

# **Building Knowledge for Success**

## **Setting the standard for the future**

**Association of Building Compliance  
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disability action**

# Issues discussed



- ▶ **Legal requirements**
- ▶ **Who do we need to consider in an evacuation**
- ▶ **How the current situation impacts on these people**
- ▶ **Suggestions for improving evacuation procedures**

# Legislation

## Purposes of the NZ Building Act 2004

.... to ensure.....

- People who use buildings can do so safely and without endangering their health
- Buildings have attributes that contribute appropriately to the health, **physical independence** and **well being** of the people who use them
- People who use a building can escape from the building if it is on fire;

# Legislation contd.

## NZ Building Act 2004 Section 118

People with disabilities must be able to **enter and carry out normal activities and processes in a building**

## NZ Building Act only addresses **Access**

It provides for an Accessible Route, but no consideration of an **accessible means of egress**

# Legislation contd.

## NZ Building Code clauses

- ▶ **Clause C4 Movement to place of safety**, is about warnings of fire occurring, visibility of escape routes, automatic fire sprinkler systems, and means of escape
- ▶ **Clause D1 Access Routes D.1.1. (c)** ensure that *people with disabilities* are able to enter and carry out normal activities and functions within *buildings*.
- ▶ **Clause F7 Warning systems** This clause ensures buildings are provided with appropriate means of warning people to escape to a safe place in an emergency
- ▶ **Clause F8 Signs F8.1.(a)** .... safeguard people from injury or illness resulting from inadequate identification of *escape routes*,...
  - ▶ (b) safeguard people from loss of *amenity* due to inadequate direction....
  - ▶ **F8.2 Signs** must be provided in and about *buildings* to identify
    - ▶ (a) Escape routes;
    - ▶ (d) *accessible routes* and facilities for *people with disabilities*

# Legislation contd.

- ▶ **NZS 4121 2001** Design for Access and Mobility – Buildings and Associated Facilities

## **Section 4 Alerting devices:**

Fire alarm systems shall have an audible and visual alerting device... and comply with **NZS 4512**

## **Section 14 Accessible Accommodation**

Alerting devices: shall be provided on accessible routes and in accessible accommodation...

# Legislation contd.

- Fire and Emergency New Zealand (Fire safety, Evacuation Procedures, and Evacuation Schemes) Regulations 2018
- **NZS 4512 2021**: Fire detection and alarm systems in buildings (Updated from 2010)

# Who are we talking about?

**All people disadvantaged in an emergency**

Those who have difficulty climbing stairs  
and/or knowing or finding the route(s) out



# Who are we talking about?

## - Diversity of the population

- People using mobility aids: wheelchairs, power chairs, mobility scooters, etc.
- People with **hidden** impairments – e.g. vertigo, **respiratory** conditions, including asthma, and **heart** conditions. (reduced strength & stamina)
- People recovering from accident, illness, operations, chemotherapy
- People with **joint** problems, temporary and permanent

# Who are we talking about?

## - Diversity of the population contd.

- People who are **overweight** or **obese** (66%)
- Heavily **pregnant** women
- Those with young children / prams
- Those who are neurodivergent – Autism, ADHD, dementia; cognitive disability
- Those with **sensory** impairments – Blind / low vision; Deaf / hard of hearing
- Those using service or companion dogs

# Who are we talking about?

## - Diversity of the population contd.

- Those who have difficulty **understanding** signs, announcements, etc. including tourists; people who do not speak **English** as a first language
- An ageing population – 80yrs+ is the fastest increasing cohort
- and more than half of disabled people have more than one type of impairment.

# How the current situation impacts on these people

Everyone should be able to make informed decisions and help take responsibility for themselves as is expected in a Civil Defence emergency

## Reliance on:

- **building design**
- **being informed**

# Reliance on building design

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(Clause C4 Movement to Place of Safety)

(Clause F7 Warning Systems)

(Clause F8 Signs)

(Clause D1 Access Routes)

- ▶ **Egress route is not the same as the Access or Accessible Route**
- ▶ **People usually evacuate through the route they entered the building**
- ▶ **There is no requirement for an Accessible Means of Egress (AMOE)**
- ▶ **Conflict between Accessibility and Egress**

# Reliance on building design contd.

## ► Fire exits via steps



# Reliance on building design contd.

## ➤ Smoke / fire stop doors are heavy to open

70 N for firestop doors  
38 N for external doors  
22 N for internal doors

Fire Code invariably  
takes precedence over  
the Accessibility Code



# Reliance on building design contd.

- ▶ Continuous handrails on landings interrupted by fire fighting equipment
- ▶ Walls and doors painted the same colour or with minimal distinction



# Reliance on building design contd.

- (Clause C4 Movement to Place of Safety)
- (Clause F7 Warning Systems)
- (Clause F8 Signs)
- (Clause D1 Access Routes)

## ➤ Being informed

**Warning systems** – usually **audible** only;  
Visual alarms only required in buildings where disabled people are employed;  
and in accessible accommodation (NZS 4121)

Audible systems can disorientate blind people and their dogs

**When fire, wave this sign  
under toilet door if  
someone there**



# Reliance on building design (cont.)

## Being informed

### ➤ Inadequate or unhelpful signage

Need **signage** indicating step-free route

Need signage / wayfinding indicating where to go if unable to use the stairs

Need appropriate signage in hotel accessible rooms

**Visual floor plan** is essential, especially for Deaf people

EXIT

GATE 1B  
Next ferry departs  
WAIHEKE ISL  
WWW.FULLERS.CO.NZ

FIRE  
DOOR  
KEEP CLOSED

  
NO  
DISABLED  
EGRESS

EMERGENCY PROCEDURES

FIRE  
ON

BOOKSHOP  
HOURS  
09 446 6960  
will be a  
ages of 18%  
card credit  
ansactions

# Reliance on building design (cont.)

- ▶ Signage informing people not to use lifts should include information on alternatives

## **DEAF AND DISABLED PEOPLE**

IF YOU ARE HARD OF HEARING, OR SUFFER ANY  
DISABILITY WHICH IMPAIRS YOUR MOBILITY,  
WOULD YOU PLEASE ADVISE RECEPTION, SO THAT  
IN THE EVENT OF EMERGENCY, OUR STAFF ARE  
ABLE TO ASSIST.

**IN THE EVENT OF FIRE, PLEASE**

**DO NOT USE THE LIFT.**

**PLEASE USE THE STAIRS**

**Signage gives Information and reassurance for especially mobility impaired people if egress isn't via the entry route.**



# Reliance on building design (cont.)

- ▶ **Evacuation announcements –**  
need to be able to **hear and understand**

Other means of making announcements?  
E.g. via mobile phones?

# Reliance on building design (cont.)

## Pre-evacuation issues

- ▶ If cannot use lifts, **what does one do?**
- ▶ Where is **signage; instruction?**
- ▶ Wait in **'safe place' – fire cell, staircase?**

There is no safe place in a non-sprinkled building

- ▶ Is the safe place **large** enough?

A function room could be on an upper floor and hosting a group who are aged or otherwise mobility impaired



# Pre-evacuation issues (cont.)

- ▶ **Noisy** from the warning siren
- ▶ **Trapped** in the stairwell with door locked ?
- ▶ Is the area **gas** and **fume** free ?
- ▶ Could the staircase act like a chimney?
- ▶ Any means of communication? (WIP)

**How does this meet the Building Act purposes of providing 'physical independence' and 'well-being'?**

# Reliance on Management Systems

Too much dependence and assumptions are placed on people and systems

- Reliance on training and everyone knowing the procedures
- Fire drills – PWD sometimes advised to be out
- Does staff training include how to assist people who cannot manage the stairs if, for instance, no such person is employed in their business.....
- Strong urge to manhandle people down stairs
- Information in hotel rooms provides little comfort

# Reliance on Management Systems (Cont.)

Reliance on warden system to check that everyone is catered for

- May not be present on the relevant day
- A system dependent on people is unreliable
- Expectation that a staff member will stay with non-evacuees

# Reliance on Management Systems (cont.)

- ▶ **Keeping a disability register**
  - Does one exist; do people know?
  - What if impairment is hidden?
- ▶ **Assumption by building owners that Fire Service will 'rescue' – conflicting messages from FENZ**

# Evacuation options

## Evacuation chairs – pros and cons

Excellent for some conditions, especially if ambulant, but one size does not fit all.

- No standards, different models
- Difficult to transfer onto evacuation chair
- Separated from mobility equipment – need space to store it
- Needs a trained operator
- Only works down stairs, not up

# Evacuation options contd.

**Slow to promote the use of evacuation chairs in New Zealand**

**FENZ has been ambivalent about evacuation chairs and in some cases has actively discouraged them**



# Evacuation options contd.

- ▶ Fire crew carry people out of the building  
– advantages and disadvantages.
- ▶ Are they trained in handling disabled people?
- ▶ Use of lifts in an evacuation
- ▶ Hotels – remain in room?

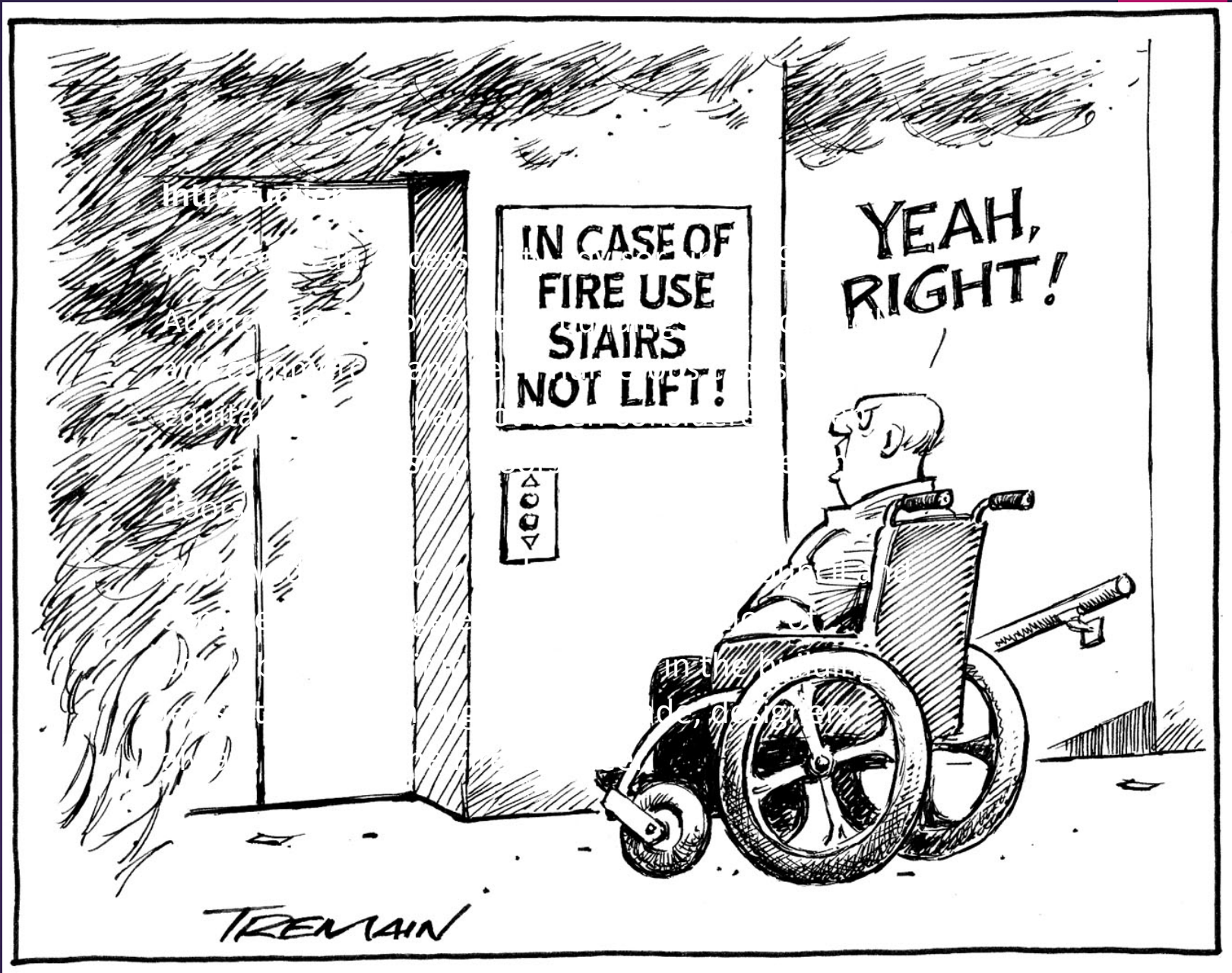
# Summary - Suggestions for promoting Equitable Egress

- Update the legislation
- Design step-free egress routes where possible
- Egress routes should have the same design requirements as Access routes
- Signage installed that identifies accessible Egress routes
- Use diagrams or pictograms with reduced wording
- Evacuation chairs are carried by the Fire Service and personnel are trained in their use



# Summary suggestions for promoting Equitable Egress contd.

- Warning systems that are both audible and visual
- Audible systems with longer silent times
- Audible systems not loud in 'safe areas'
- 2-way communication within refuges including lift lobbies
- Expectations of using lifts for evacuations
- Staged evacuations provide equity for all



Courtesy of Garrick Tremain