



# SUPERSEDING NZS 4404 : 2004

New Zealand Land Development and Subdivision Standard

## Acknowledgements

**Keith Hall** CEO  
New Zealand Planning Institute  
**Greg McBride** Urban Design Forum  
Harrison Grierson Consultants  
**Mark Apeldoorn** Institution of Professional Engineers NZ  
Traffic Design Group

*Bill Greenwood*



New Zealand  
**Planning Institute**  
Te Kōwhiri Taumata



Traffic Design Group



# Outline

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- + Standards processes
- + Objectives
- + Key transport changes
- + Submission feedback
- + The proposed Standard

# NZS 4404

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## What is it?

A standard for New Zealand  
Subdivision and development design

## What it's not:

An urban design guideline

## Purpose:

Provides standards for public infrastructure in new (*green*)  
and existing (*brownfield*) subdivisions

## Disciplines:

Earthworks | Roads | Stormwater | Utilities | Landscape

**For:** Planning, engineering and survey disciplines  
TA's acceptable standard for applications



## **Key objectives**

- + Land use and transport links**
- + Urban design**
- + Transport hierarchy**
- + Flexibility and diversity**
- + Broader adoption by professionals  
and local authorities**
- + Referencing to other advancing design  
standards**

# who was on the committee?

**INGENIUM**  
ENGINEERS FOR PUBLIC ASSETS



**ccanz**

Cement & Concrete Association of New Zealand

NEW ZEALAND INSTITUTE  
OF SURVEYORS  
Te Rōpū Kairūri o Aotearoa



WAKA KOTAHĪ



New Zealand  
**Planning Institute**  
Te Kōkiringa Taumata



Ministry for the  
**Environment**  
Manatū Mō Te Taiao



**IPENZ**  
ENGINEERS NEW ZEALAND



Local Government New Zealand  
te pūtake matakōkiri



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Plastics New Zealand

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Urban Design Forum

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University of Auckland

**Neil Johnstone**

Road Controlling Authorities Forum NZ

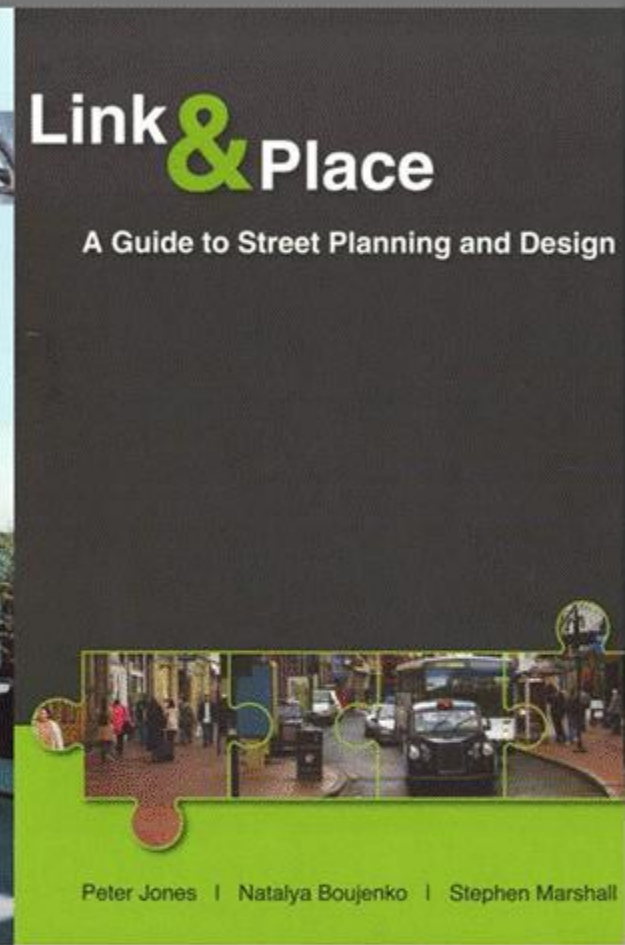
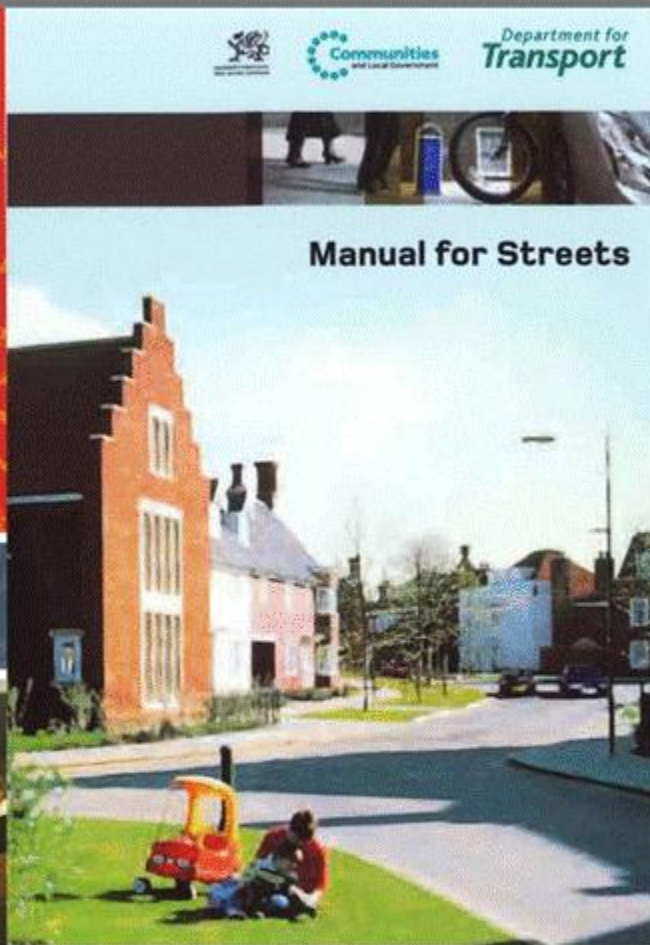
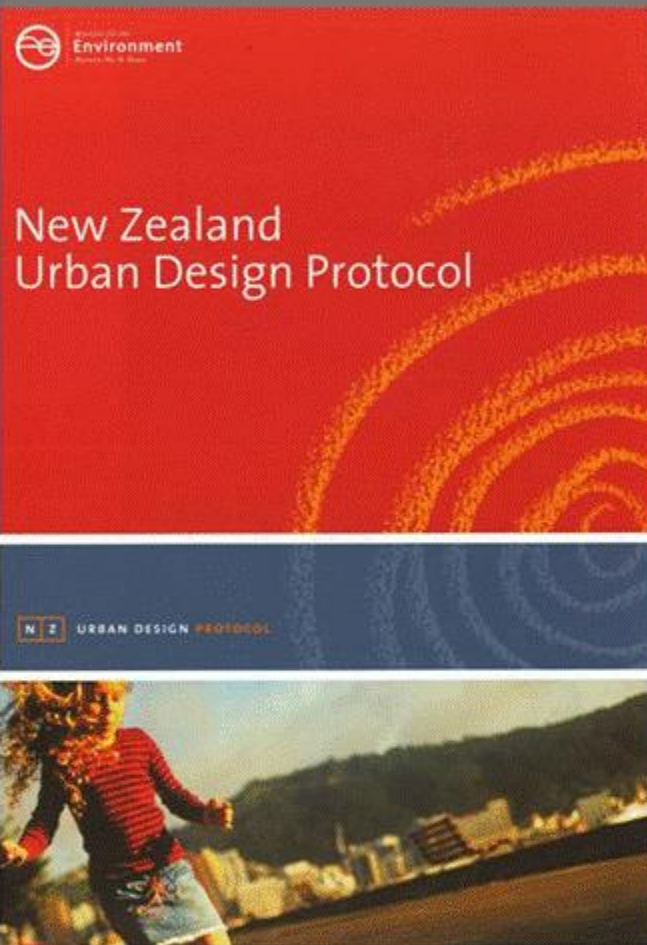
**Ralf Kessel**

Cement & Concrete Association of NZ

**Yvonne Weeber**

Ministry for the Environment

**interdisciplinary**  
a broad spectrum of  
committee members . .



what influenced the committee's thinking?

# Integrating **Land Use** and **Transport**



Typical road and street types in the Place and Movement hierarchy

derived from figure 2.5 Manual for Streets (2008), Department of Transport, UK

# Outcomes sought

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- + Integrated transport environments
- + Safety
- + Diversity
- + Shared use space
- + Low impact design
- + Urban amenity

what we want

**Low Speed  
Residential**  
Kensington Park, Orewa



what we want

PERSEF DINGN7S4404

what we get



High Speed  
Residential

what we get

TARMACGEDDON

what we want

**Walkability in Mixed  
Use Urban  
Neighbourhoods**  
Chancery, Auckland City



what we want

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what we get



Separated Spaces,  
Car Dominated

what we get

TARMACGEDDON

what we want

## Shared Use Streets

Wellington waterfront area



what we want

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what we want

## Walking and Cycling

A bikeway in Christchurch,  
New Zealand



what we want

PERSEFDINGNZS4404

what we want

## Alternatives to Property Access

Rear lane vehicle access  
in Addison, Papakura



what we want

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what we want

## Urban Amenity

Hamilton's Garden Place



what we want

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what we want

## Low Impact Design



what we want

PERSEFINDINGN7S4404

# Areas of change

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- + Hydro sustainability
- + Modern materials
- + Cost minimisation
- + Quality
- + Network connectivity
- + Integrated land use and transport
- + Urban design
- + Climate change provision
- + Design and access statement
- + Target operating speeds
- + Self explaining roads

# towards a better **NZS4404 : 2010**

## Hydro sustainability

### **NZS 4404:2004**

The standard emphasised kerb and gutter systems to carry away stormwater. No guidance was provided for “alternative” stormwater management systems.



### **Proposed NZS 4404:2010**

Low impact design is the preferred best practice approach by the committee, and guidance is provided in the design of stormwater management systems.

# towards a better **NZS4404 : 2010**

## Modern design & materials

### **NZS 4404:2004**

The standard provided so much specificity in design and materials that better alternatives and approaches were discouraged through a more burdensome approval process.



### **Proposed NZS 4404:2010**

Restricted lists of inclusions are expanded or removed so that they do not limit the use of creative alternatives.

# towards a better **NZS4404 : 2010**

## Cost minimisation

### **NZS 4404:2004**

The default approach was the lowest cost approach.



### **Proposed NZS 4404:2010**

Value adding amenity values are now provided for and encouraged.

# towards a better **NZS4404 : 2010**

## Exemplary street design

### **NZS 4404:2004**

The default approach served cars well, but it did not provide space for people in the streetscape or consider the context in which streets were being built.



### **Proposed NZS 4404:2010**

Exemplary street design is the underlying base in the standard. An exceptional streetscape is no longer an exception to the standard.

# towards a better NZS4404 : 2010

## Network Connectivity

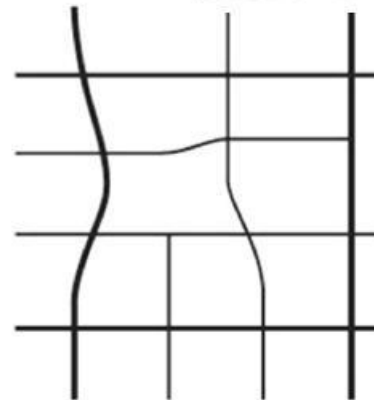
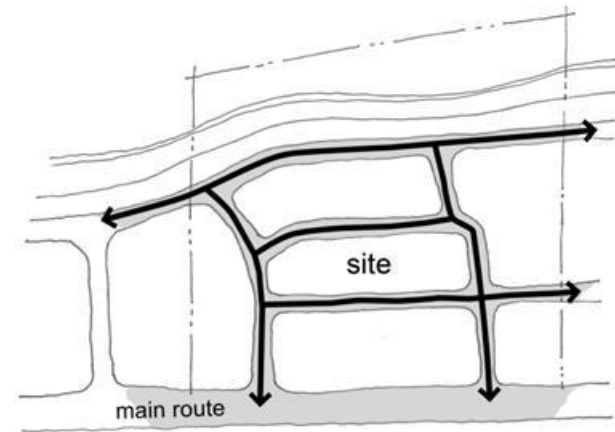
### NZS 4404:2004

The loops and lollipops cul-de-sacs approach was not discouraged

### Proposed NZS 4404:2010

Proposed maximum walking distances from more connected routes. *“the designer shall maximise connectivity to existing and for future potential developments “*

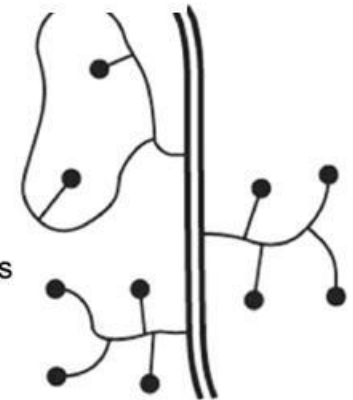
Permeable street Layout



greater capacity

Network

same lane - miles



Sparse Hierarchy

# towards a better **NZS4404 : 2010**

## Integrated land use and transport

### **NZS 4404:2004**

The default approach provided for either a rural or an urban street hierarchy to meet only the vehicle movement needs while ignoring anything taking place outside of the right-of-way.



### **Proposed NZS 4404:2010**

There is now integration of land use and transportation in a way that considers both type and intensity of use and the needs of a range of road users.

# towards a better **NZS4404 : 2010**

## Urban design

### **NZS 4404:2004**

Urban design was an optional supplement for consideration but was not included in the standard; thus, urban design was not adopted by road controlling authorities.



### **Proposed NZS 4404:2010**

The principles of the Urban Design Protocol are fully integrated into every aspect of the new standard. The Urban Design Supplement remains as additional guidance. To facilitate broader uptake by TLA's

# towards a better **NZS4404 : 2010**

## Climate change

### **NZS 4404:2004**

Climate change was not mentioned.



### **Proposed NZS 4404:2010**

The need to undertake a risk assessment for changing rainfall patterns and coastal impacts is included, and it is also recognised that an evolving response will be needed.

# towards a better NZS4404 : 2010

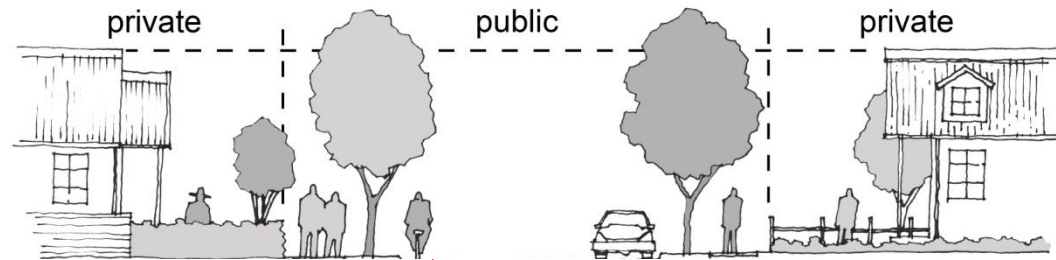
## Design & Access Statement

### NZS 4404:2004

A rationale for design is not required.

### Proposed NZS 4404:2010

The designer will be required to *justify the proposed design in terms of place, link and connectivity*



Draft cross section for **Suburban, live & play, local road**

Design Environment				Link context				
Local attributes	Locality served	Target operating speed (km/h)	Min road reserve width (m)	Max. grade	Pedestrians	Passing, parking, loading and shoulder	Cyclists	Movement lane (excl shoulder)
Primary access to housing	1 to 200 du	40	15	12.5%	1.5m one side or 1.5m each side where more than 20du or more than 100m in length	Shared parking in the movement lane up to 100du, separate parking required over 100du	Shared (in movement lane)	2 x (2.75 – 2.85)

# towards a better NZS4404 : 2010

## Target Operating Speed

### NZS 4404:2004

Design speed was a blunt instrument enforced by law only. (How many drivers obey speed limits)



### Proposed NZS 4404:2010

Target operating speed uses physical and psychological devices to manage speed so as to suit the local land use context and movement requirements. (Self-explaining streets)



# **Revised Road Design Standards**

- + thinking based on use of space**
- + design based vs. code based approach**
- + opportunity to vary design**
- + parking on street (supply and demand)**
- + component / element approach**
- + shared use of road and verge for open space**
- + broader design based thinking**

# Submissions

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- + 1904 submissions
- + 90% support for the proposed changes
- + Many countering submissions
- + 80% of submissions accommodated

# Key submission issues

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## Global issues:

- + Tensions between standard and guideline
- + Compulsory vs. voluntary
- + Diversity of views – strong support
- + Acceptability across diverse community (TLA's)
- + Clarify definition and purpose
- + RMA national policy statements

# Key submission issues

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## Global issues:

- + Cross pollination of sections, not stand alone
- + Guidance for use of standard
- + Varying needs of the different TLA's
- + Design assistance and guidance
- + Low impact urban design guidance
- + Defining connectivity and integration

# Key submission issues

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## Specific issues:

- + Auckland City – Super City “Unitary Authority”
- + Brownfields
- + “Best practice” approach of the standard
- + Materials
- + Provision for cycles
- + Wider vs. narrower roads

# Next steps

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- + Complete submissions review - April
- + Quality assurance - May
- + Print - June

