

***Housing is considered affordable if it costs less than 30% of a household budget. Transportation is the second largest expense for families, but few consider these costs when choosing a place to live.***

~ Housing+Transportation Affordability Index

The customary way of looking at housing affordability is that families spend no more than 30% of household income on housing, including related expenses of utilities, etc. Although transportation costs are significant, they are usually not considered in calculating housing affordability. However, housing and transportation are closely related. The cost of a house or apartment may be less in rural areas, but the cost of transportation to destinations such as jobs, schools, grocery stores may be greater. Even living closer to town might not decrease transportation costs, especially if access to public transit or a privately-owned vehicle lacking.

The Center for Neighborhood Technology (CNT) and the Center for Transit Oriented Development (CTOD) released a study in 2006 that reported that location affects housing costs when transportation costs are included. A new tool was developed – the *H+T Index*, which showed that residential density and household income affect auto ownership, auto use and transit ridership. CNT expanded the Index, which now includes almost 900 Metropolitan (50,000 or more population) and Micropolitan (10,000–50,000 population) Statistical Areas covering 89% of the U. S. population, including Davidson County.  
<http://htaindex.cnt.org/>

The index demonstrates how transportation costs vary due to neighborhood characteristics. Living in location-efficient neighborhoods (compact, with both housing and easy access to neighborhood amenities, and transit for jobs and services) lowers transportation costs. The H+T Index offers an expanded view of affordability – CNT research showed that transportation costs are unaffordable when they are more than 15% of household income. When combined, this means that a home is affordable when transportation plus housing costs are no more than 45% of household income.



The Index is available online and has a map of the Nashville-Davidson-Murfreesboro-Franklin region showing where housing cost is greater than 30% and where housing plus transportation cost is greater than 45% (based on typical income of \$51,352, household size of 2.54 people).  
<http://htaindex.cnt.org/map/>

Neighborhoods that are compact with walkable streets, access to public transit and an array of stores and services have high location efficiency, involving less time, money and detrimental effects on the environment. Transportation costs in areas with high location efficiency begin at about 15%, compared to 28% or more in location inefficient communities.

CNT research shows that housing + transportation affordability has declined nationwide since 2000:

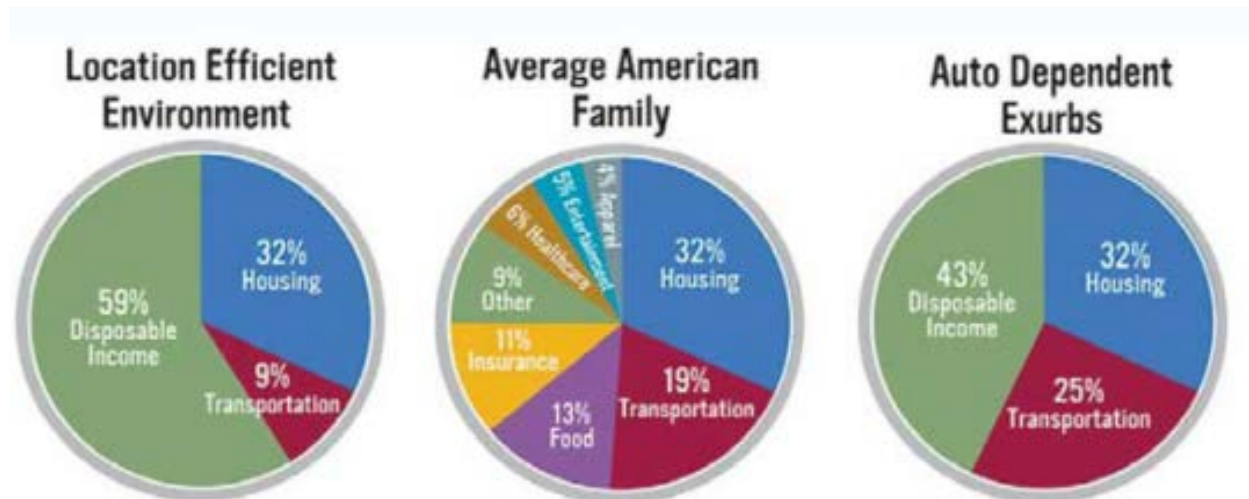
- 72% of U. S. communities are not affordable when transportation costs are included with housing costs
- There has been almost a 37% increase in median housing costs, but national median income has only increased by about 22%
- The H+T Index shows that location-efficient neighborhoods (with access to transit, jobs, and amenities) had a smaller increase in transportation costs from 2000 to 2009 than neighborhoods which were not location-efficient



<http://www.cnt.org/news/2012/02/28/updated-and-expanded-ht-index-reveals-combined-housing-and-transportation-affordability-has-declined-since-2000/>

Chart 1 shows how the Federal Highway Administration reports the percentages in household expense categories based on location and the increased amount of disposable income for households in location-efficient areas.

**Chart 1: Federal Highway Administration Estimates of Household Expenses by Location, U. S.**



[http://www.fhwa.dot.gov/livability/fact\\_sheets/transandhousing.pdf](http://www.fhwa.dot.gov/livability/fact_sheets/transandhousing.pdf)

Based on Census 2005-2009 population data for Metropolitan Statistical Areas and its Affordability Index calculations<sup>1</sup>, CNT rated the Nashville area 50<sup>th</sup> of 51 areas for average annual transportation costs for the typical household, almost \$5,000 more than the area with the lowest costs.

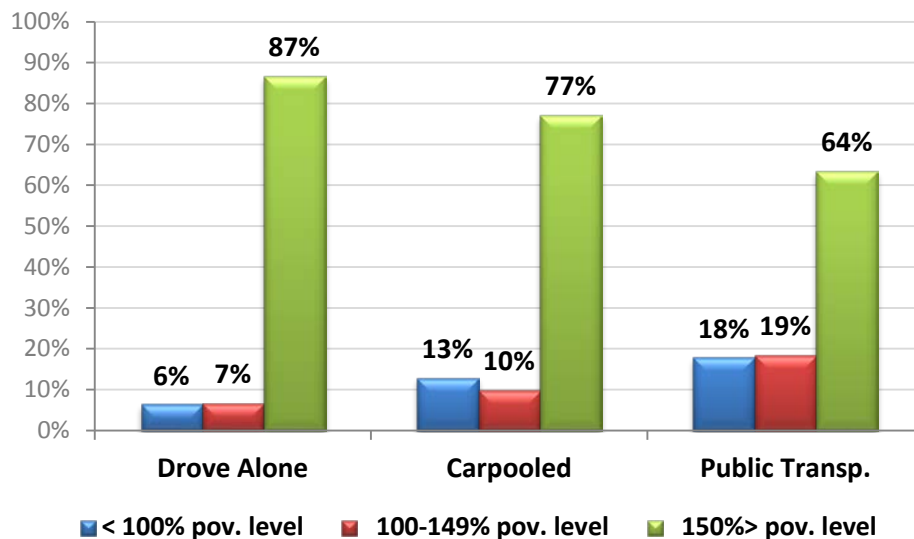
- Rank 1 (Least Costly) – New York-Northern New Jersey-Long Island MSA  
Average Annual Transportation Costs ..... \$10,158
- Rank 50 –Nashville/Davidson-Murfreesboro-Franklin, TN MSA  
Average Annual Transportation Costs ..... \$14,854
- Rank 51 (Most Costly) – Birmingham-Hoover, AL MSA  
Average Annual Transportation Costs ..... \$14,928

<http://www.cnt.org/repository/2012-Fact-Sheet-Rankings.pdf>

Davidson County has high numbers of households which are cost-burdened based on the 30% and over HUD criterion: 38,856 homeowners with a mortgage and 50,743 renters, and would presumably have even more using the H+T Index criterion of 45%.

Chart 2 shows that the use of public transportation is higher among those in poverty.

**Chart 2: Means of Transportation to Work by Household Poverty Level**  
Davidson County, 2006-2010



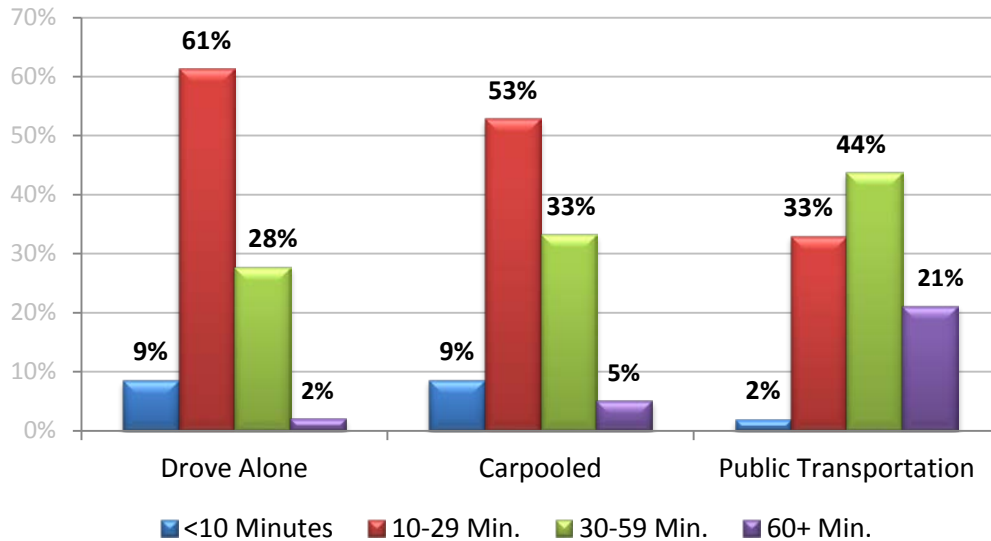
Source: 2006-2010 ACS 5-Year Estimates, Table S0802: Means of Transportation to Work by Selected Characteristics

<sup>1</sup> CNT uses several variables in a multidimensional regression analysis to describe the statistical relationships between three dependent variables (auto ownership, auto use, and transit use) and independent household and local environment variables such as neighborhood level data on household income, household size, commuters per household, household density, street connectivity, transit access, and employment access.

<http://htaindex.cnt.org/downloads/HTMethods.2011.pdf>

Chart 3 shows that public transportation increased when the length of commute time was greater.

**Chart 3: Means of Transportation to Work by Length of Commute**  
Davidson County, 2006-2010



Source: 2006-2010 ACS 5-Year Estimates, Table S0802: Means of Transportation to Work by Selected Characteristics

Further research is needed to quantify household transportation costs for Davidson County so an estimate of H+T costs can be made. In 2011 a panel of experts established high priority concerns and items for research to further clarify housing and transportation costs and affordability, including:

- Explore setting affordability standards based on local incomes, costs, or household spending
- Ensure regional differences are considered, e.g. Index is relevant to local issues
- Ensure that the Index reflects real costs, and is compared to measured data such as the National Household Travel Survey
- Research ways to integrate the Index with measures of neighborhood quality (e.g. schools, parks, crime) and fair housing mandates
- Research whether other modeling tools could be used in the Index model

Source: Housing and Transportation: Redefining Affordability Research and Development, Technical Review Panel Summary of Proceedings, November 18, 2011, Manhattan Strategy Group, HUD Contract C-DEN-02518: HTA Index. <http://portal.hud.gov/hudportal/documents/huddoc?id=HUDTRPSumProc11-29-2011.pdf>

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