CMAP

JAN. 23, 2018

TRAVEL PATTERNS IN ECONOMICALLY DISCONNECTED AREA CLUSTERS

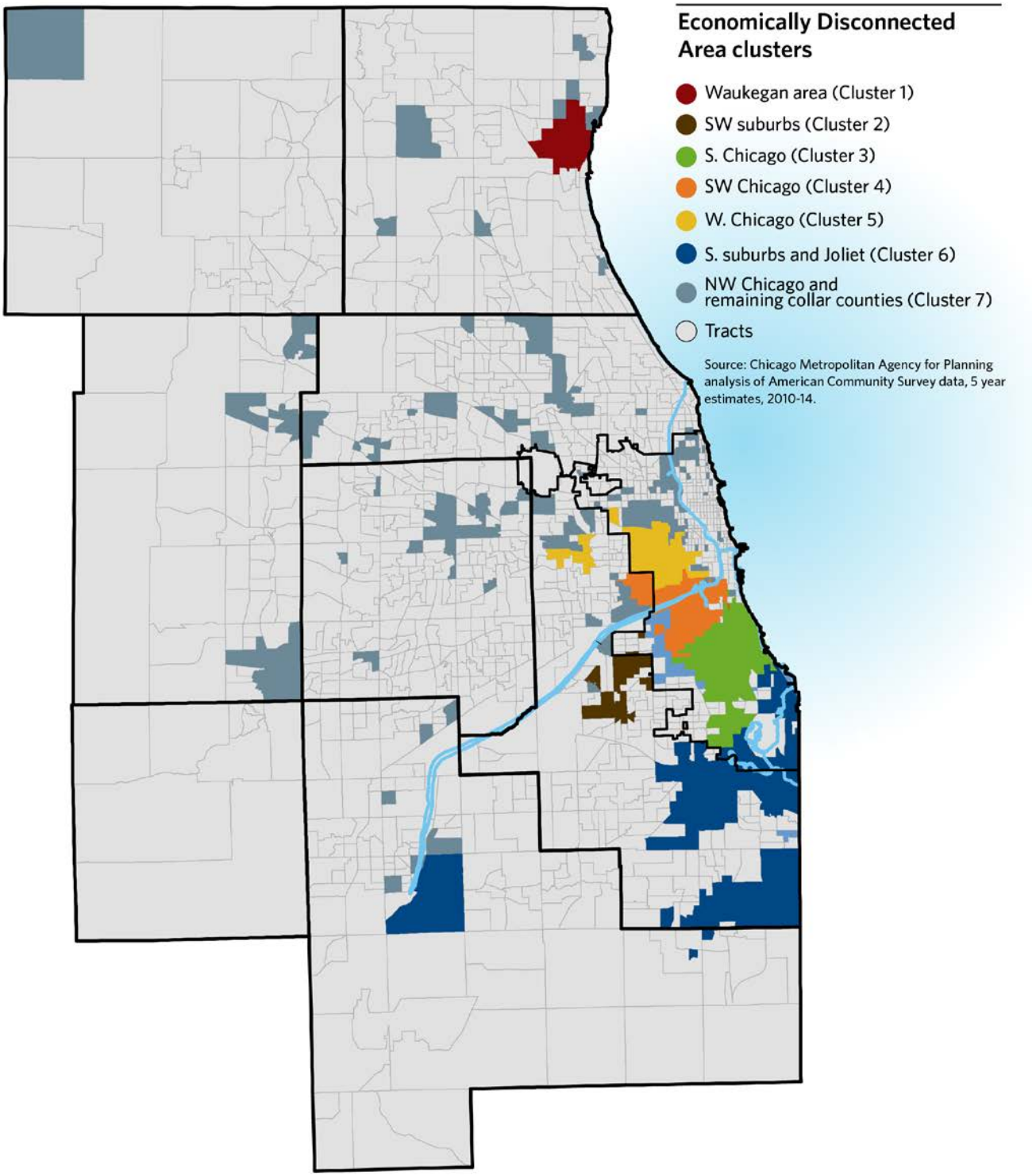
This Policy Update is the second in a series examining the region's Economically Disconnected Areas (EDAs) and their transportation and commute challenges. The first Update groups EDAs that are geographically, demographically, and economically similar and discusses trends across them. This Update explores commute patterns and travel trends for workers residing in EDAs, identifying the clusters where commute disparities are highest. The third illustrates several case studies to highlight the role transportation and land use play in linking EDA and economically connected area residents to jobs.

The regional transportation system's primary role is to connect residents and businesses to opportunities, which plays a crucial role in promoting inclusive economic growth. Longer commute times decrease the productivity of workers and hinder their ability to connect to available and attainable employment opportunities.

This analysis shows that EDA clusters differ substantially in average commute time and transportation mode usage, generally associated with differences in job types and location, race and ethnicity, and income. Long distances or lack of transit connectivity between employment centers and housing in many EDAs creates more burdensome commutes. This is particularly true for the region's predominately black EDAs in the south and west neighborhoods of Chicago as well as some parts of the south suburbs, where residents typically have poor transportation mode options.

Identifying EDA clusters

Grouping EDAs that are economically and demographically similar to one another reveals distinct patterns within the region. These clusters were identified via a spatially based cluster analysis tool that generated seven distinct EDA clusters located across the region. Three of the seven clusters are located in the city of Chicago while the remaining clusters are in the suburbs or collar counties. Two of the suburban clusters are spatially diffuse, demonstrating the difficulty of addressing the complex transportation, housing, education, and economic issues affecting economic opportunity. These clusters contain approximately 2.8 million residents, roughly one-third of the region's total population. The map below depicts the EDAs by cluster.


Economically Disconnected Area clusters
Waukegan area (Cluster 1)
SW suburbs (Cluster 2)
S. Chicago (Cluster 3)
SW Chicago (Cluster 4)
W. Chicago (Cluster 5)
S. suburbs and Joliet (Cluster 6)
NW Chicago and remaining collar counties (Cluster 7)
Tracts
Source: Chicago Metropolitan Agency for Planning analysis of American Community Survey data, 5 year estimates, 2010-14.

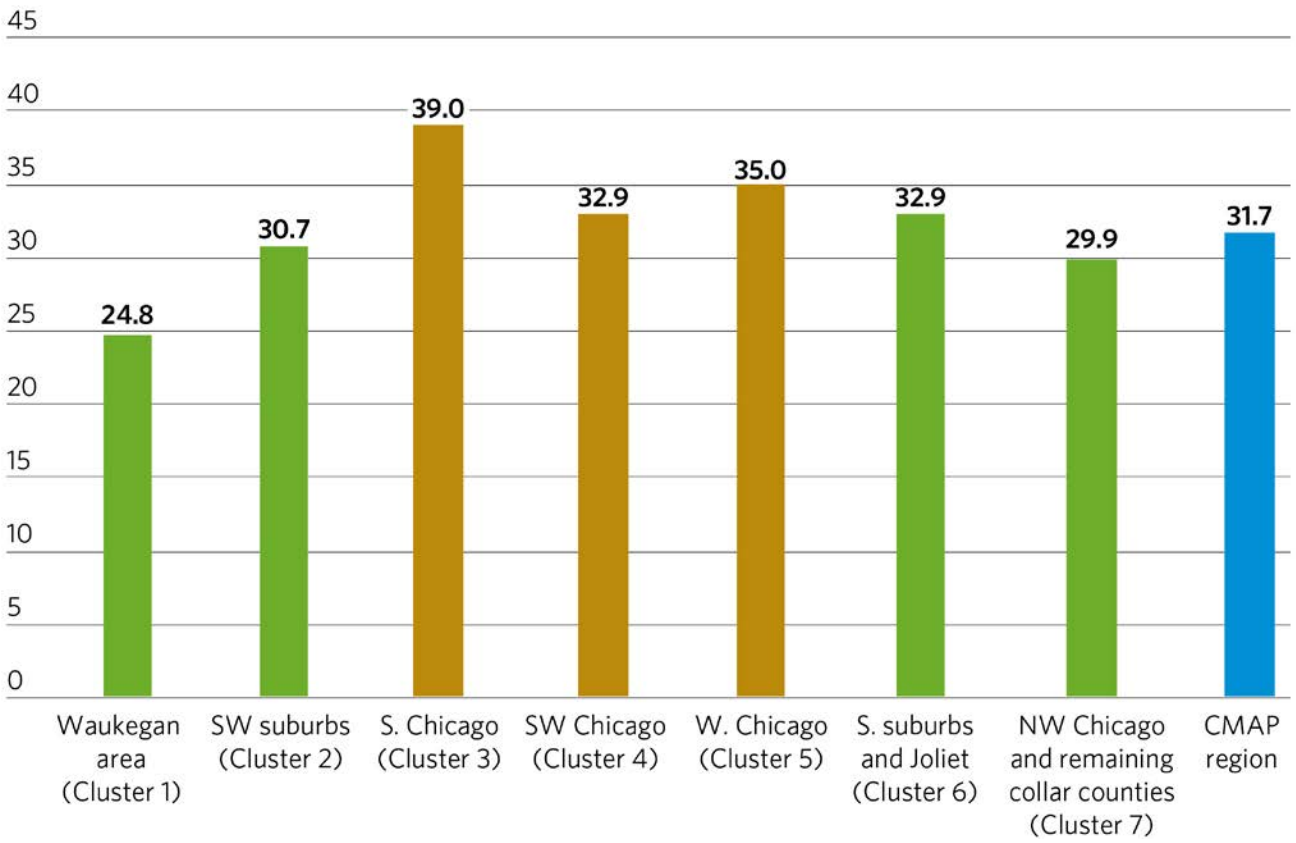
Commute trends in EDA clusters

Commute time depends on four main factors: place of work, home location, transportation mode, and congestion or reliability of a worker's commute. Data suggests that commute times vary among EDAs, with some clusters averaging commute times as high as 39 minutes and others as low as 25 minutes, compared to a regional average of just under 32 minutes. EDA residents with the longest commutes spend 58 additional hours each year commuting, as compared to the average resident. Commute differences turn on what part of the region a worker lives in, with the longest commutes found for residents of the west and south sides of Chicago as well as parts of the south suburbs.

Average one-way commute time for workers in Economically Disconnected Area clusters, in minutes

Note: Average commute time is weighted by number of workers.

Source: Chicago Metropolitan Agency for Planning analysis of American Community Survey data, 5-year estimates, 2010-14.

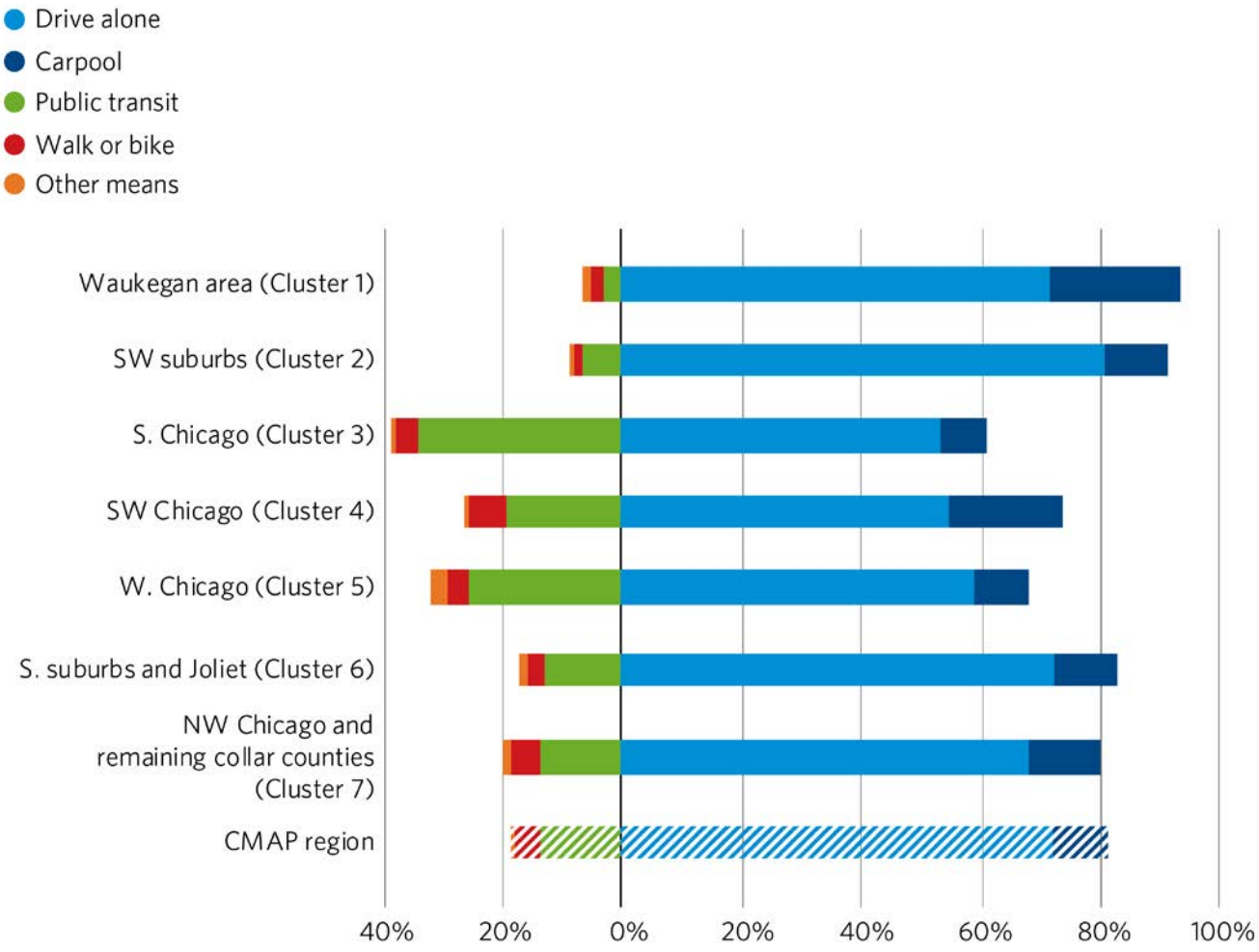


EDA clusters located outside the city of Chicago generally enjoy lower commute times than their city counterparts. This may be driven by differences in mode and overall travel distance between work and home. The Waukegan area cluster, for example, has the lowest average commute time among EDA clusters at an average of nearly 25 minutes, lower than even the 31 minutes that is average for residents of economically connected areas. These workers typically drive alone and commute shorter distances. Despite strong access to transit options, EDAs in the city have higher commute times. Workers in EDAs in south Chicago and west Chicago have average commute times of 39 and 35 minutes, respectively. Despite average transit availability scores of five out of five in CMAP's transit availability index, these commute times are 14 and 10 minutes longer relative to the Waukegan area cluster, which scores a mere three out of five. This is consistent with regional travel trends which illustrate generally longer commute times for transit commuters.

Commute mode shares also differ across EDA clusters. Clusters in the Chicago suburbs and in the region's collar counties are more likely to drive alone or carpool to work than their city counterparts. EDA workers living in the city of Chicago have more access to various public transit modes and are more likely to commute to work using public transit than workers living in EDAs outside the city.

Economically Disconnected Area cluster mode shares

Source: Chicago Metropolitan Agency for Planning analysis of American Community Survey data, 5-year estimates, 2010-14.



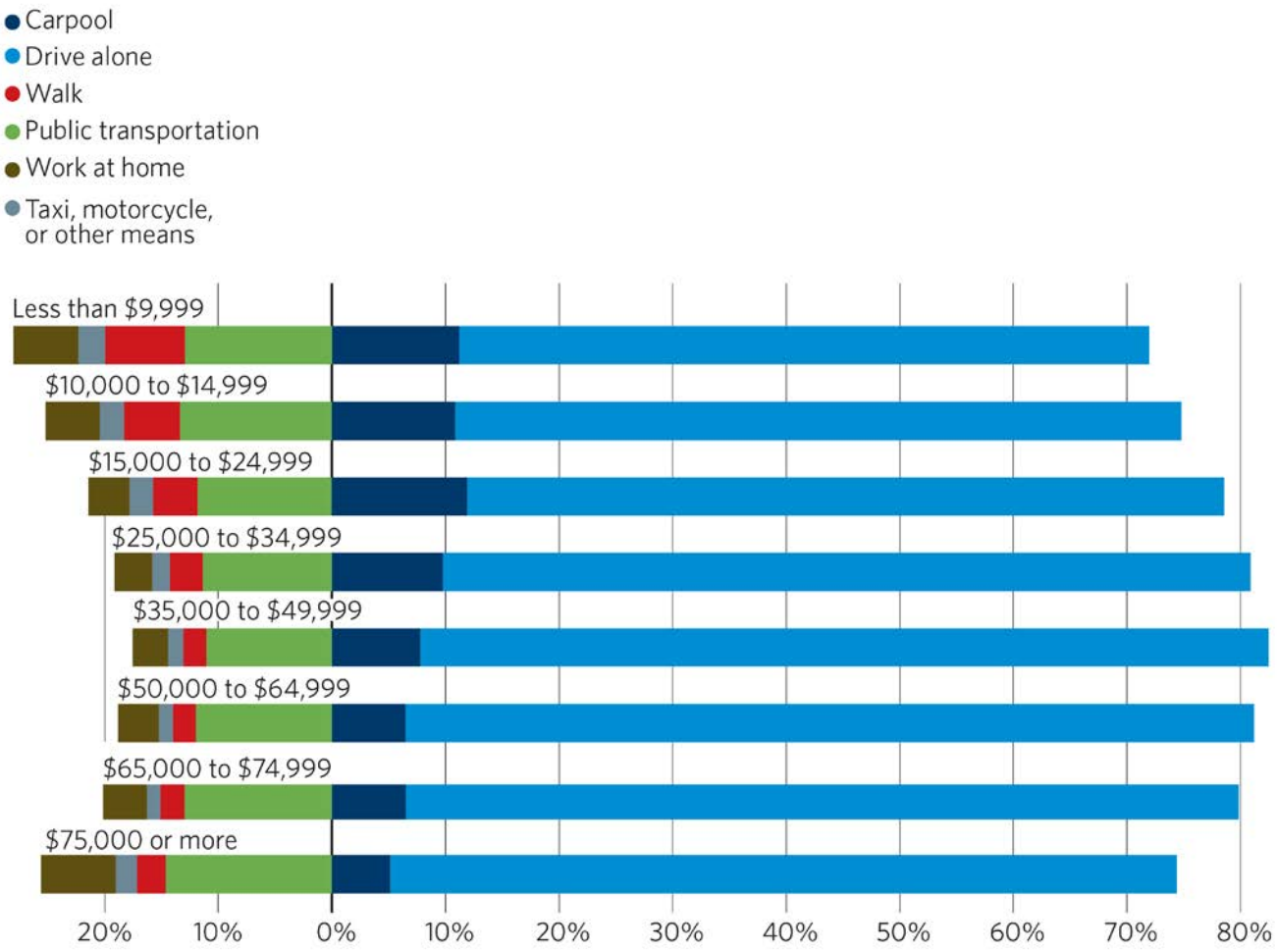
Workers in EDAs generally commute to a wider geography than workers living in economically connected areas. While workers in EDA clusters in the city of Chicago are more likely to commute to downtown Chicago and workers in suburban EDA clusters are more likely to work in suburban areas, most travel further distances than the typical worker. Many EDAs, including areas with strong transit access, do not have strong transit connections to desired employment destinations outside of downtown Chicago. Geographic job dispersion and employment centers without easy transit access create longer and more difficult commutes for the region's workers, particularly for workers living in EDAs. The dispersed nature of these employment centers, the lower density of many retail corridors or freight and manufacturing areas, and rotating shifts that do not conform to typical commute times also make it difficult to provide transit service to these destinations.

Factors influencing commuting patterns

Numerous factors shape commute patterns and travel decisions. Where residents live and work, their income, and their race and ethnicity can drive commute disparities. Prior CMAP analysis illustrates a non-linear relationship between worker earnings and travel mode in the Chicago region. Workers on either end of the earnings spectrum are less likely to travel to work by car and are more likely to travel by transit.

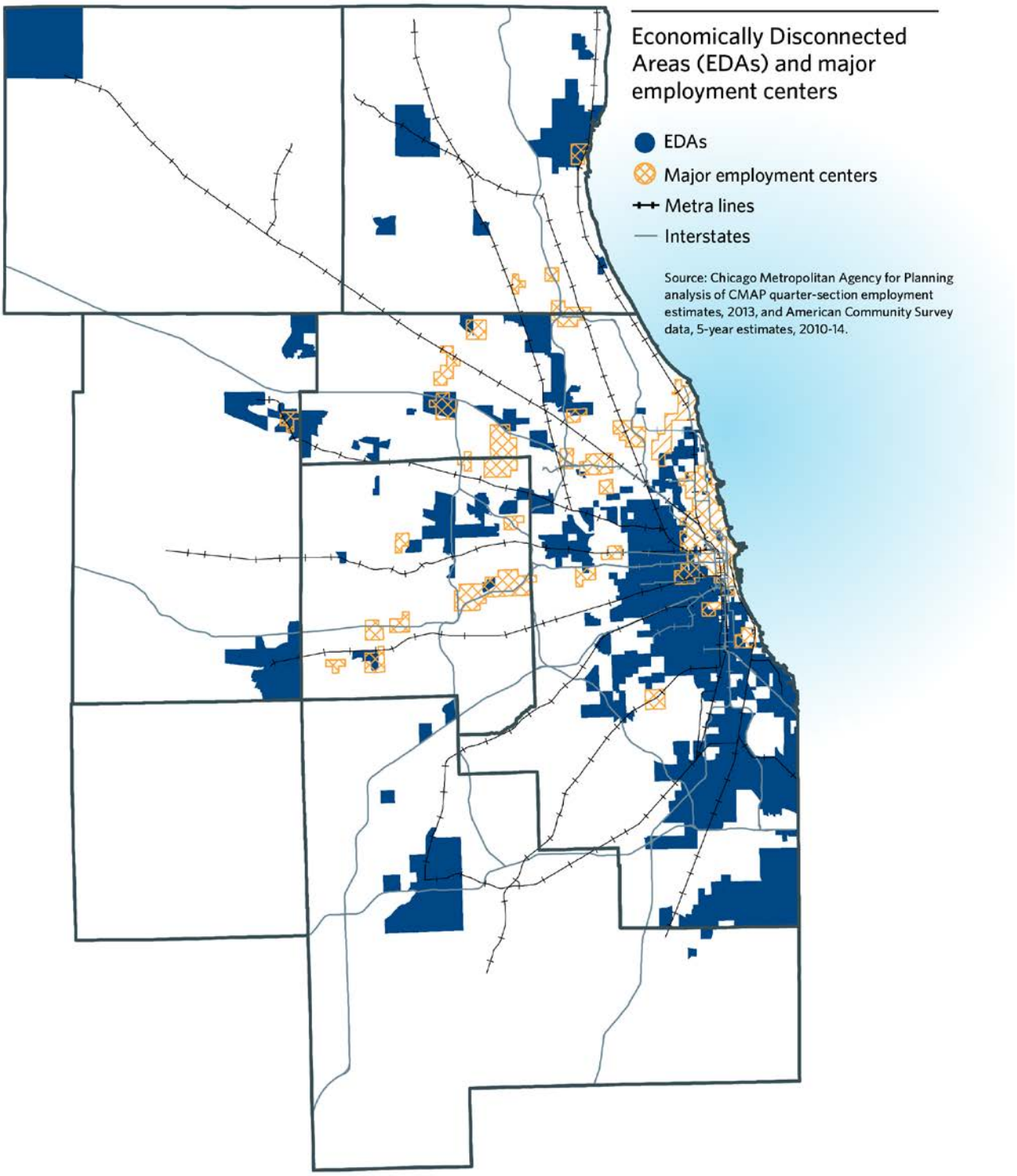
Mode share by worker earnings, CMAP region, 2010-14

Source: Chicago Metropolitan Agency for Planning analysis of American Community Survey data, estimates for 2010-14.



This outcome appears to be driven by a mix of income, employment access, and housing choice. Car ownership is often unaffordable for lower-income residents, who may have to use transit to get to work. These residents may also not have employment options near their home, leading to longer commute times. Higher-income residents may choose to live in areas with better access to public transportation, employment centers, and other amenities. These areas are often unaffordable for lower- and middle-income workers.

Major employment centers exist across the region, but rarely overlap with EDAs. Traded service clusters are primarily concentrated in Chicago's central business district, as well as near universities and office parks in Schaumburg and Oak Brook. Traded goods-producing clusters are more dispersed across the region, but still are rarely proximate to EDAs. The distance between these major employment centers and lack of good connections to transit result in more difficult and longer commutes. The region's EDA workers are disproportionately employed in local services, like the region's retail corridors. These employment opportunities are more geographically dispersed throughout the region and account for roughly 65 percent of total employment, but add up to only half of the region's income. Lack of connectivity between employment and housing for the region's EDA workers increases barriers to economic opportunity, reducing the region's capacity for inclusive growth.

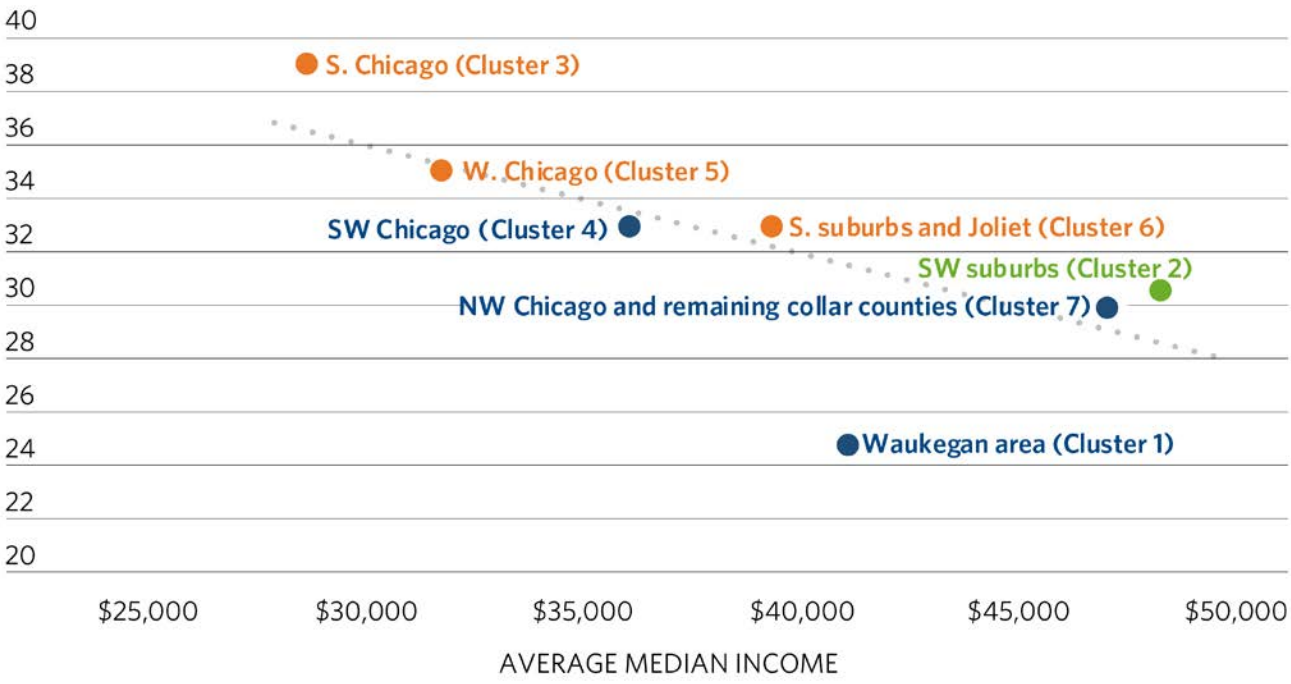

Economically Disconnected Areas (EDAs) and major employment centers
EDAs
Major employment centers
Metra lines
Interstates
Source: Chicago Metropolitan Agency for Planning analysis of CMAP quarter-section employment estimates, 2013, and American Community Survey data, 5-year estimates, 2010-14.

The relationship between income and transportation mode is more nuanced in EDAs. Residents living in the highest earning EDA clusters are more likely to drive alone or carpool to work and live in areas with inadequate access to public transit. With relatively higher earnings, workers in these areas are better able to afford a car relative to workers in lower earning clusters. Workers in lower earning EDAs clusters are more likely to travel to work using public transit. This is partially due to geographic proximity to public transit and because car ownership becomes increasingly unaffordable at lower incomes. Generally, higher earning workers enjoy greater choice in transportation mode; EDA clusters with higher average median incomes generally enjoy lower commute times.

Average one-way commute time, in minutes, and average median income in Economically Disconnected Area clusters

Note: Average commute time is weighted by number of workers and average median income is weighted by population.

Source: Chicago Metropolitan Agency for Planning analysis of American Community Survey data, 5-year estimates, 2010-14.

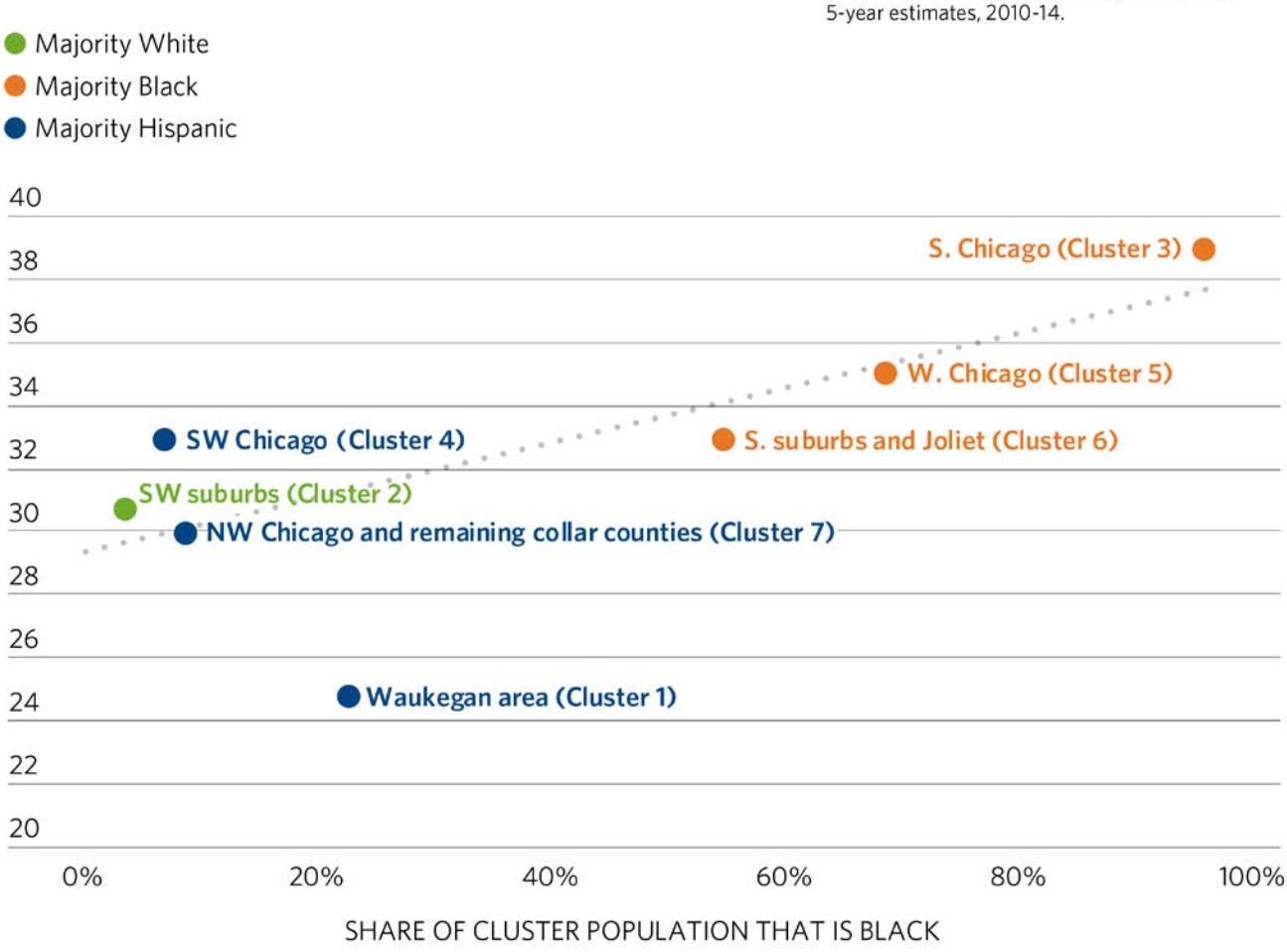


Travel patterns are also strongly related to race and ethnicity. The Chicago region is highly spatially segregated by race and ethnicity, and housing location patterns significantly impact transportation mode and therefore commute times. EDA clusters with majority black populations are located in the city of Chicago, where transit access is plentiful while the commute shed (area that workers travel to) is nearly twice as large as some wealthier parts of the region. Workers from these clusters are more likely to travel to work using public transit and have the highest average commute times.

Average one-way commute time, in minutes, and share of cluster population that is black in Economically Disconnected Area clusters

Note: Average commute time is weighted by number of workers.

Source: Chicago Metropolitan Agency for Planning analysis of American Community Survey data, 5-year estimates, 2010-14.

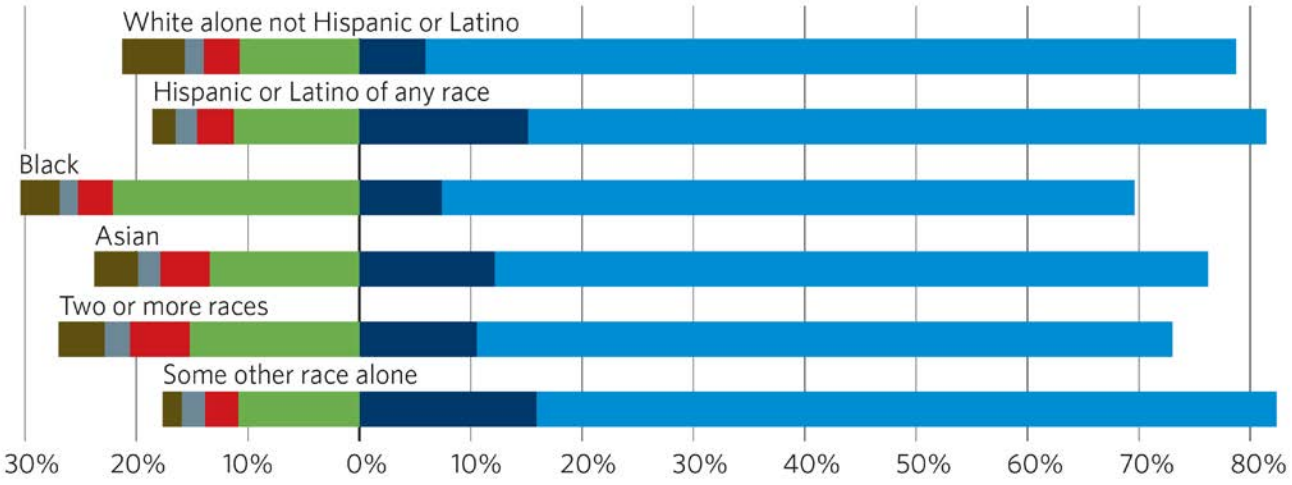


Differences in patterns by race and ethnicity in EDAs are consistent with regional travel trends, which are greatly impacted by residential patterns. Black commuters regionally use public transit at nearly double the rates of other racial groups. Further, the region's black residents are more likely than other racial and ethnic commuters to commute by bus transit than rail transit. In fact, many of the region's black workers live in census tracts with high access to Chicago Transit Authority (CTA) bus stops but with weaker access to commuter rail or CTA trains.

Commute mode share by race, CMAP region, 2010-14

Note: the U.S. Census Bureau gathers data on Hispanic origin separately from data on race. Thus, there is some overlap between Hispanic or Latino of any race and the Black, Asian, some other race, and two or more race categories.

Source: Chicago Metropolitan Agency for Planning analysis of American Community Survey estimates for 2010-14.



In EDA clusters with larger concentrations of white populations, workers drive alone at higher rates and have comparatively lower average commute times. In majority Hispanic EDAs in Chicago, commuters use public transit at higher rates than their white counterparts and at lower rates than their black counterparts. However, workers from majority Hispanic EDA clusters are also more likely to carpool to work.

Black EDA workers spend the most time commuting, consistent with regional commute time trends. These higher commute times are partly driven by greater use of public transit—particularly bus transit—which typically results in greater commute times. But differences in mode share do not fully explain differences in commute times. Bus and CTA train commuters who are black have noticeably longer commutes than bus and CTA train commuters of other races.

Looking ahead

Promoting inclusive economic growth requires linking residents and workers in EDAs to employment, education, and other opportunities. Local and regional planning should emphasize high-quality transportation options that are cost efficient and increase residential access to attainable and fruitful employment opportunities. Connecting EDAs to opportunities also revitalizes and attracts investment, spurring economic activity within historically disinvested areas. ON TO 2050, the region's next comprehensive regional plan, promotes efforts to support increased housing and employment density as well as housing affordability in transit-rich areas. A subsequent Policy Update, the final in this series will examine the interrelationship between land use and transportation in EDAs and discuss potential policies and strategies to address commute disparities.

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