

## ISSUE PAPER # 6.2 PRINCIPLES OF ACCESSIBILITY & BEYOND

### **BACKGROUND**

Portland Public Schools (PPS) has a goal of full program accessibility for each building, providing all-inclusive access to programs, activities, and services. However, the goal of accessibility is more than just providing barrier-free structures, and its achievement is far more challenging than simply adhering to standards and codes. By implementing the principles of universal design, PPS can attain the goal of full program accessibility while also providing thoughtful, inclusive learning environments that convey equity, safety, independence, dignity and added benefits for all users.

### **RELEVANCE FOR FACILITIES PLAN**

Pursuant to the school facility planning statute, ORS 195.110:

*(5)(a) The school facility plan must cover a period of at least 10 years and must include, but need not be limited to, the following elements:*

*(C) Descriptions of physical improvements needed in existing schools to meet the minimum standards of the large school district.*

Appreciation for both the context and complexity of accessibility should inform the efforts of everyone engaged in the development and operation of our schools. The Architectural Barriers Act of 1968 was the first law that mandated accessibility standards for education facilities. Section 504 of the Rehabilitation Act of 1973 and the Education for All Handicapped Children Act of 1975, which was amended and renamed the Individuals with Disabilities Education Act (IDEA) of 1990, guaranteed students with disabilities the right to equal educational opportunities. The American with Disabilities Act (ADA) of 1990 requires public places and publicly funded projects to provide physical and programmatic accessibility to people with disabilities.

Universal design, however, is a worldwide movement that approaches the design of the environment, products, and communications to be usable by all people without adaptation. Known elsewhere in the world as design for all, life-span design, and inclusive design, universal design consists of seven governing principles calling for designed environments that are equitable, flexible, intuitive, perceptible, safe, easy, and accommodating. These principles should be applied to evaluate existing PPS buildings, guide the design process when adaptation is required, and educate both designers and users about the characteristics of more usable learning tools and environments.

In future capital work, the district minimum standard shall be the General ADA Guidelines and Standards outlined in the 2009 PPS Facility Assessment as amended and updated from time to time.

The following Principles of Universal Design were developed by The Center for Universal Design in collaboration with a consortium of universal design researchers and practitioners across the United States. Use or application of the Principles in any form by individual or organization is separate and distinct from the Principles and does not constitute or imply acceptance or endorsement by The Center for Universal Design of the use or application.

## 1. QUITABLE USE

**The design is useful and marketable to people with diverse abilities.**

- a) Provide the same means of use for all users: identical whenever possible; equivalent when not.
- b) Avoid segregating or stigmatizing users.
- c) Provisions for privacy, security, and safety should be equally available for all users.
- d) Make the design appealing to all users.

## 2. FLEXIBILITY IN USE

**The design accommodates a wide range of individual preferences and abilities.**

- a) Provide choice in methods of use.
- b) Accommodate right- or left- handed access and use.
- c) Facilitate the user's accuracy and precision.
- d) Provide adaptability to the user's pace.

## 3. SIMPLE AND INTUITIVE

**Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.**

- a) Eliminate unnecessary complexity.
- b) Be consistent with user expectations and intuition.
- c) Accommodate a wide range of literacy and language skills.
- d) Arrange information consistent with it's importance.
- e) Provide effective prompting and feedback during and after task completion.

#### 4. PERCEPTIBLE INFORMATION

**The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities**

- a) Use different modes (pictorial, verbal, tactile,) for redundant presentation of essential information.
- b) Provide adequate contrast between essential information and its surroundings.
- c) Maximize "legibility" of essential information.
- d) Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).
- e) Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

#### 5. TOLERANCE FOR ERROR

**The design minimizes hazards and the adverse consequences of accidental or unintended actions.**

- a) Arrange elements to minimize hazards and errors: most used elements, most accessible: hazardous elements eliminated, isolated or shielded.
- b) Provide warnings of hazards and errors.
- c) Provide fail safe features.
- d) Discourage unconscious action in tasks that require vigilance.

#### 6. LOW PHYSICAL EFFORT

**The design can be used efficiently and comfortably and with a minimum of fatigue.**

- a) Allow user to maintain a neutral body position.
- b) Use reasonable operating force.
- c) Minimize repetitive actions.
- d) Minimize sustained physical effort.

#### 7. SIZE AND SPACE FOR APPROACH AND USE

**Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture.**

- a) Provide a clear line of sight to important elements for any seated or standing user.
- b) Make reach to all components comfortable for any seated or standing user.
- c) Accommodate variations in hand and grip size.
- d) Provide adequate space for the use of assistive devices or personal assistance.

## **BACKGROUND PLANNING AND DESIGN PRINCIPLES**

The following planning and designing principles should be considered when building or renovating school facilities.

Provide versatile classroom spaces.

Classrooms that provide a variety of choices in the physical environment are important to meet the wide range of educational requirements for all students, and for helping all students become successful learners.

For example, students may sometimes benefit from greater physical and acoustical separation between activities to reduce distractions. An appropriate arrangement includes a large common classroom area, an alcove off the classroom, and a small room adjacent to the classroom that is acoustically isolated, but visible from the common classroom area. Modular furniture can also provide versatility.

Use universal design.

Accommodate, to maximum extent possible, people with diverse mobility, agility, and perceptual acuity.

Minimize travel distances.

Physical education, music, art, the library, food services, and elevators should be centrally located to provide reasonable travel distances for all students.

### **Arrange all classrooms in clusters by age groups and provide a variety of instructional spaces for use by all students.**

All students benefit from instruction in a variety of size groups and appropriate spaces are required for all students. Provide appropriate size spaces for various size group activities, ranging from larger group spaces where more than one class can join together to spaces for a typical class size, to spaces for small group instruction and individual instruction.

Provide for parental involvement.

Parental involvement is critical for all students. Provide rooms for parents to plan for and participate in meetings and for volunteer work to be supported.

Maintain student dignity.

Accommodations should avoid separating students from their peers in instructional settings, drawing unusual attention to them, or limiting their educational opportunities. Accessible features should be integrated, to allow all students to participate fully in group activities.

Provide accessible outdoor play areas.

Design natural features so that all students may use them.

Enhance classroom acoustics.

Minimizing background noise, providing classroom amplification, and acoustically appropriate material can positively impact all students.

Improve indoor air quality

Controlling humidity, providing outdoor air, and eliminating contaminants is critical to ensuring successful learning.

## SUMMARY

Portland Public Schools accommodates, to the maximum extent possible people with diverse mobility, agility and perceptual acuity. To achieve this guiding principle the principles of Universal Design is incorporated into the design of our facilities. They are:

**Equitable Use:** The design is useful and marketable to people with diverse abilities.

**Flexibility in Use:** The design accommodates a wide range of individual preferences and abilities.

**Simple and Intuitive:** Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills or current concentration level.

**Perceptible Information:** The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

**Tolerance for Error:** The design minimizes hazards and adverse consequences of accidental or unintended actions.

**Low Physical Effort:** The design can be used efficiently and comfortably and with a minimum of fatigue

**Size and Space for Approach and Use:** Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture.

## References and Resources

PPS Facility ADA Assessments, Ankrom Moisan Architects, 2009

<http://www.pps.k12.or.us/departments/schoolmodernization/2053.htm>

Creating Accessible Schools, James Ansley, 2000, National Institute of Building Sciences

<http://www.ncef.org/pubs/accessibility.html>

Accessibility Regulations and a Universal Design Philosophy Inspire the Design Process: Instead of stifling creativity, a climate of access pushes architects to be inventive, Barbara Knecht, Architectural Record

<http://archrecord.construction.com/resources/conteduc/archives/0401edit-1.asp>

The Principles of Universal Design, Center for Universal Design, NC State University

<http://www.ncsu.edu/project/design-projects/udi/center-for-universal-design/the-principles-of-universal-design/>

Planning and Designing for Students with Disabilities, Allen C. Abend, R.A., 2001

<http://www.ncef.org/pubs/disabilities.pdf>

Universal Design in Educational Environments, Fred Tepfer, 2001  
<http://pages.uoregon.edu/ftepfer/SchlFacilities/UDHweb.html>

**Institute for Human Centered Design**

<http://www.humancentereddesign.org/>

**Center for Applied Special Technology**

<http://www.cast.org>