MINISTRY OF TRANSPORT
TE MANATŪ WAKA

Domestic Transport Costs and Charges
Summary of Local Roads Asset Valuation

Summary

- Knowing how much the road network is worth helps us understand the cost of investing in infrastructure, which is important for making decisions about upgrades or changes to our roads.
- Different councils (territorial authorities) use different methods to value their local roads, especially the land they are placed on. This leads to significant differences compared to NZTA's method for valuing state highways. Previous research has highlighted that local roads may be significantly undervalued as a result.
- This research creates a new, consistent method of valuing local roads. It uses council-reported values for things like pavements and bridges (with adjustments for unusual or outlining data) and a standard way to estimate land value. This gives a more reliable picture of road and land asset values across the country.
- As of June 2024, the total estimated value of local road assets is between $ 288 billion and $ 333 billion. That's much higher than earlier estimates - $ 61 billion in 2018 and $ 85 billion for the state highway network 2024.
- Land makes up the biggest part of the local road value, accounting for 50% to 90% of the total case studies reviewed as part of this research.

Understanding the opportunity cost of investment in roads

To make informed decisions about investment in infrastructure, it is essential to have a robust and consistent method of valuing the network, so different investment projects can be compared objectively. Accurate valuation supports better planning for maintenance activities and helps guide pricing strategies such as parking and road use.

Valuation inconsistencies create knowledge gap

While NZTA and territorial authorities use broadly standardised approached for valuing non-land roading assets, the 2023 Domestic Transport Costs and Charges (DTCC) research identified significant inconsistencies in how land assets are valued. Many TAs rely on historic cost or outdated market valuations, whereas NZTA applies an over-the-fence method using recent valuations of adjacent properties averaged at the Statistical Area 1 (SA1) level. The lack of consistent and up-to-date land valuation for local roads creates a critical knowledge gap. Without robust estimates of the full value of the local road network, decisions around investment, maintenance and user charges may be misinformed or suboptimal.

The analysis adopts fair value principles and standardised approaches

This research develops consistent methodologies for valuing both land and infrastructure assets across the local road network. Consistent with NZTA's approach, it adopts a cost-based valuation framework using the fair value principles outlined

in Public Benefit Entity accounting standards. Fair value reflects an estimated fair market price, comprising the optimised depreciated replacement cost (ODRC) for non-land roading assets and a market-based assessment of land assets.

The valuation methodology includes:

- Using TA-reported valuations for non-land assets where appropriate
- Identifying outliers using two approaches (implied unit rates or regression analysis)
- Re-estimating outliers using top-down or bottom-up approaches
- Valuing land using an over-the-fence methodology with average values from adjacent properties, aggregated at both SA1 and SA2 levels to provide a valuation range.

The methodology was applied to five case study areas: Wellington City, Newtown (Wellington), Upper Hutt City, Totara Park (Upper Hutt), and Banks Peninsula (Canterbury). The study also developed a rollout plan for applying the methodology nationwide, recommending regression approaches for high-value carriageway assets and more approximate methods for other asset categories.

Land values represent the largest component of local road network value

The total estimated value of local road assets, ranging from $288 billion to $333 billion, significantly exceeds previous estimates—$61 billion in the 2018 DTCC report and $85 billion for the 2024 NZTA state highway network. This difference is primarily driven by the land component, with total land value estimated between $215 billion (SA2 averaging) and $260 billion (SA1 averaging), representing a 5- to 15-fold increase over earlier figures.

Capturing land value through over-the-fence methodologies provides a more realistic reflection of the road network's true replacement cost. However, the 20–50% variation between SA1 and SA2 averaging highlights the sensitivity of valuation outcomes to the spatial scale of averaging, underscoring the importance of methodological choices in asset valuation.

Case studies demonstrate methodology across diverse contexts

The research applied the preferred methodology to five case study areas representing different urban and rural typologies:

- **Wellington City**: Total ODRC of $17.3 billion, with land representing 93% of total value.
- **Newtown, Wellington**: Total ODRC of $512 million, showing >15 times variation in land values per square metre within a small area.
- **Upper Hutt City**: Total ODRC of $1.4 billion, with land representing 82% of total value.
- **Totara Park, Upper Hutt**: Total ODRC of $102 million, with land accounting for 83%.
- **Banks Peninsula, Canterbury**: Total ODRC of $707 million. Land accounts for only 48%, the lowest proportion among case studies.

The case studies revealed that both outlier identification approaches produced similar final valuations, with less than 2% of differences in total non-land assets.

The study highlights a few data and methodological gaps and limitations

- **Land valuation scale uncertainty**: Differences of 20-50% between SA1-based and SA2-based land valuations highlight the need for expert guidance on appropriate averaging scales.
- **Limited TA valuation sample**: Case studies were limited to three territorial authorities only, constraining the precision of outlier identification.
- **Missing or incomplete asset data**: Stormwater assets, lights/signals/poles, and other minor assets had inconsistent recording across TAs, necessitating top-down estimation approaches.
- **Regression model limitations**: Non-normality of residuals and significant TA

fixed effects suggest potential missing covariates or model misspecification.

About the study

The Local Roads Asset Valuation research, completed in May 2025, develops consistent methodologies for valuing New Zealand's local road network as part of the Domestic Transport Costs and Charges annual research programme. Conducted by Abley Limited in association with ECPC Limited, the study establishes approaches to consistently value network land and roading assets and demonstrates these through targeted case studies.

The study encompasses road assets within the road reserve, valuation methodology development for both land and non-land assets, case study demonstrations across five representative areas, and rollout planning for nationwide application. Off-street facilities, paper roads, and economic benefit-based valuations are out of scope.