CHARTING THE FUTURE OF ACCESSIBLE PUBLIC TRANSPORTATION

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MISSION

Research and development activities that improve access by people with disabilities to public transportation
GOAL

To Make Travel Seamless, Safe And Dignified For ALL!
OUTLINE

• NCAT’s Research and Design Portfolio
• Inclusive Design
• Critical Issues
• Summary
NCAT’s Research and Design Portfolio
Research and Development (RERC)

- Biomechanics of Transfers
- Surveys
- Boarding Technologies
- Accessible Lavatories for Aircraft
- Traveler Assistance Training
- Communication
Research and Development (other NCAT projects)

- Mobility Aid Securement
- Mobility Aid Stowage on Aircraft
- Older Driver and Mobility Options
- Changing the Accessible Design Paradigm
BIOMECHANICS

Risk of Injury:
- Identified effects of spatial constraints
- Traveler Size
- Transfer technique

Interventions
- Transfer boards
- Slings
SURVEYS

Airport survey-completed
Traveler Survey (Final Analysis)
Survey Sampling Methodology
- Random Digit Dialing
- Control Group
Accessible Lavatories

- Draft Regulation – Defines Accessible Lavatory
- Consult with Industry
- Developing new validation and analysis tools for use by industry
- Next Step: Full Adoption
Boarding Technologies

• Developing new guidelines for Boarding Bridges
• Designing new “no lift” transfer Technology
Communication

- Simple to use Accessible Website Tool—being validated at OSU and with Airline partner

- Partner with Wireless RERC and NCAM
Traveler Assistance Training

• Dependent Transfers
  Focus
  – Boarding Bridge and Aircraft

• Wide Adoption by Industry

• Pilot program Spring 2008
MOBILITY AID STOWAGE

Wheelchair stowage problems require close collaboration with airlines, wheelchair manufacturers, and passengers to develop appropriate solutions.
Securement

- Evaluation of Vehicle Dynamics – large vehicles
- Development of Side Restraint – rear facing
- Small vehicles - similar study - begin July 2008
Older Driver - Mobility Options

- When to take away Mom’s Keys
- Public Transportation Options
- Travel training – Ride with a Friend
- Critical Issue in Rural Areas
  - Place Bound to Land
  - Limited mobility options
  - Limited alternative housing options
Emerging Mode: Lower Speed Vehicles
INCLUSIVE DESIGN

Products that Delight
Inclusive Design

- What is it?
- Why now?
- How is it different from Universal Design?
- Will Inclusive Design make a difference?
- Design for Inclusion
  - Aging
  - Obesity
DESIGN FOR ABILITIES

- Design for broad spectrum of age, abilities
- Inclusive not Exclusive Design
- Design that makes you say “WOW”
- Designs that let you enjoy the experience
First Design
New Design
Communication for All

• On-board Entertainment Systems that are easy to use and accessible to all
Critical Issues
Critical Issues - Policy

ACAA
- Lavatory
- Stowage

ADA
- Boarding Bridges
- Communication - Kiosks, Real time Speech to Text - new ACAA
Critical Issues - Research

- Biomechanics
  - Seats
  - Lavatory
  - Boarding

- Survey methodology

- Cultural impacts on Traveler Assistance Training – Service Animals

- Real time Speech to Text – Airports and Airlines
Critical Issues - Development

- Vehicle Seats
- Traveler Assistance Training
- Stowage and Transport of Mobility Aids
- Accessible Lavatory
- Communication Technologies and Systems
Capacity Building
• Education – next generation

• Engineers

• Allied Health Professions

• Trainers and Educators
Next Generation

- Middle and High School Programs
- Freshman Experience
- Honors Colloquia
- Undergraduate Research Experience
- Graduate
  - MS and Ph.D.
- Life Long Learning
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Thank you

Questions?