Colour for Engagement, Orientation and Wayfinding in Aged Care and Dementia Care

Zena O'Connor, PhD • Design Research Associates 2022

Colour for Engagement, Orientation and Wayfinding in Aged Care and Dementia Care

Colour Design in Healthcare, Aged & Dementia Care

Learning outcomes:

- Colour attributes and their role in environmental visual literacy;

- Colour contrast – how it can improve orientation and wayfinding;

- Colour contrast – how it can be used to address the needs of people with declining visual capacity;

Colour Design in Healthcare, Aged & Dementia Care

Key aims for colour design:

- Encourage and improve engagement

- **Improve environmental visual literacy**

- **Orientation and wayfinding**

- Assist with the safe operation of daily activities

Colour Design

Construction materials, finishes, textures, painted surfaces, flooring, fixtures and fittings

- Some surfaces, finishes and materials are subject to regulation in healthcare and aged care

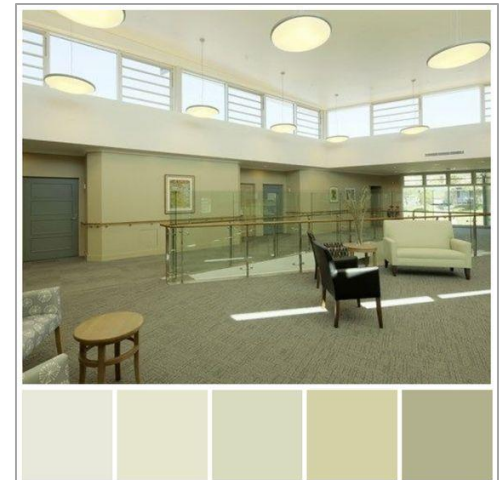Colour design is always impacted by changes in ambient lighting and the intrusion of glare.
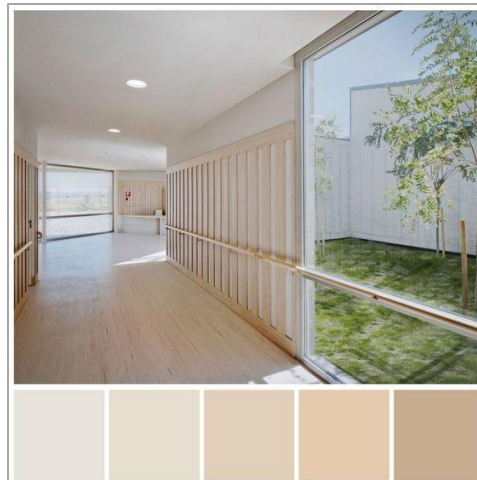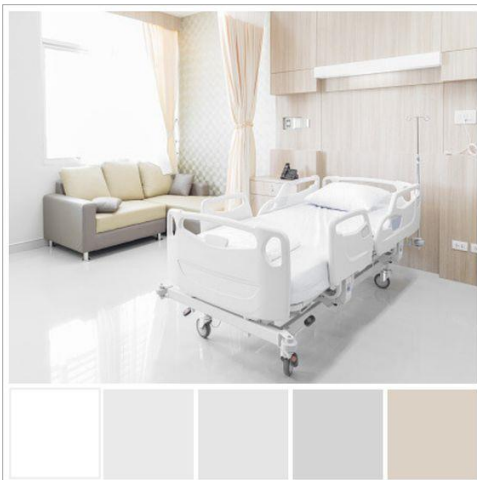
Visual Perception and Older People

Perception of light-dark contrast and colour contrast:

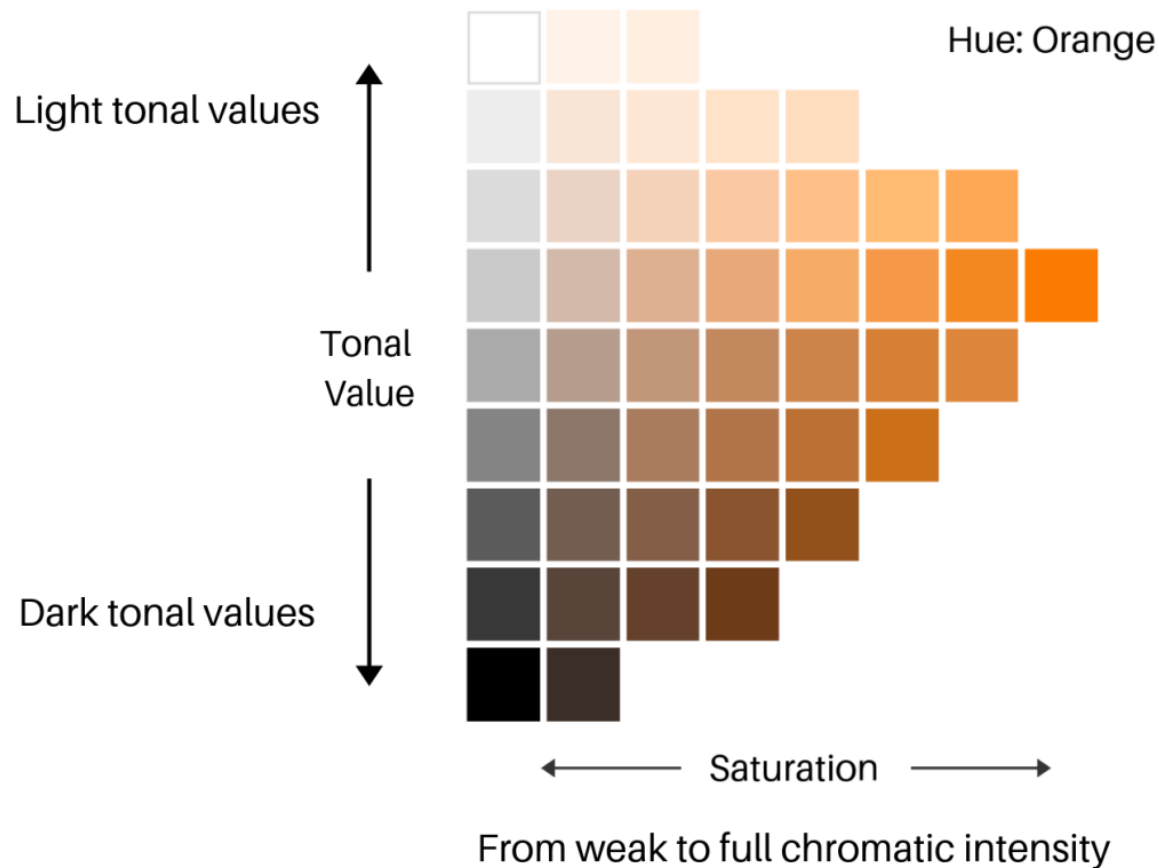- Decline in sensitivity from middle age onwards.

Declining visual capacity:

- Negatively impacts environmental visual literacy.

The Importance of Colour Contrast

Quick recap of colour theory: Three attributes of colour

Hue: Orange

Light tonal values

Tonal Value

Dark tonal values

Saturation

From weak to full chromatic intensity

Colour Fundamentals

Tonal Value Variations

- Contribute to mood and ambience

- Strong contrast attracts attention

- Improves environmental visual literacy

Colour Fundamentals

Saturation Variations

- Create impact in the built environment – more so than hue

- Strong saturation contrast attracts attention

Visual Perception – The role of colour contrast

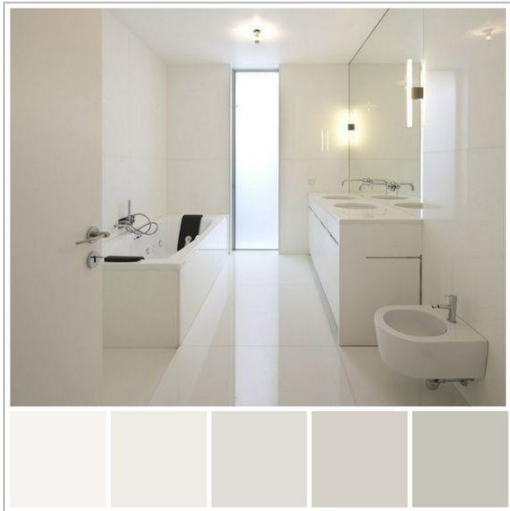Studies indicate that people notice and look at:

- Movement and areas of strong contrast

- Humans/faces and detailed visual information

Visual Perception – The role of colour contrast

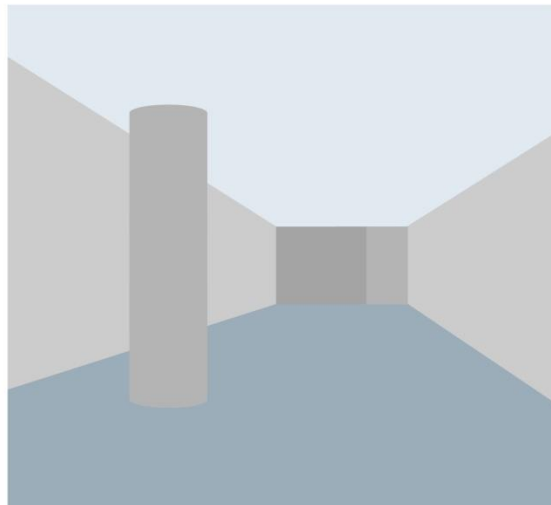## Weak contrast impairs environmental visual literacy

- Difficult to identify key design elements

- Poor lighting and glare add additional problems
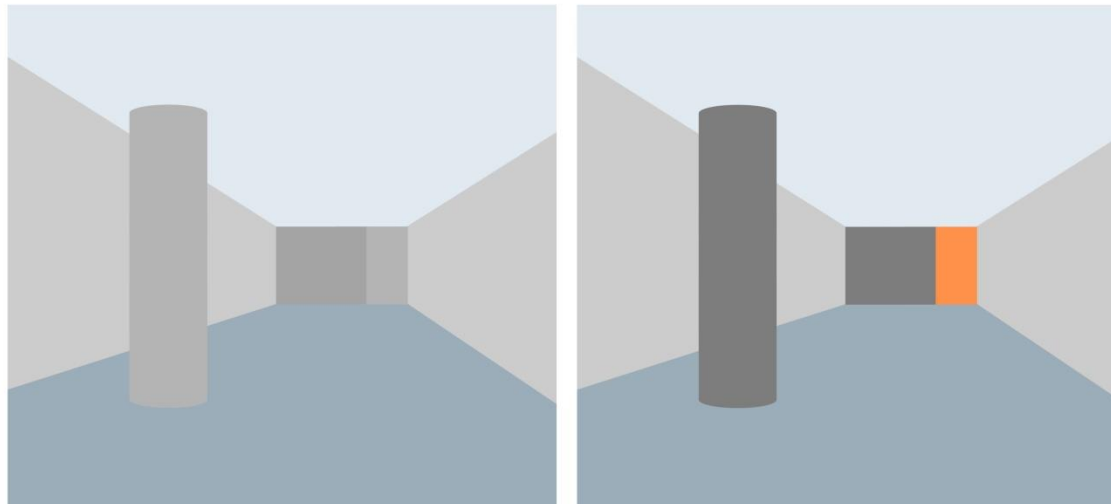
Environmental Visual Literacy

Visual perception involves memory and cognitive processing – We mentally construct what we see.

Colour contrast helps to identify shapes, objects and design features.

Environmental Visual Literacy

Environmental visual literacy is the ability to 'read' and make sense of the built environment in a meaningful way.

Environmental Visual Literacy

Negatively impacted by too much visual stimuli

- Cognitive overload can result in the misinterpretation of design details and features

The Impact of Cognitive Load

Excessive visual stimuli (visual noise) negatively impacts environmental visual literacy.

- This tends to increase among older people.

VIDEO

The Monkey Business Illusion (1:41mins).

https://www.youtube.com/watch?v=IGQmdoK_ZfY

Environmental Visual Literacy

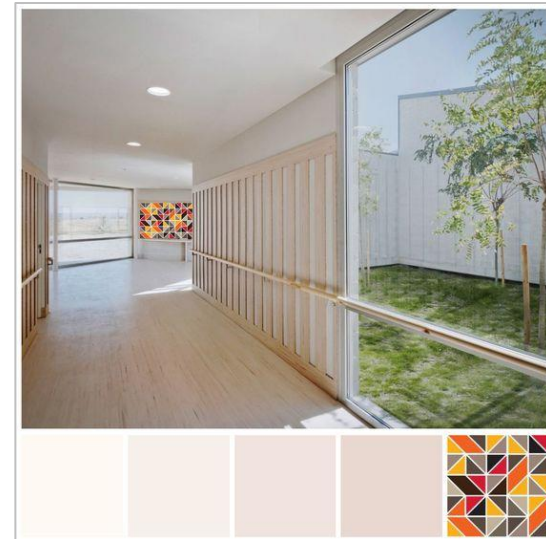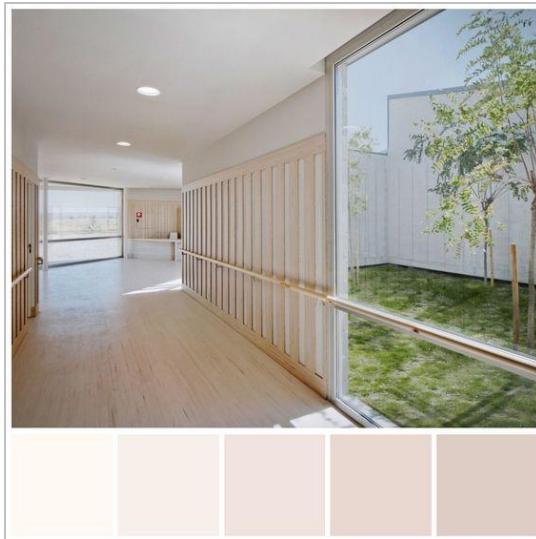Strategies that improve environmental visual literacy

- **Strong colour contrast**

- **Mitigating glare and reflectance**

- Minimise visual clutter

- Build on familiar, existing mental models

Colour Design – Orientation and Wayfinding
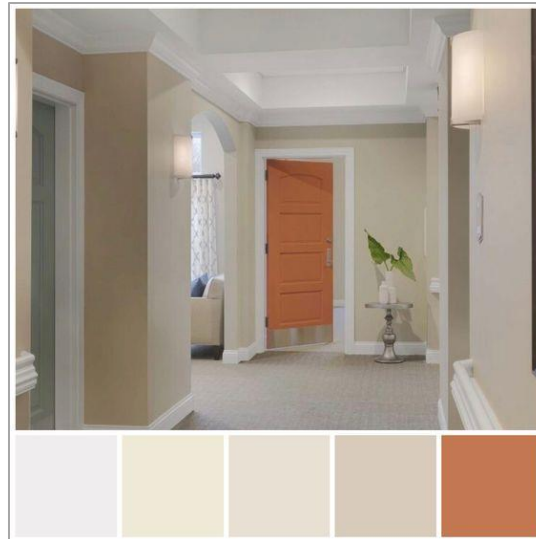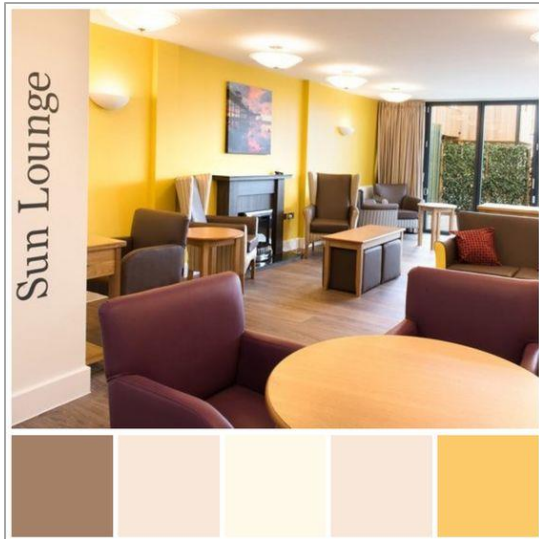
Red and warm colours

- Attract attention and draw people in

- Compare these two images

Colour Design – Orientation and Wayfinding

Red and warm colours

- This colour design strategy can be used to create landmarks and zones

Colour Design – Orientation and Wayfinding

Colour contrast, murals and feature walls

- Colour design strategies to create landmarks, zones and pathways

Colour Design – Orientation and Wayfinding

Colour contrast, murals and feature walls

- Unique-coloured resident doors, memory boxes and feature walls act as wayfinding devices

Colour Design – Orientation and Wayfinding

Create pathways, districts, zones, nodes and landmarks

- Large-scale colour-coding plus coloured murals enhance wayfinding

Colour Design – Orientation and Wayfinding

Create pathways, districts, zones, nodes and landmarks

- Corridors can be colour-coded for differentiation

Design for a recent project in Sydney.

Colour Design – Enhance Engagement and Wellbeing

Saturated 'pops' of colour

- Welcoming and friendly – diminishes anxiety

Colour Design – Enhance Engagement and Wellbeing

Saturated 'pops' of colour

- Welcoming and friendly – diminishes anxiety

Colour design – Enhance Engagement and Wellbeing

Polychromy associated with playfulness, vitality, diversity and inclusion

- Contrasting colours add vibrancy, visual variety

Colour Design – Enhance Engagement and Wellbeing

Familiar, Homelike Colours

- Help to reduce anxiety and enhances wellbeing

Colour Design – Enhance Engagement and Wellbeing

Familiar, Homelike Colours

- Contrast of tonal value and hue enhances environmental visual literacy and also adds a sense of vitality

Colour Design – Enhance Engagement and Wellbeing

Familiar, Homelike Colours

- A bland bathroom can be refreshed and made to look more homelike with simple painted wall details.

Colour Design – Enhance Engagement and Wellbeing

Art + Memory project

Residents create their own mural based on a local park.

Brielle Assisted Living Community, Staten Island, NY

Colour Design – Enhance Engagement and Wellbeing

Familiar, Homelike Colours

- Important for Quality of Life in hospice design

Colour Design – Enhance Engagement and Wellbeing

Familiar, Homelike Colours

- Colour schemes – Similarity vs. Contrasting
- 'Natural' tonal allocation of colour

Colour Design – Enhance Engagement and Wellbeing

Nature-inspired Colour Design

- Underpinned by universal preferences for nature
- Calming, restorative effect of nature

VIDEO

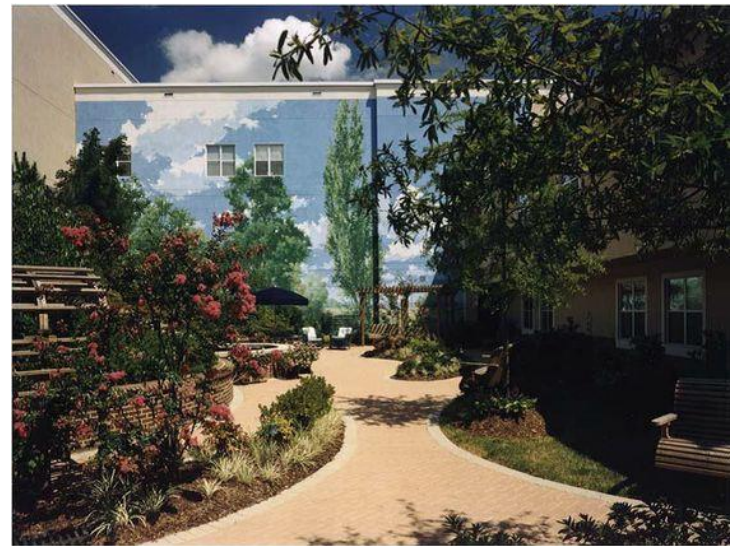Biophilic Design: How Interiors Can Improve Human Health (6:44mins)

https://www.youtube.com/watch?v=uwnwUPsdICU

Colour Design – Enhance Engagement and Wellbeing
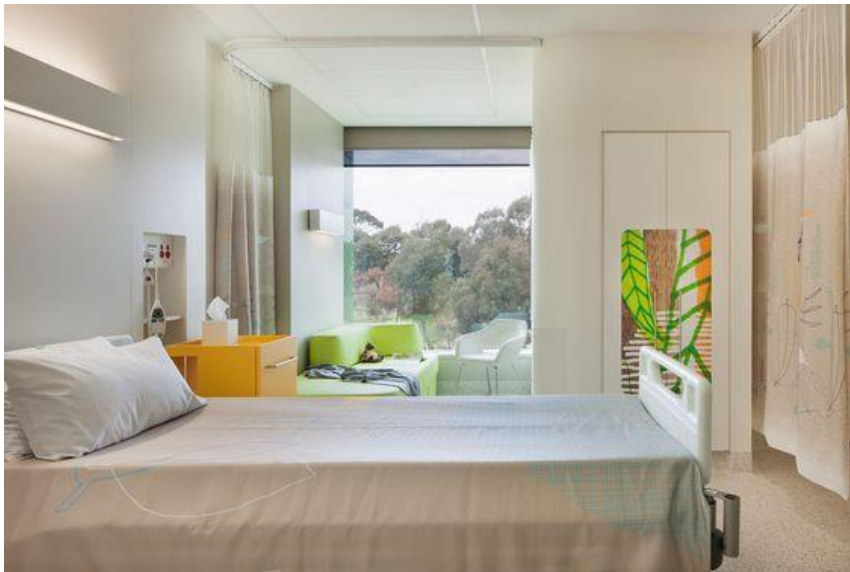
Nature-inspired Colour Design

- Colours and murals inspired by nature

Colour Design – Enhance Engagement and Wellbeing

Nature-inspired Colour Design

- Colours and murals inspired by nature

Colour Design – Enhance Engagement and Wellbeing

Nature-inspired Colour Design

- Colours and murals inspired by nature
- Offsets the otherwise clinical colour scheme

Colour Design – People Living with Dementia

Inappropriate environmental design

- Two most common triggers for severe behaviours in people living with dementia:
    - Inappropriate environmental design
    - Unidentified pain issues (Judd, 2016)

Colour Design – People Living with Dementia

Visual issues that impact people living with dementia

- Slower visual processing
- Misinterpreting visual information
- Sensory overload: double vision, ghosting
- Visual hallucinations

VIDEO

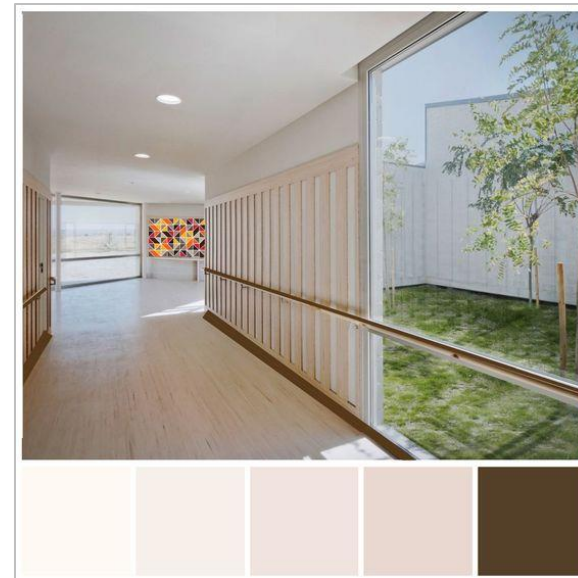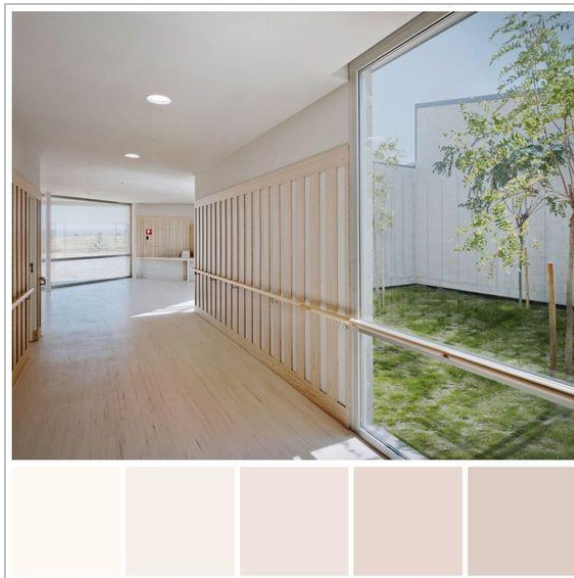Agnes Houston: Dementia and sensory challenges (3:45mins).

https://www.youtube.com/watch?v=VH_QpmH_lhU

Colour Design – People Living with Dementia

Strong colour contrast

- Improves environmental visual literacy

- Details are easy to distinguish in image at right

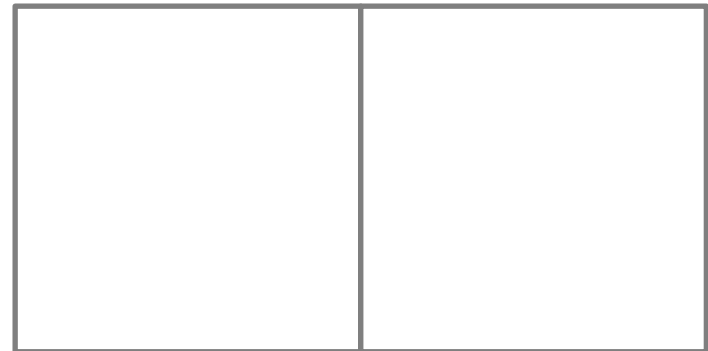# Colour Design – People Living with Dementia
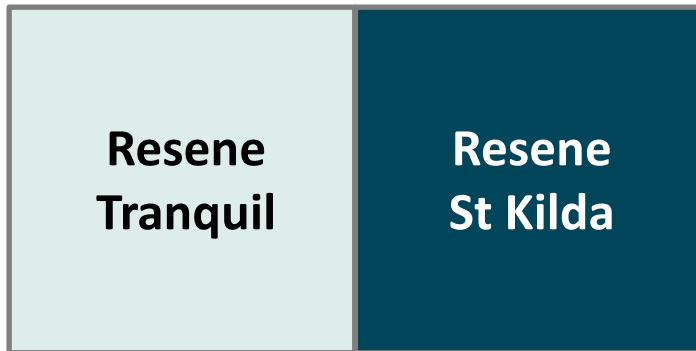
Strong colour contrast

- Use LRV values to achieve strong colour contrast

Colour Design – People Living with Dementia

Strong colour contrast

- Use LRV values to achieve strong colour contrast differential in painted surfaces

Resene Tranquil	Resene St Kilda

Colour Design – People Living with Dementia

Familiar homelike colours and design archetypes

- Colour variety and bright, saturated colours

Colour Design – People Living with Dementia

Murals and Supergraphics

- Add a sense of joy and playfulness
- Orientation and wayfinding devices

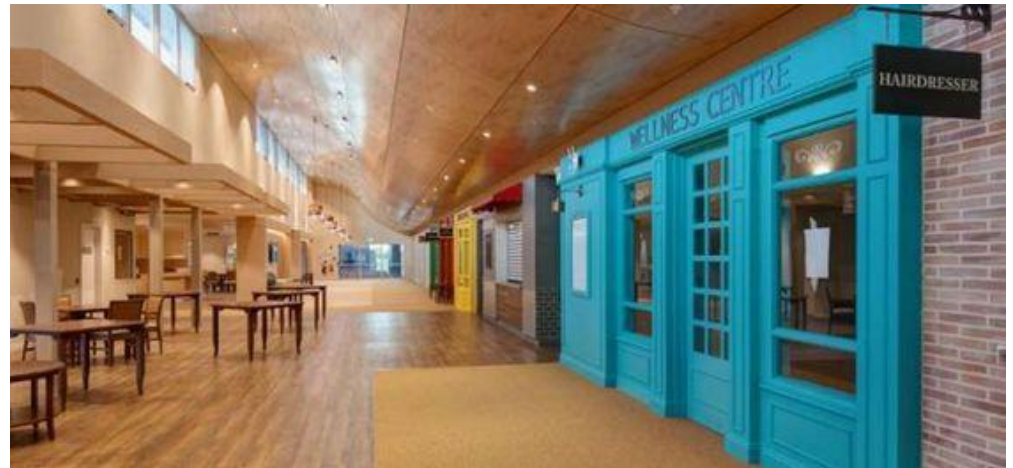# Colour Design – People Living with Dementia

Murals and Supergraphics

- Obscure rather than camouflage doorways

Colour Design – People Living with Dementia

'Streetscape' interiors

- Creates a new reality based on familiar memories
- Strong, saturated colours + colour contrast

Dudley Foord House, The Ponds, NSW by Gilmore Design

Colour Design – People Living with Dementia

'Streetscape' interiors

- Saturated colours + strong colour contrast

Lantern Group assisted living residences for people living with dementia

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