

Release of the updated Economic Evaluation Manual

1. What is the Economic Evaluation Manual?

The NZ Transport Agency's Economic Evaluation Manual (EEM) is the national standard for evaluating the economic efficiency of transport activities. The EEM sets out procedures and values used to calculate the benefits and costs associated with investments in the transport system. The manual also contains a set of worksheets to perform the necessary calculations.

2. How should I use the updated EEM?

The EEM must be used by approved organisations evaluating the economics of a transport proposal to provide an efficiency assessment as part of preparing a funding application to the Transport Agency.

There are now two EEMs in place. If a project phase was approved for funding under the previous EEM, continue to use the former economic evaluation method.

The updated EEM should be used for all new phases of projects and must be applied to all proposals for the 2015-18 NLTP and beyond.

Whatever version of EEM is used it should be applied in total to that phase of a project – do not mix and match parts from both versions.

New Activity Phase (yet to be approved)	2012-15 NLTP	2015-18 NLTP
Investigation/ design	NEW procedures	NEW procedures
Construction/ implementation	OLD procedures *	NEW procedures

* For 2012/15 NLTP funding applications, old procedures can be used where there is a prior funding approval, particularly where there would be considerable rework to change to the new procedures.

3. What's different about the updated EEM?

The updated EEM has the following changes:

- **Policy changes:**
 - A revised discount rate of 6%, along with the evaluation period extended up to 40 years.
 - Inclusion of additional wider economic benefits.
 - A greater emphasis on a multi-modal approach to evaluation, including
 - public transport evaluation periods made consistent with other modes
 - equal values of travel time across modes for monetising the total value of travel time benefits

- Discontinuing the use of default traffic growth rates. Evidence will be required to support any traffic growth assumptions
- The strategic fit criteria now recognises predicted crash risk in transport safety assessments, ie predicted crash risk can be taken into account when prioritising proposals for investment.
- **Structure change** - the previous two-volume EEM has been merged into a single document with four sections:
 1. Concepts
 2. Simplified procedures
 3. Full procedures
 4. Appendices
- **New format**; the EEM itself is only available online in PDF - no hard copies will be printed. **You can find the manual on our [website](#).** Having an online document means it can be easily updated.
- **Online worksheets** - Links for these are available on the EEM page of the NZTA website.
 - The updated EEM links to a set of Excel worksheets for any application using **simplified procedures**.
 - For applications requiring **full procedure assessment**, worksheets are currently available in word format. Migration of these to Excel format will occur in advance of the development of the 2015-18 NLTP.
 - A **summary worksheet** for both full and simplified procedures will allow for seamless input into the Transport Agency's Transport Investment Online system (TIO).
- **Spreadsheet adoption**

For all funding applications applying simplified procedures moving forward, we expect the application will be accompanied by worksheets in Excel. Specifically:

 - Any new funding application submitted to our TIO system using the new simplified procedures must be accompanied by Excel versions of the new worksheets.
 - Where old procedures are used for a phase that is seeking funding approval in the existing NLTP and there would be considerable rework required to adopt the new procedures, we would expect applications to be accompanied by copies of any existing Excel spreadsheets being used.

Please ensure this approach is adopted.

4. Does the Knowledge Base reflect these policy changes?

The Transport Agency's Knowledge Base, the first point of reference for economic evaluation policy, has been updated to include links to the updated EEM.

5. How else can I find out about, or who should I ask about the EEM review?

- We're running a series of workshops from the time of the updated EEM release to highlight the changes and how they apply to real world examples. These workshops are initially for Transport Agency staff, and will be followed by workshops for the wider transport sector. We'll invite local partners when dates are confirmed.
- You can ask your local Transport Agency Planning and Investment representative.
- You can send questions, or feedback about the review directly to the EEM review project team via our [website](#), or email the review team at eem@nzta.govt.nz

6. How will I know when the EEM is updated?

We have a list of registered users that we email whenever there are significant changes to the EEM. You can email us at eem@nzta.govt.nz to be added to our list of registered users..

7. What's next for the development of the EEM?

The second stage of review is currently being scoped. This is likely to include reviewing input values, indicative/preliminary BCRs and scenario testing. The outcome of this review, although focused towards the development of the 2018-21 NLTP, is proposed to be introduced during the 2015-18 NLTP, similar to the approach adopted with the current release.

For those who want more detailed information

8. What's the rationale for the policy changes?

The expected benefits from the policy changes are:

- **Discount rate/evaluation period:** The discount rate used in the EEM has been revised to 6% p.a. and the evaluation period is extended up to 40 years.
A discount rate of 6% aligns with best practice in other jurisdictions that apply similar methodology, and is within the range of rates used by these countries. When combined with an appropriate evaluation period of 40 years, this rate provides our decision-making with robustness, responsiveness to long term needs, and greater resilience to handling future uncertainty.
- **Monetising additional wider economic benefits:** New methodologies have been included within the EEM to calculate the wider economic benefits relating to imperfect competition and increased labour supply.
- **Greater emphasis on a multi-modal approach to evaluation:**
We have applied equal value of travel time across all modes for each travel purpose in order to achieve equitable modal treatment when calculating total travel time benefits. The revised evaluation period for public transport service investments of up to 40 years allows a more consistent, whole-of-network approach to multimodal assessments,

ensuring investments in public transport are treated as an integral part of the transport network.

- **Discontinuation of a default traffic growth rate (travel demand predictions):**
The former 'default' travel growth rates (1-3%) generally do not accurately reflect the current situation in New Zealand and are replaced by a zero % default. Applications for investment will therefore be required to provide evidence that any assumption of the future growth is realistic. Evidence may be in the form of historic traffic levels, or details and justification of the assumptions around inputs to predictive transport models. This reflects global trends in traffic levels and the demand for transport, which is echoed in New Zealand, and allows our sensitivity assessments to explicitly address the sensitivity to future growth assumptions.
- **Greater focus on predicted crash risk in transport safety assessments in the strategic fit assessment:**
Predicted crash risk will now be consistently taken into account when assessing the strategic fit of activities as an element of prioritising investment proposals.

Better crash risk prediction models are now available that provide for a better assessment of future crash risk in the strategic fit assessment. Examples are the high-risk rural roads guide and the high-risk intersections guide. We continue to support the use of prediction models within the EEM, and with the changes to strategic fit we anticipate a net improvement in returns on investment in proposals through better estimation of future crash risk rather than relying solely on historical crash occurrence.

9. Are we not able to apply the default growth rate(s) from now on?

If a proposal relies on traffic growth for a positive evaluation we will require sensitivity testing to determine the level of reliance on growth, and evidence to demonstrate any assumed growth rate is realistic and feasible.

10. What are the transport benefits that can be included in economic evaluations?

Transport benefits include:

- reduced travel time
- increased trip reliability
- changes in vehicle operating costs
- reduced crash costs
- increased transport user comfort
- reduced driver frustration
- impacts on the environment and non-transport users
- wider economic benefits.

11. Does the revised discount rate mean that borderline projects (in terms of BCR) will now become fundable?

Not automatically. Projects will still need to demonstrate that their combined assessment profile including strategic fit, effectiveness and economic efficiency achieve the required minimum funding profile and that there are funds available for the project. Therefore very few projects would likely become fundable because of a change to the discount rate. In the unlikely event that the changes resulted in a project becoming fundable where previously it was not, there would be an expectation of a thorough assessment of the economic analysis including sensitivity testing. Sensitivity testing should be carried out for both costs and benefits using a matrix-type approach.

Underlying the change to the discount rate is the importance of investing in transport infrastructure and services that will deliver continuing benefits over the long term. At the same time, the intent is to align New Zealand with accepted best practice in other international jurisdictions.

12. What about public transport IT investments, such as ticketing systems, with a useful life of between 10-15 years against an extended evaluation period of 40 years – how do they fit?

An evaluation period of up to 40 years can be used for these investments as well. It is reasonable to assume that during the evaluation period these systems would be upgraded or replaced by other similar, more up-to-date systems at some point. Therefore the capital cost of these investments – along with continuing operation and maintenance costs – would need to be factored into the 40-year evaluation. We make similar assumptions for roading projects that may have features added or changed over time.

In most instances, public transport benefits will be ongoing throughout the life of the initiative and any subsequent replacements. Removal of an initiative at any stage of the 40-year evaluation period can, of course, be evaluated as an option, and the final preferred option chosen as a result of incremental analysis.

13. What about maintenance and renewals projects – how do they fit?

A 40-year evaluation period can be used when evaluating maintenance and renewal projects as well. When evaluating an improvement project, a whole-of-life assessment is necessary, including the maintenance and renewal costs and therefore should span out to 40 years.

14. Will a lower discount rate and longer evaluation period make appraisals more sensitive to growth assumptions?

Yes, due to the greater weight placed on future benefits and costs by less discounting. Due to a combination of heightened sensitivity to growth assumptions and higher uncertainty around projections of future travel demand, there will be an expectation of greater rigour in the application of the sensitivity testing and risk analysis requirements of the manual.