State Aid ADA Project Process

Julie Dresel, P.E. | Metro State Aid Program Eng.

January 25, 2017
• The Local Agency/Designers should determine what type of ramps will work at each corner.

• What are the right-of-way and removal needs? Don’t paint yourself in a corner.

• GO TO ADA TRAINING! There is also valuable information on the MnDOT ADA website: http://www.dot.state.mn.us/ada/index.html
Plan Preparation

- Federal Aid projects must comply with PROWAG and the most current guidelines.
- State Aid projects should comply with current guidance and with your ADA Transition plan.
- MnDOT is responsible for acceptance and compliance of work on the TH and the Interstate System.
Plan Preparation

• Use the current Pedestrian Curb Ramp Details Standard Plan Sheets. The new set is 6 pages. These provide more clarification, not necessarily more changes.

• 20 scale plan details are required for projects that fall within TH right-of-way. They are suggested for Federal Aid and State Aid projects.

• 1803 Prosecution of Work is the only specification that is required by State Aid. MnDOT uses several others, too. Be familiar with your provisions and the needs of your project.
Project Execution
• Expect the same workmanship that MnDOT expects. Get what you pay for!

• Make sure everyone is talking in the field – general contractor, sidewalk contractor, electrical contractor, inspectors, engineers, etc.

• Know what is in the final checklist and communicate with your contractor.
Project Execution

• A suggestion – lay out your ramps with paint and take a picture.

• Get the landing right first. These are now a separate pour.

• Stay engaged with your project!

• Don’t expect others to perform miracles on your project! Think it through early.
• Meet the Standard Plan requirements or document why you can’t.

• Have the ramps reviewed ASAP after construction. Preferably, review the first ramp after construction to catch any issues early.

• DON’T wait to call for State Aid review until you are submitting final pay documents.
Thank you!

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The City of Golden Valley’s ADA Transition Plan Experience

Jeff Oliver
City Engineer
Adopted ADA Plan in 2011
Why so early?
Embraced ADA Compliance Early

- Required by law
- To better serve our community
  - Senior Housing
  - Care Facilities
Plan Development and Content

- Self evaluation
  - Existing pedestrian ramps
  - Sidewalks
  - Signal systems
- Outlined requirements
  - PROWAG
    - provided consistent standards
Plan Development and Content

- Identified priority areas
Priority Areas

- High target population areas
- Aged infrastructure
  - Downtown streetscape
  - Brick walkways, dated ramps, poorly placed push buttons
End Result

- Defined Pedestrian Access Route (PAR)
- Compliant Ramps
- Accessible Push Buttons
- Goals Met
Benefits

- Provides guidance
  - In projects we are already doing
- Sets priorities
  - Stand alone projects easily identifiable
- Supports maintenance
  - Snow removal
Need More Reasons?

- 2019-2022 TIP federal funding eligibility
  - Must have an adopted Transition Plan
Summary

- Has not increased workload after plan approval
- Provides guidance
- Sets priorities
- It’s essential
- Keep it simple
- Just do it
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Programming Accessible Pedestrian Signals

The Rules and the Reality

Sonja Piper
Sue Zarling
January 25, 2017
THE RULES
2005 Draft Public Rights of Way Accessibility Guidelines (PROWAG) – Section 306

- APS shall be installed where a pedestrian indication exists
- Location guidance relative to other APS stations
- Volume guidance that could be measured at a given distance
- Allowed for tone or speech messages for the Walk Indication
- Optional feature information
- Push button standards – size, arrow dimensions, street name in Braille (or audible) format
Differences Between 2005 PROWAG and 2011 Guidelines

2011 Proposed Accessibility Guidelines For Pedestrian Facilities in the Public Right-of-Way - Section 209

• APS and pushbutton are an integrated device and shall be installed at locations that a pedestrian signal is provided.

• Removed all guidelines for location, sound, or other APS information

• Comply with sections 4E.08 through 4E.13 of the 2009 MUTCD – if differences between the documents the Accessibility Guidelines apply

• Existing pedestrian signals should comply with above when the signal controller and software are altered, or the signal head is replaced
What do the Rules Say?

Locator Tone and Audible Walk Indication Volume

• Set volume a maximum of 5 dBA louder than ambient sound
  • 2005 PROWAG had additional information that this volume should be measured at 3 feet from the device and have a minimum setting of 2 dBA above ambient sound

• Provide automatic volume adjustment in response to ambient traffic sound up to a maximum volume of 100 dBA

• Shall be intensity responsive to ambient sound, and audible 6 to 12 feet from the pushbutton, or to the building line, whichever is less
Audible Message rules per MUTCD

- Use a percussive tone for walk indication for buttons set at least 10 feet apart
- Use a speech message for buttons separated by less than 10 feet
- After the audible walk indication the accessible pedestrian signal shall revert to the pushbutton locator tone (no audible countdown)
• Coordinated through NCITE Intersection Traffic Control Committee

• MnDOT Traffic and ADA Offices, City of Minneapolis, City of St. Paul, City of St. Cloud, Hennepin County, Washington County

• Committee was established to attempt to create APS operational consistency for users of the APS systems across the state
Rectangular Rapid Flashing Beacon (RRFB)

• FHWA clarification that RRFB’s must meet the MUTCD 4E.09 Paragraph 3

• ADA requires that they are accessible by all users

• “Flashing Yellow Lights Are On”

• Repeat message twice at beginning of the flashing period
THE REALITY
The Reality

• Current guidance does not provide any tangible or measureable volume settings
• At what level should the buttons be heard at 6-12 ft away?
• APS programming should balance needs of those that rely on them and those that live near them
• Cities have different issues than MnDOT
  • Signals along lower volume roads
  • Adjacent to residential areas
  • More likely in noise sensitive areas
Typical Sound Levels

• Typical Traffic when on Sidewalk: 70-80 dBA
• Typical Passing Train on Platform: 90 dBA
• Typical Suburban Area: 45 dBA
Typical Sound Levels

<table>
<thead>
<tr>
<th>dB Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>± 1 dBA</td>
<td>Not Noticeable</td>
</tr>
<tr>
<td>± 3 dBA</td>
<td>Threshold of Perception</td>
</tr>
<tr>
<td>± 5 dBA</td>
<td>Noticeable Change</td>
</tr>
<tr>
<td>± 10 dBA</td>
<td>Twice (Half) As Loud</td>
</tr>
<tr>
<td>± 20 dBA</td>
<td>Four Times (One Fourth) As</td>
</tr>
</tbody>
</table>

**Figure 5. Change in decibel level and perceived change in loudness**

A Guide to Noise Control in Minnesota, MPCA, Nov 2015

- Program APS 3-5 dBA above ambient
- Should be similar to ambient volume
• Two vendors currently approved on MnDOT’s Approved/Qualified Products List
• Output to end user is similar
• Programming details are different

**Polara**
• Program with Configurator
• Volume Settings: 0% to 100%
  • 0% = 40 dB
  • 100% = 100 dB

**Campbell**
• Program with Laptop
• Volume Settings: Range -300 to +300
  • 0 = 53.0 dB
  • 100 = 72.5 dB
Basic Sound Settings

Campbell Sounds

- Locator Tone
- “Wait” Message
- Walk Tone
- Speech Message
Statewide Programming Recommendations

- Standardized settings throughout MN
- “Wait” every 4 seconds
- Extended push defined as 2 seconds
  - Provides details as to intersection and crossing
- Walk sound should be Rapid Tick #3
- No audible countdown
Sample Polara Programming Sheet

- Standard settings as default. Changes recorded in blanks to right
- Locate Vol Min: 0%
- Locate Vol Max: 55-70%
- Std Walk Vol Max: 55-70%
- Ext Walk Vol: Higher range
- Vol Over Ambient: Increases playback of all sounds except locate tone relative to ambient
  - Use with caution
- Loc Vol Over Amb: raises or lowers volume of locate tone relative to ambient noise level
  - Use with caution

<table>
<thead>
<tr>
<th>Program Date:</th>
<th>Initials:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Std Program Settings

<table>
<thead>
<tr>
<th></th>
<th>Mfg Setting Types</th>
<th>POLE</th>
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<th>POLE</th>
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<tbody>
<tr>
<td>LOCATE VOL MIN</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOCATE VOL MAX</td>
<td>70</td>
<td>50</td>
<td>65</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>INFO MSG VOL MIN</td>
<td>70</td>
<td>65</td>
<td>70</td>
<td>75</td>
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<td>STD WALK VOL MIN</td>
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<td>30</td>
<td>40</td>
<td>50</td>
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<td>STD WALK VOL MAX</td>
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<td>60</td>
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<td>100</td>
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<td></td>
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<tr>
<td>EXT WALK VOL MIN</td>
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<td>100</td>
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<tr>
<td>EXT WALK VOL MAX</td>
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<td>90</td>
<td>100</td>
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<td></td>
<td></td>
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<tr>
<td>VOL OVER AMBIENT</td>
<td>5dB</td>
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<td>0</td>
<td>0</td>
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<td></td>
<td></td>
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<tr>
<td>LOC VOL OVER AMB</td>
<td>3dB(N/A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Walk Mode Sound
- Walk Sound Pause
- Walk Sound Trig
- Sound/Vib Timer
- Sound/Vib Retrig
- Cancel On Clearance
- Clear Mode Sound
- Clear Tone Pause
- Locate Sound
- Locate Tone Time
- Wait MSg
- Direction MSg
- Info Message
- Push Confirm Message
- Cancel On Walk
- Ext Push Time
- Second Language/(Third)
- Ext Push Priority
- Walk Ping Pong
- Clear Ping Pong

* Items in Parentheses are found on the BLACK configurator. See back for notes.
### Sample Campbell Programming Sheet

**AAPS Mode**: Default is normal APS operation

**Extra Press Mode**: Places 2 calls to controller for current cycle and following cycle

**Vib Call Pulse**: Allows vibrotactile feedback when button is pressed

**Auto Recall**: Places constant calls if button is in need of attention

**Locator AGC**: Ambient Gain Control
  - controls speed of reaction to ambient noise

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**Note**: The default column settings are provided as a guideline and should be considered as a starting point. It may be necessary to fine-tune these settings to suit the unique characteristics of your environment. When configuring, it's important to test the system in your specific location to ensure optimal performance. Adjustments may need to be made to address any issues that arise during use.
Volume settings range of -300 to +300

- Campbell recommends daytime volume settings between 10 to 20 depending on location
- If need night mode recommend a setting of 5 in case of echo
  - When sound bounces off a wall it can sound louder

### Campbell Recommendations

- Day Locator: 10
- Day Speech: 50
- Night Locator: 5
- Night Speech: 40
- AGC: 5
Best Practices

• Work with special requests as they come in
  • Each individual will have special needs based on their circumstances

• Maintain Log
  • Complaints & Resolutions
  • Program Settings in Signal Cabinet

• When in doubt, err with low volumes
  • Rely on standardized APS pole placement and button vibration

• Bring two sets of ears to program an intersection
Pattern of Malfunctions

**Polara**

Older Version (Black CCU)
• No audio (vibration and LED confirmatory lights ok)
  • Log in with configurator or recycle power to restore audio

Current Version (Blue CCU)
• Locate Vol Min 75%
  • Firmware revision
• Channel “A” Recall
  • Not resolved
• Emergency Vehicle Approaching

**Campbell**

• Phantom Walk Call
  • Firmware Upgrade

• Volume Inconsistencies
  • Turn off AGC
  • Adjust vol in program file
  • Don’t use negative vol settings
Thank you!

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