

Transport Investment Online (TIO) user guide

National Land Transport Programme 2024–27

Geospatial module

These user guides help you complete specific tasks in TIO, and supplement the context-based help text in TIO.

[Access TIO guidance on our website](#)

This guide provides an introduction to how to use the geospatial module in TIO for the 2024–27 National Land Transport Programme (NLTP).

Background

Geospatial information needs to be captured in TIO for the following programmes and activities, for both NLTP inclusion and funding approval:

- improvements
- programme business cases (PBC), and
- emergency works.

For the 2024–27 NLTP low-cost, low-risk activities no longer require geospatial information for funding approval. However, geospatial information will need to be added before an LCLR individual activity is 'completed' (in activity status in the activities tab of the bid template file). This should take place after funding approval but before being claimed.

The geospatial module works with programme and activity templates in TIO and enables location data to be more accurately captured. This:

- allows for more accurate reporting on the NLTP programme, helping us understand and communicate the locations of our investments and the reasons behind them
- demonstrates where benefits are being delivered
- provides an understanding of how projects relate to each other spatially, which will help in moderating, assessing and prioritising projects.

For the 2024–27 NLTP the data will be used to communicate NLTP project decisions by enabling users to go into interactive maps on our website to see projects that have and have not been funded.

What's new or changed?

We've updated the geospatial module ready for the 2024–27 NLTP. The key change is that LCLR activities no longer require geospatial information for funding approval.



Helpful tip

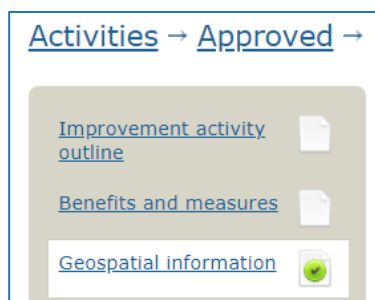
- Click the question mark in each field to bring up help text about what needs to be in that field.



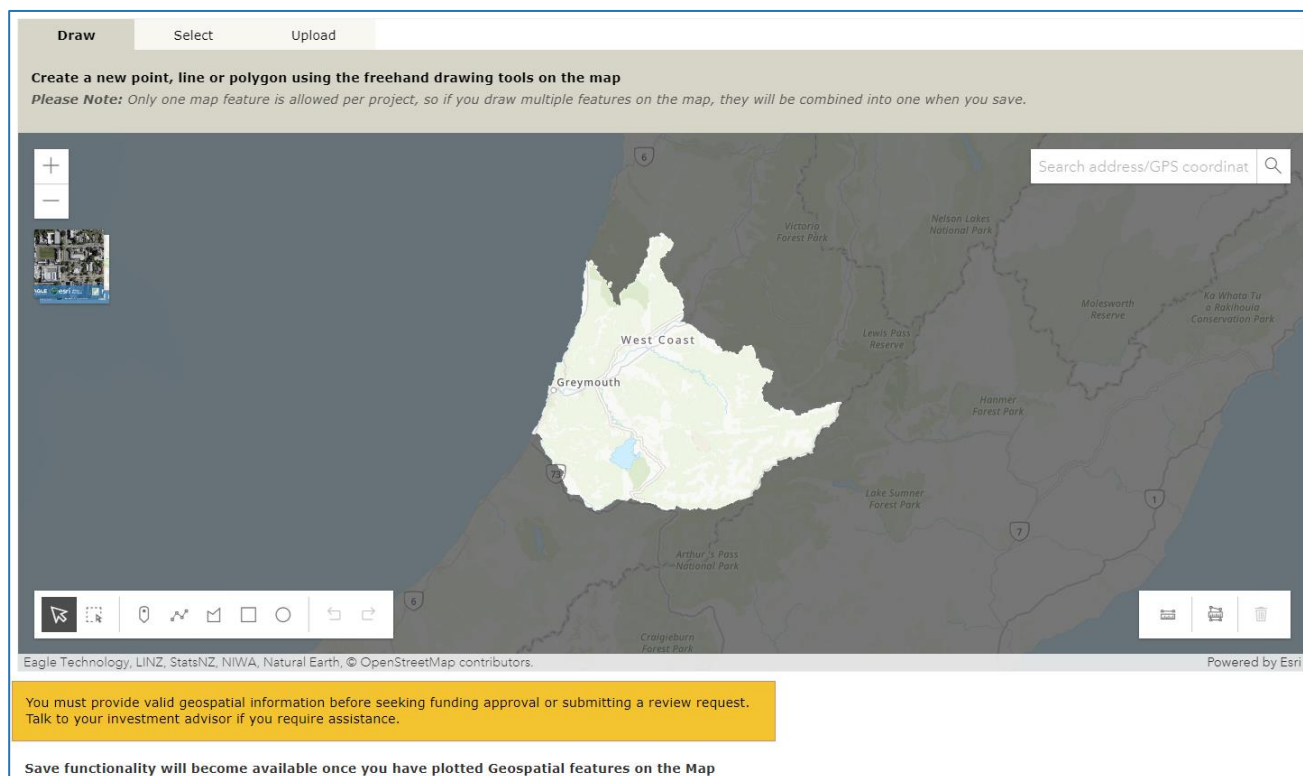
Entering your geospatial information into TIO

When you are entering improvement activities and programmes into TIO you will use the geospatial module to record the relevant geographic details.

To access the geospatial module click the 'Geospatial information' link from within the template you are working in. The example below is from the improvement template.



Selecting coordinates using the geospatial module

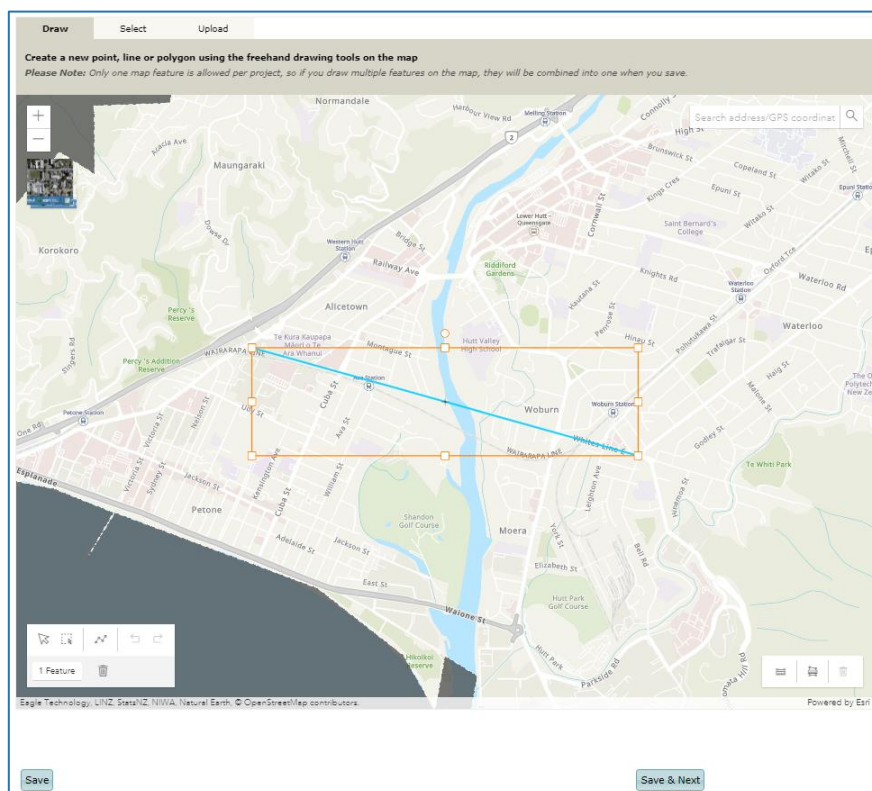


Note: the mapping software will allow you to zoom out to show the rest of New Zealand; however, selecting an area outside of your district, city or region will not be valid coordinates and the system will continue to show the error message in the orange text box in the above image. The system will not display the save button until valid coordinates have been entered.

1. Select the coordinates for your activity. There are several different ways of doing this:
 - **Draw:**
 - **Draw a point** – use this to select single or multiple points on a map. This function is useful where the activity is located at a single location, such as a new roundabout, or where it is located at multiple points spread across a large area, such as pedestrian crossing upgrades within a suburb.
 - **Draw a polyline** – use this to draw a single or multiple straight lines. This function is useful when a new road is being constructed where there is no existing road centre line to select, or for an upgrade to the metro rail network which cannot otherwise be selected.
 - **Draw a polygon, rectangle or a circle** – use this to draw shapes on the map. If required, your coordinates could be made up of multiple shapes such as a circle and a polygon. This is useful where the activity impacts on an area rather than a point, such as a complex intersection that includes multiple sites being upgraded.
 - **Select:**
 - **Road controlling authority & area unit boundaries** – use this to select the entire area of a road controlling authority or the boundary of your district, city or region. This function

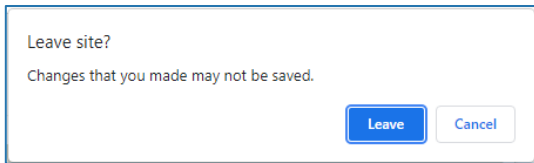
is useful where the activity impacts on an entire area, for example, for a programme business case with the purpose of reviewing public transport within your district, city or region. **Note:** some boundaries are not yet accurate – we are working to fix this issue for the small number of affected regions.

- **Road centre line** – use this to select sections of existing road within your district, city or region. This function is useful for safety improvements to a section of a road corridor. For new roads, you will need to use the draw a polyline function.
- **Council cycling infrastructure** – use this to select existing council cycling infrastructure. This function is useful for improvements to existing cycling infrastructure. The majority of new cycling infrastructure is along an existing road. For these activities, you will need to use the select – road centreline function. If the new cycling infrastructure is not along an existing road, you will need to use the draw a polyline function.
- **Other urban cycleways, UCP cycleways & New Zealand cycle trails** – use this to select existing cycleways and trails within your district, city or region. This function is useful for improvements to a section of a cycleway. For new cycleways or trails, you will need to use the draw a polyline function.
- **KiwiRail network** – use this to select existing parts of the KiwiRail network within your district, city or region. This function is useful for improvements to an existing section of the network. For new additions to the network, you will need to use the draw a polyline function.
- **Upload:**
 - Use this function to upload a file with coordinates. This function is useful where you have already mapped the coordinates of your activity in other mapping software. The files can be in the following formats: .kml, .kmz, shapefile or mapinfo TAB.



2. Once you have selected a valid geospatial location, as shown above, click the 'Save' button to record the selected coordinates within TIO. Or click 'Save & next' to take you to the next page in the template you are working in, for example 'Supporting documents'.

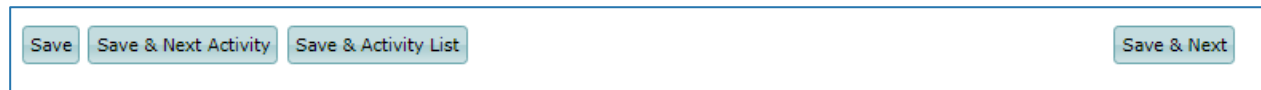
3. If you navigate away from the geospatial module without saving any edits you will see the following message:



Click 'Leave' if you would like to leave the page without saving your changes, or 'Cancel' to continue using the geospatial module.

Low-cost, low-risk (LCLR) geospatial module additional functionality

The LCLR geospatial module has some additional functionality – 'Save & next activity' and 'Save & activity list' buttons, which are located next to the 'Save' and 'Save & next' buttons in the module.



These buttons provide the following functionality:

- **Save & next activity** – this function is useful if you are looking to complete the geospatial input for your LCLR programme. The function saves the coordinates you have selected for the project before taking you to the next LCLR project when sorted by TIO ID.
- **Save & activity list** – this function is useful if you are looking to input geospatial information for multiple projects. The function saves the coordinates you have selected for the project before taking you back to the LCLR activity list allowing you to select another project for data input.

Geospatial requirements for improvement activities over \$2 million

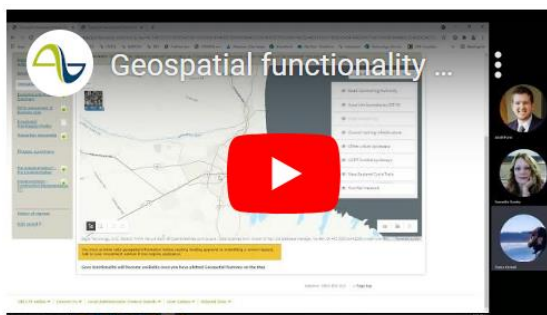
For an activity to be included in the NLTP, you must provide location information. This means that all newly created activities need to have location information captured in TIO before they can be varied into regional land transport programmes and the NLTP. TIO will not allow you to submit a phase under the activity until location information has been completed.

If geospatial information is not captured in TIO and you seek funding approval the following error message will appear in TIO, and you are not able to proceed until the geospatial module is completed.



Video step-through guide for the geospatial module

Click on the image below to watch a video of an online session from 2021 introducing how to enter the required information into the geospatial module in TIO. **Note:** the requirements for LCLR have changed for the 2024–27 NLTP from what is discussed in this video.



Video contents

Introduction	0.00
Step-through of the geospatial module	1.00

Frequently asked questions

Why is it important to record good geospatial data?

Everything we do is based around a location or a network (such as a road, a cycleway or a railway). If the location data isn't accurate, we can't understand the current state, the suggested improvements or the likely benefits accurately.

Some examples of problems caused by inaccurate geospatial data include:

- If you don't have the location correct and you send an engineer out to do an assessment of the site, they will be in the wrong place and therefore making the wrong recommendation.
- If you use location information to check CAS (Crash Analysis System) to prove crash reduction resulting from your activity and you're kilometres away from where the change happened, you'll misreport the outcome and the likely benefits.
- If you have a project that places 12 new bus stops in a region, but only record one point at the centre of that region, you are only able to collect crash, VKT (vehicle kilometres travelled), or other information for the area around that one point, and cannot demonstrate the value that each of those individual bus stops may have created.

I am looking to include a new activity in the NLTP for which the exact geospatial location has not yet been confirmed. How do I capture the location of this activity in the geospatial module?

It is common for new activities included in the NLTP to have limited information until the initial business case phase is completed. For these activities only the area where the activity will be undertaken may be known. In these instances, we recommend that you use a polygon, square or circle to capture the area as close as possible to where the activity will be undertaken. As more information becomes available, you should update TIO with more accurate geospatial information.

How do I capture geospatial information for Waka Kotahi nationally delivered activities?

These activities are nationally delivered and therefore impact New Zealand's entire transport network. For nationally delivered activities the entirety of New Zealand should be selected.

How do I capture geospatial information for bus service improvement activities that may have dynamic locational information?

Most bus services would follow a set path around existing roads. For these improvement activities, the geospatial information could be captured using the select road centre line function. Sections of the road relevant to bus route can be selected and saved into TIO.

For bus services with a dynamic route, or an on-demand service, it may be more pragmatic to select an area unit boundary (for one or multiple suburbs) or by selecting an area using the draw polygon, square or circle function.

Geospatial information is not required for public transport continuous programmes.

Further information

- [Key dates for 2024–27 NLTP development](#)
- For more technical support about TIO contact tio.support@nzta.govt.nz or, if it relates to NLTP development, contact us at nltip@nzta.govt.nz