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RESEARCH NOTES NEWSLETTER

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Car-Free Apartment Households Save on Transportation Costs

Over half of apartment households are considered cost burdened—paying over 30% of their income on rent—but some of these households are also able to save money on transportation costs by living in dense, walkable neighborhoods with easy access to public transportation. For instance, 74% of apartment households owned no vehicles in New York City during the period from 2016 to 2020, as did 57% of apartment households in Boston, and 55% in Washington, D.C.

In this *Research Notes*, we will examine which apartment households are most likely to live car-free and how much money this might be saving them.

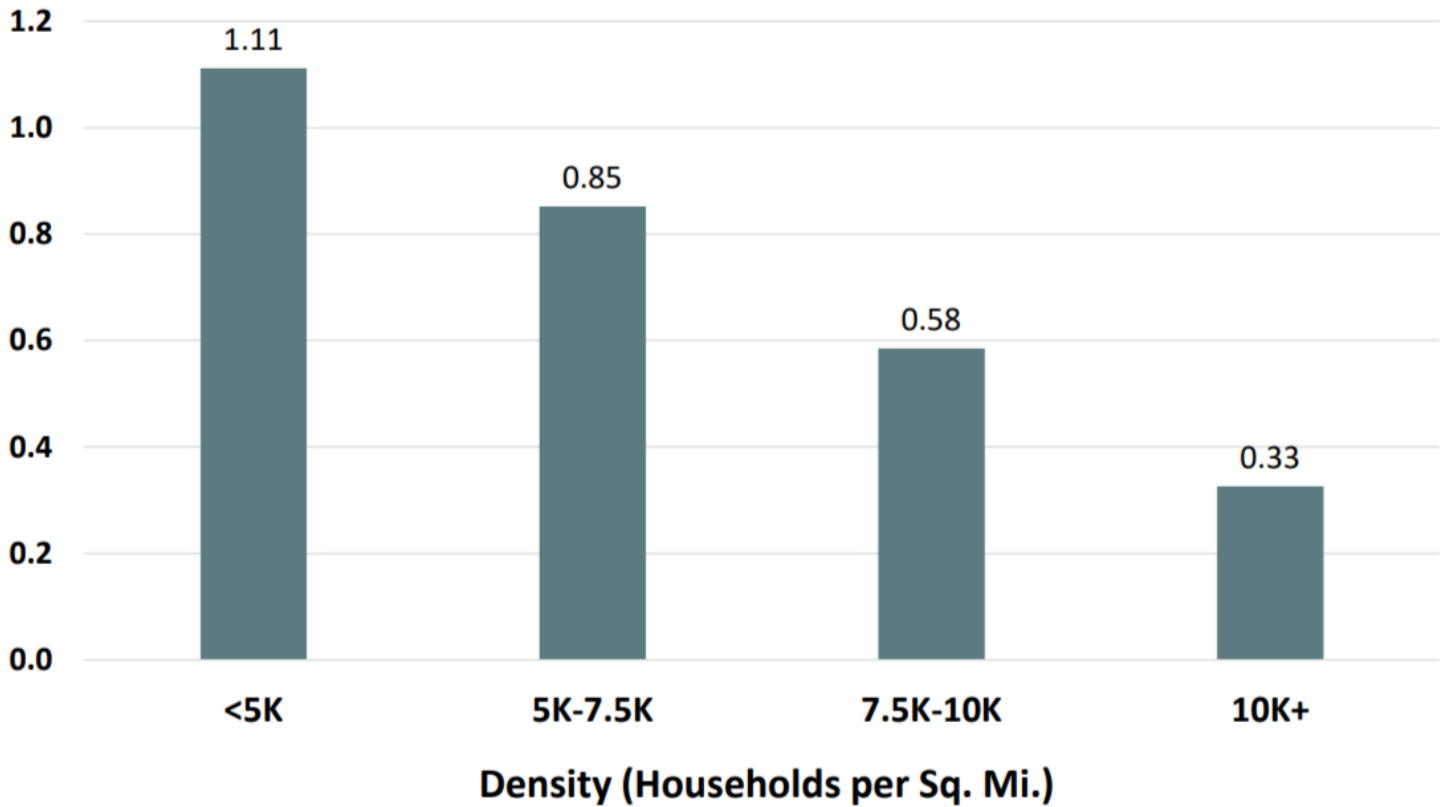
Apartment Households in Denser Neighborhoods Own Fewer Cars

The average U.S. apartment household owned just 1.2 cars between 2016 and 2020, fewer than the average single-family renter household, which owned 1.4 cars, and the average single-family owned household (1.8 cars).

Apartment households located in denser parts of the country—which we measure by the number of households per square mile—tended to own much fewer cars.

FIGURE 1

Average Number of Vehicles Per Apartment Household



Source: NMHC tabulations of 2016-2020 American Community Survey microdata

For reference, 5,000 households per square mile is around the density found in the East Vernon and Southeast neighborhoods of Los Angeles, 7,500 households per square mile is the density of Central Philadelphia, and 10,000 households per square mile is just above that found in Jersey City, NJ.

It is no surprise, then, that the top twenty-five neighborhoods with the lowest number of vehicles per apartment household were all located in New York City, and all but one had densities greater than 10,000 households per square mile. (There are only a handful of neighborhoods outside of New York City—in San Francisco, Los Angeles, Chicago and Hoboken, NJ—with comparable levels of density.)

FIGURE 2**Top 10 Neighborhoods with Lowest Car Ownership**

Market	City (Borough)	HHs per Sq. Mi.	Avg. # Cars per Apt. HH
Chelsea, Clinton & Midtown Business District (Manhattan)	NYC (Manhattan)	32,362	0.102
Chinatown & Lower East Side	NYC (Manhattan)	43,540	0.151
East Harlem	NYC (Manhattan)	21,058	0.152
Battery Park City, Greenwich Village & Soho	NYC (Manhattan)	30,442	0.154
Murray Hill, Gramercy & Stuyvesant Town	NYC (Manhattan)	59,303	0.175
Upper West Side & West Side	NYC (Manhattan)	38,599	0.185
Brownsville & Ocean Hill	NYC (Brooklyn)	17,427	0.186
Central Harlem	NYC (Manhattan)	39,399	0.186
Hamilton Heights, Manhattanville & West Harlem	NYC (Manhattan)	30,321	0.206
Brooklyn Heights & Fort Greene	NYC (Brooklyn)	18,893	0.213

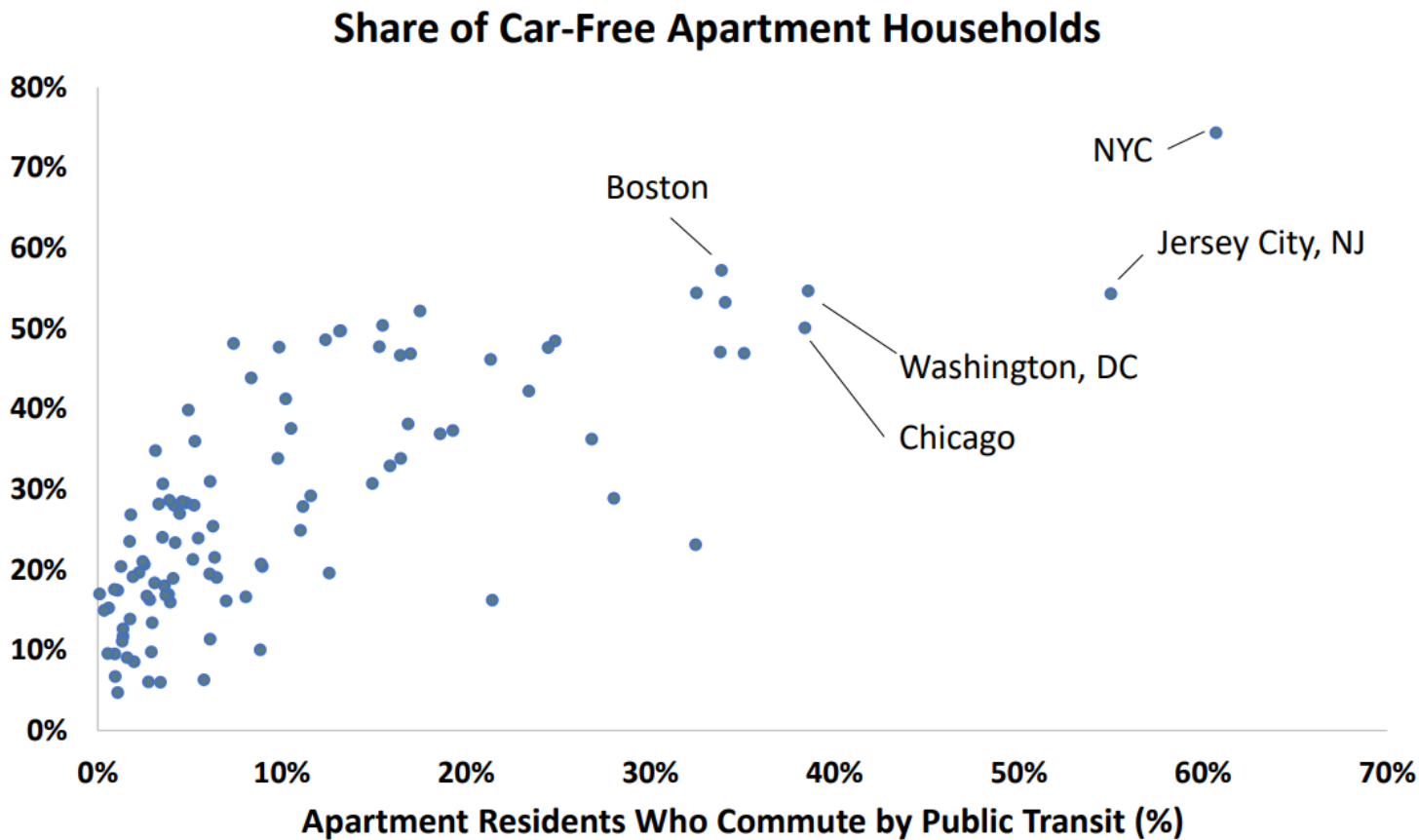
Source: NMHC tabulations of 2016-2020 American Community Survey microdata

Yet, it is not necessarily the density itself which is causing such low levels of car ownership in many New York City neighborhoods, but also the fact that New York has the most extensive bus and rail network in the country. Sixty-one percent of working NYC apartment residents commuted to work via public transport (bus, subway, or commuter rail). Jersey City, NJ, which is also part of the larger NYC rail network, is the city with the second-highest share of apartment residents who commute via public transit (55%). Other U.S. cities with relatively high levels of public transit usage include Washington, DC, where 39% of working apartment residents commuted by public transit; Chicago (38%); Yonkers, NY (35%); San Francisco (34%); Boston (34%); and Cambridge, MA (34%).

Furthermore, we can see from Figure 3 below that there is a positive relationship between public transit usage and car-free living.

FIGURE 3

Relationship Between Public Transit Use and Car-Free Living in U.S. Cities*

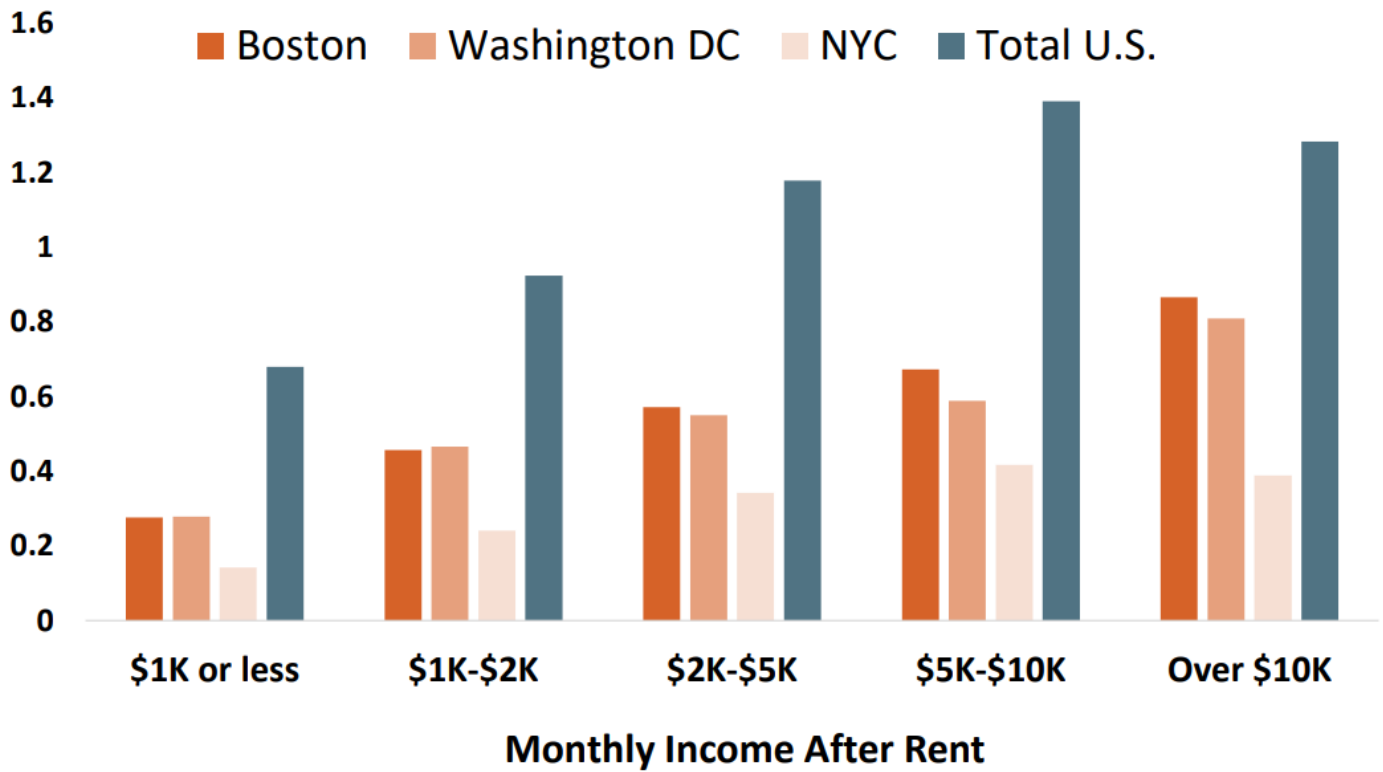


Source: NMHC tabulations of 2016-2020 American Community Survey microdata

*Includes all U.S. cities identified in ACS microdata by IPUMS USA, University of Minnesota, www.ipums.org.

Apartment Households with Higher Incomes Tend to Own Greater Number of Vehicles

Car ownership depends not just on the relative cost and availability of alternatives—such as walking, biking or taking public transit—but also on a household’s disposable income. Figure 4 below illustrates how apartment households with higher levels of disposable income (after paying rent) tend to own a greater number of vehicles, on average. This relationship exists not only in dense cities, such as New York City, but throughout the entire U.S. as well.

FIGURE 4**Average Number of Vehicles Per Apartment Household**

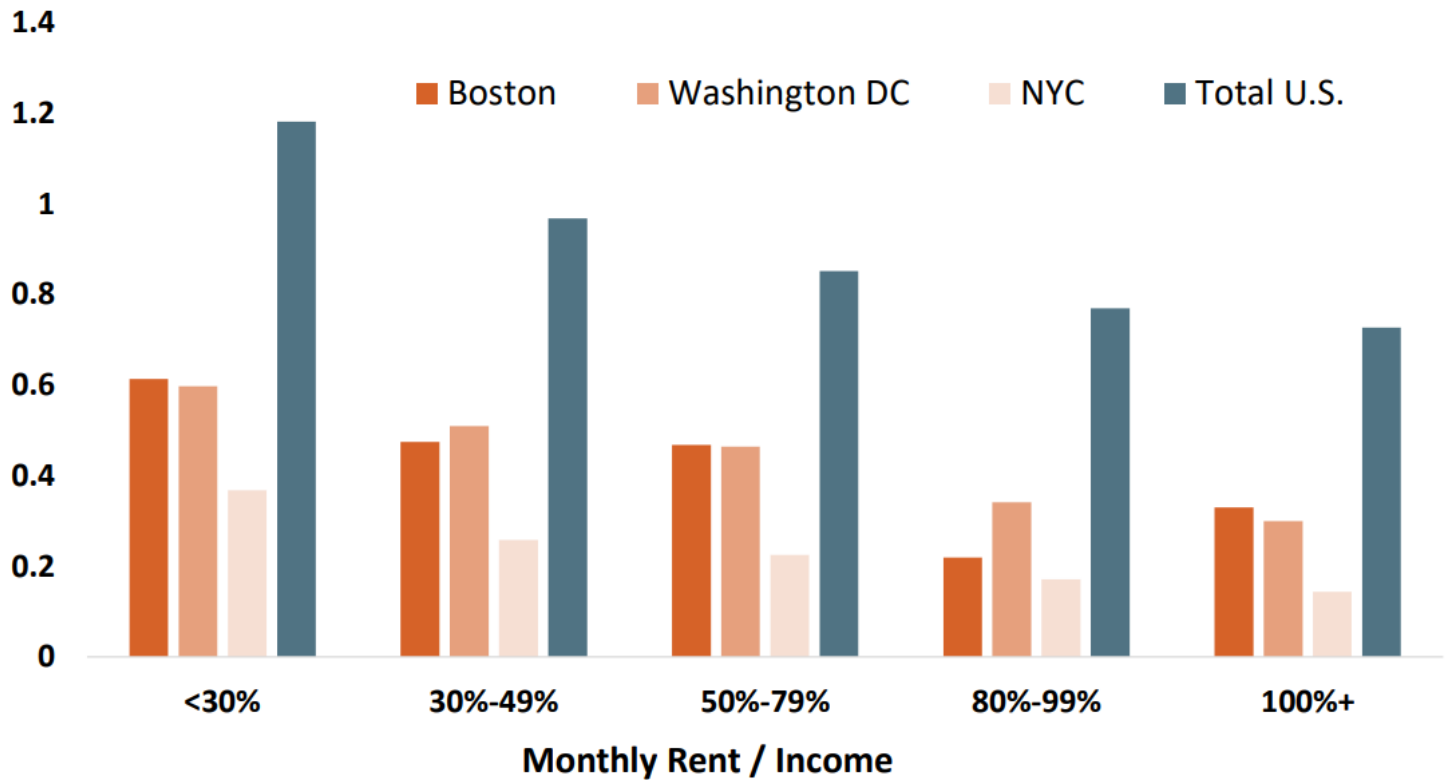
Source: NMHC tabulations of 2016-2020 American Community Survey microdata

Saving Money by Living Car-Free

The fact that many U.S. neighborhoods are home to apartment households with much lower levels of car ownership has important implications for how we measure housing affordability. Forty-nine percent of U.S. apartment households were cost-burdened in the period from 2016-2020, paying more than 30% of their income on rent, while 25% were severely cost-burdened (paying more than 50% of their income on rent). Yet, those cost-burdened apartment households were also less likely to own a vehicle, which means that they may have been able to save on transportation costs.

FIGURE 5

Average Number of Vehicles Per Apartment Household



Source: NMHC tabulations of 2016-2020 American Community Survey microdata

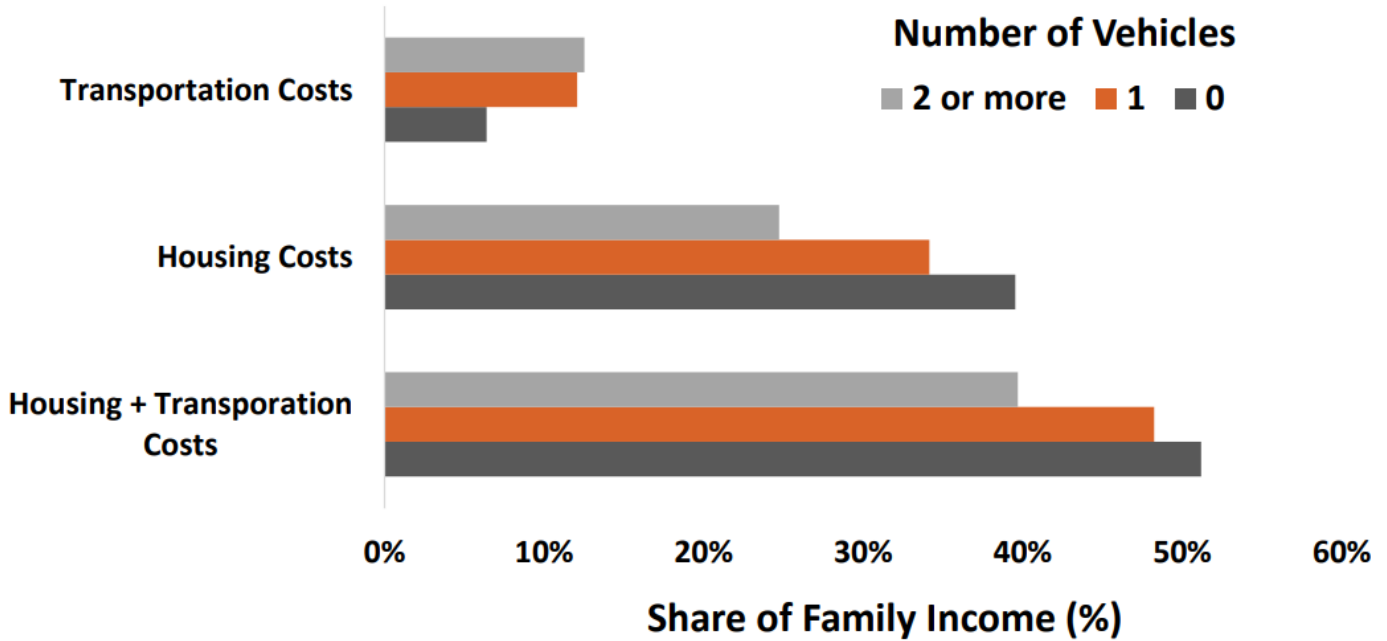
Apartment households with higher rent-to-income ratios tend to own fewer cars, on average.

To estimate just how much apartment households were saving by going car-free, we turned to data from the Consumer Expenditure Survey (CES), which queries respondents both on their cost of housing and transportation costs.

We found that, from 2019 to 2020, the median family who reported having no vehicles at their home spent just 6.4% of their monthly income on transportation-related costs, a lower share than families who owned one vehicle (12.1%) and those who owned two or more (12.5%).

FIGURE 6

Transportation & Housing Costs For the Median Apartment Family



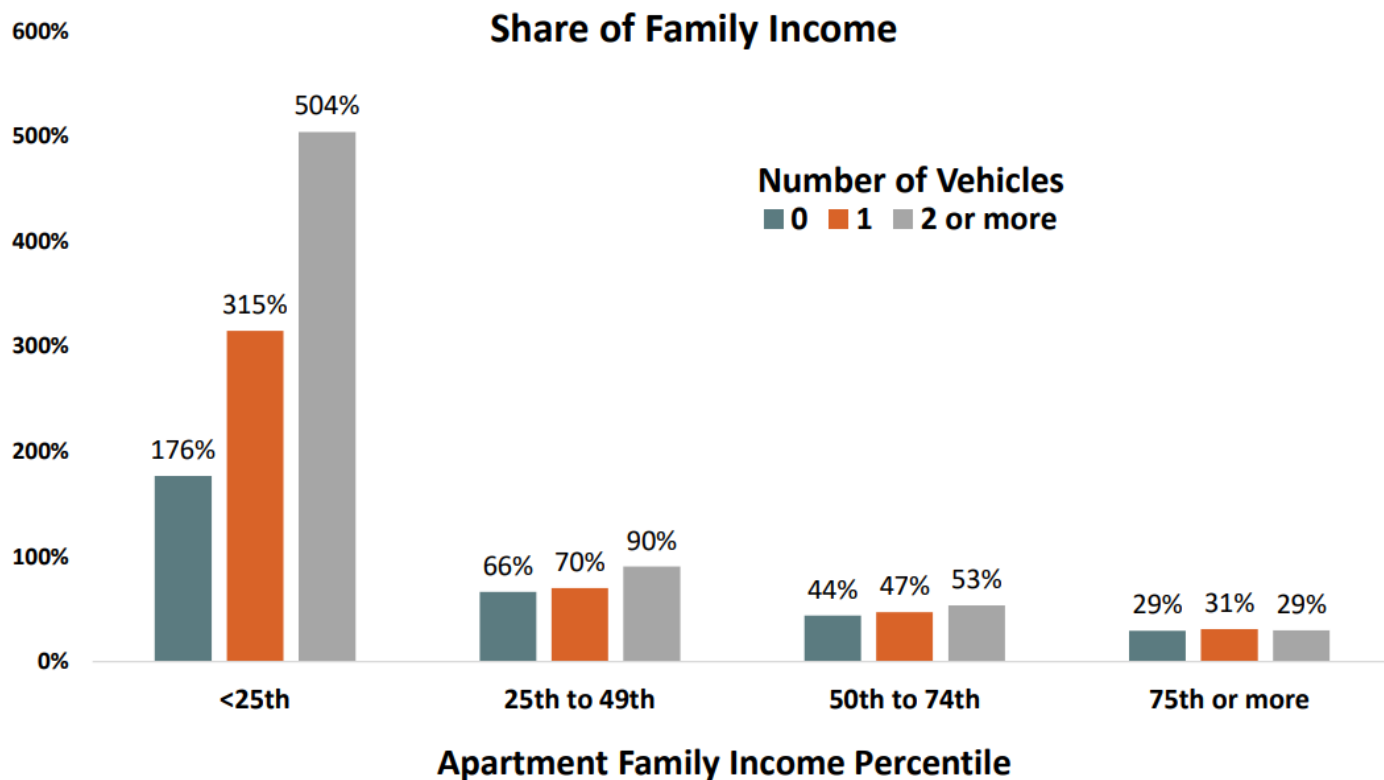
Source: NMHC tabulations of 2019-2020 Consumer Expenditure Survey microdata

Still, because respondents with fewer vehicles tended to spend a higher share of their income on housing costs, these families reported the highest share of combined costs (housing + transportation) as well. This is in line with our previous finding that apartment households with lower incomes and/or higher rents tend to own fewer cars. Put another way, apartment households who spend a higher share of their income on rent can offset this burden somewhat by spending less money on car ownership, especially when they live in areas of the country that are walkable and have access to public transportation.

If we control for income, however, we can see that families with fewer vehicles tend to spend a lower share of their monthly income on their combined housing and transportation expenses.

FIGURE 7

Transportation & Housing Costs for the Median Apartment Family



Source: NMHC tabulations of 2019-2020 Consumer Expenditure Survey microdata

Key Takeaways

Our analysis highlights the importance of measuring both the cost of housing and transportation in assessing a household’s financial well-being. Apartment households with higher rent-to-income ratios tend to own fewer cars on average, saving them money on transportation costs.

Bottom Line: Encouraging development in dense, walkable neighborhoods with access to public transportation not only puts downward pressure on rents in these areas, but also allows residents the option to live car-free and save on vehicle-related expenses.

About Research Notes

Published quarterly, Research Notes offers exclusive, in-depth analysis from NMHC’s research team on topics of special interest to apartment industry professionals, from the demographics behind apartment demand to effect of changing economic conditions on the multifamily industry.

Questions

Questions or comments on Research Notes should be directed to **Chris Bruen**, Sr. Director of Research, NMHC, at cbruen@nmhc.org.

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