Traffic Engineering with a human touch: Going Dutch

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EVERY JOURNEY MATTERS

Inspiration

Campaigning

Translating Dutch ideas into UK practice

Filtered permeability

Cycle streets

Cycle tracks

Bus stop treatments

Adopting Dutch Principles

2005 - 2012

- Fast
- Safe
- Comfortable

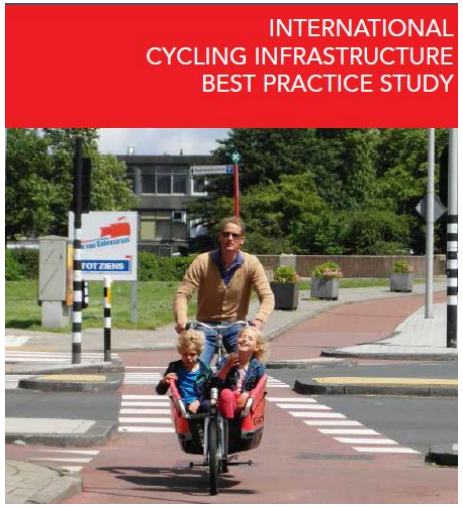
2012 - present

- Direct
- Safe
- Comfortable
- Coherent
- Attractive
- Adaptable

Legislation and interpretation

Common Dutch Techniques – Junctions

- J1 - Advanced stop-lines
- J2 - Cycle-specific signals
- J3 - Two-stage opposed turns
- J4 - Measures to minimise 'left hook'
- J5 - Cycle exemptions at red signals
- J6 - Simultaneous greens for cycles
- J7 - Cycle-friendly roundabouts
- J8 - Parallel pedestrian & cycle crossings



Before and after, before going Dutch

Cycle specific signals

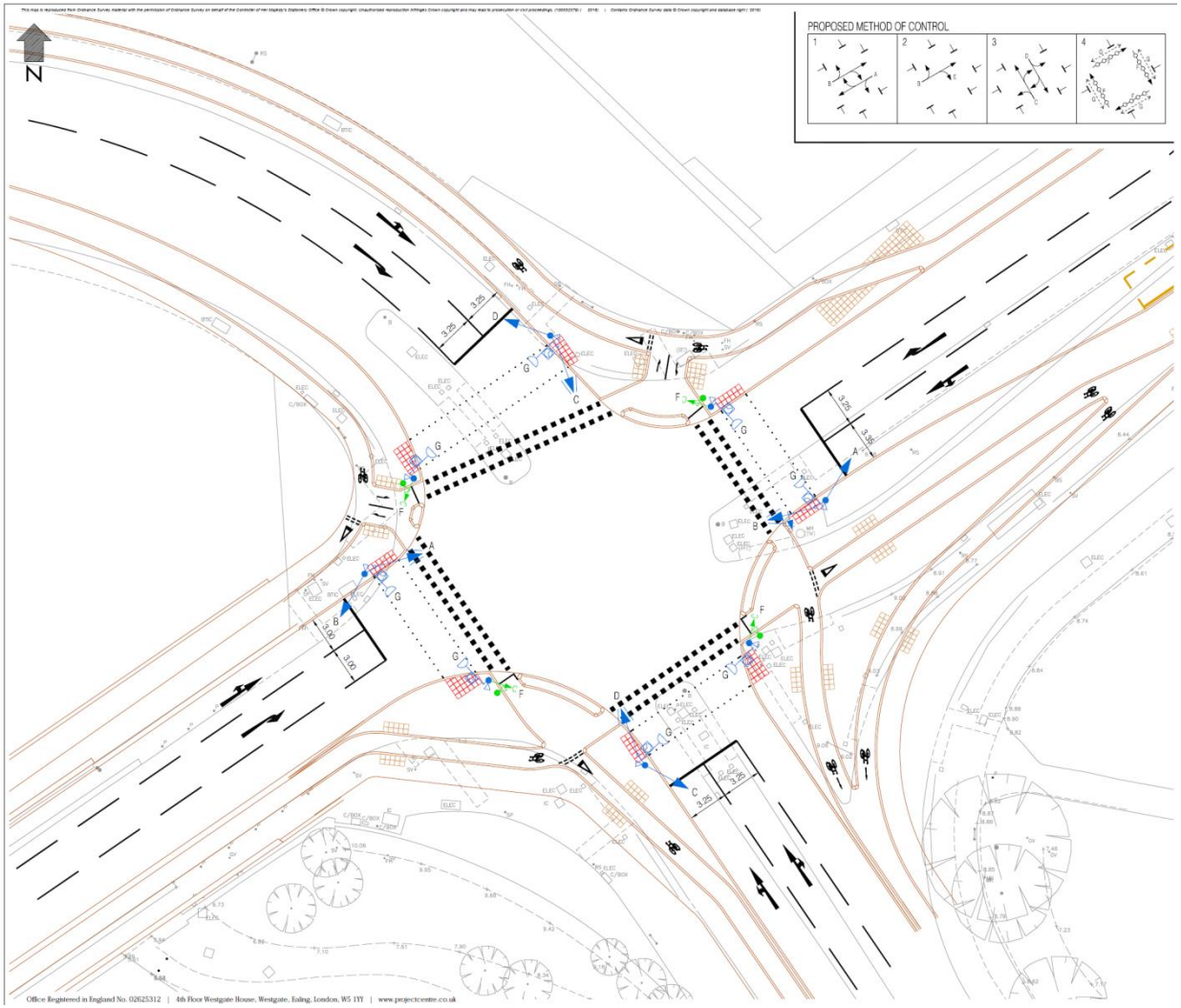
Two stage opposed turns

Measures to minimise left hook (EU right hook)

Cycle exemptions at red signals

Not currently possible under UK regulations

Simultaneous green for cycles



Cycle friendly roundabouts

Parallel pedestrian and cycle crossings

Potential Universal Principles

Cycling should be treated as a serious mass transportation option

...and not just an occasional leisure pursuit

Cycles are vehicles capable of speed

...and so characteristics such as design speed and turning circles need to be incorporated into street design

Table 2.2.3 Design Speed for Off-Carriageway Cycle Routes

Circumstance	Design Speed (kph)	Absolute Minimum Design Speed (kph)
On down gradients of 3% or greater	40	N/A
All other off-carriageway cycle route provision	30	20

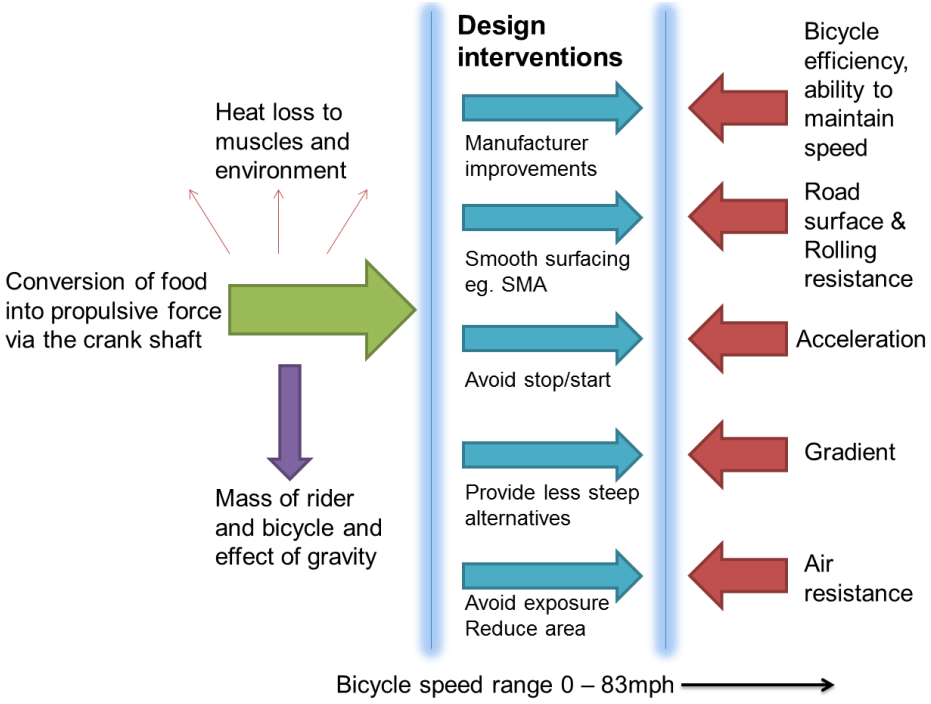
Design Speed (kph)	Minimum Stopping Sight Distance (m)
40	47
30	31
20	17

Design Speed (kph)	Minimum Horizontal Radius (m)
40	57
30	32
20	14

Cycling requires human power generation

$$W = \frac{C_v}{\eta_{mech}}\left\{\sum mg\left[C_r + \frac{s}{100} + \frac{a}{g}\left(1 + \frac{m_w}{\sum m}\right)\right] + 0.5 C_D A \rho (C_v + C_w)^2\right\}$$

...and so designs should attempt to minimise the forces acting against momentum and acknowledge that cyclists come in different shapes and sizes



Cycling is a social activity that should relieve stress

...and so anxiety should be reduced through clarity and side by side cycling accommodated wherever possible

GOING DUTCH

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