

Let the Dialogue Begin

Design Charette Yields Immediate Solutions for Accessibility in Stadium-Style Theaters

By John Paul Scott, AIA

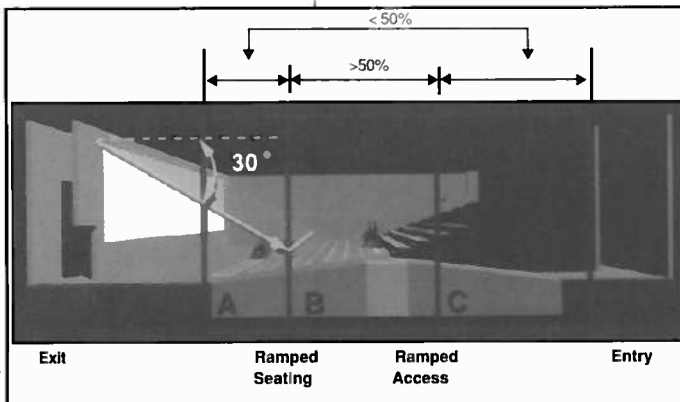
The success of a design meeting in Florida has given new hope that accessibility issues can be quickly and effectively addressed when designers representing a variety of interests are brought together to solve problems.

In February, Florida's Board of Building Codes and Standards hosted a design charette to look for answers to address the accessibility issues related to stadium style seating in movie theaters. The Florida Accessibility Code requires accessibility to all levels within a building. The increasingly popular practice of designing

theaters with stadium style seating has resulted in a number of waiver requests for new construction work and alterations on theaters.

The charette participants examined the issues of lack of choice, comparable sight line experiences and poor locations for people in wheelchairs. In such a configuration, wheelchair locations were being relegated to the neck breaking front row.

See Dialogue Begins, page 10



Graphic: American Theater Owners Assn.

This graphic shows the zone system developed at the design charette on stadium style seating in movie theaters.

Patricia Moore: Making Universal Design the Norm

Internationally renowned gerontologist and industrial designer Patricia (Patti) Moore hopes to make universal design a household norm.

Her product designs — including “Good Grips” kitchen utensils with easy to hold foam handles and a pill bottle with a timer built into the cap — are useable by everyone. This is something she believes should not be the exception, but rather the rule.

Moore, a keynote speaker at the *Designing for the 21st Century: An International Conference on Universal Design* June 17-21 at Hofstra University in New York, is president of Guynes Design Inc. and is a leading authority on the requirements and behaviors of not only elderly but all people as they progress throughout the lifespan.

Universal Design Newsletter recently interviewed Moore about her perspectives on universal design:

UDN: How did you get involved in design?

See Patricia Moore, page 5

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We Are All Students of Universal Design

I subscribe to the notion that the more we know about each other, the better we can universally design.

It follows, therefore, that the key to universal design is knowing about people — all kinds of people — the more people the better.

The upcoming conference, *Designing for the 21st Century: An International Conference on Universal Design*, is going to be a glorious opportunity to learn about different people and how to design with and for them. Never before has there been such a focused opportunity to discuss the subject of universal design with knowledgeable people from around the world.

If you haven't received the preliminary program in the mail, you can find it on the 21st Century logo on www.UniversalDesign.com. The program reads like the international "who's who" in accessibility and universal design. With sessions on architecture, landscape architecture, interior design, graphic design, information system design, and product design, this is the place to be and be seen. Pre- and post-conference intensive sessions meet criteria for AIA/CES and IOCEC continuing education credit.

This issue of our newsletter features an article about Patti Moore, one of our keynote speakers, who has been a pioneer in developing products and systems that are easily useable by people of all ages. She is just one of more than


100 presenters who have been selected by a technical jury to tell us about their experiences in universal design.

As a co-sponsor of the conference, we at *Universal Design Newsletter* are proud to be part of such a valuable learning experience. This is a grand opportunity to discuss our common and unique experiences and consider the future opportunities for universal design. I am especially pleased to have been asked to moderate the closing session, "Where Are We Going, What Are the Limits." The universe is the limit as we peer into the coming millennium and discuss the future of our discipline.

I look forward to joining you there as a student of universal design.

New Federal Accessibility Guidelines Expected in the Fall

The US Architectural & Transportation Barriers Compliance Board (Access Board) has announced that it will publish a document this fall that harmonizes rules for federal facilities with rules that cover the Americans with Disabilities Act (ADA). The document will **combine** technical guidelines for federal facilities (required under the Architectural Barrier Act of 1968) with the accessibility guidelines for Title II and Title III facilities (required under the ADA). This will replace the former Minimum Guidelines and Requirements for Accessible Design (MGRAD) which was the precursor to the Uniform Federal Accessibility Standards (UFAS). At the same time the proposed document will replace the existing ADA Accessibility Guidelines (ADAAG) with new criteria that includes provisions for Title II housing as well as judicial and correctional facilities.

The publication will consist of two scoping documents, one for each of the guidelines, and one comprehensive technical document. It is anticipated that the US Department of Justice will eventually adopt this new document as its Standard for Accessible Design under Titles II and III of the ADA. 

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Children's Elements Amendments Issued

In January, amendments to the *Americans with Disabilities Act Accessibility Guidelines* (ADAAG) concerning building elements designed for children's use were issued by the U.S. Architectural & Transportation Barriers Compliance Board (Access Board). The amendments, which appeared in the Jan. 13 *Federal Register*, provide alternate specifications based on children's dimensions for certain plumbed and built-in elements designed for use primarily by children ages 12 and under.

Alternate specifications are integrated into the body of ADAAG as exceptions. Use of these specifications, like any exception in ADAAG, is optional. However, the Access Board believes that the changes will not deter use of the amendments since industry practice dictates that elements and facilities be designed to suit the primary user population. Separate exceptions that recognize conflicts between current design practice and accessibility requirements are provided for elements such as sinks and fixed tables designed for use by children ages 5 and younger. At press time, this criteria had not yet been adopted into the ADA Standards for Accessible Design, although it is expected that the Department of Justice will do so.

For a copy of the amendments, call (800)872-2253, or visit the Access Board web site at: www.access-board.gov.

Title II Chapters Added to ADAAG

The Access Board has added two new sections to ADAAG, covering state and local government facilities. Section 11 includes requirements for judicial, legislative and regulatory facilities; Section 12 concerns detention and correctional facilities. These amendments were announced Jan. 13 in the *Federal Register*.

Much of the judicial section is devoted to the accessible design of courthouses and covers access to courtroom spaces such as witness stands, jury boxes, holding cells and jury deliberation rooms. Section 12 provides technical and scoping requirements for jails and prisons. The amendments require that 2 percent of cells be accessible in new construction, a reduction from the 3 percent that was proposed. At press time, this criteria had not yet been adopted into the ADA Standards for Accessible De-

sign, although it is expected that the Department of Justice will do so.

For a copy of the new sections, call (800)872-2253, or visit the Access Board web site at: www.access-board.gov.

Human Measures Data Review Completed

Any attempt to combine existing anthropometric data into a useful database would be futile, said Bruce Bradtmiller, in his final report to the Access Board following a year long review of existing human measures data on persons with disabilities.

The review, commissioned by the Access Board and conducted by the Anthropology Research Project Inc., in Yellow Springs, Ohio, was released in January. The study focused on the seated reach of people using wheeled mobility aids. Researchers reviewed more than 100 studies and anthropometric data on more than 11,000 people of every age and with a variety of disabilities.

"Unfortunately, most of the studies were conducted on specialized populations, many of them foreign. Dimensional definitions and measurement techniques vary from study to study and, in many cases, samples were very small," said Bradtmiller.

A review of six international studies of persons with low limb disorders cited in the report discovered that not a single dimension was found in common and that no study attempted to standardize either body landmarking or measurement procedures.

The report provides a variety of goals for developing needed data. Among the short term goals is a recommendation for a pilot study that provides specific data on a general US population of people with disabilities and standardization for measuring and data handling procedures. In the long term, the report recommends linkage and range of motion studies to aid in the creation of human modeling software.

For a copy of the report, call (800)872-2253, x 27 or visit the Access Board web site at: www.access-board.gov.

Upcoming Research Projects

The Access Board has announced its research projects expected to be completed in 1998. They are as follows:

- Access to toilet and bathing facilities, spring;
- Universal design prototypes for interactive transaction machines, summer;
- Performance standards for assistive listening devices, summer.

"Unfortunately, most of the studies were conducted on specialized populations, many of them foreign. Dimensional definitions and measurement techniques vary from study to study and, in many cases, samples were very small."

Bruce Bradtmiller,
Anthropology Research
Project



Can I Get There from Here?

Reducing confusion in the transit systems

The resulting variability in content and placement of signs and symbols creates difficulties for passengers using these systems.

Transit facility signage in the U.S. and Canada is often inconsistent in design, content and placement, according to a project report funded by the Transportation Research Board (TRB) of the National Research Council, Washington, D.C.

The project, which included a national survey of transit agencies and airports, found that there is no comprehensive set of guidelines outlining how to design and implement an effective signage system. The resulting variability in content and placement of signs and symbols creates difficulties for passengers using these systems.

In the first phase of the TRB project, KRW Inc. researchers reviewed the state of the practice of signage in the transit industry. In the second phase of the project, symbols were designed and evaluated by transit riders, non riders, graphic designers, and transit personnel.

The findings are documented and incorporated into *Guidelines for Transit Facility Signage and Graphics*, a document that suggests the "best practices" for the transit industry.

Included in the guidelines are recommendations for standard terminology and symbols, sign shapes and colors, sign design, and information about new technology.

Standard symbols and terminology

The 50 graphic symbols recommended for use in transit facilities are intended to:

- Provide users with uniform, easily learned and understood directions and information;
- Effect cost savings through standardization;
- Assist individuals with disabilities, non-English speakers, and non-readers in the use

of public transportation;

- Coordinate new symbol designs with those developed by national and international standards organizations.

Local terminology does not have to be sacrificed when bringing uniformity to transit signage. The recommendations suggest the use of standard symbols supplemented by local terms. For example, if the local rapid rail system is called "the subway" the universal symbol for rapid rail would be accompanied by the term "subway."

Sign shapes and colors

Specific sign shapes are recommended to convey categories of information. For example, a circular sign should convey regulatory information; a triangular sign convey a warning; and a square sign convey emergency or guidance/directional information.

To promote uniformity, the following color combinations are recommended:

- **Regulatory/Prohibition** — white field, black pictograph/image, red ring or slash, white border.
- **Regulatory/Mandatory** — black field, white pictograph/image and border.
- **Warning/Caution** — yellow field, black pictograph/image and border.
- **Warning/Danger** — red field, white pictograph/image and border.

When color coding signs, the guidelines suggest that colors that have a generally agreed upon name be selected, i.e., red, yellow, blue, green orange, purple, brown or gray, and that when possible, the name of the color be printed on the sign to accommodate people who are color blind.

Sign design

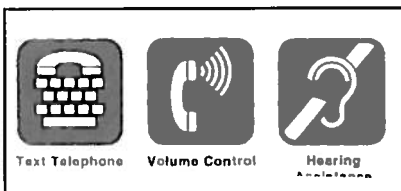
To increase readability for visual signs, the guidelines recommend 23 "acceptable" type styles. There are six type styles recommended for tactile signs.

See *Getting There*, page 9



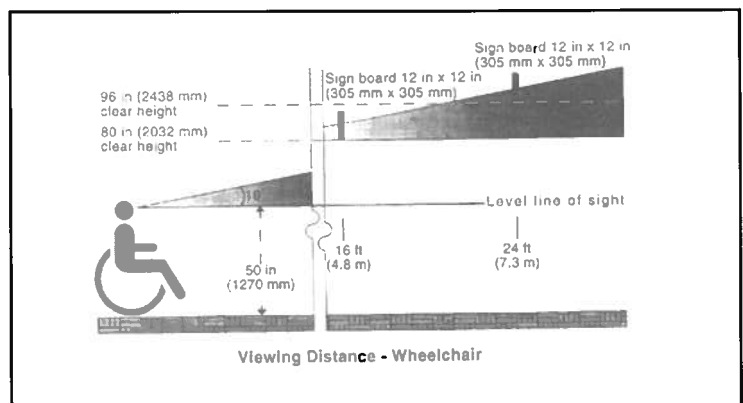
Graphic: TRB

Circular signs convey regulatory information and triangular signs convey warnings.



Graphic: TRB

A square sign indicates emergency or directional/guidance information.



Graphic: TRB

Patricia Moore, from page 1

Moore: When I was young, my family assumed I would be an artist. When I got to college, a professor encouraged me to consider the field of industrial design. The more I learned about it, the more excited I became. This field enabled me to combine my artistic abilities with the making of things that we all take for granted, until we can't use them.

UDN: How did you begin to focus on the concept of universal design?

Moore: As I got into the field of industrial design, I began to see an incredible inequity with product design. Basically, the majority of products were exclusionary to anyone who didn't have a perfect mind and body. We were not being universal in our approach to design. To me it's very simple: Accessibility for everyone has to be the mandate of all design.



Moore

I always think of one night when I found my grandfather sitting alone, stoically, in the dark. This proud patriarch couldn't manipulate the switch on the lamp by his chair. Recalling his tears, as he silently waited for someone to recognize his need reminds me daily to do the best that I can by design.

UDN: You once disguised yourself as a woman in her 80s — complete with prostheses that blurred your vision, dulled your hearing and made your joints stiff and slow. What did you learn from this experiment?

Moore: It was disturbing to discover that so many people see the elderly as a hindrance or a nuisance. I saw how the world is designed for those who are young and healthy. But the disguise served its purpose in another way. I was able to talk with elders openly about the challenges they face day-to-day. This four-year project became a shot in the arm to the whole universal design movement.

UDN: Do you feel that much progress has been made in universal design over the years?

Moore: Yes, though I think we still have a long way to go. The most powerful progress we've made is in communicating to consumers that they have a right to expect accessibility. Now we have to convince the CEOs that designing products that fit the needs of the population as a whole is not just the right thing to do, it's the smart thing to do.

UDN: What are some of the success stories?

Moore: I think there has been a lot of progress

made to the exterior of buildings, with things such as ramping, appropriate lighting and security options. Designers are seeing that it's possible to offer accessibility and still make buildings that are aesthetically pleasing. Our challenge lies with the interior of buildings. For example, I'd like to see the development of pathfinders — devices that would chart the way for people with low vision or in a wheelchair throughout the building. These types of products should be part and parcel of our everyday expectations.

UDN: What will you be talking about at the Designing for the 21st Century Conference?

Moore: Primarily, I will be speaking about the successes we've had in the field of universal design. I will also talk about the agenda that remains, and how we can bring about that day when we no longer have to call for "universality," because it will simply be assumed.

UDN: What energizes you about your work?

Moore: The fact that there's still so much that needs to be done. All you have to do is start looking around you. Every time we see someone struggling to open a door, we realize that our real challenge is to make universal design less the occasional success and more the norm. As far as I'm concerned, the battle has just begun — we're nowhere ready to rest on our laurels.

Designing for the 21st Century: An International Conference on Universal Design will be held June 17-21 at Hofstra University in Long Island, New York. For more information, contact Adaptive Environments at (617)695-1225 x0 (v/tty) or visit the conference web site at:

www.adaptenv.org/21century/



Every time we see someone struggling to open a door, we realize that our real challenge is to make universal design less the occasional success and more the norm.

Patricia Moore,

Guynes Design

Letters to the Editor

Universal Design Newsletter welcomes letters to the editor. All letters must be previously unpublished, signed and typewritten on company letterhead, if appropriate. Unsolicited manuscripts and letters become the property of *Universal Design Newsletter* and cannot be returned. The editor reserves the right to edit all letters for length, style, clarity, spelling and punctuation.

Send letters to: Editor, *Universal Design Newsletter*, 6 Grant Ave., Takoma Park, MD 20912-4324, Fax 301.270.8199 or email UDandC@erols.com.

Rose Garden Arena: ADAAG Interpretation Continues

Judge Rules on Unobstructed Sight Lines

In the back and forth that has become the judicial interpretation tennis match of the Americans with Disabilities Act Accessibility Guidelines (ADAAG), a federal judge's decision in Oregon has scored a few points for each side.

In a case involving the Rose Garden, a newly constructed indoor sports and entertainment facility, the federal district court has ruled that the requirement for comparable lines of sight does not mandate lines of sight over standing spectators but requires a choice of sightlines comparable to those available to the general public (i.e., views from the front row, high in the arena and in the preferred section).

In the case *Independent Living Resources v. Oregon Arena Corporation*, the plaintiffs argued, among other issues, that the wheelchair seating in the Rose Garden violated ADAAG because it did not provide people using wheelchairs with lines of sight over standing spectators. The Department of Justice (DOJ) filed an "friend of the court" brief in support of *Independent Living Resources*.

The court concluded that ADAAG 4.33.3 concerns only the dispersal of wheelchair locations and does not address the issue of sightlines over standing spectators. It noted that the 1994 Technical Assistance Manual that discusses sight lines is not legally binding because it was not adopted in accordance with the notice and comment procedures of the Administrative Procedures Act. The court determined that the TAM is not a valid interpretive regulation, but rather an attempt to impose a new substantive obligation.

ing because it was not adopted in accordance with the notice and comment procedures of the Administrative Procedures Act. The court determined that the TAM is not a valid interpretive regulation, but rather an attempt to impose a new substantive obligation.

Dispersal of Wheel-

chair Seating

With regard to the dispersal of wheelchair seating, the plaintiffs successfully argued that wheelchair seating was clustered in the "corners of the end zones" and that no wheelchair seating is provided directly behind the basket or hockey goals. The court agreed that the distribution of wheelchair seating in the Rose Garden violated both the horizontal and vertical distribution requirements of the ADA. While the court held that the "100" and "Preferred Levels" of the arena do not contain a sufficient number of wheelchair locations, it rejected the plaintiff's

contention that front row seats must be provided in all seating configurations.

Companion Seats

The arena owners scored one on the issue of companion seating. The court granted summary judgment in favor of the defendant, holding that the use of "high quality" folding chairs which are not "significantly less comfortable" than the standard seats used in the arena complies with the companion seating requirement. The court noted that the use of folding chairs provides greater flexibility and is an "equivalent facilitation" which provides "substantially equivalent or greater access to and usability of the facility." The court held that there was no support for the plaintiff's and DOJ's argument that the equivalent facilitation exception was limited to the use of "new technologies."

The court is expected to rule shortly on other issues still pending in this three-year old case. ■

Fueling up in California

New Law Expected to Improve Access

California has a new law that illustrates the evolution of accessibility as it is occurring in the US.

In the early 1980s as a way to provide accessibility, California was one of the first states to require full service gasoline stations to provide full service at self-service prices to customers with disabilities who would find it difficult to refuel their own vehicles.

However, in the last 15 years, the petroleum retail industry has undergone a dramatic shift to mini-mart stores with all self-service pumps -- making full service harder to find. Under the new law, service stations in California with more than one employee on duty must provide customers who display valid disability license plates or placards with full service at self-service prices. The law also requires signage to explain if and when service for people with disabilities is available.

The new law exempts facilities where two people are on duty but one is assigned exclusively to food preparation.

Enforcement has been delayed pending development of a fact sheet. For more information, call 916.324.6061. ■



The Rose Garden in Portland, Ore.

The court determined that the TAM is not a valid interpretive regulation, but rather an attempt to impose a new substantive obligation.

Designing for the Disabled: The New Paradigm

In this new book by the author of *Designing for the Disabled*, Selwyn Goldsmith challenges British accessibility regulations which insist that people with disabilities be treated differently than others. The book's theme is that new procedures for controlling the accessibility of buildings are needed in Britain and he suggests terms for new legislation.

Goldsmith notes in the preface that unlike his previous classic *Designing for the Disabled*, the new book is not intended to be an encyclopedia or a comprehensive design guide for architects. It includes a history of accessibility regulations in the U.S. and Britain and is full of autobiographical information which helps to illustrate the evolution of regulations. He tries to dispel the medical model of disability and discusses instead the idea that people have architectural disabilities. People with architectural disabilities are described as "... those who when using or attempting to use buildings can find themselves confronted by impediments which prevent them from doing so, or allow them to do so only with difficulty and inconvenience."

The 448-page book includes 38 photographs and 115 illustrations (ISBN 0 7506 3442 1).

ADA Standards for Accessible Design: A Video Series

This series of videos provides in-depth reviews of key aspects of the Americans with Disabilities Act Standards for Accessible Design. Four videos in this nine-video series, funded by the National Institute on Disability Rehabilitation Research and produced by the Center for Universal Design, are now available. They are: Accessible Routes & Protruding Objects, Accessible Parking & Curb Ramps, Accessible Doors & Entrances, and Communications. Each VHS tape is 15 to 20 minutes long and is available in close-captioned form.

The series presents the requirements of the ADA Standards for Accessible Design by topic, condensing them into a graphic format that is easy to review and understand. Developed as a resource for architects, designers, planners and others responsible for physical and communications accessibility in public accommodations and commercial, state and local government facilities, the tapes include helpful computer-generated graphics and actual footage of accessible and inaccessible building features.

The tapes provide specific dimensional require-

ments in all areas. Other tapes in the series that are not currently available include: Overview & Scope, Human Factors, Vertical Circulation, Plumbing, and Seating & Assembly Areas.

To order, contact the Center for Universal Design at (800)647-6777.

NCA Playground Access Web Page Now On-Line

The National Center on Accessibility has a new web page featuring the most currently available information on access to playgrounds. See www.indiana.edu/~nca/playgrounds for information on the issues and solutions to providing public playgrounds that are accessible to children with disabilities. The NCA Playground Access web page features:

- Background on the development of accessibility guidelines for playgrounds.
- Frequently asked questions regarding playground access
- Planning considerations for the design of inclusive playgrounds
- Recommended questions to ask manufacturers and sales representatives when selecting new equipment and surfaces.
- Links to other playground resources.

For more information, contact the web page or call (765)349-9240 (v/tty).

"... those who when using or attempting to use buildings can find themselves confronted by impediments which prevent them from doing so, or allow them to do so only with difficulty and inconvenience."

Selwyn Goldsmith

Designing for the 21st Century: An International Conference on Universal Design of Information, Products and Environments

June 17-21, 1998

Hofstra University, Long Island, New York



Presenters: **Donald Norman**, author of "Design of Everyday Things"; **Roger Coleman** of DesignAge, Royal College of Art; **Patricia A. Moore**, Guynes Design; **Ron Mace**, Center for Universal Design; and **Frank Bowe**, Hofstra University.

Conference web site: www.adaptenv.org/21century/ for updates, registration brochure and information. Questions, email mdllorenzo@adaptenv.org or call (617)695-1225 x0.

Sponsored by Adaptive Environments Center, Center for Universal Design, Hofstra University and **Universal Design Newsletter**.

? **Problem:** Your Americans with Disabilities Act survey has found a high door threshold, but fixing it will involve replacing the door frame. You can't afford to do it yet -- what can you do?



TIP: On the rear door to our office, we ripped a piece of 1 x 6 lumber, beveled the edges and corners and notched it into the door threshold and frame.

The total cost was about \$5 in materials (including the paint) and ½ hour of labor by a guy with a table saw and belt sander.

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Newsletter
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year free
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any tip which we
publish. We look
forward to
receiving and
publishing your
tips.*


? **Problem:** How do you provide an accessible portion of closet rod in an existing hotel guestroom without removing and replacing all the built-in casework, remembering that most of the time, the room will be rented to able-bodied patrons?



TIP: Dan Marshal, director of engineering for the Westin Tabor Center Hotel in Denver, Colo. developed a rolling rod, that can be hung from any standard closet rod and used by anyone who needs a lowered closet rod.



? **Problem:** What do you do when you have a really difficult accessibility question that no one seems to be able to answer?

TIP: Call Universal Designers and Consultants Inc. 301.270.2470 (v/tty) or email a message to UDandC@erols.com. If they don't know the answer, they will find someone who does. 

Inaccessible Credit Card Reaches at Pumps Challenged

Mediation Has Parties Working Toward Viable Solution

Two individuals in Texas have brought suit against Texaco Inc. to pressure the oil company to make its self-service gas pumps accessible for people with disabilities.

The suit, *Cranston, et al v. Texaco Inc. and Triple S Petroleum*, claims that the self-service pumps are too high to be accessible for people who use wheel chairs at two independently owned and one corporate-owned service station in Austin.


In the suit, the plaintiffs stated that because they could not reach the self-serve credit card readers on the gas dispenser machines, they must go inside the station at "great physical inconvenience," or ask a stranger to conduct the credit card transaction for them.

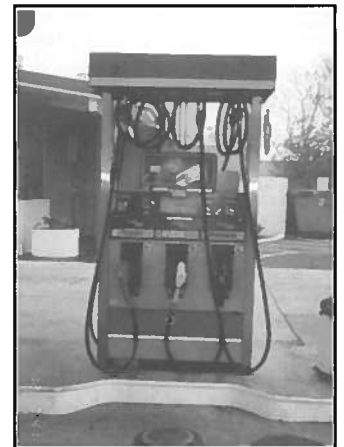
The plaintiffs, working with the Texas Civil Rights

Project, and Texaco are involved in mediation and are nearing settlement, according to Peter Hofer, staff attorney with Texas Civil Rights Project. Both parties are currently working on interim solutions until redesigned pumps are available.

"Rather than fight the case, Texaco has been amenable to developing interim measures to provide accessible pumps," said Hofer. "[Crafting interim solutions] is difficult because all service stations are different."

It was the hope of those filing the case that Texaco could use its leverage with gasoline pump manufacturers to encourage a redesign of self-serve pumps, according to Hofer.

Newly designed accessible pumps are expected to be available in mid-1999. However, it will take some time before existing stations are retrofitted with the new pumps. 



Lawsuit claims that self-service pumps are too high to be accessible to people who use wheelchairs.

PRODUCTS

Customer line up system

The NEXT Customer Line-up System is a customer guidance system that uses markers secured on the floor to outline pathways, boundaries, entrances and exits. The "dots" mark the sides of a queue line and footprints lead customers to the front of the line. The system gives patrons (including those who use wheelchairs) fewer impediments to move around than traditional stanchions/rope and rail systems.



The disks can be attached securely to carpet, tile or concrete and can be used indoors or outdoors. The metal disks are covered with a non-slip coating and are compatible with standard floor cleaning procedures. The 2-inch diameter markers are 1/8 inch high at their center and thinner than a penny around the edge. The markers are available in assorted colors and textures.

Neptune Clothes Washer

The environmentally friendly and accessible Neptune Clothes Washer is loaded from the front, like a traditional dryer. The interior tub is tilted at a 15 degree angle for easier loading and improved visibility. The machine reduces water usage by 40 percent and energy usage by 65 percent, according to its manufacturer Maytag. While most washers use 40 to 46 gallons of water for one cycle, the Neptune uses 23 gallons for a cycle by automatically determining the water level necessary. The machine



does not have an agitator and thus has 20 percent more capacity than other washers.

The tumbling action of the spinner moves the clothes more frequently through the water than agitator-type washers.

HEWI Bathroom System

The HEWI Inc. system of stationary supports, grab bars and seating systems has been developed especially for people who are older and for people with disabilities. The non-porous surface and concealed fastening of HEWI products make them easy to clean and resistant to bacteria. The nylon used in the system provides a smooth, non-slip surface and maintains a mild temperature despite variations of heat or cold. The construction is reinforced with stainless steel and zinc galvanized components rounded corners reduce the possibility of injury in the event of accidental contact.



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FAX: 717.293.3270

Getting There, from page 4

Combining visual and tactile signs is also suggested.

When it comes to sign placement, it is recommended that visual signs be mounted so that the highest character is no higher than 68 inches from the finished floor and bottom of the lowest character be no lower than 42 inches from the finished floor. The bottom of the overhead sign should be a minimum of 80 inches from the finished floor.

New technology

The guidelines suggest transit systems investigate new technologies to assist riders with hearing and visual impairments. The inclusion of assistive listening systems, cue signs, electronic visual information displays and audible signs can enhance the confidence and safety of all travelers using large complex multimodal transit systems.

The *Guidelines for Transit Facility Signing and Graphics* (TCRP Report 12) is available from the TRB, phone (202)334-3224.

Dialogue Begins, from page 1

Hosted by Richard Browdy, chairman of Florida's Accessibility Committee, the program was moderated by architect Larry Schneider, AIA and Julie Shaw of the of the Paralyzed Veterans Association of Florida. The group of 10, which included accessibility advocates, architects, designers and representatives of motion picture and theater companies, joined forces to look for new opportunities for motion picture theater accessibility.

The architectural team began by:

- Summarizing the complaints and service issues;
- Summarizing the design trend, building code and technical parameters; and
- Identifying specific existing theater designs that gave good wheelchair disbursement, choice and views.

The architectural team set a goal to locate the majority of wheelchair seating locations in what is called the "sweet spot" or the best seat locations in the house.

Motion picture theater seating was divided into three "zones:" A (front section of theater rows), B (center section), and C (rear section).

The proposed design rules developed during the charette include:

The architectural team set a goal to locate the majority of wheelchair seating locations in what is called the "sweet spot" or the best seat locations in the house.

Summary of the Proposed Rules

1. Divide the theater into three zones, A (front), B (middle) & C (back)
2. The front of Zone B is found by a 30 degree projection from the top of the screen to a 4-foot sight line height.
3. Fifty percent of the wheelchair locations required shall be dispersed in Zone B and the remainder in Zones A or C.
4. Wheelchair locations in Zone A shall be placed in the approximate center of the seating row or center of the theater.
5. A theater having stadium style seating in excess of 300 capacity shall have wheelchair locations dispersed into each zone. Those located in elevated areas of Zone C shall be made accessible by wheelchair lift, elevator or ramp.
6. To the maximum extent feasible, disperse wheelchair locations in pairs.
7. Each wheelchair location shall have a shoulder aligned companion seat.
8. Wheelchair locations shall be located on an accessible route, and have a level clear floor area.
9. Wheelchair locations shall be provided with two means of egress accessed by a maximum 20 feet of common path of travel.
10. Theater seating with removable or lifting arm rests to aid transfer shall be located on accessible routes.

1. Zone B is Considered the "Sweet Spot" Zone, and 50 percent or more of the required wheelchair positions should be located in this zone. The other wheelchair positions may be located in Zone A and/or C.

2. The front edge of Zone B is defined by a 30 degree angle projection from the top of the theater screen down to the eye level of a person in a wheelchair (48" approximately). This angle is the upper most range of a comfortable viewing experience per industry standards.

3. Zone A wheelchair locations should be placed in the approximate center of the seating area.

4. Ramping should be used to locate wheelchair positions in the center of Zone B with two means of egress provided. Ramping can rise from the theater entrance behind the seating, then along side of the seating up to the middle of the theater. The route can then ramp back down to the front of the theater. Wheelchair positions should be located off the main theater aisle, or on a cross aisle. Wheelchair access and exit routes should be sloped no steeper than 1:12.


5. In theaters with 300+ seats, wheelchair locations should be accessible by ramping in Zones A and B. Additionally, wheelchair locations should be located at the top of the stadium seating bank in zone C and accessed from a mezzanine or second floor. The second floor may be accessed by elevator or wheelchair lift.

6. Wheelchair positions should be paired. Each should have a shoulder aligned, companion seat.

The architectural team agreed that the proposal needs to be tested or proofed for design guidance, achievability and cost effectiveness.

Also, it was noted that while this proposal may work for motion picture theaters, it might not be useful for other fixed seat assembly spaces. The sweet spot occurs in different locations in different entertainment venues.

The proposal has undergone its first test. Prior to the charette, an alteration of an 18-screen theater complex was submitted for variance request to waive wheelchair locations in stadium seating areas. During a hearing in March, the owner requested the opportunity to amend the application with a new design based on the principals of the design charette.

A design dialogue has begun! 

John Paul Scott is principal project architect with Walt Disney Imagineering in Glendale, Calif.



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Events to be placed in the UDN Calendar must be submitted to the editor two months before the publication date.

April 29-30: Aging and Urbanization: Challenges and Opportunities will be presented at the United Nations Headquarters in New York by the International Council for Caring Communities. The conference will launch a five-year series of interlinked congresses held around the world to discuss the impact of longevity on the design of cities and communities. For more information contact ICCC by fax at 212.759.5873 or email at iccc@undp.org.

May 12-13: The US Architectural & Transportation Barriers Compliance Board will hold its bi-monthly meeting in Washington, DC. For more information contact the Access Board at 202.272.5434 (v); 202.272.5449 (tty).

May 14-17: The Annual Convention of the American Institute of Architects, to be held in San Francisco, will offer several seminar sessions on accessibility, universal design, and ADA compliance. For more information contact 202.626.7395 or visit the convention website at www.aiaonline.com

May 17-20: Workshop on Home Safety and Universal Design will be a pre-conference meeting at the Fourth World Conference on Injury Prevention and Control, to be held in Amsterdam, the Netherlands, will deal with the links between injury prevention and universal design. For more information, contact +31.24.323.4471 or e-mail reg.fowoco.ne@prompt.nl

June 10: ADA Update, in Albany, N. Y. This program will be presented by the Eastern Paralyzed Veterans Association (EPVA). Presenters from the Access Board,

US DOJ and other organizations will discuss the new children's accessibility, state and local government and outdoor recreation and assembly areas and stadium style movie theaters criteria. For more information contact, 800 795.3619.

June 17-21: Designing for the 21st Century: An International Conference on Universal Design of Information, Products and Environments will be held at Hofstra University, Long Island, N. Y. The three-day conference will be packed with informative sessions. Many of the event's speakers are internationally known for their work in universal design. Conference sponsors are: the Adaptive Environments Center, the Center for Universal Design, Hofstra University and *Universal Design Newsletter*. For more information, check the website at www.adaptenv.org/21century or call 617.695.1225 ext. 0 (v/tty).

June 18: An International Perspective: Accessibility Codes and Standards vs. Universal Design, What is the Difference is a pre-conference seminar at Designing for the 21st Century Conference (see listing above). It meets AIA/CES criteria for health, safety and welfare credits. For more information, check the website at: www.adaptenv.org/21century, or call 617.695.1225 ext. 0 (v/tty).

June 27: ADA Suits, Who's Next will be presented in Baltimore at the Construction Specification Institute Convention. For more information, contact 800.689.2900 or checkout the website at www.csinet.org.

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