APPENDIX 2

Economic Impacts of Active Modes

Introduction

The Bromsgrove LTP4 active modes scheme will promote cycling and walking across the town through a comprehensive series of improvements, including new links, crossings and resurfacing. This will promote cycling and walking across the entire urban area of

Modelling Approach

For pedestrians, WebTAG Data Book Unit A 4.1.7 has been used to assess the value of journey quality impacts. The scheme includes resurfacing, new crossings, dropped kerbs and also a comprehensive review of all signage on existing and new routes. Therefore, the values for 'kerb level', 'pavement evenness' and directional signage' have been added together to give a journey quality value of 4 pence per kilometre for pedestrians.

Table 4.1.7: Values of aspects in pedestrian environment (2010 values and 2010 prices)		
Scheme type	**Value p/km**	**Source**
Street lighting	3.7	Heuman (2005)
Kerb level	2.6	Heuman (2005)
Crowding	1.9	Heuman (2005)
Pavement evenness	0.9	Heuman (2005)
Information panels	0.9	Heuman (2005)
Benches	0.5	Heuman (2005)
Directional signage	0.5	Heuman (2005)

TABLE 3: WEBTAG UNIT A 4.1.7

Active Mode Toolkit assumptions - business

The key assumptions adopted for this assessment are listed in Table 5 below. It is also worth noting that a range of benchmark values are built into the DfT's Active Mode Appraisal Toolkit to facilitate the estimation of benefits by different impact categories. These DfT assumptions are visible in the Toolkit.

The uptake in cycling and walking was estimated using monitoring data from similar schemes aimed at dramatically increasing walking and cycling. Table 4 outlines results from a Sustrans report *The Real Cycling Revolution* which indicates that cycling uplifts from investment in good quality provision can be as high as 1000%.

Case Study	Start	End	Start No.	End No.	Uplift
Manchester NCN Canal Towpath Provision	2008	2011	22,359	98,304	340%

			March 2020.

			something' scenario.
	Estimated number of pedestrian journeys	4,592	Evaluation evidence for Sustrans case studies suggests that uplifts of over 250% can be achieved through provision of comprehensive cycle infrastructure (see Table 4). A 100% uplift factor was used for cyclists in Bromsgrove in order to be conservative. Given the higher baseline figure for pedestrians, half of this figure has been applied to pedestrians. Therefore a 50% uplift value is applied to existing number of pedestrian journeys to forecast pedestrian journeys for the 'do something' scenario
Decongestion Benefit	Proportion of cyclists attracted from car	20%	Census data from the 'urban Bromsgrove' area suggests that a significant proportion (around 75%) of 'travel to work' journeys is undertaken by car. WCC believe this accentuates congestion within Bromsgrove. Through the proposed investments, WCC seek to reduce such journeys and instigate a step change in cycling across the town. As such WCC have a conservative target to ensure that at least 20% of new cyclists will be attracted from cars.
	Proportion of pedestrians attracted from car	20%	Census data from the 'urban Bromsgrove' area suggests that a significant proportion (around 75%) of 'travel to work' journeys is undertaken by car. WCC believe this accentuates congestion within Bromsgrove. Through the proposed investments, WCC seek to reduce such journeys and instigate a step change in walking across the town. As such WCC have a conservative target to ensure that at least 20% of new pedestrians will be attracted from cars.
	Area type	Other Urban	As defined in Table A2 of TAG Unit A5.4: Marginal External Costs.
Additional information	Background growth	0%	A comparison of 2001 and 2011 census JtW (method of travel to work) confirms that there has been a slight decrease in the use of active modes during the period. This demonstrates the outcomes of lack of active mode based investments within and around Bromsgrove. For the purpose of this appraisal, overall background growth has been adopted at 0%.
	Period of growth	n/a	Assumed to be zero as the area has witnessed no background growth in pedestrians and cyclists.
	Number of days in analysis period	253 days	Number of standard workdays / year.

TABLE 5: KEY ASSUMPTIONS

Active Mode Toolkit assumptions - schools

The assumptions which have been made to assess the school children within the Active Mode Toolkit are outlined in Table 6.

	Modelling criteria	Value	Commentary
Scheme Details	Opening year	2019	Following the approval of this funding application, the delivery of schemes can commence in early 2018. This is consistent with the requirements of the funding competition: *"Allow work to start in Spring 2018." Therefore, expected completion and opening in 2019.*
	Last year of initial funding	2019	The scheme delivery will be completed by end of 2019. This is consistent with the requirements of the funding competition: *"The Department will not be able to provide any funding beyond 31 March 2020."*
	Decay rate	10%	Scheme benefits assumed to gradually erode over an appraisal period of 20 years, consistent with the central case example outlined in Table B1 of TAG Unit A5.1: Active Mode 334.02 509.16 T676od 518.28 2 6

			speed evidence). In the absence of any relevant data for cycling speeds by age groups, the locally achieved cycling speeds by adults have been adjusted to derive average cycling speeds achieved by school aged children.
	Estimated number of pedestrian journeys	6,093	This is based on an analysis of the total school age population across the urban area of Bromsgrove (4,542, up to the age of 16). National travel survey indicates that as a weighted average, approx. 55% walk to school. Assumed that each school child will create two journeys. Furthermore, the analysis assumes that some cycling journeys to schools are escorted. The National Travel Survey suggests a ten year weighted average of 62% of pupils aged between 7 and 13 are escorted to school (NTS Table 0616). At the same time, a ten year weighted average of 87% of pupils at the lower end of this cohort is also escorted to school. This figure provides a good proxy for the proportion of accompanied school trips for pupils aged 5 and 6. If it is assumed that no pupils aged 14 and above are escorted, the weighted average for escorted school trips across all age groups is 55%. The analysis also assumes that escorts only make two journeys (not four) per day.
	Ave. walk journey length	1.4 km	This is based on NTS data regarding distances travelled on foot to school. This is a weighted average to reflect the different trip lengths of primary (1.2km) and secondary school children (1.66 km).
	Ave. walk speed (kph)	3 kph	The Association between Blood Lead and Walking Speed in the National Health and Nutrition Examination Survey (NHANES 1999–2002; http://ehp.niehs.nih.gov/wp-content/uploads/121/6/ehp.1205918.t001.html) suggests that children up to 14 years (less than "9th graders") achieve and average walk speed of 2.8 feet per second or approximately 3 kph. This assumption has been adopted as the average walk speed for primary and secondary school children. This approximately 60% of the average adult walk speed of 5 kph.
	Estimate for the number of return journeys	100%	All school journeys are assumed to involve a return.
Do Something Scenario	Estimated number of cycle journeys		