# A guide to using CATI

## Climate Assessment of Transport Investment (CATI)

CATI is an Excel-based model designed to help Local Government NZ and Waka Kotahi NZ Transport Agency decision makers understand whether transport investment decisions will have a positive or negative impact on greenhouse gas emissions from transport usage.

The model is qualitative and based on limited data at early-stage decision making. It does not give an estimate of quantitative greenhouse gas emissions from each investment decision. Rather, each investment is assigned a rating from minus three (high potential emissions impact) through to plus three (low potential emissions impact). The portfolio of investments can then be assessed to indicate the overall greenhouse gas emissions impact it is likely to have.

## What are Activity Classes and Work Categories?

Activity Classes (AC) are high-level groupings of activities defined in the Government Policy Statement on land transport (the GPS) and used by the Minister to provide direction to Waka Kotahi on funding allocations for different types of investment. Work Categories (WC) are used to group similar activities within an activity class. A work category must link to at least one activity class.

The Inter-American Development Bank (IADB) categorises transport interventions into several broad classifications that help understand the emissions impact of different types of projects and initiatives supported by investments. The IADB categories are aligned in CATI to AC and WC activities and are also applied where AC and WC activities are not available. Investment management, external funding and debt funding asset classes are excluded in the rating as they are not included in the assessment of the National Land Transport Plan (NLTP).

A list of all Activity Classes and Work Categories can be found [here](here).

A list of additional Activity Classes and Work Categories have been included when working through different scenarios that align with the appropriate activity:

Table 1 – Additional Activity Classes and Work Categories as per IADB

| IADB - Public transport Improvements | IADB - Low emission public transport |
|---|---|
| **IADB - Non motorised transport** | IADB - Support micro mobility shared services |
| **IADB - Pricing and subsidies** | IADB - Motor fuel taxes |
| **IADB - Land use** | IADB - Car free zones & restricted traffic streets |
| | IADB - Transit oriented development (TOD) |
| | IADB - Urban planning codes and practices |
| **IADB - Parking Management (i.e., supply, pricing)** | IADB - Enhanced enforcement |
| | IADB - Managing on-street parking supply (reduction) |
| | IADB - Parking pricing |
| | IADB - Significant (>50%) parking bay reductions in area |
| **IADB - Commuter travel reduction** | IADB - Compressed work weeks and telework |
| | IADB - Flexitime schedules |
| | IADB - Rideshare matching and incentives |
| | IADB - Tax incentives for alternative mode use and disincentives for employer provided free parking |
| **IADB - Motor Vehicle Access and Use** | IADB - Car Sharing Programmes (E.g., Mevo/Cityhop) |
| | IADB - Carpooling programmes (E.g., Let's Carpool) |

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| | IADB - License plate restrictions |
|---|---|
| | IADB - Motor vehicle quota systems |
| | IADB - Motor vehicle registration fees and taxes |
| | IADB - T2/T3 lanes |
| **IADB - Multi-modal Freight** | IADB - Freight pricing and management |
| | IADB - Intra- and inter-regional low carbon freight modes |
| | IADB - Regional freight distribution centres, inland ports, and logistics parks |
| **IADB - Vehicle Energy Efficiency and Fuel Switching** | IADB - Biofuels at scale |
| | IADB - Efficient cars and motorcycles at scale |
| | IADB - Efficient ships at scale |
| | IADB - Efficient trucks at scale |
| | IADB - Electric light vehicles at scale |
| | IADB - Support uptake of low emission vehicles at scale |

## What do the Climate Ratings mean and how are they calculated?

Climate Ratings provide an indication of the overall greenhouse gas emissions impact of each investment from "high to very high emissions potential" (-3), through to "high to very high emissions reductions potential " (+3). The Overall Climate Rating is a weighted average of the climate ratings across all investments.

## Using CATI

The model relies on using two tabs: "Council Data Input" and "Output - All Investments". Both these tabs contain detailed guidance for input, and to support understanding and interpretation of the outputs.

## Council Data Input Tab

This is the only tab you need to enter data into. The inputs needed are:

1. Whether this is a Long-Term Plan (LTP) or Regional Land Transport Plan (RLTP).
2. What organisation this is for (i.e. council type). This automatically assigns the council as "urban" or "non-urban" depending on whether it is a Tier 1 or 2 Council (as "urban") or other council (as "non-urban").
3. Activity ID input data:  Activity ID, Organisation Name (if LTP only), Activity Name, Activity Class, Work Category, Total cost of investment. A CATI ID will be automatically generated for each investment for reference purposes.

## Output - All Investments Tab

The output tab presents an overall Climate Impact Rating, and four charts show the investment portfolio spend based on climate rating, activity classes and organisation (if applicable).
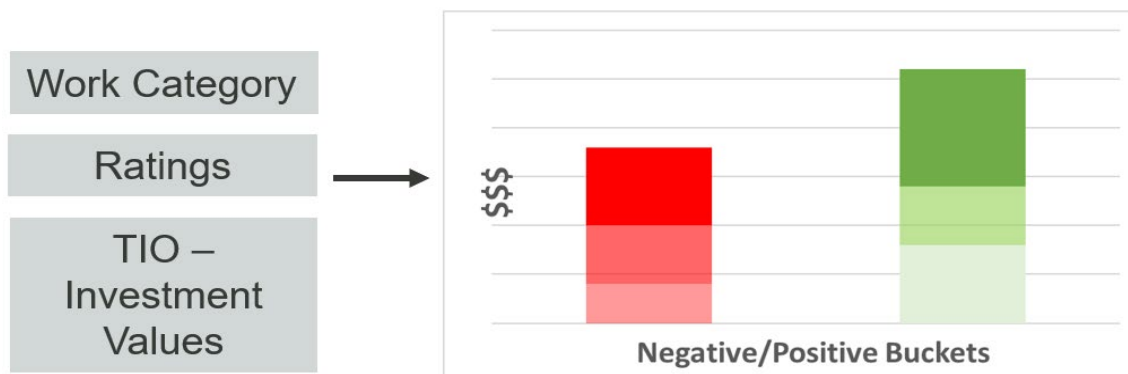


Figure 1 - Summary of the CATI process

| Category | Activities<br>[Activity class/work category/TIO information] | Rating |
|---|---|---|
| **Potential for emissions reductions** | Passenger Services – Rail – New Infrastructure | 3: High to very high reductions potential |
| | Public Transport Facilities and Operations Renewal | 2: Medium to medium high reductions potential |
| | Public Transport Facilities Operations and Maintenance | 1: low to medium reductions potential |
| **Potential for emissions to increase** | State Highway Maintenance and Operations | -1: low to medium emissions potential |
| | State Highway Improvements for Resilience and Safety | -2: medium to high emissions potential |
| | State Highway - New Infrastructure and Improvements | -3: high to very high emissions potential |

Figure 2 - Climate ratings and activity classes

## How can I use the individual climate impact ratings to increase the overall rating?

The portfolio must have a larger spend on potentially emissions-reducing activities than emissions-emitting activities for it to have an overall Climate Impact Rating of 1 or higher.

To increase the overall climate rating, there are two options:

1. Reduce spending in investment programmes with climate rating of -3 to -1 (guidance on the output sheet assists users to identify investments with the highest impact).
2. Allocate more spending towards investment programmes with climate ratings of 1 or higher (this approach will have a positive impact on climate rating but needs to be considered in the overall budget allocation for the region).

## Scenarios – will be included in a future release

Coming in build version 3 of the CATI model.

## Assumptions

This model assumes that:

- There is uniformity in the emissions resulting from the different activity classes. It also assumes that projects are predominantly one activity type i.e., does not allow for one programme to have multiple activity types.
- There is no 'neutral GHG emissions' from activities, i.e. an investment either contributes to GHG emissions OR to reducing GHG emissions.
- All Tier 1 and 2 councils are labelled "urban", and all other councils are labelled "non-urban".
- Climate ratings for large projects have been grouped under one AC and WC.

## Limitations

The data used in this calculator comes from many Waka Kotahi sources. While the data has been checked for consistency with other models, the outputs are intended to be indicative and not prescriptive.

This tool can only be used to indicate whether investment portfolios will contribute to increasing or decreasing emissions. It does not quantify these potential emissions or take into consideration embodied emissions required for any capital works associated with investment spend.

Projects or initiatives that have been assessed using CATI will still be subject to assessment through the Waka Kotahi Investment Decision Making Framework for inclusion in the NLTP24.

## Disclaimer

The CATI model has been designed purposely for supporting transport investment decisions at a portfolio/programme level.

It should not be used for any other purpose. Using this tool does not preclude the need to do greenhouse gas emissions calculations at the project stage.

Waka Kotahi has other tools which should be used for purposes outside of that of this tool, e.g. the: Project Emissions Estimation Tool PEET, Vehicle Emissions Prediction Model VEPM, Traffic Model Emissions Tool and Carbon Gauge Tool.

Data used in this model has been sourced from the Inter-American Development Bank and Waka Kotahi.

## Finally

Further background to CATI is available outlined here https://nzta.govt.nz/resources/CATI/

**Note:** the CATI Excel model currently does not meet all the accessibility requirements of Waka Kotahi. We are working to meet these standards. For more information please read our Accessibility Statement.