

**TRANSPORT THEMATIC BOARD**

**19 JULY 2019**

**SUPERTRAM UPDATE**

**Purpose of Report**

To advise Board members of progress to date on the operation and long-term renewal of the Supertram asset in South Yorkshire.

**Freedom of Information**

A – the paper will be available under the Combined Authority Publication Scheme

This paper may be released under a Freedom of Information request. In this section, it must be clear if the paper has any exemption under [Part II of the Freedom of Information Act 2000](#) (the report author must specify which exemption applies and why).

**Recommendations**

Board members are asked to:

1. Note the background information on the development of the Supertram network and its current performance.
2. Note the progress made to date on the development of the Outline Business Case (OBC) seeking funding from government for the renewal of the asset.
3. Give their views as to the options being considered, the financial aspects of the options described and the approach to identifying and securing a local contribution to the capital costs.

**1. Introduction**

- 1.1** For over 20 years, Supertram has been connecting high numbers of people to jobs, education, shopping and leisure in Sheffield and beyond. Making over 12 million passenger journeys a year, it plays an important role in the wider public transport network within the Region and is recognised as an attractive, reliable and efficient mode of travel. The tram system reduces congestion, helps improve air quality, and potentially could play an important part in future plans to better connect residents and businesses to our urban centres and major housing, retail, leisure and employment sites within the Sheffield City Region.
- 1.2** A 2014 study found that after more than 20 years of continuous operation, parts of the existing tram network and vehicles are approaching the end of their working life. Whilst ongoing general maintenance costs are paid for by the current tram operator (Stagecoach), there is no funding currently in place for the long-term renewal of the

system. Investment is therefore needed to allow the Supertram network to operate for at least another 30 years, and central government funding will be required to support this.

- 1.3 In October 2018, a tram-train pilot service commenced operation between Sheffield Cathedral and Rotherham Parkgate. This pilot (the first of its kind in the UK), funded by DfT, is testing the use of tram-train technology on a light rail system to evaluate its potential use elsewhere. It makes use of a shared section of network rail track between Tinsley and Rotherham Parkgate, running on the same tracks as heavy rail services. Three services per hour operate between Sheffield and Rotherham, with stops at Rotherham Central and Parkgate.

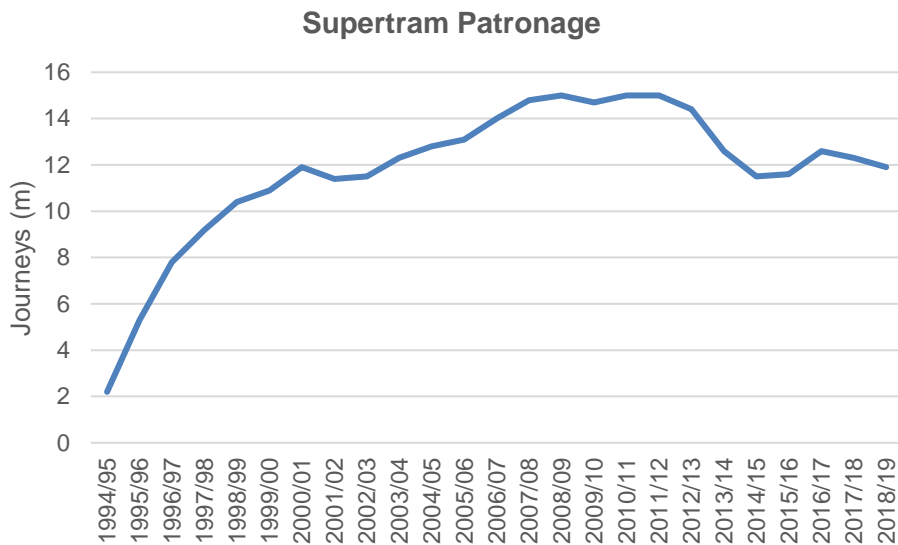
## **2. Proposal and justification**

- 2.1 The Supertram network plays a fundamental role in supporting the economy and residents of South Yorkshire. It provides a key means of connectivity to allow people to travel to work, education and for leisure purposes. In doing so, it contributes to reducing traffic congestion and improving air quality, providing a zero-emissions transport network capable of moving customers within the region.
- 2.2 The current network commenced construction in 1991 and opened for use in 1994. The asset has subsequently worn over time and as it now approaches the end of its economic life it is in need of investment to allow the network to continue beyond March 2024, the date at which the current concession operation ends with Stagecoach.
- 2.3 In order to secure funding for the large-scale renewal of the network, the process of developing a business case to submit to DfT commenced in 2016/17 and since then, SCR and SYPTE have continued to actively engage with DfT on the preparation and submission of the Outline Business Case (OBC) for the renewal of the Supertram network between 2024 and 2028. This business case includes the renewal of all signalling and track-side systems, significant improvements to the depot and the replacement of the current 25 fleet of trams with 28 brand new vehicles. The OBC is expected to be submitted to DfT for approval in October 2019.
- 2.4 The development of the OBC is almost complete and will be submitted to DfT after it has been approved by the Combined Authority (CA) along with confirmation of the region's commitment to find a local contribution to match the Government's funding ask.

However, this was based upon the expectation that the Government funding contribution would come from DfT's Local Large Majors (LLM) programme. It was expected that following a submission in October 2019, the project would receive 'Programme Entry' by March 2020 with a Full Business Case submitted by April 2022. The LLM funding pot no longer exists, with Government diverting projects that were on the LLM pipeline onto other programmes, such as Transforming Cities Fund (TCF). A recent meeting with DfT confirmed that projects such as Supertram renewal do not have a 'home' elsewhere within another DfT programme i.e. there is no other existing funding stream which could fund the renewal project.

It has therefore been agreed that a direct approach to Treasury (supported by DfT), as part of the Comprehensive Spending Review (CSR) process as the most appropriate means of securing the necessary funding. This is in keeping with the approach taken recently by Nexus (the Tyne and Wear Passenger Transport Executive) for the renewal of their Metro train fleet.

- 2.5 Current performance and patronage on the network has varied over time. The network experienced positive growth in its early years, growing from 2.2m in its first year to almost 12m by 2000/01. It peaked at 15m 2010/11 and again in 2011/12, only to start to drop from 2012/13, in part as a result of re-railing work. Latest figures indicate around 11.5m journeys made annually.



The Outline Business Case assumes patronage growth from 11.5m trips per year (18/19 excluding tram train) 12.3m in 2023/24 (again excluding tram train), a growth of approximately 2% per annum. Beyond 2024 the OBC assumes no growth to 2028 as a result of disruption by the renewal work. The transport model is then being used to populate the OBC with generated forecast patronage for future years. We also recognise the success criteria targets set out in the SCR Transport Strategy 2019 which aim to increase tram patronage by 47% by 2040 and will undertake work to assess the deliverability of this target on the outputs from the transport model.

Punctuality and reliability on the network has largely remained positive in terms of overall performance, with current punctuality at 94% and reliability at 99%. However, as we have seen on the Nexus network, they saw a rapid year on year decline in their fleet performance as it approached the end of its economic life which had a detrimental effect on patronage and hence financial sustainability of the system as a whole. At what point the Supertram network may start to experience a rapid fall in performance is as yet difficult to forecast.

- 2.6** Whilst the OBC will deal with the large-scale investment required to renew the asset, the region has already invested in replacing sections of worn rail over a recent number of years. A programme of rail replacement commenced in 2013 to 2015 and again from 2018 to 2020. The combined value of this work is £32m.
- 2.7** The renewal of the asset is also considered essential should the region look to exploit and expand the current network beyond its current operations. Success of the tram-train pilot could indicate that this technology can be applied to extend services to other parts of the region, such as Waverley/AMID, Barnsley or Doncaster.

Tram-train is also expected to provide capacity alleviation from the heavy rail network resulting from Transport for the North (TfN) [Northern Powerhouse Rail \(NPR\) Programme](#). NPR will require some local train service demand to switch to tram and tram-train to allow sufficient capacity services to operate through Sheffield Midland Station which will act as the regional hub.

### 3. Consideration of alternative approaches

- 3.1** The Supertram network requires considerable investment were it to be renewed to allow it to operate until at least 2054. Without this investment, the region is faced with some broad options;
1. Agree a delayed renewal whereby elements were fixed on an as required basis and the current fleet of tram vehicles were refurbished to allow longer use.

2. Wholesale closure of the network from 2024, decommissioning the network and returning the sites to either normal highway or made good for other uses.
  3. Replace the current rail-based tram network with a Bus Rapid Transit network with equivalent coverage.
- 3.2** A delayed renewal assumes the existing trams are refurbished from 2024 and renewed approximately 15 years later. This has an impact on the phasing of capital investment is different from the renewal option (the cost of replacing the current trams with new vehicles between 2024 and 2028 is currently forecast at £105m) but there are also differences in operating costs and revenue.
- 3.3** Closing the network in its entirety would result in private sector bus operators looking to pick up opportunities by providing more bus services in the areas previously served by trams, but these would be funded from fares, i.e. there would be no public-sector funding. The whole costs associated with decommissioning and reinstatement would be borne by the public sector and are estimated at £147m to 2028 (excluding commuted sums).
- 3.4** The option to replace the current tram network with a Bus Rapid Transit (BRT) network has not been progressed beyond the initial appraisal as it is understood to be prohibitively expensive as it requires the decommissioning and removal of the current tram infrastructure and replaces it with bus-based infrastructure.

## 4. Implications

### 4.1 Financial

If the preferred option of renewal 2024-28 is pursued, the **capital cost up front is c.£408m** (including inflation). By way of context, the OBC has also had to consider alternative options, including the option to close the network. In comparison, the cost of closure is anticipated to be around £147m to 2028, the full costs of which would be borne by the region. Government would not contribute to the closure.

We also need to allow for c.£8m of costs for the Full Business Case (FBC), for which DfT or Treasury won't provide any funding, however these costs would count toward our local contribution target. Hence, total 'upfront' capital cost currently estimated at £416m (including inflation).

Further into the future, post renewal, it is expected there will be lifecycle costs of c.£244m (based on 5% inflation) post-2028 would be required through to 2054 (e.g. future re-railing). Unless we can negotiate additional support (e.g. a capital maintenance subsidy), our working assumption is that these lifecycle costs would not be covered by DfT funding, so we will need to source funding from elsewhere, e.g. from future years' profits on the Supertram network. Future years' profits are contingent on significant patronage growth.

It would still be expected by Government, that as part of a direct CSR submission, a local contribution is still found. Discussions with DfT, based upon the contribution provided in the Nexus scenario, suggested a figure closer to 7-10% 'might' be acceptable (Nexus contributed 7%).

Based on the total costs of c.£408m, **a 7-10% local contribution would therefore be in the range of £29-42m**, which would include the £8m costs for the FBC. It is prudent to assume a 'worst case scenario' and therefore officers have been modelling options for how the £42m can be achieved in theory from combining several funding sources.

### 4.2 Legal

Consideration needs to be given as to the operating model deployed in 2024 to operate the network when the current concession with SYSL expires. Early marketing testing has

commenced as to the interest from other operating companies who may be considering a future bid to operate the network.

There is however risk associated with letting a concession from 2024 which requires the operating company to take revenue risk during a period of around four years where there is expected to be significant operational disruption from the renewal works required (upgrading the depot, new power and control systems, overhead line equipment, substations, signalling and commissioning of new vehicles). There may be an option therefore to operate the network through a revised model whereby operations are returned "in-house" for a period of time until a renewed network is ready to be let on a concession.

#### **4.3 Risk Management**

The development of the Outline Business Case is being managed as a formal project and as such has the appropriate risk management controls in place to manage project delivery. A Quantified Risk Assessment (QRA) has been undertaken on generic risks across options to understand the financial risk in variations to the assumptions and costs involved in renewing the asset. This has produced a risk value of £45m within the cost plan.

#### **4.4 Equality, Diversity and Social Inclusion**

This paper does not contain any specific equality, diversity or social inclusion considerations.

### **5. Communications**

- 5.1** A detailed communications plan supports the development of the OBC. We are also developing a stakeholder engagement approach to better engage with and generate support from the business community in South Yorkshire following discussions with Nexus as to their approach to use the benefits of the public transport network to local and regional employers as a mechanism of endorsement for the continuation of the service.

### **6. Appendices/Annexes**

- 6.1** None.

#### **REPORT AUTHOR POST**

Officer responsible	Tim Taylor, Director of Customer Services
Organisation	SYPTE
Email	tim.taylor@sypte.co.uk
Telephone	0114 2211202

Background papers used in the preparation of this report are available for inspection at: 11 Broad Street West, Sheffield S1 2BQ

Other sources and references: