Title	TRACC Assumptions
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1. Introduction

1.1 This note sets out the assumptions and settings that have been applied in the preparation of the accessibility analysis which has been undertaken using the accessibility software programme Visography TRACC. It begins with a non-technical summary which is then followed by a more detailed list of technical assumptions.

Summary

1.2 In order to compare journey times to the two hospitals, industry-standard modelling software was used. As with all models, the outputs must be treated with caution due to the assumptions and data that are used. In particular:

- The public transport journey times are derived from published (July 2016) timetable information, which is the only network-wide dataset available. Whilst timetables to some degree reflect typical traffic conditions, clearly schedules are not always met. Journey times may therefore seem optimistic compared to perceived service reliability.

- A maximum walking distance of 400m is assumed for access to public transport stops and between stops when interchange is required. If a public transport service is not available within 400m, the model shows that journey to be impossible. 400m is the industry standard assumption for the distance people are willing to walk to a bus stop, although it is recognised that for elderly and less able people, this distance may not be possible.

- The car journey times are based on default speeds contained within the model, as shown below. Clearly, these assumptions are a simplification and actual speeds are often a lot lower than this, particularly at peak times. Whilst other datasets containing "real" traffic speeds are available, there are significant costs involved as well as impacts on how long the modelling takes. The assumed speeds are:

- Motorway - 100km/hr
- A Road - 75km/hr
- B Road - 65km/hr
- Minor Road - 35km/hr

1.3 Overall then, because of the need to use data that consistently covers the whole region, and the limitations of that data, the resulting journey times maybe somewhat less than are experienced in practice, particular when the road network is congested. For the purposes of comparing journey times to the two hospitals, however, the analysis is considered to make best use of available data.

Technical Assumptions

1.4 Table 1 below outlines the datasets that have been used as part of the accessibility analysis.

Table 1: Data inputted into the accessibility model

Origin	General population calculations (Road, Public Transport, Cycle, Walk) - a grid of origin points was created at 100m intervals to represent people who would be starting their journeys from that location.
	Clinical area calculations (Road, PT, Cycle, Walk) - Patients postcode centre locations
Destination	Single point location for both hospitals placed on the bus stop closest to the centre of the site.
Public transport network	ATCO public transport data obtained for July 2016 (Bus and Metro)
Road Network	Ordnance Survey Meridian 2 data.
Geodemographic data	Office for National Statistics nomis website.
Geodemographic data , specific Census 2011 fields used	Age Structure, All usual residents (KS102EW)
	Households with no cars or vans Number Households (KS404UKDATA)

1.5 The technical assumptions outlined in Table 2 to were incorporated into the accessibility model.

Table 2: Model assumptions

Direction of travel	Inbound and outbound calculations performed for public transport. Directionality does not affect road, cycle or walk based calculations.
Day & time of travel	Various time periods performed for public transport, please see individual calculations. All performed on a Wednesday. Time of day and day of week have no bearing on road, cycle or walk calculations.
Maximum Connection Distance	400m (when walking to the first bus stop, interchanging and walk at the end of public transport journey to destination).
Road speed	Motorway - 100km/hr A Road - 75km/hr B Road - 65km/hr Minor Road - 35km/hr
Walk speed	4.8 km/hr
Straight line walk distance factor	1.2 metres (to account for walk routes not being direct).
Cycle speed	16 km/hr (cycle calculations only);
Public transport stop frequency	No minimum stop frequency (public transport calculations only)