



**Jim Harrison retired recently from 18 years teaching and researching at the Cork Centre for Architectural Education, Ireland. Previously he practiced architecture and taught in England, Zambia and Malawi and went on to become Associate Professor in Architecture at the National University of Singapore, moving in 2004 to Queen's University Belfast. In that year he was awarded a LittD (Doctor of Letters) from his alma mater, the University of Sheffield, for his extensive publications promoting Universal Design and design for ageing, including work as a United Nations Expert in the Asia-Pacific region and consultancy to the Singapore government on access legislation.**

**As an active octogenarian he now feels qualified to write and advise from first hand experience on matters related to inclusive and age-friendly design in the built environment.**

# **Designing for Design: Creating a Guide on the Design of Inclusive Parks**

**Jim Harrison, LittD. BArch**

**Cork Centre for Architectural Education, Ireland (*retired*)**

## **Introduction: the Value of Universal Design**

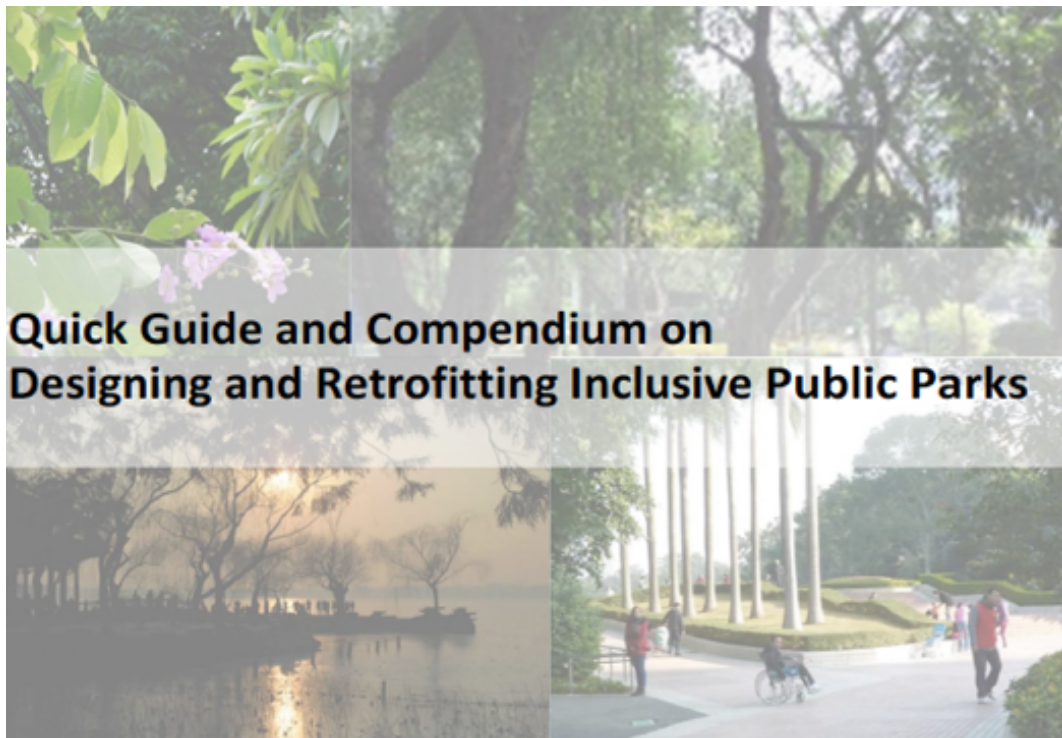
The promotion of designing to meet the needs of the widest range of people often appears to be a challenge. Building regulations, standards and codes go some way towards this, but the power of legislation can only demand that individual elements within the design are made accessible rather than the project as a whole. This can make the requirement for physical inclusion a restriction, rather than a positive incentive towards user-friendly environments, as charted by the team at North Carolina with Ron Mace, who showed that a Universal Design approach can assist designers in creating improved, 'joined-up' and inclusive environments. An abundance of design guides are available on technical matters but how to communicate this information to the non-specialist designer, in a way that 'demystifies' otherwise quite simple ideas, remains a challenge.

In 2021 I was presented with such a challenge when I was approached by contacts at UNESCAP (United Nations Economic and Social Commission for Asia and the Pacific) to prepare a Guide on the design and retrofitting of public parks to Universal Design standards, which could be applicable in countries in the region as

well as internationally. Although not a specialist in landscape design, from my experience, my writings and research on Universal Design I felt confident that the famous Seven Principles could be applied in the creation or adaptation of any physical environment, whether it is a building or public open space. Moreover, I knew that I could call on colleagues and contacts established in this field to add their multi-disciplinary expertise.

The end product, entitled “Quick Guide and Compendium on Designing and Retrofitting Inclusive Public Parks” can be downloaded at [Quick guide and compendium on designing and retrofitting inclusive parks I ESCAP \(unesco.org\)](https://unesco.org/). In its creation the Guide went through several stages of writing, editing and illustrating.

If you are able to access the Guide then you may be interested in how it was put together, as we will now elaborate in this article.



## **Scope of the guide: where to start?**

**When working on any publication, it is as well to consider the potential readership – their interest as well as their existing knowledge of the topic. From this it is easier to decide on what information to include and how this could be presented most effectively. Based on an intuitive idea of the range of potential readers it was felt that it would be instructive to highlight the concept and principles of Universal Design and its advantage over mere accessibility and basic barrier-free code compliance. It was also felt that it was to necessary to emphasize the importance of a strategy on 'joined-up' thinking on inclusion throughout the project, starting from the outset of any design, rather than adding access features retrospectively. Additionally, it was important to remember that the information should be applicable to both new projects and to the retrofitting of existing parks, The first section of the guide "How to Design Inclusive Parks", establishes the principles of Universal Design, and the relationship to the codes and standards that may apply, locally and internationally, in the process of design decision-making.**

**As in any physical design project it is important to establish the function of the proposal and the range of users who will occupy it – their abilities, needs and expectations, as well as the context in which it is sited, physically and culturally. To this end, the Guide includes a range of user profiles and charts some useful facts related to disability and ageing and the implications of these in design, including the range of assistive devices for people of limited mobility. Aspects such as wayfinding and signage, inclusive**

**playgrounds, toilet facilities and resting places are illustrated to demonstrate the scope for optimal amenity.**

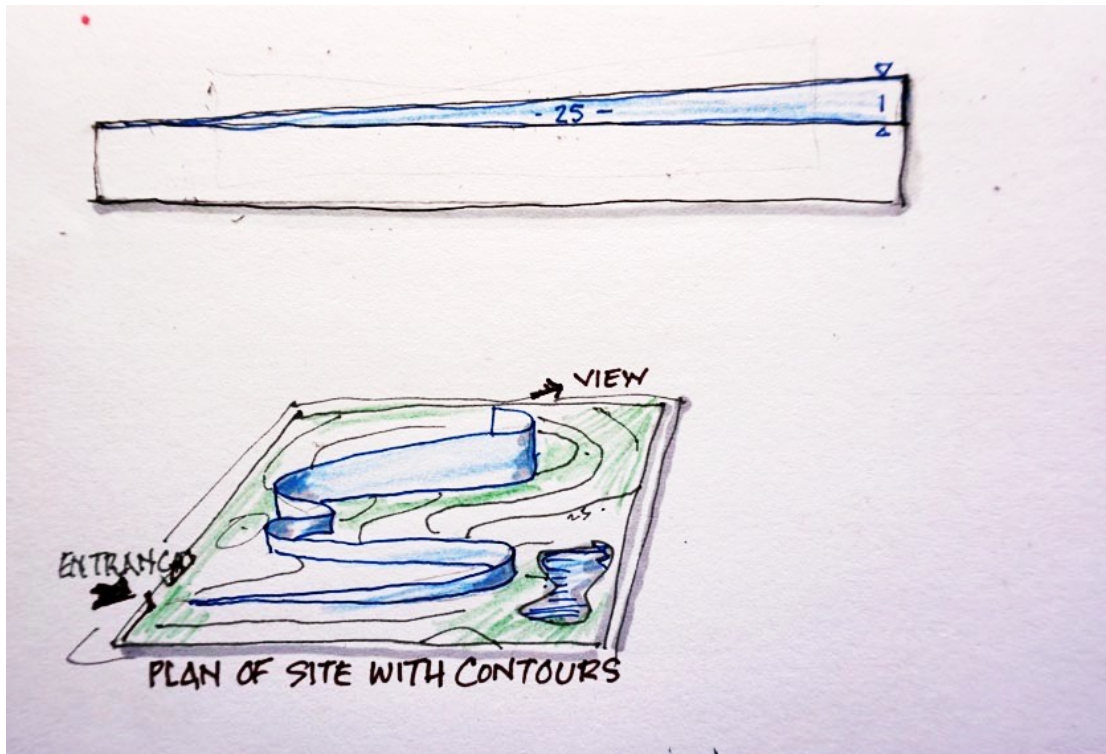
## **A technique for designing a user-friendly pathway**

**There is sometimes a misguided belief that an accessible environment is defined through the provision of ramps – elements widely associated with the negative aspects of disability and ageing, but also stigmatizing in their appearance. Where a site or a building’s location is not level it is often feasible to plan pathways with a gentle gradient (usually less than 1: 25) on routes that meander through the landscape and do not require the hardware, such as handrails and landings that accompany the ramp itself. In a park, the longer route is often better, if well-planned, since it extends the pleasure of walking and experiencing the planting, water features or views.**

**Throughout the creation of the Guide, the authors explored new ground in considering how best to convey practical advice to other designers. In the course of thinking how such gentle alternative pathway layouts could be fitted onto a hilly site a simple, possibly unique, method (or tool) was devised, using a cut-out strip to lay onto a scale contoured plan of the site.**

**Using a site plan to appropriate scale, with spot heights to identify the highest point to be reached, as well as any existing feature that the pathway may reach (a viewing terrace or pond for instance) a triangle is drawn on cartridge paper at the same scale with the acute angle of less than 2.3 degrees (or 1:25 ratio or 4%) representing a**

gently sloping pathway. The level of the lowest point on the route (possibly the entrance point) is given Level Zero, angled to the highest, which forms the opposite side of the very thin strip triangle. This is then cut out and laid out on the site plan to explore potential configurations of the route, incorporating any desirable features on the way. More details of this tool are available on page 16 of the Guide itself.



***A simple way to explore potential pathway layouts***

In many cases, where designers might usefully refer to the information in the Guide, the work most will most likely be retrofitting an existing park, rather than a completely new one. This may include introducing new elements or upgrading existing amenities but, most importantly, to ensure that pathways are accessible and safe for all. Some of the source material for the guide

was generated in response to studying a proposal, by an anonymous design practice, for a new park on a hilly site in an Asian City. From the plans and comprehensive IT-generated perspective images, as a team, we were able to identify a number of instances that appeared to demonstrate a lack of understanding on the designers' part of the opportunities for improvement that UD could give. Although the design comprehensively incorporated accessible features, complying with local codes, in some cases these could have been made more efficient by taking a more holistic view of the layout – particularly in relation to wheelchair-accessible routes. For example, in the given design proposal the park's toilets were located so that they would be approached up a sloping path - then down again by several steps; but to make this wheelchair-accessible a ramp was also necessary. Whilst the design was perfectly accessible and code-compliant, the costly duplication of steps and ramp could have been avoided by siting the toilet block at an accordant level with the entry path or creating a level 'cutting' from the main circulation. Such a missed opportunity is fairly typical, and may come about because the designer is considering the design only on plan, rather than also on section, as well as seeing elements that will make the design more accessible only in isolation.

### **A built example on improving level access**

It is important to emphasise that a well designed 'inclusive' environment is not defined by the number of its ramps or other 'access features', but rather by the way that the designer has made level or gently-graded routes throughout the plan, avoiding the need

for ramps at all. This way of design thinking is illustrated by a real-life example carried out in a small park/garden at the UNESCAP campus in Bangkok. Here an external cross-site circulation route was improved by creating a cutting through the sloping site, rather than improving and extending the existing ramps up into the garden and down the other side; in reality these ramps were too steep and slippery and so decreasing the gradient would have meant extending them and thus significantly reducing the remaining area garden. This solution also proved both to be considerably more cost-effective than the separate upgrading of each element, as well as aesthetically more pleasing.

*(see p18 of the of the Guide – "Case Study: Garden Route")*



***Garden route before upgrading***

***Below: the solution was to redesign the through-route in the form of a level 'cutting', with one ramp and steps solely as garden access, preserving the area of the garden***



## **The diversity of park design**

**The value of parks, in different urban and suburban settings, cannot be overstated, providing a 'green lung' for the benefit and welfare of all citizens. It is acknowledged that contact with nature and the experience of open space, even at a small scale, are highly beneficial to the human psyche – sometimes referred to as 'biophilia'. Parks can also offer a variety of beneficial amenities for play and exercise to all generations, both to the individual and to the family, and opportunities for social and cultural exchange.**

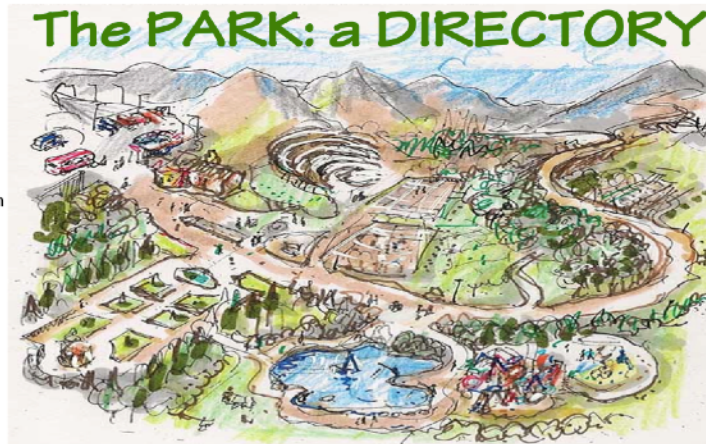
**The last page of Part I includes a checklist for the designer, with overall design points to note, checks on aspects of inclusion and relevance to local context and then a run-down of detail elements to consider.**

### Facilities

1. Drop-off points
2. Designated Parking
3. Pedestrian Entry
4. Wayfinding information
5. Toilets
6. Refreshment (sale)
7. Seating, shelter
8. Amphitheatre, terrace
9. (Wheelchair loan)

### Features

- a. Pathways, trails
- b. Play
- c. Exercise
- d. Sensory garden
- e. Water
- f. Garden, growing



**FORMAL PARK** : generally in a city, with straight, axial paths, ornamental planting, possibly monuments, fountains or pavilions.

**'POCKET' PARK** in a limited city site, may have planting, shelter and benches, play and exercise equipment.

**STROLL PARK**: the most common form of park, may include a mix of formal elements, winding pathways, trees and planting, water features, lawns in varying degrees. Amenities may range from seats and shelters to cafes, picnic tables and barbeque pits. Often a larger park might have a children's play area, sand pits and adult exercise equipment.

*Larger parks may have elements of all these park types in one area*

**WILDERNESS PARK**: generally out-of-town, with paths offering different degrees of accessibility, but should include some boardwalks for wheelchair and ambulant and vision-impaired disabled visitors.

*All the above park types should have accessible pathways, a minimal number of steps and ramps, plus at least one wheelchair-accessible toilet*

## Part II: Case Studies

In any design we learn from other projects in the world around us, both in what to do or what not to do, translating and re-applying a workable idea in a new context or avoiding or improving upon some aspect that is less satisfactory. Case studies of existing built environments, new or old, may suggest useful design ideas to the designer in developing their own project.

In order to demonstrate the applicability of the design advice given in Part I of the Guide, twelve short case studies of established parks are included, chosen to show a wide range of contexts and park types. These range from small urban 'pocket' parks, through formal and stroll gardens, play parks and wilderness parks. Some of these were created a while ago, since when standards have improved significantly and so the authors have included some suggestions on

improvements that could be made, as well as highlighting the positive and enduring features of each example. These examples were made more valuable through the generous co-operation of their designers in providing the information and this is acknowledged in the Guide.

## Case studies: an example

Below is an illustration of the way that the Guide attempts to analyse existing examples, both in their positive as well as their negative aspects. Some suggestions on how improvements in bringing elements up to higher standards might be made are given.

### Existing good practice of access elements

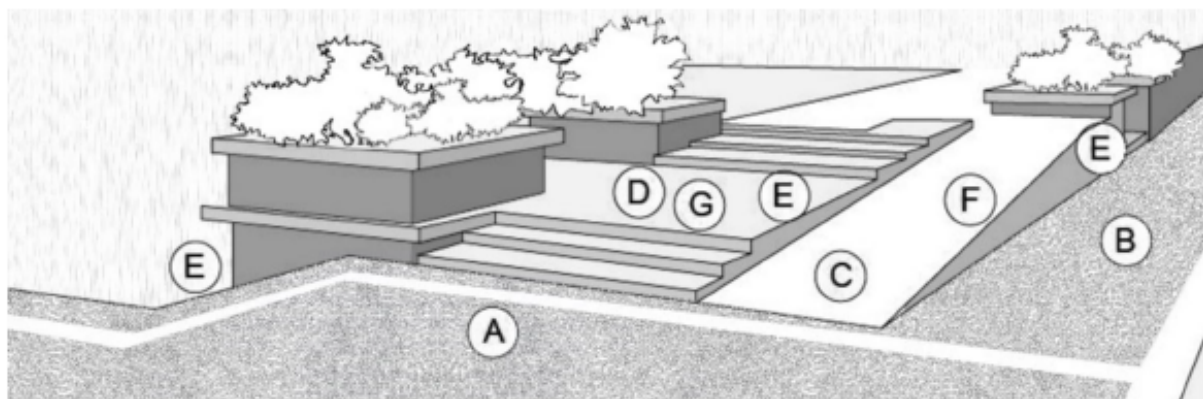
- A. Tactile strips at level changes
- B. Wide circulation routes
- C. Accessible ramps
- D. Low-riser ambulant steps

### Suggested enhancements

- E. Add handrails along edges of ramp and path drops
- F. Reduce gradient of ramps to 1:20
- G. Add contrasting tone at step nosings



Drawing of how ramps and stairs could be improved at Santichaiprakan Park (Drawing: J. Harrison)



3D drawing showing steps and ramps at Santichaiprakan Park. Features A to D are existing access elements of the park, while features E to G are suggested enhancements that could be implemented to enhance universal design standards. (Drawing: K. Busby and N. Hurley)

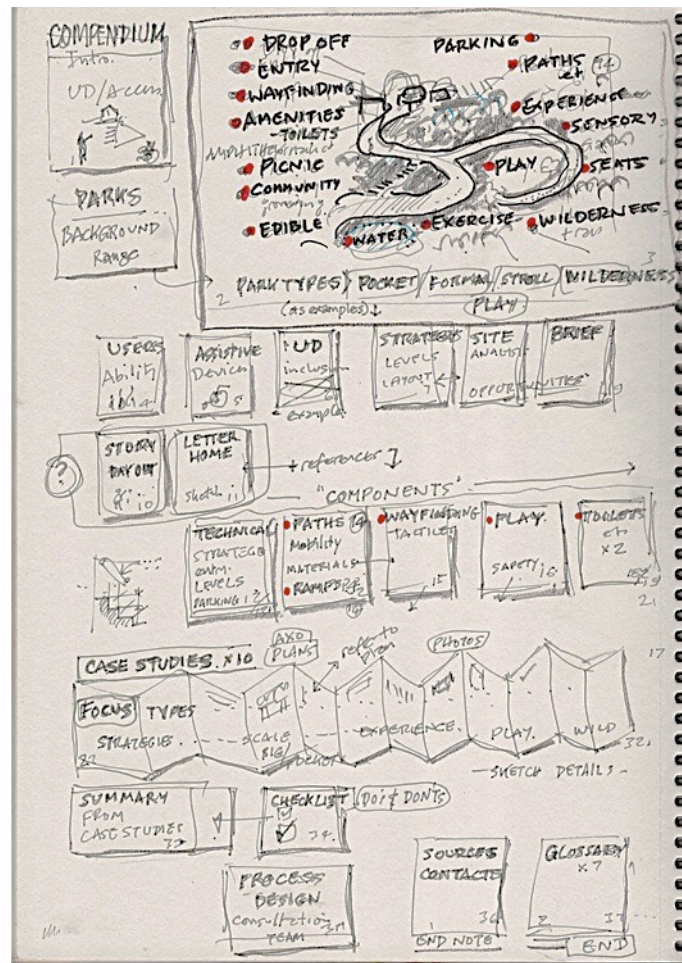
## **Format and style**

**One question that had to be addressed from the start was: *who would be involved in using information in the Guide?* Documents on codes can often be formal and stiflingly boring to read; to this end, it was decided that the style should be simple and readable, in a format that anyone involved in the design of a park would immediately feel to be useful to them, with clear visual diagrams, photos and freehand sketches, supported by explanatory captions or key dimensions.**

**Examples, either illustrating a single principle or presenting a more complete case study, are a vital part of reassuring the potential designer of what is possible – and how it might be achieved technically.**

**The overall format of the Guide was explored through various sketch layout developments, with the contents to be included, their most appropriate sequence and the diversity of coverage. Below is a copy of the authors' initial ideas, possibly in brochure form. In the end the presentation was only online rather than in printed format, but it is printable in successive pages.**

## The original draft layout



## The end product

Parks form an essential part of any city and should therefore be accessible for everyone to enjoy. Making this possible will involve a number of agencies, from the government decision-makers and providers through to the designers and builders, aided by the collective advice of civil-society user groups to ensure an optimal outcome. In any design, but particularly in areas with which the designer may be unfamiliar, it is imperative to consult the users of

**diverse age or ability, as well as the experts – professionals who work with people with disabilities, such as occupational therapists and carers, to create an inclusive amenity**

## **Quote**

**As an Endnote, the Guide includes '*Voices of future park users*', to give an insight into individual user's experience of any design. These imagined first-person stories help to bring alive the principles presented in the guide, perhaps as extracts from the holiday postcard, written by an imagined visitor with special needs, describing both the good and the unsatisfactory aspects experienced in a hypothetical park. Such imagined 'persona' reports can be a very helpful tool to explore and enliven ideas from the points of view of a wide range of users, not only on UD-related matters but also in any design situation. Such expressions of everyday experiences help to identify what the future users' expectations might be and what to provide to realise these. We, the creators of the Guide, hope that it may prove to give inspiration and effective technical advice in any of your future projects.**

***The Guide includes acknowledgements to all the individuals involved in its production, but my special thanks must go to the team at the Cork Centre for Architectural Education, University College Cork and Munster Technical University and also to Ms Judy Wee, 'Level Fields' Access Consultant, Singapore.***