the benefits of O&M at a workshop or conference, make sure those types of parents are there in the audience, listening and asking questions**

- **Another is to connect those types of parents with those that are already onboard:**
  - **A good example is a former O&M student of mine near Edmonton who was receiving private O&M from me 2x per month (and 1-2 sessions at school per month at the peak). Later in Jr. High, his dream of having a dog guide by age 14 was motivation for him to ask his parents to practice O&M outdoor routes with him during these in-between times from my community lessons. It got to the point where he made better progress in those 4-6 months with his outdoor street-crossing skills than what progress he made in the previous 2 years. More practice with more parental involvement**
  - **If those other types of parents were to talk to those involved parents, the former would hopefully understand the importance of supporting their child's O&M.**

"Orientation & Mobility: A Provincial Perspective (Alberta)"
BVI-PLC webinar presentation comments from the online Chat,
and the responses generated thereafter by the presenter:

"A way to get students to get motivated to get out there on their own?"

- **Well, despite this specific example above, a dog guide is not for everyone (hence it should not be used as the motivation to get our students on the move). Note that it is rare for a young person to have…**
  a. **the right skill set to be ready for a dog guide, especially at so young an age, and**
  b. **the need for a dog guide – if a student walks the same route to/from school every day, and really goes nowhere else independently on a <u>daily</u> basis (despite hoping to be more independent with a dog, even though he/she is not with the white cane), almost all dog schools (at least the reputable ones) will turn down that request for a dog.**

- **So, what other motivation can we instill into them to work on O&M skills? Will they listen to us when we tell them that (according to stats in the US) the highest contributing factor to having employment is the level of O&M skills? Probably not…**
  - **Work Experience (credit course or not) is an excellent way to get them prepared for post-high school life, and to use/develop their O&M skills**

- **And by "get out there on their own"… I would also like to stress that they are a population that is vulnerable, and should also consider taking self-defense courses.**

"Orientation & Mobility: A Provincial Perspective (Alberta)"
BVI-PLC webinar presentation comments from the online Chat,
and the responses generated thereafter by the presenter:

"Is there any movement to start having beacons to enhance the information provided by apps like BlindSquare?"

- **As far as I know, the implementation of this technology is completely volunteer. No building accessibility codes in Canada that I'm aware of require indoor GPS markers; there would be more movement in the States to get this required, but up here we barely have acoustic requirements meeting building codes, and far less actually implementing acoustic design correctly. Try that with O&M, and there'd be a lot done wrong I'd suspect!**

- **I'd rather see legal requirements to that have stairways with higher contrast marking, rather than buildings to have accessible GPS transponders.**

- **That being said, it just takes one venue to have something similar in place (e.g. Smart Landmarks, by Sensible Innovations) for it to be a selling feature. For the facility that is going to host the 2018 "Seeing Beyond the Horizon" conference, since they are renovating anyways it was suggested to them to add this – wouldn't it awesome during this conference if attendees needing O&M could navigate indoors with this app!**

- *Niels Nicolajsen* MEd, COMS
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Eastern Edge RCSD (Regional Collaborative Service Delivery)
https://sites.google.com/a/eips.ca/ee-rcsd/

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