

Creating Universal Access

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Creating Universal Access

Technologies

Personal
Activity-specific
Environmental

Outdoor Recreation Environments

Recreation trails
Sidewalks
Ground & floor surfaces
Ski areas
Amusement parks
Aerial tramways

Access to Recreation Trails

Pave the wilderness?
Functional abilities & assistive technology
Spectrum of opportunity

Objective information on outdoor recreation trails enhances access and safety for all users

Trail Access Information

for all user groups

Universal Trail Assessment Process

Partnership with American Trails

Trail Access Information

Length
Grade
Cross slope
Width
Surface type
Obstacles

TrailWare software

to process trail data

Nutrition Facts Food Label for Trails

Trail Access Information (TAI)

- Length
- Grade
- Cross slope
- Surface
- Width
- Features and Facilities

TAI is objective information that conveys the trail conditions to users

Mapping of Outdoor Trails for Accessibility

Training materials

Measurement tools

Trails Information Kiosk

Interactive Computer Information Trail
Guides for Universal Access
Quick, customized searches
Identify trails with desired level of difficulty or challenge

Trails Web Site with Universal Access Information

<http://www.TrailExplorer.org>
Obtain information remotely
Plan appropriate outdoor travel
Determine in advance where to hike

UA035

UA036

Outdoor Recreation Access Route (ORAR) & Recreation Trail Design Specifications Research

Access Board Regulatory Negotiation Process for Outdoor Recreation

Develop design guidelines and standards
Outdoor recreation access routes
Recreation trails

Accessibility Guidelines for Outdoor Developed Areas

Regulatory negotiation committee Final report
<http://www.access-board.gov/outdoor/outdoor-rec-rpt.htm>

Accessibility Guidelines for Outdoor Developed Areas

One-page summary of the proposed technical provisions for trails
paxpress@beneficialdesigns.com

Sidewalk, Trail & Shared Use Path Design for Access

Lack of information
Improve quality of life and safety
Best practices for access

Universal Sidewalk Assessment Process

Type of street
Ramps
Driveway crossings
Median
Tactile warnings
Step transitions

Designing Sidewalks & Trails for Access

Part I of II
Review of Existing Guidelines and Practices Designing Sidewalks & Trails for Access

Part II of II

Best Practices Design Guide

Best Practices Design Guide

Assessment
Public involvement
Design conflicts
Design recommendations
Maintenance/improvements/retrofit recommendations

Amusement Parks

Increase access to rides
Wheelchairs on rides
Transfer points into rides

Amusement Parks

Recommendations for addressing accessibility in amusement parks (1999) (PAX Press)
International Association of Amusement Parks and Attractions (IAAPA)

Ski Area Access

For skiers of all abilities

ANSI B-77.1-1999

Aerial tramways, aerial lifts, surface lifts and tows:
Safety requirements

Programmatic Guidelines for Ski Area Access

Recreation Access Advisory Committee recommendations
NSAA
USDA Forest Service

Accessibility Guidebook for Ski Areas Operating on Public Lands

Guidelines and suggestions
How to comply with the ADA and Section 504 of the Rehab Act

2002 Olympics

Increase access for people with disabilities

Surface Access Information

Increase access to parks
Increase beach access

Standards for Surface Firmness & Stability

Access Board (US ATBCB)
No existing technical requirements
Lack of test methods and devices

Standards for Surface Firmness & Stability

Review of existing test methods for surface firmness and stability

Measurement of Surface Characteristics for Accessibility

Surface measurement device
Test methods

ASTM F 1951-99

American Society for Testing and Materials (ASTM)
Standard specification for determination of accessibility of surface systems under and around playground equipment

Prototype Surface Measurement Devices

Gimbaled pull cart
Modified coefficient of friction measuring devices
Rolling penetrometer devices
Modified stimprometers
Tire penetrometer

Rotational Penetrometer

Portable surface measurement device
Firmness
Stability

Available from Beneficial Designs, Inc.

Rotational Penetrometer

ANSI/RESNA Surface section 1:
Test method for firmness and stability

Product Standards

Wheelchairs
Wheelchair seating
Adaptive sports equipment

Adaptive Sports Equipment (ASE) Standards

for sit-skis, mono-skis and bi-skis

Wheelchair Standards

Volume 1: Requirements & test methods for wheelchairs

Volume 2: Additional requirements for wheelchairs with electrical systems

Volume 1: Wheelchairs

Nomenclature, terms & definitions
Static stability
Overall dimensions
Seating dimensions
Static, impact & fatigue strength
Test dummies
Coefficient of friction
Information disclosure
Resistance to ignition
Stand-up type wheelchairs
Set up procedures

Volume 2: Wheelchairs with Electrical Systems

Dynamic stability
Effectiveness of brakes
Energy consumption
Speed, acceleration, retardation
Climatic tests
Obstacle-climbing ability
Power & controls
Electromagnetic compatibility

A Guide to Wheelchair Selection

How to Use the ANSI/RESNA Wheelchair Standards to Buy a Wheelchair

Wheelchair Seating Standards

Terms & definitions
Pressure management devices
Postural support devices
Seating devices for use in motor vehicles

Wheelchair Training Guides

Manual
Powered

The Manual Wheelchair Training Guide

General skills
Navigation skills
Emergency skills
Special circumstances
Body mechanics
Americans with Disabilities Act
Accessories
References & resources

The Powered Wheelchair Training Guide

Getting to know your wheels
General skills
Navigation skills
Emergency skills
Special circumstances
Body mechanics
Americans with Disabilities Act
Specialty powered wheelchairs and accessories
References and resources

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National Center on Accessibility

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