

# Beneficial Design

## Examples of...Designing Beyond the Norm to Meet the Needs of All People

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www.beneficialdesigns.com

### Beneficial Design

#### Designing Beyond the Norm to Meet the Needs of All People

Research  
Design  
Education

### Beneficial Designs' Mission Statement

Beneficial Designs works towards universal access through research, design, and education. We believe all individuals should have access to the physical, intellectual, and spiritual aspects of life.

### Beneficial Designs' Mission Statement

We seek to enhance the quality of life for people of all abilities, and work to achieve this aim by developing and marketing technology for daily living, vocational, and leisure activities.

### The BD Team

### Facilities needed to support design and testing

### Testing

#### Wheelchair testing

Drop testing—for air travel  
Loading PWC in baggage of AC

#### Surface Testing

##### ASTM F 1951

Standard specification for determination of accessibility of surface systems under and around playground equipment  
Testing available from BD

##### Rotational Penetrometer

Objective firmness and stability msmt  
Available from Beneficial Designs

##### Surface Stabilizers Gravelpave2

#### Seat Cushion Testing

ISO and RESNA standards

#### SKELI - Gelbutt

Used for Standards testing

#### ASLI Prototype

### Personal Technologies

#### Pax Back

Back support for comfort and function

#### FlexRim Ergonomic Pushrim

Available from Spinergy

### Activity-Specific Technologies

#### Balance Dimension

Physical  
Intellectual  
Spiritual

### Variety of Recreational Opportunities

#### Arroya Sit Ski

##### Mono Ski

Available from several companies  
Chairlift access issues

#### Dynamic Seating Spring Assist

##### Cross Country Ski

##### Back country ski

##### Pneumatic Piano Pedal Pusher

Do it yourself design specifications

#### Manual Transmission Hand Controls

##### Hand Bike and tandem

##### Adaptive Canoe Seating

Available from Chosen Valley Canoe  
Accessories

##### Wave Ski

##### Hip Grip

##### Flying in Ultralight aircraft

## Environmental Technologies

Things that do not move

### Tools and Technology for Accessible Trails

#### The standards

Architectural Barriers Act Outdoor

Recreation Access Guidelines

#### ADA Recreation Trail standards

##### Grade

8.33% for 200 feet

10% for 30 feet

12.5% for 10 feet

##### Cross Slope

5% maximum

##### Rest Areas

60 inches length, 5% slope

##### Surface

firm and stable

##### Width

36 inches minimum

### Universal Trail Assessment Process

(UTAP) – Over 1900 people trained

Key UTAP Information

Length, Grade, Width, Surface,

Cross slope, Features & Facilities

Training available from BD

### High Efficiency Trail Assessment Process (HETAP)

USDA SBIR Phase II

Equipment available from BD

### Trail Access Information (TAI)

Signposts

Panel maps

### Developed Outdoor Recreation Assessment Process (DORAP)

Under development at BD

#### Outdoor Constructed Features

Bench, Camp Shelter, Cooking

Surface/Grill, Fire Ring, Wood

Stove/Fireplace, Outdoor Rinsing

Shower, Parking Area, Picnic Table,

Pit Toilet, Tent Pad/Platform, Toilet

Building, Trash/Recycling

Receptacle, Utility/Sewage

Connection, Viewing Area at

Overlooks, Viewing Scope, Water

Spout

#### Campsite Access Information

Signage available from BD

### Develop Standards for Trail and Sidewalk Design

### Pedestrian Right of Way Assessment Process (PROWAP)

Wireless Measurement Devices

Measuring Process

GIS Data

GIS Mapping

Services available from BD

### Rest-Stop Assessment Process (RSAP)

Collection zones

Compliance Check data collection

Facility report

Maps to illustrate the conditions

### Universal Design of Fitness Equipment (UDFE) Standards

Accessible “mainstream” fitness equipment

Low Step-up Height Design

Grip Bars

Weight Pin Color Contrast

Weight Pin Gripability

Control Panel Contrast

ASTM standard now published

### Amusement Park Wheelchair Access

Accommodates Wheelchair

Accommodates Transfer

Development of Transfer Devices

Design services available from BD

### Current work

#### Assistive Technology for Air Travel

Steep Jetways

Narrow, hard boarding chairs

Narrow aisles

Aircraft seating issues

Damage to mobility devices

### IATA Guidance on the Transport of Mobility Aids

#### Assistive Technology for Air Travel Standards (ATAT)

Powered Mobility Devices designed for Air travel

Air Travel Configuration Card

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