

As we emerge from a tragic pandemic, let's catalyze action among professionals in the fields that shape the physical housing and communities where we live. This series of case studies shares innovations that are advancing a set of **guiding principles** for built environment professionals—from creative ways to redress inequities and engage the public in participatory planning, to unique housing and community models that enable every resident to thrive.



Destination Equity: Travel for All

By Stephanie Firestone and Julia Glassman

According to the UN World Tourism Organization's Secretary-General, Taleb Rifai, with **15% of the world's population estimated to live with some form of disability**, roughly 1 billion people may be unable to “enjoy the privilege of knowing other cultures, experience nature at its fullest, and experience the thrill of embarking on a journey to explore new sights.” And while people who age into disability often do not regard themselves as disabled, they largely have the same access needs. This greater inclusivity¹ focus serves people with access needs for whatever reason, and the travel industry is increasingly aware that catering to the inclusive travel market will make tourism more accessible to more people and is essential to their very viability.

¹ The term accessible will also be used in the document when citing sources.

Needs/Challenges

Accessible travel is not a niche market. A 2020 US study by the Open Doors Organization indicated that **during 2018-19, 27 million U.S.-based travelers with disabilities took 81 million trips, spending \$58.7 billion**, up from \$34.6 billion in 2015. The size of this market is confirmed by additional studies from England and Australia and discussed alongside best practice guidelines in a comprehensive **2022 study** by the Asia-Pacific Economic Cooperation Tourism Working Group. Crucially, accessibility accommodations are a need not limited to people with permanent disabilities but one that every human may experience.

According to the World Health Organization, “almost everyone will temporarily or permanently experience disability at some point in their life.”

Across the globe, nearly 2 percent of the population, or some 132 million people, require the use of a wheelchair. Yet users of wheelchairs, perhaps the most visible assistive device, comprise only 6-7 percent of the disability population and represent only a small subset of people who face accessibility challenges when traveling. Studies from the US, UK, and Australia reveal not only the surprising size of this market but that it is also very diverse. People with mobility impairments that make walking or climbing stairs difficult **outnumber wheelchair users by a factor of 8.5**. And people with hearing or vision impairments are each more than double the number of wheelchair users. In fact, a 2015 landmark study by VisitEngland showed that **up to 75 percent of people traveling with a disability possess “invisible” or “hidden” disabilities**; these include long-term illnesses such as diabetes and allergies that engender access needs.

Furthermore, since people with disabilities are less likely to travel alone, accessibility in travel has a significant multiplier effect—from an economic standpoint, in terms of dollars left on the table. Studies show that accessibility challenges for one person translate to an **impact on up to five people in a party**. Research out of England’s Business Disability Forum showed that, as a result of a supplier’s lack of disability awareness, three in four customers with disabilities and their families and friends have **taken their business elsewhere**.

Importantly, these travel needs, and challenges are quickly growing as the global population rapidly ages. In 2019, VisitEngland determined that 35 percent of domestic overnight **trips were made by people aged 55 and older**.

Looking ahead, according to AARP 2023 Travel Trends, **62 percent of Adults 50+ plan to travel at least once for leisure purposes in 2023** and, on average, plan to take 3 to 4 trips this year. With this greater number of older travelers, more people have access needs due to an acquired disability—one that developed during a person’s lifetime as a result of an accident or illness, rather than a disability the person was born with.

Accessible Japan website creator, Josh Grisdale, has witnessed some additional aging-related shifts that provide insights for the global tourism industry. He has seen an increase in two- and three-generation families traveling to Japan from other parts of Asia. And he finds many of these multi-generational units looking to rent a wheelchair as part of their trip planning, simply because a person in the oldest generation—who may not regularly use a mobility device—tires more easily.

Innovations

The **UN World Tourism Organization (WTO)** sparked a rise in accessible tourism with the 2016 dedication of “World Tourism Day” and the declaration of 2017 as the year of tourism. “Accessibility for all should be at the center of tourism policies and business strategies not only as a human right, but also as a great market opportunity,” said the then-UNWTO Secretary-General.

In 2021 the UNWTO led a collaborative effort to create an **international standard for accessible tourism for all**. The standard includes information on policymaking, strategy, infrastructure, products, and services. It establishes requirements and provides guidelines for all public and private stakeholders in the tourism supply chain to help ensure equal access and enjoyment of tourism by people of all ages and abilities.

In another recent and seminal guide published in 2021, **“Inclusive and Accessible Travel Guidelines,”** the World Travel & Tourism Council focuses on the experience of travelers with disabilities and includes sections on developing an inclusive and accessible system; creating safe spaces; designing an engaging and relevant system; and exemplifying inclusion and accessibility.

At the national level, in 2017 the government of Canada undertook an assessment of how technology and innovation can improve the accessibility of the federal transportation system for older adults, envisioning a system that promotes social equity and connectedness.

This case study is intended to encourage innovation and application of the standards, guidelines, and examples presented by public and private entities at the local, regional, national, and international levels.

Accessible vs. Inclusive

The term “inclusive travel” has gained traction as an alternative to “accessible travel” since the early 2000s. The message is that the tourism industry must create products for the broadest possible range of people operating under the broadest possible range of conditions—that is, employ a “whole-of-life” approach. The innovations described in this case study address this inclusivity range, which includes physical as well as cognitive and sensory needs.



Built Environment

In the physical space, it is important to minimize challenges in navigating and interacting with complicated environments. The most significant and well-known guidance to follow in the design of spaces is **Universal Design**, which makes environments usable by most people with minimal need for modifications. This case study highlights a limited set of key innovations that enable travel for people with a variety of needs. AARP’s **Livable Communities** and **Equity by Design** initiatives and AARP **Public Policy Institute** provide more extensive resources and guidance on making a broader range of spaces more age- and disability-friendly.

VISUAL ASSISTANCE

Tactile paving originated in Japan. Tenji burokku, or “Braille blocks” are inlaid floor tiles that guide people with visual impairments, yet they also serve people with mobility limitations by guiding them to such destinations as elevators and accessible toilets. Initially adopted for public transit, Braille blocks are now pervasive in public buildings, many sidewalks, street corners, and other public spaces in cities throughout Japan. There are two types of tiles. Tiles with elevated elongated lines indicate a path, so a person can follow the lines to a destination such as an exit. The second type comprises small, elevated circles indicating caution, or a need to stop—for instance when a person has arrived at steps, train tracks, an elevator, or a street with automobiles. While tenji burokku originally were limited to certain public buildings and train stations, the government is working with municipalities to create accessible zones expanding from facilities of public interest, which will increase the area covered with tactile blocks.



SENSORY AND COGNITIVE NEEDS

The tourism industry has a growing recognition of the need to cater more to the sensory and cognitive needs of travelers. And from the industry perspective, this may help tourist businesses expand their low-season business, since people with dementia sometimes prefer to book during less busy times when staff can provide them more attention.

VisitEngland with the Alzheimer’s Society and other groups published a **Dementia friendly tourism guide**, which highlights the need for increasing awareness and improving physical environments. The guide aims to support tourism businesses of all sizes through tips, case studies, and signposting to further resources. It provides suggestions for addressing common challenges faced by people living with dementia—suggestions that are often also helpful to older people and other populations with special needs. These include:

- Prompting customers during their booking for any additional requirements—for example, the ability to reserve a particular table or a familiar bedroom, or for those unable to stand for long periods of time to access a fast track in queues.
- Providing a simple system to contact a staff member for help, and ensuring staff wear name badges and make it clear they can support people affected by dementia—for example, by wearing the **Dementia Friends**² badge.
- Training and awareness for customer-facing staff and team members most likely to interact with customers affected by dementia.

The guide provides additional information on how small physical changes can go a long way to reducing stress and confusion for people living with dementia and facilitate independence—all of which can also help people with other challenges. For example:

- Signage tips include: using large fonts and upper- and lower-case letters rather than block capitals; choosing common images and symbols; and placing signs at heights visible also from wheelchairs.
- Visibility and lighting guidance suggests: removing obstacles to sunlight while minimizing glare; outlining the edges of steps; and providing color contrasts (e.g., between doors and walls, the toilet, and the floor).
- Furnishing- and facility-related tips include: avoiding dark rugs and mats that can be perceived as holes, or bold patterns on floors that can cause confusion; using carpets, curtains, etc. to absorb noise; and positioning mirrors so a person can easily recognize themselves to avoid distress (i.e., not on the backs of doors).

² Dementia Friends is a voluntary and free Alzheimer’s Society initiative from the UK that helps individuals and organizations better understand and help people living with dementia feel understood and welcomed. Dementia Friends in the US can be found [here](#).

Inclusive Air Travel

Open Doors' 2015 and 2022 market studies report that **spending on air travel by people with disabilities** in the US increased from \$9 billion to \$11 billion during that interval. That means—from the perspective of any stakeholder—focusing on the disability- and age-friendliness of airports and airplanes is imperative.

AIRPORTS

Today airports that want to maximize travel opportunities for people with disabilities and the growing number of older people are making changes and even building flexibility into airport designs, to enable reconfiguration as needs and preferences change over time. Almost anyone who has traveled, disability or not, has known the challenge of lifting a heavy bag onto an airport security belt. Japan's Haneda Airport created level luggage checks flush with the floor, so passengers don't need to lift heavy luggage.



Photo: Adrian Widjy

At some airports, management and staff are also receiving training to deliver appropriate customer service that meets the needs of people with a variety of disabilities. For example, at Heathrow Airport in the UK, a person with a hidden disability can wear a **sunflower lanyard** so airport staff will recognize that a person has a hidden disability without them needing to declare it.

Two airports in Ireland were recently recognized by the World Health Organization as the **first age-friendly airports in the world**. The age-friendly airports initiative was led by Age-friendly Ireland, the chief executives of the Clare, Limerick, and Mayo County councils, and management at the Shannon and West Knock airports. They conducted extensive consultations with older citizens as well as walkability audits with members of the local Older Persons Councils and people of all ages with mobility challenges. The audits included the outdoor environment, entrances, check-in desks, information desks, security, transit lounges, boarding gates, baggage halls, and arrivals.

The emerging recommendations for improvements at the two airports also led to the development of a case study and guidance so others interested in establishing age-friendly airports can learn from their process and experience. The **Age Friendly Airport Guidelines** discuss the need to create pleasant and accessible outdoor spaces and indoor environments. Commonly understood disability considerations highlighted in the guide include low noise levels, places to rest, good lighting and signage, adequate toilets, safe passageways, pedestrian pathways and road crossings, and a secure environment. Yet, the guidelines also highlight less-considered needs, such as seating within shopping areas and covered walkways from planes.

The two Irish airports have already instituted many changes to improve the customer experience for passengers as they move through the airport. Shannon International Airport installed a sensory room in the departures lounge, where passengers with special needs such as autism can wait for their flights in a calming environment. West Knock created a program whereby a service-team member escorts the passenger all the way through the airport journey—supporting them at security, helping with bags, accompanying them to a dedicated seating area, and helping them board the aircraft—using an ambulance lift if needed. The initiative aims to position the region as a leading age-friendly tourist destination and harness the potential of the older market demographic. The initiative also plans to create opportunities for airlines to adopt age-friendly principles for booking and accessing travel information and to adopt an age-friendly business recognition scheme to support local businesses.

AIRPLANES

One **blogger who is a powered wheelchair-user** and extensive traveler finds flying is the part of traveling that he most dreads, for two reasons. The first is the extremely small restrooms onboard, preventing the airline crew or anyone from helping with transferring. In an incredible blow to a person's dignity, some wheelchair users must cover themselves with a blanket and use a disposable urinal from the plane seat.

The blogger's other top dread is the possibility that his wheelchair will get damaged during the flight. **U.S. Senator Tammy Duckworth (D-IL)**, a U.S. Veteran who uses a wheelchair, put the problem in perspective. "We would never accept airlines breaking the legs of 1 in 65 passengers, and yet, that is essentially what is happening when 1 out of 65 wheelchairs are being broken by airlines," she said.

All Wheels Up and other U.S. organizations successfully advocated for greater accountability and other measures included in the **FAA Reauthorization Act** passed by the U.S. Congress in 2018. Due to a subsequent **U.S. Department of Transportation requirement**, airlines reported that 10,548 wheelchairs or scooters were lost, damaged, delayed or stolen in 2019, the first full year of reporting. The 2018 law also required a feasibility study into systems that would enable wheelchairs to securely lock into place on the airplane floor so people could bring their own wheelchairs onboard. A consequent **National Academies of Sciences, Engineering, and Medicine study** concluded that design and technical challenges could be overcome, and **U.S.-DOT said it will establish a research roadmap** to support future rulemaking to address the issue. U.S.-DOT has also begun to execute on measures to empower air travelers with disabilities to understand and assert their rights. In July 2022, it published the first-ever **Airline Passengers with Disabilities Bill of Rights**, which is an easy-to-use summary of existing passenger rights under the Air Carrier Access Act that apply to all flights of U.S. airlines as well as flights to or from the United States by foreign airlines.

PREPARING FOR FLIGHT

A few innovative initiatives are empowering people to travel by air with greater confidence, employing tools to help prepare people before they even board a plane. Some companies create social stories, which use easy language, pictures, and videos to explain to people what they can expect to experience and can help people with autism and other sensory conditions to mitigate some of the stress they experience from new environments, which can be overwhelming.

The **Tryb4uFly** service in the United Kingdom provides free guides and checklists for passengers with disabilities, as well as consultations with trained professionals about a person’s individual requirements and available options, such as equipment rental. In May 2022, the Minneapolis-St. Paul International Airport, in partnership with Delta airlines, installed a **mock airplane cabin** on-site to give flyers with a wide range of special needs an opportunity to become familiar with a realistic aircraft cabin. The mock cabin is free and available by appointment for flyers. It is also used to train airline personnel, flight crews, and companies that provide service to passengers who need help getting to or from their airplane seats. Airports in Houston, Denver, and Kansas City, Missouri, are also planning to install mock airplane cabins in their terminals.



Photo: Hand In Hand; Travel Leisure

Inclusive Railways

In many countries, anyone traveling by rail—with a permanent or temporary disability (e.g., injured leg), or toting a stroller or luggage—most likely encountered obstacles using the system. Many trains are older and have large distance gaps, which limit the mobility and independence of people using wheelchairs. In the United Kingdom, 41% of **train stations lack step-free access**. In another survey, 37 percent said onboard announcements were unclear and 29 percent could not find usable toilets on trains.

In Japan, railway and subway systems have gone to great lengths to **make the systems accessible** for people with disabilities. Today, after a client with disabilities purchases a ticket, a staff member calls ahead to the client’s destination, accompanies the client to the track, and helps them board the train using a portable slope. At the other end, a staff member awaits the client for disembarkation. Meanwhile, system-wide improvement came in advance of the 2021 Olympics and Paralympics to ensure the safety of people with visual impairments and other riders and halt the tragic occurrence of people falling onto train tracks. Between 2015 and 2020, **platform barrier doors**, or low walls along platforms with doors that open only once the train has come to a stop, were installed in some 700 stations.



Photo: The Asahi Shimbun Company

In Poland, the Łódzka Kolej Aglomeracyjna (LKA) regional railroad project has a comprehensive accessibility program, including Braille signage and **induction loops** on trains. People with hearing impairments can also connect with online sign language interpreters at any point along their journey by scanning a barcode on the back of their seat. Other rail companies are interested in replicating the program, and representatives of the LKA are developing national guidelines.



Photo: Zero Project

Inclusive Hotels

Increasingly, hotels are independently undertaking improvements to their facilities and services. The Center for Inclusive Design and Environmental Access (IDEA) created the **innovative solutions for Universal Design™ (isUD)** initiative and certified the first hotel in the U.S. for inclusive/universal design. At the 107-room Hampton Inn Buffalo, staff are trained to assist guests of all abilities, and the hotel design includes oversized circulation paths and a comprehensive wayfinding system. For example, guest room doors are delineated from one another using variations in carpet color, and all guest room number signs include a unique photograph.



Photo: innovative solutions for Universal Design (isUD)

Beyond private initiatives, some new government-initiated efforts are compelling or incentivizing hotels to take action. One such example is found in the emirate of Sharjah in the United Arab Emirates. Under the leadership of His Highness Sheikh Dr. Sultan bin Mohamed Al Qasimi, in 2016

Sharjah launched the **first age-friendly city program in the Arab world**, with membership in the **World Health Organization’s Global Network of Age-Friendly Cities and Communities**. As part of the initiative’s evolution, Sharjah added an age-friendly hotels program in 2020. A multi-sector committee—comprising representatives from government authorities including those working in tourism, social services, and other areas, as well as hotel managers and staff, and other stakeholders—developed a new age-friendly classification for the Tourism Authority’s existing hotel classification manual. The new classification includes specific mandatory criteria to accommodate disabled and older people; for example, a hotel must have at least one room that meets all accessibility requirements. And a voluntary rating system recognizes hotels that implement additional inclusivity features. Critical to advancing age-friendly hotels in Sharjah is a change to the planning system for new hotels. Before submitting plans to Town Planning and other departments for approval, the hotel schematic must receive approval from the Tourism Authority, which examines hotel designs for room and corridor sizes, doors, parking, entrances, and other accessibility features.

For hotels that are increasingly meeting greater inclusivity needs, a variety of web-based platforms are helping them to demonstrate how they are doing so. **Mobility Mojo**, for example, provides a self-audit tool that makes it easy for hotels to document, track, and promote their disability-inclusive features, and enables users to compare their accessibility with competitors.

Access to Information

According to the Australian global travel expert Martin Heng, “Information about accessibility is as important as a destination’s accessibility itself when it comes to travel.” Heng stresses the importance of providing accessible information that empowers people to decide for themselves whether or not a business will be able to accommodate their needs. “Simply by undertaking an informed audit of existing facilities and making this information available to potential customers, businesses can become more accessible,” he says.

Yet, websites themselves are often designed in ways that are not digitally accessible—particularly for older adults and people with disabilities such as vision and motor impairments. A recent study found that almost 70 percent of people with access needs in the UK click away from **an inaccessible website**, costing businesses an estimated £17.1 billion.

Over the last decade, Destination Management Organizations (DMOs) have invested in creating and updating information portals to help people with access needs plan trips to particular geographic areas. Some of the most comprehensive DMOs are out of Europe. At the sub-national level, **Visit Flanders** organizes information about this tourist region in Belgium by types of activities, and **Catalonia**, the

autonomous community in Spain, specifically targets both the disabled and aging demographics. The Barcelona-based platform **Tur4all** (tourism for all) works with professionals from the tourism and cultural sectors as well as groups that service clients with accessibility requirements to help them ensure their technical standards, publications, and projects are guided by universal accessibility criteria.

At the country scale, the **German National Tourist Board** organizes its site by type of impairment. **Portugal’s** site includes navigation to one of 208 accessible bathing beaches that include adapted toilet facilities, walkways on the beach and, in some cases, such equipment as amphibious wheelchairs. And **VisitEngland** developed a suite of **resources that assist tourism service providers** in learning more about the accessible tourism market and how to cater better to tourists with access needs.

Meanwhile, outside the public sector, Heng created Lonely Planet’s **Accessible Travel Online Resources**, the world’s largest list of online resources for accessible travel. The resource was cited by the UNWTO as an example of best practice in accessible tourism. Lonely Planet also created the **Accessible Travel Phrasebook**, which has been translated into 35 languages, so people with a disability can explain their particular needs in the local language where they travel.

Replicability

Though few jurisdictions have officially adopted Universal Design (UD) principles, some countries and a number of cities have advanced the use of UD and other age-friendly measures—largely so their own rapidly aging populations can age in place. From simple things like providing more benches or other places to sit along a person’s journey and additional time to cross the street at crosswalks, to policy interventions that shape a city’s infrastructure, a good takeaway is: a community that invests in age-friendliness for its own population is also investing in promoting inbound age-friendly travel.