How to Use the Auckland Network Operating Plan Assessment Tool

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Overview

To facilitate the application of the ANOP, AT have developed an easy to use tool to enable quick assessments to be made on projects, developments, or any other permanent or temporary changes that impact on road users, to determine whether the impacts align with Auckland Transport's Network Operating Plan (ANOP) and therefore Future Connect operational aspirations.

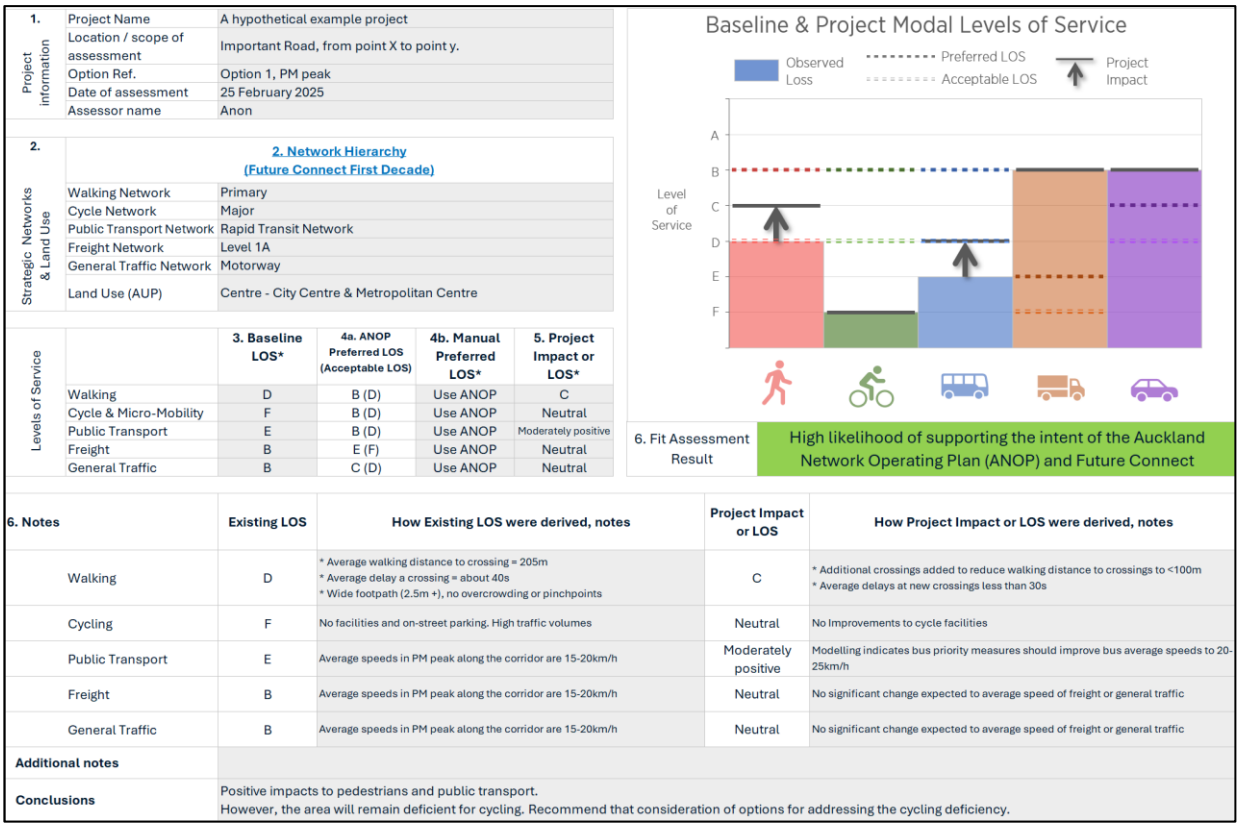
The tool requires inputs for the network hierarchy for each mode (from Future Connect) and land use from the Unitary Plan. The existing Levels of Service (LOS) by mode need to be entered and the final inputs required are for the "assessed project impact" LOS, i.e. what changes will occur as a result of the project or change.

The tool is designed to provide an indicative evaluation of whether a project or option is well aligned with Auckland's strategic direction. It is not intended to be used to rank projects or options, nor provide an indication of value for money, but it will indicate whether the project is taking us in the right direction and will highlight what modes the project or development is impacting.

It is intended to help identify key issues for the strategic transport network that may require further scrutiny and to ensure that appropriate mitigation options have been considered. For a development, this would effectively be a summary of findings from the Integrated Transport Assessment in ANOP terms.

This tool should be used by planners, engineers or operators at any time when trade-offs between modes are required, be that for an operational change or a capital project.

This tool is available for download from the ANOP web page.



1. Project information	Project Name	A hypothetical example project
	Location / scope of assessment	Important Road, from point X to point y.
	Option Ref.	Option 1, PM peak
	Date of assessment	25 February 2025
	Assessor name	Anon

2. Strategic Networks & Land Use	2. Network Hierarchy (Future Connect First Decade)
Walking Network	Primary
Cycle Network	Major
Public Transport Network	Rapid Transit Network
Freight Network	Level 1A
General Traffic Network	Motorway
Land Use (AUP)	Centre - City Centre & Metropolitan Centre

Levels of Service	3. Baseline LOS*	4a. ANOP Preferred LOS (Acceptable LOS)	4b. Manual Preferred LOS*	5. Project Impact or LOS*
Walking	D	B (D)	Use ANOP	C
Cycle & Micro-Mobility	F	B (D)	Use ANOP	Neutral
Public Transport	E	B (D)	Use ANOP	Moderately positive
Freight	B	E (F)	Use ANOP	Neutral
General Traffic	B	C (D)	Use ANOP	Neutral

6. Fit Assessment Result	High likelihood of supporting the intent of the Auckland Network Operating Plan (ANOP) and Future Connect

6. Notes	Existing LOS	How Existing LOS were derived, notes	Project Impact or LOS	How Project Impact or LOS were derived, notes
Walking	D	* Average walking distance to crossing = 205m * Average delay a crossing = about 40s * Wide footpath (2.5m +), no overcrowding or pinchpoints	C	* Additional crossings added to reduce walking distance to crossings to <100m * Average delays at new crossings less than 30s
Cycling	F	No facilities and on-street parking. High traffic volumes	Neutral	No Improvements to cycle facilities
Public Transport	E	Average speeds in PM peak along the corridor are 15-20km/h	Moderately positive	Modelling indicates bus priority measures should improve bus average speeds to 20-25km/h
Freight	B	Average speeds in PM peak along the corridor are 15-20km/h	Neutral	No significant change expected to average speed of freight or general traffic
General Traffic	B	Average speeds in PM peak along the corridor are 15-20km/h	Neutral	No significant change expected to average speed of freight or general traffic
Additional notes				
Conclusions	Positive impacts to pedestrians and public transport. However, the area will remain deficient for cycling. Recommend that consideration of options for addressing the cycling deficiency.			

Figure 1: Screenshot from the ANOP Assessment Tool

Step-by-step guide

Enter your project information into the grey cells, as per the step-by-step instructions below. If you need to undertake more than one evaluation for your project (e.g. to look at multiple options or key time periods) you will need to save a separate copy of the file for each evaluation.

Some projects or developments may require an assessment covering a wider area. In these cases some thought should be given to how the project should be broken down and evaluated section by section. In these cases it may be appropriate to look at the impacts on a corridor by corridor bases, focusing on the more critical corridors only (e.g. FTN routes or arterial roads).

Enter your data in the grey cells

Step 1 – Project Information

Enter the project information: project name, location, option, time period assessed, date of assessment and your name.

1. Project information	Project Name	Arterial Road
	Location / scope of assessment	Arterial Road A, from point A to point B
	Option Ref.	Option 1
	Time period assessed	AM peak
	Date of assessment	1 January 2000
	Assessor name	Anon

Figure 2: Screenshot showing the Project Information section

Step 2 – Network Hierarchy

- Fill out the Strategic Network hierarchies for all five modes. Refer to Future Connect to find the strategic Network hierarchy for the location being assessed (Link to Future Connect Mapping Portal)
- The applicable land use can be found in the Auckland Unitary Plan Map, available as a layer in Future Connect, or in Auckland Council's map viewer (Link to Auckland Unitary Plan map viewer)

This information is used to determine the Preferred Levels of Service (see notes under Step 4 below for further details). All cells in this section need to be completed for the formulas to work.

2. Strategic Networks & Land Use	**2. Network Hierarchy (Future Connect)**	
	Walking Network	Primary
	Cycle Network	Connector
	Public Transport Network	Frequent Transit Network
	Freight Network	Overweight & Overdimension only (Supporting)
	General Traffic Network	Strategic Arterial
	Land Use (AUP)	Residential - Terraced Housing and Apartment Blocks

Figure 3: Screenshot showing the Network Hierarchy section

Step 3 – Baseline Levels of Service

Enter the baseline (existing or before) levels of service for each mode (A to F).

For Level of Service (LOS) definitions for each mode please refer to pages 10 and 11 of 'Application of the Auckland Network Operating Plan', August 2022, which is available on AT's ANOP webpage (Link to the ANOP webpage). Always use the quantitative LOS definitions and measures where possible. The evaluation of Baseline LOS and project impacts is a technical evaluation that should be carried out by a suitably qualified traffic engineer or transport planner and should confirmed through consultation with relevant subject matter experts.

When assessing levels of service, you should focus on effects to the Strategic and Supporting Networks because the assessment is designed to look at effects on the transport network and does not assess the suitability of individual accesses (e.g. for private developments). Where the project or development has an impact along multiple points on a corridor, it is recommended that you think about the overall impact rather that assess each intersection separately (e.g. consider average speeds along the corridor before and after, rather than delays at each intersection).

- For vehicular modes the LOS is derived from average travel speed or intersection delay and travel time reliability
- For active modes the LOS is derived from average crossing delays or the quality facilities provided, determined by alignment with relevant design standards for quality and accessibility, including the AT Transport Design Manual (TDM)

The data needed to evaluate the baseline LOS may not always be readily available, particularly for consultants working for developers rather than for AT. If this is the case, please check whether AT or ATOC has internal tools that could provide this information (e.g. general traffic speed data, bus travel time data, or signal cycle times for pedestrian delays). For developments, baseline data would be that used to determine the existing LOS identified in the ITA. It will be beneficial to confirm that these correlate well with AT data. If there are still gaps in the baseline data then engineering judgement may be required. If so, please ensure you document your reasoning and justify the LOS used.

Levels of Service		3. Baseline LOS*	4a. ANOP Preferred LOS (Acceptable LOS)	4b. Manual Preferred LOS*	5. Project Impact or LOS*
	Walking	C	B (D)	Use ANOP	Neutral
	Cycle & Micro-Mobility	E	B (D)	Use ANOP	Positive
	Public Transport	D	C (D)	Use ANOP	Negative
	Freight	D	D (E)	Use ANOP	Neutral
	General Traffic	D	D (E)	Use ANOP	Neutral

Figure 4: Screenshot showing the Baseline LOS section

Step 4 – Preferred Levels of Service

- 4a. The Preferred LOS are calculated automatically from the ANOP Preferred LOS.
- 4b. Optional - The Preferred LOS can be manually overridden in this column.
    - Leave the cell blank or select "Use ANOP" to use default ANOP Preferred LOS
    - Alternatively, if a different Preferred LOS is appropriate due to specific circumstances, enter your desired Preferred LOS. If using Preferred LOS that differ from the default ANOP Preferred LOS, please ensure you provide justification in the Notes section below.

Levels of Service		3. Baseline LOS*	4a. ANOP Preferred LOS (Acceptable LOS)	4b. Manual Preferred LOS*	5. Project Impact or LOS*
	Walking	C	B (D)	Use ANOP	Neutral
	Cycle & Micro-Mobility	E	B (D)	Use ANOP	Positive
	Public Transport	D	C (D)	Use ANOP	Negative
	Freight	D	D (E)	Use ANOP	Neutral
	General Traffic	D	D (E)	Use ANOP	Neutral

Figure 5: Screenshot showing the Preferred LOS section

Step 5 – Project Impact

Enter your assessed Project Impact (Negative, Positive, etc), or the resulting Levels of Service (A to F). This is the impact or LOS on the Future Connect Networks resulting from implementing the project, development or other change.

This assessment should focus on the impacts to the roading network only (i.e. the Future Connect Networks). E.g. this should not be used to assess the suitability of designs for development accesses, which are not part of the Future Connect Network. Private accesses should be deigned to meet TDM and AUP standards anyway and this assessment is intended to help evaluate impacts to the roading networks and related operational aspirations, rather than the quality or suitability of access arrangements. The exception to this would be where the design of an access results in an impact to LOS for any mode using the Future Connect Networks.

In some cases, the specific data required to assess the project impact in terms of LOS may not be available. In this case it may be more appropriate to select the relative change rather than the specific LOS. Ensure the justification for your assessment is documented in the notes section.

Levels of Service		3. Baseline LOS*	4a. ANOP Preferred LOS (Acceptable LOS)	4b. Manual Preferred LOS*	5. Project Impact or LOS*
	Walking	C	B (D)	Use ANOP	Neutral
	Cycle & Micro-Mobility	E	B (D)	Use ANOP	Positive
	Public Transport	D	C (D)	Use ANOP	Negative
	Freight	D	D (E)	Use ANOP	Neutral
	General Traffic	D	D (E)	Use ANOP	Neutral

Figure 6: Screenshot showing the Project Impact LOS section

Step 6 – Notes

There are free text fields available for you to record any relevant notes, observations, data sources, or assumptions, etc. It is important that key assumptions are recorded to enable reviewers to understand how particular LOS assessments were made, including what data and criteria has been used. For developments, these notes are expected to be similar to conclusions already stated in the relevant sections within the ITA.

6. Notes	Existing LOS	How Existing LOS were derived, notes	Project Impact or LOS	How Project Impact or LOS were derived, notes
Walking	D	* Average walking distance to crossing = 205m * Average delay a crossing = about 40s * Wide footpath (2.5m +), no overcrowding or pinchpoints	C	* Additional crossings added to reduce walking distance to crossings to <100m * Average delays at new crossings less than 30s
Cycling	F	No facilities and on-street parking. High traffic volumes	Neutral	No Improvements to cycle facilities
Public Transport	E	Average speeds in PM peak along the corridor are 15-20km/h	Moderately positive	Modelling indicates bus priority measures should improve bus average speeds to 20-25km/h
Freight	B	Average speeds in PM peak along the corridor are 15-20km/h	Neutral	No significant change expected to average speed of freight or general traffic
General Traffic	B	Average speeds in PM peak along the corridor are 15-20km/h	Neutral	No significant change expected to average speed of freight or general traffic
Additional notes				
Conclusions	Positive impacts to pedestrians and public transport. However, the area will remain deficient for cycling. Recommend that consideration of options for addressing the cycling deficiency.			

Figure 7: Screenshot showing the notes free text fields

Step 7 – Fit Assessment Result

The Fit Assessment Result will be shown in and below the chart. The fit assessment results fall into one of three categories

- High likelihood of supporting the intent of the Auckland Network Operating Plan (ANOP) and Future Connect
- Moderate likelihood of supporting the Auckland Network Operating Plan (ANOP) and Future Connect, or
- Low likelihood of supporting the Auckland Network Operating Plan (ANOP) and Future Connect

The chart shows:

- The Baseline LOS for each mode, indicated by the solid coloured bars
- The Preferred LOS for each mode, indicated by the thick dashed lines
- The Acceptable LOS for each mode, indicated by the double dashed lines
- The resulting LOS for each mode, indicated by the thick grey lines, and
- The change in LOS for each mode, indicated by the grey arrows.

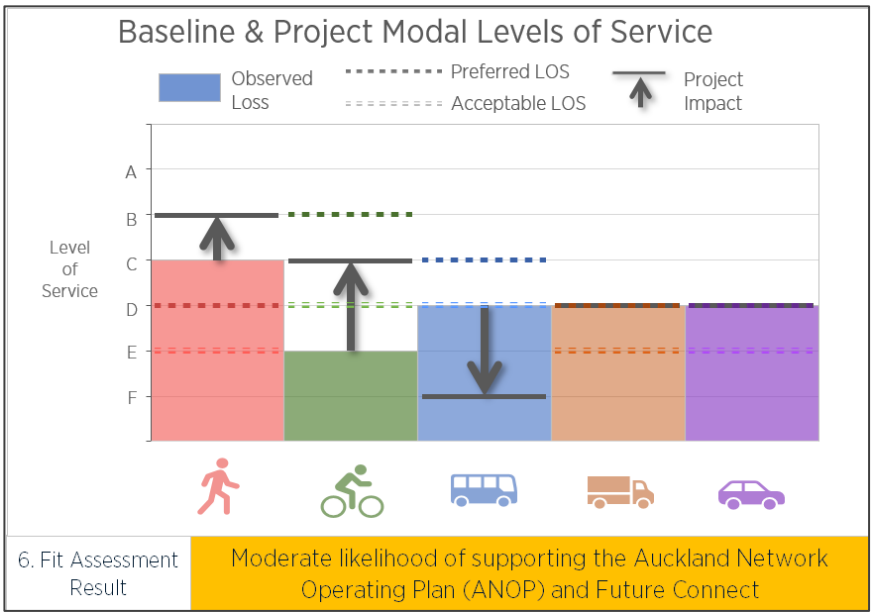


Figure 8: Screenshot showing the Fit Assessment Result chart

The criteria used to determine whether the change is in alignment with the ANOP into are shown in "6. Fit Assessment Result" table below. This table lists all of the criteria used by the tool to assess whether the impacts from the project or development are in alignment with ANOP and Future Connect. This is intended to provide users with a good understanding of what impacts are resulting in a good or poor alignment, which will help to determine what needs to changes to improve the alignment. There are no user input fields to complete in this table.

Where the assessment returns a “Low likelihood” result, this could indicate that some mitigation is required. As a minimum it should trigger a conversation with AT about the impacts to help reach a consensus on whether anything could or should be done to mitigate undesirable outcomes.

A 'Moderate likelihood' outcome may be deemed acceptable, provided there is an adequate explanation and acceptance by AT regarding the underlying rationale.

6. Fit Assessment Result	Assessment Result	Criteria		
	High likelihood of supporting the intent of the Auckland Network Operating Plan (ANOP) and Future Connect	a. At least one mode LOS is improved and no mode LOS deteriorates, b. Sum of LOS deficits to Preferred LOS is reduced, c. No single mode LOS deteriorates and is below Preferred LOS.	OR AND	× × ✓
	Moderate likelihood of supporting the Auckland Network Operating Plan (ANOP) and Future Connect	a. Sum of LOS deficits to Preferred LOS is reduced, b. No increase in to LOS deficit to Preferred LOS for any mode.	OR	× ✓
	Low likelihood of supporting the Auckland Network Operating Plan (ANOP) and Future Connect	Any other result.		×

Figure 9: Screenshot showing the Fit Assessment Result table