

# The Art of Good Design

A blurred photograph of three cyclists riding across a city intersection. The cyclist in the foreground is a woman wearing a bright pink dress and riding a red bicycle with a brown basket. Behind her are two other cyclists, one in a red shirt and one in a blue shirt. The background shows a city street with traffic lights, trees, and a clear blue sky.

Labour Walks & Cycles Conference

1<sup>st</sup> February 2025

# Hello!



## Mark Philpotts

Chartered Civil Engineer, working as a sustainable mobility design specialist for the last decade.

30 years' experience in the public and private sectors, mainly in highways.

Founded City Infinity in 2017, full time in 2024.

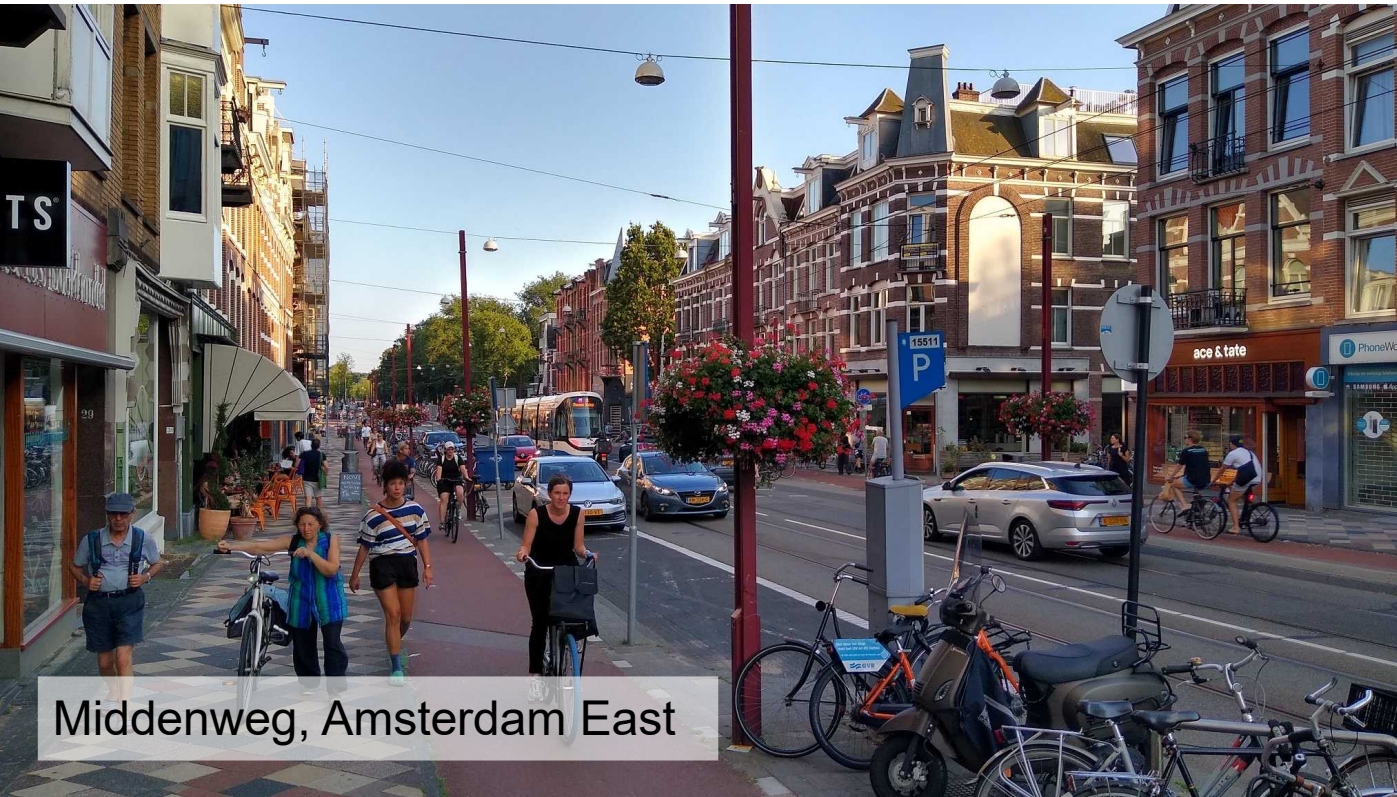
Blogs and writes as The Ranty Highwayman.

On Bluesky, Mastodon and YouTube:

- @rantyhighwayman
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# Agenda



Middenweg, Amsterdam East

- Three mini-topics
  - Law, standards & guidance.
  - Network management.
  - The human dimension.
- Good stuff from the UK, showcasing the tools in the box.
- Only one Dutch photo!

# Law, Standards & Guidance

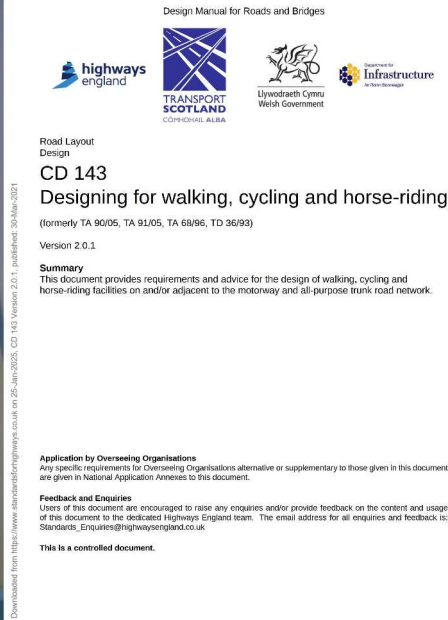
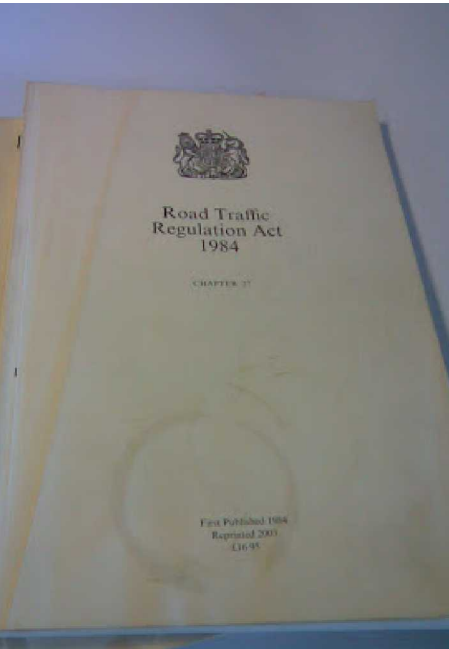
People like to quote law, standards and guidance, so what is the difference between them?



Monsieur Nugget de Poulet



# Law, Standards & Guidance



Law – Give duties and powers to fulfil those duties. Failure to comply give criminal and/or civil liabilities.

Standards – Prescribes how things should be done to ensure consistency?

Guidance – Gives advice on how the other two can be achieved?

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# Law, Standards & Guidance

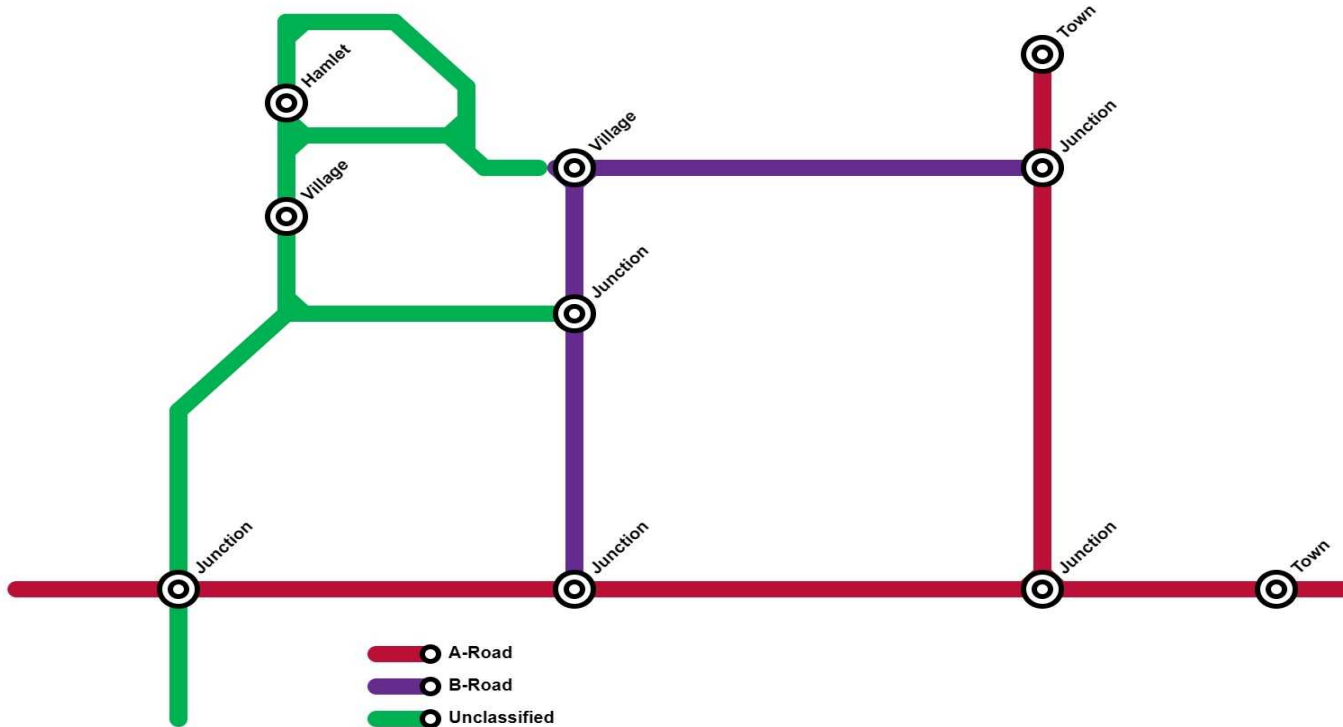


Beware the cherry pickers!

- Minimums for space.
- Back street routes which don't deal with traffic.
- Shared-use paths as a starting point.
- Switching between the documents.
- Effective (usable) width forgotten.
- Too many toucans.



# Network Management



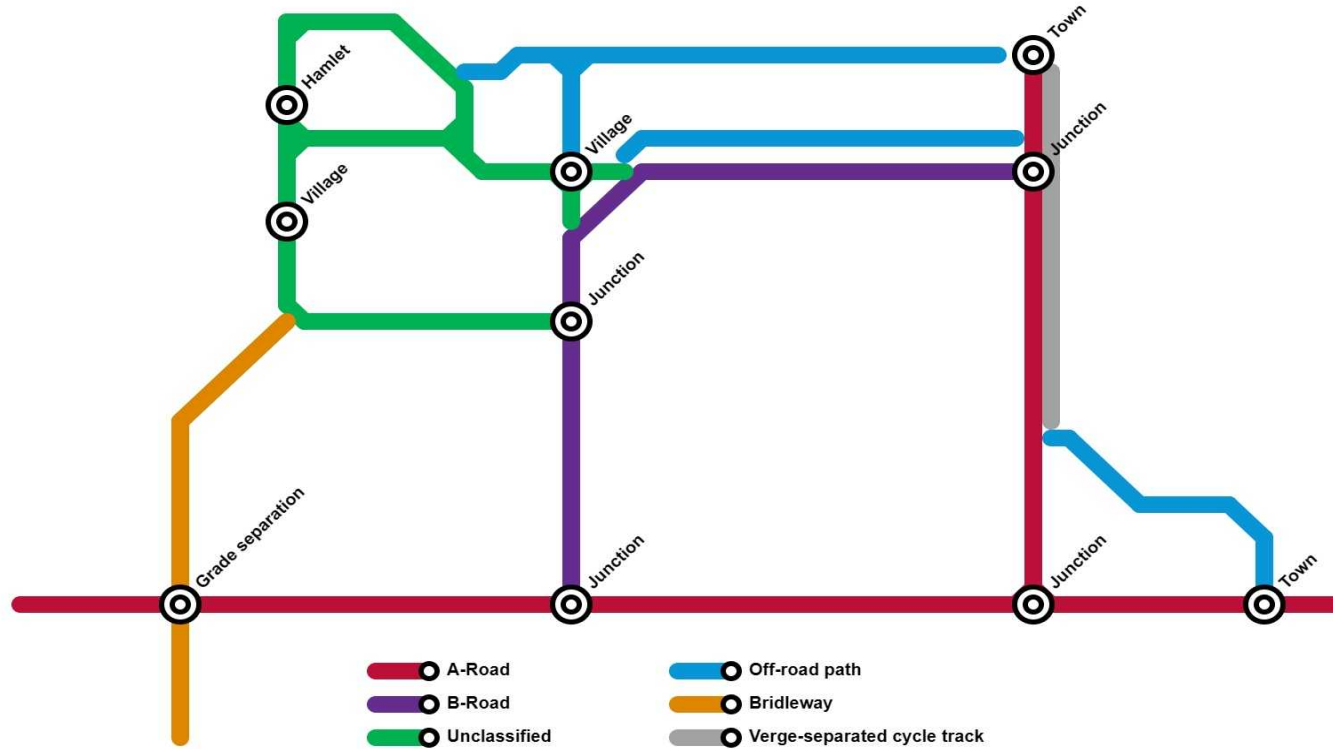
Most stuff out on the streets and roads is **motoring** infrastructure when you think about it.

The motoring network goes pretty much everywhere.

The walking network is largely confined to urban places and can be poor at times.

The cycling network is largely absent from the UK.

# Network Management



We need to think about developing and **designing** walking networks and cycling networks.

What we do when the three modes cross, interact or conflict is where the art of good design comes in.

- Network design
- Route design
- Local design



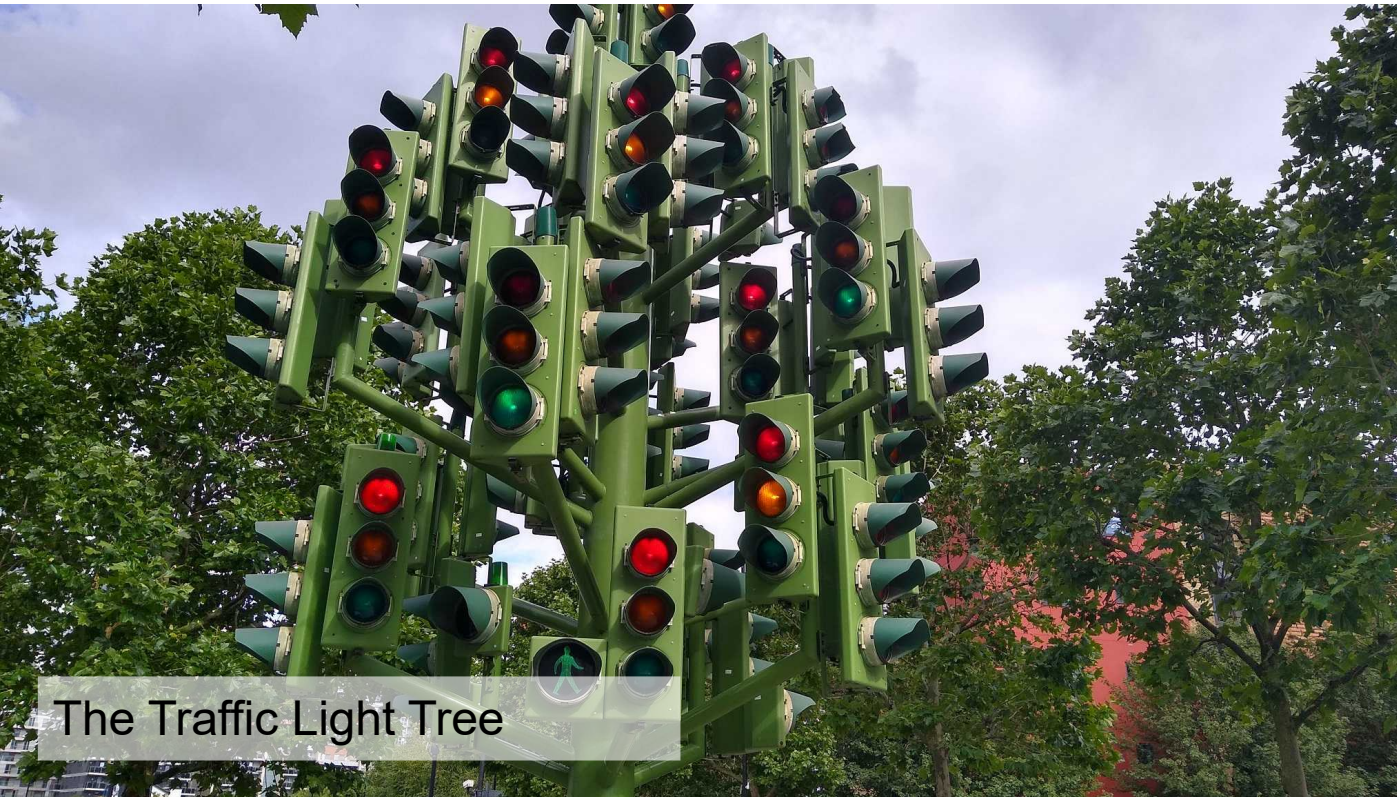
# Network Management



People cycling want to get places which can create frictions in town centres.

- Give people passing through quicker (and safe) routes.
- Draw on the extensive research into the mixing issue.
- The gig economy is tough.
- A PSPO is a failure.

# The human dimension



The Traffic Light Tree

Why do cyclists jump red lights?

- It takes energy to get going again – 75m to 100m of cycling.
- Escaping vulnerability being near motor vehicles.
- Not being detected.
- People being people.

What are traffic signals for?



# The human dimension



Basic footway provision

Walking, wheeling and cycling is often a social activity where people need space to move side by side and maybe pass slower people comfortably.

If you take people from their desire line in space or time, don't be surprised when they do what they want to do.

# The human dimension



Most traffic signs are motoring infrastructure

Walking, wheeling and cycling are human-scale modes, requiring our own energy, both physical and mental.

“Bad” behaviour is a sign that motor traffic is probably getting too much priority.

Most controls on the street are for the management of motor vehicles.



# Good stuff from the UK



Entrance kerb, Coventry

- Links
- Junctions
- Crossings
- LTNs
- Complementary measures

Think about the network-level design as we go.



# The five pillars of design – a reminder



Histon Road, Cambridge

- Safe
- Comfortable
- Coherent
- Direct
- Attractive

These apply to walking, wheeling and cycling.

The art of design is managing the interactions and frictions.



# Luxurious links



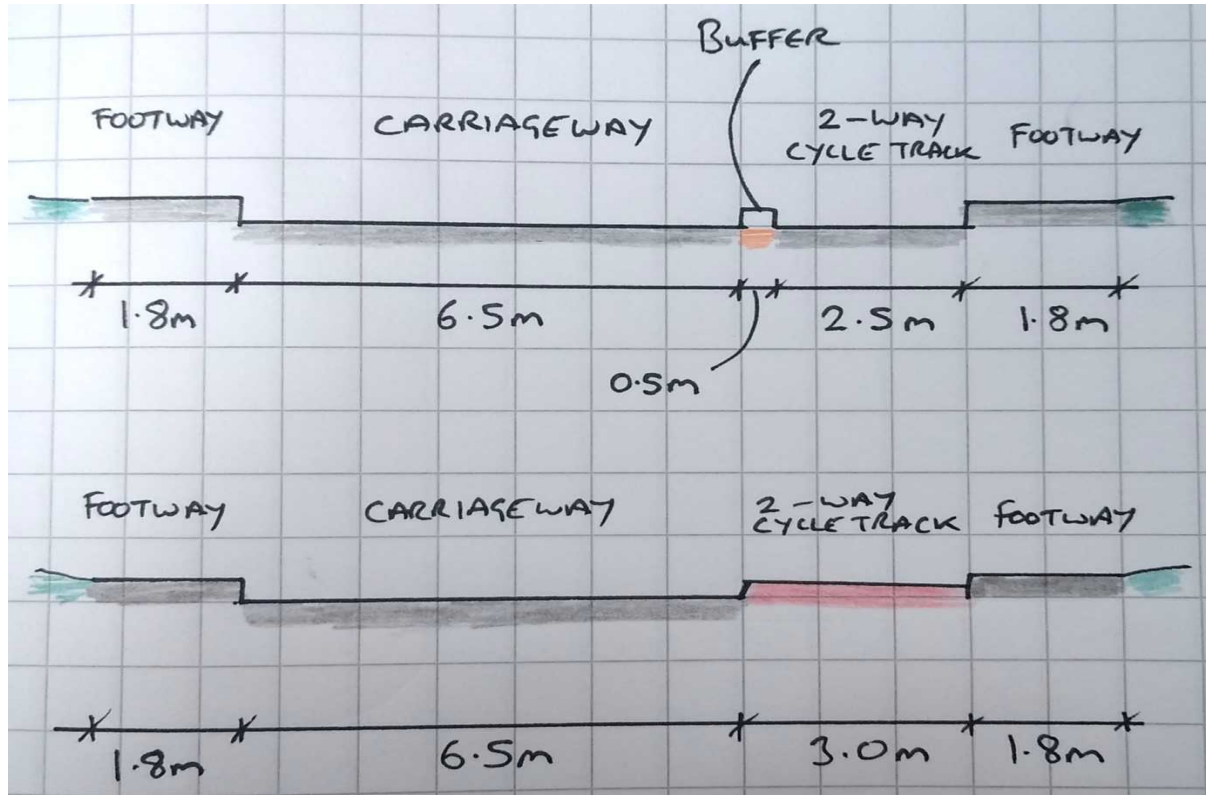
Flame Tree Path, Havering

Links are often thought about as “the bits between junctions” but we shouldn’t forget that we might also mean “the bits that connect places”.

If we are delivering walking, wheeling and cycling networks which are unravelled from motoring networks, we will make use of both concepts.



# Luxurious links



We'll be retrofitting existing roads and streets which will need different design responses to different contexts.

Some of our solutions will be at the network level as we decide what is our priority for any given link.

The balance of aspiration, space and budget is a constant juggling act.

# Luxurious links

Where links coincide with motor traffic, its speed, volume and composition will guide our solutions.

People don't want to mix with lots of fast-moving motor traffic.

Most solutions are motoring infrastructure!

Figure 4.1 – LTN 1/20 – Appropriate protection from motor traffic on highways.

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Speed Limit <sup>1</sup>	Motor Traffic Flow (pcu/24 hour) <sup>2</sup>	Protected Space for Cycling			Cycle Lane (mandatory/ advisory)	Mixed Traffic
		Fully Kerbed Cycle Track	Stepped Cycle Track	Light Segregation		
20 mph <sup>3</sup>	0					
	2000					
	4000					
	6000+					
30 mph	0					
	2000					
	4000					
	6000+					
40 mph	Any					
50+ mph	Any					

- Provision suitable for most people
- Provision not suitable for all people and will exclude some potential users and/or have safety concerns
- Provision suitable for few people and will exclude most potential users and/or have safety concerns

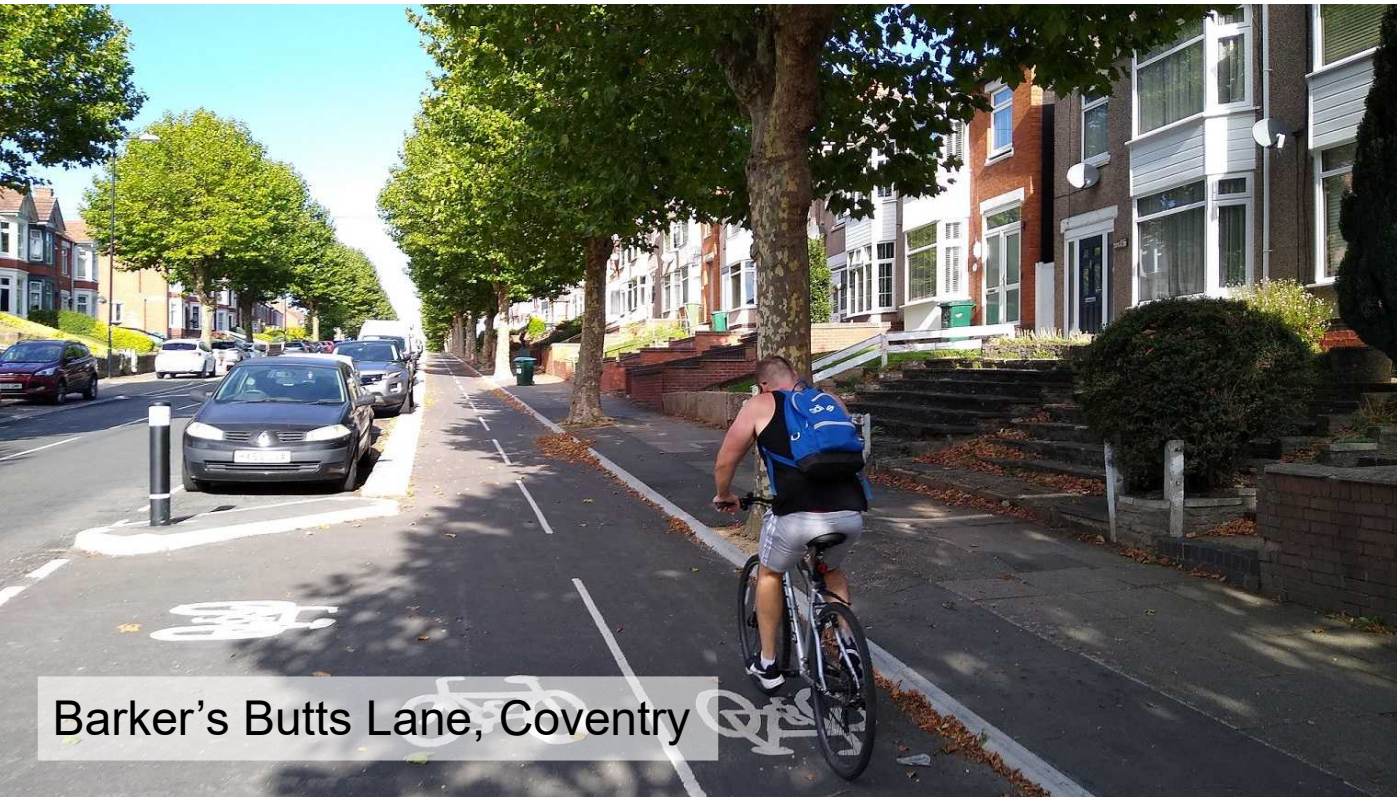
Notes:

1. If the 85<sup>th</sup> percentile speed is more than 10% above the speed limit the next highest speed limit should be applied
2. The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow
3. In rural areas achieving speeds of 20mph may be difficult, and so shared routes with speeds of up to 30mph will be generally acceptable with motor vehicle flows of up to 1,000 pcu per day





# Luxurious links



Walking, wheeling and cycling need the basics done right.

- Wide enough for social movement
- Space to pass
- Space to stop
- Separated space
- Side street priority
- Smooth surfaces

# Luxurious links



Embankment, Westminster

- Buffers from heavy traffic
- Shade
- Things to see and do
- Places to rest
- Gentle transitions
- Self-explaining
- Contrasting space



# Luxurious links



Angel Way, Romford

- Uncluttered
- Detectable & safe kerbs
- Good drainage
- Protection from spray
- Good lighting
- Unpolluted (noise and air)
- Consistency



# Luxurious links



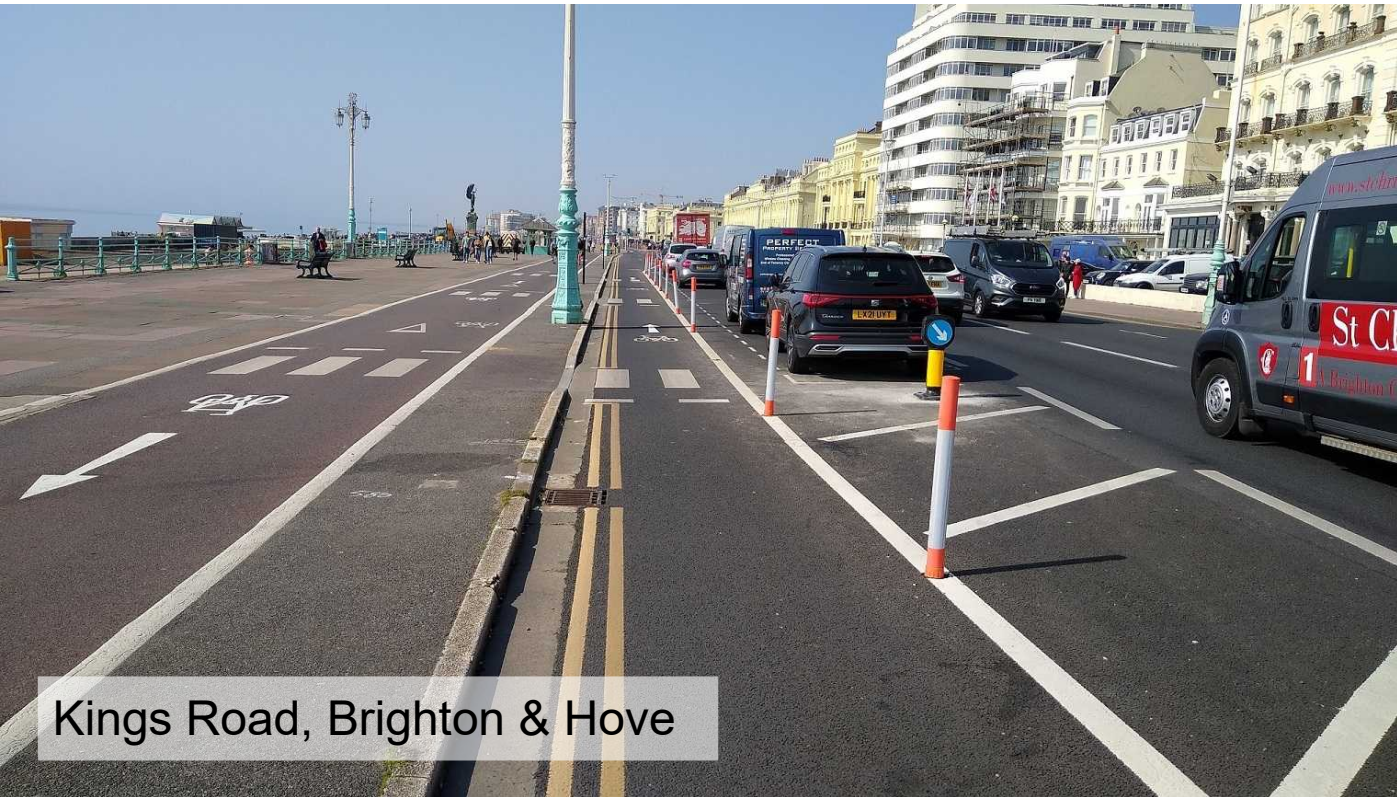
Kingsway, Stretford

Space on links can become contested, especially kerbside access. Things to consider.

Who or what is our priority?

- Buses,
- Taxis,
- Blue badge users,
- Loading,
- General car parking.

# Luxurious links



Kings Road, Brighton & Hove

People with mobility and sensory impairment and neurodiverse people have different and sometimes overlapping or conflicting needs which designers must carefully account for.



# Luxurious links



Kent Street, Birmingham

**But what if there is no space?**

There is always space to do something if we're willing to work hard, but it might require changes at the network level to help us at the street level.

It means dealing with motor traffic to release space for walking and cycling.



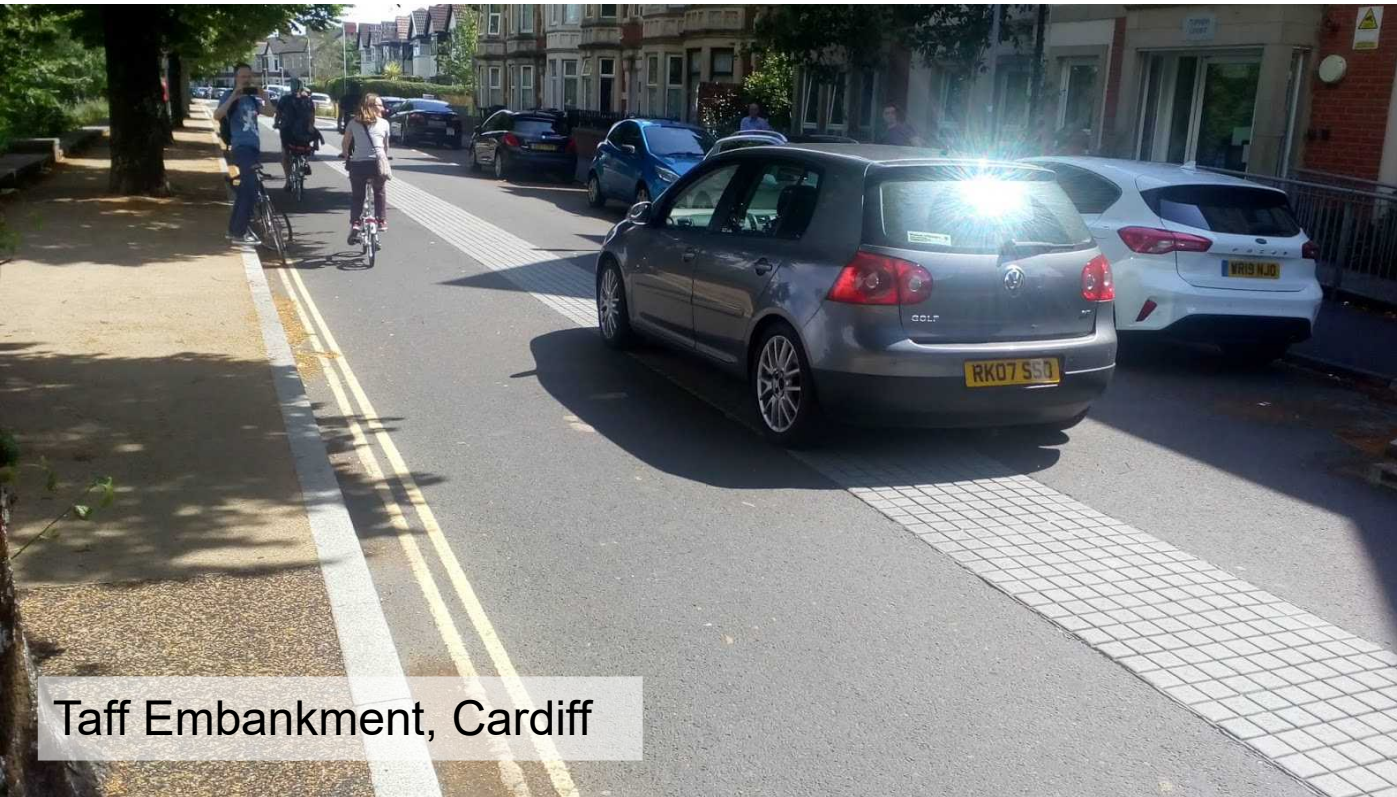
# Luxurious links



Francis Road, Waltham Forest

It might also mean working within a network-level hierarchy which puts walking, wheeling and cycling first with buses next and other vehicles if possible.

# Luxurious links



Taff Embankment, Cardiff

For **main cycle routes** within a proper network, we can borrow (with care) the Dutch “cycle street” concept.

Useful where we can get cycle to motor flows of 4:1 and with a street layout that supports cycling and tells drivers they are **guests by design**.



# Joyous Junctions

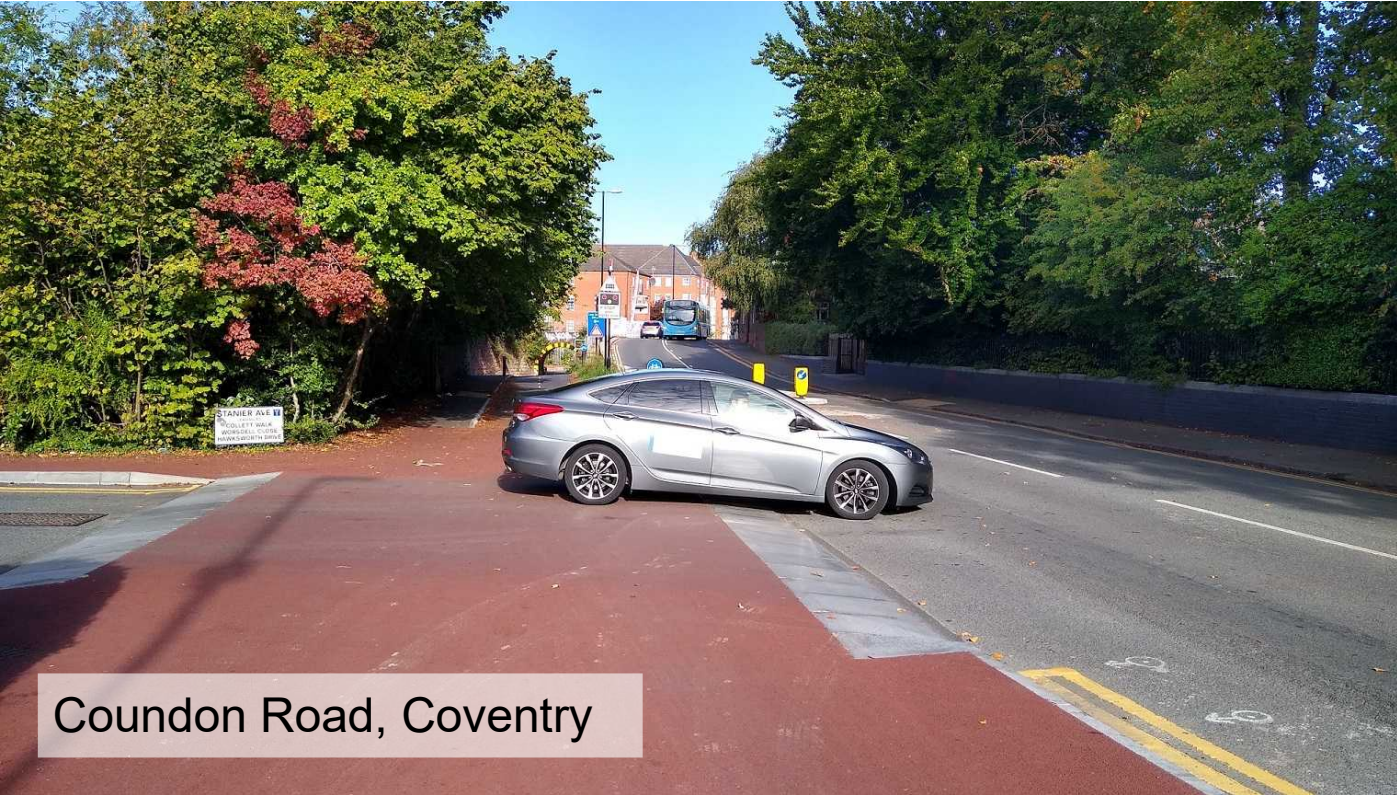


Victoria Road, Glasgow

The **real** adventures in space and time!

- Key points of interaction, friction and conflict.
- Both objective and subjective safety are important.
- All the needs for safety, comfort, directness, coherence and attractiveness.

# Joyous Junctions



Coundon Road, Coventry

- For low traffic places, tight junctions to keep things slow.
- For busier traffic conditions, separate the streams!
- Continuous treatments need to be done right.



# Joyous Junctions



- Ban traffic movements to reduce turning conflicts.
- Filter side streets to remove turning conflicts!



# Joyous Junctions



Marked priority for when we're a little busier, but not enough to need heavier controls.

- Cycle priority crossing.



Cable Street, Tower Hamlets

- Parallel crossing, set back or not set back, that is the question.

# Joyous Junctions



Judd Street, Camden

Separate cycle phases.



# Joyous Junctions



Baylis Road, Lambeth

Cycle gate for heavy traffic turns.

- Need a bit of space.
- Always stop.

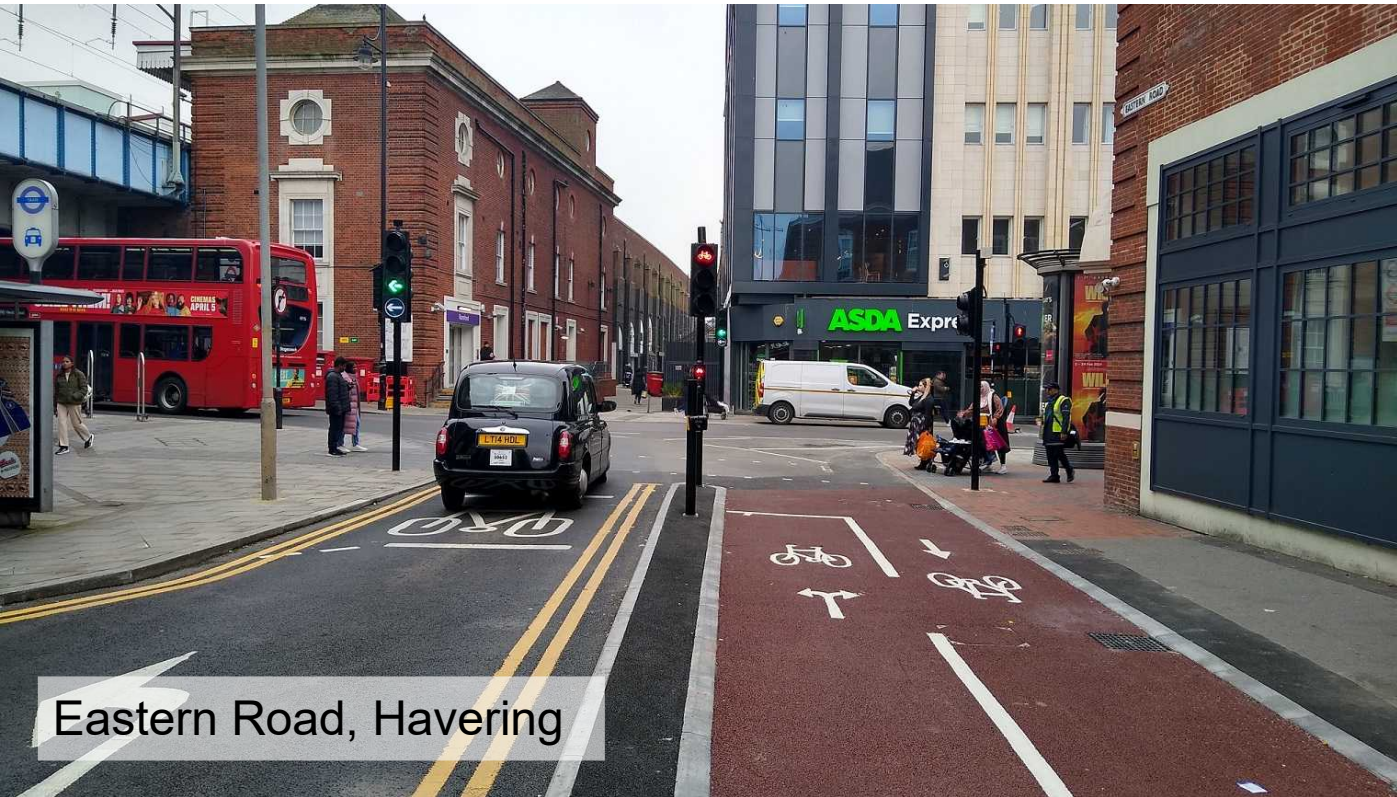
# Joyous Junctions



- Offside cycle gate from a two-way cycle track with an oncoming movement.



# Joyous Junctions



Two-way cycling in a one-way streets should be the norm, but higher motor traffic flows or mixing with large vehicles demands protection.

# Joyous Junctions



Mansell Street (again), City of London

Two stage right turns.

Either on their own or with other layouts.



# Joyous Junctions



Battersea Park Road, Wandsworth

The busiest locations will require signals and there are lots of options for protecting people through major junctions.

- Hold the left turn.

# Joyous Junctions

- Holding turns to allow a two-way cycle track to run with main road traffic.



New Town Row, Birmingham



# Joyous Junctions



Forest Road, Waltham Forest

Circulating Stage Cycle Junctions.

- Dutch-style “innie”.

# Joyous Junctions



Chorlton Road, Manchester

- Manchester-style “outie”.
- AKA CYCLOPS - Cycle Optimised Protected Signals.



# Joyous Junctions



Fendon Road, Cambridge

Dutch-style roundabouts.

- Use with extreme care.
- Just two in the UK.



# Joyous Junctions



Drayton Park, Islington

- Dutch-ish roundabouts.
- Inspiration for tight spots.



# A Couple of Cool Crossings



Liverpool Road, Islington

Parallel crossings (again).

- Has been used a bit as a toucan on the cheap, but some designers have embraced the extra tool in the box.
- The 400mm fixed gap is annoying though.

# A Couple of Cool Crossings



Medlock Street, Manchester

- The unofficial SPARROW crossing.
- Signalised Parallel Crossing.
- The modern toucan.



# Lovely Low Traffic Neighbourhoods



Stoke Newington Church Street, Hackney

- Flexible use of camera-managed modal filters.
- Bollards are more powerful than cameras.

# Lovely Low Traffic Neighbourhoods

- Reimagine the space.

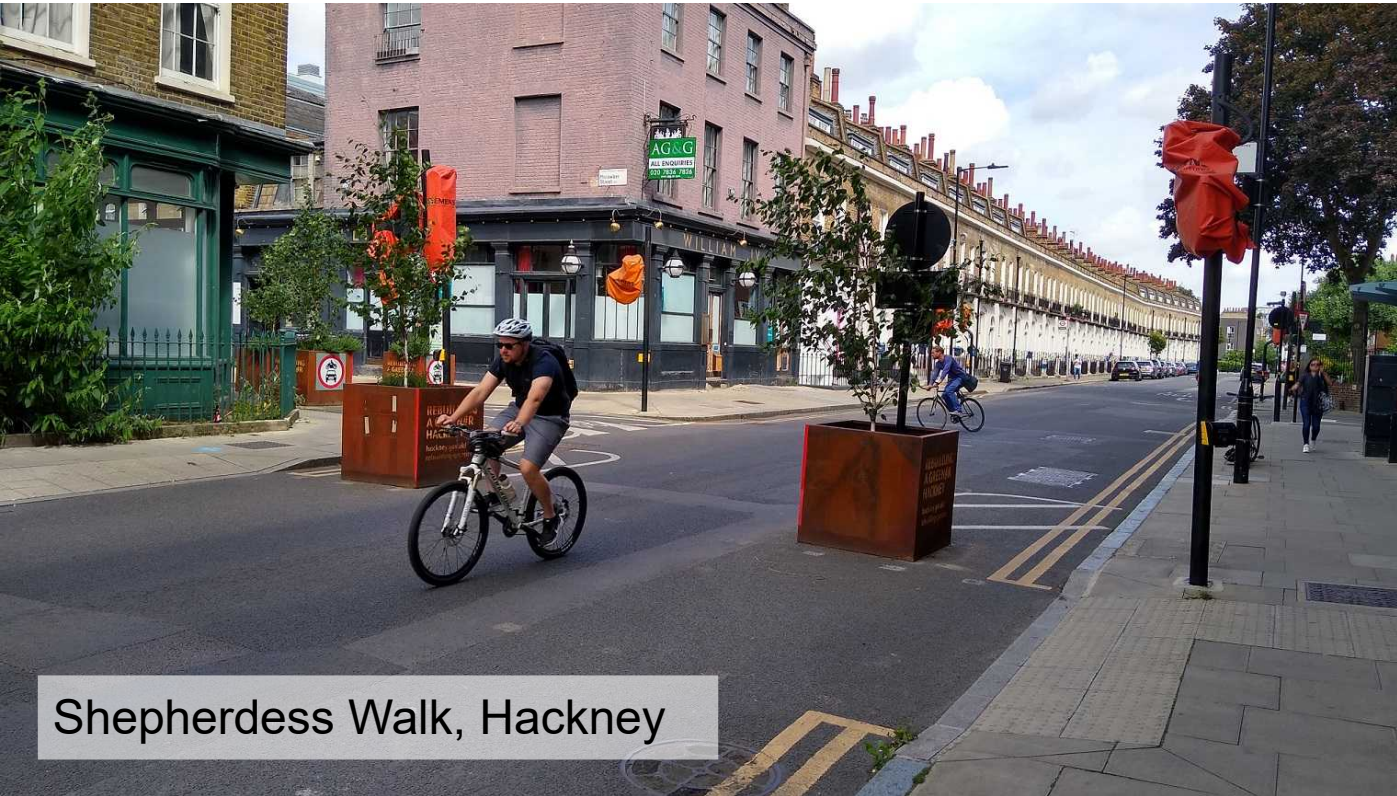


Shakespeare Road, Lambeth



# Lovely Low Traffic Neighbourhoods

- Put the (motor) traffic signals out of a job.



Shepherdess Walk, Hackney

# Lovely Low Traffic Neighbourhoods

- Give those bollards some love.



Fitzhamon Embankment, Cardiff



# Lovely Low Traffic Neighbourhoods



- Diagonal dividers.

# Lovely Low Traffic Neighbourhoods



Ross Street, Cambridge

- Contraflow cycling.



# Lovely Low Traffic Neighbourhoods

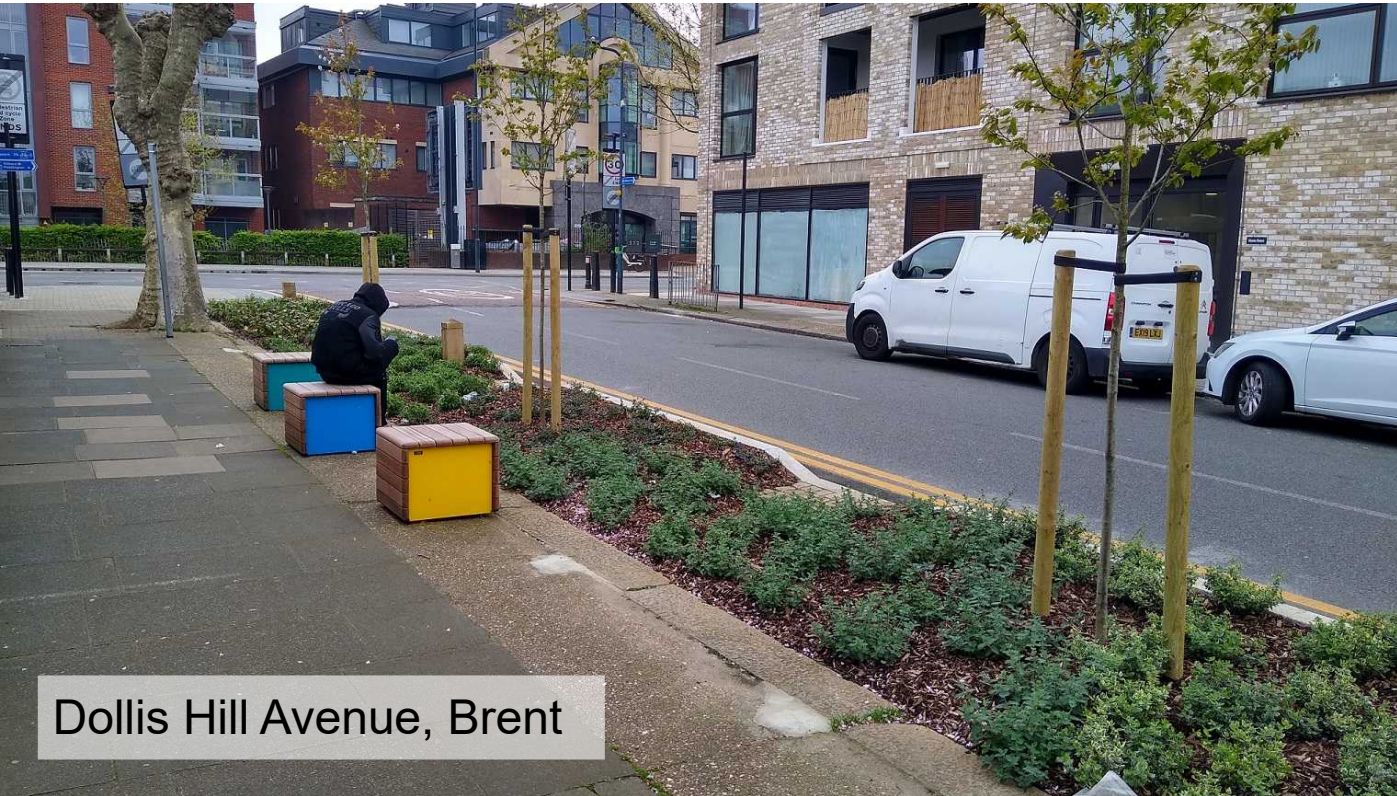
- Go big or go home.



Gordon Square, Camden

# Classy Complementary Measures

- Reclaiming a bit of carriageway space.

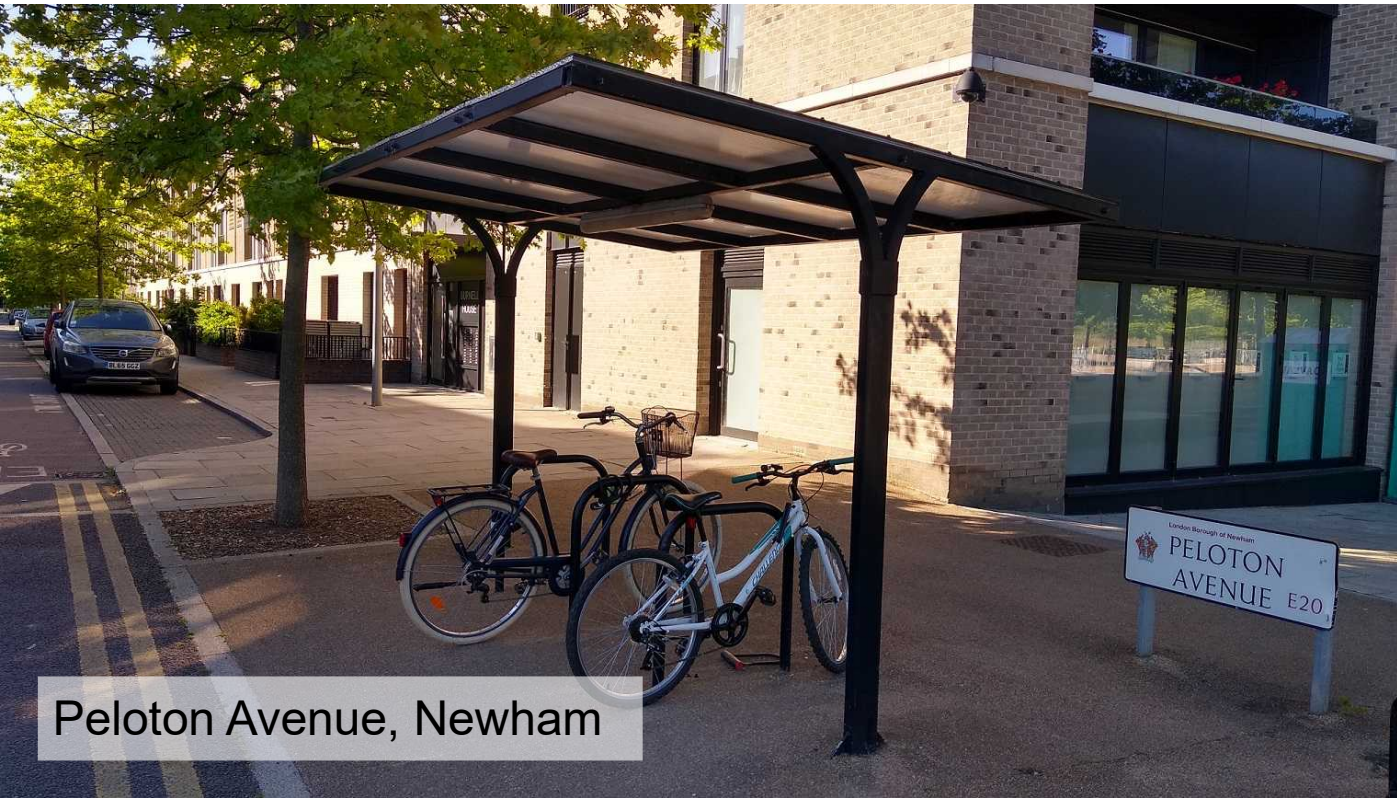


Dollis Hill Avenue, Brent



# Classy Complementary Measures

- The best short stay cycle on-street cycle parking I've ever seen.



Peloton Avenue, Newham

# Classy Complementary Measures



Atlantic Road, Lambeth

Seating is the unsung hero of street design.

- Vision impaired people 150 metres.
- Walking stick and cane users 50 metres.
- Mobility impaired people without a walking stick 100 metres.



# Classy Complementary Measures



The Cut, Lambeth

- Micro-mobility can help people travel, but it can cause problems if dockless machines are left on footways.
- Repurpose that kerbside.

# Classy Complementary Measures



Main Road, Havering

- It's the little things.
- Blueton rest.



# Classy Complementary Measures



Australia Road, Hammersmith & Fulham

- From road to park, the ultimate school street.
- And that's us just about done.
- Be bold.
- Discussion time.



- Barrier removal
- Bus stop accessibility
- Crossings – assessment and design
- Clutter – audit and review
- Cycle track design
- Design review
- Experimental traffic projects
- Filtered permeability
- Led site visits
- Optioneering and concept design
- Parking management design,
- Side road entry treatments
- Small scale sustainable drainage (SuDS) design,
- Walking and cycling audits,
- Walking, wheeling and cycling friendly junctions.



**Thank you!**  
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