

LPT4 Comparator Case Study - Delft (DRAFT)

1. Context

Background

Delft is a city in the Province of Zuid Holland, lying just east of The Hague – between The Hague and Rotterdam. It forms part of Randstad Holland, and has shown continuous growth since the War. Further growth of 30% by 2040 is anticipated.



Delft Gemeente (Council area) has a population of around 103,000, but Delft forms part of a wider urban area of much greater size. It lies just 9km from The Hague and 14km from Rotterdam.

It is a historic city with a Medieval core, comprising characteristic Dutch domestic, public and religious architecture. This area is extensively pedestrianised.

The Technical University of Delft is a large organisation located on a campus to the SE of the centre. It supports over 21,000 students and 2,600 PhDs. www.tudelft.nl

Governance

Delft can be characterised as a unitary authority. Planning and transport take place within a national policy framework and a structure plan prepared by the Province. Spatial and transport planning are generally better co-ordinated at the Province level. The local council works on its own, or in partnership with adjoining gemeente (the Dutch local government system is very fragmented).

A Directorate of Planning and Transport oversees Delft Council's policies and actions in this field <https://ris.delft.nl/vergaderingen/commissies/commissie-ruimte-en-verkeer/>. These include spatial planning, Rail zone/HNK, traffic and transport, land exploitation/real estate, project Delft-Zuidoost (including Technopolis), green/sustainability (including Delftse Hout/Midden-Delfland), management of public space, urban renewal, project Nieuw Delft, project Harnaschpolder.

Thumbnail of current transport provision

Delft has a well-developed road network, excellent public transport, and a major emphasis on walking and cycling. There is also a canal network.

The national rail (train) operator is [Nederlandse Spoorwegen](http://www.ns.nl) (NS) www.ns.nl

There are two stations Delft and the relatively new Delft Campus

A direct train from Delft to Schiphol Airport takes only 40 minutes, and runs half-hourly. The intercity (in the direction of Lelystad to the north) leaves Delft half-hourly. The intercity (in the direction of Vlissingen to the south) also leaves Delft half-hourly.

Upgrades to the rail system between 2018 and 2024 are intended to increase the number of trains per hour at the central station from 11 to 14, and at Delft Campus from 4 to 6.

Trams, light rail and bus services in Delft, and across the wider Den Haag region are run by HTM Personenvervoer N.V. www.htm.nl (Haagse Transport Maatschappij). Its objects include economic growth, welfare and social cohesion, as well as environment. Annual reports 2012 to 2018 are available online in Dutch. The network receives a substantial public subsidy. It is a private company, but its activities are monitored by an independent commission of experts.

Trams run to The Hague and Rotterdam up to every 5 minutes.

[Check – does the city have any say over service provision – e.g. through franchising?]

One of the most important drivers of public transport use is speed of journey time. Since 2018 it has employed a dedicated innovation manager. It has been looking at the potential of solar power to operate the trams. Provision of real-time travel info on stops and by app. Electric buses for zero emissions.

The two trams that service Delft are operated by [HTM](http://www.htm.nl). Tram no. 1 offers service between Delft, Rijswijk, The Hague and Scheveningen (on the coast). Tram no. 19 offers service from Leidschendam to Delft station, in the future continuing on to Technical University of Delft's campus.

Delft has an extensive network of local and regional buses, most of which stop at the Delft station (Centre). It also has a 'transport on demand' mobility scheme.

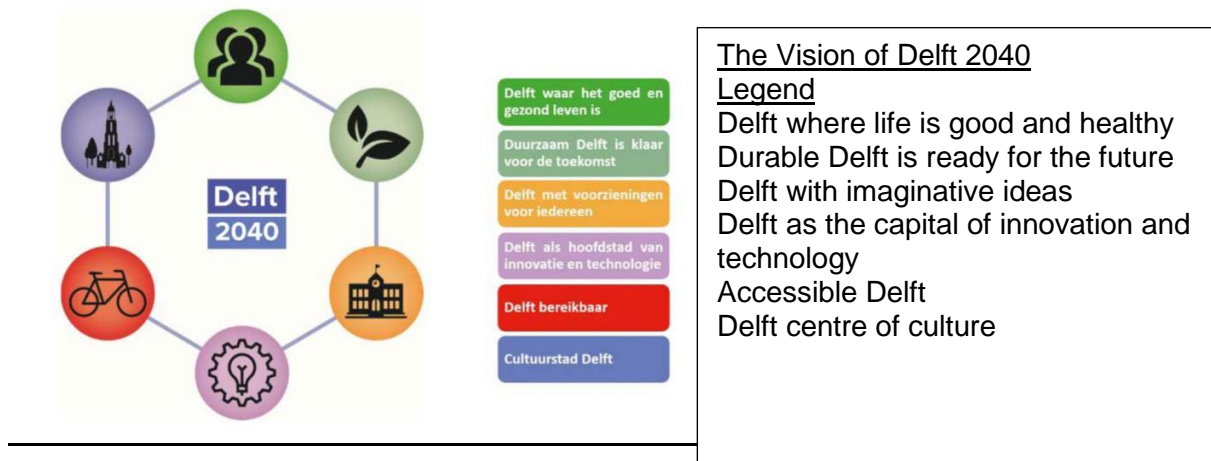
2. Transport planning

Local transport plans

Delft produces a transport plan in line with SUMP guidance. It is called Mobiliteitsprogramma Delft 2040, and can be seen here <https://www.delft.nl/sites/default/files/2020-07/Mobiliteitsplan-Delft-2040.pdf>

"The Delft Mobility Programme is committed to a mobility transition: we want to change the mobility system so that Delft remains accessible, livable and traffic-safe in the coming decades. The space for the infrastructure in the city is better used by giving priority to space-efficient, clean, smart and safe mobility. "

Delft had a Transportation Plan. It was drafted in 2005, looking forwards to 2020. The document is not available online, but a presentation by Jan Nederveen is available online via Portland State University Library dated April 2017 (see below).



Priority objectives of the Plan

Health and safety were major objectives – improving air quality by better designed roads and new engine types; no increase in traffic noise; safety through better road design and attending to black spots; helping the ecology by repurposing the roadside areas.

Strategic approach

A major aim of the plan was to shift the modal split away from private car to bicycle. In 2005, in the city centre, bicycles accounted for just over half the modal split, about 25% walking, 20% by car or moped, and around 10% public transport.

Principal policy measures

A road hierarchy is based on national design standards, with speeds of 70, 50 and 30km/h depending on whether they are main roads (Stromweg), distributor/secondary roads (Gebiedsontsluitingsweg) or local access roads (Erftoegangsweg). However, there is some disagreement about how well this suits the Delft situation because of its historic street pattern and structure. Delft has therefore introduced a new category, the Neighbourhood Access Road (Wijkontsluitingsweg). These are roads for 'living and driving' encouraging modest speeds (40km/h and not greater than 50km/h). The onus is on traffic safety, reduced noise and air pollution. These roads are created by design modifications which include: narrower lanes, a special median, attention markers, raised crossings, and roundabouts instead of traffic lights.

The city centre is largely car-free, with the aim of improving the quality of life. The key principles are walking always has priority, cyclists are 'guests', and parking is outside the pedestrian area. There was a phased programme to implement this strategy between 2004 and 2014. The pedestrian area is sealed by rising bollards. 'Car-free opportunities' have been made available, including a variety of pedal and electric powered mini vehicles and trailers. These can transport disabled and elderly people and freight.

For each mode of transport there is a hierarchy, and this determines the standards that are applied. For example the pedestrian network is divided into:

- The basic network – all paths “sufficiently flat, accessible to everyone”
- The main network - linking public transport services “direct, comfortable”
- The quality network – for pedestrians only “attractive, comfortable, pleasant stay, priority for pedestrian, minimal inconvenience of other traffic participants”

[Can we add more on other modes?]

Modal shares

Vervoerwijze (18 jaar en ouder)	Binnen Delft	Naar regio ³
Fiets	50%	20%
lopen	25%	nvt
Auto	20%	58%
OV	2%	17%
Overig	3%	5%

See above. This will need following-up in a meeting.

The priority will be given to pedestrians, then bicycles, then public transport and finally private cars. "Everyone is a pedestrian".

Key performance measures

No information available.

Provision for disabled travellers

The Mobiliteitsplan recognises that mobility raises social considerations, in particular the relationship between mobility, health and old age. Focusing on active travel may cause problems for the elderly and less mobile.

"In an inclusive society, everyone must be able to participate. There are groups of people who, for various reasons, do not have the opportunity to move around and therefore cannot participate fully in social life. For this group, too, with a high risk of 'transport poverty', the accessibility of public transport must be improved. And sufficient road safety should also offer the opportunity to get on the bike. Information plays an important role in combating transport poverty, for example through the use of public transport buddies and road safety education projects."

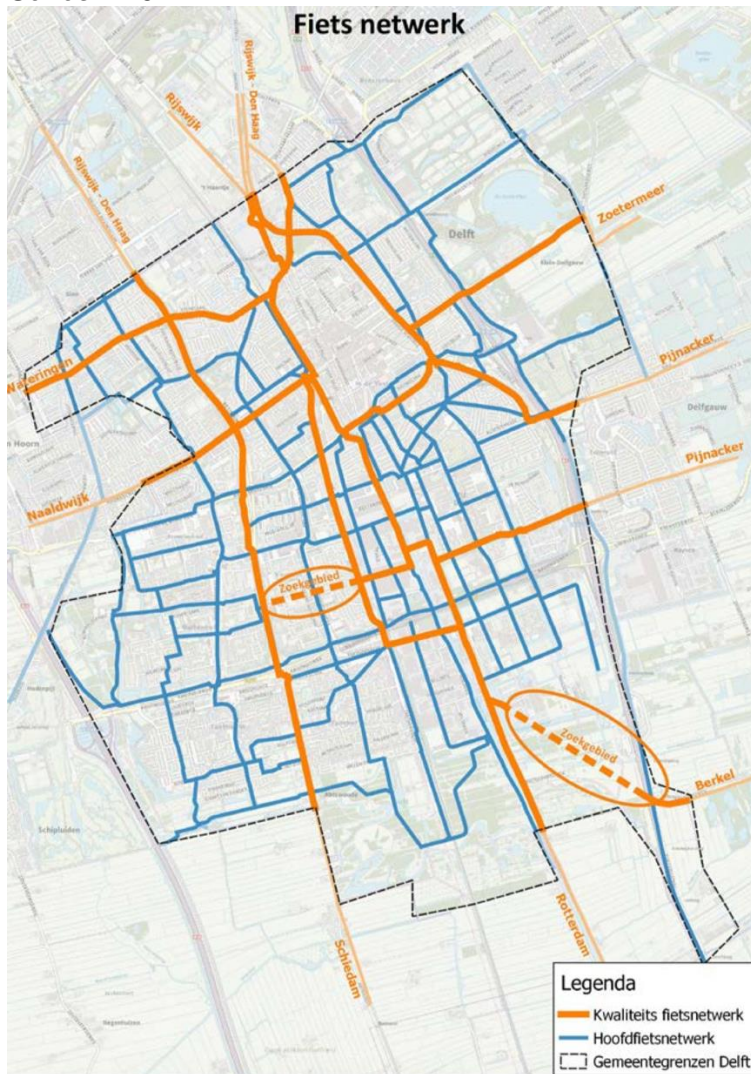
TU Delft is researching the possible use of automated vehicles for this purpose, and also how well suited public transport currently is to meet the needs of the disabled.

3. Relevance to York

Useful lessons and pointers

Delft may teach us some useful lessons about catering for cyclists. **[This is mainly on cycling at present. What else is relevant?]** There is a useful report on cycling at: https://pdxscholar.library.pdx.edu/trec_seminar/119/

Nederveen, Jan, "Transport Planning in Delft, Netherlands" (2017). *TREC Friday Seminar Series*. 119.



Legend

Cycle Network

Orange = quality cycle network

Blue = main cycle network

Dotted = city boundary

“While the Netherlands is known today for the highest bicycling rates in the world, this movement only began in the 1970s. Transportation policy has been one of the critical keys to reducing automobile trips in the Netherlands. Delft has been a city since 1246, and the historic street pattern is still visible today. The city has grown to 100,000 residents and covers an area of 5 square kilometres. Twenty years ago, the council decided to change the transportation philosophy from a car-oriented system to a bike city with a car-free historic centre. This policy has been very successful, and bikes are now the dominant mode.

Delft found a good balance in road design for both cars and bikes. Today, the bike network has reached the point of congestion. Solutions developed for cars are being introduced in the bike network. The presentation will cover the city's transport policy, road design, the concept of a car-free city, and the challenge of reducing bicycle congestion.”

<https://www.cycling-embassy.org.uk/sites/cycling-embassy.org.uk/files/documents/Report%20Dutch%20cases.pdf>

“The Delft Bicycle Plan was a city-wide upgrade of the bicycle infrastructure in the city of Delft. Three bicycle networks were defined: a network on city level, a network on district level, and a network on neighbourhood level. Each network should meet some quality

requirements and the objective of the bicycle plan was to upgrade and extend the existing network in order to achieve a network that satisfies the requirements. The major part of the intended projects was implemented, but a few of the most expensive projects were skipped. A large part of the improvements can still be used today but, generally, the high quality infrastructure that was created has not been maintained properly. Today the bicycle infrastructure in Delft is moderate compared to that of other Dutch cities.

The two demonstration projects and the Delft Bicycle Plan were evaluated extensively by a large number of before and after studies. In Delft, one of the more expensive projects, the Plantagebrug, has been evaluated separately. The Plantagebrug is a bridge that added a missing link in the city level network.

On the basis of the Dutch case studies some general recommendations can be given for promoting cycling in an efficient way:

- The promotion of bicycle use is only credible and successful if cycling is a practical, relatively fast and convenient mode of transport. The main requirements for planning and designing bicycle infrastructure should be satisfied: coherence, directness, attractiveness, safety, and comfort.
- Promotion of the bicycle should include improving the perception of the conditions by (potential) cyclists. Improving the perception of conditions results in increased bicycle use beyond the increases associated with improving the actual conditions.
- Minimizing travel times between origins and destinations is important in designing bicycle infrastructure.
- Urban bicycle routes should preferably be traced through traffic-restrained areas because cyclists prefer cycling conditions involving less traffic stress and interaction.
- Segregation is preferred when there are large differences between the speeds of the different road users and traffic volumes are fairly high. In the urban context bicycle and motorized modes can be mixed on condition that traffic volume is not too high and speeds are harmonized.
- Good design of intersections is essential. Intersections are the most important cause for delays, and most cycling accidents happen at intersections.”

Delft measures its cycle ‘offer’ against other towns using a 10-point chart. The aim is to develop a comprehensive network of links, identified as ‘main’ or ‘secondary’, and to supply the missing links. There are cycle streets (Fietsstraat) in which bikes have priority and cars are ‘guests’. Special attention is given to the provision of secure cycle parking at home and at all public transport interchanges. Problems of bike theft and congestion are being addressed. There is conflict between bikes and cars in the university quarter, where over 14,000 bikes are using the road network. Major investment is taking place, including a number of strategic tunnels/underpasses.

Groenlinks Development enables development to take place on condition that there is more green and natural space, encouraging biodiversity. A rolling programme of green links and banks is being implemented along the local transport corridors.

Technical University - Transport & Planning Department at the Faculty of Civil Engineering and Geosciences is conducting research into transport-related topics including congestion, transport reliability, environmental impact and logistics.

Any aspects which make it less relevant to York

It is a polder city – in other words water control and canals are the dominant feature; all land has to be made-up and buildings involve piling. This dictates the pattern of growth, which is carried out in neighbourhood-sized blocks in line with Bestemmingsplannen, which are planned around the public transport network, with joined-up networks of pedestrian and cycle routes.

The population is relatively small, and Delft is really part of the wider Randstad built-up area.

Demonstrator new neighbourhoods

The urban extension (Het bestemmingsplan) Schieoevers Noord **[size?]** https://www.planviewer.nl/imro/files/NL.IMRO.0503.BP0016-0002/t_NL.IMRO.0503.BP0016-0002_4.2.html . It is expected that the Schieoevers grow into a neighbourhood with a mix of employment, homes and community infrastructure.

The urban extension of Delft-Zuidoost **[size?]** including Technopolis (research park) started in 2005. Technopolis is located next to the campus of Delft University of Technology.

“We are expanding Delft Campus as an important starting and ending point of the public transport journey by realising good facilities for the 'first and last mile' and focusing on open public transport towards Schieoevers and TU Delft.”

Best practice in engagement and consultation

To be researched, but thought to be interesting. The Mobiliteitsplan recognises the need to bring about change of attitudes and behaviours if it is to succeed.

Possible contacts

The Chair (Voorzitter) of the Planning and Transport Directorate would be a good contact – she is Ingrid Lips of the GroenLinks Party (Green Left).

Martina Huijsmans is the Alderman responsible for mobility, spatial planning, and services.

Jan Nederveen would be a useful contact. He is Strategic Advisor to the Council and drafted its 2002 Transportation Plan. He works in English and has contributed to research in the Netherlands and internationally. His details are on Linked In.

It might also be worth contacting the Technical University (via Jan Nederveen) as it seems to have a number of relevant research areas.

Author: John Stevens v2.1 21st May 2021