



Association of Consultants
in Access Australia

Universal Design Meets the Exit Sign

The Accessible Exit Sign Project
& Performance-Based Building Codes

Lee Wilson, Thursday 8 October 2015

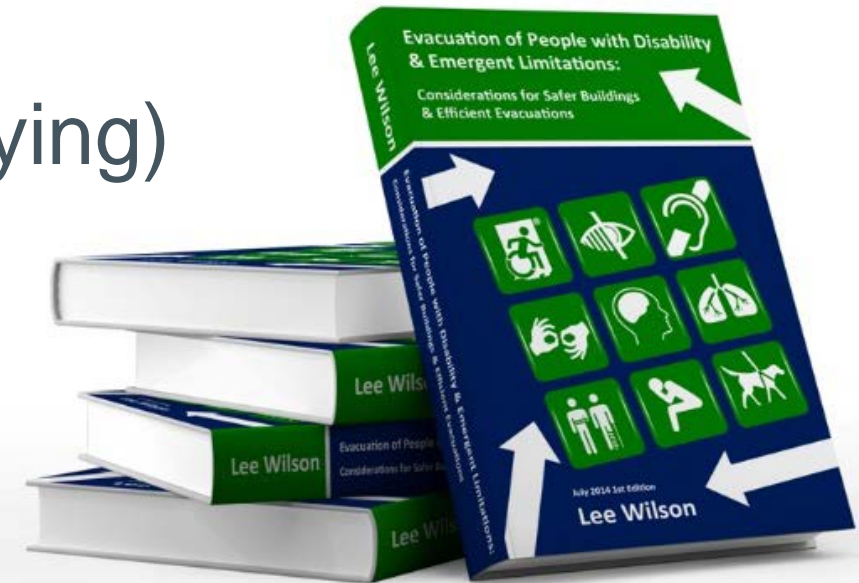




Lee Wilson

MAIPM MWOBO C.Build E MCABE PEng(UK) MSPE

- Experience in property risk, OH&S and compliance
- Graduate Certificate in Performance-Based Building & Fire Codes
- Bachelor of Technology (Building Surveying)
- Accredited Member of ACAA
- Author of evacuation guidebook



Australian Building Codes Board quote from 2014:

“Every Australian has the right to expect that reasonable provisions will be made to allow them to leave buildings safely in the event of an emergency.”



Australian Building Codes Board quote from 2014:

“Moreover, it is crucial for equitable, dignified, and independent access to buildings that people with disability can be confident that they will also be able to evacuate from a building in a safe, dignified and independent fashion in the event of an emergency.”



What we'll cover today

- The legislative 'gap'
- Current Australian egress requirements
- Overseas requirements
- 'Universal Design Meets the Exit Sign' concept:
 1. Proposed changes to exit signs
 2. Consideration of egress routes



We'll also cover



- The case for accessible exit signs
- The Accessible Means of Egress
- ‘Accessible Means of Egress Icon’
- The Accessible Exit Sign Project
- The Universal Design Meets the Exit Sign ‘White Paper’

Messages to take away from today

- Overview of current arrangements
- Awareness of risks
- How buildings can be safer
- Why we need accessible exit signs
- How a universal design approach to exit signs is more inclusive (and just makes sense)





Applicable legislation

- UN Universal Declaration of Human Rights
- UN Convention on the Rights of Persons with Disabilities
- Australian Human Rights Commission Act 1986
- Disability Discrimination Act 1992
- Work Health and Safety Act 2011 (& State/Territory OHS laws)
- National Construction Code (State/Territory building laws)

The legislative 'gap'

- No requirement to distinguish accessible and non-accessible egress routes
- Little accessibility in egress routes
- Failure to consider needs of all occupants
- Lack of regard for a changing society
- Described as “*opening the proverbial can of worms*”



Relevant U.S. data

- 10% of adults have difficulties climbing a flight of stairs
 - ↑ 30.2% for those over 65
- 4.7% of adults use a cane, crutches, or walker
 - ↑ 17.9% those over 65
- 1.5% of adults use a wheelchair
 - ↑ 5.2% for those over 65
- 1 in 5 with disability





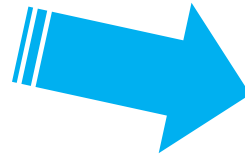
Relevant Australian data

- 10.5% have a mobility disability (2.5% use a mobility aid & 0.6% use a wheelchair)
- 1.6% have a vision impairment
- 1 in 8 affected by hearing loss, projected to reach five million by 2020
- 20% of population over 65 years by 2030
- 1 in 5 with disability (approx.)

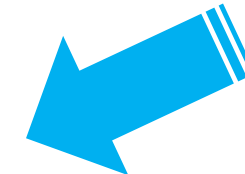
‘The Evolution of the Exit Sign’



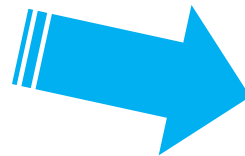
(Before 2005 in Australia)



(After 2005 in Australia)



(ISO design – not adopted in Australia)



(Universal Design Meets the Exit Sign Concept)

Accessible Means of Egress Icon

- Changes current discriminatory approach to exit signs
- Presents a fully inclusive design
- Figures are:
 - moving in unison with same urgency and motion
 - working together to escape the building
 - travelling at the same speed





‘Universal Design Meets the Exit Sign’ concept

- Considers all abilities
- Adopts 5 of 7 Principles of Universal Design
- Clarifies the accessible egress routes, known internationally as the ‘accessible means of egress’
- Provides a consistent approach to identifying parts of the accessible means of egress

Universal Design Meets the Exit Sign video



The case for universal design style exit signs

- Ambiguous exit signs using International Symbol of Access
- Non-inclusive environments
- Ageing population, obesity epidemic, high-rise child-care
- Lastly, we've created fully accessible buildings, with no means of accessible egress





Australian accessible egress

A disconnected approach limited to:

- One handrail in exit stairs and ramps
- Slip-resistance to stair treads, landings and ramps
- Contrasting nosing strips in all fire stairs
- Braille & tactile sign next to exit doors (no pictorial elements)
- Lever door handles
- No steps in exit door thresholds discharging to road / open space
- Ability to use evacuation lifts in performance-based solutions



Other egressibility references

- International Building Code
- International ISO 21542:2011
- U.S. 2010 ADA Standards for Accessible Design
- U.S. NFPA101, Life Safety Code
- British Standards BS8300 BS5588
- Mumbai Development Control Regulations
- Hong Kong Code of Practice on Means of Escape



The IBC Accessible Means of Egress

An accessible means of egress is defined in the International Building Code as

a continuous and unobstructed way of egress travel from any accessible point in a building or facility to a public way.

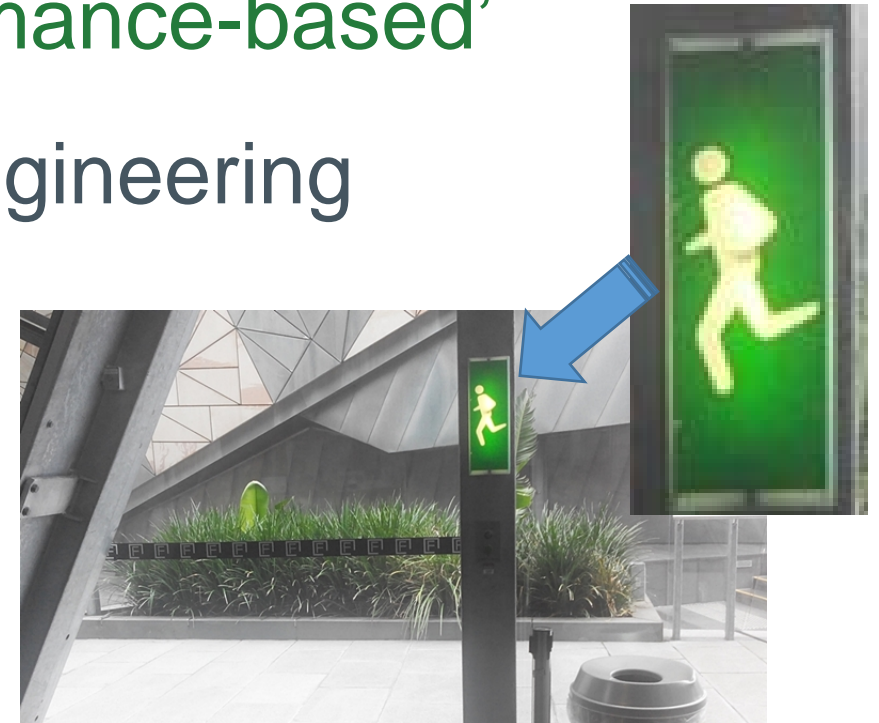
IBC accessible means of egress requirements

- In most cases all accessible spaces need at least two accessible means of egress
- No refuge areas required in sprinkler protected buildings



A 'performance-based' approach

- Many countries have 'performance-based' building codes
- Australia's construction code is 'performance-based'
- Buildings getting more reliant on fire engineering
- Use of evacuation lifts
- Approach can be used if equal to or better than prescriptive requirements





The Accessible Exit Sign Project video

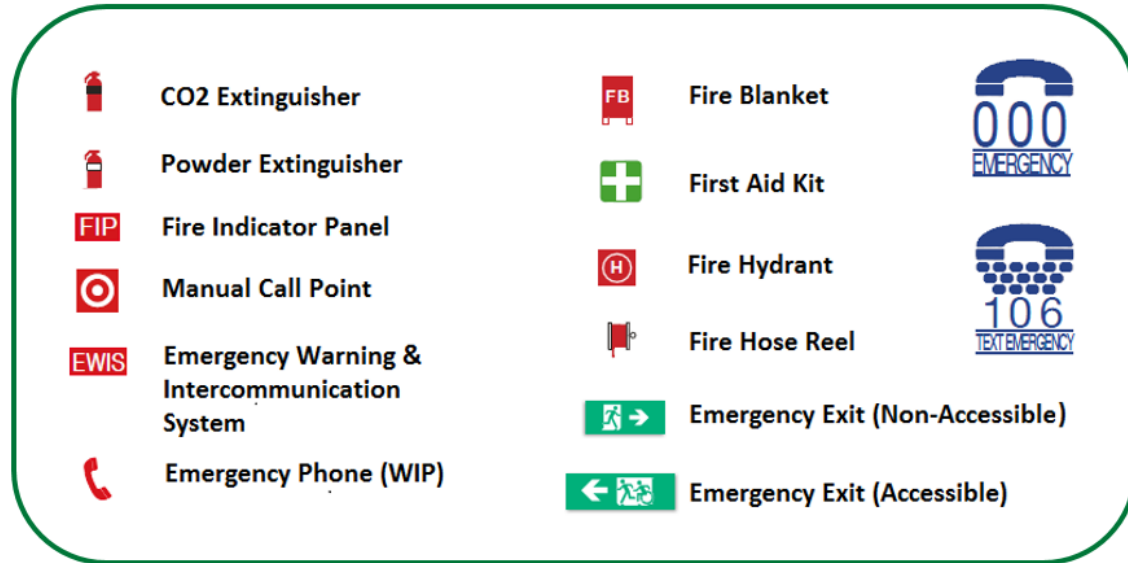


Accessible Means of Egress Icon examples



Note - designs can be made to suit any specific requirements of an exit wayfinding strategy providing an accessible means of egress under a fire engineered performance-based solution

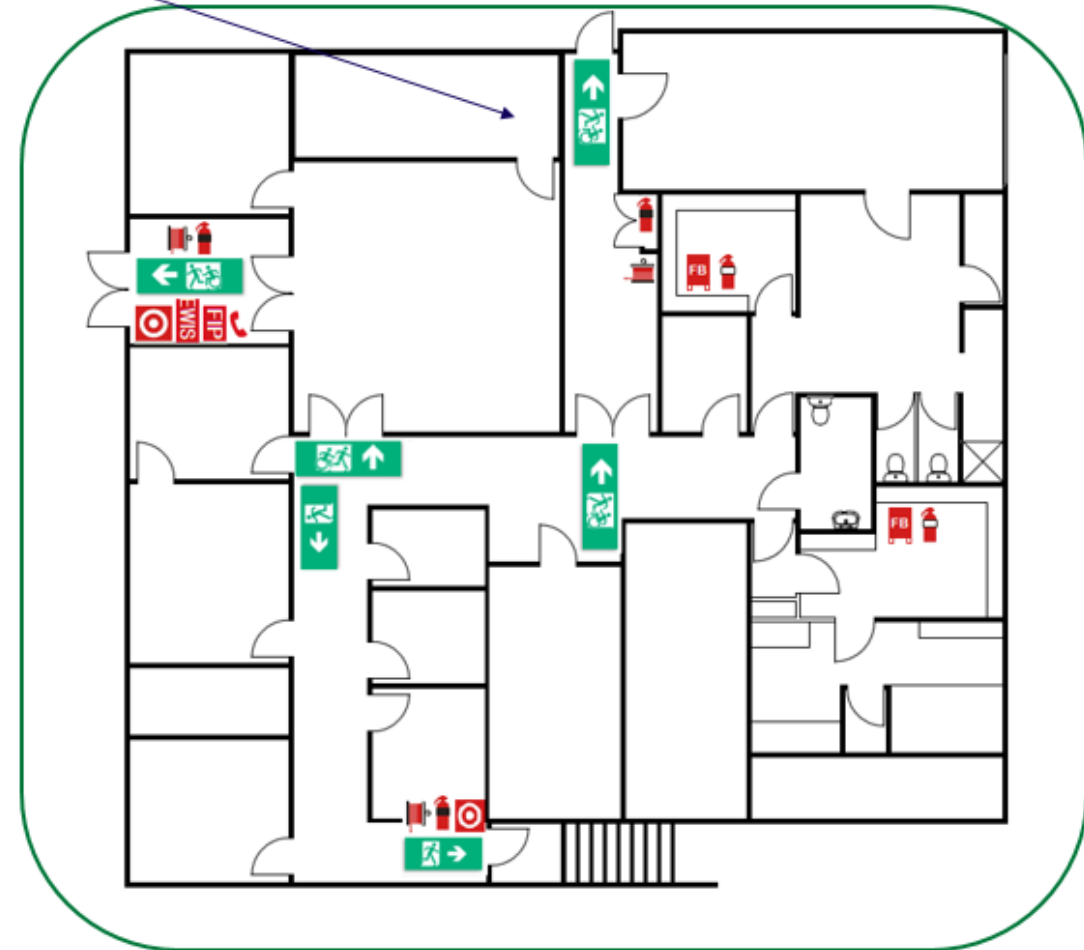
Evacuation diagram example



This requires adopting an integrated approach, which includes emergency management planning in the fire engineered performance-based solution

You are here

Evacuation Diagram



Website poll

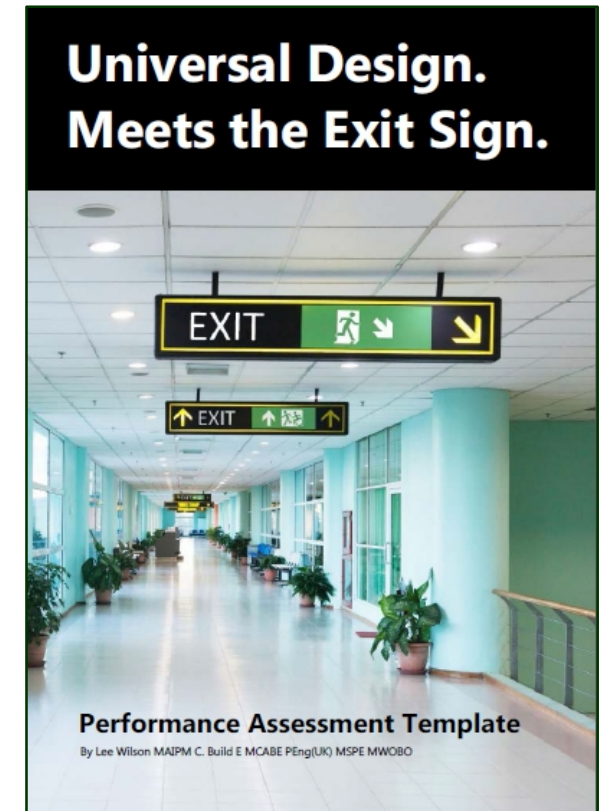
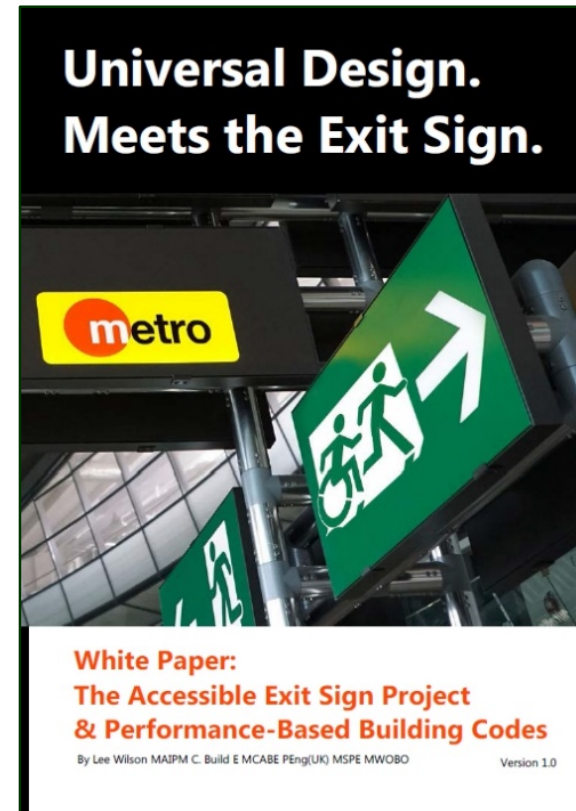


- Results as at 20 September 2015
- Over 14 months of data



The 'White Paper' in print

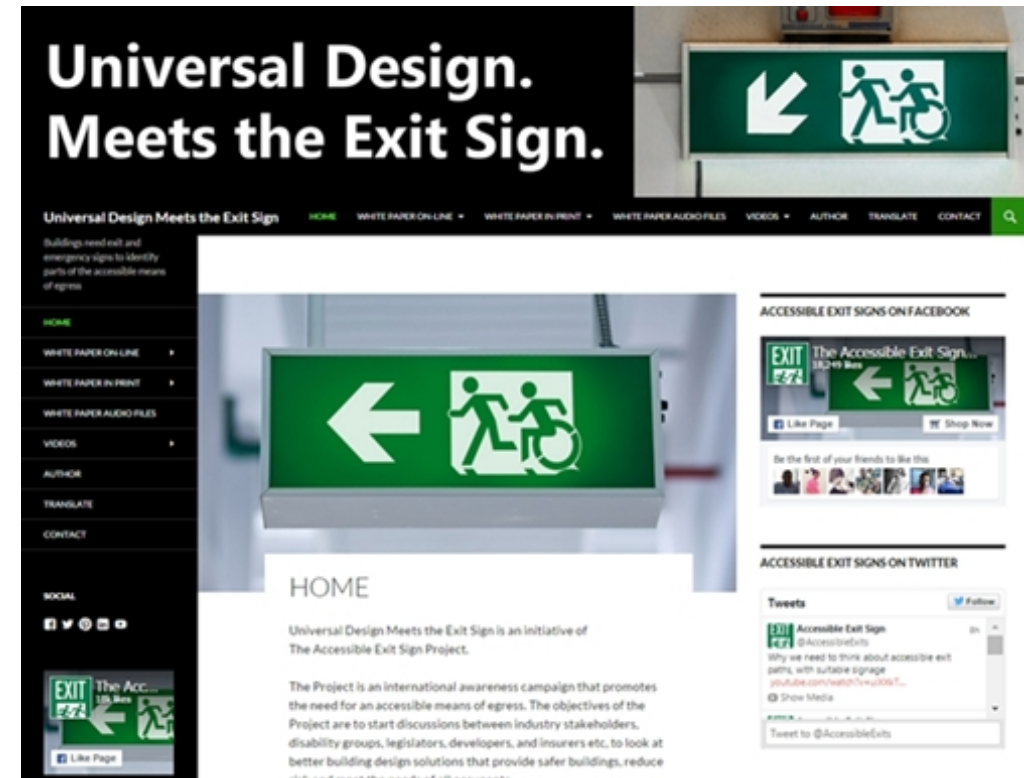
- Fully justifying the use of the universal design concept
- Performance-based 'alternative solution' template
- Alternate formats available shortly





The 'White Paper' on-line

- Converted into a website:
www.universaldesignmeetstheexitsign.com
- Audio files coming soon



Conclusions

- We need a change in attitudes and legislation
- Accept new Icon to identify parts of the accessible egress
- Fire engineers and building surveyors to accept performance-based exit sign solutions
- Icon part of the solution to 'can of worms' issue

Universal Design. Meets the Exit Sign.

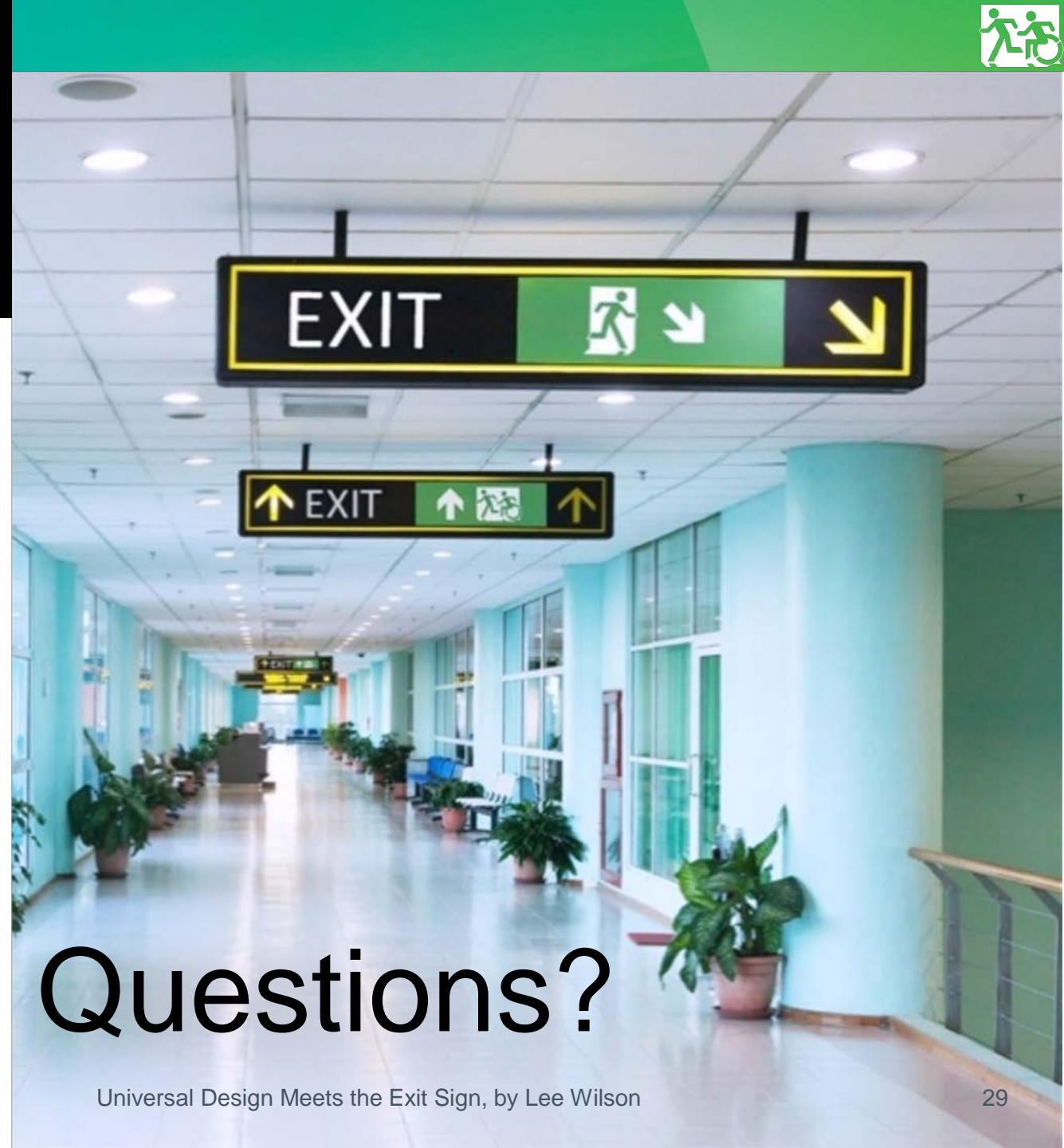
Thank you

Please feel free to contact me
to discuss this presentation, or
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Questions?