



Department for Transport

Active Mode Appraisal Toolkit

Last updated: November 2023

Original Version: March 2015

Queries and comments on this toolkit should be referred to:

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Version Control

Version	Date	Description of changes
2.10	November 2023	Updated journey quality values following review of original evidence; updated trip length and sick leave assumptions based on latest NTS and ONS data; discounting calculations revised to account for pre-appraisal year rates and Green Book schedules; QALY value adjusted to reflect appraisal year value; updated GDP per capita, GDP deflator forecasts, and MECs in line with TAG Data Book v1.22.
2.09	May 2023	Updated GDP per capita, GDP deflator forecasts, and MECs in line with TAG Data Book v1.21.
2.08	November 2022	Updated car and taxi diversion factors for car (0.24) and taxi (0.06) based on a new study (to be published); value of a quality-adjusted life year now assumed as £70k in 2020 prices, adjusted to 2010 prices in line with TAG Data Book; health-related impacts are now discounted by Green Book health discount rates (starting at 1.5%pa); updated GDP per capita and GDP deflator forecasts in line with TAG Data Book v1.20.1
2.07	May 2022	Corrected error in Discounting tab; changed default OB rate to 23% in line with latest recommendations in TAG A1.2; split out investment and operating costs. Updated GDP per capita and GDP deflator forecasts in line with TAG Data Book v1.18
2.06	November 2021	Updated GDP per capita, GDP deflator forecasts in line with TAG Data Book v1.17.
2.05a	September 2021	Sensitivity version with MECs updated to reflect new BEIS carbon values (September 2021), in line with corresponding sensitivity TAG Data Book v1.16.
2.05	July 2021	Updated GDP per capita, GDP deflator forecasts, MECs in line with TAG Data Book v1.15. Appraisal values now increase by 1.5% p.a. from appraisal year onwards in line with revisions to appraisal accounting detailed in TAG Unit A1.1.
2.04a	July 2020	Sensitivity version produced with updated GDP per capita, GDP deflator forecasts and MECs, all consistent with latest OBR economic projections in July 2020 FSR (to 2024/25) and March 2020 EFO (post 2024/25) and corresponding sensitivity version of TAG Data Book (v1.14).
2.04	July 2020	Updated GDP per capita, GDP deflator forecasts, and MECs in line with TAG Data Book v1.13.
2.03	May 2020	Style and formatting updates; additional explanatory text added; Marginal External Costs updated (in line with Nov 2019 Forthcoming Change); obsolete cells removed; health-based calculations now adjust based on average trip length as specified by user; new Area Lookup worksheet added (to support MECs-based calculations); absenteeism formula fixed (4.3% to 4.3 average sick leave and accounted for GDP per capita); number of users formula changed to reflect return journey % as % of journeys that have both an out and back leg (appear twice in daily counts); updated GDP per capita and GDP deflator forecasts; car occupancy rate assumption revised from 1 to 1.6; health-related impacts now attract the Green Book health discount rate, starting at 1.5% p.a.; health benefits now calculated based on quality-adjusted life years (QALYs) rather than the value of a prevented fatality.
1.02	May 2019	Updated GDP per capita and GDP deflator forecasts.
1.01	November 2018	Updated GDP per capita and GDP deflator forecasts.
1.00	May 2015	Initial version published.



Department for Transport

The Active Mode Appraisal Toolkit (AMAT) allows users to undertake the economic appraisal of cycling and walking interventions in line with TAG Unit A5-1. A User Guide has also been developed to provide additional advice on how to use the Active Mode Appraisal Toolkit. It should not be used for interventions where the demand for travel by another mode has been explicitly modelled.

It accounts for the following types of impacts: physical activity, absenteeism, journey quality, greenhouse gases, noise, air quality, indirect tax, accidents from changes in car trips, infrastructure maintenance and congestion. However, it does not calculate the following: time savings, health impacts for young people, morbidity-related health impacts, or accident-related impacts from changes in walking or cycling trips.

To undertake an appraisal, users should carry out the following steps:

- 1) Complete the Intervention Details and Mode Information sections of the User Interface worksheet.
- 2) Provide cost estimates by year in the **User Interface Costs** worksheet.
- 3) [Optional] Revise assumptions in the **User Interface** worksheet to reflect appropriate local evidence.

All outputs are presented in the **Analysis of Cost and Benefits** worksheet. Calculation and assumption sheets are hidden and protected by default.

Summary of Worksheets		
Information		To be filled in by user?
Cover	Contact information and version control	
Guidance	This worksheet	
Area Lookup	Lookup table to identify the 'area type' within which the intervention is located - used in mode shift calculations.	Yes (optional)
Inputs		
User Interface	Where the user inputs specific details for the proposed intervention	Yes
User Interface Costs	Where the user inputs details of the proposed intervention costs	Yes
Outputs		
Analysis of Cost and Benefits	Provides the BCR of the intervention, together with a summary of benefits and costs with an associated chart	No
Hidden Sheets		
User Input Summaries (Hidden)		
Input Summary	Summarises inputs provided by user and taken from TAG for appraisal calculations	No
Cost Inputs Summary	Summarises the cost information input by users	No
Assumptions (Hidden)		
Health Assumptions	Includes values, taken from TAG Data book, National Travel Survey, Kelly et al. (2014) and the Compendium of Physical A	No
TAG Growth	Includes values, taken from TAG Data book for calculation of relative cost change over years (inflation)	No
TAG VoT	Includes values, taken from TAG Data book, for value of time for calculation of absenteeism benefits	No
TAG External Costs	Includes values, taken from TAG Data book, for marginal external costs which are used for calculation of benefits for mode	No
TAG Journey Quality	Includes calculation of the number of new users and trips, time and distance travelled on the intervention. It summarises jou	No
Calculations (Hidden)		
General Calculations	Using inputs calculates the number of new users and trips, reduction in car km and the journey ambience benefits	No
Absenteeism	Includes calculation of reduced rates of absenteeism due to uptake in active modes	No
Journey Ambience	Includes calculation of the journey ambience benefits based on inputs provided	No
Health Calculations	Includes calculation of the health benefits (reduced years of life lost) based on health assumptions and inputs provided	No
Decongestion	Includes calculation of the marginal external cost benefits based on inputs provided and external cost values.	No
Discounting	Includes calculation of the discounting and deflating to provide final estimates of benefits and costs	No

Area Lookup Table**Search Bar - Please Enter MSOA Zone Code or Use Below Table to Filter****Zone Code****Area Type**

For users to determine what area type their scheme is located, based on Middle Layer Super Output Areas (MSOAs), used for mode-shift calculations. Users may use a different area type if they have evidence that the mapping does not represent the area of the intervention.

MSOA Zone Code	MSOA Zone Name	LAD Code	Control Area Name	MECs Area Type
E02006887	Bristol 054	E06000023	Bristol, City of	Other Urban

Active Mode Appraisal Toolkit User Interface Intervention

Intervention-specific information

User input required for all interventions

Intervention name	Temple Way
Intervention promoter	Bristol City Council

Key

	User input required for all interventions
	User input required for all cycling interventions
	User input required for all walking interventions
	Default assumptions (can be revised with supporting justification)

Please fill in the 'Intervention details' to obtain a benefit cost ratio for an intervention. If local evidence is available, users may revise the default assumptions below but must also provide additional sources or supporting evidence to justify any changes (column H). A worked example is provided in the accompanying AMAT User Guidance document to provide the user with a step-by-step guide to completing an assessment using AMAT

Intervention details

Appraisal year	2024
Intervention opening year	2027
Last year of funding	2027
Appraisal period	40
Local area type	Other Urban

Current year

The appraisal period should correspond to the expected asset life. This should not exceed 60 years.

For applying Marginal External Costs used in mode shift calculations. Choices: London, Inner and Outer Conurbations, Other Urban, Rural, National Average

Mode information

Please fill out the cycling and walking sections where relevant. If an intervention does not directly affect the number of users of a specific mode, the relevant section should be left blank. Ideally, forecast trip numbers should be based on counts representing an average weekday in spring or autumn to avoid seasonal bias. Both automatic and manual counts can be used. The number of trips currently (without the intervention in place) and expected (with the intervention in place). These sections require projections of the number of users in a 'Do-something' scenario (with the intervention in place) can be based on data from evaluations of historical interventions, case studies, or surveys. If the user does not have current or proposed numbers, please refer to the AMAT User Guide on potential sources of data to inform your assessment. For behaviour change schemes: 'How much of an average...trip will use the intervention?' should be set to zero and there should be no change in the Current and Proposed infrastructure.

Cycling

User input required for all cycling interventions

Number of trips without the proposed intervention	548	per day
Number of trips with the proposed intervention	668	per day
How much of an average cycling trip will use the intervention?	8.00%	%

Evidence/Source

Bristol CC Traffic Survey
Temple Way AFT4 uplift. Available here:
maximum 100%

Current cycling infrastructure for this route

On-road non-segregated cycle lane

Sensitive required to assess current infrastructure. Current provision has cycle lane on 3 lane section of highway. Sections of cycle lane relocated away from road- see old market roundabout design : L:\DCS\Projects\C\160721193_Bristol_City_Centre_BCs\400_Technical\431_Incoming\March 2024 designs\E23052 City Centre - Temple Way

Proposed new cycling infrastructure for this route

Off-road segregated cycle track

Are any additional shower facilities being added?
Are any additional secure storage facilities being added?

No
No

Walking

User input required for all walking interventions

Number of trips without the proposed intervention	2642	per day
Number of trips with the proposed intervention	2642	per day
How much of an average walking trip will use the intervention?	38.64%	%

Bristol CC Traffic Survey
Temple Way AFT4 uplift. Available here:
maximum 100%

Current walking infrastructure for this route

Street lighting	Yes
Kerb level	Yes
Crowding	No
Pavement evenness	No
Information panels	No
Benches	No
Directional signage	No

Google maps
Google maps
Google maps
There are select areas of the footpath within the study boundary with uneven pavement.
Google maps
Google maps
Google maps

Proposed walking infrastructure for this route

Street lighting	Yes
Kerb level	Yes
Crowding	No
Pavement evenness	Yes
Information panels	No
Benches	No
Directional signage	No

No change
Design
No change
Google maps

Assumptions

Default assumptions (can be revised with supporting justification)

Default TAG assumptions have already been entered. Users should only revise these if they can provide supporting evidence. Any additional evidence should be described in column H.

Decay rate	0.00%	%
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TAG A5.1 explains that the impact of a cycling intervention is likely to diminish year by year following investment. The decay rate has been set at 0% for an infrastructure investment. For revenue-funded initiatives, such as cycle training or personalised travel planning, the decay rate may be positive. The default assumption is that 0% of new users are already active. This means all new users experience intervention-related health impacts.

Cycling

Average length of trip	5.47	km	National Travel Survey Data 2018-22	Please provide local evidence
Average speed	15	km/h	National Travel Survey Data 2016	
Proportion of cyclists who are employed	56.40%	%	National Travel Survey Data 2018	
Proportion otherwise using a car	24.00%	%	As recommended in a 2022 study - see section 3.7.1 in TAG A5.1	Please provide local evidence
Proportion otherwise using a taxi	6.00%	%	As recommended in a 2022 study - see section 3.7.1 in TAG A5.1	Please provide local evidence

Walking

Average length of trip	1.13	km	National Travel Survey Data 2018-22	Please provide local evidence
Average speed	5	km/h	National Travel Survey Data 2016	
Proportion of pedestrians who are employed	56.40%	%	National Travel Survey Data 2018	
Proportion otherwise using a car	24.00%	%	Assumed to be the same as cycling diversion factors	Please provide local evidence
Proportion otherwise using a taxi	6.00%	%	Assumed to be the same as cycling diversion factors	Please provide local evidence

Additional Information

Return journeys	90%	%	National Travel Survey Data 2018
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A return journey involves going to and from your destination using the same route. Trips that make up return journeys will appear twice in the daily trip count (opposite directions).

Background growth rate in trips	0.75%	%	National Travel Survey Data 2006-2016
Period over which this growth rate applies	20	years	Assumption based on TAG

This is an annualised growth rate for increases in active travel trips. This could be due to a increase in population, changes in demographics or travel trends.

Number of days for which intervention data is applicable per year	357	per year	Number of working days per year (365 minus weekends minus	Please provide local evidence
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Car occupancy rate	1.5		Source: National Travel Survey 2002-16	Please provide local evidence
Taxi occupancy rate	2.4		Source: TAG Data Book 2010	

Promoters may want to change this depending on the intervention. For example, if the intervention is designed to shift modes from car to walking or cycling the occupancy rates may be higher.

Costs

Please provide estimates for the upfront costs, as well as any future maintenance costs in the table below.

Please enter the full costs of the intervention across columns D and E, and note any private sector contributions in column F.

All costs should be in nominal prices (unadjusted for inflation), but should be adjusted for real cost inflation. See section 3.6 in TAG A1.2 (Scheme Costs) for further guidance.

Unless specified otherwise, all funding sources are assumed to derive from local or central government.

Default assumptions (can be revised with supporting justification)

Optimism bias 46% applicable to investment costs only

Key

User input required for all interventions

Default assumptions (can be revised with supporting justification)

User input required for all interventions

Year	Investment costs £000	Operating costs £000	Private sector contributions £000
2020			
2021			
2022			
2023			
2024			
2025	1,084		908
2026	1,084		908
2027	1,084		908
2028			
2029			
2030			
2031			
2032			
2033			
2034			
2035			

Costings Costings (£000s) split over three years

No inflation 3253495 3253.495145 1084.498
private func 2723177 2723.17704 907.7257

Note on costs

Scheme costs may be split into investment and operating costs.

The default optimism bias rate for investment costs is 23%.

No optimism bias is applied to operating costs.

Scheme maintenance costs should be classified as investment costs if they are related to traffic or demand.

All other maintenance costs should be classified as operating costs.

See TAG Unit A1.2 (Scheme Costs) for further details.

Analysis of Monetised Costs and Benefits (in £'000s)		Benefits by type:	
Congestion benefit	180.94	Mode shift	228.63 8.4%
Infrastructure maintenance	0.88	Health	1892.76 69.1%
Accident	29.99	Journey quality	615.84 22.5%
Local air quality	0.89		
Noise	2.00		
Greenhouse gases	12.22		
Reduced risk of premature death	1682.42		
Absenteeism	210.34		
Journey ambience	615.84		
Indirect taxation	1.71		
Investment costs	949.74		
Operating costs	0.00		
Private contributions	1275.98		
PVB	1460.38		
PVC	948.86		
BCR	1.54		

