Oxfordshire Lane Rental Scheme

Cost Benefit Analysis Summary – October 2023

Costs

The costs associated with the scheme include the following capital, operating and revenue expenditure in 2010 prices in accordance with the Department for Transport's WebTAG.

- Total Capital Expenditure **None additional to Permit Scheme**
- Year 1 Operating Expenditure **£431,676**
- Annual Operating Expenditure (After Year 1) **£431,676**
- Year 1 Revenue Expenditure **£4,685,486**
- Annual Revenue Expenditure (After Year 1) **£4,685,486**

Oxfordshire County Council will incur the capital and operating expenditure with the capital cost for the first year only. Revenue is derived from the Lane Rental charges to Utility companies.

Business Case

The development of a detailed Cost Benefit Analysis (CBA) is a requirement for making a Lane Rental Scheme Local Order.

The analysis assesses the impact of Lane Rental charges over the full range of required social and economic variables that have been specifically agreed in consultation with the UK Department for Transport (DfT).

An effective CBA is a mechanism to assess the benefits and costs of an investment both in terms of its overall viability and in relation to other options.

The legislative guidance used for the study is contained within:

- Lane Rental Schemes Guidance for English Local Highway Authorities DfT July 2021
- WebTAG user and provider impacts (TAG Unit A1-3 May 2022).
- Department of Transport's (DfT) Halcrow study "Assessing the Extent of Streetworks and Monitoring Effectiveness of Section 74 in Reducing Disruption Volume 3 – Estimation of Cost of the Delay from Utilities' Street Works, June 2004"
- Chapter 8 of the Traffic Signs Manual DfT 2009
- Quadro User Manual July 2021
- Street Works (Charges for Occupation of the Highway) (England) Regulations 2012 ("the Regulations") made under Section 74A of NRSWA

QUADRO software is able to appraise individual works that are planned in the future on different types of road by modelling the delay experienced by road users, quantify the delay and estimate the cost of the delay.

The software is able to calculate and convert delays in to monetary figures as detailed in WebTAG Unit 3.5.6. with assumptions in regard to valuation of time, operating costs and accidents.

Users are required to input base link specific details including network classification, traffic flows, road type characteristics and any diversion routes. Street work details including site length, works type such as lane closures and shuttle working. The latest version QUADRO 2021 version 4 release July 2021 has been be used for this CBA.

The central assumption of the analysis is that the introduction of the Lane Rental Scheme will cause an increase in the overall duration of works on Lane Rental Streets due to reduced efficiency (shorter days etc) of 25% and a decrease in the overall duration of Immediate works on Lane Rental Streets to avoid charge periods of 50%, and have a commensurate effect on roadwork activity and all associated aspects of the analysis.

The key general economic assumptions included with the CBA are as follows:

- The scheme is anticipated to open in **<add date>**
- A **25** year appraisal length is assumed in accordance with DfT guidance
- A Discount Rate of **3.5%**, Combined Risk and Optimism Bias Factor **38%** in accordance with DfT guidance

Summary of Appraisal

The CBA determined the following key impacts of the Oxfordshire Lane Rental Scheme:

- The total number of works impacted by the scheme amounted to **7,765** of various length and duration.
- The annual delay cost for Road works impacted by the scheme undertaken in East Sussex was **£17,555,794** including a **20%** uplift in time reliability costs for urban roads.
- The number of days saved with amounts to **2,371**.
- The Lane Rental scheme benefit is **£438,894,839** with costs of **£7,091,006** and a Net Present Value (NPV) of **£431,803,834** giving a Benefit:Cost Ratio of **61.89:1**. A breakdown of benefits is shown on Table 1 below.
- A summary of the CBA consistent with WebTAG is shown on Table 2 below.

Table 1 Benefits Summary Values over 25 Years

Benefits	Value	Percentage of Total Benefit
Consumer Travel Time	£224,949,894	51%
Consumer Vehicle Operating Costs	£21,242,937	5%
Business Travel Time	£178,551,073	41%
Business Vehicle Operating Costs	£26,147,960	6%
Private Sector Provider Operating Costs	£1,593,808	0%
Reduction in Fuel Revenue	£13,534,503	3%
Greenhouse Gases	-£103,545	0%
Accidents	£47,216	0%
Net Present Value of Benefits	**£438,894,839**	

Table 2: Summary of CBA

Analysis of Monetised Costs and Benefits (25% Duration Saving) 25 Years

Noise	-		*-12*
Local Air Quality	-		*-13*
Greenhouse Gases	-103,545		*-14*
Journey Quality	-		*-15*
Physical Activity	-		*-16*
Accidents	47,216		*-17*
Economic Efficiency: Consumer Users (Commuting)	246,192,831	*(1a)*	
Economic Efficiency: Consumer Users (Other)	-	*(1b)*	
Economic Efficiency: Business Users and Providers	206,292,841		*-5*
Wider Public Finances (Indirect Taxation Revenues)	13,534,503	*- (11) - sign changed from PA table, as PA table represents costs, not benefits*	
Present Value of Benefits (see notes) (PVB)	438,894,839	*(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)*	
Broad Transport Budget	7,091,006		*-10*
Present Value of Costs (see notes) (PVC)	7,091,006	*(PVC) = (10)*	
OVERALL IMPACTS			
Net Present Value (NPV)	431,803,834	NPV=PVB-PVC	
Benefit to Cost Ratio (BCR)	61.89	BCR=PVB/PVC	

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions. All values in £s.