Housing and Transportation Cost Burden Study

2025 Update

August 2025

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1.0 EXECUTIVE SUMMARY

This report updates Metro Vancouver's Housing and Transportation ("H+T") Cost Burden Study, analyzing how combined housing and transportation expenses affect household affordability across the region. Combined household H+T costs average $41,000 per year, with wide variation in costs between jurisdictions and in the ratios of housing costs to transportation costs.

Key findings include:

- Transportation costs can rival, and sometimes exceed, housing costs;
- Centres and Corridors, especially those along the SkyTrain network, consistently demonstrate lower combined costs;
- Rental tenure greatly scales the affordability benefits of SkyTrain; and
- Population density alone does not materially affect H+T affordability.

The findings suggest that location and tenure matter; Small-Scale Multi-Unit Housing, for example, is unlikely to contribute to affordability if it does not offer transit proximity, rental tenure, and convenient access to jobs and services. Transit-Oriented Areas around SkyTrain, on the other hand, could facilitate greater levels of affordability, particularly for purpose-built rental.

These insights support policies that promote transit-oriented development (particularly affordable rental housing), strategic housing growth in affordable areas, investment in improved public transit and job creation in transit-accessible locations, all of which can improve regional affordability and guide future growth management.

2.0 INTRODUCTION

Metro Vancouver's 2015 Housing and Transportation ("H+T") Cost Burden Study made the case that housing and transportation costs – the two largest costs for a typical household – should be considered together in conversations about affordability in this region.

Direct housing costs are well-understood by renters and mortgage-holders: rents or mortgage payments, property taxes and condominium fees, and utilities.[1] Transportation costs, on the other hand, are less visible. Beyond the upfront cost of personal vehicles, transportation costs are paid in smaller increments (e.g. fuel, vehicle maintenance, financing, or transit fares), can vary from month to month, and may be spread across different modes (e.g. personal vehicles, transit, or ride-hailing).

The 2015 Housing and Transportation Cost Burden Study quantified transportation costs and confirmed that they were a significant aspect of household expenditures. In some cases – such as renter households in certain sub-regions – transportation costs exceeded housing costs, on average. This represented a new way of looking at affordability, with implications for regional and local planning. Key findings from the 2015 H+T Study included:

- renters and lower-income families are feeling the combined cost impacts the most; and
- living near transit makes it easier for households to absorb high housing costs.

Much has changed in Metro Vancouver since the 2015 study was published. The COVID-19 pandemic caused seismic shifts in employment and housing patterns, with work-from-home (WFH) enabling some households to relocate further away from their job locations. As a result, some households are now commuting longer distances, but less often.

Other trends in housing and transportation complicate the picture. Since 2015, housing costs have continued to escalate in both the ownership and rental markets. Rental housing construction has seen an uptick. Meanwhile, new mobility options (such as ride-hailing) have emerged and walking and cycling trips have grown at the expense of single-occupant vehicle trips and transit.[2]

This study therefore examines whether the original findings still hold. Specifically, it attempts to answer three questions:

1. What is the effect on affordability when transportation costs are added to housing costs?
2. How do household income, housing tenure, and proximity to transit influence affordability?
3. What are the implications for regional growth planning for advancing household affordability?

This study also supports implementation of *Metro* 2050, which included a policy focused on the "H+T" concept. Policy 4.1.8(c)(v) requires that Member Jurisdictions "identify policies and actions that contribute to … integration of land use and transportation such that households can reduce their combined housing and transportation costs."

[1] Dictionary, Census of Population, 2021 – Shelter cost

[2] TransLink's Trip Diaries from 2017 and 2023 report the following changes, expressed in percentage points: auto driver (-5.2), transit (-0.9), walk (+3.9) and bike (0.7).

The data and analysis in this study may be used:

- by households considering the cost implications of their housing and transportation decisions; and
- by policymakers seeking strategies to expand transit, increase housing supply in transit-oriented locations, strategically locate jobs, and generally apply the "H+T" lens in growth management.

After a brief methodology section, this study takes an additive approach, beginning with an overview of housing costs in Metro Vancouver. Transportation costs are then examined. Finally, these two datasets are synthesized into an analysis of *combined* "H+T" costs. Additional variables, including household income and housing tenure, are then layered into the analysis. The report concludes with recommendations for how the findings might be actioned within regional growth management.

3.0 METHODOLOGY

This study analyzes the interplay between three key variables at the household level: housing costs, transportation costs and income. These are reported as averages across multiple geographic levels, including census tracts, Member Jurisdictions, subregions and the Metro Vancouver region, to identify patterns in household spending. Costs are described on an absolute basis (in dollars), while affordability is assessed using the concept of "cost burden," defined as the percentage of gross income spent on housing and transportation.

Where data allows, results are disaggregated by housing tenure (owners vs. renters) and transportation mode (e.g., automobile, transit, cycling). Housing and income data are sourced from the 2021 Census, which includes shelter costs beyond rent or mortgage payment – for example, property taxes, utilities, and strata fees.

Transportation costs required a custom analysis based upon TransLink's Trip Diary data. Travel patterns were assigned costs based on vehicle ownership, fuel prices, and transit fares, then annualized and averaged. Due to the complexity of this analysis, Metro Vancouver retained Steer to conduct the transportation cost research, the results and methodology for which are detailed in the accompanying Appendix D, *Transportation Cost Estimates and Technical Report.*

This study improves upon the 2015 methodology by:

- Incorporating costs for more transportation modes (e.g., bicycle, car share, taxi);
- Increasing the precision of transportation subareas (from 40 to 47);
- Providing tenure-specific transportation cost estimates at the member jurisdiction level;
- Mapping housing cost and income data at the census tract level; and
- Conducting regression analysis to isolate the effect of various factors.

A detailed data dictionary is provided in Appendix A.

Deliverables
The results are presented in narrative form, supported by three types of exhibits:

1. Maps – revealing spatial patterns at the census tract or (for transportation) subarea levels;
2. Charts – summarizing results at the member jurisdiction, subregional and regional levels; and
3. Regression modelling – statistically quantifying the relationships between various factors (for example, the impact of SkyTrain proximity on household expenditures).

Terminology

- "Housing and transportation" is occasionally abbreviated as "H+T."
- "Combined costs" refer to housing plus transportation costs.
- "Cost burden" refers to costs divided by gross household income.
- All costs and income statistics are reported on an annual basis at the household level (i.e. not at the person level), unless specified otherwise.
- Dollar figures represent the year in which the data was published, unless specified otherwise.

- Urban Centres, Frequent Transit Development Areas (FTDAs) and Major Transit Growth Corridors (MTGCs) are geographic overlays defined in Metro Vancouver's regional growth strategy, *Metro 2050*. These overlays are sometimes abbreviated as "Centres and Corridors" or "priority growth areas."
- "Member jurisdictions" refer to the federation of 23 local governments that comprise the Metro Vancouver Regional District.
- "Subregions" are geographic groupings of Member Jurisdictions, as defined in *Metro 2050.*
- "Subareas" are used only for transportation cost mapping, as the TransLink Trip Diary does not report results at the census tract level.

Important Caveats

This study aims to provide an overview of affordability in the region that considers both housing and transportation costs. It takes a geographic approach, highlighting spatial patterns and making connections to topics in regional planning – for example, housing tenure, job access and transportation choice. It is not intended to be a definitive study of housing affordability, nor does it attempt to investigate the root causes of the housing affordability crisis in Metro Vancouver. Extensive work by other organizations covers these topics in greater detail.

The data in this study is expressed as averages across geographic areas. This approach necessarily hides much of the variability between households as a means to identify broad spatial patterns. It is likely that no individual household experiences the precise mix of housing and transportation costs outlined in this study. Moreover, a household moving to a new location would not necessarily experience cost savings or cost increases merely by relocating there. Individual circumstances and choices are critical to household expenditures, regardless of location.

This study attempts to use the best and most recent data sources for each topic at the time of analysis, ranging from the 2021 Canadian Census of Population to TransLink's 2017 Trip Diary survey. These data sources do not share the same collection methods nor publication schedules. Readers should therefore approach the aggregated data with caution. The purpose of this study is to assess geographic patterns and make order-of-magnitude comparisons between housing and transportation costs, rather than provide the most precise or current data for any specific location or topic.

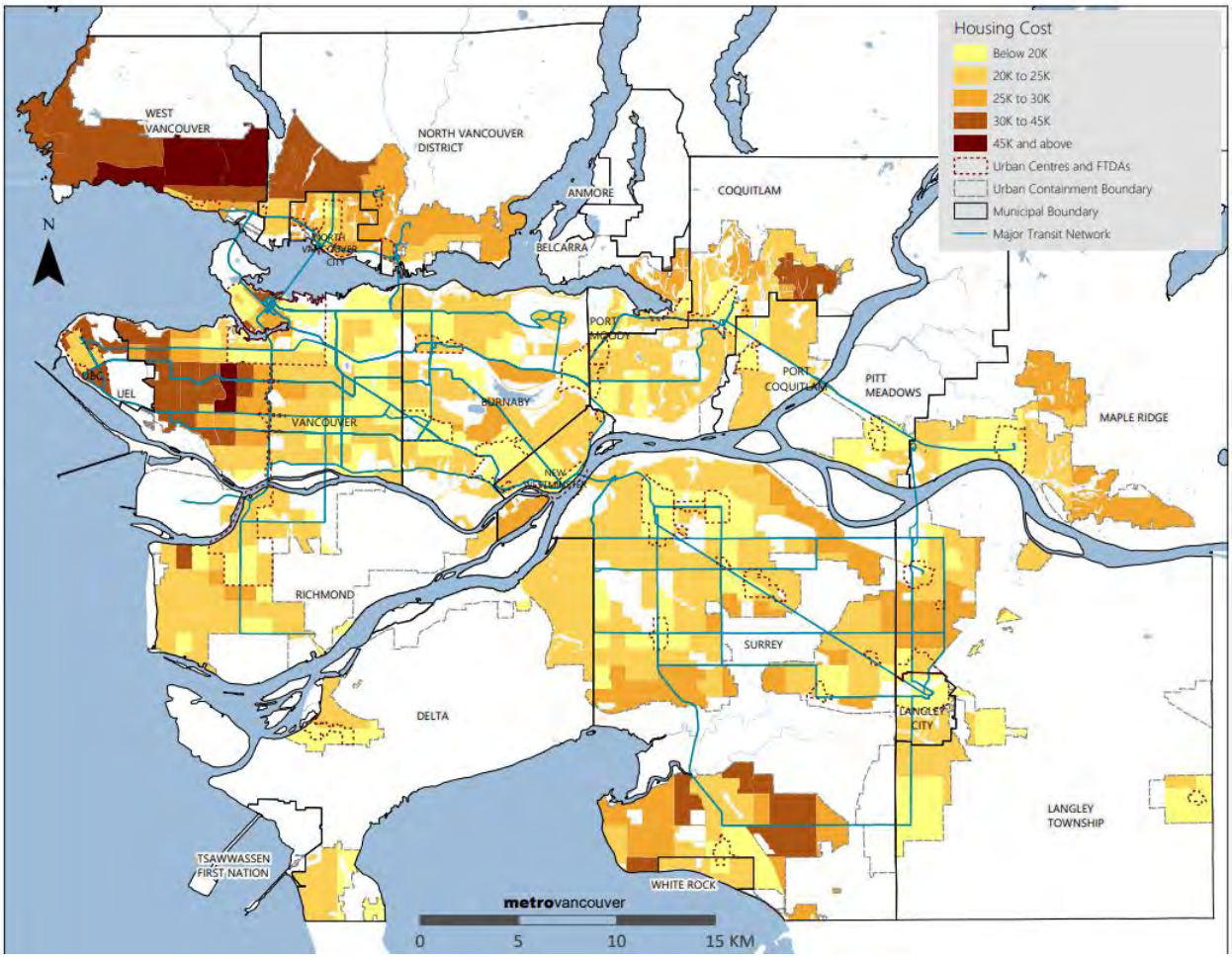
Key exhibits are reproduced within the body of this report. Full regression results are presented in Appendix B, a comprehensive package of maps and charts is available in Appendix C, and transportation-related is contained in Appendix D. The purpose of these appendices is to 1) make available the complete suite of analytical work that informed this study; and 2) provide full-resolution versions of all maps.

4.0 HOUSING COSTS

Across Metro Vancouver, housing costs are highest in West Vancouver, Vancouver's West Side and South Surrey and tend to be lower in Urban Centres and transit corridors such as the Expo and Millennium SkyTrain lines (Figure 1). While housing costs averaged around $22,000 across the region in 2021, there is great variability, ranging from a high of around $37,000 in West Vancouver to a low of around $18,000 in the City of Langley (Figure 2).

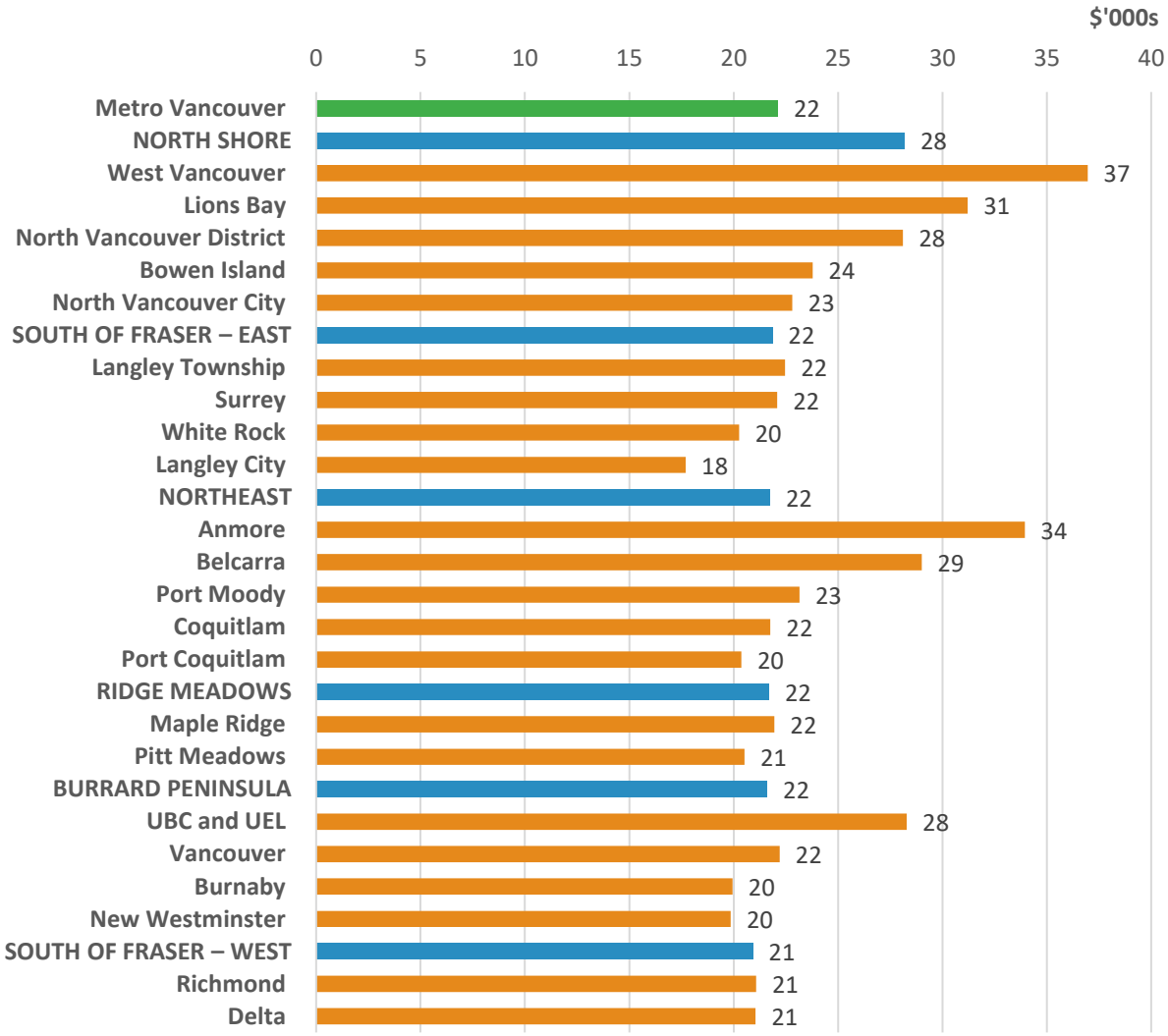
These estimates are averages that represent a combination of renter households, owner households with mortgages and mortgage-free owner households. Disaggregated data for owner households and renter households are contained in Appendix C.

Figure 1. Housing costs



Source: Statistics Canada, 2021.

Figure 2. Housing Costs



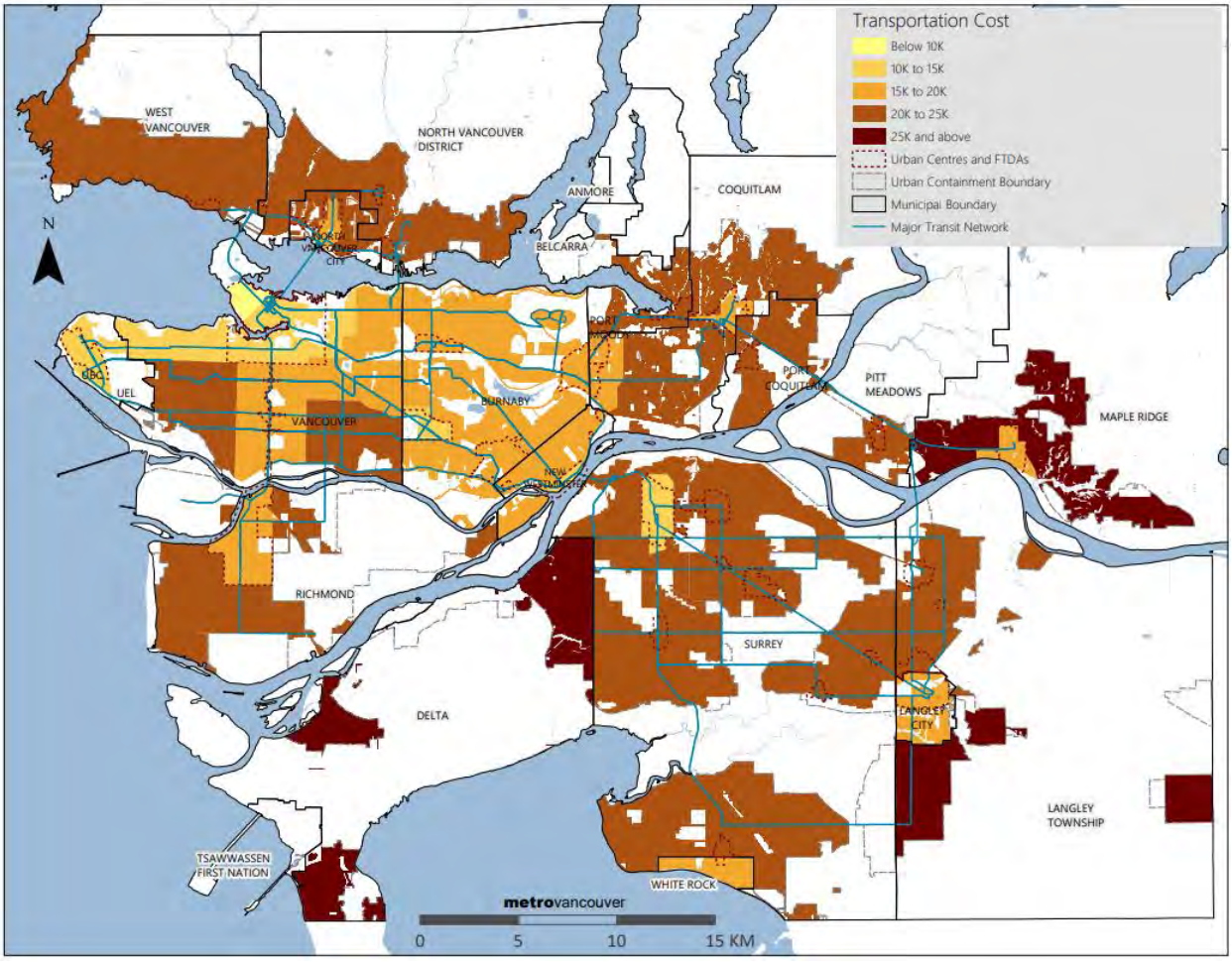
Source: Statistics Canada, 2021.
Note: Tsawwassen First Nation is not displayed due to lack of data. For the same reason, the UBC and UEL data is for Electoral Area A: 99.2% of its population is in UBC and the UEL.

5.0 TRANSPORTATION COSTS

The highest average transportation costs in Metro Vancouver tend to be found at the edges of the region, in communities such as Maple Ridge, Delta, and the Township of Langley – although it is notable that the Urban Centres in such communities enjoy lower transportation costs than their surrounding areas (Figure 3). The lowest average transportation costs are found in the Metro Core, with West End households experiencing average transportation costs below $10,000 annually. Other Urban Centres along the Expo SkyTrain line, including Metrotown, New Westminster and Surrey Metro Centre, also have low average transportation costs.

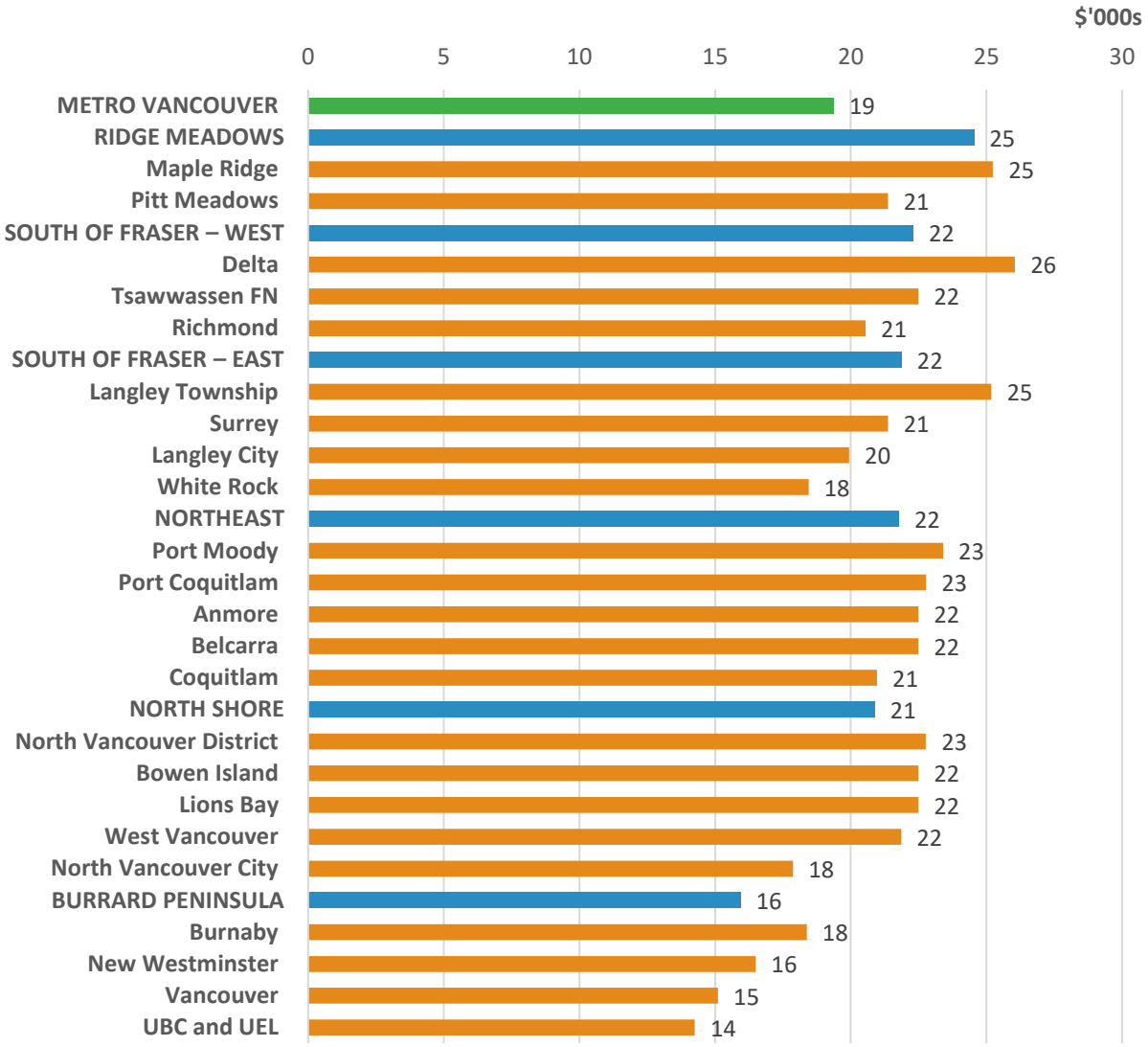
At the member jurisdiction scale, average transportation costs vary around the regional average of $19,000, from $14,000 in UBC and the University Endowment Lands (UEL) to $26,000 in Delta (Figure 4). These findings suggest that proximity to the employment-rich Metro Core and access to fast and frequent transit service are key drivers of transportation costs. Both of these factors are linked to the necessity to drive, and Steer's analysis confirms that personal vehicle costs comprise a full 98 percent of all transportation costs in the region. Moreover, transportation expenditures scale with vehicle ownership: zero-vehicle households spend an average of $2,530; single-vehicle households spend an average of $13,798; and households with two or more vehicles spend, on average, $30,815 annually on transportation.

Figure 3. Transportation costs



Source: Steer, 2024.
Note: These are 2022 dollars.

Figure 4. Transportation Costs



Source: Steer, 2024.
Note: These are 2022 dollars.

6.0 COMBINED HOUSING AND TRANSPORTATION COSTS

The previous maps and charts for housing costs and transportation costs, respectively, reveal a complex pattern in which there is no obvious relationship – inverse or otherwise – between housing and transportation costs.[3] It is therefore not intuitive to predict the results of combining the housing and transportation cost data into a single "H+T" estimate.

Combining housing and transportation costs does, however, reveal a pattern unlike that found for either housing costs or transportation costs: a high-cost perimeter around the region, circumscribing the relatively more affordable centre loosely represented by the SkyTrain system (Figure 5). The Metro Core, Metrotown, and Surrey Metro Centre, all along the Expo SkyTrain Line, stand out as having among the lowest combined H+T costs in the region, with large portions of these Urban Centres boasting combined costs below $30,000 per year, on average. Many other Urban Centres enjoy combined costs in the $30,000 to $40,000 per year range, including Langley, Maple Ridge, Guildford, New Westminster, Richmond, Lougheed, Coquitlam, and Lonsdale. In no Urban Centre do households average more than $50,000 in annual combined costs.

Few Member Jurisdictions have uniformly low or high H+T costs, with most having at least some less-affordable areas and some more-affordable areas. On average, the communities with the highest combined costs (above $50,000 annually) are West Vancouver, Anmore, Lions Bay, Belcarra and North Vancouver District. The communities with the lowest combined costs (under $40,000 annually) are New Westminster, Vancouver, Langley City, Burnaby and White Rock (Figure 6).

As a whole, Metro Vancouver households average around $41,000 in annual household H+T costs. But there is significant variation: the North Shore subregion experiences the highest housing and transportation costs, at an average of around $49,000 per household annually. The Burrard Peninsula[4] has the lowest such costs, at around $38,000 annually.

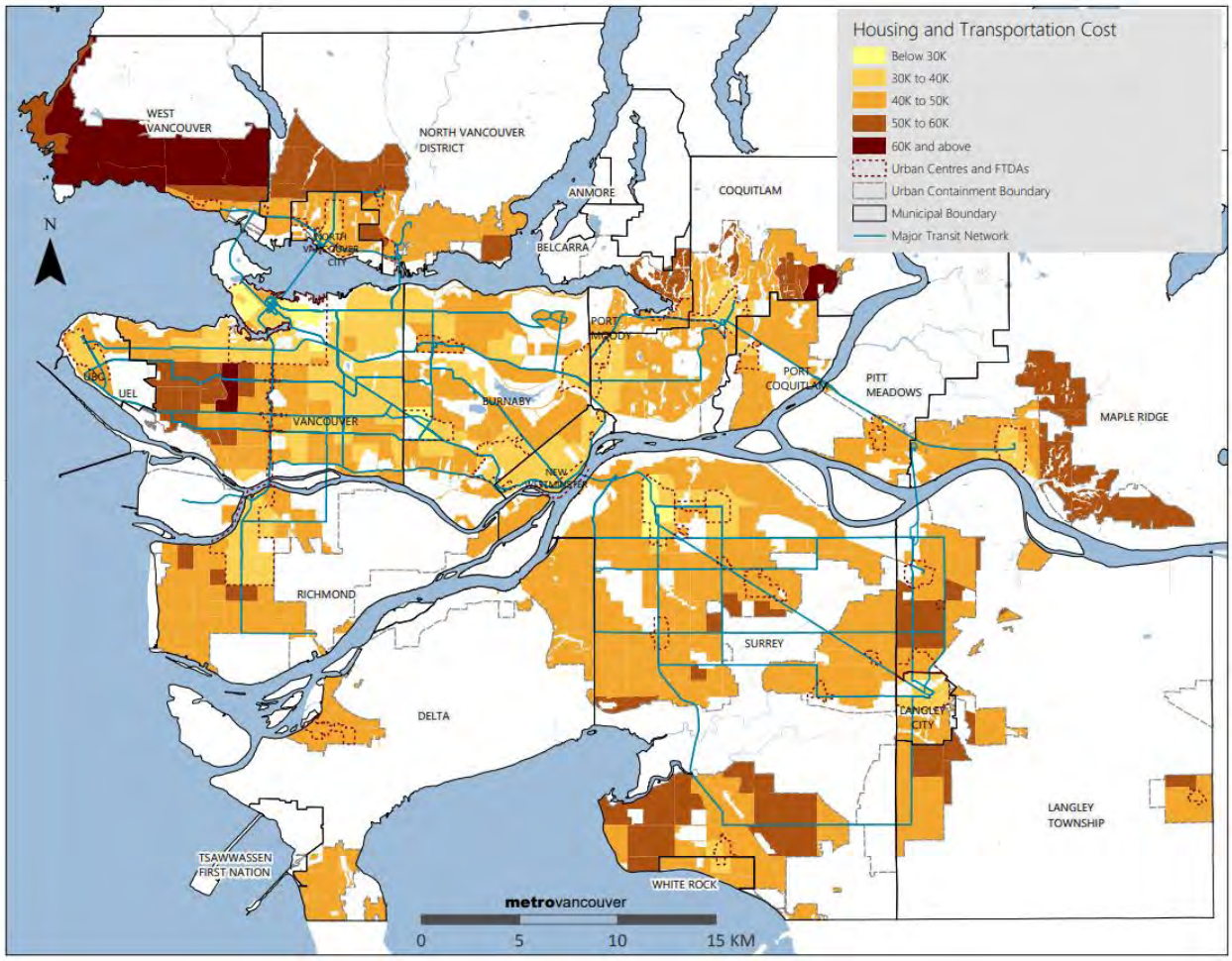
The combined H+T data also allows for a comparison of housing costs in relation transportation costs. Housing costs the average Metro Vancouver household $22,000 per year, while transportation costs $19,000. In several Member Jurisdictions – Maple Ridge, Langley Township, Langley City, Port Coquitlam and Delta – transportation costs exceed housing costs, on average.

Figure 7 compares housing and transportation costs across different regional growth designations, including Urban Centres, Frequent Transit Development Areas, Major Transit Growth Corridors, and other areas within the Urban Containment Boundary. The data shows that areas prioritized in *Metro 2050* for growth, particularly those with strong transit connections, tend to have lower combined costs.

[3] Regression modelling confirms this observation: with an R^2 value of just 0.0393, there is a very weak relationship between housing costs and transportation costs, with the latter explaining only about four percent of the variation in the former (and vice versa).

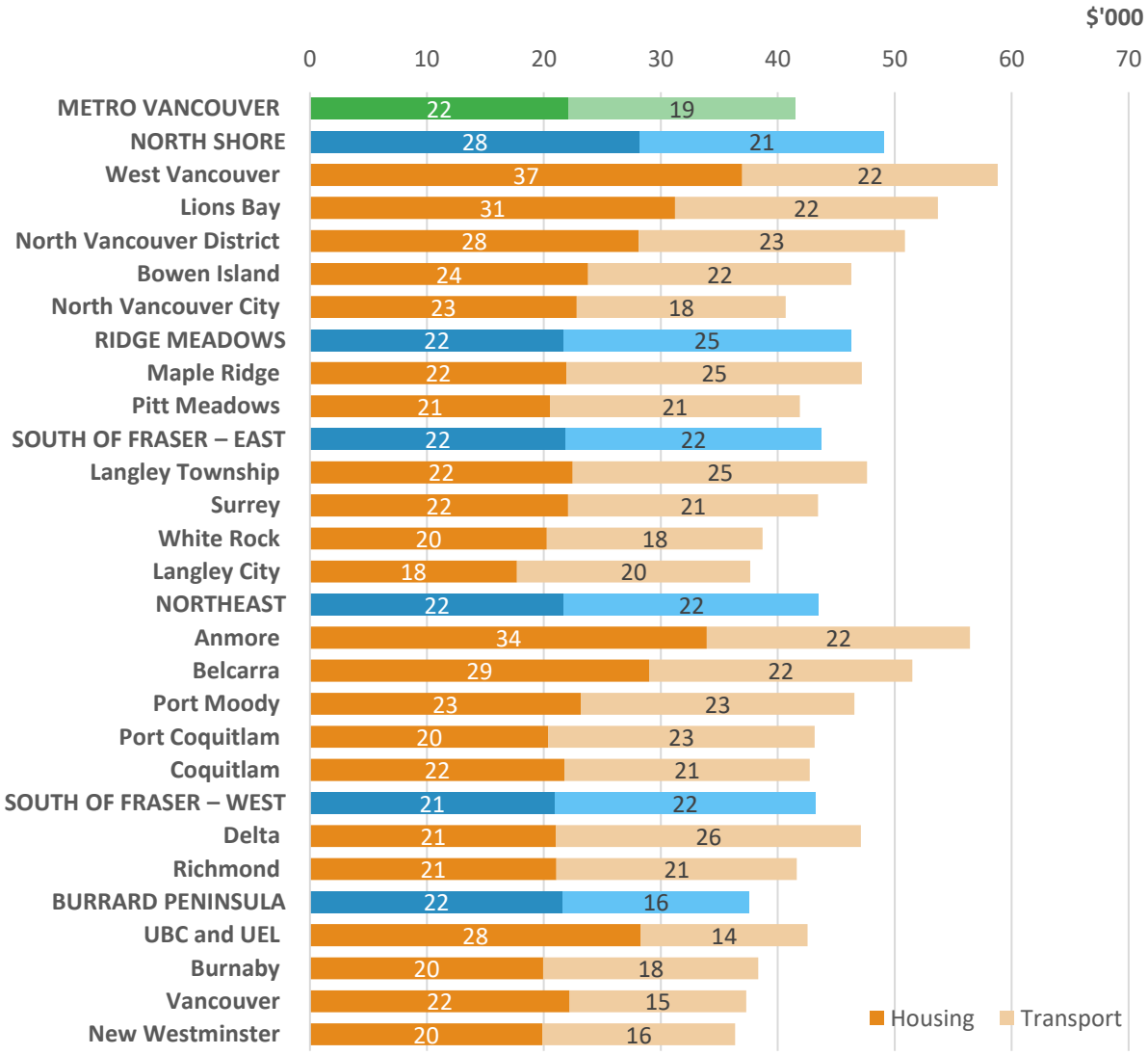
[4] The Burrard Peninsula is comprised of Vancouver, Burnaby, New Westminster and (for the purposes of this study) UBC / UEL.

Figure 5. Combined housing and transportation costs



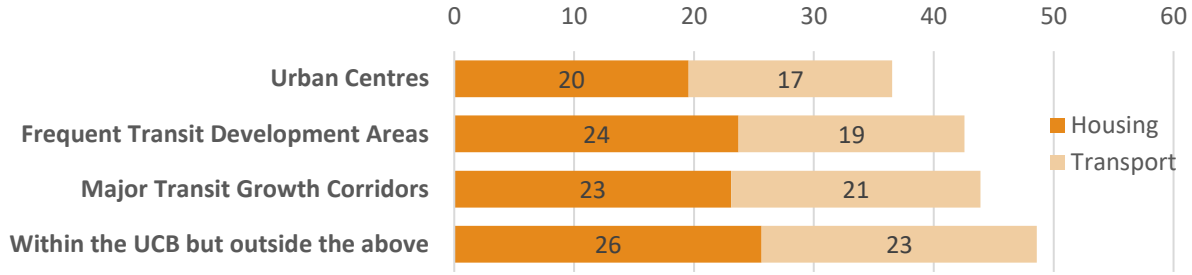
Sources: Statistics Canada, 2021; Steer, 2024.
Note: Housing costs are in 2021 dollars, transportation costs in 2022 dollars.

Figure 6. Combined housing and transportation costs



Source: Statistics Canada, 2021; Steer, 2024.
Note: Housing costs are in 2021 dollars, transportation costs in 2022 dollars. Rounding may make some totals smaller or greater than they appear.

Figure 7. Combined housing and transportation costs by priority growth area ($ thousands) [5]



6.1. EXPLORING THE TRANSIT CONNECTION

The preceding section observed an apparent connection between rapid transit (SkyTrain) and lower combined H+T costs. To test this connection statistically, the research team performed a regression analysis (Figure 8) to quantify the relationship between SkyTrain proximity and combined H+T costs. The resulting analysis carries an R^2 value – a measurement of model fit – of 0.3157, meaning that about 32 percent of differences in combined H+T costs around the region can be explained by proximity to SkyTrain.

The regression analysis found that, as distance from SkyTrain increases, costs increase as well. The effect is particularly pronounced within two kilometres of stations – i.e. the area which could reasonably be considered "transit-oriented." On average, moving ten percent closer to a SkyTrain station lowers annual combined costs roughly by a modest $117 per household per year (2025 dollars), with the financial benefits increasing exponentially within walking range of SkyTrain stations.

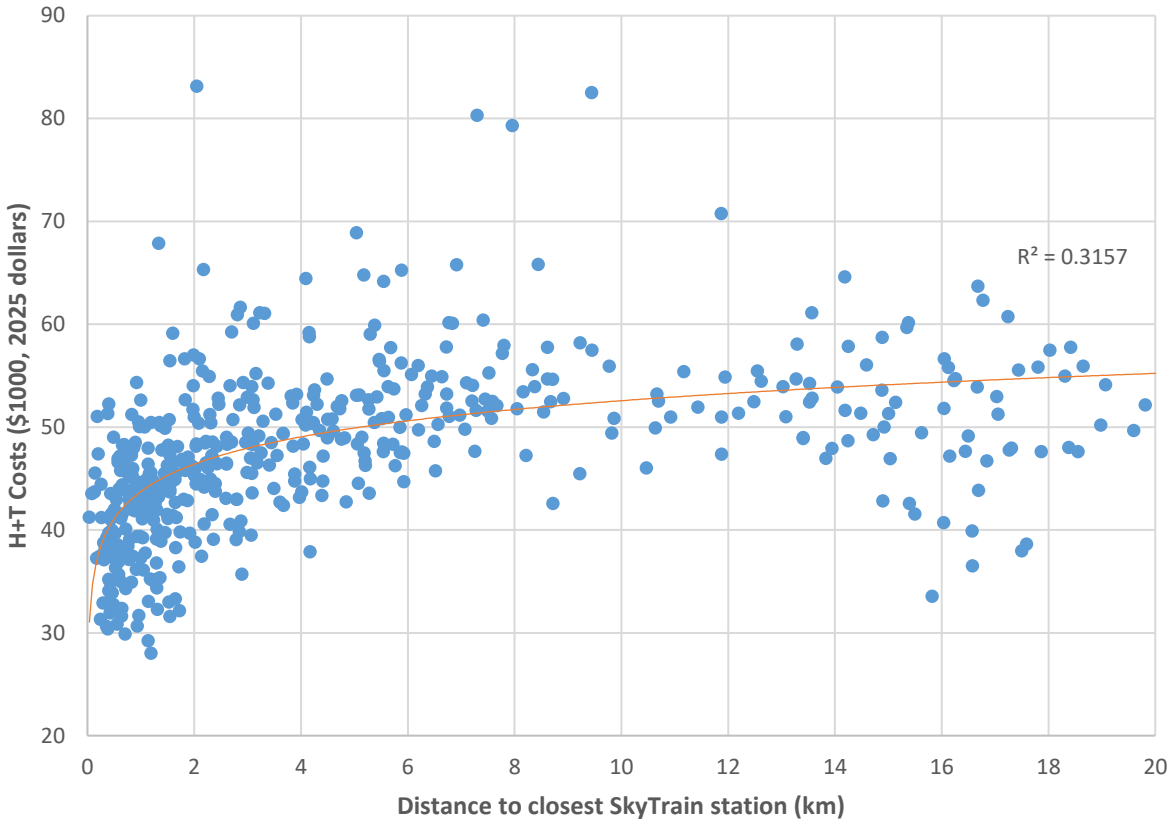
It is important to note that, aside from its role in providing a lower-cost transportation option, SkyTrain proximity serves as a proxy for other variables. The housing near SkyTrain is more likely to be rental tenure and the units are smaller, on average. Both of these factors imply lower costs.

The regression analysis also found that proximity to frequent bus service does not materially affect combined costs. Other transit service types, such as RapidBus, may also be tested in the future. However, as the RapidBus program only started rolling out in 2020, its effects are not yet visible within the data used for this study.

Complete results of the regression analysis are contained in Appendix B.

[5] UCB refers to the Urban Containment Boundary. The analysis is confined to General Urban lands only, as this is the regional land use designation associated with residential land uses.

Figure 8. Combined housing and transportation costs, by distance to SkyTrain



Sources: Statistics Canada, 2021; Steer, 2024; Metro Vancouver calculations, 2025.
Note: Distance is determined by census tract centroids. Housing costs are in 2021 dollars, transportation costs in 2022 dollars.

7.0 DEMOGRAPHIC FACTORS

7.1. HOUSEHOLD INCOME

An analysis of affordability – i.e. cost burden, as opposed to absolute cost – is not complete without considering the question of household income. Once incomes are incorporated,[6] the geographic pattern becomes substantially less clear, with pockets of both high cost burden and low cost burden areas scattered around the region (Figure 9). This scattering of the spatial pattern seen in the previous section may suggest the role of lifestyle in making housing location decisions – the reality that households will spend based on what they can afford and self-select into more or less costly locations depending upon needs and preferences.

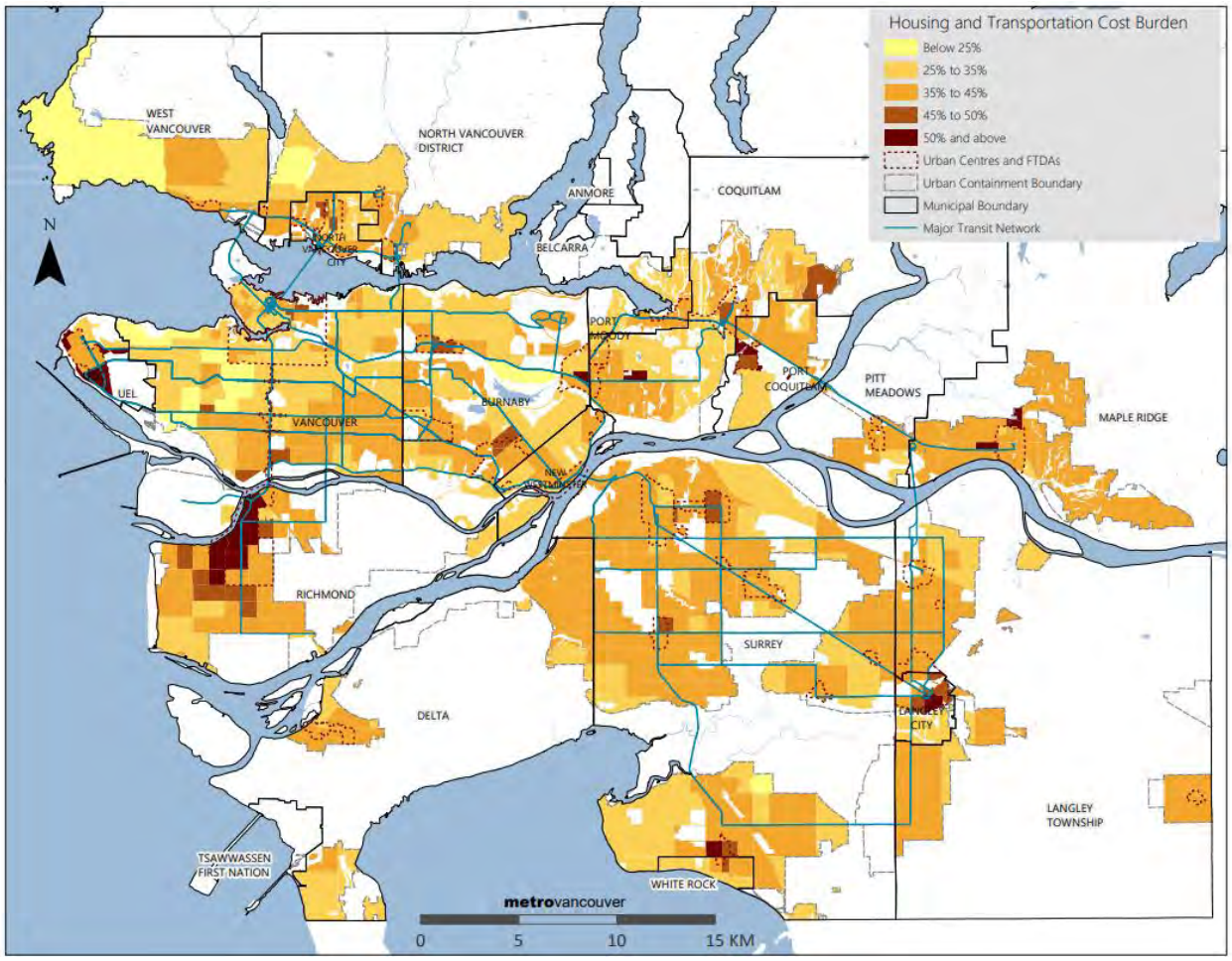
Figure 10 suggests that, when considering cost burden (i.e. costs divided by income), the role of income overtakes geographic factors such as regional centrality or transit accessibility. On average, the communities with the lowest combined cost burdens (below 30 percent of gross household income) are Belcarra, Anmore, Lions Bay, West Vancouver, Bowen Island and North Vancouver District. The communities with the highest cost burdens (above 40 percent of gross household income) are Langley City, UBC / UEL and Richmond.

Housing and transportation cost burden in Metro Vancouver averages 36 percent, which is below the 45 percent threshold that is sometimes used as a guideline for combined H+T costs.[7] All Member Jurisdictions and sub-regions are, on average, below the 45 percent threshold, but some neighbourhoods exceed 50 percent. The area-based averaging approach used for this study hides the variation between households, and the reality that many Metro Vancouver households are financially squeezed when considering not only housing and transportation costs, but other costs as well (daycare, groceries, and so forth).

[6] Calculated as average combined H+T costs divided by average income and expressed as a percentage (%).

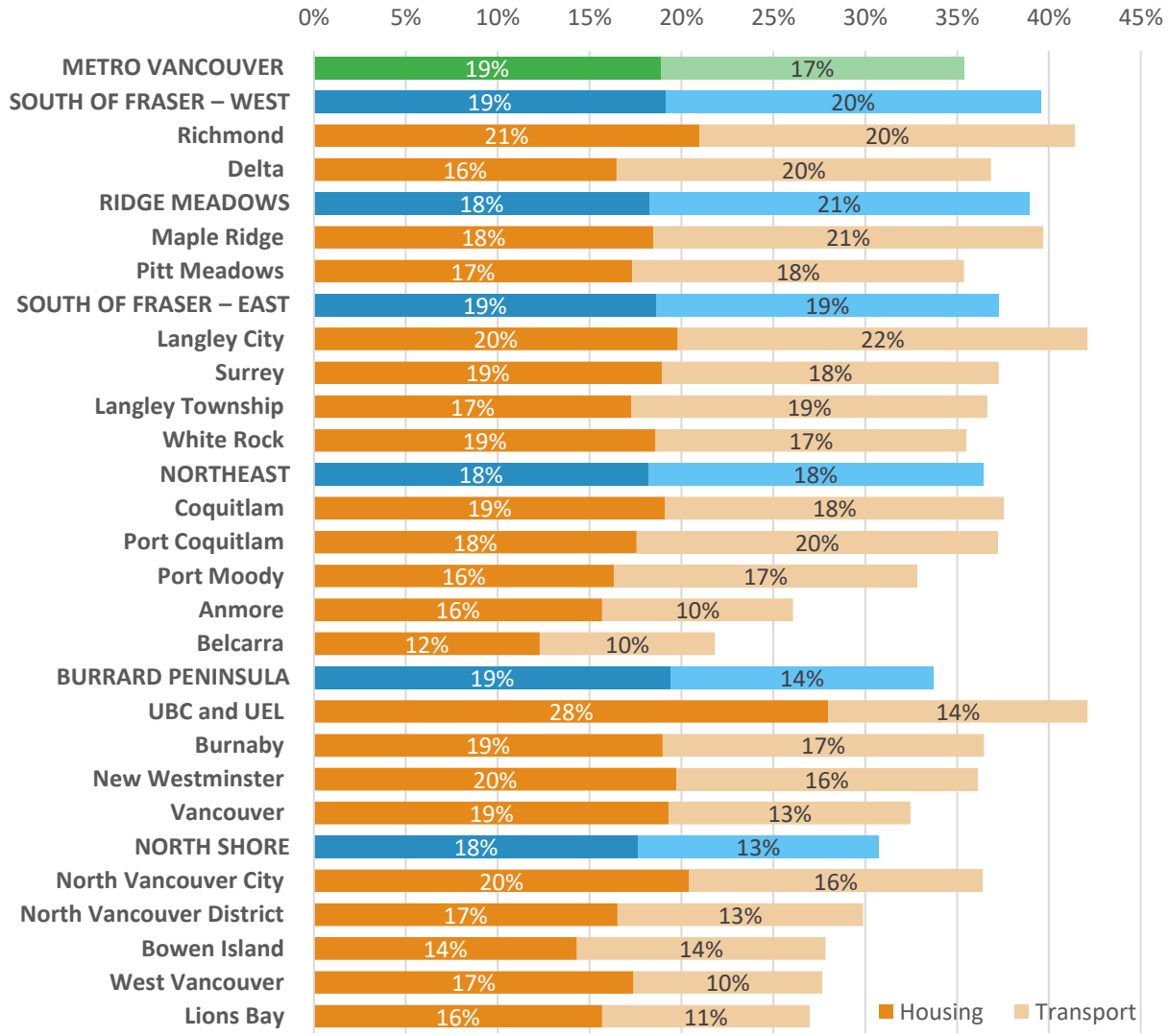
[7] 30 percent is typically used as the threshold for housing cost burden, while 15 percent is used for transportation cost burden.

Figure 9. Combined housing and transportation cost burden



Source: Statistics Canada, 2021; Steer, 2024.

Figure 10. Combined housing and transportation cost burden

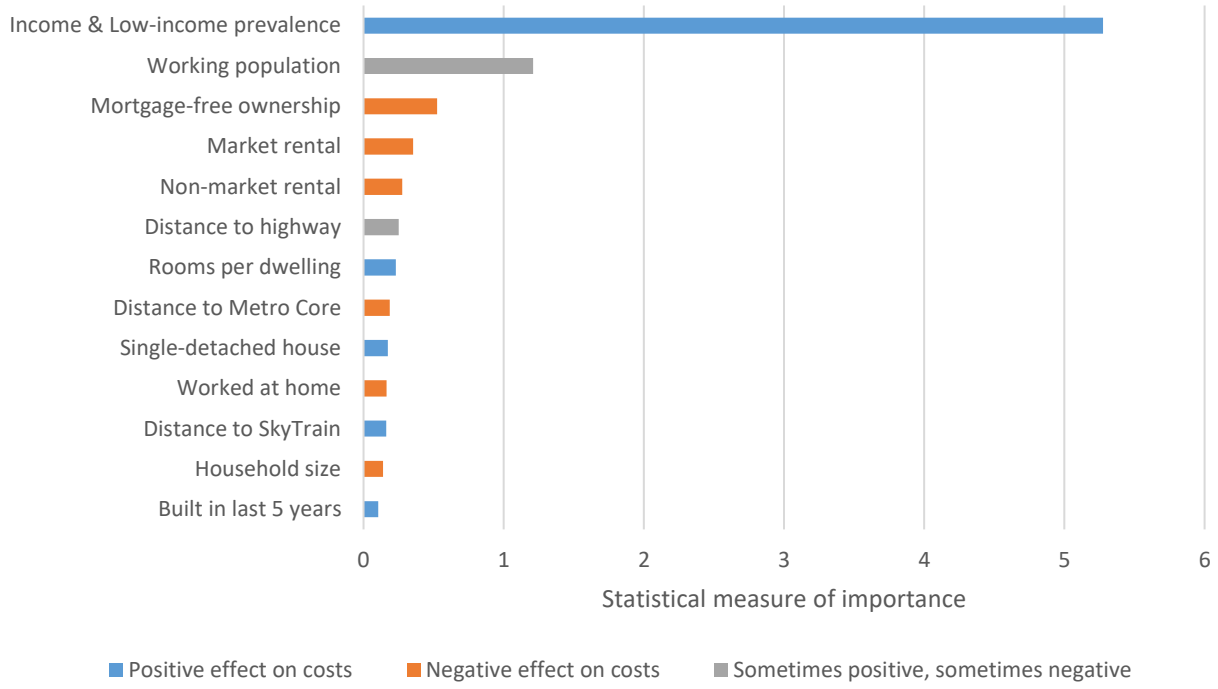


Source: Statistics Canada, 2021; Steer, 2024.

The research team also performed a regression analysis (Figures 11 and 12) to quantify the relationship between household income and combined H+T costs.

The model shows that household income, interacting with low-income prevalence, is the most important factor by far in explaining combined costs, followed by the proportion of the working population and housing tenure (Figure 11).

Figure 11. Importance of various factors to combined housing and transportation costs in Metro Vancouver

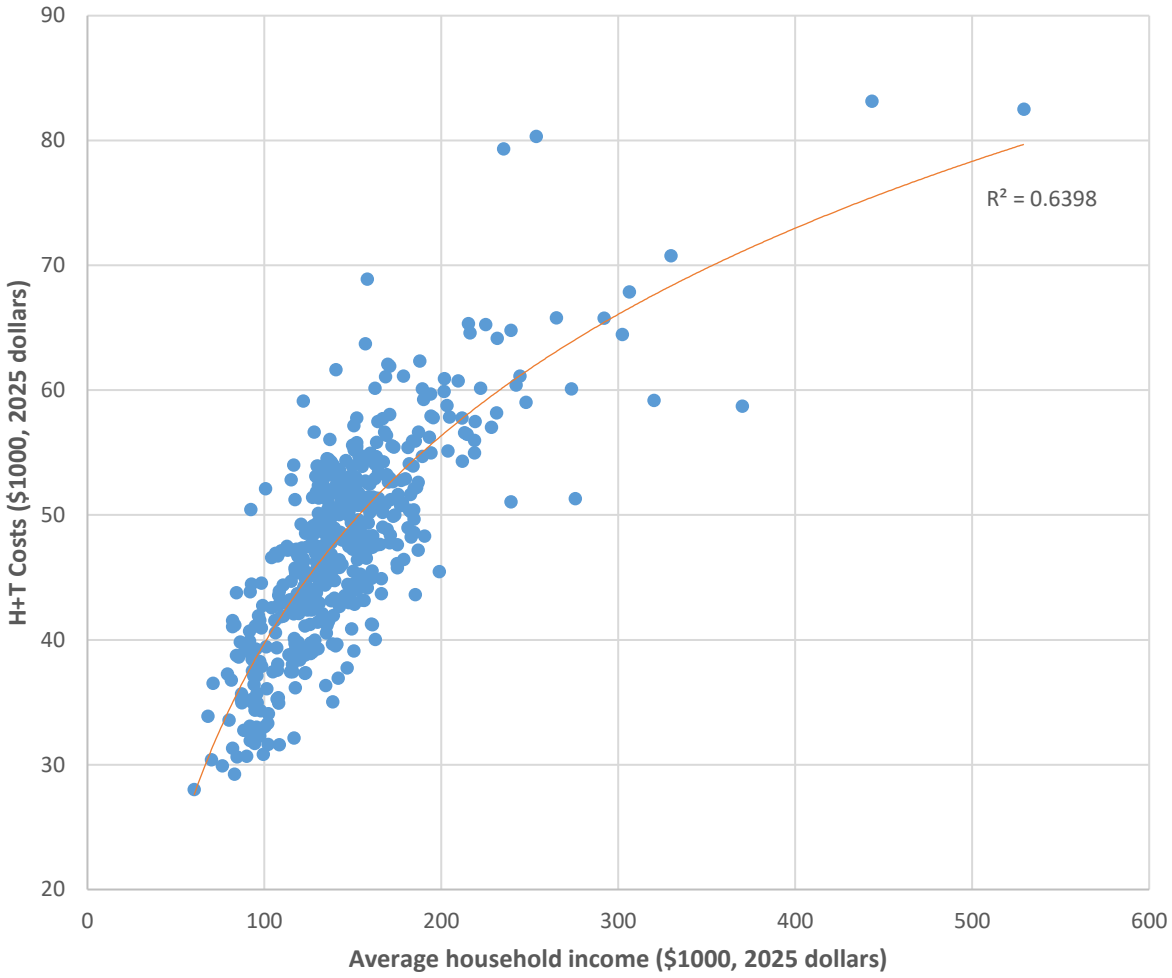


Source: Statistics Canada, 2021; Steer, 2024; Metro Vancouver analysis, 2025
Note: The statistical measure is standardized effect sizes. The "Working population" variable is linked to reduced costs up until the point at which around 2/3^{rds} of the population is employed; after that point, costs increase. "Greater distance to highway" increases costs until about 3.5 km away, then costs decline.

Specifically, as household income rises, so do expenditures (Figure 12). Each ten percent increase in income is associated with a $1,773 increase in combined costs (2025 dollars). The analysis carries an R^2 value of 0.6398, meaning that about 64 percent of differences in combined H+T costs around the region can be explained by household income.

This finding corroborates the intuitive observation that households can only spend what they make, along with the idea that households who make more are likely to spend more.

Figure 12. Combined housing and transportation costs, by average household income



Sources: Statistics Canada, 2021; Steer, 2024.
Note: distance is determined by census tract centroids.

7.2. HOUSING TENURE

How does housing tenure influence affordability? Owning with a mortgage is associated with the highest costs, followed by market rental, mortgage-free ownership, and finally non-market rental. Table 1 therefore uses mortgage-holding ownership as a benchmark against which other forms of tenure are considered, with the understanding that owners' shelter costs are not fully comparable with renters' shelter costs.

Analysis indicates that tenure has a stronger influence on combined costs than does transit accessibility. For instance, moving ten percent closer to SkyTrain reduces per-household combined costs by about $117 per year, while increasing the proportion of market rental units in an area by about ten percentage points can reduce costs by about $1,854 (compared with mortgage-holding ownership units). Similar order-of-magnitude differences exist for non-market rental and mortgage-free owners as well. All three tenure types analyzed have a stronger relationship to H+T costs than distance to SkyTrain or distance to the Metro Core (Figure 12).

Table 1. Effects on combined H+T costs for changes in housing tenure composition (other factors being equal)

Within a census tract, a 10 percentage-point increase in the proportion of:	Means combined costs H+T are lower than mortgage-holding owners by about:
Market renter households	$1,854
Non-market renter households	$4,132
Mortgage-free owner households	$4,058

Note: There is high uncertainty at low levels of non-market rental. These are 2025 dollars.

8.0 CONCLUSION

The Housing and Transportation Cost Burden Study Update features a number of exhibits (Appendix C) that allow for deep analysis of household cost patterns in the Metro Vancouver region, revealing that:

- **There is significant variation in costs between Member Jurisdictions and subregions.** The North Shore subregion experiences the highest housing and transportation costs, at an average of $49,000 per household annually. The Burrard Peninsula has the lowest such costs, at $38,000 annually. New Westminster, Vancouver, Langley City, Burnaby and White Rock have average housing and transportation costs under $40,000 per household annually. West Vancouver, Anmore, Lions Bay, North Vancouver District and Belcarra have average housing and transportation costs exceeding $50,000 per household annually.

- **Transportation costs can rival, and sometimes exceed, housing costs.** Housing costs the average Metro Vancouver household $22,000 per year, while transportation costs $19,000. In several Member Jurisdictions, however – Maple Ridge, Langley Township, Langley City, Port Coquitlam and Delta – transportation costs exceed housing costs, on average.

- **Centres and Corridors are more affordable.** Many Urban Centres enjoy combined costs in the $30,000 to $40,000 per year range, including Langley, Maple Ridge, Guildford, New Westminster, Richmond, Lougheed, Coquitlam, and Lonsdale. In no Urban Centre do households average more than $50,000 in annual combined costs. On average, *Metro 2050*'s Centres and Corridors are more affordable than other General Urban areas outside of these overlays. Analysis indicates that this pattern is the result of multiple factors linked to greater levels of affordability, including: proximity to SkyTrain; availability of rental housing; and smaller unit sizes.

- **SkyTrain is linked to H+T affordability.** The map in Figure 5 reveals a high-cost perimeter around the region, circumscribing the relatively more affordable centre loosely represented by the SkyTrain system. The Metro Core, Metrotown, and Surrey Metro Centre, all along the Expo SkyTrain Line, stand out as having among the lowest combined H+T costs in the region, with large portions of these Urban Centres having combined costs below $30,000 per year, on average. Similar to the findings for Centres and Corridors, the relatively greater affordability for households living around SkyTrain is facilitated by the type of transit-oriented development (namely, rental housing and smaller units) available in those neighbourhoods, in addition to the influence of the SkyTrain service itself.

- **Rental tenure greatly scales the affordability benefits of SkyTrain.** Rental tenure, and particularly non-market rental, consistently makes a more significant difference to both housing and transportation costs than transit service alone. However, rental housing tends to concentrate around SkyTrain, suggesting that SkyTrain plays a role in facilitating rental tenure. Promoting the two together – i.e. transit-oriented affordable housing – would yield the greatest benefit.

- **Population density alone does not materially affect H+T affordability.** Regression modelling found that population density had a statistically insignificant relationship with combined H+T costs. Density must be combined with other factors – such as proximity to SkyTrain, rental tenure, and access to jobs – to make an impact on affordability. One implication of this finding is that location and tenure matter; to the extent that it does not offer these attributes, Small-Scale Multi-Unit Housing is unlikely to contribute to combined H+T affordability. Transit-Oriented Areas around SkyTrain, on the other hand, could enable greater levels of affordability if the housing is purpose-built rental.

- **There is no clear relationship – inverse or otherwise – between housing costs and transportation costs.** Analysis found that there is a very weak relationship between housing costs and transportation costs, with the latter explaining only about four percent of the variation in the former (and vice versa). This finding suggests that housing and transportation costs behave independently of each other. Therefore, planning decisions should consider both types of costs together, rather than assuming one offsets the other.

- **Transportation costs are driven largely by vehicle ownership.** Across Metro Vancouver, auto costs comprise 98 per cent of total transportation costs. Households with two or more vehicles spend, on average, $30,815 annually on transportation; single-vehicle households spend an average of $13,798; and zero-vehicle households spend an average of $2,530. This suggests that public policy enabling more households to own fewer vehicles (e.g. transit-oriented development) can have an impact on overall household costs.

8.1. IMPLICATIONS FOR REGIONAL GROWTH MANAGEMENT

The findings of the Housing and Transportation Cost Burden Study Update offer valuable insights for shaping regional growth strategies. Most notably, the data demonstrates that strategic investments in public transit can significantly improve household affordability, an important consideration for Metro Vancouver, where housing costs remain a major challenge.

Households in areas with strong transit access consistently experience lower combined housing and transportation costs. This underscores the importance of aligning land use planning with transit infrastructure to support more affordable living. Transit-oriented development can reduce reliance on costly personal vehicles and enable more efficient use of land for mid-rise, rental, and wood-frame housing forms.

To maximize these benefits, regional growth policies should continue to prioritize development in areas with existing or planned rapid transit service. In particular, the Major Transit Growth Corridor overlay presents an opportunity to strategically shape future growth areas that support affordability. While *Metro 2050* currently emphasizes Urban Centres and Frequent Transit Development Areas, expanding the use of the Major Transit Growth Corridor concept could help guide housing and employment growth toward locations where transit access and land economics align to deliver more affordable outcomes.

Regional growth management should also prioritize rental tenure housing. The Housing and Transportation Cost Burden Study Update finds that population density alone has a statistically insignificant effect on H+T costs. *Metro 2050*'s first guiding principle – "put growth in the right places" –

could be updated by incorporating the notion of "the right tenure." Recent provincial housing legislation encourages housing supply in both SkyTrain station areas and neighbourhoods zoned for single-detached housing.[8] Because it is agnostic to housing tenure, this legislation may have little impact on housing affordability unless supplemented by regional and local policy that encourages rental housing.

Additionally, increasing employment opportunities in transit-accessible areas can have a dual benefit: boosting household incomes while reducing commuting costs. This integrated approach to land use, transportation, and economic development can help Metro Vancouver advance its affordability goals.

Finally, the Housing and Transportation Cost Burden Study Update has implications for ongoing performance monitoring. This could include setting a benchmark for housing and transportation cost burden to track progress over time. Based on the distribution of housing and transportation costs in Metro Vancouver, along with local incomes, a threshold of 45 percent[9] could serve as an appropriate benchmark for the region.

[8] Transit-Oriented Areas (TOAs) and Small-Scale Multi-Unit Housing (SSMUH), respectively.

[9] The 45 percent affordability benchmark (30 percent for housing and 15 percent for transportation) was originally developed by the Center for Neighborhood Technology, which pioneered the concept of an H+T index.

APPENDIX A – DATA DICTIONARY

Below are the variables used in the regression analysis. Not all were included in the final model. All data is at the census tract level, which are areas of about 2,500 to 8,000 people, except for transportation costs, which are calculated at the subarea level.

Due to data availability, First Nations reserves and treaty lands were excluded. As the focus is on urban residential areas, census tracts with no General Urban lands were excluded, along with 11 other census tracts around the edge of the Urban Containment Boundary whose populations generally resided on Agricultural or Rural lands as identified in *Metro 2050*.

Variable	Description	Source & Year	Transformations
Housing costs (2021 Canadian dollars)	Average household shelter costs. These include mortgage payments, rent, property taxes and condominium fees, utilities, and other municipal services.[10] Due to data availability, this was calculated using the following formula: (Number of Renter Households * Average Annual Household Housing Costs for Renter Households + Number of Owner Households * Average Annual Household Housing Costs for Owner Households) / (Total Number of Renter and Owner Households)	Statistics Canada, 2021 Census of Population	For the regression analysis, figures were inflated to 2025 based on the Bank of Canada's inflation calculator. Kept 2021 dollars for maps and charts.
Transport costs (2022 Canadian dollars)	Total average household spending on transportation, including driving (including parking costs), car sharing, ride hailing, transit, and cycling, with adjustments to account for the recent shift to more working from home as well as hybrid and electric vehicles. This only includes private monetary costs, not not public costs, time costs, environmental costs, health costs, or any other costs associated with travel. These other costs also differ between modes. This is the only variable at the "subarea" level, a TransLink geography roughly corresponding to neighbourhoods	Steer, 2024, using the 2017 TransLink Trip Diary, the Canadian Automobile Association driving costs calculator, and other sources [Data is for 2022]	For the regression analysis, figures were inflated to 2025 based on the Bank of Canada's inflation calculator. Kept 2022 dollars for maps and charts.
Household income (2020 Canadian dollars)	Receipts of money of all household members, before taxes and deductions, of a generally recurring nature. This includes for example money from employment, dividends, pension,	Statistics Canada, 2021 Census of Population [Data is for 2020]	For the regression analysis, figures were inflated to 2025 based on

[10] Dictionary, Census of Population, 2021 – Shelter cost

	Employment Insurance, or child/spousal support but excludes for example cash inheritances, TFSA/RRSP withdrawals, capital gains, and voluntary inter-household transfers.[11]		the Bank of Canada's inflation calculator and modelled as a logarithmic relationship (percentage change). Kept original 2020 figures for maps and charts.
Population density (People per square kilometre)	The population in the entire census tract divided by General Urban lands in each census tract. For four census tracts in West Vancouver and Coquitlam whose General Urban lands included large swathes of undeveloped forest, the population density of a nearby tract with similar development patterns, or the average of two nearby ones, was taken. Note that some jurisdictions designate non-General Urban lands to a greater detail than others (e.g., including or excluding golf courses), so population densities are not entirely comparable between census tracts.	Metro Vancouver analysis, using 2021 census data	For the regression analysis, this was modelled as a logarithmic relationship (percentage change)
Distance to Metro Core (metres)	The straight-line distance from the centroid of the General Urban lands within each census tract to Vancouver City Centre SkyTrain Station	Metro Vancouver analysis in 2025	
Distance to SkyTrain (metres)	The straight-line distance from the centroid of the General Urban lands within each census tract to the closest SkyTrain station	Metro Vancouver analysis using 2023 TransLink data	For the regression analysis, this was modelled as a logarithmic relationship (percentage change)
Distance to frequent bus (metres)	The straight-line distance from the centroid of the General Urban lands within each census tract to the closest point along bus routes on the Frequent Transit Network. This excludes SkyTrain, SeaBus, and West Coast Express.	Metro Vancouver analysis based on 2022 data from TransLink	For the regression analysis, this was modelled as a logarithmic relationship (percentage change)
Distance to highway (metres)	The straight-line distance from the centroid of the General Urban lands within each census	Metro Vancouver analysis using *Metro 2050*	For the regression analysis, this was modelled as a

[11] Profile table, Census Profile, 2021 Census of Population - Vancouver [Census metropolitan area], British Columbia, Note 26

	tract to the closest "Major Highway" as shown in *Metro 2050* maps in 2025	geographies in 2025	quadratic relationship (effect increases then decreases or decreases then increases)
Distance to water (metres)	The straight-line distance from the centroid of the General Urban lands within each census tract to the closest water body as in Metro Vancouver's GIS database, which includes some, but not all courses of water	Metro Vancouver analysis using internal database geographies in 2025	For the regression analysis, this was modelled as a quadratic relationship (effect increases then decreases or decreases then increases)
Distance to parks (metres)	The straight-line distance from the centroid of the General Urban lands within each census tract to the closest Conservation and Recreation land as identified in *Metro 2050* in 2025	Metro Vancouver analysis using *Metro 2050* geographies in 2025	For the regression analysis, this was modelled as a logarithmic relationship (percentage change)
Distance to industry (metres)	The straight-line distance from the centroid of the General Urban lands within each census tract to the closest Industrial land as identified in *Metro 2050* in 2025	Metro Vancouver analysis using *Metro 2050* geographies in 2025	For the regression analysis, this was modelled as a quadratic relationship (effect increases then decreases or decreases then increases)
Elevation (Metres)	The mean elevation for the General Urban lands within each census tract	Metro Vancouver analysis based on 1985-86 data from the Province of BC[12] (20 metre contour resolution)	For the regression analysis, this was modelled as a quadratic relationship (effect increases then decreases or decreases then increases)
Household size (persons)	The average number of people in a household for the census tract. To get precise numbers, this was calculated by dividing the population by the number of households. A household is a person or group of persons who occupy the same dwelling and do not	Statistics Canada, 2021 Census of Population	

[12] Government of BC - TRIM Updates by Year

	have a usual place of residence elsewhere.[13] They do not have to be related.		
Rooms per dwelling (rooms)	The average number of rooms per dwelling in the census tract. Rooms are enclosed, finished areas suitable for year-round living. This includes kitchens, bedrooms and finished rooms in the attic or basement but excludes bathrooms, halls, vestibules, and rooms used solely for business purposes.[14]	Statistics Canada, 2021 Census of Population	
Single-detached house (%)	The percentage of dwelling units in the census tract that are single-detached houses. This excludes houses with recorded secondary suites.[15]	Statistics Canada, 2021 Census of Population	
High-rise apartments (%)	The percentage of dwelling units in the census tract that are apartments in buildings that have five or more storeys	Statistics Canada, 2021 Census of Population	
Major repairs needed (%)	The percentage of dwelling units in the census tract that require major repairs. This is a measure of housing condition. This does not include regular maintenance, minor repairs, or desirable remodelling or additions.	Statistics Canada, 2021 Census of Population	
Built within 5 years (%)	The percentage of dwelling units that were built between 2016 and 2021	Statistics Canada, 2021 Census of Population	
Built 2001-2015 (%)	The percentage of dwelling units that were built between 2001 and 2015. We technically generated 2001-2021 data and subtracted the 2016-2021 data.	Statistics Canada, 2021 Census of Population	
Children (%)	The percentage of the population in a census tract aged 0 to 14 years	Statistics Canada, 2021 Census of Population	This or seniors was excluded in different models to serve as the reference group
Seniors (%)	The percentage of the population in a census tract aged 65 years and over	Statistics Canada, 2021 Census of Population	This or children was excluded in different models to serve as the reference group
Working-age population (%)	The percentage of the population in a census tract aged 15 to 64 years. We technically calculated it using: 100 – Children – Seniors	Statistics Canada, 2021 Census of Population	
Working population (%)	The percentage of the population (not just working-age) in a census tract that worked full-time, part-time, or part of the year	Statistics Canada, 2021 Census of Population	For the regression analysis, this was modelled as a quadratic relationship

[13] Dictionary, Census of Population, 2021 – Household

[14] Profile table, Census Profile, 2021 Census of Population - Vancouver [Census metropolitan area], British Columbia, Footnote 53

[15] Houses with a recorded secondary suite would count as a duplex. Type of Dwelling Reference Guide, Census of Population, 2021

			(effect increases then decreases or decreases then increases)
Worked at home (%)	The percentage of the population (not just workers) that worked from home	Statistics Canada, 2021 Census of Population	
Long commuters (%)	The percentage of the population (not just workers) that commuted 45 minutes or more.	Statistics Canada, 2021 Census of Population	
Moved within 5 years (%)	The percentage of the population that had a different place of residence five years ago	Statistics Canada, 2021 Census of Population	
Low-income prevalence (%)	The proportion of the population in a census tract whose household incomes falls below 50% of the median-adjusted after-tax household income in Canada, adjusted for household size. This is the "Prevalence of low income based on the Low-income measure, after tax (LIM-AT) (%)" line in the census.	Statistics Canada, 2021 Census of Population	
Market renters (%)	The percentage of households in a census tract that are renters in non-subsidized housing	Statistics Canada, 2021 Census of Population	
Non-market renters (%)	The percentage of households in a census tract that are renters in subsidized housing	Statistics Canada, 2021 Census of Population	
Mortgage-free owners[16] (%)	The percentage of households in a census tract that are owners without a mortgage.	Statistics Canada, 2021 Census of Population	

[16] Mortgage-holding owners served as the reference group for the tenure variables—one of them must be excluded for the regression to work.

APPENDIX B – REGRESSION ANALYSIS

Below are the results of the regression modelling, when including only housing costs, only transport costs, or both. The table shows how these variables relate to costs when the other listed variables are controlled for. Only variables that were consistently significant for combined costs are modelled here. These variables explain 90% of the variation in housing costs, 77% for transportation costs, and 89% for combined costs. All dollars are for 2025, and are reported on an annual basis, per household. Figures are approximate—there is a range of uncertainty around each one—and are developed using census tract-level data.

Regression results for housing (H) and transportation (T) costs in Metro Vancouver

Variable	When this variable…	H costs…	T costs…	H+T Costs…
Household income ($)	Increases by 10%[17]	+$1,847***	Statistically insignificant	+$1,773***
Low-income prevalence (%)	Increases by 10 percentage points[18]	+$5,850***	-$983*	+$4,868***
Distance to Metro Core (km)	Decreases by 1 km	+$114***	Statistically insignificant	+$129***
Distance to SkyTrain (km)	Decreases by 10%	-$28*	-$89***	-$117***
Distance to highway (km)	Increases	+ to 2.6 km* - after	+ to 4.1 km*** - after	+ to 3.5 km*** - after
Household size	Increases by 1 person	-$1,077**	-$958*	-$2,035***
Rooms per dwelling	Increases by 1 room	+$783***	Statistically insignificant	+$1,257***
Single-detached house (%)	Increases by 10 percentage points	+$262**	+$313**	+$575***
Built within 5 years (%)	Increases by 10 percentage points	+$636***	Statistically insignificant	+$847***
Working population (%)	Increases	- to 66%*** + after	Statistically insignificant	- to 67%*** + after
Worked at home (%)	Increases by 10 percentage points	Statistically insignificant	-$2,160***	-$2,235***
Market renters (%)	Increases by 10 percentage points	-$721***[19]	-$1,133***	-$1,854***
Non-market renters (%)	Increases by 10 percentage points	-$3,443***	-$689*	-$4,132***
Mortgage-free owners (%)	Increases by 10 percentage points	-$3,276***	-$781**	-$4,058***

*Significance levels: * = a less than 5% chance that the relationship occurred by chance; ** = <1%; *** = <0.1%*

[17] When assuming a constant region-wide low-income prevalence of 11.1%. Analysis finds that the effect of household income on costs depends on the level of low-income prevalence in the census tract. The higher the low-income prevalence, the more that household income increases costs.

[18] When assuming a constant region-wide average household income of $140,555. Analysis similarly finds that the effect of low-income prevalence on costs depends on the level of household income in the census tract. At higher incomes, low-income prevalence increase costs more. While unintuitive, low-income prevalence may capture receipts of money outside Statistics Canada's definition of "income," such as TFSA/RRSP withdrawals, capital gains, and voluntary inter-household transfers, or the more general concept of "wealth." For the definition of "income," see: Profile table, Census Profile, 2021 Census of Population - Vancouver [Census metropolitan area], British Columbia, Note 26.

[19] For market renters, non-market renters, and mortgage-free owners, the cost effects are compared with mortgage-holding owners.

Sources: Statistics Canada, 2021; Steer, 2024; Metro Vancouver analysis, 2025
Note: For highway and working population, the p-values of the linear term are shown. Rounding may affect totals.

The following variables were found to be statistically insignificant for combined costs, either consistently or with random subsets of the data:

- Population density
- Distance to frequent bus
- Distance to water
- Distance to parks
- Distance to industry
- Elevation
- High-rise apartments
- Major repairs needed
- Built 2001-2015
- Children
- Seniors
- Working-age population
- Long commuters
- Moved within 5 years

APPENDIX C – MAPS AND CHARTS

Provided as a separate resource available on the Metro Vancouver web site, metrovancouver.org.

APPENDIX D – TRANSPORTATION COST ESTIMATES

Provided as a separate resource available on the Metro Vancouver web site, metrovancouver.org.

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