High Quality Infrastructure for Walking & Cycling

Martin Philpott – Senior Engineer
Existing Road Networks

Traffic Dominated

Safer to drive  Lack of space
New Infrastructure

Success

Time

Investment
CONNECT 2 PROJECT

84 Schemes across the UK
Resolve connectivity barriers to walking and cycling
£50M from BIG Lottery became a portfolio worth £165M

Bold decisions from local politicians
Walking and cycling needs to have higher priority
What happens

Planners

Highways Engineers
The way forward

Planners

Highways Engineers

Public Health
5 Questions to ask planners

Are new developments prioritising walking and cycling over car use?

How do new developments affect the need to travel to work, to school, to amenities?

How do new developments impact upon existing walking and cycling networks?

What opportunities do these provide to extend & develop walking & cycling networks?

Cycle parking and signing may seem trivial but they help to “sell the idea” of sustainable travel?
Dealing with Highways Engineers

We do it this way..

It’s the regulations…

It’s the DfT…

Maintenance issues

(DEEP intake of breath)...safety auditor won’t like it

Thankfully some Engineers “get it”
Cyclists – Who are they?
## Cyclists

<table>
<thead>
<tr>
<th></th>
<th>Sports riders</th>
<th>Confident commuters</th>
<th>General utility riders, less confident commuters</th>
<th>Vulnerable riders</th>
<th>Older population &amp; leisure riders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riding speed</td>
<td>20 – 30 + mph</td>
<td>15- 20 mph</td>
<td>10 - 15 mph</td>
<td>5 – 15 mph</td>
<td>Easy</td>
</tr>
</tbody>
</table>
Improving levels of highway provision

Dutch introduced 5 criteria for high quality routes

- Coherence
- Directness
- Attractiveness
- Safe
- Comfortable
Coherent routes
Form a single entity
Link all start & end points
Provide continuous levels of provision
Clearly signed easy to follow routes
Allow for future expansion
Signing networks identifies other areas needing work.
Cycle Lanes

1.50m wide minimum
2.0m wide on 40mph roads
0.5m dead zone when alongside car parking

Coloured surfaces are optional.
Advisory are broken line
Mandatory are solid line
Continuous provision

Crossings on desire lines

Use technology

Detector loops on approaches

Priority for pedestrians & cyclists.

Reduce clutter

Push boundaries
Direct

As direct as possible from start to end.
Short distances encourage use.
Contra-flow cycle lanes
Existing desire lines
Structures take time to plan, design and construct
Contraflow Cycling

Direct across town centres

Often misunderstood & seen as a problem

“No Entry – except cyclists”

Widespread on the continent on low speed and low volume roads
Short links

Old industrial sites can be the block to creating a network.

Short links aren’t always expensive to deliver

Vital for a coherent & cohesive network

Short cuts for pedestrians & cyclists
Attractive

Starting and stopping takes effort – priority at crossings
Detector loops on approach paths.
Single stage crossings on bigger roads.
Easy gradients without extensive detours.
Lighting, personal security, aesthetics,
Safe

Routes away from traffic are most popular.
Minimise danger to cyclists and other road users
Not compromising on lanes widths on “on road”
Public perception of safe and actually being safe can differ.
Off road routes

Good quality encourages all user groups

Preferred by women

May require land purchases

May impact on existing utilities

Can be delivered to a high standard
**Comfortable**

Easy access at all times.

Cycle parking needs to be visible.

Well maintained paths and edges

Sealed surfaces encourage all users including mobility impaired

Simple movements at junctions and crossings

Flush kerbing
Bold Thinking needs political support
Zero emission vehicles arrived years ago.