

# Technical note

**Subject:** Greater Cambridge Cycle City - Expected impact assumptions and data source

**Date:** 30<sup>th</sup> January 2015

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## 1. Introduction

The Greater Cambridge Cycle City (GC<sup>3</sup>) proposed package of measures is expected to contribute towards delivering a comprehensive integrated network of cycling and walking infrastructure, enabling cycling and walking to become the preferred modes of travel for shorter journeys across the area. The schemes are expected to increase the existing cycling route length, increase cycling speed in some cases, increase the number of users including some shifting from car driving. The impact measures for individual schemes are shown in Appendix E Scheme Impact Pro Forma. This technical note explains in more detail how we have estimated these and the sources of reference information / data we have relied on. This technical note also indicates other information that DfT may refer to when undertaking a full review of the Value for Money analysis.

## 2. Scheme impact indicators

These scheme impact measures are estimated for the proposed schemes:

- Route length in km
- Average trip length in km
- Average cycling speed in km per hour
- Number of users per day
- Percentage of additional cyclists that would have driven a car otherwise

### 2.1. Route length

Route length estimated refers to the length of any cycling provision including segregated cycle lanes, on-road cycle lanes, shared-use paths and off-road cycle paths.

### 2.2. Average trip length

Average trip length is based on the National Travel Survey Table nts0306 Average trip length by main mode: England. Figure for 2013 is 3.3 miles, approximately 5 km.

For schemes in South Cambridgeshire (Quy to Lode cycle route and A10 Cambridge to Foxton Station) we have assumed an average trip length of 10 km/h, doubling the NTS figure. Local data have shown that cyclists in South Cambridgeshire seem prepared to commute longer distances where infrastructure exists. This is particularly true for links to employment sites such as the A10 South corridor. We have also assumed an average trip length longer than the NTS for the Lode to Quy scheme, on the basis that additional trips including leisure trips to / through the National Trust property could be longer.

### 2.3. Average cycling speed

The estimation of the average cycling speed takes into account the road environment, traffic condition and infrastructure provision. For city centre scheme such as the Queen Edith's Way scheme, an existing average speed of 14 km/h is assumed, on the basis of incomplete route and narrow path. For other schemes an average speed of 18-20 km/h is assumed. Where the proposed scheme will enable easier overtaking, an increase in average cycling speed is assumed.

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## 2.4. Number of users per day

### 2.4.1. Phase 2 schemes

Where DfT Annual Average Daily Flows (AADF) data are available, the 2013 figures are used for the 'without scheme' estimates. An assumption is made for a percentage increase resulting from shift from other modes. Where available, local data or specific assessment results are used for individual schemes.

### 2.4.2. Chesterton-Abbey Bridge

The bridge is part of the wider Chisholm Trail scheme, for which more detailed assessment has been made. A study was completed in September 2013 to estimate the usage of a proposed bridge link. The estimation of number of users 'is given as a range in the report. Our estimate used in this Cycling Ambition Grant application is based on the middle of the estimated range, which is conservative. The bridge is a facility for walking and cycling. We have assumed approximately 73% of the additional users to be cyclists, based on a Green Dragon Bridge local survey in April 2014.

### 2.4.3. Two-way cycling in one-way streets

The precise locations are still to be confirmed for this proposed scheme. Therefore, we are unable to estimate the absolute number of users. We are, however, able to estimate an increase of around 15%. This is based on the review of a previous trial reported to Transport for London in June 2010 – Especially Authorised Signing Trial 'No Entry Except Cycles' Signing Review. Reference to the Cambridge monitoring sites suggested a likely 15% increase. [Transport for London: No Entry Except Cycles Signing Review](#) A list of potential sites has been identified and can be found in Annex 1 at the end of this note.

### 2.4.4. A10 Cambridge to Foxton Station

For this scheme, we have made the same assumptions as our application for the Local Sustainable Transport Fund 2015/16 for the wider A10 Cambridge to Royston corridor scheme. The assumption for number of users is calculated with an uplift taken from a Sustrans study report published in July 2014. [Sustrans: Improving access for local journeys](#)

## 2.5. Percentage of additional cyclists from car

We have made a subjective estimate of modal shift based on location of the scheme, type of user and proposed cycling provision. In general, for a city like Cambridge where there is already a strong cycling culture, we believe the estimate of a 10% shift is reasonable. For a new facility like the Chesterton-Abbey Bridge which will offer a direct route to a sustainable transport interchange, we believe a 20% shift is reasonable. On the other hand, a local shift from car of 5% is assumed for the village scheme from Quy to Lode, on the basis of fewer commuter trips but higher leisure trips.

## 3. Other information on Value for Money

### 3.1. Previous assumption / assessment

In this proposed package we have included Phase 2 of some of the schemes in the current Cycling Ambition Grant programme. These are the arterial route segregated cycle lane schemes. Even though we are not required to submit a full economic appraisal, it might be helpful to indicate the reference to sources of information we used in the assessment of the current programme. An extract of the Economic Case – Value for Money section of the application form April 2013 is shown in Annex 2 at the end of this note.

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## Annex 1

### List of potential sites for two-way cycling on one-way streets

Preliminary feasibility work has been undertaken on a long list of potential sites. The list below shows the sites which are more feasible. Further work will be undertaken to prioritise the sites.

Brookside  
Coronation St  
St Eligius St  
Argyll St  
Thoday St  
Sedgwick St  
Catherine St  
Hemingford Rd  
Emery St  
Perowne St  
Willis Rd  
Guest Rd  
New Square (south)  
Green St  
Shelley Row  
Albion Row  
Mercers Row  
Panton St

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## Annex 2

### **Previous assumptions – extract from Cycle City Ambition Grant application April 2013 B7 Economic Case Value for Money**

Each of the individual schemes that comprises our proposal has a scheme impacts pro forma completed (please see Appendix E for further details). These have been drawn from various relevant sources, and in some cases data was not available to allow some impacts to be estimated, so these are not considered in the BCR. Effectively this means that further benefits could be delivered by our proposal, but it is not possible at this point to quantify these.

Many of the values used are derived initially from research undertaken by SQW into the impacts of cycling projects<sup>1</sup>. These figures were indexed according to CPI to give present-day values. This document gives values attributable to an additional cyclist cycling regularly for one year, drawing upon an earlier document from SQW<sup>2</sup>, which defines this as 160 trips in a year of 3.9km on average. This enabled the data to be broken down into per-trip values. For clarity the 3.9km average trip length was applied in ascertaining financial impacts for our proposal.

These impacts are in several cases differentiated according to type of project (i.e. urban onroad, etc.), so each scheme was listed accordingly and the appropriate values were applied. These figures were then applied to the estimated increase in cycling trips contained in the scheme impact pro formas (the values given for additional users per day were doubled to provide a number of additional trips per day). These values were then up-rated to estimate their impacts over one year, and added together to provide the total forecast benefits under each category.