

Appendix 4 – Very Light Rail

Background

The aim of this project is to develop and deliver an affordable tram system for Coventry which can be manufactured locally and ultimately marketed to similar sized communities.

Conventional tram systems can cost up to c£100m/km in city centre locations; one of the main driver of costs being the relocation of utilities. As a consequence conventional trams can only be afforded in larger cities/conurbations. The aim is to utilize the lightweighting technology and expertise of the Warwick Manufacturing Group (WMG) and its partners to produce a tram type vehicle with much lower axle loading which reduces or removes the need for the relocation of utilities.

It is also proposed to utilize the battery technology being developed by WMG to remove the need for any overhead wiring and to build in the ability to operate autonomously to reduce operating costs. The target 'all in' cost for Very Light Rail system is £7m/km.

Analysis of existing public transport usage and predicted growth in the city shows that there would be a positive business case for a system in this price range.

The first phase of the project is research and development and this is split into 4 workstreams:

- Vehicle development and production of a demonstrator vehicle (led by WMG)
- Track development and testing (led by WMG)
- Route options and design (led by CCC)
- System operations, system integration (led by Transport for West Midlands - TfWM)

The research and development phase, including testing, is expected to be completed in 2020.

Progress

Vehicle

WMG have completed a feasibility study which has determined that a lightweight vehicle with an axle weight of less than 3 tonnes is feasible and that a demonstrator vehicle can be delivered by Summer 2019 with testing to follow.

The preferred vehicle type would be capable of carrying up to 50 people and able to be operated coupled together to increase carrying capacity. It would also be capable of autonomous operation which would permit the operation of a higher frequency service.

A procurement exercise is underway to commission a partner to work with WMG to further develop, design and build the demonstrator vehicle. The outcome of this exercise should be known by March this year.

Track

A feasibility study on a lightweight track has been completed by WMG. This shows that there are a number of options for a track form that can sit within the top 250-300mm of a road. This means that it should not impact on utilities.

However, there is still the question of obtaining access to the utilities underneath the track for repairs and maintenance. This is a crucial issue for this project and will be a key component of this workstream.

A procurement exercise for an industry partner is planned shortly. The aim is to develop the track in parallel with the vehicle so the two can then be tested in later 2019/2020.

Routes

Two initial routes are being considered: City Centre to University of Warwick via the railway station and City Centre to Walsgrave Hospital.

An initial optioneering study is underway for the University of Warwick route. This study is looking at route options, potential patronage and the likely business case. This is expected to report at the end of February.

A similar study for the Walsgrave Hospital route will be commissioned shortly.

System Operations

TfWM have appointed an 'independent competent person' (ICP) to work with the team on compliance with the multitude of safety operating requirements that the system will need to satisfy.

