

Sheffield Inspiration Study

Sharrow Lane

*"This Inspiration Study is a little opportunity to think **BIG** about how to make walking and cycling easy, attractive, and safe for everybody."*

January 2019

we are
cycling
UK

Witteveen + Bos

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Project Lead:
Jess Read
Project Director:
Martijn Akkerman


Author(s): Amanda Gregor,
Jess Read
Checked by:
Martijn Akkerman
Approved by:
Jess Read

Initials 

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Witteveen+Bos UK Ltd.
Finsbury Business Centre | 40 Bowling Green Lane | London EC1R 0NE | UK | +44 7808 52 89 16 | www.witteveenbos.com | CoC 38020751



Sheffield is a vibrant and growing University city with major challenges of congestion and air pollution.

*What do we need to do to ensure Sheffield stays an attractive place to live, work, visit and study?
Can we tackle these challenges in a way which helps everybody thrive?*

- *36% of children in Sheffield show indications of potential metabolic disease.*
- *Children and babies in Sheffield smoke equivalent of 450 cigarettes/year due to air pollution.*

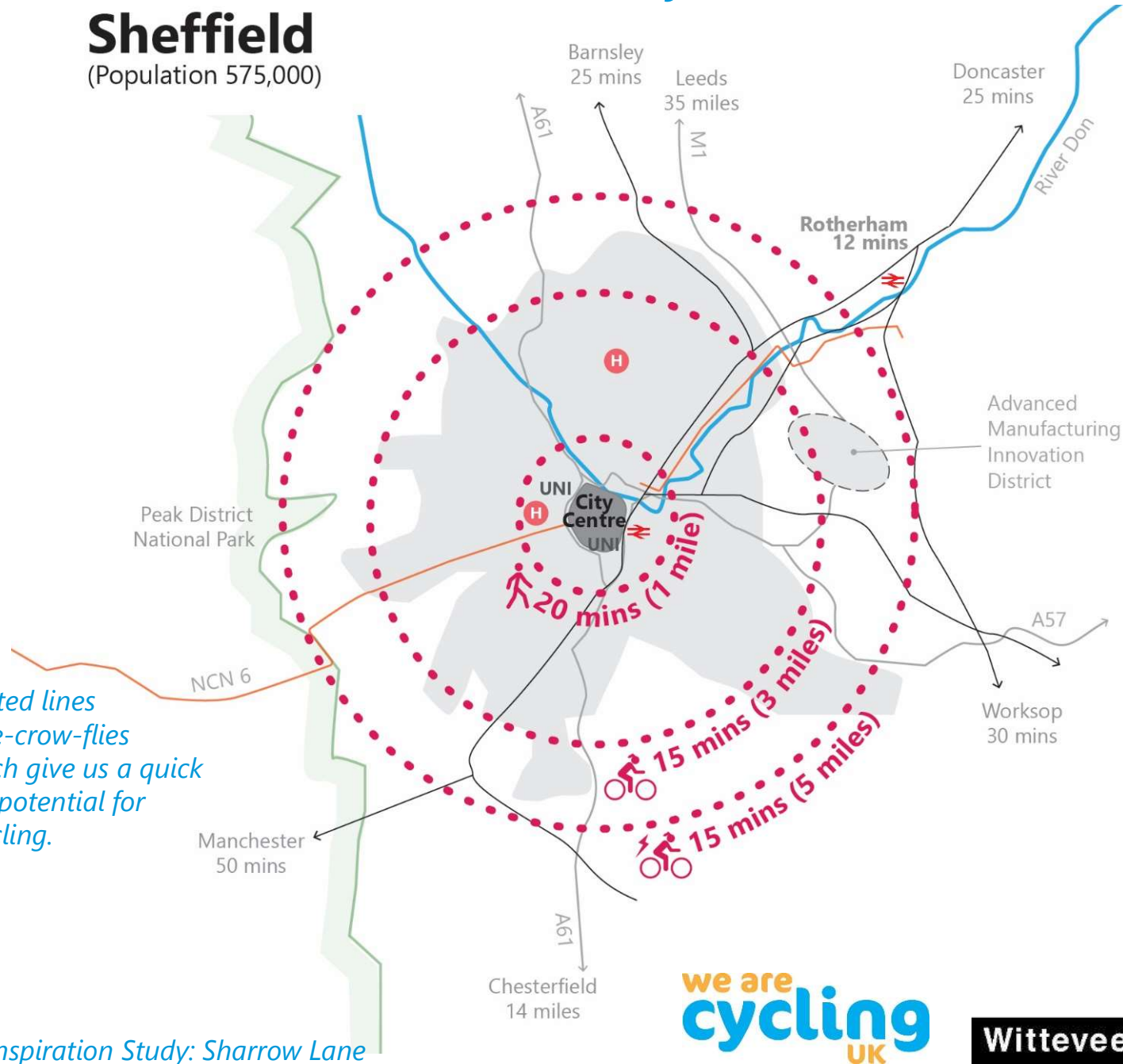
References: Public Health Outcomes Framework (2018) 2.06ii. Available at: <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/gid/1000042/pat/6/par/E12000003/ati/102/are/E08000016>

Particulate Matter PM2.5s for 10.3ug/m3 annual mean, Devonshire Green in 2017 (https://uk-air.defra.gov.uk/data/data_selector).

Cigarette reference is a crude estimate only based on Pope et al. (2009) and is uncertain; this assumption is based on legal levels of PM2.5s only.

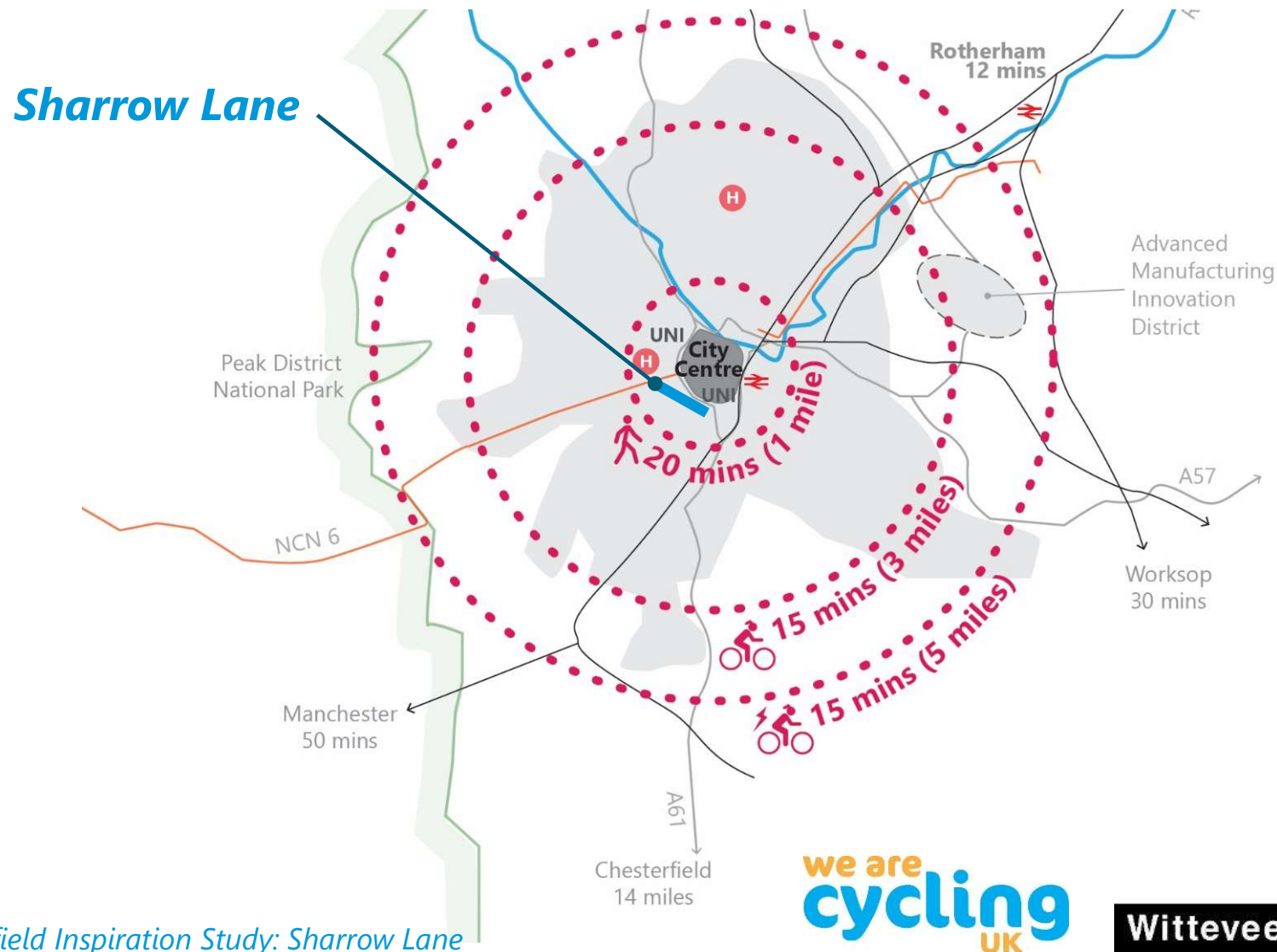
Most of Sheffield lies within walking and cycling distance of the city centre.

Sheffield
(Population 575,000)



Note: These dotted lines represent as-the-crow-flies isochrones, which give us a quick overview of the potential for walking and cycling.

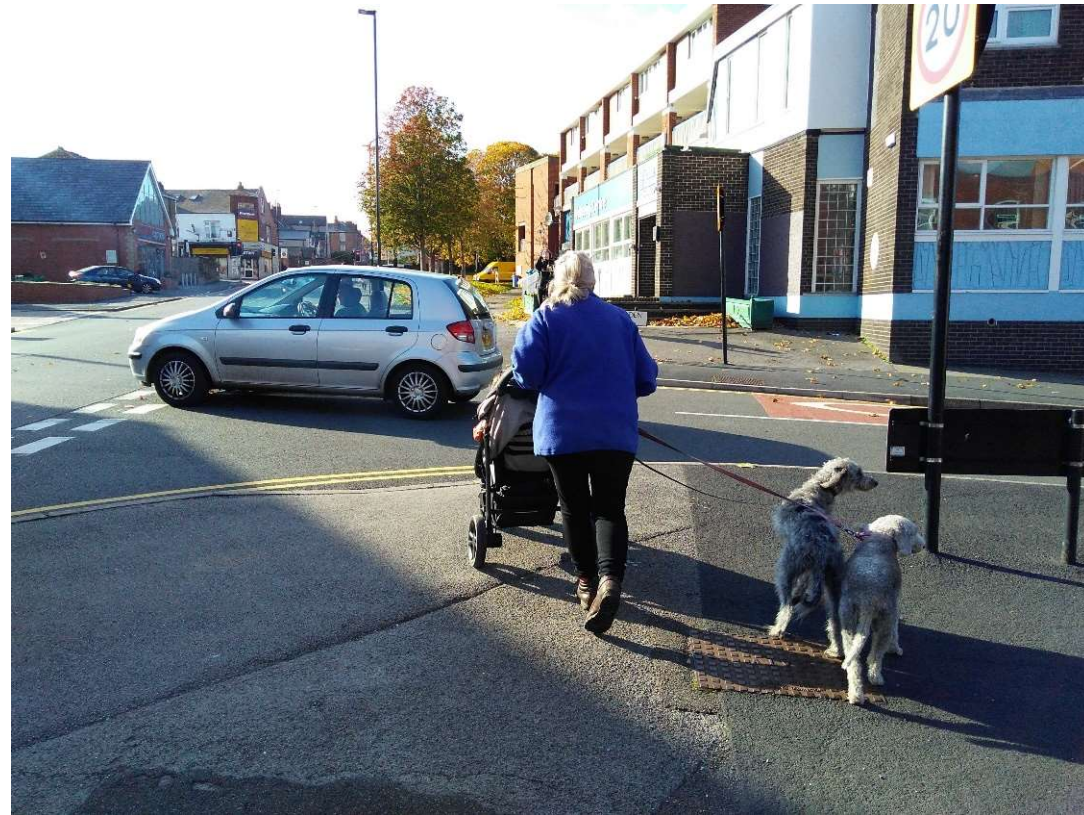
Sharrow Lane is a 1 mile community corridor just outside the ring road but inside the core potential healthy transport zone



Sharrow Lane is a 1 mile east-west corridor which has community as well as transport importance:

- + Community assets (shops, cafes, bus stops, gym, health centre, school, park spaces).
- + Proximity to local high streets on Eccelsall and London Road, as well as the city centre.
- + Existing public transport routes.
- + Attractive residential character with green.

- Speeding vehicles dominant (rat-running)
- Inconsistent footway quality
- Lack of safe cycling infrastructure
- Place quality inconsistent



What would the next generation of healthy transport choices look like in this community setting?

Existing:



View west along Sharrow Lane at Sharrow Street

Is your child able to make healthy transport choices?

Proposed → Healthy Community Street



“This is a street where everyone can be active!” Cycle Sheffield

Proposed → Healthy Community Street

Asset zone, declutter footway, convenient cycle parking

Place hotspots, with green "parklets"

Visual narrowing/
rumble strips

Change of priority at side junctions

Continuous level footways at secondary junctions add comfort, and safety for all

Brick colour adds character & clarity

Full specification Cycle Street:

- "Cars are guests"
- Visual clarity, adds quality to environment
- Visual narrowing/rumble strips
- Change of priority at side junctions
- Piloting & phasing to support uptake

Sheffield Inspiration Study: Sharrow Lane

Footway upgrades:

- Material wayfinding adds place and consistency
- Continuous level footways provides comfort, and safety for all
- Asset zone management, declutter footway

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Potential for London Road
→ Transformation to Healthy High Street
→ Synergy with Sharrow Lane as Cycle Street



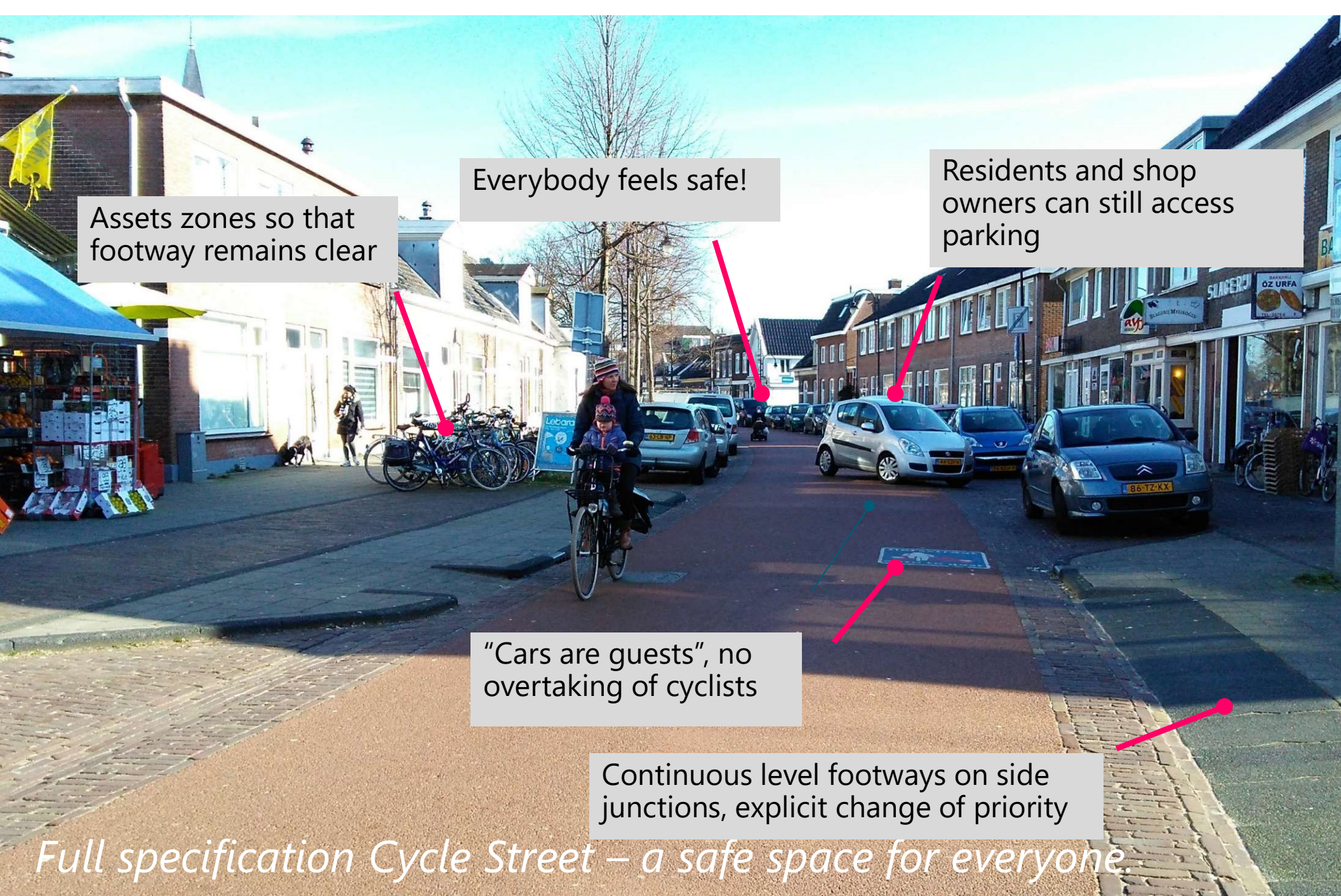
- ☹ Congestion
- ☹ Noise
- ☹ Air pollution
- ☹ Physical activity



Healthy High Street Concept →
London Road, Portsmouth



Routing Diagram



Assets zones so that footway remains clear

Everybody feels safe!

Residents and shop owners can still access parking

"Cars are guests", no overtaking of cyclists

Continuous level footways on side junctions, explicit change of priority

Full specification Cycle Street – a safe space for everyone.



Full specification Cycle Street – a safe space for everyone.



*20 mph
Cycle Street
"cars are guests"*

Child cyclists are over 15 safer per mile cycled in the Netherlands compared to the UK. Continuous level footway crossovers are key to providing greater safety for both cyclists and pedestrians.



Continuous level footways crossovers on side junctions.



*Total clarity of priority
at side junctions*

Full specification Cycle Street – a safe space for everyone.

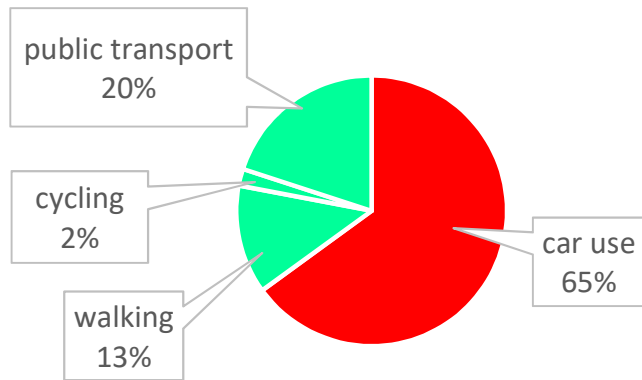


Continuous level footways in Waltham Forest



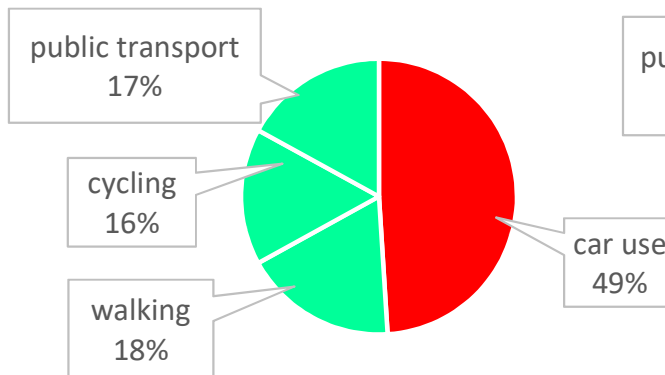
Pulled back road markings, Gloucester Road, Bristol

Sheffield - current
(575,000 population)



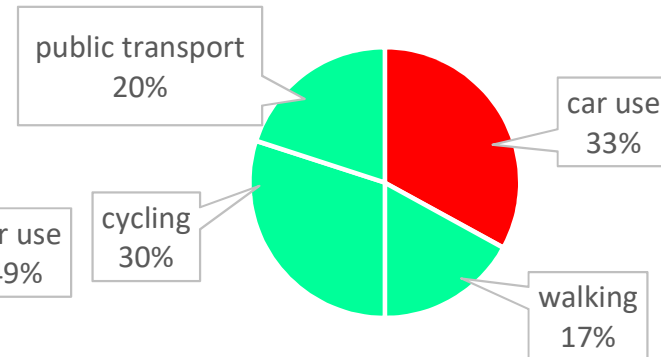
Healthy transport
= 35%

Rotterdam, Netherlands
(583,000 population)

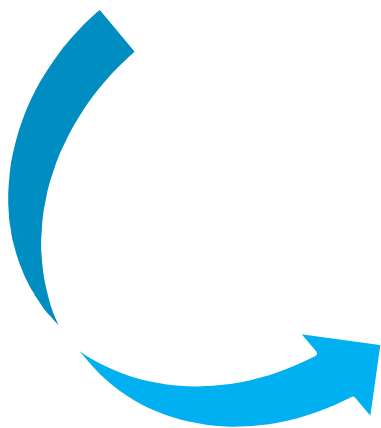


Healthy transport
= 51%

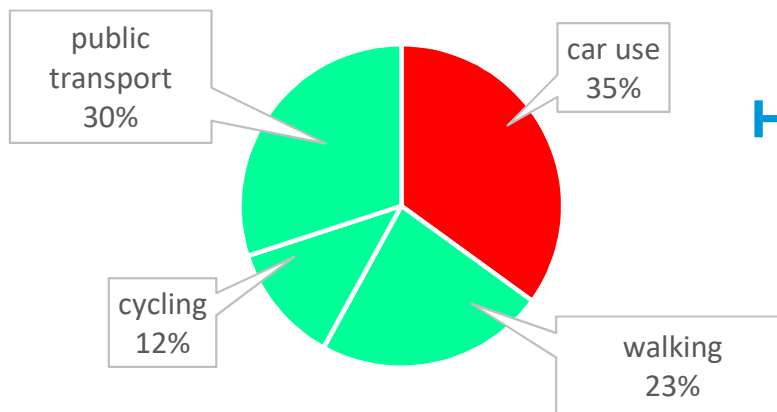
Copenhagen
(562,000 population)



Healthy transport
= 67%



Sheffield - future-proofed
(612,000 population)



Healthy transport
= 65%

References: Population and projected growth to 2028 derived from projections cited in Sheffield Transport Strategy (2018). Data for Sheffield modal share derived from Census 2011. Data for Rotterdam and Copenhagen from <http://www.epomm.eu/tems/>. The "future-proofed" scenario assumes 1% modal shift per year over a decade each respectively to walking, cycling, and public transport, with a corresponding decrease in car use modal share.

High Level Capacity Analysis

Sharrow Lane → **6,686 vehicles per day**

Add walking and bus passengers → **7859 people per day**

Allow for 6.5% projected growth to 2028

	Current*		5% growth		Future-proofed**	
Mode	Trips		Trips		Trips	
Cars	5,745	73%	6,118	73%	3,607	43%
OGVs	704	9%	750	9%	750	9%
HGVs	51	1%	54	1%	54	1%
Public Transport	210	3%	224	3%	1,061	12%
Walking	999	13%	1,064	13%	1,901	23%
Cycling	150	2%	160	2%	997	12%
Total	7,859	100%	8,370	100%	8,370	100%
Healthy transport		18%		18%		47%

*Data from turning count conducted October 2018, 6,686 relates to Sharrow Lane east from the Washington/Wolstenholme jct. Due to an emergency road closure Wolstenholme Road jct, there may be an underestimate. Population and projected growth to 2028 derived from Sheffield Transport Strategy (2018). Data for Sheffield modal share derived from Census 2011.

**The “future-proofed” scenario assumes 1% modal shift per year over a decade each respectively to walking, cycling, and public transport, with a corresponding decrease in car use modal share. Future-proofing is not de facto a realistic ambition level. Please see following pages for more detailed assumptions.

High Level Capacity Analysis

- Potential for a Cycle Street through modal shift combined with journey displacement.
- Potential for phased introduction with piloting supports including traffic restrictions.
- See “Routing Concept” for headline implementation concepts.
- Synergy with potential to transform London Road to a Healthy High Street.

Criteria for assessing appropriateness of a Cycle Street:

- If number of cyclists \geq number of cars.
- If number of cyclist \geq 1000 per day, and/or cars per day \leq 2500.
- Also, if the number of cyclists per day is double the number of cars per day then there must \leq 2500 cars per day.

Reference: Design Manual for Bicycle Traffic, V13, p.234
“Bicycle Street with Cyclists in the middle of the street”.

Reference **8,370** total trips allowing for 6.5% increase to 2028.

High Level Capacity Analysis – Key Assumptions

Overall Mode Share

- Modal share taken from Census 2011, QS701EW - Method of travel to work, as a proxy for total transport modal share. Therefore, of total respondents (411,004), unemployed and working from home were excluded, resulting in a sample of 233,866. Underground, metro, light rail, tram, train, bus, minibus or coach are combined as public transport.
- Future-proofing is based on 1% modal share increase per year respectively for walking, cycling and public transport over 1 decade, with a resultant net reduction in car modal share. Future-proofing is not de facto a realistic ambition level, but a means for exploring population-level change.

Street Level

- Street level transport data was derived from a traffic count survey conducted on 11th October, 2018, Site 10 Wolstenholme/Washington Road jct, movements east along Sharrow Lane towards London Road. An alternative count of 5961 vpd was also provided.
- Wolstenholme Road jct was closed for emergency works from 10 am to 3pm, introducing risk of underestimate of traffic movements from this road. However, estimates from Site 9 at the Cemetary/Psalter jct (5537 vehicle trips/day), and Sharrow Vale Lane (5244 vehicle trips/day) suggest this range is valid.
- Walking modal share derived from Census data for Sheffield (13%), as data for walking not available on street level, this could be an under or over estimate.
- Buses and occupancy estimated as 40 seats per vehicle operating 75% capacity, non regular service.
- 6.5% growth is presumed to 2028 (Sheffield Transport Strategy, June 2018).

Sharrow Lane → Cycle Street

Key Characteristics Cycle Street

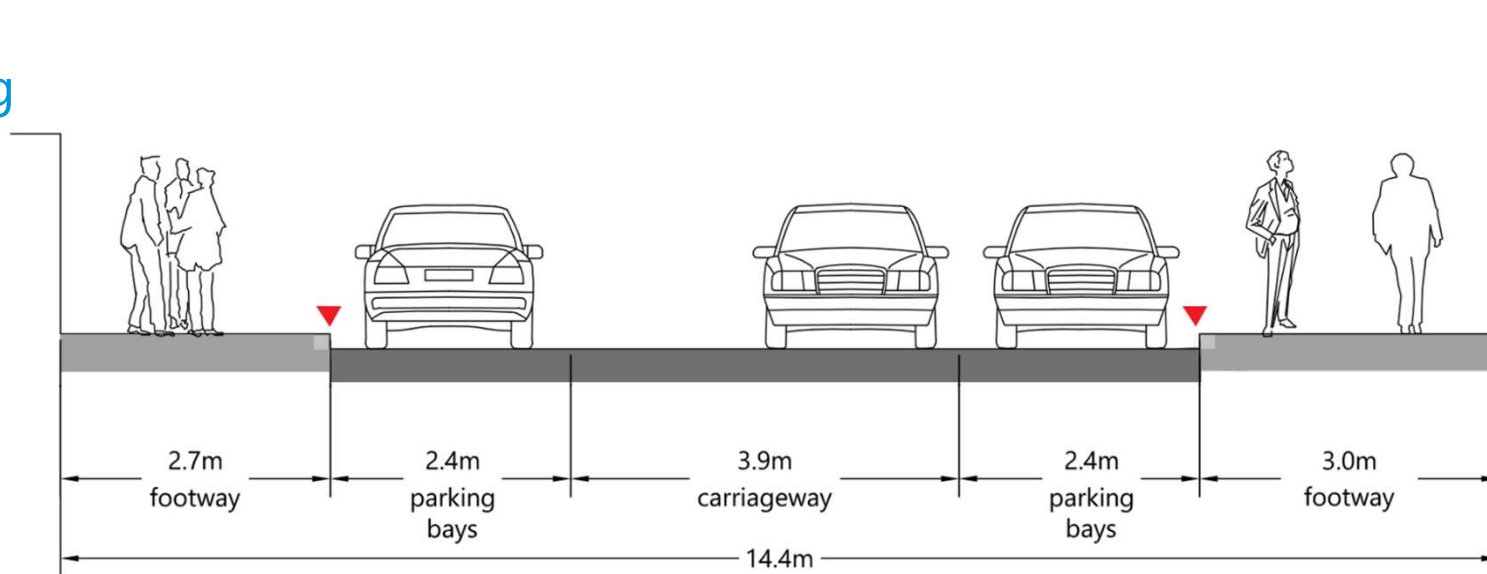
- + Safe cycling environment for everybody.
- + Explicit visual character, e.g. brick-red surface treatment, centre line removed, visual narrowing/rumble strips → low speed environment.
- + Local residents and delivery retain access, but cyclists have priority with no overtaking.
- + Priority treatment for Cycle Street at junctions, clear threshold treatment to clearly indicate entrance/exit of Cycle Street.
- + Creates an enabling and pleasant environment for more vulnerable users such as children, older adults or disabled people.

Walking Enhancements

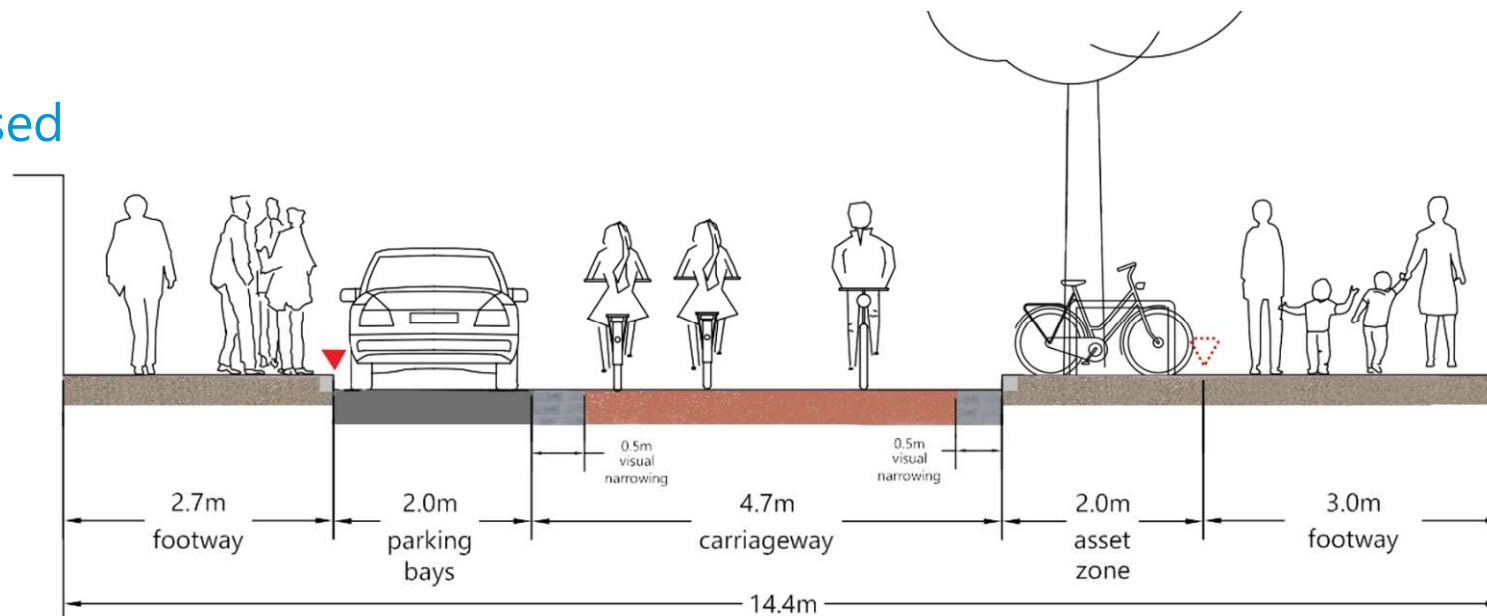
- + Raise the status of walking through attractive footway material at key place areas e.g. shops.
- + Treat all side junctions with continuous level footways to create pedestrian priority, and additional safety for cyclist.
- + Declutter, consolidate assets in assets zone.
- + Create assets zone with trees, seating, cycle parking, "parklets", loading, disabled parking.

Indicative Cross Section @ Sharrow Lane / Sharrow Street looking west

Existing



Proposed



Routing Concept

Headline concepts:

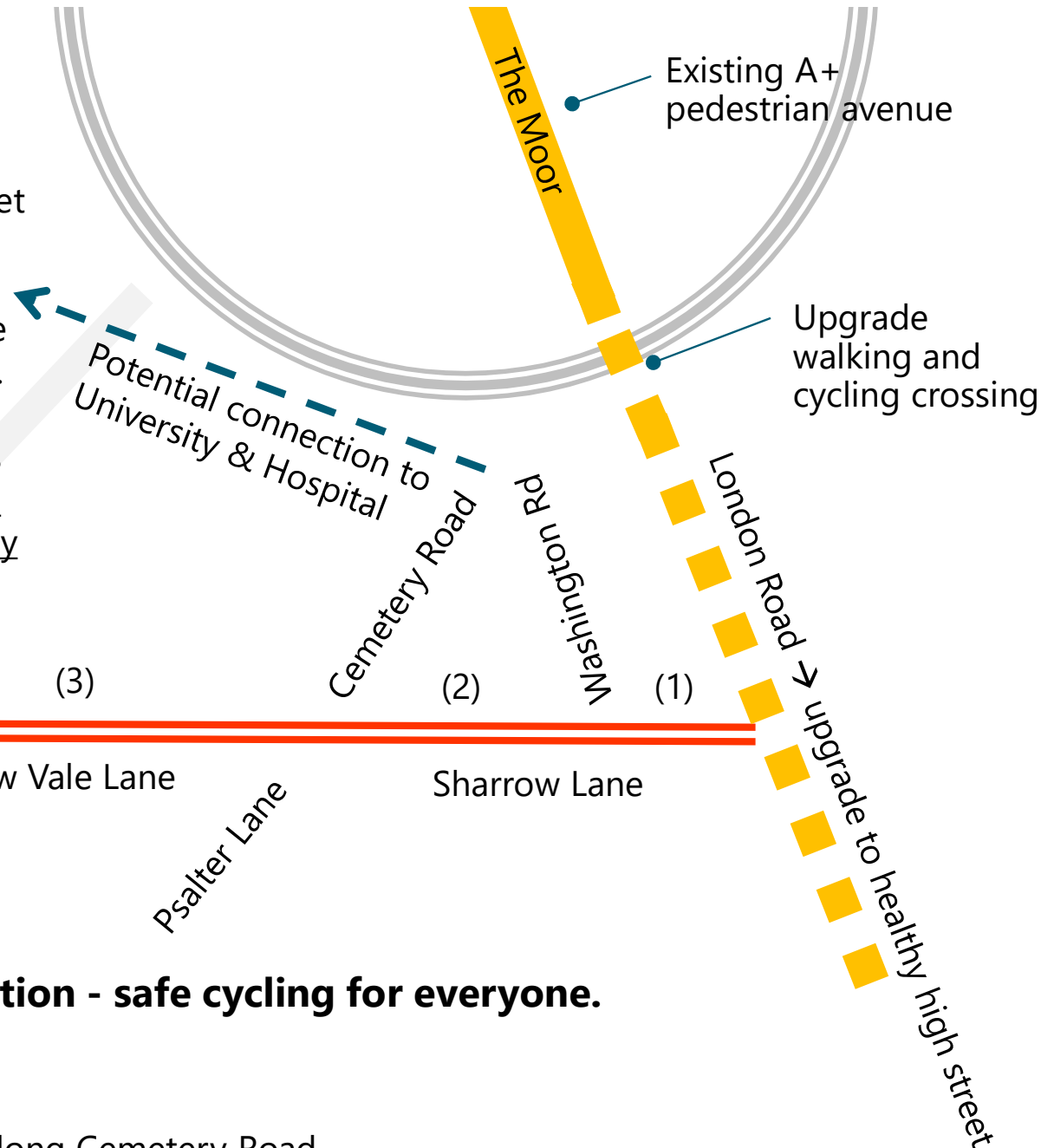
- + 1 mile community corridor → Cycle Street
- + Modal shift approach
- + Priority treatment at junctions
- + Visual narrowing on road, remove centre line, upgrade character of surface material.
- + Assets zone, declutter, unify footway particularly at community "place" hotspots
- + Potential for phased introduction (1,2,3), temporary traffic restriction likely necessary

Connect to NCN 6
Ecclesall Road (A625)

Cycle Street
Full specification - safe cycling for everyone.

Additional considerations:

- + Interim displacement potential along Cemetery Road
- + Proposed upgrade London Road to Healthy High Street, additional displacement potential to Bramall Lane (A621)





Contact:
Duncan Dollimore
Cycling UK
duncan.dollimore@CyclingUK.org

Jess Read
Principal Transport Engineer
Witteveen+ Bos UK Ltd
jess.read@witteveenbos.com