PJA Information Note:
TfL Strategic Cycling Analysis

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What is it?

Transport for London (TfL) have recently published their Strategic Cycling Analysis (SCA). It considers where there is a high number of "cyclable" trips being made and thus where infrastructure development can help meet the aims of its Healthy Streets agenda. Healthy Streets is a policy document that sets out a vision for London being a city that prioritises walking, cycling and public transport to deliver better air quality, and a more active populace. Since publishing Healthy Streets in February 2017, TfL is now consulting on the Draft Mayor's Transport Strategy (2017) which sets out how to achieve the aims of Healthy Streets, and sets a target to reduce car-borne trips from 36% mode share at present to just 20%.

What does it say?

TfL's SCA sets out an in-principle network structure that would cater for the top 20% of cyclable trips across London. It identifies "connections" that plug the gaps in the existing network and which address the observed and potential desire lines for cycling. It recommends further study at a local level to determine how to achieve this network of connections, along the lines of a Local Cycling and Walking Infrastructure Plan (LCWIP).

Why is it relevant?

TfL's SCA will be used to inform decisions about cycle infrastructure investment in London after 2022, so any development proposals – particularly those on or near the SRN or TLRN – may attract close attention from TfL in terms of how the identified cycling connections in this study have been considered.

This analysis is like the process PJA have undertaken for Salford City Council and thus validates our methodology. It can be thought of a pre-LCWIP as it fulfils most of the steps set out in the LCWIP process guidance prepared by PJA and WSP on behalf of DfT.

What has been done?

TfL's previously-published analysis of cyclable trips considers journey purpose, and eliminates trips that could not be reasonably cycled, e.g. carrying freight, disability, and so on. This analysis has found 8 million trips per day are cyclable, with a further 1.2 million cyclable stages within a longer multi-modal journey. The SCA goes further and considers where these trips are taking place, and how the existing and planned cycle network does or does not cater for them.

Modelling of existing cycle trips shows a strong correlation to the Strategic Road Network (SRN) as these are where many destinations are clustered, and how people orient themselves around the city and their local area. The SRN are roads which are one step below the TfL-controlled TfL Road Network (TLRN) in the London's road hierarchy. SRN roads are controlled by individual London Boroughs, but TfL has power to veto any proposals on the SRN that do not meet TfL's strategic highway network management objectives.

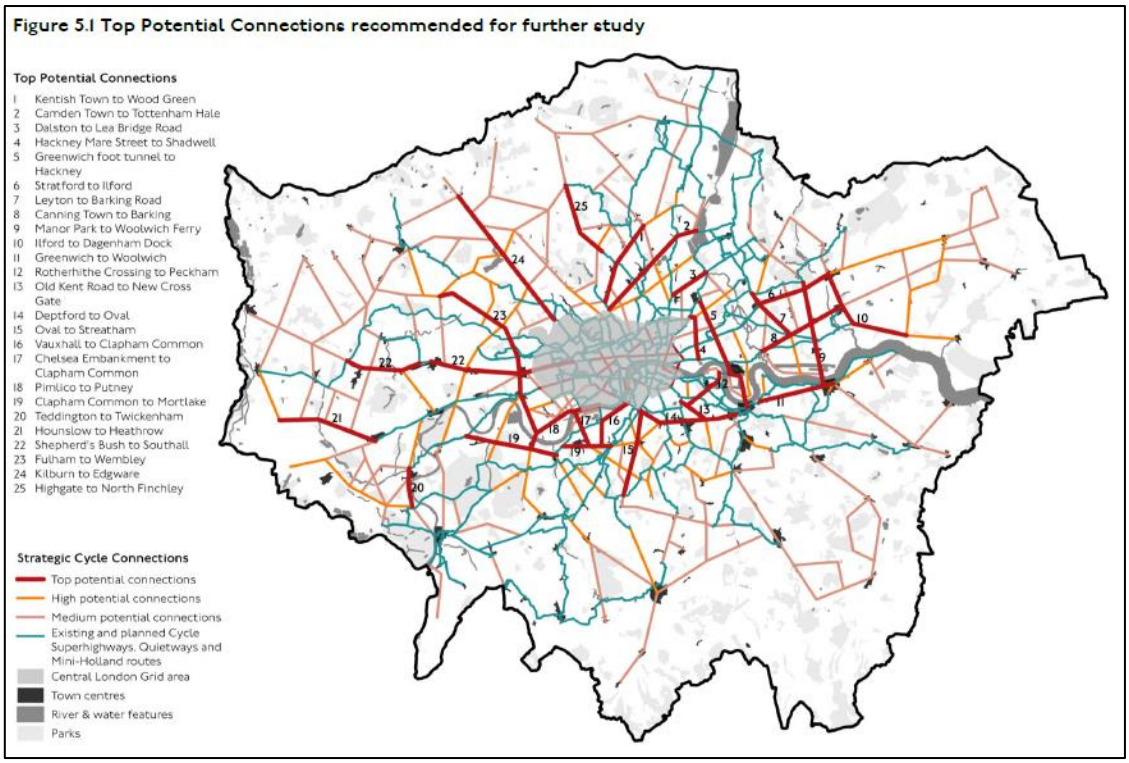
Currently, just 10% of Londoners live within 400m of a cycle route (LCN, LCN+, CSH or QW). No mention is made of NCN routes, although many LCN and LCN+ routes also correspond to the NCN. The current infrastructure proposals in the 2016/17-2021/22 Business Plan will see that proportion increase to 35% by 2022.

The gaps in the network are identified by considering the key desire lines that lie outside a 400m buffer of the planned network, i.e. where the remaining 65% of people live. Desire lines consist of existing observed demand and potential cyclable trips. What TfL have called "connections" have been developed by projecting these desire lines to logical nodes such as town centres and junctions with other cycle routes

and thus forming a coherent network as per Dutch best practice. This is effectively the "destination cluster" process set out in the DfT's LCWIP guidance for use outside of London.

The analysis has also been overlaid to understand the synergy with other programmes and modes of transport, namely:

- **High walking propensity areas** – where there are many short trips currently being driven but that could be walked (2.4 million trips) – this might be considered a Core Walking Zone in the LCWIP process. The purpose of this is to identify how cycling infrastructure can also be used to improve conditions for walking.
- **High-risk safety areas** – where there are many injury collisions affecting pedestrians and cyclists. Note that this has not been adjusted for footfall or flow. The purpose of this is to identify how schemes can address local safety problems.
- **High-frequency bus corridors** – the top 20% busiest links in terms of bus headway. The purpose of this is to identify how cycling schemes might deliver parallel benefits for bus services, say through priority measures, or where cycle corridors may need to be developed along parallel routes to avoid detrimental impact on bus service reliability.
- **Low public transport accessibility** – the analysis has considered how Public Transport Accessibility Level (PTAL) values could be improved by considering a 5-minute cycling hinterland around rail stations through an emerging process being called CTAL – "Cycling PTAL". The analysis has identified large parts of London that have a high CTAL level but a low PTAL level. A CTAL-led approach could be a means of achieving mode shift in areas not currently well-served by public transport, subject to infrastructure improvements such as new cycling route and additional cycle parking at stations. The SCA also notes that for stations closer to central London, some cycle-rail journeys could be cycled in their entirety.
- **High demand for cycle parking at stations** – TfL's existing Cycle Parking Demand Model has been used to pinpoint stations in Zones 2-9 at which cycle parking demand could be expected to be high. This is caveated on the basis that it does not consider future demand from new housing or employment growth or new rail schemes such as HS2, and it also makes a crude assumption about a fixed catchment for each station which may not reflect actual user preferences.



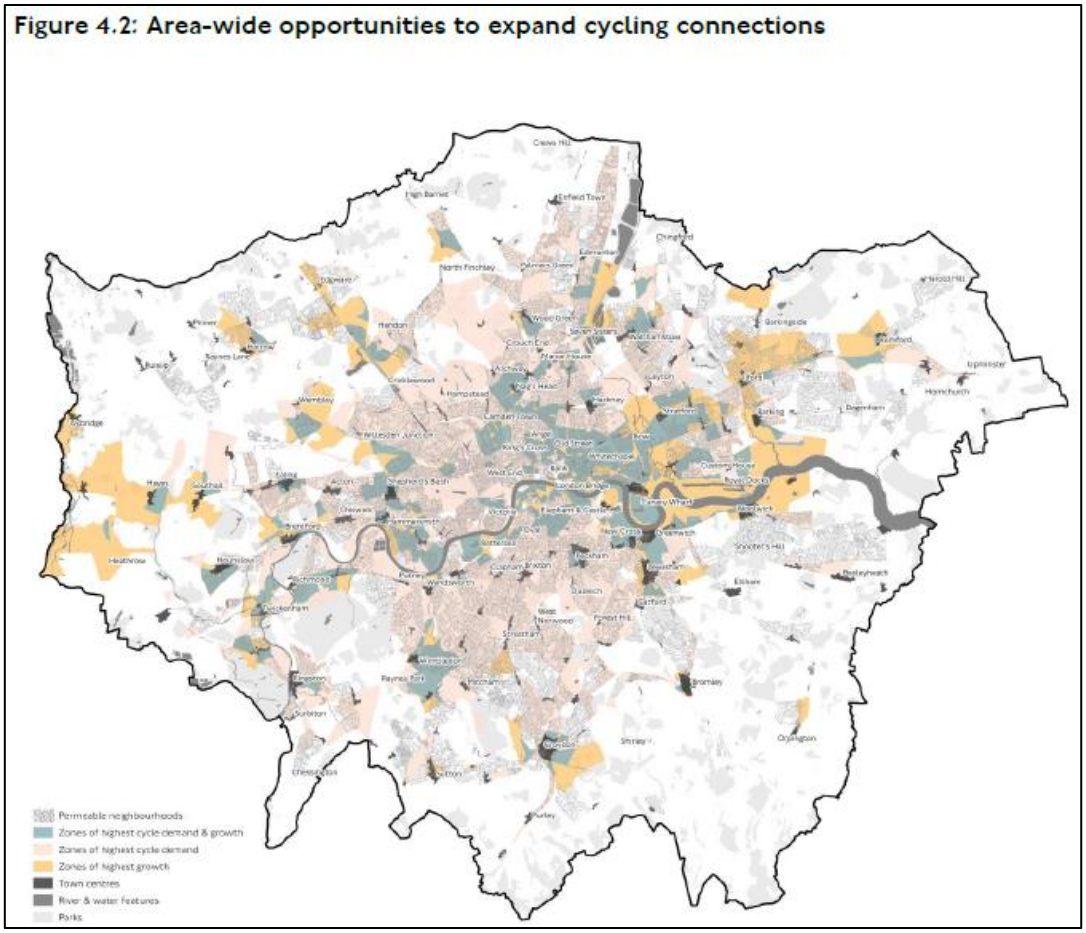
The SCA makes recommendations on how to resolve conflict between competing modes of transport when considering how to translate the identified connections into scheme proposals. It suggests a hierarchical system, as follows:

- **Provide for all modes if space is available** – the SCA cites the example of Old Kent Road where a study has developed a proposed cross-section with footway, stepped cycle track, bus lane and general traffic lanes.
- **Remove or reduce private traffic** – the SCA cites the example of Tottenham Court Road, which is being converted from a one-way mixed street to a two-way bus and cycle only street, with all other vehicular traffic being displaced to Gower Street, which becomes two-way.
- **Provide a parallel cycle route** – the SCA cites the example of Camden High Street, which is a busy bus corridor and SRN carrying through traffic; a high-quality parallel cycle route along Royal College Streets offers an alternative to cycling on Camden High Street.
- **Adapt the bus network in the area** – the SCA cites the example of the North-South Cycle Superhighway (CS6) on Blackfriars Road, where bus routes have been cut back to reduce the number of services operating along the section where road space has been taken away from motor vehicles. The new Hopper Fare permits free interchange between buses within one hour, so passengers are less sensitive to having to change routes, which has allowed the number of overlapping routes to be scaled back on some corridors, most notably Oxford Street as part of an ongoing effort to reduce the number of buses in certain sensitive areas.

Beyond the "blunt" connections, the SCA has also analysed the potential for cycling connectivity to be facilitated through an area-wide approach, i.e.

- Cycling permeability
- New developments fixing severance
- Area-wide improvements to deliver Healthy Streets

Figure 4.2: Area-wide opportunities to expand cycling connections



Areas have been identified on the basis of existing urban form (i.e. how permeable the network already is), where new development is expected to take place, and where there is high demand for cycling. Space Syntax analysis was used to derive a calculated value for permeability based on street length and number of connections.

The analysis of areas is based on "cells" defined by severance in the form of M2/M3 category street in the Roads Task Force hierarchy, and other features such as railways and waterways.

What next?

The SCA makes clear that it does not set out a top-down network. This is because most roads in London are controlled by Boroughs and other stakeholders.

The SCA recommends finer grained analysis at a local level to validate assumptions about severance, for example. It also recommends an LCWIP-like process to further evaluate the connections and to determine the appropriate local solution to accommodate cycling along those corridors.

Where does PJA fit in?

PJA has already undertaken LCWIP-like processes for Southwark Council and is therefore well-placed to offer its services to any Borough that wishes to review cycling demand in their areas to either validate or challenge TfL's own analysis. PJA was also instrumental in writing the LCWIP process guidance for the Department for Transport, which follows the similar but more robust principles as TfL's Strategic Cycling Analysis.

PJA also has previous experience working with the following London local government bodies either directly, or via partnerships:

- Barnet
- Bexley
- Camden
- City of London
- Croydon
- Hammersmith & Fulham (via Sustrans Quietways contract)
- Hounslow (via Sustrans Quietways contract)
- Lambeth (via Sustrans Quietways contract)
- Lewisham (via Sustrans Quietways contract)
- Southwark
- Waltham Forest (via Project Centre)
- WestTrans (West London Transport Partnership)

July 2017

Source document

- TfL Strategic Cycling Analysis 2017 – http://content.tfl.gov.uk/strategic-cycling-analysis.pdf [PDF]

Referenced information

- *Draft Mayor's Transport Strategy 2017 – https://tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/the-mayors-transport-strategy*
- *Healthy Streets for London – http://content.tfl.gov.uk/healthy-streets-for-london.pdf [PDF]*
- *Street Types for London: the Roads Task Force hierarchy – https://tfl.gov.uk/info-for/boroughs/street-types*
- *TfL Analysis of Cycling Potential 2016 – http://content.tfl.gov.uk/analysis-of-cycling-potential-2016.pdf [PDF]*
- *TfL Business Plan 2016-22 – http://content.tfl.gov.uk/board-20161215-item09-tfl-business-plan.pdf [PDF]*
- *TfL Hopper Fare – https://tfl.gov.uk/campaign/hopper-fare*