ENHANCING ACCESSIBILITY IN PUBLIC SPACES IN ASIA:

BEST PRACTICES AND MOBILITY SOLUTIONS FOR INCLUSIVE DESIGN

This article examines the latest legislation, trends, challenges, and solutions in creating inclusive built environments across Asia, with a focus on how cutting-edge accessibility equipment can transform public spaces and enhance quality of life for millions.

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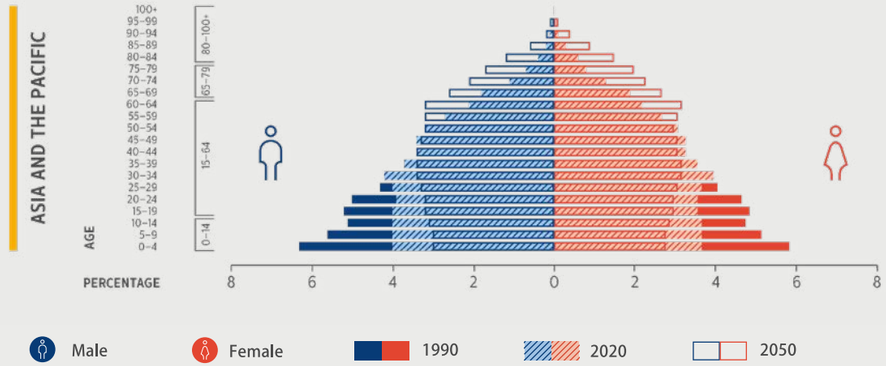
Age and Sex Distribution of the Total Population for the Region and By Subregion, 1990, 2020, 2050



Source: ESCAP calculations based on: United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition.

Asia's population is ageing faster than any other region and as urbanisation accelerates, the demand for inclusive public spaces is critical. The number of older adults (age 65+) is expected to nearly triple by 2060 and with over one-third of persons with disabilities lacking access to essential assistive devices, the architectural and development sectors face an unprecedented challenge – and opportunity.

Recent data reveals significant disparities in accessibility across Asian public spaces. While 66.5% of government buildings and 70.6% of international airports are considered accessible, figures range from 0 to 100% across the region. Furthermore, as the old-age dependency ratio grows, the role of assistive and mobility technologies becomes increasingly crucial.

Regional accessibility legislation demands architects, developers, and urban planners across China and Asia to lead the way in creating inclusive environments. Age-friendly urban planning, transportation, housing, and public spaces must accommodate the needs of elderly individuals and those with disabilities.

As a leader in mobility solutions, Savaria understands that the key to building accessible spaces lies in exceeding minimum standards and embracing innovative technologies and design principles that cater to all users.

This article examines the latest legislation, trends, challenges, and solutions in creating inclusive built environments across Asia, with a focus on how cutting-edge accessibility equipment can transform public spaces and enhance quality of life for millions.

The Regulatory Landscape in China, Japan, South Korea and Singapore

Accessibility legislation across Asia is evolving rapidly. This shift reflects a growing commitment to creating inclusive public spaces and accessible buildings.

China

The Accessibility Environment Construction Law of the People's Republic of China (enacted September 1, 2023) marks a significant shift toward the comprehensive enhancement of accessibility in public buildings.

The law requires that all new, reconstructed, and expanded public buildings, transportation facilities, and urban areas strictly comply with accessibility standards.

Accessible features must be integrated from planning and design to construction and operation, ensuring they are effectively connected with existing infrastructure.

A significant focus of the law is the retrofitting of existing structures. Public buildings, roads, and spaces that do not meet current accessibility standards must be upgraded, with specific plans mandated by local governments.

Key public amenities like elevators in older residential buildings, accessible entrances, tactile paving, and accessible parking are prioritised, reflecting the growing importance placed on making cities more inclusive. Additionally, public inspection and input from disabled and elderly communities are emphasised during the planning and acceptance stages.

The law also establishes rigorous maintenance and management protocols. Building managers and owners are legally responsible for the upkeep and safety of accessibility facilities, including timely repairs, preventing unauthorised usage, and ensuring that public services and information systems are accessible.

The expansion of audible traffic signals, wheelchair ramps, and accessibility signage further demonstrates the law's intent to ensure the seamless integration of accessible features into everyday public life.

Japan

Japan's accessibility laws are led by the "Barrier-Free Act" (2006, amended in 2018 and 2020), which sets standards for inclusive design in public buildings, transportation, and urban areas. Additionally, the Act on Promotion of Smooth Transportation of Elderly Persons, and Disabled Persons emphasises both physical accessibility and the removal of intangible barriers, promoting a more inclusive society, especially in preparations for the 2020 Tokyo Olympics at the time.

South Korea

South Korea's accessibility laws, like the Act on the Guarantee of Promotion of Convenience for Persons with Disabilities, the Aged, and Pregnant Women (2007), have recently been updated to enhance accessibility standards in public spaces and transportation. The 2022 amendments introduced stricter requirements for ramps, elevators, and tactile signage in urban centres, with financial incentives for businesses complying proactively.

Singapore

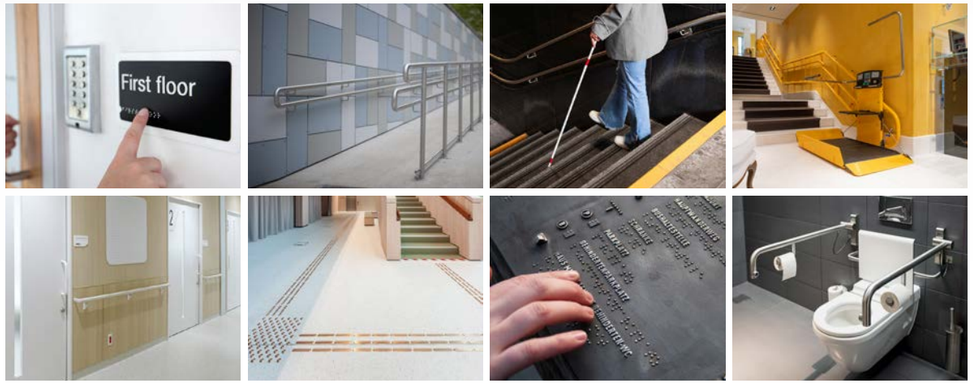
Singapore's Code on Accessibility in the Built Environment (2019) sets rigorous guidelines for barrier-free access in both new and retrofitted buildings, focusing on universal design features like ramps, handrails, and accessible toilets. The 2020 amendment to the Building Control Act further requires existing public buildings undergoing renovations to incorporate basic accessibility features, ensuring greater inclusivity across urban spaces.

Governments across the region are tightening accessibility laws and embracing universal design principles, driven by demographic shifts and commitments under the UN Convention on the Rights of Persons with Disabilities (CRPD). While implementation varies, recent updates highlight significant strides toward more inclusive public spaces for older adults and people with disabilities.

Accessibility standards in Asia vary significantly from country to country, yet occasions like the Tokyo 2020 Olympics and Paralympics have been significant drivers of enhancements in infrastructure. Japan, South Korea, China and Singapore lead in implementing universal design principles and consistent updates to their legal frameworks support their accessibility legislation.

Key Considerations for Architects and Developers

Universal design principles play a vital role in creating environments that are accessible and inclusive for everyone, regardless of their abilities.



1.Equitable Use: Design and spaces should be usable by people with diverse abilities. Example: Motion sensor doors at building entrances offer easy access for everyone.

2.Flexibility in Use: Designs should accommodate various individual preferences and abilities. Example: An Inclined Platform Lift offering versatile installation options, including fixing on steps, walls, or stair stringers.

3.Simple and Intuitive Use: Designs should be easy to understand, regardless of user experience. Example: Public elevators with clearly labelled buttons and braille instructions.

4.Perceptible Information: Designs should communicate necessary information effectively through multiple modes. Example: Information kiosks with touchscreens, audio instructions, and braille.

5.Tolerance for Error: Designs should minimise hazards and potential for errors. Example: Platform lifts with automatic braking systems and safety sensors.

6.Low Physical Effort: Designs should be usable with minimal physical effort. Example: Lever door handles and touchless faucets.

7.Size and Space for Approach and Use: Designs should offer adequate space for all users. Example: Wide, unobstructed pathways and ramps.

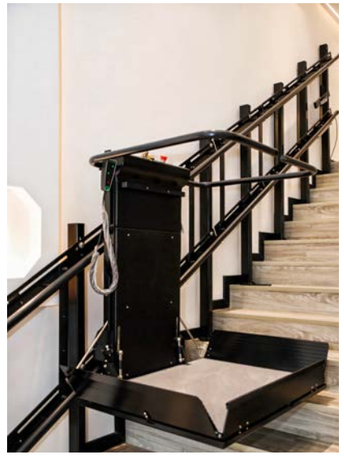
These principles aim to ensure that spaces and products are usable by as many people as possible without needing special adaptations.

Expert Insight: *Liu Lifeng, Deputy Director-General of the Department of Urban Development, Ministry of Housing and Urban-Rural Development, PRC, emphasises the evolving nature of accessibility needs: "In the early days, the requirements for accessible environment construction mainly focused on city tactile paths, public buildings in residential areas, and ramps. However, now residents have more diversified needs for accessibility, including accessible parking spaces, theinstallation of elevators and voice prompts for traffic signals."*

Accessibility Regulations and Their Impact Across the Construction Lifecycle

Accessibility regulations today shape the construction industry and influence the process from the initial design stage to post-construction operations. These regulations, which vary across different countries and regions, aim to ensure the built environment is inclusive and accommodating to people with diverse abilities. Accessible architecture means that architects must design spaces and environments that are usable by all people, regardless of their age, size, or ability.

In the design phase, architects carefully study and incorporate the applicable accessibility standards into their plans - especially for public buildings which must give access to all. Accessibility standards may involve guidelines such as minimum door widths, level thresholds, sanitary accommodations and the provision of ramps or elevators. Going beyond mere compliance, design teams often explore innovative solutions that exceed the regulatory minimums, creating spaces that are inherently welcoming and accessible to all users.



One key consideration for architects during this stage is the inclusion of mobility assistance features, such as stairlifts and platform lifts. These help improve accessibility for individuals with limited mobility, allowing them to safely navigate across floor levels. By integrating these elements into the initial design, architects can ensure seamless accessibility without costly retrofits.

During the construction implementation phase, meticulous attention to detail is required to ensure that the accessibility-focused design elements are properly executed. Site supervisors and tradespeople must be well-versed in the relevant accessibility requirements and work collaboratively to validate that the final built environment matches the inclusive vision.

Even after the project's completion, the impact of accessibility regulations continues. Facility managers and building owners are responsible for maintaining the accessible features and identifying opportunities for continuous improvement. This may involve gathering user feedback, conducting accessibility audits, and making adjustments to ensure the space remains inclusive and responsive to evolving needs.

Understanding Accessibility in Public Spaces: Ensuring Inclusion for All

Accessibility in public spaces is crucial for promoting diversity, equity, and inclusion within communities. It involves the design and implementation of infrastructure, facilities, and services that accommodate individuals with disabilities, allowing them to navigate and participate in public life without barriers.

This Concept Encompasses Several Key Elements:

• **Physical Accessibility:** Incorporates features such as ramps, platform lifts, widened doorways, and tactile paving to enable independent navigation for individuals with mobility impairments.

• **Sensory Accessibility:** Includes elements like Braille signage and audio descriptions to assist individuals with visual or hearing impairments.

• **Cognitive Accessibility:** Utilises plain language signage, avoids clutter and offers alternative information formats to benefit individuals with cognitive disabilities.

• **Inclusive Amenities:** Ensures that public facilities, such as restrooms, seating areas, and recreational spaces, are designed to be usable by individuals with diverse needs.

Expert Insight: *Zhou Xuyang, from the Barrier-free Environment Construction Committee of the National Society for the Development of the Cause of the Disabled in China, notes that since the implementation of China's new accessibility law in September 2023, "public attention to accessible environment construction has been increasing. Many tourist attractions have also launched accessible tourism routes, facilitating individuals with disabilities and all those in need."*

Integrating accessibility features from the planning stage is essential for creating inclusive environments. While there may be initial cost implications, investing in accessibility yields long-term benefits, including enhanced user experiences, compliance with legal standards, and a more equitable public space for everyone.

Furthermore, engaging communities and enhancing access to public spaces like schools and transportation is vital for ensuring that everyone has equal opportunities for education, travel, and more. Access helps individuals live life to their fullest potential and therefore contributes positively to society.

Making the Business Case for Accessible Design or the Economic Benefits of Accessible Spaces

Investing in accessibility spaces and solutions offers significant economic and social benefits beyond meeting compliance requirements.

Economic Advantages for Businesses and Institutions:

Increased Customer Base: By making spaces accessible, businesses can attract a wider range of customers, including those with disabilities and the elderly, effectively expanding their market. Studies show the global market for accessible tourism is substantial, with 1.3 billion people worldwide experiencing significant disabilities. China's tourism academy predicts the number of active elderly travellers will surpass 100 million in 2025, with the domestic silver tourism market hitting 1 trillion yuan ($139.9 billion) annually.

Enhanced Brand Image: Companies and institutions that prioritise inclusivity and access often see an improvement in brand perception, leading to increased customer loyalty and a positive reputation. Making spaces more accessible builds trust and enhances experiences for all users.

Reduced Legal Risks: Implementing inclusive design can help businesses avoid costly legal challenges related to accessibility laws that are expected to become more stringent. Proactively building an accessible brand ensures compliance and avoids potential legal issues.

Cost Savings: Investments in accessible infrastructure, like crosswalks, lead to cost savings for users through reduced reliance on alternate transportation options and time savings.

Willingness to Pay: Consumers value accessible design and are often willing to pay more for better-designed, accessible spaces, which are seen as solid long-term investments.

Economic Benefits for Communities:

• Boost in Local Economy:

Accessible public spaces and businesses encourage more people to participate in local activities, leading to increased spending.

• Job Creation:

Redesigning spaces for accessibility creates new jobs in design, construction, and maintenance.

Social Benefits:

• **Increased Engagement:** Inclusive design removes barriers, allowing more people to engage in social, cultural, and recreational activities.

• **Improved Quality of Life:** Accessible spaces enhance the overall quality of life for the community.

• **Fostering Diversity and Inclusion:** Inclusive spaces reflect and support community diversity, promoting a sense of belonging.

By prioritising inclusive design, businesses and communities can unlock new opportunities for growth, improve quality of life, and foster a more equitable and inclusive environment.

Useful Resources:

• The UN Office for Sustainable Development Accessibility checklist (https://unosd.un.org/sites/unosd.un.org/files/accessibility_checklist_acap.pdf)

• Singapore's Universal Design Guide for Public Spaces (https://www.zerobarriere.it/libreria/Singapore_3_2016.pdf)

• **Accessibility for all:** Good practices of accessibility in Asia and the Pacific to promote disability-inclusive development by the United Nations Economic and Social Commission for Asia and the Pacific (https://www.unescap.org/sites/default/files/Accessibility_for_%20All_2016_final_0.pdf)

Successful Implementation of Accessibility Features in Chinese Public Spaces

Major events and venues have long been leading the way in accessible design. For instance, Garaventa Lift's infrastructure has been instrumental in providing universal access to high-profile events such as the Beijing Summer Olympics and Paralympics. Their innovative lift systems, including inclined and vertical platform lifts, ensured that key Olympic venues were accessible to all.

Expert Insight: *Xue Feng, the Chief Architect of China Construction Design and Research Institute Co., Ltd, advocates for a systematic approach: "To strengthen the construction of accessible environments, a systematic approach is still needed. Vertically, it is necessary to enhance management throughout the entire process, including design, construction, acceptance, and maintenance. Horizontally, accessible environment construction involves multiple fields such as municipal construction, public transportation, and information technology, which requires the establishment of a long-term mechanism for multi-departmental participation and cooperation."*

Emerging Technologies in Accessibility Equipment in the Platform Lift Category

Emerging and proving technologies in accessibility equipment, like platform lifts, set the standards for inclusivity in built environments.

As legislation, user needs, and technology evolve, so do platform lifts. Advanced sensor systems enhance safety, while improved motor technologies enable smoother, quieter operations and increased energy efficiency. Smart connectivity supports remote monitoring, predictive maintenance, and user control through mobile apps.

Artira, Savaria's V-1504 and Delta Vertical and Inclined Platform Lifts Exemplify These Advancements:

Artira:

- **Capacity:** 250 kg standard
- **Travel:** Up to 50 meters, with configurations for up to 8 stair flights
- **Speed:** Up to 0.15 m/s
- **Features:** Suitable for narrow, curved, or steep stairs, with indoor and outdoor installation options

Savaria V-1504:

- **Capacity:** 340 kg
- **Travel:** Up to 7 meters
- **Speed:** 20 ft/min (0.127 m/s)
- **Features:** Available for indoor and outdoor use, customisable with various finishes

Delta Inclined Platform Lift

- **Capacity:** 250 kg
- **Travel:** Up to 24 meters
- **Speed:** 15-20 ft/min (0.075-0.1 m/s)
- **Features:** Space-saving design with foldaway platform, battery powered, for indoor/outdoor use (moderate climates), available in 4 platform sizes including ADA-compliant options.

As regulatory frameworks in Asia continue to evolve, we can anticipate:

- Stricter energy efficiency standards
- Enhanced safety requirements
- Increased focus on universal design
- Integration requirements with building management systems
- Potential regulations on data privacy and security
- More stringent noise reduction standards

Experienced Manufacturers like Savaria focus on developing products that meet current standards and are adaptable to future regulatory changes. This proactive approach ensures that investments in accessibility equipment remain compliant and effective long term, supporting the region's commitment to creating more inclusive urban environments.

Expert Interview with Professor Wang Yu

Professor Wang Yu

is a project researcher at Shandong Architecture University and Deputy Director of the Accessibility Research Center. Her work focuses on creating barrier-free environments for individuals with disabilities in urban, rural, and home settings.

Evolution of Accessibility Needs: Given your extensive research in barrier-free public environments, how do you see accessibility needs evolving in both urban and rural areas of China over the next decade? What emerging trends should urban developers and architects be prepared for?

Prof. Wang: The demand for accessibility in urban and rural areas of China will surge dramatically. After decades of constructing accessible environments, needs will shift from "availability" to "quality," posing demands for high-quality development in accessible environment construction. In the future, digital technology should be integrated with the construction of accessible environments in urban and rural areas, and multidisciplinary collaborative research should be carried out.

Rural vs Urban Challenges: Your research spans both urban and rural environments. What are the key differences in accessibility challenges between these areas? How can solutions be tailored to address the unique needs of each setting?

Prof. Wang: The accessible environment in urban and rural areas exhibits significant differences in terms of infrastructure, topography, cultural customs, living habits, and characteristics of public spaces. The solutions should implement methods of zoning, categorisation, and grading to address the unique needs of each environment.

Home Accessibility Improvements: As the Deputy Director of the Home Barrier-free Improvement Committee, what are the most critical accessibility improvements you recommend for residential spaces? How can these be implemented cost-effectively, especially in older buildings?

Prof. Wang: The most critical aspect is to address the basic living needs of the elderly and disabled population, improve their material environment, and then combine the distribution of assistive devices with intelligent transformation methods. To make home environment modifications economically effective, it is necessary to solve the technical challenges of "tailor-made" home environment modifications, "what to modify," and "how to modify." There should be standards for modification as a basis to achieve replicable, promotable, and applicable changes.

Field Research Insights: You've conducted research with many families with disabilities. Can you share some of the most surprising or impactful insights you've gained from the research? How have these findings influenced your approach to accessibility solutions?

Prof. Wang: To understand the needs of people with disabilities, the best way is to communicate with them fully, so on-site research is a key step in home modifications for people with disabilities. In the process of communicating with people with disabilities, the accessibility of their home environment, their physical condition, the situation of co-residents, and their demands are all presented to us. Only after having a clear understanding of all the details of the situation of the disabled person's family can we make a suitable plan and truly achieve the goal of "one household, one policy," and a customised solution.

Impact of New Accessibility Law: Since China's new Accessibility Environment Construction Law came into effect in September 2023, what changes have you observed in the attitudes or practices of developers, architects, and local governments towards accessibility?

Prof. Wang: Since the new Accessibility Environment Construction Law in China came into effect in September 2023, the general public has gained a better understanding of accessible environments. The government is placing increasing emphasis on the construction of accessible environments in public buildings. However, to do this well requires the joint participation of all forces. With the government's promotion and the joint participation of developers, architects, and the public at various levels, the construction of accessible environments will be more comprehensive.

Innovative Solutions: Can you discuss your process?

Prof. Wang:

1.In the process of carrying out home accessibility modifications for people with disabilities, we first establish a theoretical system for accessible design.

2.We propose an innovative technical implementation roadmap, adopting a form of full-process accompaniment by designers from several stages such as planning and evaluation, design and modification, on-site construction, acceptance and auditing, and post-construction maintenance, forming a closed-loop integrated technical implementation route.

3.We propose a design strategy of zoning, categorisation, and grading.

4.We carry out graded modifications. Three types of modification are proposed: basic, improved, and comprehensive, each corresponding to a different content of modification.

Barriers to Implementation: In your experience, what are the biggest challenges that local governments and institutions face when trying to implement comprehensive accessibility improvements? How can these barriers be overcome?

Prof. Wang: A significant challenge in accessibility environment modification stems from the conditions of the existing public environment. Due to environmental constraints, it is difficult for the modifications to meet the current standard requirements. To overcome such difficulties, it is necessary to conduct an accessibility environment assessment tailored to local conditions before the modification and come up with feasible implementation plans.

Another challenge comes from financial constraints, which greatly affect the implementation of the modification and the effectiveness of the post-modification. Funding is raised from multiple sources, seeking more social forces in addition to government support.

Education and Awareness: As an education expert in the housing field, what do you think are the most effective ways to educate architects, urban planners, and the general public about accessibility?

Prof. Wang: To popularise knowledge of accessible environment construction, it is necessary to transform professional terminology into more understandable language. This can be achieved through more comprehensible methods such as displaying images, conducting training sessions, and providing on-site explanations to enhance everyone's awareness of accessibility.

Future Research Directions: Considering your current research and the evolving landscape of accessibility in China, what areas do you believe require further study or innovation to create more inclusive environments for people with disabilities?

Prof. Wang: Firstly, it is essential to establish a universally accessible environment, which serves as the foundation to meet the needs of the majority of people with disabilities and the elderly. Building upon this, in response to the rapid development of our country's information technology and the personalised needs of people with disabilities and the elderly, the future should integrate digital technology with the construction of accessible environments in urban and rural areas. Multidisciplinary collaborative research should be conducted to build a digital technology framework that reshapes the accessible environments in urban and rural settings.

Measuring Success: As a barrier-free environment specialist, how do you measure the success of accessibility improvements in a city or region? What metrics or indicators do you find most valuable in assessing the effectiveness of accessibility initiatives?

Prof. Wang: To determine the success of accessibility modifications, the best approach is to establish evaluation criteria for accessibility modifications and use these criteria to measure whether various aspects of the modifications meet the standards. The differences in accessibility modifications in a city, region, or public building can be very large, making it difficult to measure the success of accessibility modifications with just a few indicators.

There are several key indicators for evaluation:

1.The universality and standardisation of accessible facilities.
2.The systematic nature of the accessibility environment modifications.
3.The level of participation from all sectors of society, especially the involvement of people with disabilities.
4.User satisfaction. An assessment from the perspective of people with disabilities.

Mobility Access: What role have lifts played in creating accessibility in public spaces in China? How has the implementation of lift systems in public buildings and transportation hubs impacted the independence and participation of persons with disabilities in society? What role will lift solutions play in the future?

Prof. Wang: Lifts play a very important role in accessible passage in public spaces in China, meeting the basic mobility needs of people with disabilities, the elderly, and others with barriers. They are indispensable in public spaces. With lifts, people with barriers will have the opportunity to engage in social life. Lift solutions can enhance social participation in the construction of accessible environments in future public buildings, promote urban renewal and transformation, improve service quality to drive technological innovation, and also contribute to the construction of a more inclusive and equal social environment.

Expert Interview with Professor Yang Lixiong

Professor Yang Lixiong

is a professor at Renmin University's School of Labor and Human Resources and an expert on disability and social policy. He contributed to drafting China's new accessibility law and focuses on social security, employment, and assistive devices for persons with disabilities. He has published extensively and served in numerous roles related to disability research and policy development.

Legislative Process: As a key expert involved in drafting the new Chinese accessibility law, what were the main challenges and how were they addressed?

Prof. Yang: The main challenges faced were twofold:

First, the enforceability after legislation. China is a very complex country with significant development disparities. It has both developed cities and underdeveloped rural areas. Most rural areas have very outdated or even non-existent barrier-free facilities. Even among cities, small and medium-sized cities generally lack barrier-free facilities. This means that most areas do not have the conditions to immediately implement the Law on Barrier-Free Environment Construction.

Second, there is a lack of awareness about barrier-free concepts. Although the term "barrier-free" has been introduced to China for over 40 years, and multiple regulations and policies related to barrier-free have been passed, the public generally lacks awareness of barrier-free concepts. Occurrences of occupying or damaging barrier-free facilities are common, and there is often significant resistance when it comes to transforming barrier-free facilities, sometimes to the point of being impossible. Some organisations or institutions also disregard the regulations and refuse to fulfil their legal obligations.

To address these challenges, the following two measures were taken: First, fully considering the current state of development of barrier-free facilities in China, the law is based on its operability. The legal provisions use the term "shall" instead of "must". The former is an "encouragement", and there is no penalty for not meeting the requirements; the latter is a mandatory responsibility and obligation.

Second, the legal provisions require the promotion of awareness. Article 50 stipulates, "The state carries out publicity and education on the concept of a barrier-free environment, popularises knowledge of the barrier-free environment, disseminates the culture of the barrier-free environment, and enhances the awareness of the barrier-free environment throughout society." It also requires the news media to "actively carry out public welfare publicity on the construction of the barrier-free environment." For institutions or individuals who refuse to fulfil their obligations, the law clearly defines penalties, including fines, orders to correct, public criticism, and even criminal liability.

International Comparisons: How does China's new accessibility law compare to international standards and practices? Are there any unique aspects that set it apart?

Prof. Yang: Compared to other countries, China adopts a comprehensive legislative approach to advance the construction of a barrier-free environment, while abroad, the relevant content on barrier-free environment construction is usually scattered across different laws. Each approach has its advantages and disadvantages.

Comprehensive legislation is more likely to attract the attention of society and the public, and the legal responsibilities are clearer. However, the obvious disadvantage is that it can only make principled provisions and cannot make technical specifications, which leads to a decrease in operability. Another point that makes China's Law on Barrier-Free Environment Construction stand out is that during the process of promoting the law, the China Disabled Persons' Federation (CDPF) played a significant role. It pushed the National People's Congress to include barrier-free issues on the legislative agenda.

Labour and Employment: As a professor in the School of Labour and Human Resources, what strategies do you recommend for improving employment opportunities and workplace accessibility for persons with disabilities in China?

Prof. Yang: A barrier-free environment is of great significance in promoting the employment of people with disabilities. However, the current barrier-free legislation mainly focuses on the construction of barrier-free facilities in public places, barrier-free information exchange, and barrier-free social services in public places, with only a few provisions (Article 20 and Article 23) making simple stipulations about accessibility in the workplace for people with disabilities, and primarily targeting workplaces with concentrated employment of people with disabilities.

This is not conducive to the employment of people with disabilities. Therefore, in implementing the "Law of the People's Republic of China on Barrier-Free Environment Construction," attention should be paid to the accessibility for people with disabilities in terms of mobility and the barrier-free transformation of the workplace, which is a longer process that requires strengthening legislative inspections and urging employers to improve the barrier-free environment.

Ageing Population and Accessibility: How do you see the intersection of ageing and disability influencing future accessibility needs and policies in China?

Prof. Yang: China has entered an ageing society, and the process of ageing is accelerating, which is also an important reason for the rapid passage of the Barrier-Free Environment Construction Law. As the degree of ageing deepens and the standard of living improves, the demand for accessibility will show a rapidly increasing trend, which will undoubtedly promote the acceleration of the implementation of the "Law of the People's Republic of China on Barrier-Free Environment Construction."

From the current development trend, the acceleration of ageing has led to more and more medical institutions, elderly care institutions, media, and communication units to accelerate the transformation of accessible facilities. Public institutions and public places, as well as large commercial institutions, have carried out age-friendly modifications according to the needs of the elderly. The state has also listed age-friendly modifications as a key development area in the elderly care industry.

Policy Implementation: What are the key factors that determine the successful implementation of accessibility and disability rights policies at the local level?

Prof. Yang: There are two key factors: First, the supervision and inspection of relevant laws. In addition to the "Law of the People's Republic of China on Barrier-Free Environment Construction," China has enacted multiple regulations related to accessibility in fields such as construction, transportation, and communication.

The main task at present is to inspect and urge the implementation of these laws. To this end, the National People's Congress and relevant departments must strengthen the enforcement inspection and penalties for local governments, ensuring that the laws are effectively implemented. Second, raising public awareness of accessibility is crucial, allowing the public to supervise the local governments in implementing the relevant legal provisions and enhancing the level of accessibility in public buildings.

Rural vs Urban Challenges: Have you noticed significant differences in the challenges faced by persons with disabilities in rural versus urban areas?

Prof. Yang: The construction of accessible environments in rural areas lags behind the development of rural society, and improving the level of accessibility in rural areas should be one of the components of rural revitalisation. The main challenges currently faced by rural accessibility construction are threefold:

First, there are challenges from the natural environment, especially mountainous areas that hinder the improvement of accessible environment levels; Second, there is a lack of talent, as rural societies are extremely short of professionals in accessible design and management; Third, there is a shortage of funds, with most rural areas lacking development capital and investing very little in accessibility construction. In contrast, in small and medium-sized cities, the main challenges are the lack of concepts and awareness.

Technology and Accessibility: How do you see emerging technologies impacting accessibility and support for persons with disabilities in China? Are there any particular innovations you're excited about?

Prof. Yang: Emerging technologies play a crucial role in improving the accessibility of the built environment, making public buildings increasingly smart and travel more convenient for special groups such as people with disabilities and the elderly. For example, the deployment of self-navigating electric wheelchairs in large airports and the development of maps for the blind in subways.

However, the application of emerging technologies in public buildings in China is insufficient, especially in older public buildings where the application of emerging technologies is rarely seen. At present, there are no exciting disruptive technological innovations that have been observed.

Intersectionality in Policy: Given your diverse research interests, including social assistance, disability rights, and elderly care, how do you approach the intersectionality of these issues in policy development?

Prof. Yang: Although my research field is quite broad, it can be summarised as focusing primarily on the elderly, weak, sick, and disabled. These groups have common needs, namely the desire to live independently and free from dependence on others. The construction of accessible environments plays a crucial role in helping them achieve this goal.

Therefore, during the process of drafting laws, I led my team to conduct in-depth research and analysis on the needs of people with disabilities, the elderly, and disadvantaged groups (who are often also people with disabilities, the elderly, disabled, or children), and integrated their basic needs into the legal provisions. Of course, the needs of different groups vary greatly, and it is impossible to solve everyone's problems in one part of the law; it also needs to be addressed one by one in other laws.

Public Engagement: As someone who has worked in both government and academic settings, what strategies do you recommend for engaging the public and stakeholders in the process of developing and implementing accessibility policies?

Prof. Yang: First, increase publicity to raise public awareness of accessibility, thereby advocating for their rights and supervising and promoting the government and legislative bodies to implement the accessible environment construction law.

Second, strengthen penalties. Appropriate penalties should be imposed on units or institutions that fail to fulfil their obligations and responsibilities for accessible environment construction, and these penalties should be made public. The government should lead in implementing the accessible environment construction law, setting an example for society.

Third, businesses should increase technological innovation to reduce the costs of accessible environment construction and renovation, benefiting more public and institutions; increase government procurement efforts to cultivate high-quality enterprises to grow and strengthen.

Mobility Access: What role have lifts played in creating accessibility in public spaces in China? How has the implementation of lift systems in public buildings and transportation hubs impacted the independence and participation of persons with disabilities in society? What role will lift solutions play in the future?

Prof. Yang: Lifts play an irreplaceable role in the accessible passage in public spaces, allowing people with disabilities and the elderly to freely leave their homes and participate in social activities. It is foreseeable that with the advancement of urbanisation, the role of lifts in accessible travel will further increase.

Conclusion

The importance of accessibility in built environments across Asia cannot be overstated. As populations age and urbanisation accelerates, creating inclusive environments is not just a legal requirement but a social imperative. Architects, planners and developers play a crucial role in shaping the future of our cities by prioritising inclusive design that promotes dignity, independence, and equal participation in society.

Key Actions for Architects and Developers Include:

- **Embracing universal design principles from project inception**
- **Staying informed about the latest accessibility legislation and standards**
- **Conducting thorough assessments to identify and address accessibility gaps**
- **Selecting reliable and established suppliers for future-proof partnerships**
- **Integrating advanced technologies to enhance accessibility features**
- **Collaborating across disciplines to ensure comprehensive accessibility solutions**
- **Prioritising ongoing maintenance and upgrades of accessibility equipment**

By leveraging advanced accessibility solutions and working collaboratively, we can create truly inclusive public spaces that foster communities where everyone can participate fully and independently.

The future of our cities depends on our commitment to accessibility today, setting a new standard for inclusive urban design across Asia and beyond.

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To learn more about how innovative mobility solutions can transform public spaces, visit our website or contact our experts.

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