



U.S. Department
of Transportation

**Federal Railroad
Administration**

Development of Requirements and Specification for Accessibility on NGECC Passenger Rail Vehicles

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Federal Railroad Administration

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Outline

- Objective
- Approach for Developing/Refining NGEAC Accessibility Requirements and Specification
- Background
 - Summary of ADA Intercity Rail Cars and System Requirements
 - Summary of Transit Industry /VIA Rail Practices or Equivalent Compliance
- Key issues of needs of customers with disabilities
- Gaps in ADA



Objective

Develop/refine requirements and specifications to meet current and projected needs of passenger rail customers with disabilities



Approach for Next Generation Accessibility Specifications Development

Review Lessons Learned from Via Rail and Transit

Identify gaps between present ADA and future requirements

- demographics,
- oversized mobility aids,
- obese travelers,
- passengers with service animals, and
- those with sensory disabilities
- Number of accessibility locations per trainset

Review and evaluate international accessibility standards and systems for intercity trains



Approach for developing revisions to NGEC Requirements and Specifications

- Collaborative approach that is mindful of operational, technical and economic constraints
 - Impact on space
 - Impact on safety and security
 - Consultation with key stakeholders and PRIIA 305 Committee
 - Seek consensus on revised requirements
 - Consult with key stakeholders for technical, operational and manufacturing possibilities and limitations
 - Work with NGEC Technical Working Groups to develop proposed specifications
 - Support NGEC Committee approval processes



Key Issues of Customers with Disabilities Needs

- Demographics: increase in passengers using large mobility aids
- Scooter dimensions and weight not defined
- Obese traveler requirements
- Access from non-level platforms for mobility aids
- Accessible onboard pathways and washrooms
- Accommodation of travelers with service animals
- Onboard information for sensory impaired travelers



Approach for developing revisions to NGEC Requirements and Specifications

- Next Steps
 - Seek approval of assignment to Technical Working Group within Technical Subcommittee
 - Work with TWG to develop/refine work plan and schedule



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Thank You

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Background Information



Background – Summary of ADA Intercity Rail Cars and System Requirements

Applicable Sections of Regulation 49 CFR §38

§38.111, General

§38.113, Doorways

§38.115, Interior circulation, handrails and stanchions

§, 38.117, Floors, steps and thresholds

§, 38.119, Lighting

§38.121, Public Information Systems

§38.123, Restrooms

§38.125, Mobility aid accessibility

§38.127, Sleeping compartments



ADA Background

Summary of ADA Requirements (1192.111-127)

Car Accessibility

- All intercity cars of train consist to be accessible
- At least one, but not more than two mobility aid positions per car
- Occupied wheelchair position floor area: 30 x 48 inches with fold down seats

Lifts, Ramps, Bridge Plates

- Portable or platform lifts, ramps, or bridge plates required for non-leveled platforms; payload 600 lbs
- Lift surface: min. 28 ½ inches x 48 inches long
- Ramp width: 30 inches, with length to accommodate scooters



ADA Background Cont'd

Doors

- Doors and passage ways: 32 inches
- Audio signals for closing car doors
- Coordination with boarding platform: horizontal gap max 3 inches, vertical gap max 5/8 inch
- Signage: international wheelchair symbol displayed at exterior of accessible doors to car



ADA Background Cont'd

Interior Circulation, Handrails, Stanchions

- To be provided from entrance to wheelchair position; diameter $1 \frac{1}{4}$ - $1 \frac{1}{2}$ inches with knuckle clearance

Floors, Steps, Thresholds

- Floor surfaces: aisles, step treads and wheelchair positions: slip resistant
- All edges: high contrast color band running full width



ADA Background Cont'd

Lighting

- Step well, doorway with lift, ramp or bridge plate: min. 2 foot-candles
- Unlighted station platforms, when door is opening: 1 foot candle for a distance of 3 feet

Public Information System

- Each car: PA system with recorded or digitized human speech messages for stations and passenger information. Alternative systems permitted.



ADA Background Cont'd

Restrooms

- Min. clear floor are 35 inches x 60 inches
- Height of water closet: 17 – 19 inches
- Grab bars; 24 inches long behind toilet; 40 inches horizontal along wall at a height of 33 – 36 inches
- Faucets and flush controls: operable with one hand, not tight grasping, pinching or twisting
- Door opposite water closet: 32 inches, on sidewall 39 inches
- Door latches: operable with one hand without tight grasping, pinching or twisting



Background – Summary of Transit Industry/VIA Rail Practices or Equivalent Compliance

Transit Industry

- Payload for lift and ramps of 600 lbs insufficient for heavy mobility aids and obese passengers
- Door openings min. 30 inches
- Securement: forward and rear facing
- Large and small buses: 20 g protection for passengers with mobility aid
- Fare payments: prepaid, no pay, touch less cards



VIA Background

VIA Rail Canada: CSA standards and CTA Code of Practice

Doors and Pathways

- One accessible coach per train consists
- Lift and ramp payload of 600 lbs to be revised
- Doors and pathways: min 30 inches
- Clear turning circle in vestibule, washroom and at wheelchair travel position: 59 inches
- Door to washroom: 39 inches
- Door operating devices: by touch, doors power assisted



VIA Background Cont'd

Washrooms

- Washroom spaces for dependent and independent transfers: footprint 35 x 59 inches on side of toilet and perpendicular in front
- All controls in washroom within easy reach of person in wheelchair and when seated on toilet
- Toilet height: 19 inches
- Pivoting support arms on each side of toilet
- Grab bars, horizontal and/or vertical near toilet and vanity

Seats

- All aisle seats with pivoting armrest
- Adjustable table at wheelchair travel position
- Accessible seats for companion adjacent to wheelchair travel position
- No special seats for obese passengers



VIA Background Cont'd

Securement

- Securement optional for occupied mobility aids
- Securement required for unoccupied mobility aids, e.g. scooters

Space For Service Animals

- 2 seats for passengers with service animals/coach car
- Service animal space (empirical): 13.7 x 15.7 x 37.5 inches

Onboard Information

- All audio information provided in visual/text format: next stop; transfers; delays; emergencies and evacuations



Gaps In ADA

Item	ADA	New Requirements	Gaps	Discussions
1.Lift/ Ramp payload	600 lbs	Min. 800 lbs for large Mobility devices plus obese passenger	Presently not in ADA	Increase Payload specs and introduce strategy for change



Gaps In ADA

Item	ADA	New Requirements	Gaps	Discussions
2.Vestibule floor for Mobility Devices maneuvering and at wheelchair location	N/A	Turning circle of 60" required to turn from entrance door to passage way	Presently not in ADA	Impact on vehicle and operation



Gaps In ADA

Item	ADA	New Requirements	Gaps	Discussions
3. Footprint Mobility Devices	30" x 48" for common wheelchair	30" x 60" for Oversized Mobility Devices	Presently not in ADA	Accommodation Of Oversized Mobility Devices



Gaps In ADA

Item	ADA	New Requirement	Gaps	Discussion
4. Lavatory				
4.1 Door min 30" wide	Manual	Power assisted sliding doors	Presently not in ADA	Facilitate user operation
4.2 Transfer Space independent	NA	Min. 30" x 48" for front and side transfer	Presently not in ADA	Provide alternatives for users
4.3 Transfer space dependent	NA	Min. 35" x 60" in front or on both sides of toilet	Presently not in ADA	Alternative Positions important for assistant
4.4 Support arms for toilet	NA	For elderly to get on and off toilet, and as grab bars	Presently not in ADA	Pivoting support arms



Gaps In ADA

Item	ADA	New Requirements	Gaps	Discussions
5. Oversized seats for obese passengers	NA	Obese passengers require wider and Stronger seats: 30" -35" wide	Presently not in ADA	Issues related to obese travelers with oversized seats



Gaps In ADA

Item	ADA	New Requirements	Gaps	Discussions
6. Spaces for service animals	N/A	Blind and Disabled people traveling with service animals require space for service animal	Presently not in ADA	Provide two spaces for service animals per car



Gaps In ADA

Item	ADA	New Requirement	Gaps	Discussion
7. Onboard Visual and Audio Passenger Information	N/A	Visual Information required for deaf and hard of hearing passengers	Presently not implemented	Provide real time audio and Visual Onboard Information for schedules, next stops, transfers, emergencies