

General Circular: No 23/02

Subject	Updates for 2023 to the Waka Kotahi <i>Monetised benefits and costs manual</i> (MBCM) plus update factors for MBCM costs and benefits to adjust to 2022 values
Circulation	All registered holders of the <i>Monetised benefits and costs manual</i> All approved organisations and local authorities Local Government New Zealand Association of Consulting Engineers New Zealand (ACENZ)
Circulated by	Kevin Wright, Senior Manager Investment Assurance, Waka Kotahi
Effective dates	14 April 2023 for Version 1.6 of the <i>Monetised benefits and costs manual</i> 2023 1 July 2022 for the 2022 update factors
Date of issue	14 April 2023

Purpose

The purpose of this circular is to:

- Issue updates to the [Monetised benefits and costs manual](#) (MBCM), effective from 14 April 2023
- Issue [update factors](#) for the costs and benefits included in the MBCM, effective from 1 July 2022

These updates to the MBCM are to be used for new activities submitted for funding consideration for the 2021–24 National Land Transport Programme (noting that this 2021–24 programme is already halfway through) and for activities submitted for funding consideration in future National Land Transport Programmes.

The update factors are provided to convert past calculations of the economic costs and benefits of transport activities into 2022 base year information.

Updates to the MBCM

Version 1.6 (April 2023) of the MBCM includes a range of updates and improvements that are outlined in Table 1 below.

The updates include significant changes to several parameter values, including injury costs, travel time values, harmful transport emissions, and the shadow price of carbon. A new procedure for estimating walking and cycling demand has been provided, together with updated information on the health benefits for walking and cycling activities, and a revised procedure for calculating the government benefit–cost ratio. The simplified procedures (SP1 to SP13) have been updated to give effect to the changes outlined above, and various improvements made to the text of the MBCM for readability, clarity and corrections.

Table 1: Updates to the *Monetised benefits and costs manual*

Chapter/section	Detail of the updates
Impact on social cost of deaths and serious injuries – Section 3.1, Appendix 2, and simplified procedures	<p>The injury costs in the MBCM have been updated to incorporate the results from recent research undertaken for Waka Kotahi using stated preference surveys. This research has resulted in new values for fatal, serious and minor injuries (Tables A28 to A38 in the MBCM).</p> <p>Refer to Waka Kotahi research report 698: <i>Monetised benefits and costs manual (MBCM) parameter values – results of a survey to derive values for road safety, travel time and reliability</i>, September 2022.</p>
Impact on network productivity and utilisation (travel time values) – Section 3.6 and simplified procedures	<p>The travel time values in the MBCM have also been updated to incorporate the results from the same stated preference research project as for injury values.</p> <p>It is important to note that there are two sets of travel time values included in the MBCM – firstly the behavioural travel time values taken directly from the research, which are used for demand modelling (refer Table 13 in the MBCM), and secondly equalised values of travel time based on a Waka Kotahi policy decision to equalise values across modes (Tables 14 to 16 in the MBCM), used for economic evaluations (in the full and simplified procedures).</p> <p>Refer Waka Kotahi research report 698: <i>Monetised benefits and costs manual (MBCM) parameter values – results of a survey to derive values for road safety, travel time and reliability</i>, September 2022.</p>
Impact of air emissions on health – Section 3.3	<p>Values for harmful emissions have been revised based on the recent HAPINZ 3.0 research study. This study has resulted in a significant increase in the costs associated with the impacts of air pollution (Table 9 in the MBCM), in particular, the costs of particulate matter smaller than 2.5 microns and nitrogen oxides (NO_x).</p> <p>Refer research report <i>Health and air pollution in New Zealand 2016 (HAPINZ 3.0)</i>, March 2022.</p>
Impact on greenhouse gas emissions – Section 3.4	<p>The shadow price of carbon has been updated to reflect the Treasury’s most recent value updates. In addition to revising the price, the new information (refer Table 11 in the MBCM) extends the annual shadow price changes out to 2070 (from their current 2050 end date) and adds a middle price path to the high- and low-price paths which are used mainly for sensitivity testing of the outcomes when compared to the middle price.</p>

Assessment of walking and cycling activities – Section 4.2	A new procedure for walking and cycling demand estimation has been added to the manual and the explanation for the health benefits cap has been clarified and expanded.
Government benefit–cost ratio – Section 4.8 and Appendix A8	The formula for calculating the government benefit–cost ratio has been revised and clarified.
Worked examples – Appendix 8	Existing worked examples have been amended and/or new worked examples have been included to give effect to the changes in this update.
Simplified procedures	The simplified procedures SP1 to SP13 have been amended and updated to give effect to the parameter value changes and to add an appraisal summary table to each of the procedures. The updated simplified procedures are available as downloadable Excel spreadsheets.
Adaptive decision-making	Information has been provided in the MBCM on the adaptive decision-making approach. This is a new approach for risk analysis when there is deep uncertainty. It is not as fully tested as other risk assessment approaches, however, it does offer possibilities in some circumstances.
Update factors	The update factors to update the costs and benefits to 2022 values are issued at the same time as this Version 1.6 of the MBCM. The update factors are not included within the MBCM. Rather they are provided on the same Waka Kotahi webpage as the MBCM.

Update factors

Factors for updating the costs and benefits to a new base year are calculated annually and are based on Stats NZ published information including the consumers price indices and producer price indices, plus information from Te Manatū Waka – Ministry of Transport on the social costs of road crashes. The update factors to calculate July 2022 base year values are available on the Waka Kotahi website.

(Refer: <https://www.nzta.govt.nz/assets/resources/monetised-benefits-and-costs-manual/update-factors.pdf>).

Using the update factors

The full procedures within the MBCM and the worksheets within the simplified procedures contain instructions for how and when to apply the update factors. If you would like assistance with updating assessments already underway, please contact your local Waka Kotahi investment advisor to determine how best to complete these calculations.

Application to economic calculations in progress

If a calculation of a benefit–cost ratio for an economic case (as part of the business case) is not started before 14 April 2023, then this update to the MBCM Version 1.6 should be applied.

If an economic case for an activity has already been completed or partly completed as part of a business case, then there is no requirement for an approved organisation or Waka Kotahi (for its own activities) to redo the economic calculations. However, if an approved organisation or Waka Kotahi (for its own activities) considers that the use of the latest information in Version 1.6 of the manual could impact the

option selection process, then they are free to recalculate the economic case and demonstrate any change in their option selection choice.

If you have any questions about the application of these updates or would like to discuss their application with an investment advisor, please send us an email to MBCM@nzta.govt.nz.

Approved for release

Approved for release:



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Waka Kotahi NZ Transport Agency