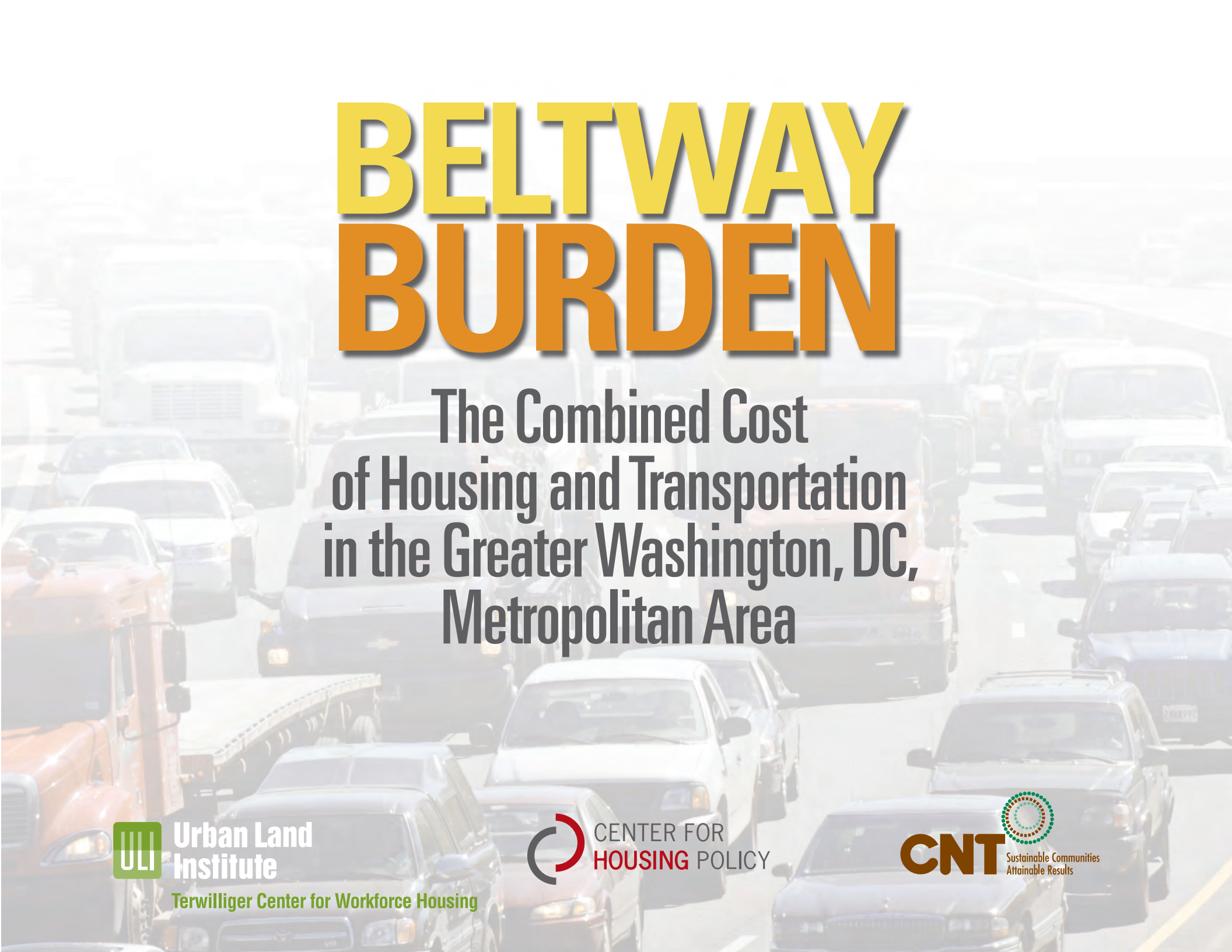
BELTWAY BURDEN

The Combined Cost of Housing and Transportation in the Greater Washington, DC, Metropolitan Area

Urban Land Institute

Terwilliger Center for Workforce Housing



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CENTER FOR HOUSING POLICY

CNT Sustainable Communities Attainable Results

National Advisory Board

ULI Terwilliger Center for Workforce Housing

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About the Urban Land Institute

The Urban Land Institute is a 501(c) (3) nonprofit research and education organization supported by its members. Founded in 1936, the institute now has more than 40,000 members worldwide representing the entire spectrum of land use and real estate development disciplines, working in private enterprise and public service. As the preeminent, multidisciplinary real estate forum, ULI facilitates the open exchange of ideas, information, and experience among local, national and international industry leaders and policymakers dedicated to creating better places.

The mission of the Urban Land Institute is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. Members regard ULI as a trusted idea place where leaders come to grow professionally and personally through sharing, mentoring, and problem solving. With pride, ULI members commit to the best in land use policy and practice.

About the ULI Terwilliger Center for Workforce Housing

The ULI Terwilliger Center for Workforce Housing was established by J. Ronald Terwilliger, chairman and CEO of Trammell Crow Residential, to expand housing opportunities for working families. The mission of the Center is to serve as a catalyst in increasing the availability of workforce housing in high-cost communities by harnessing the power of the private sector.

The Center supports the development of mixed-income communities close to employment centers and transportation hubs. Through a multifaceted approach the Center facilitates research, advocates for public policy change, publishes best practices, convenes housing experts, and works to eliminate regulatory barriers to the production of workforce housing.

Acknowledgments

This report was prepared by the ULI Terwilliger Center for Workforce Housing and the Center for Housing Policy, based on research conducted by the Center for Neighborhood Technology.

REPORT DESIGN BY SAUNDERS DESIGN

Executive Summary

WORKING FAMILIES in the Washington, DC, metro area face many challenges. By national standards the median household income of $78,000 is high, but so too are the costs of owning or renting a home. Pockets of affordable housing exist in parts of the District of Columbia and Prince George's County, MD, but most of the homes in the central and inner suburbs, particularly in adjoining Fairfax County, VA, and Montgomery County, MD, are far beyond the means of the median-income family.

To find affordable homes, many in the workforce have followed the popular advice to "drive till you qualify" by moving to remote suburbs such as Warren and Fauquier counties, VA, in the west; Spotsylvania County, VA, and Charles County, MD, in the south; Frederick County in the north; and Calvert County, MD, in the east. As reflected in this report, however, efforts to save on housing expenses often lead to higher transportation costs, with the result that an even larger portion of household budgets are consumed by the combined burden of housing and transportation costs.

This report provides a comprehensive examination of the "cost of place" in the Washington, DC, region, presenting a jurisdiction-by-jurisdiction look at the combined housing and transportation cost burdens for households in the metropolitan area. Drawing on the latest research and methodologies, estimates of household transportation costs are used to develop a new way of looking at the total cost of housing and the issue of housing affordability in the region.

Region-wide, households spend an average of nearly $23,000 per year on housing and $13,000 on transportation. **Combined, these costs represent almost 47 percent of the median household income**. These cost burdens vary significantly across the 22 jurisdictions. In some areas where households spend more on housing, they tend to spend less on transportation and vice versa. Across the metropolitan area, however, there are neighborhoods where households are saddled with both high housing and high transportation cost burdens.

For many working families, the combined burdens of housing and transportation costs may be too great to bear. Mortgage foreclosures in the Washington, DC, metro area topped 15,500 in the second quarter of 2008 alone, more than double the number for the same time a year ago. Many of the foreclosure "hot spots" are in areas with high transportation cost burdens, exacerbated by recent fluctuations in gas prices.

Policy Implications

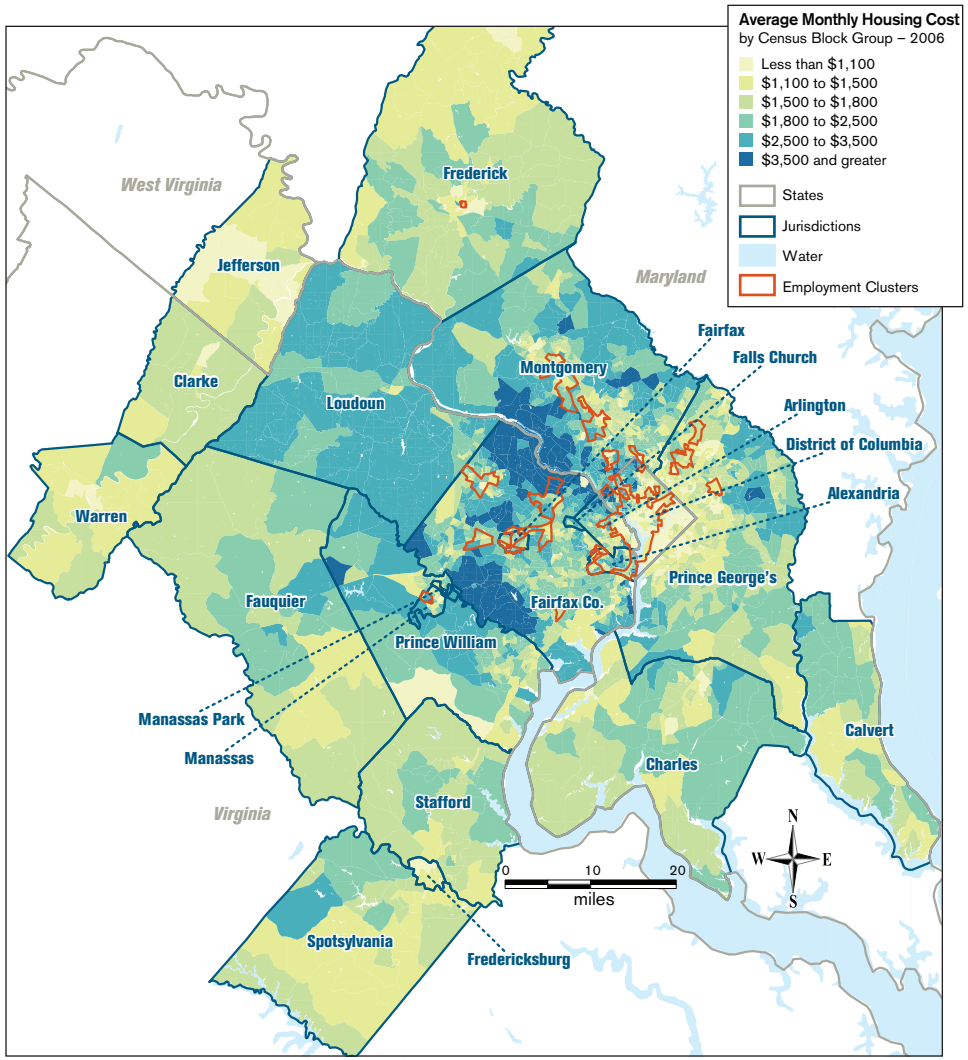
What can be done to bring the combined costs of place within reach of those in the workforce? Part of the answer lies in creating more housing and transportation choices. Local policymakers in the region can work to ensure that the housing opportunities offered in desirable close-in locations include options that are affordable to households with a wide range of incomes. For example, new housing developments near public transit stops often are geared only to the high-end of the market. Through a mix of sensible housing policies, including inclusionary housing requirements or incentives, density bonuses for mixed-income developments, and covenants to ensure ongoing affordability, communities could ensure that these developments include options affordable to all segments of the market. Recently, Fairfax County, VA, introduced the Workforce Housing program to ensure that 12 percent of all new housing around transit stops is affordable to moderate-income households.

The DC Metropolitan region is home to one of the most successful transit systems in the country, with a comprehensive network of subway and bus service and a growing number of transit-oriented developments. Yet many of the outlying areas struggle with sprawl, and it is increasingly clear that we need to use our existing infrastructure more wisely and more intensively. For example, there is the need for policies to preserve the existing stock of affordable housing in the city and older suburbs — a valuable resource for families willing to make do with smaller housing and fewer amenities. More compact development patterns would help make public transportation more economically feasible but also would attract retail and other uses that would allow individuals to meet more of their daily needs with shorter drives or by walking or riding a bike. By reducing the number of vehicle miles that individuals travel each day, more compact development would reduce traffic congestion, greenhouse gas emissions, and the transportation cost burdens of households.

Area employers also have a role to play in both the problem and the solution. For some employees, driving to work is the only option. Employers can encourage more workers to telecommute from home or at nearby tele-work centers to help reduce the commute time and expense of traveling to and from work. Employer assistance that enables employees to rent or buy homes closer to the location of their jobs or close to public transportation could also reduce their reliance on driving.

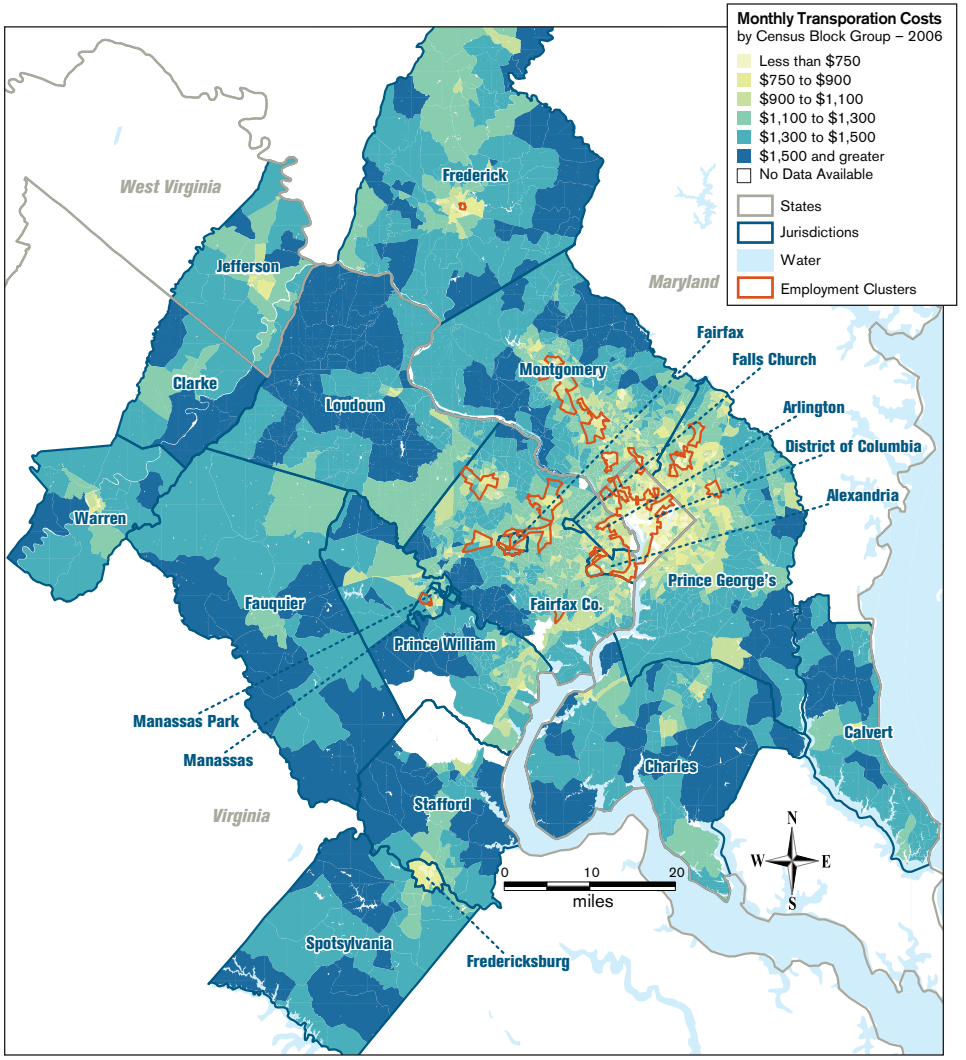
Finally, housing and transportation advocates should work together to advocate for more resources to maintain and improve the public transit systems in the region to reduce traffic congestion in close-in neighborhoods. Transit investments could include "quality of life transit improvements" that emphasize improvements in existing bus and rail service and expanded bus service in underserved or low accessibility areas.

Housing Costs in the Washington, DC, Metro Area



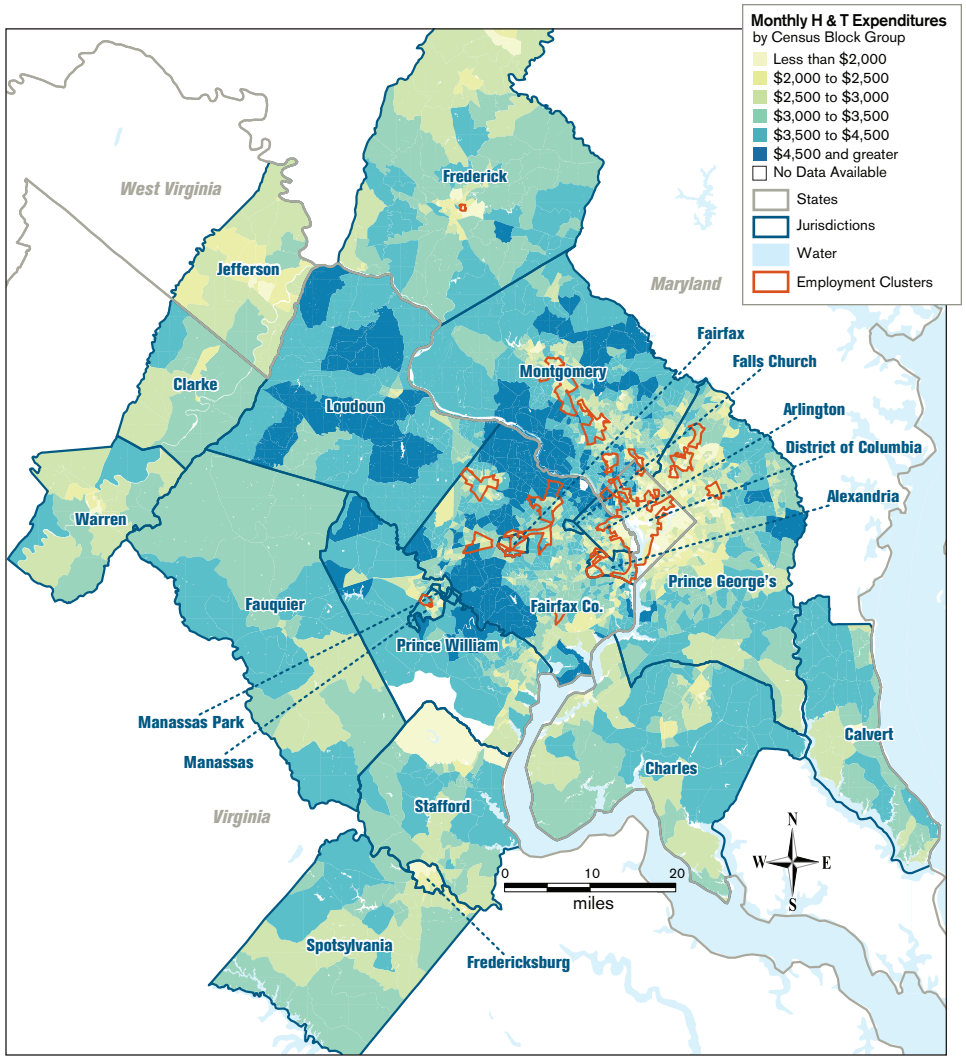
Source: Center for Neighborhood Technology.

Transportation Costs in the Washington, DC, Metro Area



Source: Center for Neighborhood Technology.

The Combined Costs of Housing and Transportation in the Washington, DC, Metro Area



Source: Center for Neighborhood Technology.

Housing + Transportation Costs in the Washington, DC, Metro Area

High housing and transportation costs are a fact of life for many households in the Washington, DC, metro area. While this point is generally understood at the anecdotal level, this report provides newly updated estimates of household transportation costs by census block groups throughout the region. Quantifying these costs — both alone and in combination — sheds new light on the issue of housing affordability, especially for working families. As the Housing Costs map on the opposite page shows, low housing costs are found in the District of Columbia and east of the city in Prince George's County, MD. The vast majority of the other areas with relatively low housing costs is found in outlying jurisdictions, some as far away as Spotsylvania, VA, or Jefferson County, WV, and a considerable distance from major job centers.

Driven largely by high rates of auto ownership, high numbers of vehicle miles traveled, and associated expenditures on gasoline, residents in the region are spending substantial amounts on transportation. The Transportation Costs map on the opposite page shows these average annual expenses, which include not only the cost of commuting, but also the cost of trips for errands, schools, and other daily routines. Not surprisingly, some of the highest transportation costs are in outer districts encircling the central city and inner suburbs, as these areas are far from job centers and have low residential densities, making long car trips inevitable; they also are least likely to be served by public transit.

Finally, the map on this page shows the combined costs of housing and transportation. Given the relatively high incomes of residents in parts of Montgomery County, MD, and Fairfax and Loudoun counties, VA, it is not surprising that they spend the largest amounts for housing and transportation. Although the combined costs in some of the outlying areas clearly are lower than in areas closer in, these distant locations are by no means inexpensive places to live. Combined costs in Stafford and Fauquier counties, VA, and Charles and Calvert counties, MD, for instance, run as high as $39,000 to $40,000 annually, significantly higher than the regional average of $36,194.

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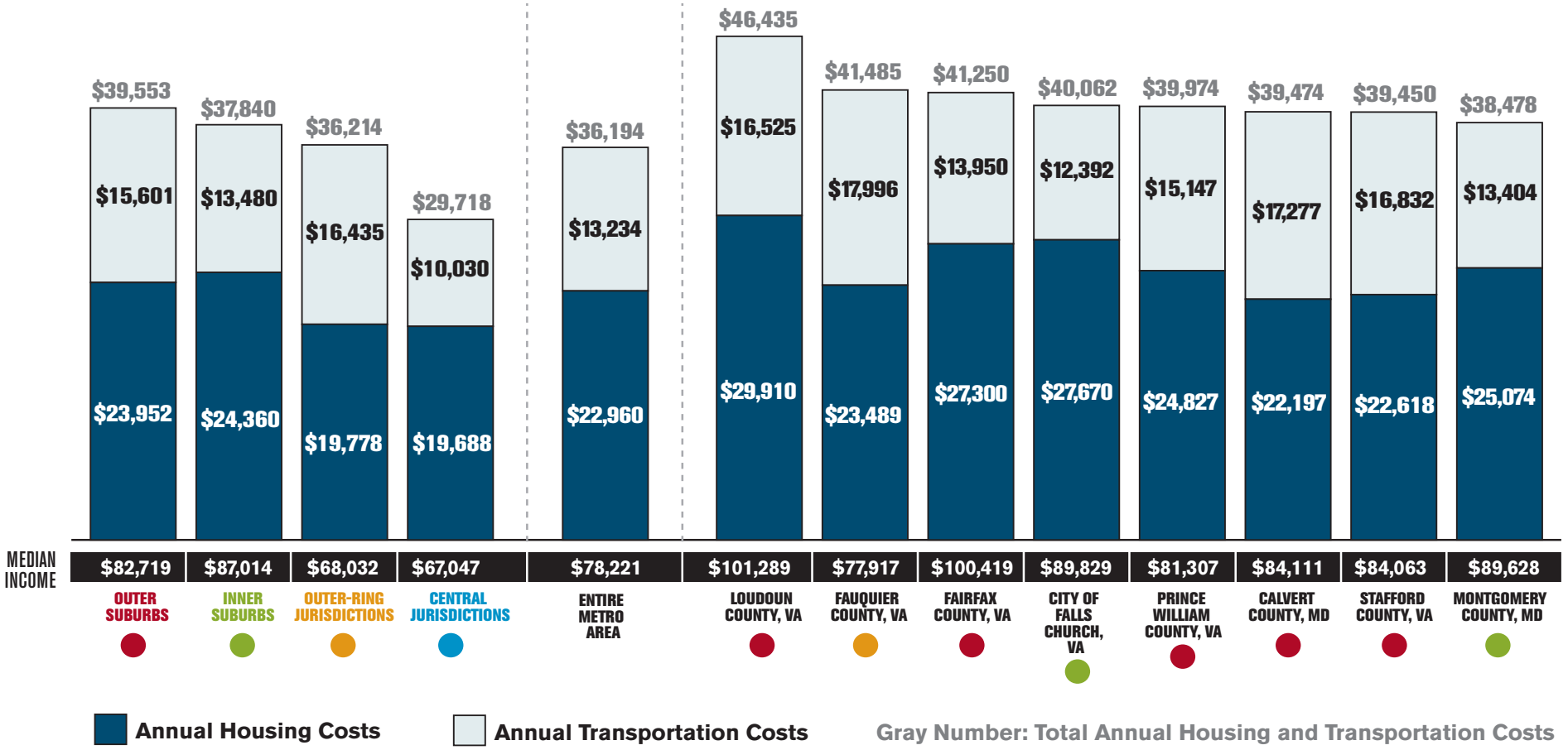
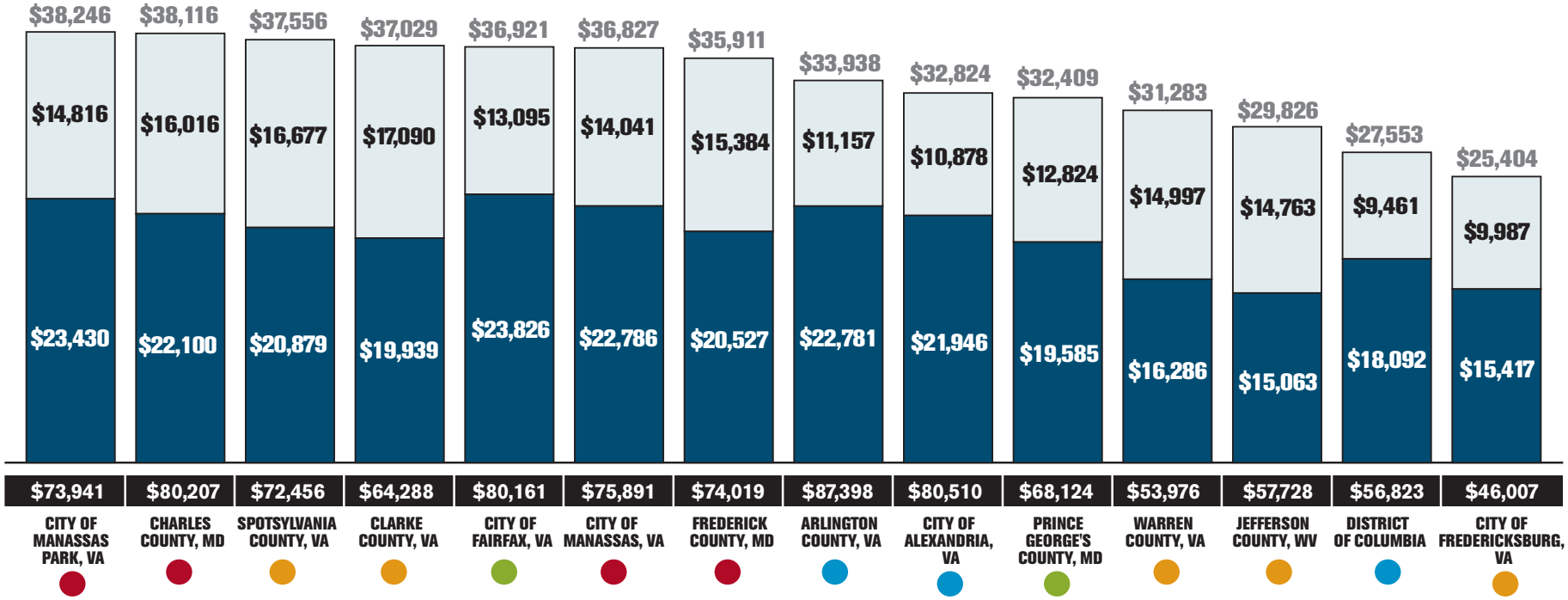


Some Areas with Low Housing Costs Appear More Expensive Once Transportation Costs Are Factored In

Region-wide, households spend an average of nearly $23,000 per year on housing and $13,000 on transportation. As the chart shows, however, there is substantial variation from one part of the region to the next. Housing costs are lowest in the outer-ring jurisdictions, due in part to their remote location, and in central jurisdictions, due in part to an aging housing stock. However, transportation costs are much higher in the outer-ring jurisdictions, leading to a higher combined cost for housing and transportation. Similarly, housing costs are high in both the inner and outer suburbs (offset by residents' comparatively higher incomes), but the lower transportation costs of the inner suburbs lead to decidedly lower combined costs.

REGION SPEND ON HOUSING AND TRANSPORTATION



Source: Center for Neighborhood Technology calculations.
NOTES: Study area defined by U.S. Office of Budget and Management as the DC-VA-MD-WV Metropolitan Statistical Area.
See appendix for description of which jurisdictions are located within Central Jurisdictions, Inner Suburbs, Outer Suburbs, and Outer-Ring Jurisdictions..

Community-Level Data Reflect Interaction of Housing Costs, Transportation Costs, and Income

Six of the seven communities with the lowest combined costs for housing and transportation fall within one of two categories: central jurisdictions, where transportation costs tend to be low; or outer-ring jurisdictions, where housing costs tend to be low. As one might expect, residents of the community with the highest median income — Loudoun County, VA — spend the most on housing and transportation. However, some comparatively wealthy communities — notably, Arlington County, VA, and Montgomery County, MD — fall more in the middle, largely because of low transportation costs. Interestingly, the lowest combined costs for housing and transportation are in the city of Fredericksburg, VA — a town on the outer edge of the metro area. Housing costs are predictably low, and surprisingly, transportation costs are also low — most likely because Fredericksburg is a compact, walkable community where jobs are plentiful relative to its population size, and residents have access to work, amenities, and services locally.

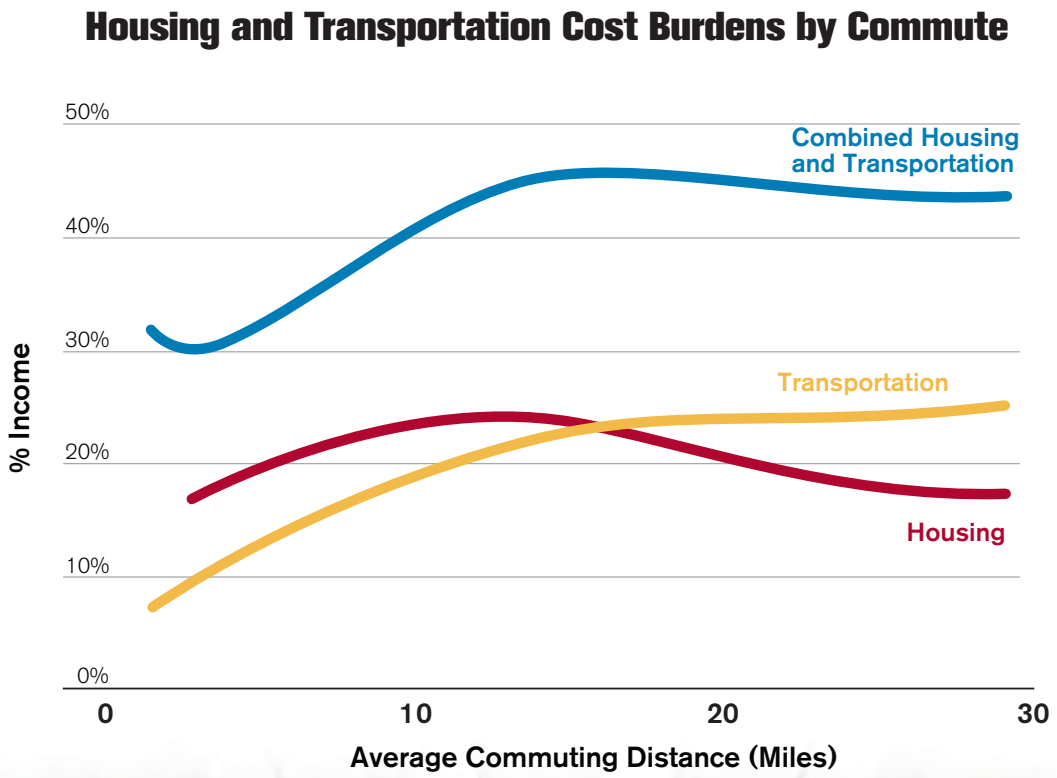
Higher Transportation Costs Offset Savings on Housing for Families Living 15 Miles or More from Work

Many working families in search of affordable housing move to remote suburbs such as Stafford and Fauquier Counties, VA, Frederick County, MD, or western Loudoun County, VA. Others live in parts of the District of Columbia or inner-suburban locations northeast of the city (such as Prince George's County, MD) where housing is affordable, but access is limited to suburban jobs centers in Fairfax County, VA, or Montgomery County, MD, along the I-66 and I-270 corridors. Ironically, efforts to save on housing expenses have often resulted in higher transportation costs for families living far from work. Fluctuating gas prices have only exacerbated the situation.

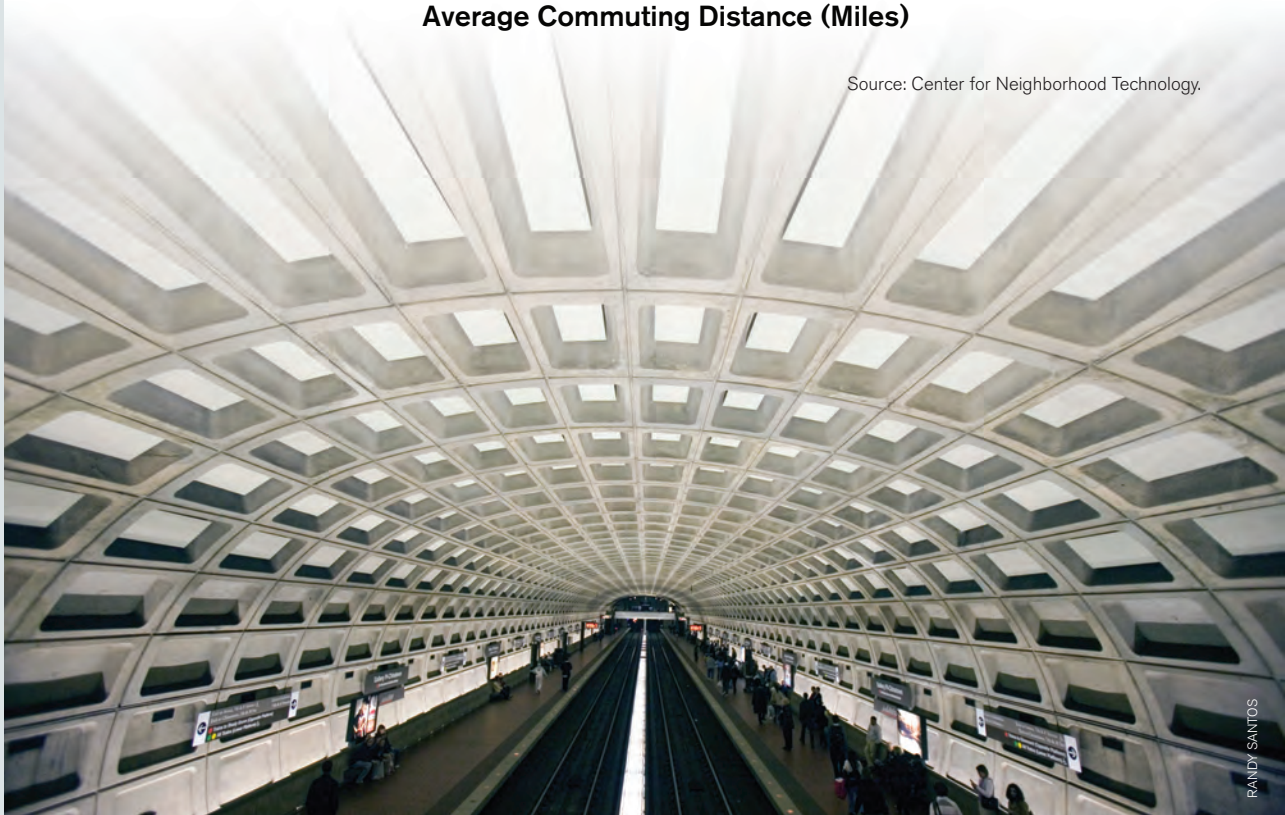
Transportation costs follow a predictable pattern, tending to increase along with commuting distance. Housing costs are more complex. Families living near some suburban job centers, such as Fairfax County, VA, for example, often pay a premium for their desirable location. In general, though, housing costs decrease with distance from job centers.

In the Washington, DC, metropolitan area, transportation cost increases begin to exceed housing savings when families locate roughly 15 to 17 miles from employment centers. At that point, an even larger portion of their household budget is consumed by both items.

To better understand the burdens that housing and transportation costs impose on families' budgets, this chart examines the share of families' incomes that are devoted to housing and transportation costs as families move farther from job centers.

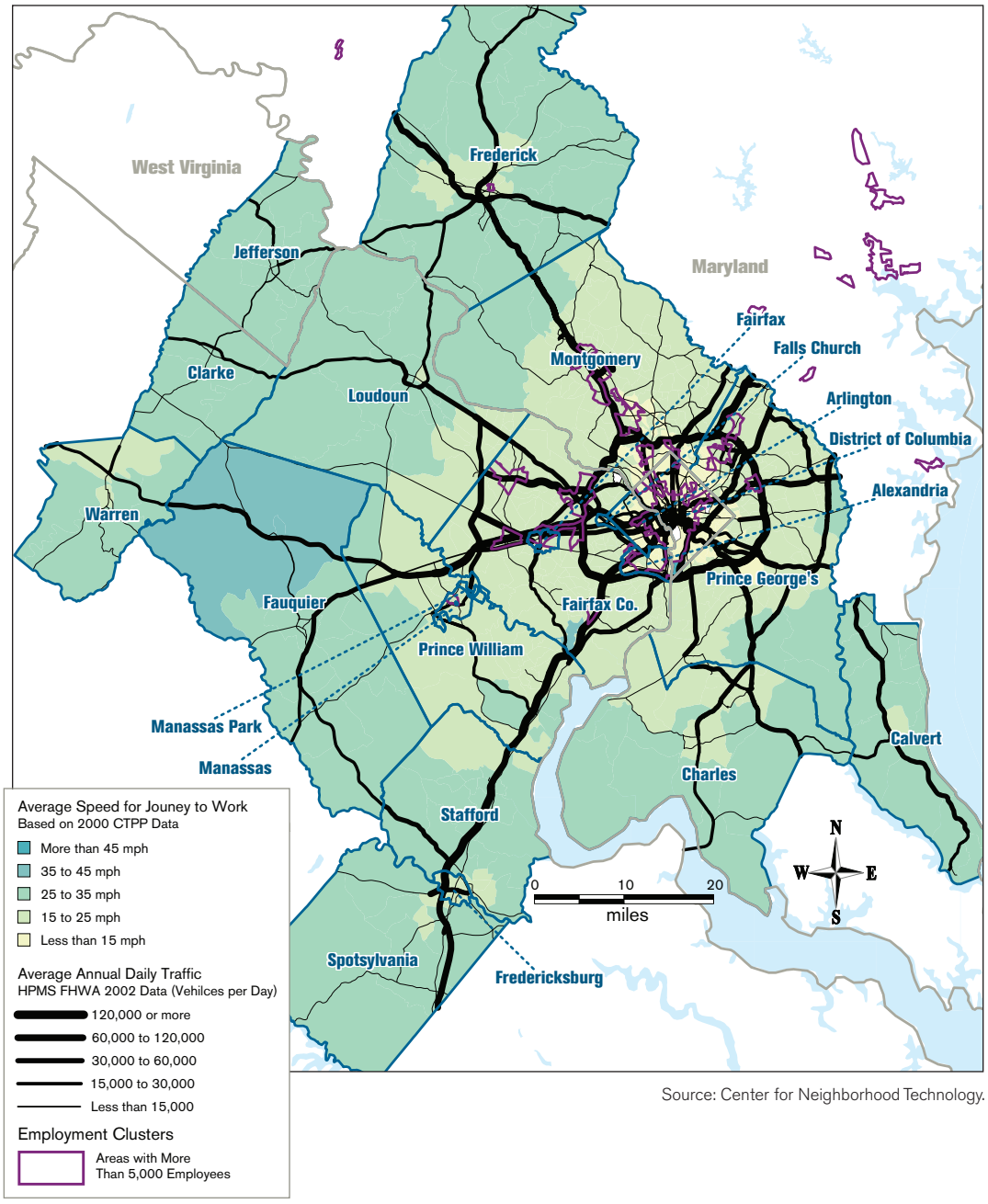


Source: Center for Neighborhood Technology.



RANDY SANTOS

Travel Speed and Average Annual Daily Traffic



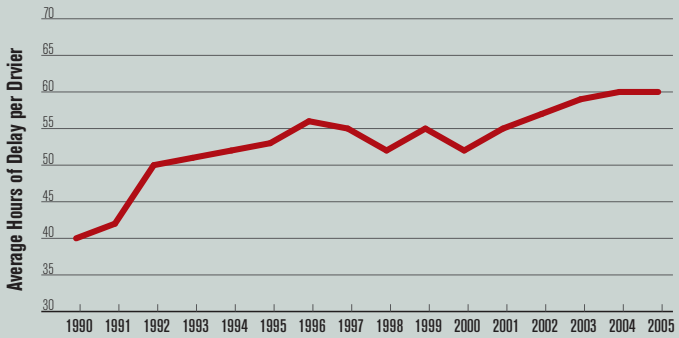
Source: Center for Neighborhood Technology.

Shortages of Affordable Workforce Housing Contribute to a Region-wide Traffic Nightmare

Washington, DC, metro area congestion consistently ranks in the top five in the nation. Drivers spend an average of 60 hours per year sitting in traffic. Region-wide, this adds up to an estimated 127 million hours of wasted time plus nearly 91 million gallons of wasted fuel.[1] While well aware of traffic problems, many residents may not be aware that one of the root causes is the shortage of affordable workforce housing in close-in locations near job centers and public transit stops.

As the map shows, commuters begin their journey to work at a higher rate of speed, but speed drops as commuters converge on the congested highways and roads near workplaces (employment centers with 5,000 or more jobs are shown in purple). Even in higher income neighborhoods near employment centers, heavy traffic results in longer commutes. Region-wide, as more households commute to distant job centers, clogged and congested major roads are the norm, leading to high rates of energy use, pollution, and greenhouse gas emissions. Among the direct costs incurred by local jurisdictions are those for traffic safety and enforcement and capital improvements.

Today, Washington Drivers Are Stuck in Traffic 60 Hours per Year



[1]Source: Congestion Data for Washington, DC-VA-MD from the *2007 Annual Urban Mobility Report*, Texas Transportation Institute.

Most Workers in the Region Commute to Work by Car

More than three-quarters (77.5 percent) of workers in the Washington, DC, metropolitan area commute to work by private vehicle, although commuter modes of travel vary by jurisdiction. Not surprisingly, in the District of Columbia, public transit use is substantial, and the number of people who walk, bike, or take public transit exceeds the number who drive. In Arlington, VA, more than one-quarter of workers take public transit as do almost one-in-five workers in the cities of Alexandria and Falls Church, VA, and in Prince George's County, MD. While public transit is not as extensively used in Montgomery County, MD, some 15 percent of workers still rely on it to get to work. In the outer suburbs, public transit often is not an option, which is reflected in the very low usage figures (less than 5 percent) for places like the city of Manassas and Loudoun County, VA, and Charles and Calvert counties, MD.

MARK WILSON/GETTY IMAGES

How Workers Commute to Work in the Washington, DC, Metro Area

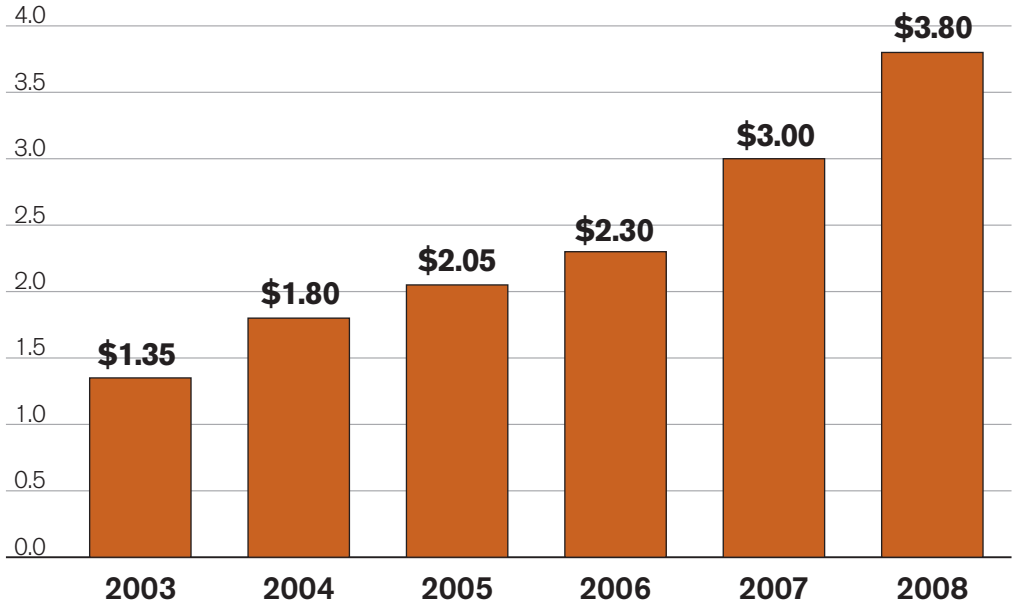
JURISDICTION	Percent Taking Private Vehicle	Percent Taking Public Transport	Percent Walking or Biking	Percent Working from Home or Other
CENTRAL JURISDICTIONS:				
District of Columbia	41.3%	38.5%	14.6%	4.1%
Arlington County, VA	62.2%	26.3%	5.6%	5.2%
City of Alexandria, VA	72.9%	20.5%	2.6%	3.5%
INNER SUBURBS:				
City of Fairfax, VA	82.4%	9.6%	5.2%	3.8%
Fairfax County, VA	83.4%	9.4%	2.0%	4.6%
City of Falls Church, VA	73.1%	17.9%	6.0%	5.6%
Montgomery County, MD	76.3%	15.3%	2.4%	5.3%
Prince George's County, MD	76.8%	17.6%	2.3%	2.0%
OUTER SUBURBS:				
Calvert County, MD	86.9%	2.0%	0.9%	4.0%
Charles County, MD	86.7%	3.6%	1.0%	2.9%
Frederick County, MD	92.0%	1.7%	2.3%	3.5%
Loudoun County, VA	90.7%	2.4%	1.1%	5.3%
City of Manassas, VA	90.6%	4.2%	2.5%	1.9%
City of Manassas Park, VA	89.8%	3.4%	1.7%	2.3%
Prince William County, VA	88.8%	5.1%	1.5%	3.6%
Stafford County, VA	92.0%	3.0%	2.2%	2.0%
OUTER-RING JURISDICTIONS				
Clarke County, VA	87.5%	0.9%	4.0%	6.0%
Fauquier County, VA	89.5%	1.5%	2.5%	5.2%
City of Fredericksburg, VA	83.2%	4.4%	3.1%	3.5%
Jefferson County, WV	86.8%	4.0%	4.5%	5.0%
Spotsylvania County, VA	92.5%	2.8%	0.3%	3.1%
Warren County, VA	92.8%	1.0%	2.3%	2.5%
ENTIRE METRO AREA	**77.5%**	**13.9%**	**3.5%**	**4.0%**

Source: 2006 estimates by the Center for Neighborhood Technology based on 2000 US Census and 2006 American Community Survey data.

When Gas Prices Spiked, Public Transit Ridership Increased

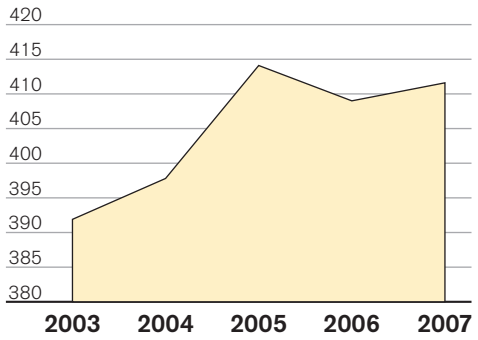
As was the case elsewhere in the country, gas prices in the metro area climbed rapidly after 2003, rising to nearly $4.00 per gallon for the June through August period in 2008. In tandem with rising gas prices, commuter rail lines and the Metro rail and bus systems serving the region all reported record increases in ridership. Even though gas prices have declined since the summer of 2008, ridership on the region's public transportation systems remains high.

Retail Gas Prices for the Washington, DC, Metro Area
Average Retail Price per Gallon, 2003 – 2008



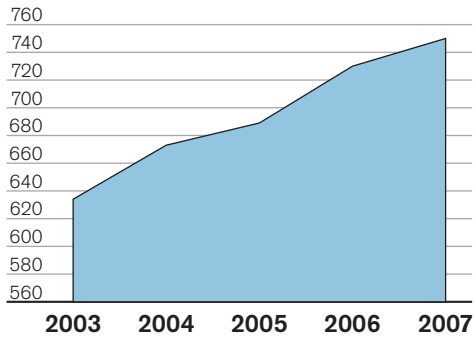
Source: www.GasBuddy.com historical gas price data for Washington, DC, Virginia, and Maryland.

Metro Rail and MetroBus Ridership (millions)
Annual Passenger Trips, 2003 – 2007



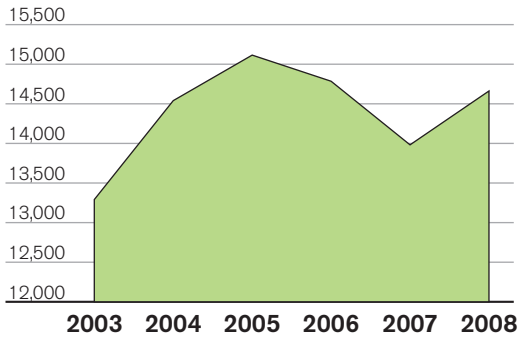
Source: Federal Transit Administration.
WMATA Agency Profiles for Years 2003–2007.

MARC Commuter Train Ridership (millions)
Average Annual Riders, 2003 – 2007



Source: Maryland Transportation Authority.

VRE Commuter Train Ridership (thousands)
Average Annual Daily Riders, 2003 – 2008

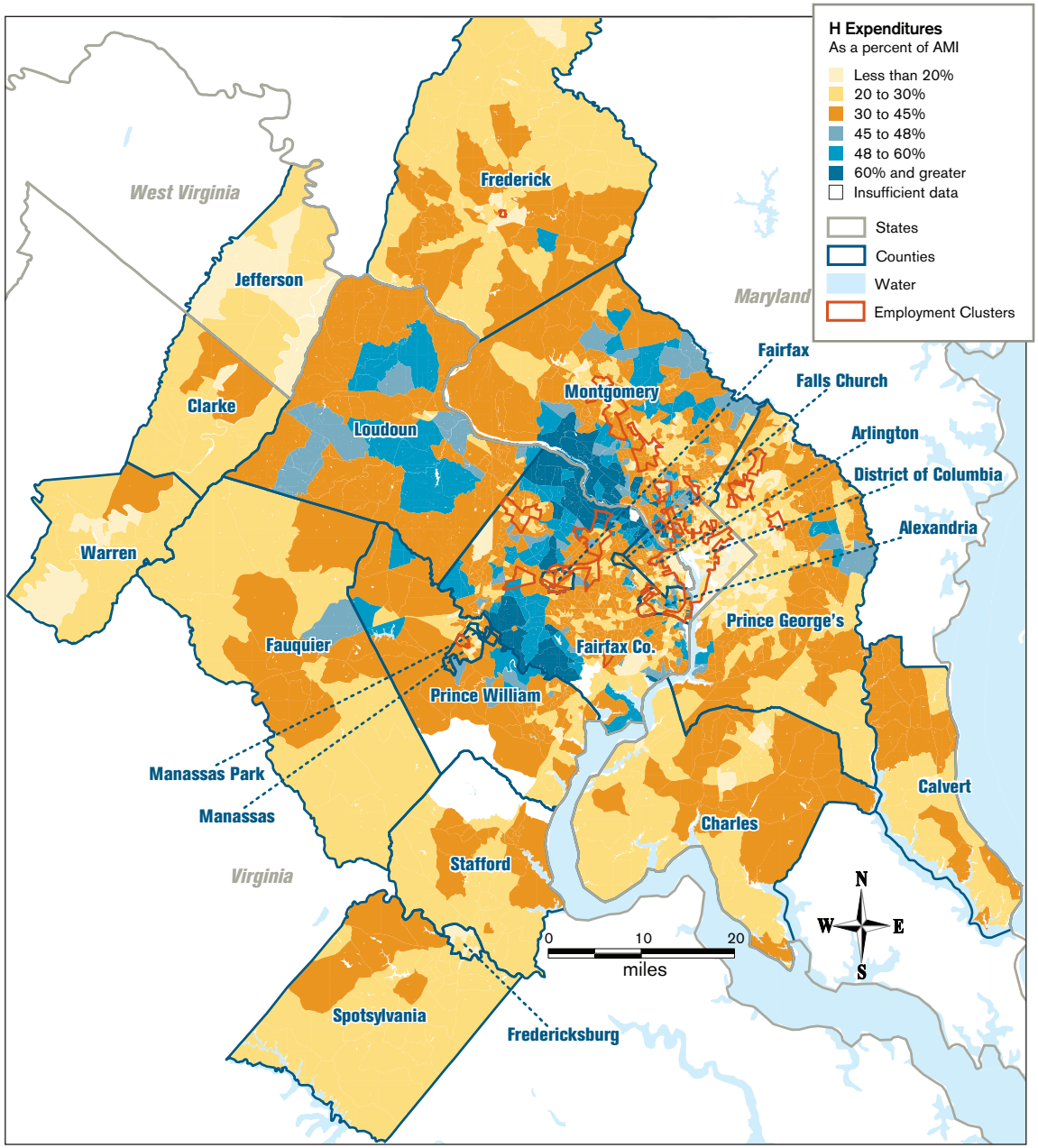


Source: Virginia Railway Express.

Housing Choices of Working Families in the Region Are Constrained by a Lack of Affordable Homes

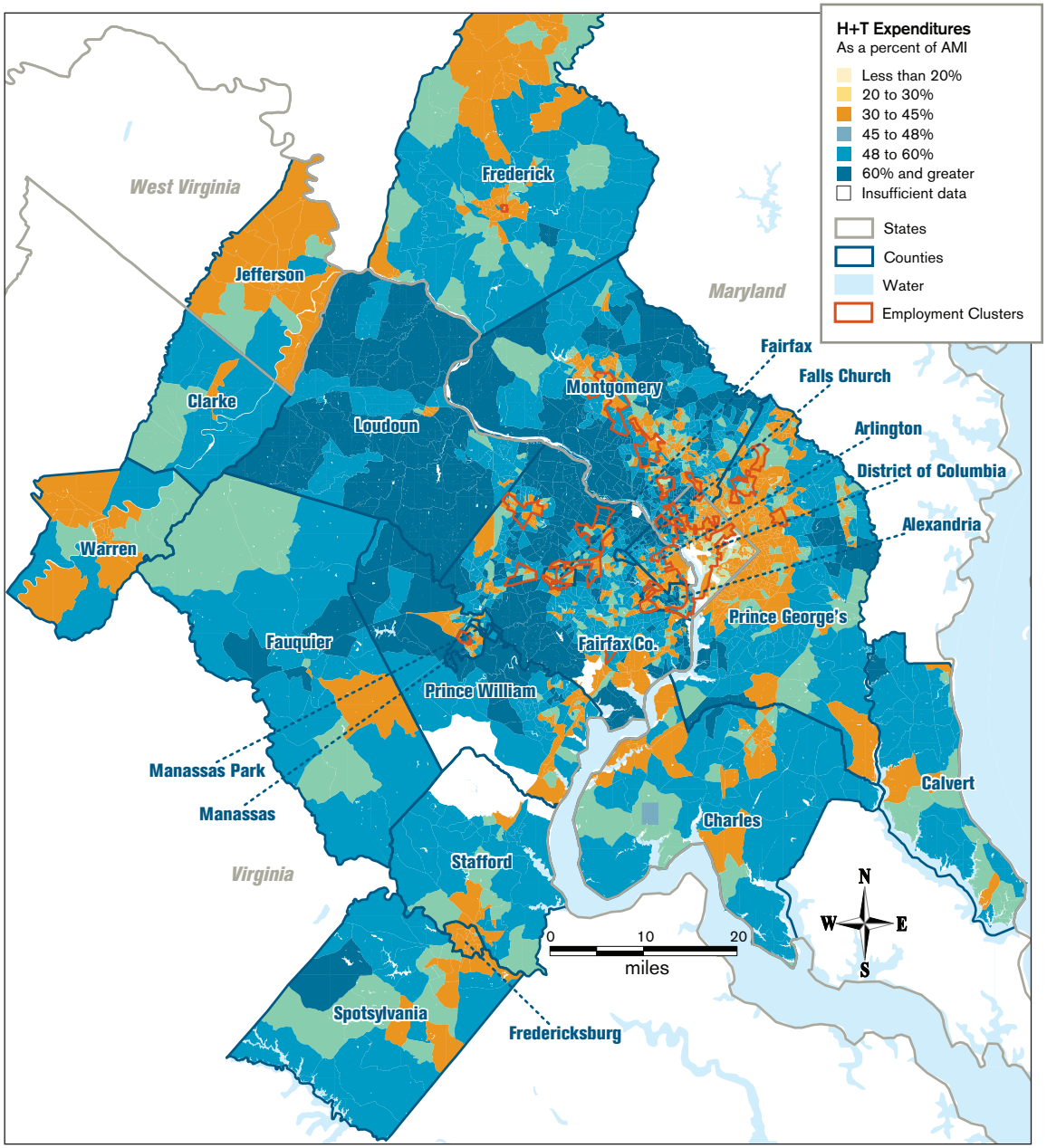
The data on how much households spend for housing and transportation tell only part of the story. Because incomes vary substantially across jurisdictions, it is important to look at *cost burdens* — i.e., the share of income households spend on these items — and how these burdens constrain the choices of working families. By national standards, the Washington, DC, metro area is home to high incomes, but also to high housing costs. A working family earning the area median income of $78,000 and looking for housing has limited options. Housing usually is considered affordable if it consumes 30 percent or less of income. The most affordable housing in the region for this family is located in the Northeast and Southeast sections of the District of Columbia and in outlying places where this household would have to "drive 'til it qualifies." These distant locations include outer-ring suburbs and jurisdictions such as Jefferson County, WV, and Frederick County, MD, in the north; Warren and Fauquier counties, VA, in the west; Spotsylvania County, VA, and Charles County, MD, in the south; and parts of Calvert County, MD, in the east (*see beige areas*). Darker shaded areas depict places where the median-income family would have to spend an excessive portion of its income on housing.

Percent of Income a Household Earning the Area Median Income ($78,000/year) Would Spend on Housing in the Washington, DC, Metro Area



Source: Center for Neighborhood Technology.

Percent of Income a Household Earning the Area Median Income ($78,000/year) Would Spend on Housing + Transportation in the Washington, DC, Metro Area



Source: Center for Neighborhood Technology.

Limited Options Lead Some Families to Spend a Large Share of Income on Housing and Transportation

This map shows the areas affordable to the median-income family once transportation expenses are combined with housing expenses for the true "cost of place." Of note, many of the central city areas in the District of Columbia remain affordable as do some of the inner-ring suburban places in Prince George's County and parts of Montgomery County, MD, and Fairfax County, VA. Some of these areas are close to large employment centers and/or are served by public transit, which may keep transportation expenses down. Even in places within these counties where housing costs more than 30 percent of income, modest transportation costs appear to be offsetting these higher housing costs. Now, however, some outlying areas that were previously affordable to the median-income family have become less affordable, or even unaffordable, territory. Large transportation expenses in some of the most distant locations — Spotsylvania and Clarke counties, VA, and Frederick County, MD — combine with housing costs to consume a large portion of the median-income family's income. *See areas that changed from light to dark colors.*

When It Comes to Cost Burdens, Jurisdictions Are Diverse

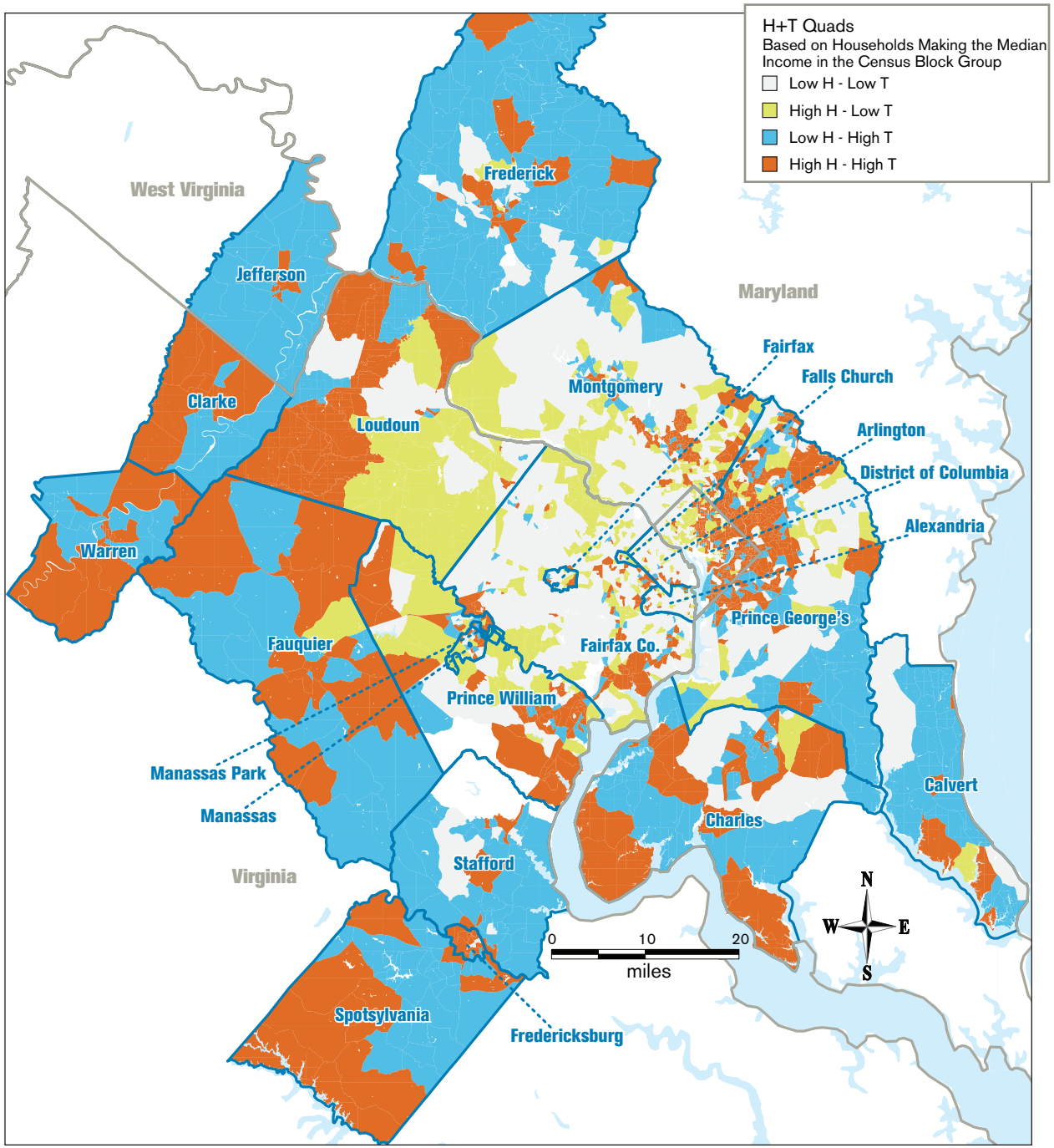
Within each jurisdiction, neighborhoods differ in terms of the nature and cost of their housing stock, accessibility to transit, and nearby amenities. These factors affect the share of income families spend on housing and transportation costs. Cost burdens also reflect differences in the incomes of families living in these communities. Still, some overall patterns are evident. In all but one of the outer-ring jurisdictions, households face high transportation cost burdens either alone or in combination with high housing cost burdens. In other jurisdictions, the situation is more diverse. In Loudoun County, VA, for example, just over half of the households (55 percent) have below-average cost burdens for both expenses. By contrast, nearly half the households in the District of Columbia live in neighborhoods with both high housing and transportation cost burdens. One-in-four DC residents have high housing cost burdens alone, while one-in-five have below-average cost burdens for both expenses. For the region as a whole, nearly 41 percent of households have low cost burdens for both housing and transportation. However, 60 percent have either high housing cost burdens (13 percent), high transportation cost burdens (17 percent), or both (29 percent).

Neighborhoods Categorized According to Share of Household Income Spent on Housing and Transportation

JURISDICTION	% Of Households in Low Housing and Low Transportation Cost Burden Neighborhoods	% Of Households in High Housing Cost Burden Neighborhoods	% Of Households in High Transportation Cost Burden Neighborhoods	% Of Households in High Housing and High Transportaion Cost Burden Neighborhoods
CENTRAL JURISDICTIONS:				
District of Columbia	19.8%	24.3%	6.3%	49.6%
Arlington County, VA	73.4%	10.6%	4.9%	11.1%
City of Alexandria, VA	61.5%	19.1%	6.8%	12.6%
INNER SUBURBS:				
City of Fairfax, VA	49.3%	20.7%	8.7%	21.3%
Fairfax County, VA	70.2%	13.2%	6.9%	9.8%
City of Falls Church, VA	35.9%	56.3%	0.0%	7.8%
Montgomery County, MD	48.1%	18.6%	9.5%	23.8%
Prince George's County, MD	30.3%	5.3%	18.8%	45.6%
OUTER SUBURBS:				
Calvert County, MD	19.0%	1.1%	67.4%	12.6%
Charles County, MD	29.7%	1.0%	43.1%	26.2%
Frederick County, MD	19.4%	1.6%	59.3%	19.7%
Loudoun County, VA	55.1%	21.1%	8.5%	15.3%
City of Manassas, VA	27.5%	13.7%	15.2%	43.6%
City of Manassas Park, VA	0.0%	31.5%	25.5%	42.9%
Prince William County, VA	21.3%	18.6%	14.3%	45.7%
Stafford County, VA	14.7%	0.0%	71.6%	13.6%
OUTER-RING JURISDICTIONS				
Clarke County, VA	0.0%	0.0%	40.4%	59.6%
Fauquier County, VA	0.0%	5.2%	44.2%	50.6%
City of Fredericksburg, VA	16.3%	0.0%	11.8%	71.9%
Jefferson County, WV	0.0%	0.0%	83.8%	16.2%
Spotsylvania County, VA	0.0%	0.0%	65.4%	34.6%
Warren County, VA	0.0%	0.0%	43.3%	56.7%
Entire Metro Area	**40.6%**	**13.4%**	**16.9%**	**29.1%**

Source: Center for Neighborhood Technology.

Share of Income Spent on Housing and Transportation in the Washington, DC, Metro Area



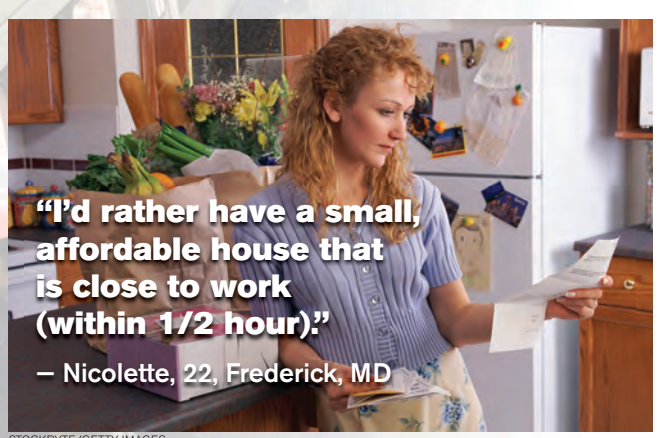
Source: Center for Neighborhood Technology.

Mapping the "Cost of Place" in the Washington, DC, Metro Area

This map provides a new way of understanding the Washington, DC, landscape, classifying neighborhoods based on the share of income residents spend on housing and transportation costs. These classifications can help policymakers identify priority areas in need of assistance and tailor appropriate remedies. "High" and "Low" refer to these cost burdens as compared with regional averages. Red areas have both **High Housing and High Transportation** cost burdens. These areas are found in the northeast and southeast quadrants of the District of Columbia, large portions of north Prince George's County, MD, and scattered portions of some of the farthest reaches of the metro area, including Spotsylvania, Fauquier, Warren, and Clark counties, VA, and the western-most portions of Loudoun County, VA. Not surprisingly, the blue areas with **Low Housing and High Transportation** cost burdens are in the outer-suburban ring encircling the metro area. Among them are much of Frederick County, MD, and Jefferson County, WV, and many parts of Fauquier County, VA. **Low Housing and Low Transportation** cost burden areas are heavily clustered in the wealthier parts of Fairfax County, VA, and Montgomery County, MD (*white*). Finally, areas with **High Housing and Low Transportation** cost burdens (*yellow*) are found in suburban areas that are far from downtown but close to suburban job centers. Some of these areas, such as the northwest section of the District of Columbia, also are well served by public transit systems.

What DC Metro Area Working Families Say About Housing and Transportation in the Region

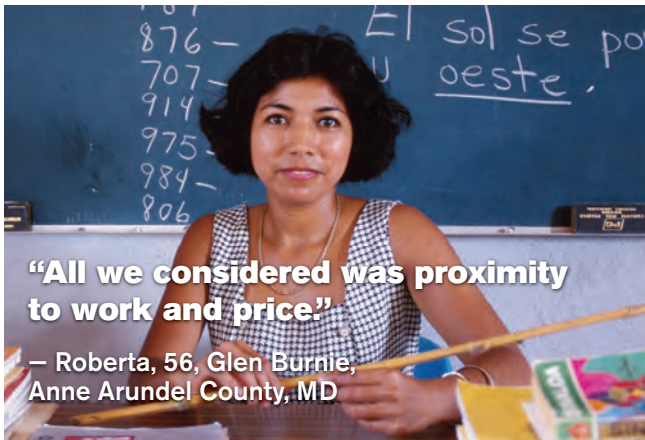
In an online, moderated focus group conducted over three days, working families shared their experiences, describing their daily commutes, housing and transportation choices, and concerns about how rising costs and future growth in the region might affect quality of life. Participants came from places as central as the District of Columbia and as far as Dale City, VA, and Frederick, MD. They included a nanny from Loudoun County, VA, a federal government employee from Severn, MD, a security guard from Alexandria, VA, and an IT specialist living in Linthicum, MD, among others. Some lived alone, while others were parents with young children, or middle-aged adults with grown children. Among their observations are the following:



STOCKBYTE/GETTY IMAGES

MOST PARTICIPANTS ACKNOWLEDGED that housing is their biggest expense. On average, these working families spend about 45 percent of their budget on housing-related expenses including mortgage or rent plus utilities — a higher proportion than for the region as a whole. While most of the participants were able to report what they spend on gas, parking, and public transit for their commutes, it was harder for them to pinpoint expenditures on car maintenance or other related transportation expenses. Some participants reported that their employers reimbursed them for part of their commuting costs.

FOR SEVERAL PARTICIPANTS, housing affordability was the primary consideration when choosing where to live. Some mentioned they were priced out of certain jurisdictions, narrowing their prospects of where to buy or rent and pushing them farther to the fringes of the region. Others noted that affordability and proximity to job centers were important considerations. More than half the participants live within ten miles of work, while others live 25 to 50 miles away. Participants reported that important criteria when searching for a home included neighborhood safety, access to public transportation, school quality, areas for outdoor recreation (parks, etc.), and proximity to friends and family. About half the participants said they would like a shorter commute, but would not necessarily move from their current location and give up other attributes they value.



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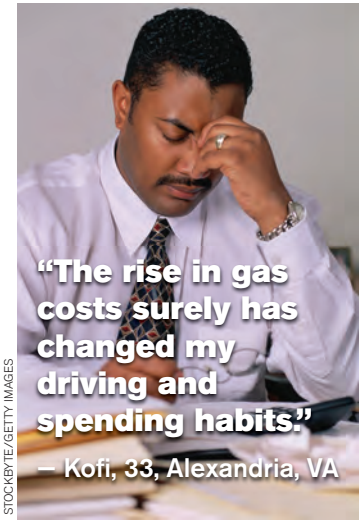
KAREN BLEIER/AFP/GETTY IMAGES

PARTICIPANTS USED A MIX OF TRANSPORTATION MODES for their daily commute to work. Half reported they usually drove to work, and over a quarter said they drove to public transportation and then used transit for the remainder of the trip. The rest took public transit only or work from home. For many, driving was the quickest and most convenient way to commute because their neighborhoods are not well serviced by public transit or because driving is the most direct way to get door to door from home to work. Public transit users, like Dan, who commutes by train from Point of Rocks, MD, into the District, said they enjoy relaxing, sleeping, and thinking before arriving at work. They cited the top three advantages of public transit as: avoiding the stress of driving, a way to beat traffic, and a more cost-effective way to get to work.

"I normally drive myself and leave extra early just to beat traffic."

– Christina, 38, Laurel, MD

MOST PARTICIPANTS ACKNOWLEDGED CARPOOLING as a way to save on travel expenses, yet few chose it as an option to commute because of perceived inconveniences. For example, Jason, 32, of Frederick, MD, felt that carpooling would make his commute longer because he would have to pick up people at different points along the way.



"The rise in gas costs surely has changed my driving and spending habits."

– Kofi, 33, Alexandria, VA

STOCKBYTE/GETTY IMAGES

THE BIGGEST "GRIPE" AMONG THE GROUP WAS ABOUT CONGESTION. Participants said it adds frustration and unpredictability to their commute. Among those who drive to work, like Christina, a 38-year-old service manager from Laurel, MD, many readjust their schedule to leave home early in the morning or leave work later in the evening to avoid sitting in traffic. Yet, many noted this tactic also takes time away from their day that can be spent with family and friends. Several blamed congestion as causing a great deal of stress in their lives, resulting in exhaustion or road rage. A few participants said their long commutes in the car have contributed to physical discomfort, for example, exacerbating preexisting back problems and high blood pressure. While the idea of telecommuting is appealing to most of the group, one-third said that for them it would not be an option.

THE RAPID INCREASES IN THE PRICE OF GASOLINE that had taken place in the months prior to the interviews sparked intense discussion. Many reported they have scaled back shopping trips, going to the movies, or dining out to compensate. Others now plan their travel strategically, linking multiple tasks or errands in one trip to save gas, or making arrangements with other families to pick up and drop off their children from schools, sports, or other activities. At least for now, however, participant responses suggested that higher gas prices are unlikely to prompt an exodus to areas closer to work and other amenities. Most participants chose where they live based on their personal or family needs and quality of life, and said they would not necessarily trade that for the convenience of a quicker commute. Most participants agreed that rising gas prices made them very aware of their driving habits and lifestyle choices.

STOCKBYTE/GETTY IMAGES

"It takes forever to get to work."

– Willie, 42, Dale City, VA

RYAN MCVAY/GETTY IMAGES

JURISDICTION	Population 2005 (Thousands of People)	Projected Population Growth (Thousands of People)
OUTER SUBURBS	1,201	732
INNER SUBURBS	2,856	647
CENTRAL JURISDICTIONS	931	215
OUTER-RING JURISDICTIONS	309	199
Fairfax County, VA	1,042	290
Loudoun County, VA	271	221
Montgomery County, MD	952	207
Prince William County, VA	381	206
Prince George's County, MD	829	140
District of Columbia	588	136
Spotsylvania County, VA	119	94
Stafford County, VA	121	93
Fauquier County, VA	66	67
Charles County, MD	145	66
Arlington County, VA	203	43
City of Alexandria, VA	140	35
Jefferson County, WV	51	30
Calvert County, MD	90	19
City of Fredericksburg, VA	22	5
City of Falls Church, VA	11	5
Clarke County, VA	14	5
City of Fairfax, VA	23	4
City of Manassas, VA	38	4
City of Manassas Park, VA	14	4
Frederick County, MD	232	N/A
Warren County, VA	36	N/A
	5,298	

Projected population growth for the entire metro area (Thousands of People) for 2005-2030 is 1,793

Source: Washington Metropolitan Council of Governments, Economic Trends in Metro Washington 2003-2007. Projections using WMCOG Round 7.0 Cooperative Land Use Forecasts, 2006.
See appendix for description of which jurisdictions are located within Central Jurisdictions, Inner Suburbs, Outer Suburbs, and Outer-Ring Jurisdictions.

Housing and Transportation Challenges Will Increase as Population Grows

Over the next two decades, the Washington, DC, metro area is expected to add nearly 1.7 million households — an increase of 34 percent. With many close-in areas already built out and traffic congestion levels already among the worst in the nation, it will be a major challenge to absorb these residents.

Where will they live? How will they get to work? How will they afford their housing and transportation costs? This chart shows where growth is expected within the region. Half of the growth is expected to occur within the central jurisdictions and inner suburbs — a sign that demand will be strong in these close-in locations. Since these locations have little vacant land, it could be difficult to meet this demand, leading to further housing price increases. The remaining half of the projected population growth is expected to occur in the outer suburbs and outer-ring jurisdictions, which currently house just over one-quarter of the region's population. This indicates that growth as a percentage of current population will be high in these areas, which could have profound impacts on traffic congestion and quality of life. Notably, the largest population growth in the metro region is expected in the outer suburbs, where the combined costs for housing and transportation are highest, posing further challenges to regional affordability.

APPENDIX

RANDY SANTOS

METHODOLOGY

Estimating Housing and Transportation Costs by Neighborhood

The Original Housing + Transportation Cost Model

The Housing + Transportation Affordability Index was developed by the Center for Neighborhood Technology (CNT) and its collaborative partners, the Center for Transit Oriented Development (CTOD) with support from the Brookings Institution's Metropolitan Policy Program's Urban Markets Initiative. This cost index has been applied to 52 metro areas in the United States, and is unique in that it measures the joint transportation and housing affordability at a neighborhood level (see www.htaindex.cnt.org).

Transportation Costs

The transportation costs estimated in this model and used in this report are more than the cost of commuting to and from work. They also include trips to and from school, errands, and other travel that is part of the household daily routine. The methods for the cost model draw from peer-reviewed research findings on the factors that drive household transportation costs. The model assumptions, calculations, and methods have been reviewed by practitioners at the Metropolitan Council in Minneapolis-St. Paul, fellows with the Brookings Institution, and academics from the University of Minnesota, Virginia Polytechnic, Temple University, and elsewhere, specializing in transportation modeling, household travel behavior, community indicators, and related topics.

Specifically, the transportation cost model incorporates four neighborhood variables (residential density, average block size, transit connectivity index, and job density) and four household variables (household income, household size, workers per household, and average journey to work time) as independent variables. These variables are used to predict, at a neighborhood level (census block group), three dependent variables — auto ownership, auto use, and public transit usage — that determine the total transportation costs.

Housing Costs

Housing costs were determined using the census variables Selected Monthly Owner Costs (SMOC) for Owners with a Mortgage and Gross Rent for Renters Paying Cash (GR). SMOC is defined as the sum of payments for mortgages, deeds of trust, contracts to purchase, or similar debts on the property (including payments for the first mortgage, second mortgage, home equity loans, and other junior mortgages); real estate taxes; fire, hazard, and flood insurance on the property; utilities (electricity, gas, and water and sewer); and fuels (oil, coal, kerosene, wood, etc.). It also includes, where appropriate, the monthly condominium fees or mobile home costs (installment loan payments, personal property taxes, site rent, registration fees, and license fees).

Gross Rent (GR) is defined as the contract rent plus the estimated average monthly cost of utilities (electricity, gas, water, and sewer) and fuels (oil, coal, kerosene, wood, etc.) if these are paid by the renter (or paid for the renter by someone else). Using gross rent eliminates differentials that result from varying practices with respect to including utilities and fuels as part of the rental payment. The estimated costs of utilities and fuels are reported on an annual basis but are converted to monthly figures for the tabulations.

The census reports aggregate values for both of these variables as well as the count of owners and renters used to compile the different aggregates. Therefore, to find an average value for SMOC and GR, the aggregate is divided by the number of households making up the aggregate value. For the purposes of this study, housing costs are estimated using only renters paying cash and owners paying mortgages. Renters paying with vouchers (e.g., subsidized housing) and owners who no longer have mortgage payments are therefore excluded.

For a full description of the methods used in the original Housing + Transportation Affordability Index, see: http://htaindex.cnt.org/model_summary.

Updating the Original Model to 2006

Input data for the original model are primarily composed of 2000 US Decennial Census block group data and values that were created and calculated based on these data. Since the most recent data are for 2000, estimates for 2006 were carried out using a recognized procedure called the "constant-share method," which considered the percent change of variables from 2000 to 2006 within the Public Use Microdata Areas (PUMAs). PUMA data for 2006 were obtained from the American Community Survey (ACS) while 2000 US Census block group data were aggregated to the same PUMA boundaries. Once the percent changes were calculated between the two years for each PUMA for each variable, these values were then used as multipliers. Year 2000 values for each block group within each PUMA were multiplied by this percent change to estimate 2006 values at the block group level.

Transportation costs were updated by applying new cost factors to the model's estimates of vehicle miles traveled. These cost factors were based on the 2006 AAA estimates of costs for operating a vehicle, which is estimated to be 15.1 cents/mile for fuel ($2.41/gallon), maintenance, and tires.

About the Online Focus Group

An online, moderated "bulletin board" focus group was conducted from July 29 to July 31, 2008. A range of topics related to housing and transportation issues was covered over the three-day period. Twenty-two respondents participated. Overall, they:

- Included a mix of working adults ages 18–64, with an equal number of male and female participants;
- Earned between $48,000 and $100,000 in total household income (or 60 to 120 percent of the Washington, DC, metro area median income of $78,000);
- Lived in a mix of towns and counties throughout the Washington, DC, metropolitan area;
- Were from a variety of family types, educational backgrounds, and ethnicities; and
- Included both auto and public transit users.

The focus group was conducted by Harris Interactive, a nationally recognized market research and polling firm. Utilizing a panel maintained by the firm, all participants were recruited and questioned by professional interviewers experienced in qualitative research. Participants were paid a small honorarium for their participation. Neither the Center for Housing Policy, which coordinated the effort with Harris Interactive, nor the ULI Terwilliger Center were identified to participants as the client.

Definition of Washington, DC, Metropolitan Area Jurisdictions:

Washington-Arlington-Alexandria, DC-VA-MD-WV, Metropolitan Statistical Area as defined by the Office of Budget and Management: http://www.whitehouse.gov/omb/bulletins/fy2008/b08-01.pdf page 52

Central Jurisdictions:
District of Columbia
Arlington County, VA
City of Alexandria, VA

Inner Suburbs:
Montgomery County, MD
Prince George's County, MD
Fairfax County, VA
City of Fairfax, VA
City of Falls Church, VA

Outer Suburbs:
Calvert County, MD
Charles County, MD
Frederick County, MD
Loudoun County, VA
Prince William County, VA
Stafford County, VA
City of Manassas, VA
City of Manassas Park, VA

Outer-Ring Jurisdictions:
Clarke County, VA
Fauquier County, VA
Spotsylvania County, VA
Warren County, VA
City of Fredericksburg, VA
Jefferson County, WV

CHIP SOMODEVILLA/GETTY IMAGES

Housing and Transportation Cost Calculator Available

The ULI Terwilliger Center for Workforce Housing is pleased to announce its new housing and transportation cost calculator, which provides consumers with up-to-date Washington, DC, metro area cost data that they can use to make informed housing decisions. To access the calculator, go to **www.uli.org/costcalculator**.

Urban Land Institute

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