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IX. COMMUTING

BY THE NUMBERS

76% / 5%
Share of workers commuting by driving alone / public transit, United States, 2008

-0.2% / -1.6% / 0.5%
Change in share of workers commuting by driving alone/ carpool/transit, 100 largest metro areas, 2000 to 2008

2
Metro areas (out of 100) in which fewer than 75% of workers commute by car, 2008 (New York and San Francisco)

14% / 27%
Share of transit commuters with incomes $75,000 and over, primary cities / suburbs, 2008

OVERVIEW

- **Reversing a pair of 40-year trends, the share of Americans that commute by transit increased from 2000 to 2008, while the share of those that drive alone to work fell slightly.** However, driving alone remains the method by which fully three-quarters of Americans get to work. Transit usage increased among whites and Asians, while carpooling dropped significantly among blacks and Hispanics.

- **Regional differences distinguish metropolitan commuting modes.** Commuters drive alone to work in high proportions in mid-sized Midwestern and Southern metro areas like Youngstown and Baton Rouge. Carpooling is most popular in Southern and Western metro areas, including many with large Hispanic populations like Bakersfield and McAllen. Public transit commuting is concentrated in the nine large metro areas that have rates above the metropolitan average (7 percent), including New York, San Francisco, Washington, and Boston.

- **Metropolitan areas with large transit systems were not alone in seeing increased transit usage during the 2000s.** While metropolitan areas such as New York and Washington with extensive rail networks saw the largest increases in the share of commuters using transit, metro areas that opened light rail lines this decade such as Charlotte and Phoenix saw upticks as well. Others that rely almost exclusively on buses for transit commuting (Colorado Springs, Albuquerque, and Seattle) also experienced notable increases.

- **In only 19 of the 100 largest metro areas did more than a quarter of the workforce in 2008 commute by a mode other than driving alone.** In only two of those metropolitan areas (New York and San Francisco) did more than a quarter of workers commute other than by car. Carpooling is an important alternative to driving alone in both mid-sized (Honolulu, Stockton) and large (Los Angeles, Seattle) metro areas.

- **Residents of cities and older, high-density suburbs are more likely to use transit than commuters elsewhere in metro areas.** Suburban transit users have higher incomes than both city transit users and suburbanites overall. Rates of working at home are roughly the same across cities and all types of suburbs, though more common among higher educated workers.

Commuting flows are the 'blood' of regional economies, showing the connections among businesses and the labor market.

NATIONAL TRENDS

Travel to work is essential in defining our metropolitan areas.[1] Commuting flows are the "blood" of regional economies, showing the connections among businesses and the labor market. They also tie together urban cores and adjacent places and, in fact, are the key criteria used to statistically define U.S. metropolitan areas.[2]

Commuting—that is, the journey to and from work—is only a small fraction of daily travel in the United States, about 15 percent of trips in 2009.[3] The significance of commuting results not from the amount of it but from the requirements it imposes on the transportation system. In comparison with

Transit increased significantly its share of all commutes for the first time in 40 years.

other trips, commuting is regular in its frequency, time of departure and destination. Because of its volume and regularity, commuting significantly determines peak travel demand patterns.[4]

From the view of transportation policymakers, how people get to work—by car, public transportation, walking, or another "mode"—is among the most important aspects of commuting.[5] It shows commuters' demand for the use of the transportation system, such as highways, transit, or streets. This information feeds directly into the planning of transportation services and capacity. Therefore, this chapter focuses almost exclusively on commuting mode patterns in metropolitan America, leaving aside other issues covered in the American Community Survey such as travel time, departure time, or workplace geography.

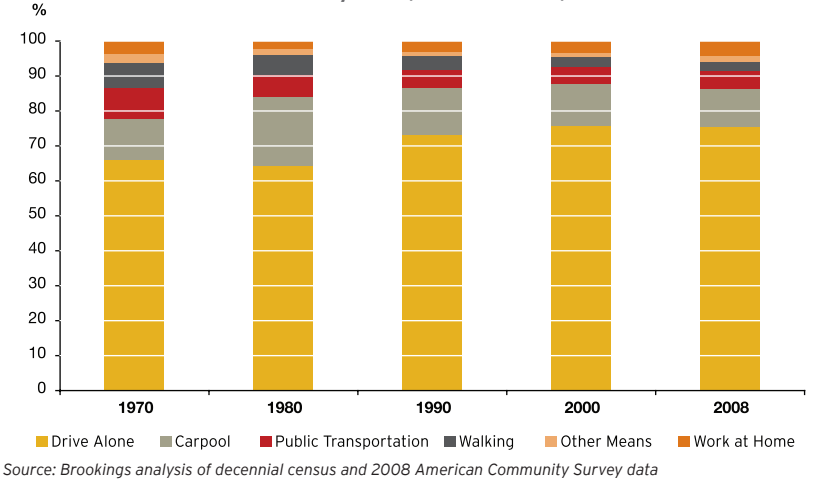
In this regard, several small but important changes in the national modal patterns of commuting occurred in the 2000s (Figure 1).[6] One is that transit increased significantly its share of all commutes for the first time in 40 years. Five percent of American workers took transit to work in 2008, compared to 4.6 percent in 2000.[7] Commuters in the Northeast and Midwest helped drive this increase, as did bus commuters, who accounted for over half of transit growth from 2000 to 2008. While even this slight increase is historic, it still leaves transit short of its 1990 share of all commutes (5.1 percent).

Another shift regards the role of the car in commuting. The share of Americans driving alone to work stayed relatively stable between 2000 and 2008 at 76 percent, though this disguised a small but statistically significant drop during the first year of the recession (0.6 percentage points). Even so, Americans continue to drive alone to work in vastly greater numbers than all other modes combined. Carpooling, however, experienced the largest decline in its share of commutes during the 2000s, led by decreases in the South and West. The share of workers who commuted via carpool in 2008 (11 percent) was even below its level in 1970 (12 percent).

Other commuting modes displayed both increasing and decreasing popularity. Commutes via two wheels (mostly bicycles and motorcycles) increased slightly to 1.7 percent of all commutes from 2000 to 2008. However, the share of Americans that walk to work continued to decline and now stands at 2.8 percent, down from 7.4 percent in 1970, reflecting the steady dispersal of people and jobs throughout U.S. metro areas. And while this chapter focuses on Americans' work trips, there is a growing trend of people not commuting at all: those who work at home. That share reached 4.1 percent in 2008, a number closer to the transit commuting share and much higher than walking or biking, with the South leading the way.

These different commuting modes do not distribute equally across all types of places. In particular,

Figure 1. The Share of Workers Commuting Via Public Transit Increased in the 2000s, Though Driving Alone Remains the Dominant Mode
Share of Commuters by Mode, United States, 1970 to 2008



Source: Brookings analysis of decennial census and 2008 American Community Survey data

commuting via public transportation is primarily a large-metro phenomenon; the 100 largest metro areas accounted for 93 percent of such commutes in 2008, compared to two-thirds for other modes. These metropolitan areas drove the slight increase in public transit usage seen nationwide during the 2000s.

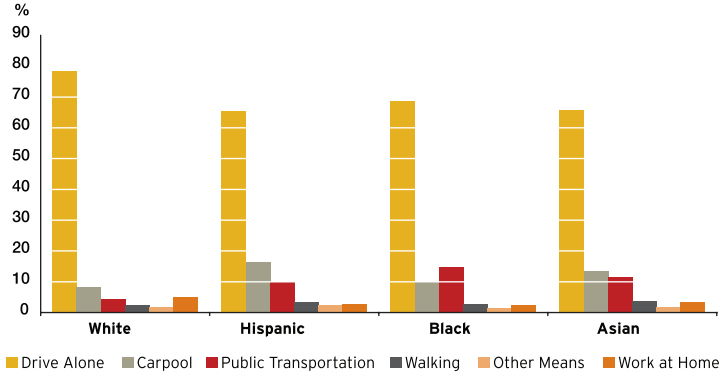
As further evidence of the diverse distribution of modes across the country, racial and ethnic groups in large metro areas diverged in their commuting mode patterns in the 2000s (Figure 2).[8] Whites and Asians commuted more by public transportation in 2008 than in 2000, essentially driving the small increase in transit usage in the 2000s. But Hispanics and blacks drove alone more, and carpooled much less, perhaps reflecting their increased suburbanization (see the *Race and Ethnicity* chapter). All groups saw small upticks in working at home. In the end, however, a majority of every major racial/ethnic group drove alone to work in 2008, as was the case in 2000. Whites did so at a far greater rate than other groups, but were also the only group who used this mode less in 2008 than in 2000.

METROPOLITAN TRENDS

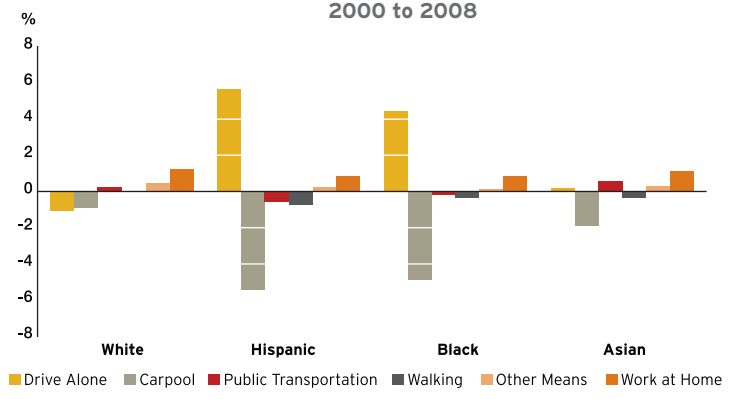
Commuting patterns by mode at the national level conceal starkly different trends among the top 100 metropolitan areas.[9]

Workers in Midwestern and Southern metro areas tend to drive alone to work more often than those elsewhere. Youngstown is the nation's commuting capital for solo drivers, with over 85 percent of its metropolitan workers choosing that mode in 2008 (Table 1). Conversely, Northeastern and Western metropolitan areas tend to rank lower on this measure. New York is a significant outlier, with only about half of its commuters driving alone to work.

Figure 2. Minority Groups Commute Via Public Transit More Often than Whites, but Whites Drove Increases in Transit Usage in the 2000s
Commuting Mode by Race/Ethnicity, 100 Largest Metro Areas, 2008



Change in Commuting Mode by Race/Ethnicity, 100 Largest Metro Areas, 2000 to 2008



Source: Brookings analysis of Census 2000 and 2008 American Community Survey data

Though the rate remained relatively stable nationally, about one-fourth of the 100 largest metro areas saw the share of commuters driving alone to work increase significantly from 2000 to 2008 (Map 1). This trend reinforced current patterns in the South (e.g., El Paso and Charleston) and in the interior West (e.g., Las Vegas, California's Central Valley, and Tucson). Metropolitan New Orleans witnessed the largest increases in driving alone to work

Table 1. Commuters in Midwestern and Southern Areas Exhibit Higher Rates of Driving Alone to Work

Metro Areas Ranked by Share Commuting By Driving Alone to Work, 2008, and Change in Share, 2000-2008

	Share Driving Alone to Work, 2008 (%)			*Change in Share Driving Alone to Work, 2000-2008 (% pts)*	
Rank	**Metro Area**		**Rank**	**Metro Area**	
1	Youngstown, OH-PA	85.1	1	New Orleans, LA	5.3
2	Wichita, KS	84.6	2	Modesto, CA	3.3
3	Akron, OH	84.4	3	El Paso, TX	3.2
4	Baton Rouge, LA	84.1	4	Las Vegas, NV	3.0
5	Knoxville, TN	84.0	5	Oxnard-Thousand Oaks-Ventura, CA	3.0
96	Seattle-Tacoma-Bellevue, WA	69.0	96	Bridgeport, CT	-2.7
97	Washington-Arlington-Alexandria, DC-VA-MD-WV	66.3	97	Poughkeepsie, NY	-2.9
98	Honolulu, HI	64.2	98	Portland, ME	-3.2
99	San Francisco-Oakland-Fremont, CA	62.4	99	Dayton, OH	-3.3
100	New York-Newark, NY-NJ-PA	50.3	100	Austin, TX	-3.6
	All metro areas	**74.0**		**All metro areas**	**-0.2**

Source: Brookings analysis of Census 2000 and 2008 American Community Survey data
Note: All changes statistically significant at 90 percent confidence interval

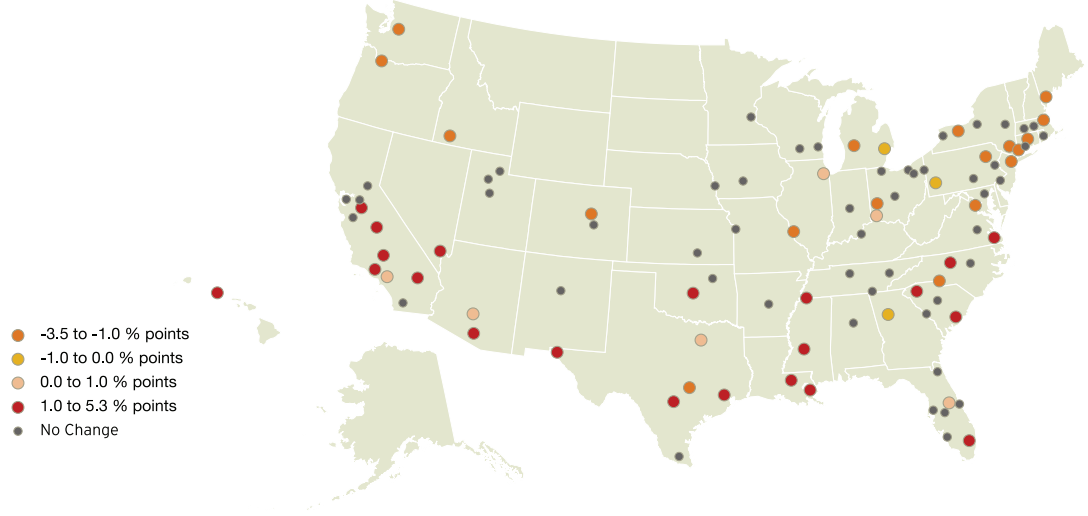
(5.3 percent), likely due to the aftermath of Hurricane Katrina.[10] Interestingly, no Northeastern metropolitan area experienced a significant increase in commuting by solo driving during the 2000s.

Carpooling rates tell a similarly diverse regional story. Southern and Western metro areas, particularly those with large Hispanic populations, dominate the top ranks, while Northeastern and Midwestern metropolitan areas rank near the bottom (Table 2). In Bakersfield, 17 percent of workers drove with others to work in 2008, nearly double the national rate. Indeed, only two Western metropolitan areas (Modesto and San Jose) exhibited carpooling rates below the metropolitan average of 10.3 percent. At the same time, only three Northeastern metropolitan areas (Scranton, Harrisburg, and Portland) cracked the top 50. And as carpooling declined nationally in the 2000s, only Dayton among the 100 largest metro areas saw its carpooling rate increase. Conversely, rates declined in a number of Sunbelt metro areas where driving alone increased over the decade.

Not surprisingly, the metropolitan areas with the largest shares of transit commuters are older, larger areas with relatively extensive systems: New York, San Francisco, Washington, Boston, and Chicago (Table 3). Transit commuters in New York and Washington commute primarily by subway, while those in Chicago and San Francisco mostly ride the bus to work. Bridgeport, just outside of New York, leads in the share of its workers commuting by railroad/commuter rail. These large places clearly dominate, as only nine of the top 100 metropolitan areas have transit commuting rates exceeding the large metro area average (7.0 percent).

Map 1. More Commuters Drove Alone to Work in Southern and California Metro Areas, While Fewer Did in the Northeast and Midwest

Change in Share of Commuters Driving Alone to Work, 100 Largest Metro Areas, 2000-2008



Source: Brookings analysis of Census 2000 and 2008 American Community Survey data

About one-fourth of the 100 largest metro areas saw the share of commuters driving alone to work increase significantly from 2000 to 2008.

Table 2. Southern and Western Metro Areas Rank High on Carpooling, But Saw Rates Slip in the 2000s

Metro Areas Ranked by Share Commuting by Carpool, 2008, and Change in Share, 2000-2008

	Share Carpooling, 2008 (%)			*Change in Share Carpooling, 2000-2008 (% pts)*	
Rank	**Metro Area**		**Rank**	**Metro Area**	
1	Bakersfield, CA	17.1	1	Dayton, OH*	2.0
2	Honolulu, HI	15.9	2	Madison, WI	0.9
3	Stockton, CA	15.1	3	Scranton, PA	0.9
4	Cape Coral, FL	14.4	4	Cape Coral, FL	0.7
5	McAllen, TX	14.2	5	Portland, ME	0.5
96	Cleveland, OH	8.1	96	Lakeland, FL*	-3.7
97	Springfield, MA	8.0	97	Jackson, MS*	-4.1
98	Youngstown, OH-PA	7.8	98	McAllen, TX*	-4.9
99	Akron, OH	7.5	99	El Paso, TX*	-5.2
100	New York-Newark, NY-NJ-PA	7.3	100	Modesto, CA*	-5.2
	All metro areas	**10.3**		**All metro areas***	**-1.6**

Source: Brookings analysis of Census 2000 and 2008 American Community Survey data
** Changes statistically significant at 90 percent confidence interval*

Table 3. Northeastern and Western Metro Areas Continue to Dominate Public Transit Commuting

Metro Areas Ranked by Share Commuting by Public Transit, 2008, and Change in Share, 2000–2008

	Share Using Public Transit, 2008 (%)			*Change in Share Using Public Transit, 2000-2008 (% pts)*	
Rank	**Metro Area**		**Rank**	**Metro Area**	
1	New York-Newark, NY-NJ-PA	30.4	1	New York-Newark, NY-NJ-PA*	2.9
2	San Francisco-Oakland-Fremont, CA	14.4	2	Washington-Arlington-Alexandria, DC-VA-MD-WV*	2.3
3	Washington-Arlington-Alexandria, DC-VA-MD-WV	13.4	3	Bridgeport, CT*	1.3
4	Boston-Cambridge, MA-NH	11.7	4	Poughkeepsie, NY*	1.2
5	Chicago-Naperville-Joliet, IL-IN-WI	11.3	5	Seattle-Tacoma-Bellevue, WA*	1.0
96	Greenville, SC	0.4	96	Houston, TX*	-0.5
97	McAllen, TX	0.4	97	Milwaukee, WI*	-0.5
98	Lakeland, FL	0.4	98	Las Vegas, NV*	-0.6
99	Tulsa, OK	0.4	99	Honolulu, HI	-0.7
100	Palm Bay, FL	0.3	100	New Orleans, LA*	-2.7
	All metro areas	**7.0**		**All metro areas***	**0.5**

Source: Brookings analysis of Census 2000 and 2008 American Community Survey data
** Changes statistically significant at 90 percent confidence interval*

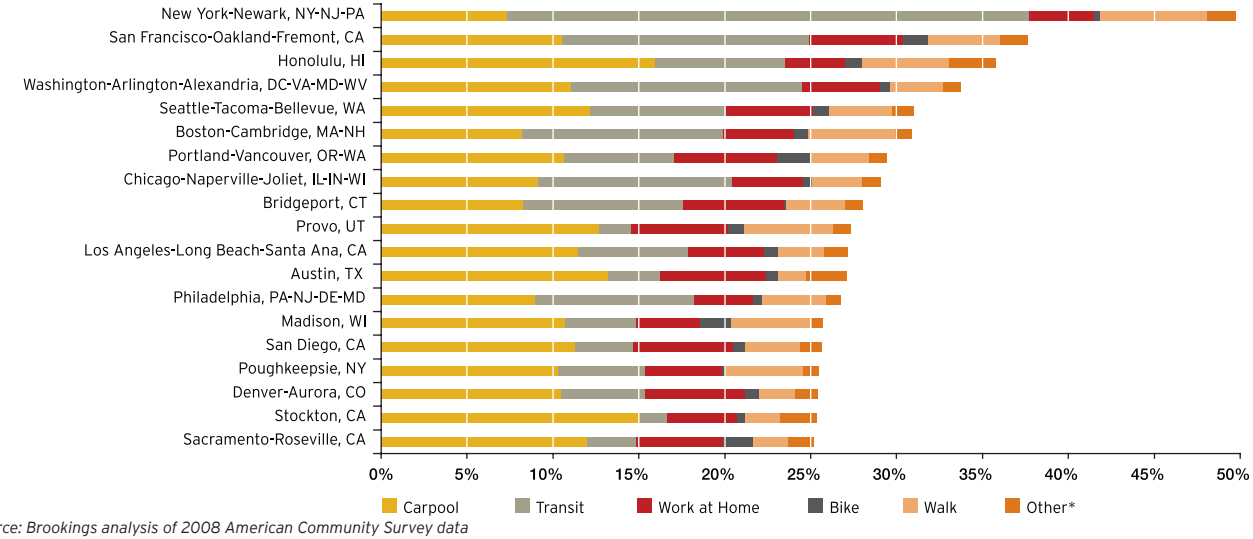
As described above, transit usage increased for the first time in decades during the 2000s, though by a small degree. The increase was most apparent in metropolitan areas with large transit systems, such as New York and Washington, where the share of commuters choosing the mode rose by at least 2 percent from 2000 to 2008. But increases were also seen in metropolitan areas that opened new transit lines and expanded transit service in the last eight years. Charlotte opened a light rail line in November 2007 and Colorado Springs opened an intercity commuter bus line in 2004, and both managed to place among the top 10 metropolitan areas for increases in commuter transit ridership, and rate of commuting by transit.[11]

While one-third of metropolitan areas saw significant increases in their transit commuting rate during the 2000s, most of these increases were very small. Only five metro areas posted increases of more than one percentage point. At the same time, the only decrease larger than one percentage point occurred in New Orleans, as a result of hurricane-inflicted damages to its public transit infrastructure. The first year of the Great Recession, which coincided with a spike in gasoline prices, contributed to the move toward greater transit usage. Between 2007 and 2008, rates of driving alone to work dropped in 38 of the largest 100 metro areas. In return, about 30 metro areas saw increases in carpooling and commuting by transit during the same period.

For most metropolitan areas, driving alone to work remains the commuting mode for the overwhelming majority of workers, and other options concentrate in a relatively small number of places. Indeed, only 14 metro areas have transit commuting rates higher than the national rate of 5 percent. In

Figure 3. In Only 19 Metro Areas Do More than 25 Percent of Commuters Travel to Work By a Mode Other Than Driving Alone

Share of Commuters by Mode Other Than Driving Alone, Selected Metro Areas, 2008



Source: Brookings analysis of 2008 American Community Survey data
** Includes taxicab, motorcycle, and miscellaneous means of transportation*

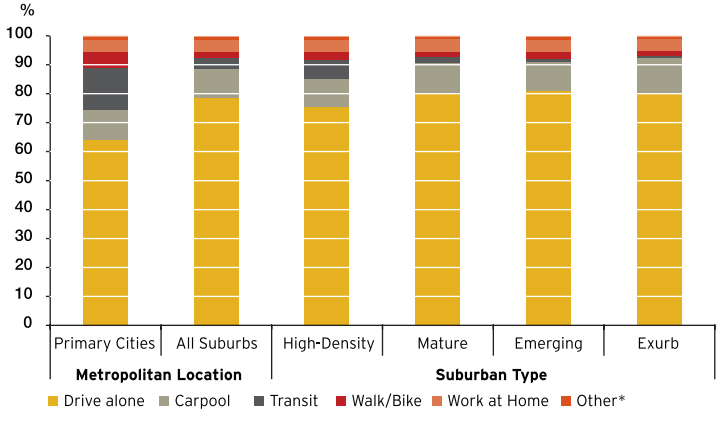
fully half of the 100 largest metro areas, transit commuting rates lie below 2 percent. Only 19 had more than one-quarter of their workforce in 2008 commuting by a mode other than driving alone (Figure 3). When taking into account any other means of transportation besides cars, only New York and San Francisco have more than 25 percent of their labor force not driving to work. Carpooling looms as a more important mode in smaller metro areas like Honolulu and Stockton, and larger ones like Seattle, Los Angeles, and Denver.

City and Suburban Trends[12]

Americans commute differently based on where they live within metropolitan areas. Across the 100 largest metro areas, a majority of commuters in both primary cities and suburbs drove alone to work in 2008, but city residents did so at a lower rate (64

Figure 4. City and Inner Suburban Residents Are Less Likely to Drive, and More Likely to Use Transit, than Commuters Elsewhere in Metro Areas

Share of Commuters by Mode and Metropolitan Community Type, 2008



Source: Brookings analysis of 2008 American Community Survey data
** Includes taxicab, motorcycle, and miscellaneous means of transportation*

Table 4. Transit Commuters in Cities and Suburbs Have Different Socio-Economic Characteristics

Selected Characteristics, Primary City versus Suburban Transit Commuters, 79 Large Metro Areas, 2008

Characteristic	Primary Cities	Suburbs
Share of all workers	15.5	3.8
With incomes:		
$15,000 to $24,999	18.2	13.9
$75,000 and over	13.7	26.5
In the Age Group:		
25 to 44	50.6	45.6
45 to 54	19.3	23.8
Who are:		
Below the poverty line	11.3	6.9
Foreign-born	38.1	29.8
Renters	67.6	41.0

Source: Brookings analysis of 2008 American Community Survey data
Note: Analysis limited to 106 primary cities and 79 metro areas due to data availability.

percent) than suburbanites (78 percent) (Figure 4). City workers commute more by transit, walking, and biking than those in suburbs, while rates of carpooling are similar in both types of places.

All suburbs are not created equal in their commuting patterns, of course. In 2008, commuters in the high-density suburbs that often surround primary cities took transit more often, and drove alone less often, than other suburban commuters. By contrast, less than 1 percent of exurban commuters took transit, but more than 12 percent carpooled to cover the often long distances between home and work. Rates of working at home, somewhat surprisingly, differed little among metropolitan community types.

The overall increase in the 2000s of transit usage owes primarily to increased transit commuting in cities. In 2000, commuters in primary cities used transit at a rate 10.3 percentage points higher than suburban commuters, and the gap had narrowed in the 1990s due to decreased ridership in cities. This trend reversed over the past decade, as transit usage increased faster in primary cities than in suburbs, so that the gap reached 11.2 percentage points in 2008. Carpooling, on the other hand, declined among both primary city and suburban commuters in the 2000s, though the decline was faster in cities, erasing any difference in the rate of carpooling across city and suburban lines by 2008.

Interesting differences emerge in probing the socioeconomic profile of transit commuters in cities and suburbs (Table 4).[13] Those residing in the suburbs tend to be older than those in cities, in line with the overall population age differences between cities and suburbs. Not surprisingly, suburban transit commuters are more likely to have higher incomes, but they are actually higher income than suburban

residents overall, perhaps reflecting their greater likelihood of residing in close-in, transit-accessible suburbs that may be more expensive than outer suburbs. And while immigrants make up a larger share of city transit commuters, they still account for an outsized share of suburban transit commuters (30 percent). Primary city workers who commute by transit are more likely to rent, and more likely to be poor. These differences signal that while transit may be evolving into a mode of choice for certain types of suburban residents, it remains a mode of necessity for many city residents.

Finally, mode choices differ among workers at different educational levels, but the patterns are not necessarily consistent across cities and suburbs. In all types of communities, workers who have completed some college exhibit the highest rates of driving alone to work (from 69 percent in primary cities to 82 percent in outer suburbs), and the lowest rates of transit usage, while those without a high school diploma carpool much more often than others (20 percent). In suburbs, the least educated workers are more likely than other groups to walk to work, but in cities, all groups walk at roughly the same rate (4 to 5 percent). Workers with a bachelor's degree are slightly more likely than others to bike to work in cities (1.2 percent), but slightly less likely to bike in suburbs. And across all community types, the highest educated workers are most likely to work from home (5 to 6 percent), reflecting the more flexible nature of their jobs and access to technology.

CONCLUSION

Between 2000 and 2008, transit commuting increased as a share of all commuting for the first time in 40 years. It grew across the entire United States, in primary cities and suburbs, in metropolitan areas with large transit systems in the Northeast and West, and in metropolitan areas in the South and West with growing systems. While significant, the increase was rather small, at the national and metropolitan levels. Less than 2 percent of the workforce in half of the 100 largest metro areas commuted by transit in 2008.

Very few of the largest metro areas are seeing dramatic changes toward a 'greener,' lower-carbon commuting future.

Driving remains, by a long shot, the primary commuting mode in America. While driving alone to work had underwent a small loss in commuting share during the last decade, carpooling use declined significantly. An increasing share of Hispanics and blacks traded carpooling for driving alone to work between 2000 and 2008, although more Americans preferred carpooling to driving alone during the first year of recession.

While it is uncertain whether these trends will continue, it does suggest that very few of the largest metro areas are seeing dramatic changes toward a "greener," lower-carbon commuting future. Only 19 of the 100 largest have more than a quarter of the workforce commuting by other means than driving alone to work. The number is reduced to only two (New York and San Francisco) when considering only non-driving commuting means.

Part of the challenge is that workers in many metropolitan areas simply do not have any alternatives to driving to work. Fifty-four (54) of the 100 largest metro areas do not have any rail transit service and also have relatively weak bus systems. Half of them are found in the South.[14] Some metro areas, such as Charlotte, are opening new transit lines, but such efforts remain limited. Even as metro areas in the Northeast and portions of the West were able to reduce their driving-alone-to-work footprint in the 2000s, several in the Southeast and Southwest saw those rates increase over the decade.

Others still have to make do with a road and transit network that fits commuting patterns of the 1950s, when cities still functioned as regional hubs. Today only 21 percent of jobs in large metro areas locate within three miles of downtown, while over twice that share (45 percent) are more than 10 miles away from the city center. Moreover, job decentralization accelerated through at least the first half of the 2000s.[15]

Given these overall trends, the incremental changes in commuting patterns evident in the 2000s are not sufficient to reach any meaningful reductions in carbon emissions. In order for the U.S. to truly commit to a low carbon future, significant investments in cleaner vehicles and alternative transportation modes will be necessary.[16] But given the continued decentralization of metropolitan area jobs and residences, serious attention to more sustainable growth patterns will also be necessary.

As the experience of other countries shows, this will not be a rapid change.[17] Yet policy initiatives abound on all levels of government to help remake the sprawling American landscape, by developing integrated regional plans that link housing, transport, jobs and land use and create more compact and transit rich communities. Doing so will bring particular advantages, in compact development patterns that preserve rural lands and valuable ecosystems, and in a wider array of transportation options in more of our metropolitan areas that lead to fewer miles driven and lower greenhouse gas emissions. ■

ENDNOTES

1. This chapter employs the U.S. Census notion of "journey-to-work" as the travel from home to work of American workers 16 years and older. Therefore, commuting data refer only to half of the commuting trip, unless noted otherwise.
2. The Office of Management and Budget (OMB) measures the social and economic integration between the core and adjacent territory of Metropolitan Statistical Areas and Micropolitan Statistical Areas by commuting ties. Office of Management and Budget, "Update of Statistical Area Definitions and Guidance on Their Uses." OMB Bulletin No. 09-01 (2008).
3. The 2009 National Household Travel Survey (NHTS) data was collected over thirteen months—April 2008 through April 2009. The estimates represent annual estimates but not a calendar year. Federal Highway Administration, National Household Travel Survey 2009 (Department of Transportation, 2010).
4. Alan E. Pisarski, "Commuting in America III." National Cooperative Highway Research Program Report 550 and Transit Cooperative Research Program 110 (Washington: Transportation Research Board, 2006).
5. The Census Bureau defines commuting mode in this way: "means of transportation to work refers to the principal mode of travel or type of conveyance that the worker usually used to get from home to work during the reference week." Source: U.S. Census Bureau, "American Community Survey 2008: 2008 Subject Definitions" (Department of Commerce, 2009). There are four main categories: private vehicle (drive alone or carpool), public transportation (bus, streetcar, subway and elevated systems, railroad, ferryboat), other means (taxicab, motorcycle, bicycle), and walking. The absence of travel to work, "work at home," is also reported by the Census Bureau as part of the travel behavior of American workers. One of the major shortcomings of Census travel data is that the commuting modes refer only to "the principal mode of travel." Given that driving and public transportation are the main means used to commute for longer distances, walking or biking in a multi-modal commuter trip is not reported.

6. All the changes in this chapter are statistically significant at the 90 percent confidence level, unless noted otherwise. Due to data constraints, public transportation includes taxicab in Figure 1.
7. Commuting by transit excludes trips to work by taxicab, unless noted otherwise.
8. The analysis of commuting mode by race and ethnicity is limited to 92 metro areas for African Americans, 75 metro areas for Asians, and 90 metro areas for Hispanics due to data availability limitations, There were no commuting mode data in the following metro areas for African Americans: Albuquerque, Boise, McAllen, Ogden, Oxnard, Provo-Orem, Salt Lake City, and Scranton; for Asians: Akron, Augusta, Birmingham, Boise, Bradenton, Cape Coral, Chattanooga, Dayton, Des Moines, El Paso, El Paso, Greensboro, Greenville, Jackson, Knoxville, Lakeland, Little Rock, McAllen, Ogden, Palm Bay, Portland, Scranton, Toledo, Tulsa, Wichita, Youngstown.; and for Hispanics: Akron, Augusta, Baton Rouge, Birmingham, Chattanooga, Harrisburg, Jackson, Knoxville, Little Rock, Youngstown. Note: The changes in share of commuting mode add up to one by race. Change in transit share for African Americans and driving alone share for Asians for the largest 100 metro areas are not statistically significant at the 90 percent confidence level.
9. This analysis focuses on the primary commuting modes: driving alone to work, carpooling and transit. The authors intend to explore other modes (walking, biking, and working at home) in a separate analysis.
10. Flooding related to Hurricane Katrina damaged miles of the New Orleans metropolitan area's streetcar tracks and destroyed hundreds of buses. Three years after the hurricane, ridership had dropped by 75 percent. Ariella Cohen, "Transportation's Slow Ride to Recovery in NOLA." *Next American City*, Fall 2008.
11. The transit commuting rate is the share of all workers who commute by public transportation (excluding taxicab). Commuting ridership by transit (excluding taxicab) is the number of employees who choose transit as their main means of transportation to work.
12. Changes in this section have not been tested for statistical significance due to data limitations.
13. The analysis of transit commuter profiles in primary cities and suburbs is limited to 106 cities in 79 metropolitan areas, because there were no commuting mode data for 21 primary cities that are the only primary cities in their metropolitan areas in ACS 2008. There were no data for additional 10 primary cities, but because they were not the only primary cities in their metropolitan areas, the data for their 10 metropolitan areas are included in the analysis. Excluded metro areas are: Albany, Birmingham, Bradenton, Cape Coral, Charleston, Chattanooga, Columbia, Greenville, Harrisburg, Hartford, Jackson, Lakeland, Little Rock, McAllen, Palm Bay, Portland (ME), Poughkeepsie, Providence, Scranton, Springfield, and Youngstown. Excluded cities are: Bellevue (Seattle); Cary (Raleigh); High Point (Greensboro); Joliet (Chicago); Kansas City, KS (Kansas City); Pompano Beach (Miami); Scottsdale (Phoenix); Thousand Oaks and Ventura (Oxnard); and Warren (Detroit).
14. Robert Puentes, "A Bridge to Somewhere: Rethinking American Transportation for the 21st Century" (Washington: Brookings Institution, 2008).
15. Elizabeth Kneebone, "Job Sprawl Revisited: The Changing Geography of Metropolitan Employment," (Washington: Brookings, 2009).
16. Electric vehicles will only partially solve this problem if the sources of electric generation themselves remain as carbon-intensive as they are today.
17. Ralph Buehler, John Pucher, Uwe Kunert, "Making Transportation Sustainable: Insights from Germany" (Washington: Brookings Institution, 2009).