

## What's the latest on design standards and guidance?



How did we get where we are?

# TRL Report PR42 – Cycle Routes (1993)

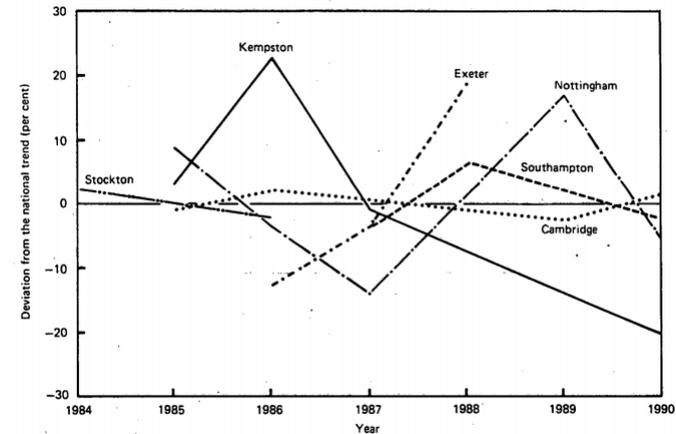
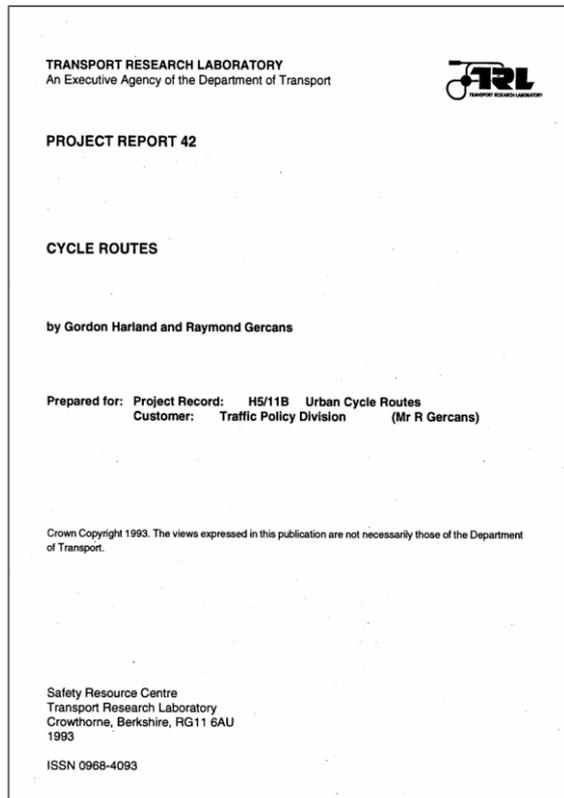


Fig.10 Variation of cycle flows relative to variations in GB mileage

There has been **no substantial increase** in cycle flows following the opening of these facilities.

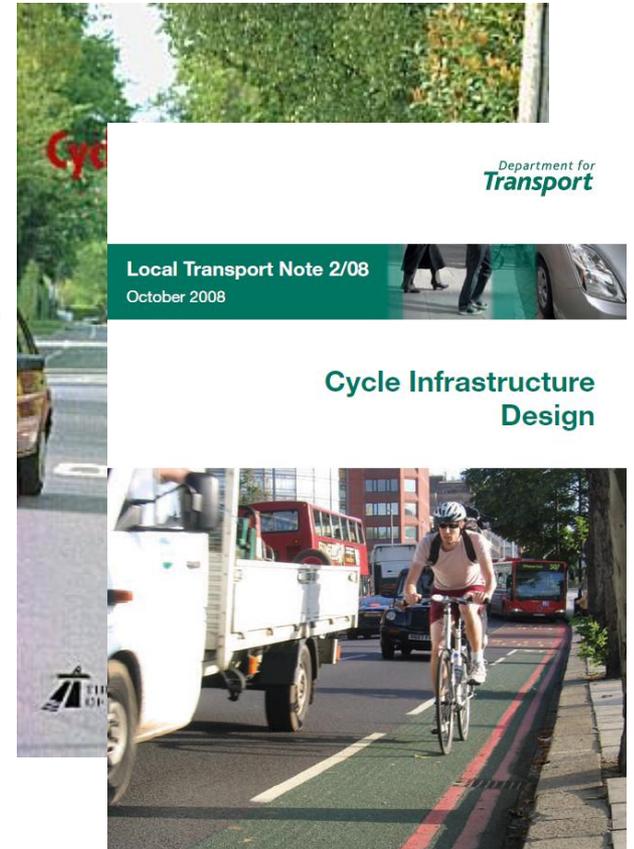
The hypothesis that cycle use is suppressed by the absence of routes and networks **can be rejected**.

# The Hierarchy of Provision

- First seen in “Cycle-Friendly Infrastructure” (1996) as ‘Hierarchy of Solutions’
- Now included in Department for Transport’s LTN 2/08 ‘Cycle Infrastructure Design’
- **hi-er-ar-chy**

Noun

A system or organization in which people or groups are ranked one above the other according to status or authority.



# The Hierarchy of Provision

Table 1.2 Hierarchy of provision

<p><b>Consider first</b></p>  <p><b>Consider last</b></p>	<p>Traffic volume reduction</p> <p>Traffic speed reduction</p> <p>Junction treatment, hazard site treatment, traffic management</p> <p>Reallocation of carriageway space</p> <p>Cycle tracks away from roads</p> <p>Conversion of footways/footpaths to shared use for pedestrians and cyclists</p>
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## At the HoP...

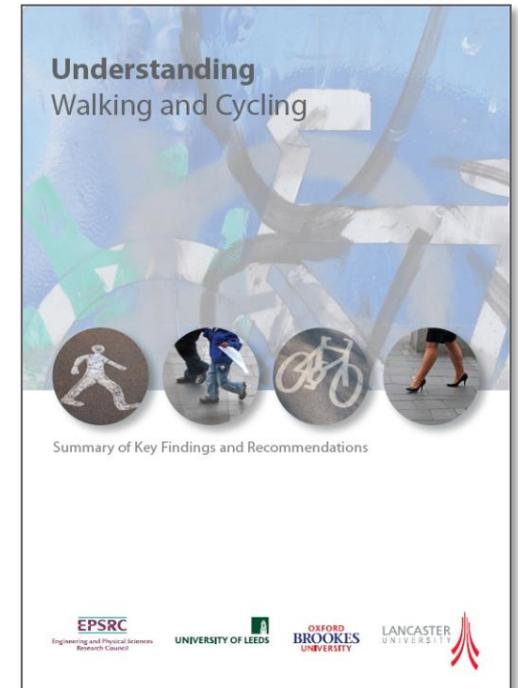
- “The road network is the most basic (and important) cycling facility available, and **the preferred way** of providing for cyclists is to create conditions on the carriageway where cyclists are content to use it, particularly in urban areas.
- There is **seldom the opportunity to provide an off-carriageway route** within the highway boundary that does not compromise pedestrian facilities or create potential hazards for cyclists, particularly at side roads.”

# Understanding Walking and Cycling – Research by Lancaster University

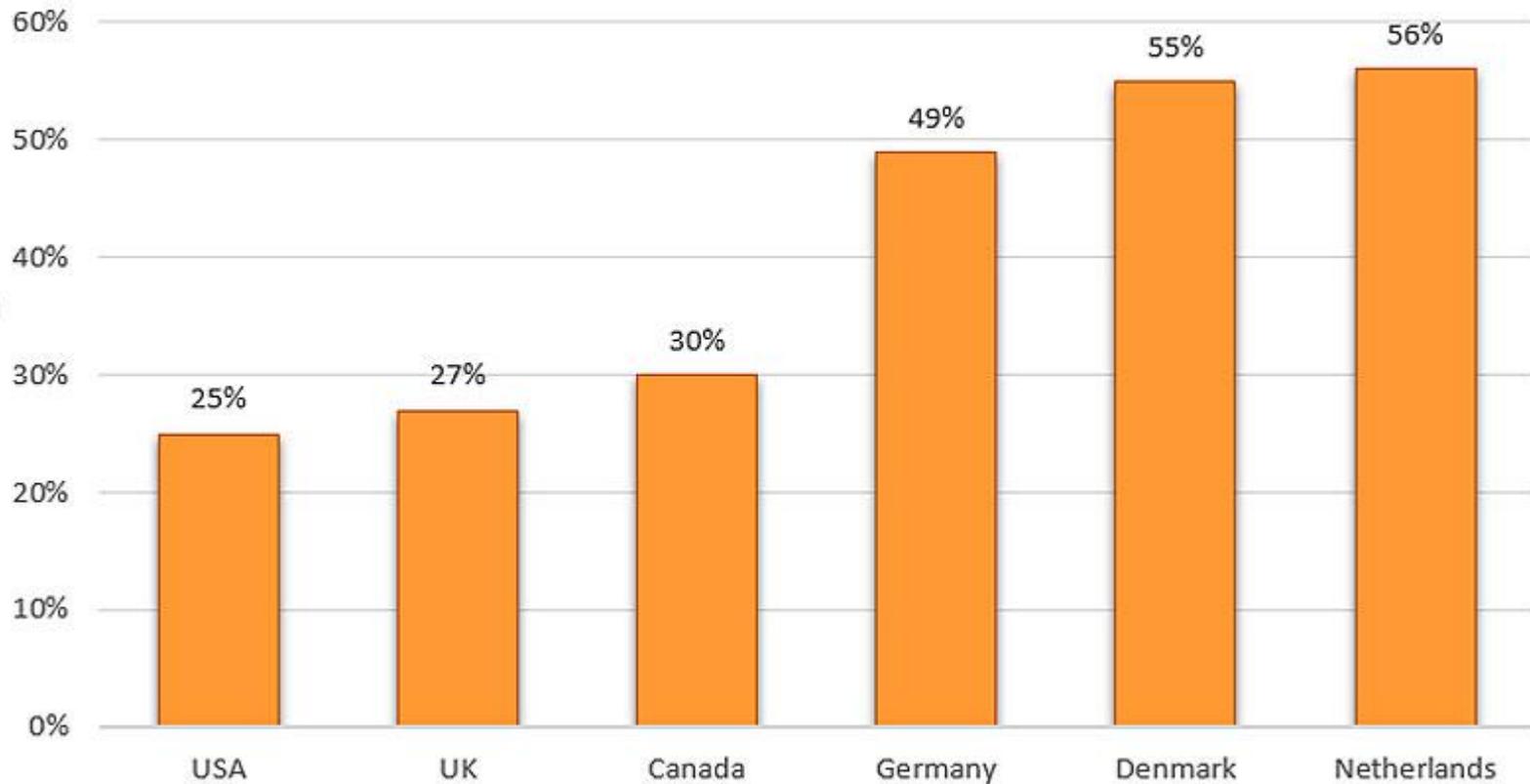
...from our analysis of the influence of the physical environment on walking and cycling **it is clear that traffic is a major deterrent for all but the most committed cyclists.**

“There was a small (but significant) correlation with female gender (with **women more fearful**)”

*“I am not comfortable at all with cycling. I am always scared of the traffic around me.”  
(Molly, Leicester)*



## Women's share of bike trips in Europe and North-America

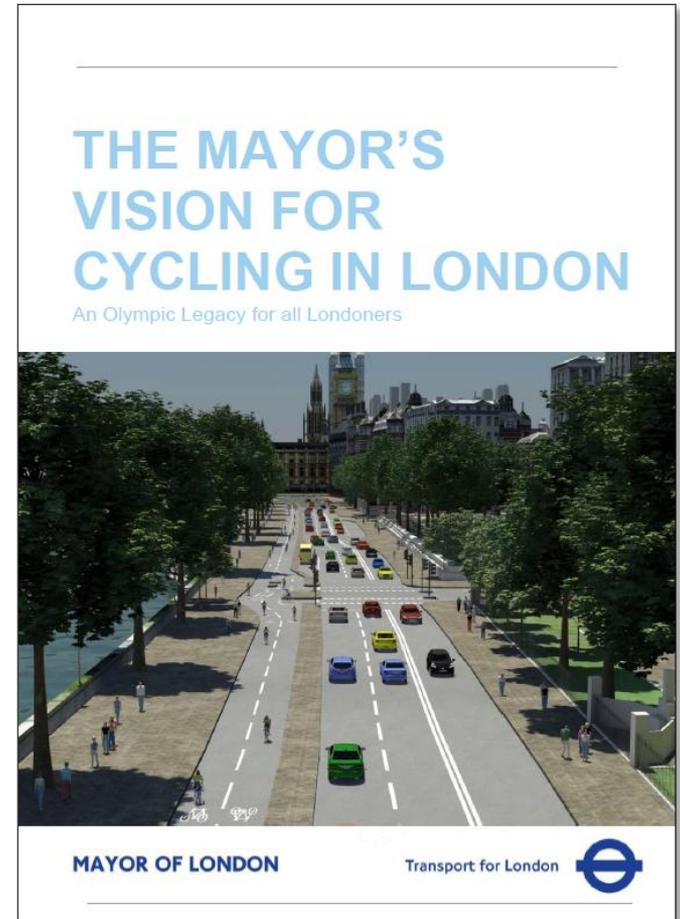


Source: Pucher & Buehler; City Cycling

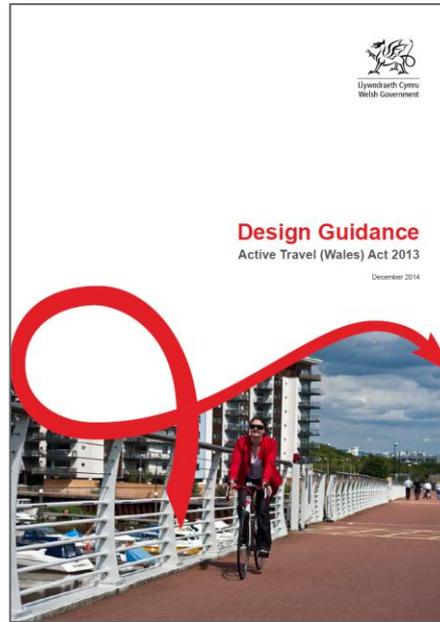
Where are we now?

# A New Vision, A New Hierarchy

- I want more women cycling, more older people cycling, more black and minority ethnic Londoners cycling...
- There will be more Dutch-style, fully-segregated lanes and junctions...; and a network of direct back-street Quietways,
- **We will segregate where possible**, though elsewhere we will seek other ways to deliver safe and attractive cycle routes.



# Current Cycling Design Guidance/Standards/Regulations



STATUTORY INSTRUMENTS

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**2016 No. 362**

**ROAD TRAFFIC**

**The Traffic Signs Regulations and General Directions 2016**

*Made* - - - - - 16th March 2016  
*Laid before Parliament* - - - - - 22nd March 2016  
*Coming into force* - - - - - 22nd April 2016

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Visualisation of Cycle Superhighway scheme for Blackfriars Road, where side roads and active uses are predominantly on the east side and a two-way track is therefore proposed for the west side.





Except in two stages

25

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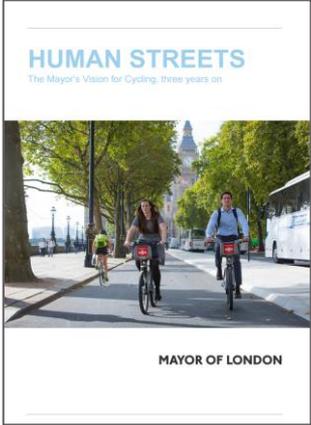
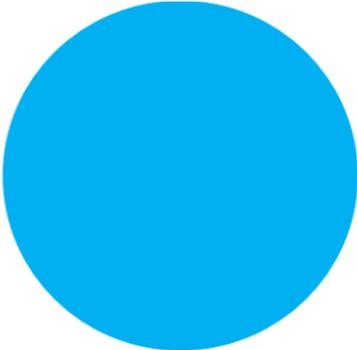
# Segregated Tracks – Growth in Cycling

73% Growth on Vauxhall Bridge following completion of CS5

Feb 2015 – 1967/day



Feb 2016 – 3394/day





Speed Limit	Number of motor traffic lanes	Motor traffic flow (AADT)	Preferred Minimum Provision by Cycle Route Type	
			Secondary cycle route	Primary cycle route
20 mph	Irrelevant	1-2500	Quiet Streets: combined traffic	Cycle Streets or Quiet Streets: combined traffic
		2000-5000		Cycle Lanes
		> 4000	Cycle Lanes	
30mph	2 lanes in total	0-5000	Cycle tracks	
		> 4000		
	More than two lanes	Irrelevant		
40mph and over	Irrelevant		Cycle tracks (excluding light segregation and hybrid tracks)	

**Notes on Table 6.2:**

- this table does not include the Basic Network or cycle tracks away from highways
- designers should always consider the potential to reduce motor traffic speed and volume to create acceptable conditions
- there is some overlap between motor traffic flow ranges to allow for flexibility
- speed means speed limit, but if actual speeds are significantly higher, consider next highest category of speed
- cycle tracks includes light segregation and hybrid tracks unless noted
- in rural areas achieving speeds of 20mph may be difficult, and so shared routes with speeds of up to 30mph will be acceptable, with motor vehicle flows of up to 1000 vehicles per day



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Sign table — Schedule 14, Part 2

(1) Item	(2) Description	(3) Diagram	(4) Variants	(5) Applicable requirement in Part 4	(6) Schedule 14 General Directions
53	1001.5 Zig-zag lines to indicate the requirements or prohibitions relating to stopping or overtaking at a Parallel pedestrian and cyclist crossing (shown in combination with markings provided for at items 54 and 57 and the stripes provided for at paragraph 18 of Part 1)		1. Subject to entry 4, each zig-zag line may contain more than 8 marks but not more than 18 marks. 2. The central zig-zag line may be reversed, or where the road is not more than 6 metres wide, may be omitted. 3. Each zig-zag line need not contain the same number of marks as any other line, provided each mark is of the same length as the others. 4. Where the traffic authority is satisfied that the layout or character of the road means it is not practical to lay 8 marks, the number of marks can be reduced to not less than 2. 5. Where there is a central refuge or reservation in the carriageway the zig-zag lines may be marked on each side of the refuge or reservation, as the case may be, provided that the marking on each side are indicated as separate crossings. 6. Where a central refuge or reservation is provided, the	1, 2	



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## TSRGD 2016: Cycling and Walking Changes (Draft)

### Technical Information Note 41

April 2016



What's coming next?

# Design Manual for Roads and Bridges



2 | May | 2016

- Home
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- NMM and SDC
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## Site Updates

1st April 2016: IAN IAN 188/16 added to [IANs Page](#).

29th February 2016:

## Design Manual for Roads and Bridges

HD 32/16 Maintenance of Concrete Roads

## Design Manual for Roads and Bridges (DMRB)

(Please note: An alpha numeric Index for the complete DMRB can be found in [Volume 0 Section 1 Part 1](#)).

### DMRB Table of Contents

#### Volume

- [Volume 0](#) Introduction and General Requirements
- [Volume 1](#) Highway Structures: Approval Procedures and General Design
- [Volume 2](#) Highway Structures: Design (Substructures & Special Substructures), Materials
- [Volume 3](#) Highway Structures: Inspection & Maintenance
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Sets out the statutory requirements for **signing, lighting, and guarding** at street works and road works

Select a DMRB Volume

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View

# DMRB - Interim Advice Note, 'Cycle Traffic and the Strategic Road Network'

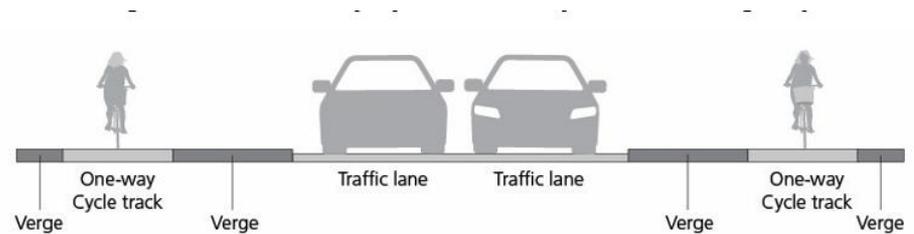
 Cycle Traffic and the Strategic Road Network  
IAN v8.0

**INTERIM ADVICE NOTE XX/15**  
**CYCLE TRAFFIC AND THE STRATEGIC ROAD NETWORK**

**Summary**  
This document gives requirements and advice regarding designing for cycle traffic for the Strategic Road Network (SRN).

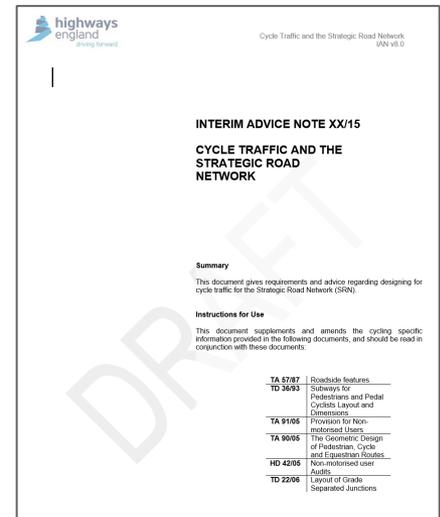
**Instructions for Use**  
This document supplements and amends the cycling specific information provided in the following documents, and should be read in conjunction with these documents:

<b>TA 57/87</b>	Roadside features
<b>TD 36/93</b>	Subways for Pedestrians and Pedal Cyclists Layout and Dimensions
<b>TA 91/05</b>	Provision for Non-motorised Users
<b>TA 90/05</b>	The Geometric Design of Pedestrian, Cycle and Equestrian Routes
<b>HD 42/05</b>	Non-motorised user Audits
<b>TD 22/06</b>	Layout of Grade Separated Junctions



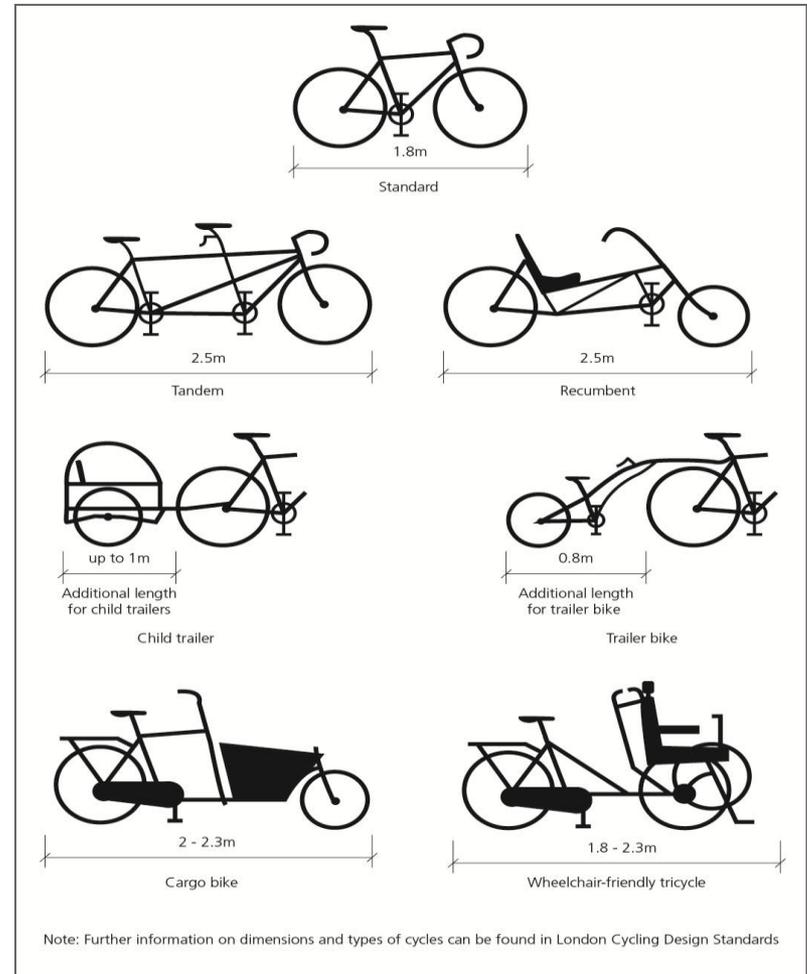
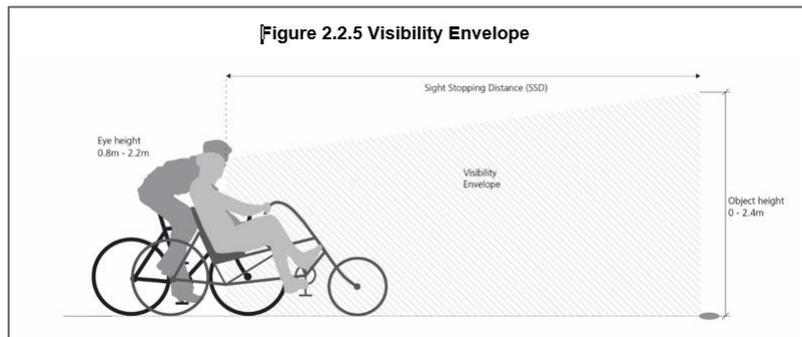
# Content

- Cycle Traffic and the Strategic Road Network
- Design Requirements of Cycle Traffic
- Cycle Traffic on Links
- Cycle Traffic at At-Grade Junctions and Crossings
- Cycle Traffic at Grade Separated Cycle Track Crossings
- Cycle Traffic at Roundabouts
- Cycle Traffic at Signalised Roundabouts
- Grade Separated Junction Layouts for Cycle Traffic
- Cycle Traffic Direction Signing
- Construction and Maintenance



# Inclusive Cycles

- Range of types of cycle considered, to create
- 'Cycle Design Vehicle' – 2.8m x 1.2m wide



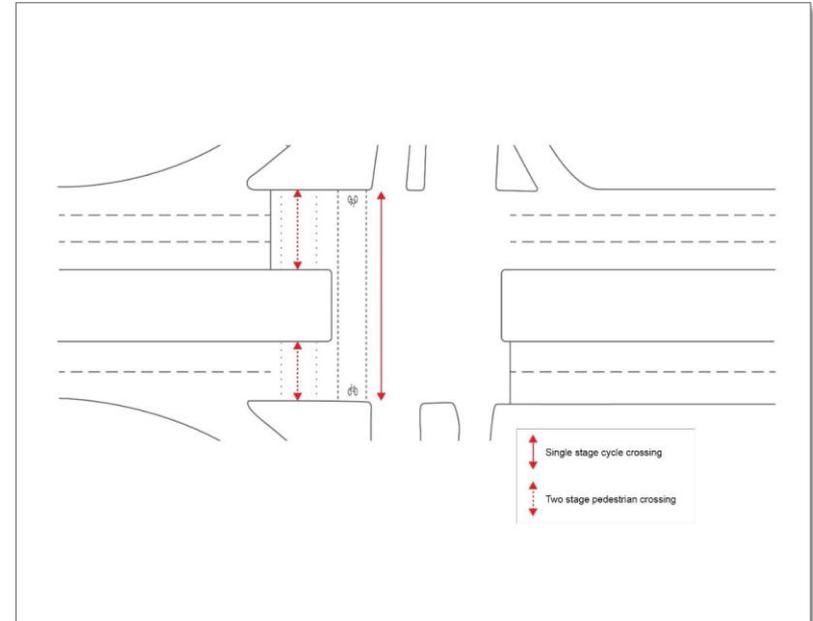
# Tracks required at higher traffic speeds

**Table 2.2.2 Minimum provision for cycle routes**

<b>Speed Limit (mph)</b>	<b>Motor Traffic Flow (AADT-Average Annual Daily Traffic)</b>	<b>Minimum Provision for Cycle Routes</b>
40 and over	All flows	Cycle Tracks (excluding stepped cycle tracks)
30	0-5,000	Cycle Lanes
	>5,000	Cycle Tracks
20	<2,500	Cycle Streets or Quiet Streets: combined traffic
	2,500-5,000	Cycle Lanes
	>5,000	Cycle Tracks

# Crossings

- Preferred and possible crossing types, based on Speed Limit, Flow, No. Lanes Crossed.
- Eg 50mph, >10000 AADT, any width
  - Grade Sep preferred, signals possible
- Staggered crossings shall not be used



# Local Cycling and Walking Infrastructure Plans

What are they and why are they important?

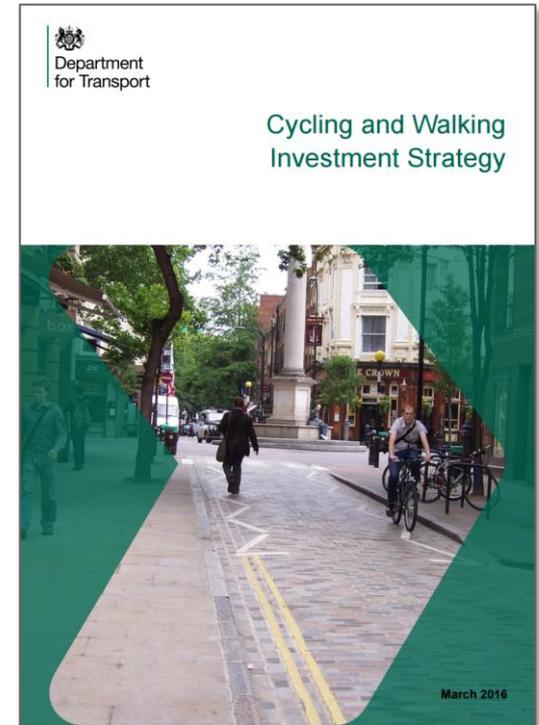


# Draft Cycling and Walking Investment Strategy

Department for Transport, March 2016

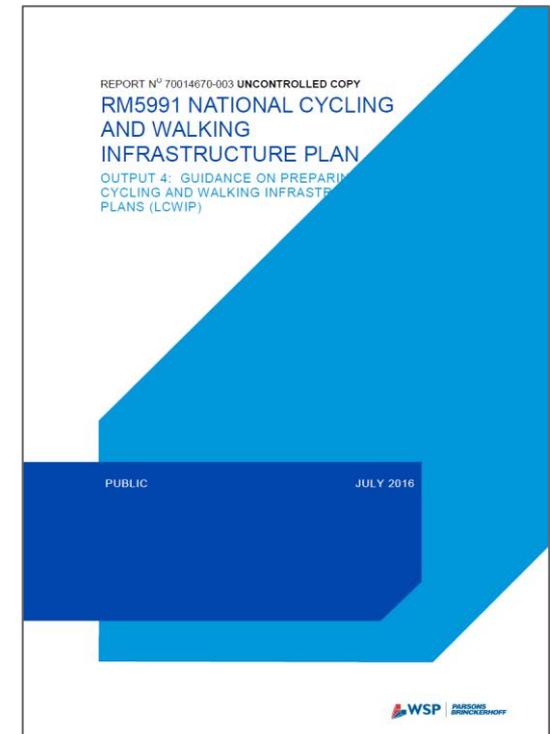
8.1 – ...In the coming year we will focus on four key areas that support the delivery of our ambition, targets and objectives for cycling and walking;...

- We will help local bodies that are serious about increasing cycling and walking in their local areas, to take a more strategic approach to improving conditions for cycling and walking, issuing guidelines on the preparation of **Local Cycling and Walking Infrastructure Plans (LCWIPs)** and supporting the production of LCWIPs in areas with significant potential for high levels of cycling and walking



# Forthcoming guidance

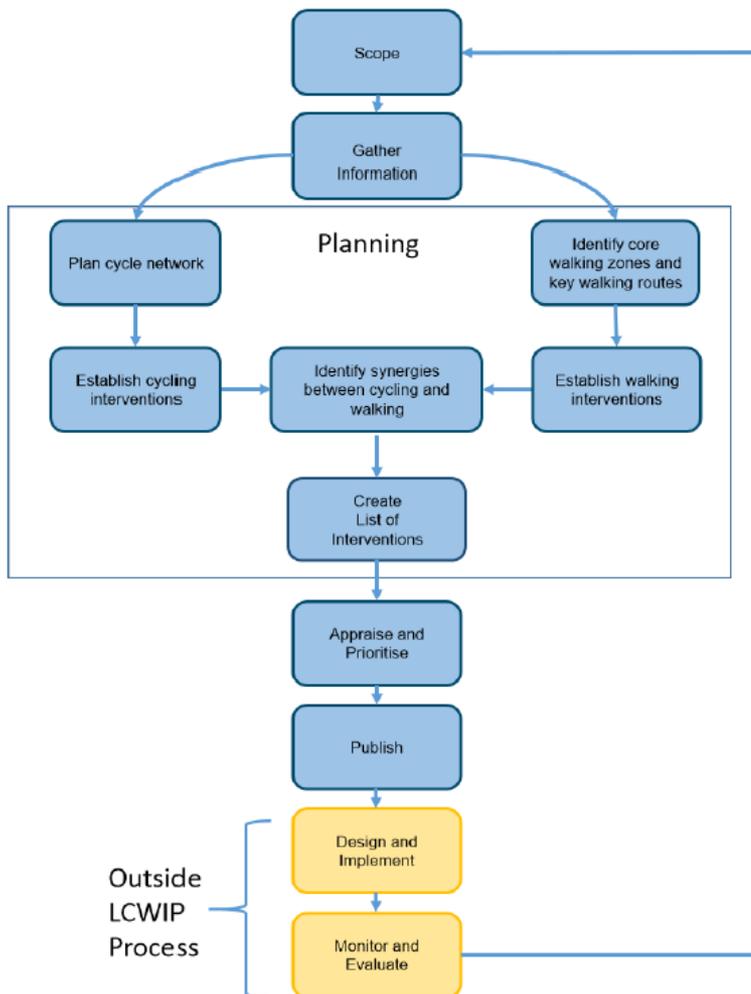
- Good practice guidance for authorities to produce sound strategies that make good case for funding
- Scope is **Infrastructure** only (including traffic management measures)
- However, infrastructure investment most effective when blended with complementary measures, delivered by wider cycling/walking strategies
- Expect DfT to encourage local authorities to produce LCWIPs



## Aims of the Process

- Cycling – to develop a planned **network** linking key origins and destinations, with provision depending on speed and volume of motor traffic
- Walking – to provide high-quality walking **environments**





## The process:

- Common Scope/Data Gathering
- Separate planning for cycling and walking
- Look for synergies
- Engage, Prioritise, Publish

# Scoping Stage

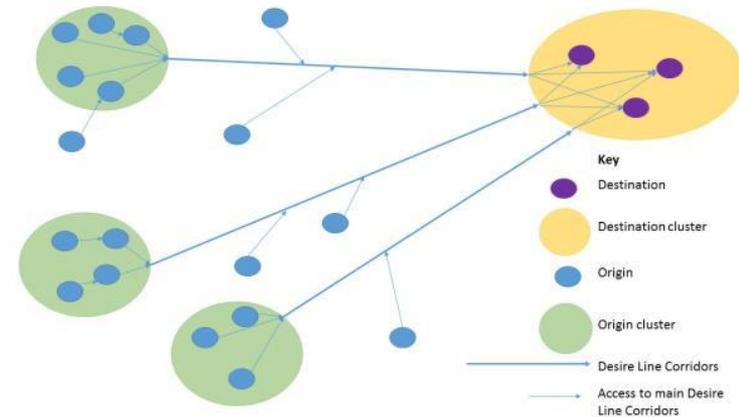
Scoping

- Led by the LEP where possible to obtain early involvement/commitment
- Set the geographical extent (Local Authority, LEP, Combined Authority)
- Decide on study model accordingly – is there a need to liaise with neighbouring Local Authorities?



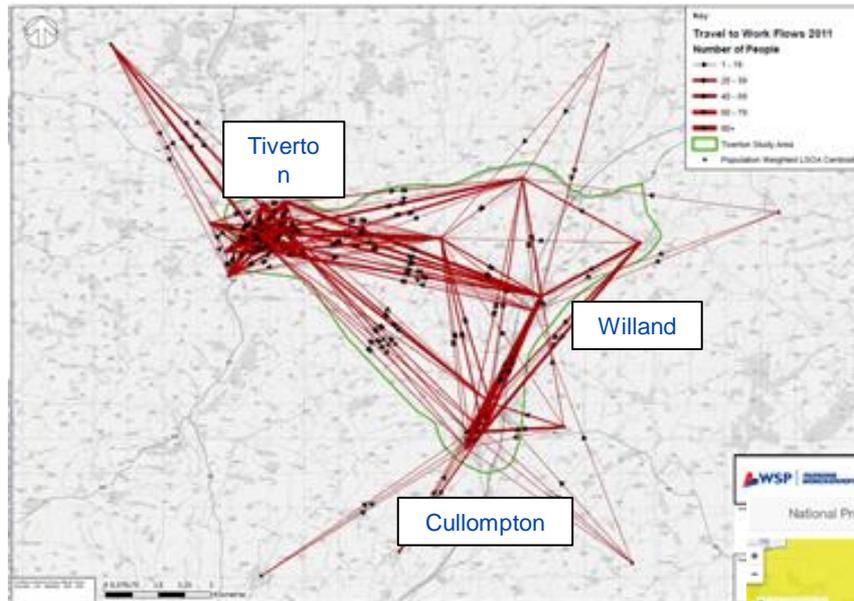
## Planning the Network

- Map key origin and destinations
- Cluster these points if necessary
- Identify desire line corridors
- Identify cycle route type (primary, secondary, local)

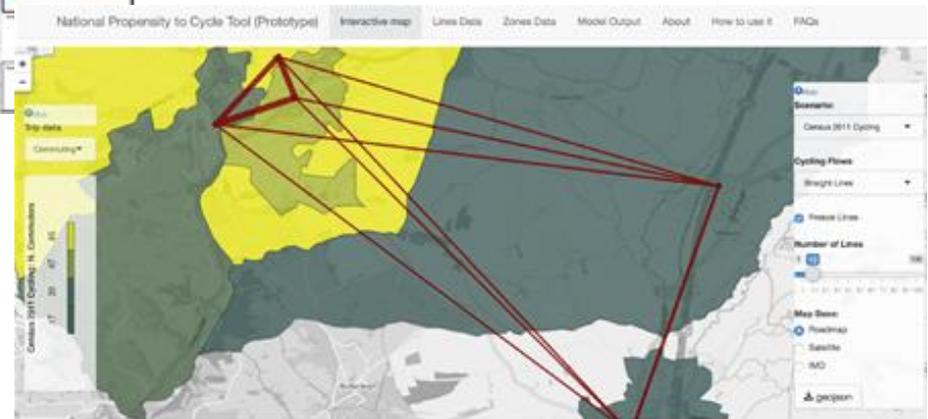


# Key Corridor Assessment

GIS analysis



National Propensity to Cycle Tool



# Route Choice Tool

- Enables quick assessment of route options in structured way
- Based on simple measures of 4 of 5 'Dutch' attributes, plus gradient, presented on spider plot
- Also number of existing safety critical junctions
- Comments on deliverability and cost

## Route Choice Tool - Summary of Results

Route Name	University to Town Centre	
Overall Length	2.6km	
	<b>Performance Scores</b>	
<b>Criterion</b>	<b>Existing</b>	<b>Potential</b>
Directness	3.0	3.0
Gradient	2.6	2.6
Safety	2.6	4.6
Coherence	2.8	2.8
Comfort	2.6	4.4
	University to Town Centre — Existing — Potential 	
	Number of Existing Critical Junctions/Crossings <span style="float: right;">3</span>	
Description and Deliverability of Improvements	Stepped cycle tracks required along route - 20 car parking spaces to be removed.  Seperate cycle signals required at 3 junctions	
Indicative Cost	£1.8m	

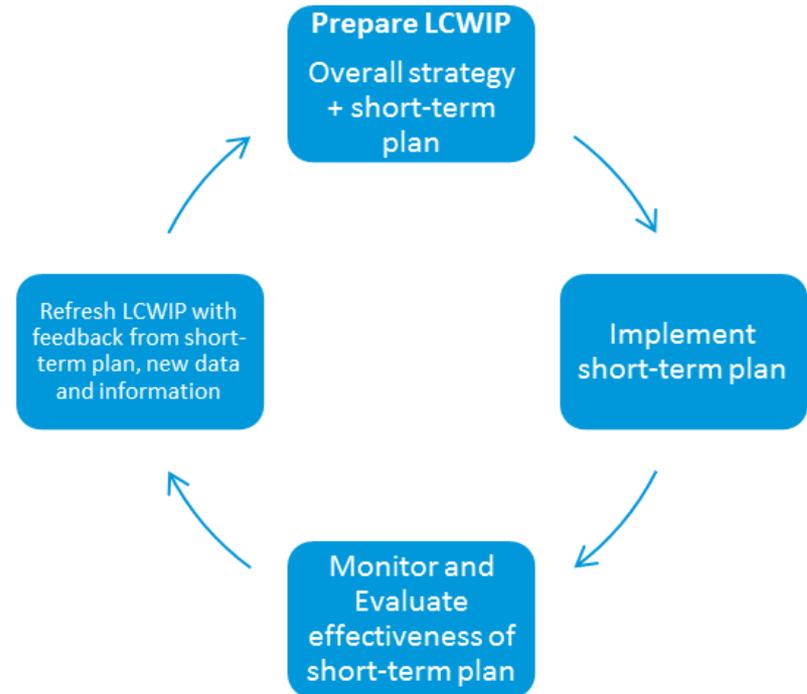
# Integration with Land Use Planning

- Expect that LCWIPs will be referred to in National Planning Practice Guidance
- Planning Authorities advised to give the LCWIPs 'weight' by making:
  - a Supplementary Planning Document,
  - an Area Action Plan, or
  - adoption as development control policy by the LPA and/or LHA



# Start again!

- Review progress against the plan
- Re-commence the analysis process
- Incorporate:
  - Learnings
  - New funding streams
  - New developments
  - Changes in transport behaviour
  - Changes in transport policy



# When?

- LCWIP guidance expected October 2016
- Along with final CWIS
- LCWIP is central to DfT's ambitions...

To complement the Strategy, a supporting programme of work has been developed on behalf of DfT...This work will enable those local authorities' and local bodies that wish to, to use the framework and guidance to develop their own **Local Cycling and Walking Infrastructure Plans** and strategies to put them in **a strong position to access funding** that is already out there, such as the Local Growth Fund and the Integrated Transport Block.

(From the job description of the Chair of the CWIS Expert Committee)

**Thanks**



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