[JOB ACCESS IN NEW YORK'S CAPITAL REGION]

CDTC
CAPITAL DISTRICT
TRANSPORTATION COMMITTEE

2022

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Acknowledgements

This report was written on behalf of the Capital District Transportation Committee's Equity Advisory Committee and modeled after the "Transportation and Poverty in Monroe County: How Land Use, Job Locations and Commuting Options Affect Access to Jobs" report developed by the non-profit organization CGR, based in Rochester, New York.

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Executive Summary

The Job Access in New York's Capital Region report was developed by the Capital District Transportation Committee (CDTC) in close consultation with CDTC's Equity Advisory Committee. The Equity Advisory Committee requested that CDTC create this report out of a desire to provide data-driven information to policymakers and service providers about inequities in our transportation system and how they impact job access, an issue that the equity committee identified as one of significant concern. The report connects the cost of car ownership, availability of transit, and location of affordable housing relative to the location of low-wage jobs to the local context for jobs, housing and transportation.

Despite earning income, approximately 12% of the Capital Region's workers are in poverty. The sprawl-with-little-growth trend that began in the 1940's has exacerbated uneven distributions of poverty throughout the region. Poverty is concentrated primarily in the cities of Albany, Troy, and Schenectady. It is also disproportionately experienced by children, the elderly, African Americans, and residents of Hispanic or Latino origin.

Data show that the distribution of some types of low-wage jobs in the Capital Region shifted out of Albany, Schenectady, and Troy between 2002 and 2015, but the total number of jobs increased regionally.

Factors that influence a commuter's choice to use transit or drive alone to work include the following:

- Whether the commuter's household has access to a car
  - In the cities of Albany, Schenectady, and Troy the share of workers in a carless household who commute by transit is 56%, 49% and 57%, respectively.
- Whether the commuter is in poverty
  - Approximately 30% of transit commuters in the Albany-Schenectady-Troy Metropolitan Statistical Area earn below 150% of the federal poverty level.
  - 91% of residents who drive alone to work are at or above 150% of the poverty level.
- Whether the commuter is a minority
  - 21% of Troy's commuters of color use public transportation, in contrast to only 4% of Troy's White commuters.
  - 26% of the City of Albany's commuters of color ride the bus as opposed to only 6% of White workers living in the city.

Data show that there is a large difference between commute times by car and by bus. For example, in Rensselaer County, commute times averaged 24 minutes for drive-alone commuters and 49 minutes for transit riders in 2017, more than twice as long.

Employers in municipalities that are job centers are dependent on workers from the outside commuting into the area, effectively "importing" workers from nearby municipalities which, by default, necessitates workers commute outside their municipality of residence. The data show that the housing markets in the cities of Albany, Schenectady and Troy do not limit low-income workers' access to housing at a

higher rate than high-income workers. In contrast, the data for Saratoga Springs suggest that affordable housing may be more limited for low- and middle-income workers relative to high-income workers and may contribute to an inequitable transportation burden due to the disproportionately high numbers of low- and middle-wage workers that commute into the City for work. The data show that a similar pattern may be present in other local job centers as well.

Policies that concentrate land use types in separate zoning districts – or in separate municipalities – and limit the availability of affordable housing for low-income workers help create the outsized transportation burden on low-income workers in the region, many of whom are also people of color. Changes to local land use policies over time have fortified a land use pattern that limits the development of affordable housing while simultaneously encouraging the growth of low-wage jobs.

The historic zoning analysis included in this report uses four communities to illustrate patterns that can be found in most, perhaps all, metropolitan regions in upstate New York. The analysis found that the net land area allocated to two-family and multi-family housing shrunk between the historic zoning code adoption (ranging from 1955 to 1986) to the current zoning code (adoption year ranging from 2008 to 2021). This shrinkage can be attributed to, in part, the expansion of zoning districts that prohibit general population housing in favor of the expansion of commercial, industrial, conservation, recreational or specialty housing zones (such as a senior housing Planned Unit Developments). It was also observed that many zoning districts where multi-family housing is currently allowed are often mixed-use districts with many competing uses such as commercial/retail, service and office uses in addition to multi-family uses, creating more demand for real estate within those districts and further constraining space for affordable housing. This analysis demonstrates that municipalities can play a role in affecting the transportation burden (or lack thereof) experienced by low- and middle-income commuters who work within their borders by making equitable land use policy decisions.

Recommendations include:

- CDTC share the report with Chambers of Commerce and others in the business community.
- CDTC partner with businesses to develop Transportation Demand Management plans.
- CDTC form partnerships with 511NY Rideshare and CDTA to help businesses find transportation solutions to hard-to-reach job centers such as warehouses and distribution centers.
- Local governments conduct a “build-out analysis” that considers projected housing development and projected job growth to determine if there is parity between jobs available and housing available for workers in the low-, middle-, and high-income categories.
- Transportation providers collect and publish measures of equitable access in their systems and use those measures to adjust their services to reduce gaps in transportation access.

Further research suggestions include conducting a network analysis to explore the degree to which low-, middle-, and high-income jobs are accessible from low-, middle-, and high-income neighborhoods in the region, investigating the impacts of gentrification on low-income tenants in urban neighborhoods, and the impacts of the regional transportation system on workforce development.

Introduction

This report explores how our regional transportation system and local land use policies disproportionately limit the ability of low-income workers and workers of color to access jobs. It explores the four-county Capital Region[1] and its three most populous cities, Albany, Schenectady, and Troy, and the many factors that influence a worker's ability to get to and from work. The cost of car ownership, the availability of transit, and the location of affordable housing relative to the location of low-wage jobs all contribute to the commute burden imposed on low-income workers and workers of color. This report seeks to establish the local context for jobs, housing and transportation in order to inform policy-makers and service providers as they strive to serve the public effectively and equitably. It also recommends areas for additional research and considers policy changes that may help alleviate the inequitable burdens on low-income workers and workers of color.

The data used in this report are from several sources, primarily, the U.S. Census Bureau's American Community Survey (ACS) 2017 5-year estimate and the U.S. Census Bureau's 2015 Longitudinal Employer-Household Dynamics (LEHD) data. Data from the 2020 Census were not available at the time this report was developed. These data capture the state of the region before the COVID-19 pandemic, which, due to its well-documented, disparate impacts on racial minorities and the economically marginalized[2], may have made it even more challenging for low- and middle- wage workers to get to work and find affordable housing. Section 1 discusses the historic and spatial trends that resulted in the regional demographic patterns existing today. Section 2 presents information on where jobs are located across the region and how the numbers of low-wage jobs fluctuate. Section 3 lays out the high financial cost of commuting by car, and the limitations of commuting by bus. Just as transportation can act as either an opportunity to equalize access or as a barrier to equity, so too can land use. Section 4 discusses the role that land use plays in the mismatch between the locations of low-wage jobs and affordable housing. Section 5 presents policy recommendations for CDTC and local officials and proposes areas of further research.

Section 1: Where Workers Live in the Capital Region

Metropolitan areas through the United States have changed in significant ways since the mid-20th century. The growth of the suburbs, the highway construction boom and other trends pushed development further and further from core cities, exacerbating urban poverty and racial segregation as much of the White middle class relocated outside the urban centers. The Capital Region, home now to almost 850,000 residents, has followed a lot of the same trends as other metropolitan regions.

[1] The Capital Region is defined as Albany, Rensselaer, Saratoga, and Schenectady Counties. Due to data and logistical limitations, the data presented in this report for Saratoga County includes the entire county, even though CDTC's planning area excludes the Town of Moreau and the Village of South Glens Falls.

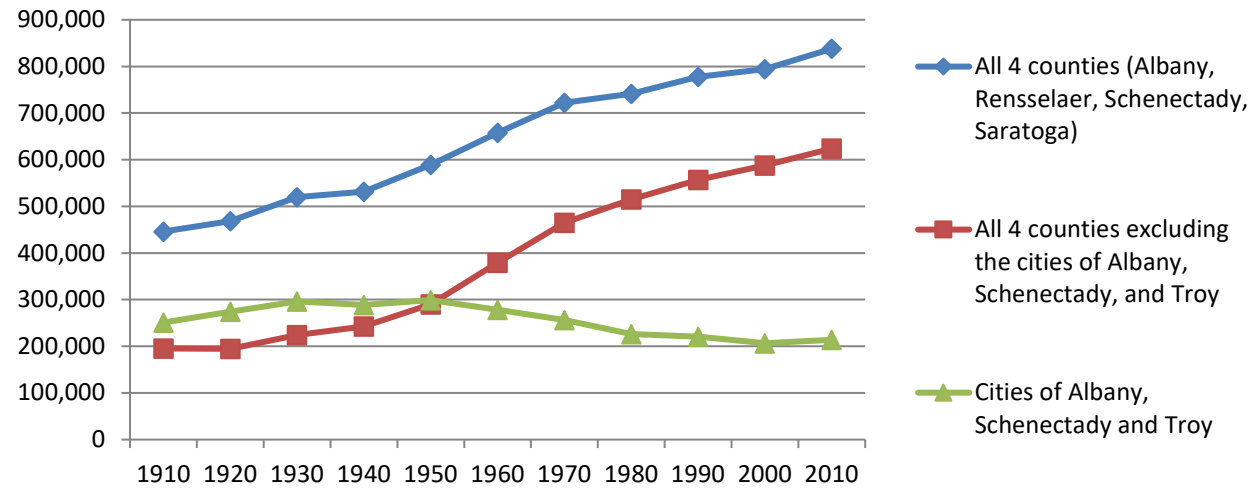
[2] Bump, B., 7/6/2021, The pandemic took an unequal toll on communities of color. A study says structural racism is to blame. *Times Union.* https://www.timesunion.com/news/article/COVID-s-unequal-toll-Yearlong-UAlbany-study-16294509.php?IPID=Times-Union-HP-CP-Spotlight

1.1 Population & Development

Our cities, and particularly the City of Albany, were historically the most populous municipalities in our region. In 1910, 56% of our region's population lived in the cities of Albany, Troy and Schenectady. By 2015, city residents made up only 26% of the region's population. City populations peaked in 1950 and have trended downward since, even though the overall regional population has increased by 58% in the same period.

This decline is due, in part, to the rise in popularity of the suburbs in the Capital Region. Like other parts of the country, suburban living in our four counties became affordable and desirable following World War II due to factors such as housing and highway subsidies, a booming economy, and cheaper cars. As shown in Figure 1.1, the suburbs started to take off in the 1940's, surpassed our major cities in population in the 1950's, and have continued to grow. The rate of growth of the suburbs has slowed in recent decades.

Figure 1.1: Capital Region Population by Location



Source: Author's calculations using U.S. Census Bureau decennial data

The Capital Region is somewhat unique in its development pattern. Rather than hosting a single large city at its center, it hosts a constellation of eight cities. Sprawl radiating from the cities, and especially from Albany, Troy, Schenectady, and Saratoga Springs, has converged to develop new suburban economic hubs in a patchwork rather than in the more commonly observed concentric suburban rings that surround a single city. The outcome of this pattern has been consistent with other sprawling metropolitan regions, namely, sprawl with little or no population growth.

This growth in the suburbs is also evident in looking at population density, or residents per square mile in Table 1.1 below. As the regional population grew, the suburbs became denser. We also see that the density of the cities, even as they lose residents, was still much higher in 2010 than that of the suburbs.

Table 1.1: Population Density (people/sq. mi.)[3]

	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010
Cities of Albany, Troy, Schenectady only	5,705	6,232	6,727	6,558	6,801	6,328	5,836	5,146	5,023	4,699	4,869
The 4 Counties excluding the Cities of Albany, Troy, Schenectady	88	88	102	110	132	172	211	233	252	266	283

This population shift has had an impact on housing. Most of the city-based housing stock in the Capital Region was built before the 1950's (Figure 1.2). As the post-war population in the region increased, housing and highway subsidies led to new housing that catered to modern tastes such as detached single-family dwellings, increased square footage, attached garage, en suite master bathrooms, and open floor plans. The location of that new housing was built primarily outside city centers. This left a pattern of older, obsolete housing in the cities and newer housing radiating outward from the 3 largest cities into the surrounding towns such as Niskayuna, Glenville, Colonie and Bethlehem, and along Interstate-87 towards Saratoga Springs. Figure 1.3 shows the significant growth of suburban residential development in the Towns of Colonie, Clifton Park, Halfmoon, Guilderland and Bethlehem between 1984 and 2013, and the lower rates of growth in the Cities of Albany, Schenectady and Troy, continuing the trend towards suburban growth that began after World War II.

[3] Author's calculations using U.S. Census Bureau data

Figure 1.2: Residential Properties in the Capital Region by Year Built

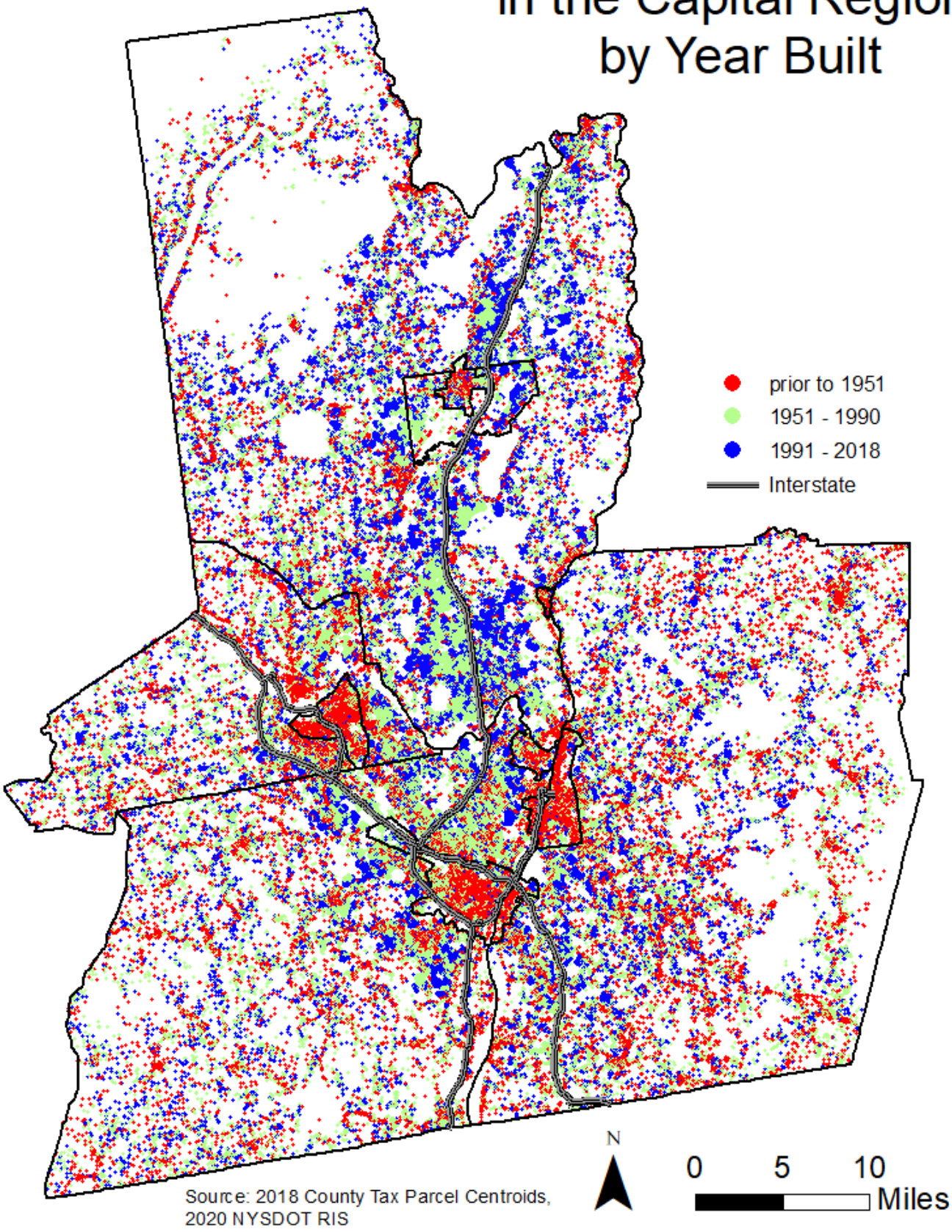
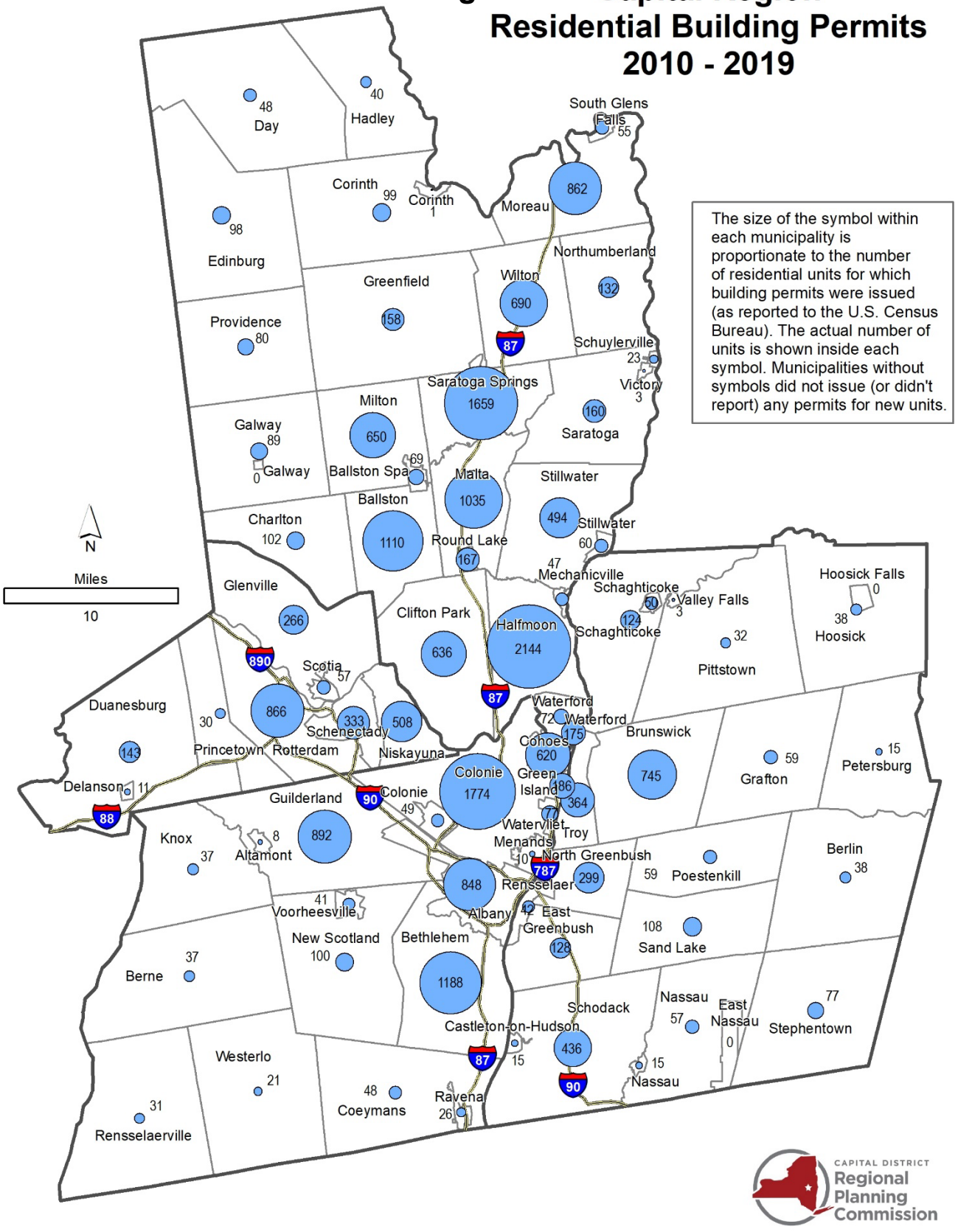


Figure 1.3: Capital Region Residential Building Permits 2010 - 2019



1.2 Poverty Trends

Poverty is concentrated geographically and affects some demographic groups more than others. In our region it is concentrated primarily in the cities of Albany, Troy and Schenectady, with 24.5%, 26.1% and 21.0% of their populations at 125% of the poverty threshold or lower, respectively. In contrast, the poverty rates of our region's four counties are much lower at 12.4% in Albany County, 12.6% in Rensselaer County, 6.6% in Saratoga County, and 12.4% in Schenectady County, with an overall regional poverty rate of approximately 12%[4]. The poverty rate is unevenly distributed among demographic groups, with higher rates for children and people of color. Despite earning income, approximately 12% of the Capital Region's workers are in poverty (ACS 2015 5-year average).

In the Cities of Albany, Schenectady, and Troy, 19.8%, 18.2% and 16.3% (respectively) of adults ages 65 and older were living in poverty. In contrast, 43.7%, 46.0% and 49.8% of children in Albany, Schenectady, and Troy, respectively, were living in poverty. Only 16% of children in our four counties were in poverty in 2015 (ACS 2015 5-year average).

Poverty in the region is not evenly distributed across racial and ethnic groups, with 37% of Black or African American residents and 32% of residents of Hispanic or Latino origin living in poverty in the four counties in 2015, while only 12% of White residents lived in poverty. Most Black or African American residents and Hispanic residents in poverty in the Capital Region lived in the Cities of Albany, Schenectady, and Troy (88.0% of Black or African American residents living in poverty and 75.9% of Hispanic or Latino residents living in poverty, ACS 2015 5-year average). In contrast, only 37.6% of Whites living in poverty live in the cities of Albany, Schenectady, or Troy[5].

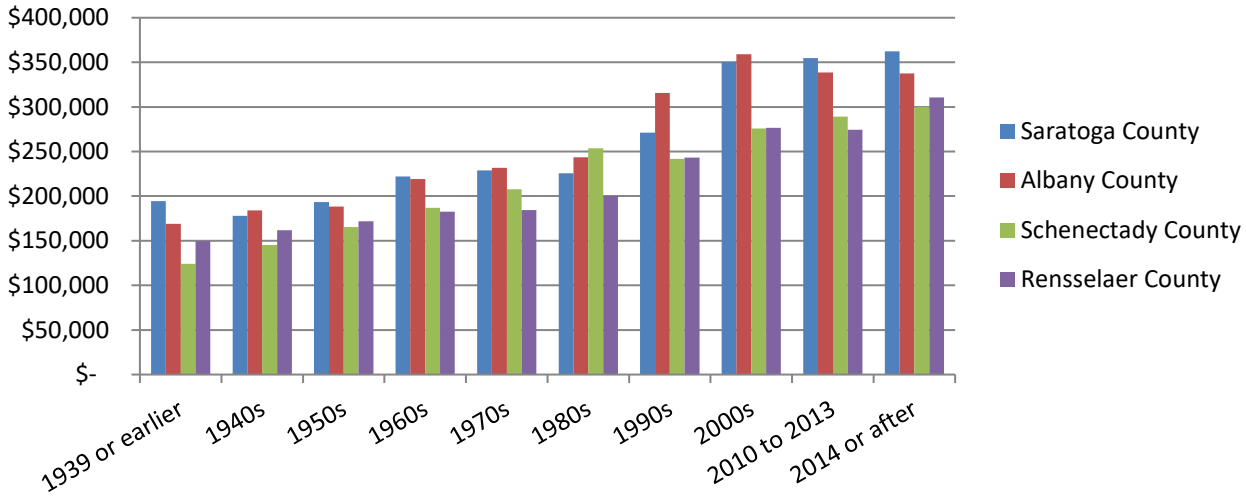
1.3 Rental Homes are Concentrated in the Cities and "Inner-Ring" Suburbs

The value of a home tends to decrease as the age of the home increases (Figure 1.4). Our cities have thus become places with a much more affordable housing stock, but also tend towards a housing stock that is in poorer condition. Even though the cities have older housing stock and home values tend to decrease with age, many city residents rent instead of owning their homes. Figure 1.5 shows that some of the highest concentrations of rental housing are found in Albany, Schenectady, and Troy, where a high concentration of the oldest and lowest-value housing is found. There is considerable variation in the presence of renter-occupied housing outside those cities, although it tends to reflect historic settlement patterns by concentrating in "inner-ring" suburbs such as Menands and Guilderland, and smaller cities such as Mechanicville, Watervliet and Cohoes. This highlights the extent to which the availability of rental housing may impact where low-income residents choose to live.

[4] This report uses the statistic of 125% the poverty threshold when referring to "poverty." Poverty thresholds are the dollar amounts used to determine poverty status. The Census Bureau assigns each person or family a poverty threshold, based on the size of the family and the age of its members. Although the thresholds in some sense reflect a family's needs, they are intended as a statistical yardstick, not as a complete description of what people and families need to live. For more information on how poverty status is determined, see https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html

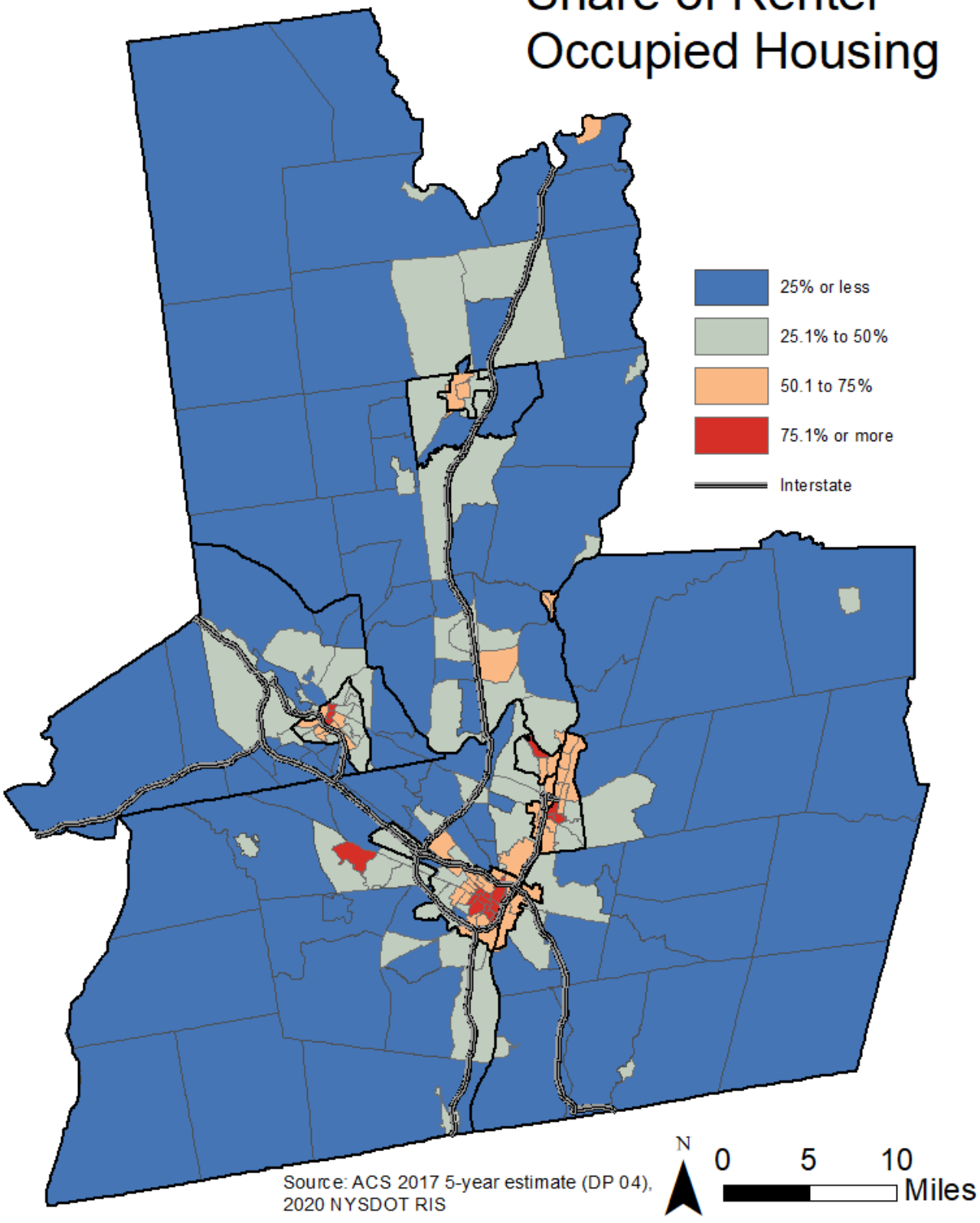
[5] Census Bureau, ACS 2011-2015 5-year (S1703) and author's calculations

Figure 1.4: Median Home Value in the Capital Region by Age of Housing



Data are inflation-adjusted to 2017 dollars. Source: ACS 2017 5-year estimate (B25107)

Figure 1.5: Share of Renter-Occupied Housing



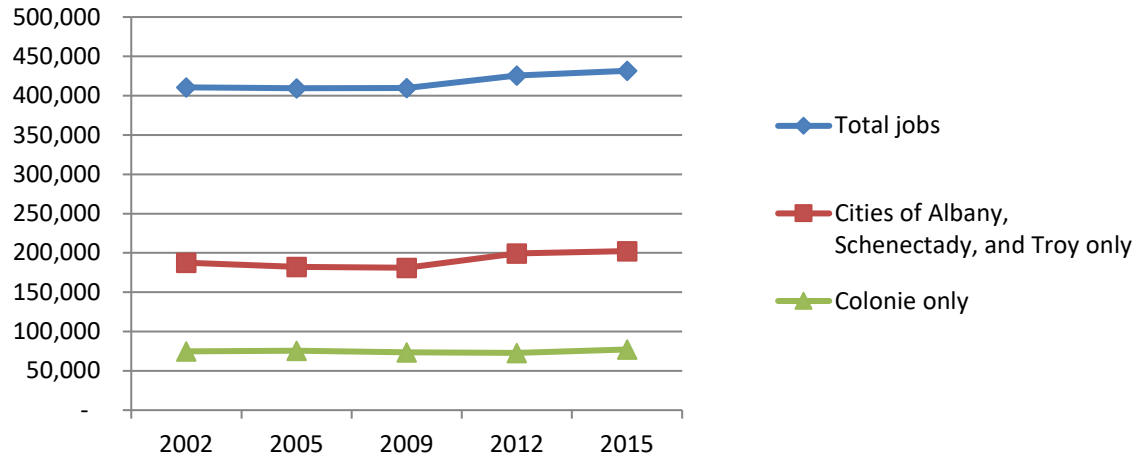
Section 2: Job Centers in the Capital Region

2.1 Many People Work in the Cities of Albany, Schenectady and Troy, and the Town of Colonie

The Capital Region had almost 432,000 workers in jobs in 2015. Of these jobs, 47% were located within the city limits of Albany, Schenectady, and Troy, while 18% were located in the Town of Colonie alone. Overall, the number of jobs in the region increased by approximately 5% between 2002 and 2015 (Figure 2.1). The three major cities saw the greatest increase, 7%, while the number of total jobs in Colonie grew by 3% (LEHD data, 2002-2015).

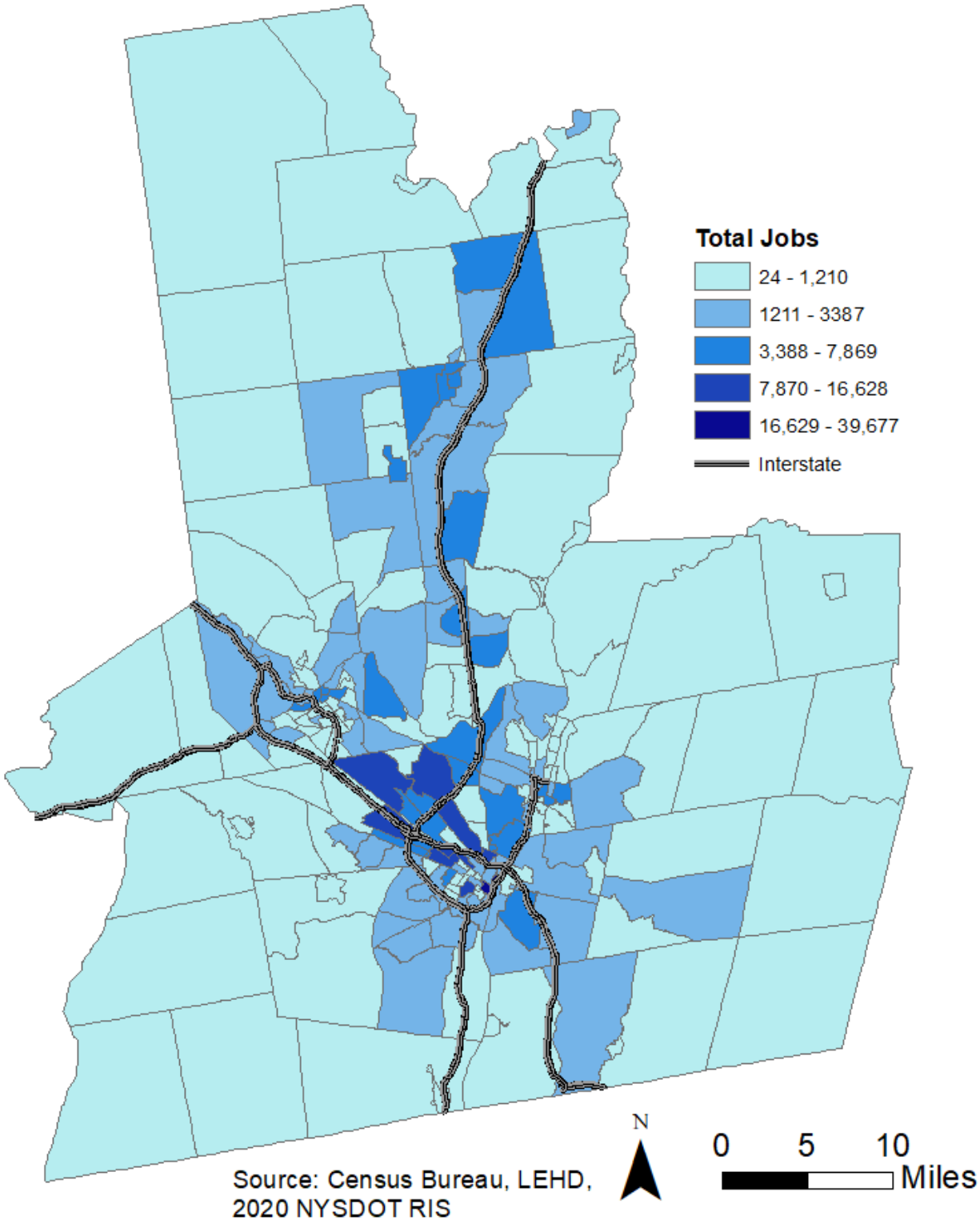
Looking at Figure 2.2, it is clear that downtown Albany is a dense hub of employment in the region, followed by the University Heights/University at Albany area and the Town of Colonie around Central Avenue, Wolf Road, Albany Shaker Road, and the airport.

Figure 2.1: Capital Region Jobs by Location



Source: LEHD, Census Bureau

Figure 2.2:
Number of Jobs by Census Tract, 2015



2.2 Locations of Low-Wage Jobs Are Shifting

The total number of jobs in the cities of Albany, Schenectady and Troy increased by 5% between 2002 and 2015. Data show that Albany, Schenectady, and Troy lost jobs in some low- and middle-wage sectors in the same time period, while there was a net gain in those sectors in the 4-county region. These sectors include retail and hospitality jobs.

The number of retail jobs in the region increased from 40,982 to 44,974 between 2002 and 2015, a 10% increase. Albany County experienced a 6% increase in retail jobs while the sector increased by 12% in Saratoga County, 19% in Schenectady County, and 9% in Rensselaer County. However, the major cities lost retail jobs during the same time, -9% in Albany, -12% in Schenectady, and -4% in Troy (Table 2.1).

Table 2.1: Retail Jobs

	2002	2015	Percent Change	Absolute Change
City of Albany	6,263	5,681	-9%	-582
City Schenectady	1,900	1,668	-12%	-232
City Troy	1,626	1,559	-4%	-67
Town of Colonie	10,330	10,751	4%	421
Albany County	20,537	21,818	6%	1,281
Saratoga County	9,238	10,359	12%	1,121
Schenectady County	5,988	7,121	19%	1,133
Rensselaer County	5,219	5,676	9%	457
Regional Total	**40,982**	**44,974**	**10%**	**3,992**

Source: Census Bureau, 2015 LEHD (CNS07)

Hospitality sector jobs (Accommodation and Food Services) increased 23% in the region between 2002 and 2015, from 24,809 to 30,510 jobs, although Albany County experienced a slight decrease of 1%. Both the cities of Schenectady and Troy gained hospitality jobs in that period (Schenectady gained 630, a 50% increase, while Troy gained 1,239 hospitality jobs for an increase of 119%). In contrast, the City of Albany lost 1,080 hospitality jobs for a decrease of 24%. The Town of Colonie experienced a minor reduction of 34 hospitality jobs, or 1%, in the same period, (Table 2.2). The steep decline in hospitality jobs in the City of Albany did not result in a substantial loss of those jobs in the county overall (only 1%), suggesting that enough hospitality jobs were created elsewhere in the county to almost entirely offset the city's declining share.

These data show that although there are jobs being created in the region in retail and hospitality, where the jobs are located can shift over time.

Table 2.2: Hospitality Jobs

	2002	2015	Percent Change	Absolute Change
City of Albany	4,572	3,492	-24%	-1,080
City of Schenectady	1,253	1,883	50%	630
City of Troy	1,039	2,278	119%	1,239
Town of Colonie	6,479	6,445	-1%	-34
Albany County	13,644	13,523	-1%	-121
Saratoga County	5,733	8,544	49%	2,811
Schenectady County	2,842	3,884	37%	1,042
Rensselaer County	2,590	4,559	76%	1,969
Regional Total	**24,809**	**30,510**	**23%**	**5,701**

Source: Census Bureau, 2015 LEHD (CNS18)

Section 3: Commute Trends

Existing land use patterns and the interconnectedness of our regional economy requires workers to commute across municipal borders for work. While there are multiple modes that workers can choose to take to work, when considering factors such as commute times and access to a wide variety of jobs, the region only provides a truly robust transportation network for those who drive. Community needs assessments for Albany, Schenectady and Rensselaer Counties all cite transportation as a significant need for low-income residents. Thirty percent of respondents to the Albany County survey cited availability of transportation as a potential problem[6]. The Schenectady County Community Needs Assessment 2020 update identified transportation as a significant barrier to achieving long-term stability for residents in poverty.[7] The 2014 Rensselaer County Community Needs Assessment survey respondents cited a lack of transportation as one of the top three barriers to employment[8].

[6]Albany Community Action Partnership. (2018). *Assessment of Albany County.*. https://albanycap.org/wp-content/uploads/2020/04/ACAP-Community-Needs-Assessment-2018-revision1.pdf pp. 13.

[7] Schenectady Community Action Program. (2020). *Schenectady County Community Needs Assessment May 2020 Update.* chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fscapny.org%2Fimages%2FDocuments%2FSCAP_CNA2020Update.pdf&clen=961305&chunk=true. pp. 1.

[8] Commission on Economic Opportunity. (2014). *Rensselaer County Community Needs Assessment.* https://www.ceoempowers.org/wp-content/uploads/2015/02/Community-Needs-Assessment-2014.pdf. pp. 65.

3.1 Most People Drive to Work

Most people in the Capital Region get to work by driving alone, ranging from an estimated 77% of workers in Albany County to 83% in Saratoga County in 2017 (Table 3.1). Only about 1% of Saratoga County workers traveled to work via transit, while 6% in Albany County did. The transit numbers are higher for the major cities, 14%, 9% and 8% for Albany, Schenectady, and Troy, respectively. Albany has a larger share of transit riders compared to Schenectady and Troy and any of the comparison cities of Buffalo, Rochester, and Syracuse. Schenectady is comparable to Rochester (approximately 9%), while Troy is slightly lower at 8%.

Table 3.1: Share of Commuters by Mode and Geography

	Mode		
Geography	**Drive alone**	**Carpool**	**Public Transportation[9]**
City of Albany	63%	8%	14%
City of Schenectady	74%	8%	9%
City of Troy	66%	11%	8%
Albany County	77%	7%	6%
Schenectady County	81%	7%	4%
Rensselaer County	81%	8%	3%
Saratoga County	83%	7%	1%
City of Buffalo	67%	11%	11%
City of Rochester	69%	10%	9%
City of Syracuse	64%	10%	10%
Erie County	81%	8%	4%
Monroe County	81%	8%	3%
Onondaga County	80%	8%	3%

Source: ACS 2017 5-year estimate (S0802)

Whether or not Capital Region workers commute by transit is strongly linked to whether they live in a household with a vehicle available. In Albany, Schenectady, and Rensselaer Counties the share of workers in a carless household who commute by transit is 47%, 44%, and 48%, respectively (Table 3.2). The numbers are even higher in the Cities of Albany, Schenectady, and Troy, with 56%, 49% and 57% of workers in a carless household using transit to commute to work, respectively. An exception to this trend is Saratoga County. There, the percent of workers in a carless household who commute by transit is only 18% while the share of commuters in a household with three or more cars who commute by transit is actually higher, at 26%. This reverse trend may be due to the NX commuter bus route that is popular among Saratoga County residents who are state workers in downtown Albany.

[9] "Public transportation" includes bus, trolley bus, streetcar, trolley car, subway or elevated, railroad, or ferryboat. Not all of these modes are available in the Capital Region. https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf, accessed 11/8/20.

Table 3.2: Share of Workers Who Use Public Transportation to Commute, by Number of Vehicles Available and Place of Residence

Geography	No Vehicle	1 Vehicle	2 Vehicles	3+ Vehicles
City of Albany	56%	28%	14%	3%
City of Schenectady	49%	26%	17%	8%
City of Troy	57%	30%	9%	5%
Albany County	47%	29%	18%	6%
Schenectady County	44%	27%	20%	9%
Rensselaer County	48%	31%	13%	8%
Saratoga County	18%	19%	37%	26%
City of Buffalo	59%	30%	8%	4%
City of Rochester	50%	32%	13%	5%
City of Syracuse	63%	26%	10%	1%
Erie County	53%	30%	12%	5%
Monroe County	45%	31%	16%	7%
Onondaga County	55%	30%	13%	2%

Source: ACS 2017 5-year estimate (S0802)

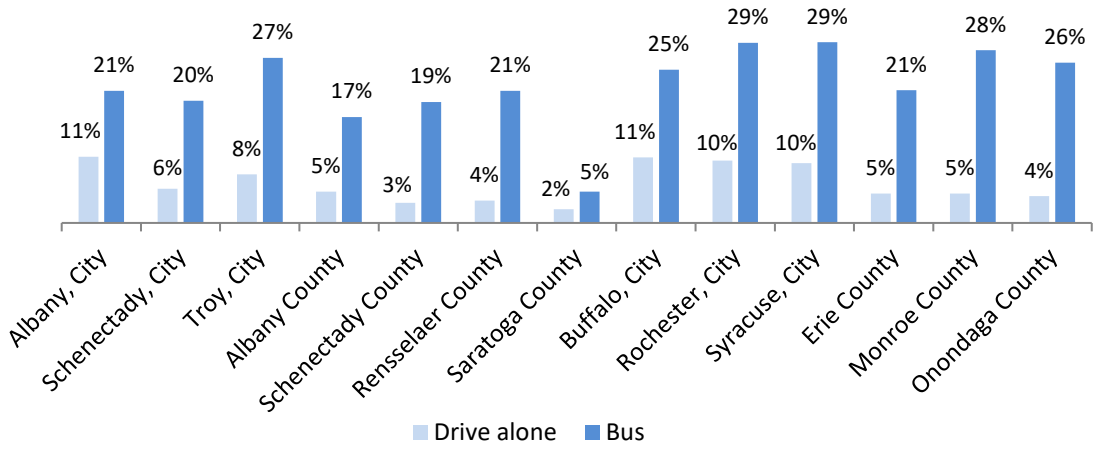
3.2 Transit Use and Poverty

Seventy percent of residents in the Albany-Schenectady-Troy Metropolitan Area[10] who commute by public transit are at or above 150% of the poverty threshold. This highlights that approximately 30% of transit commuters in the Capital Region earn below 150% of the poverty threshold and are likely reliant on this less expensive mode of transportation to access employment. The Capital Region's share of transit commuters who are at or above the 150% poverty threshold is higher than in the Buffalo-Cheektowaga-Niagara Falls, Rochester, and Syracuse Metropolitan Statistical Areas, 64%, 56%, and 60%, respectively[11]. In contrast, 91% of residents in the Albany-Schenectady-Troy Metropolitan Statistical Area who drive alone to work are at or above 150% of the federal poverty level, with a similar share for the comparison regions (89%). The data consistently show that transit commuters are more likely to live below 150% of the poverty threshold compared to drive alone commuters. For example, only 11% of drive alone commuters from the City of Albany are at or below 150% the poverty threshold, while almost twice as many, or 21%, of transit commuters are below the threshold. The difference is even greater for the City of Troy, and Albany, Schenectady and Rensselaer Counties but it is still smaller than the other comparison regions (Figure 3.1).

[10] The Albany-Schenectady-Troy Metropolitan Statistical Area includes Albany, Schenectady, Saratoga, Rensselaer and Schoharie Counties. This geographic range was used to make a more accurate region-to-region comparison. https://www2.census.gov/geo/maps/metroarea/us_wall/Mar2020/CBSA_WallMap_Mar2020.pdf

[11] ACS, Census Bureau, 2017 5-year estimate, Table B08122. Although the Census Bureau uses the threshold of 125% above poverty as the yardstick for a household's ability to meet its overall living expenses, the ACS table that these data were pulled from uses the 150% poverty threshold as a metric for transportation affordability.

Figure 3.1: Share in Poverty, by Mode of Travel to Work



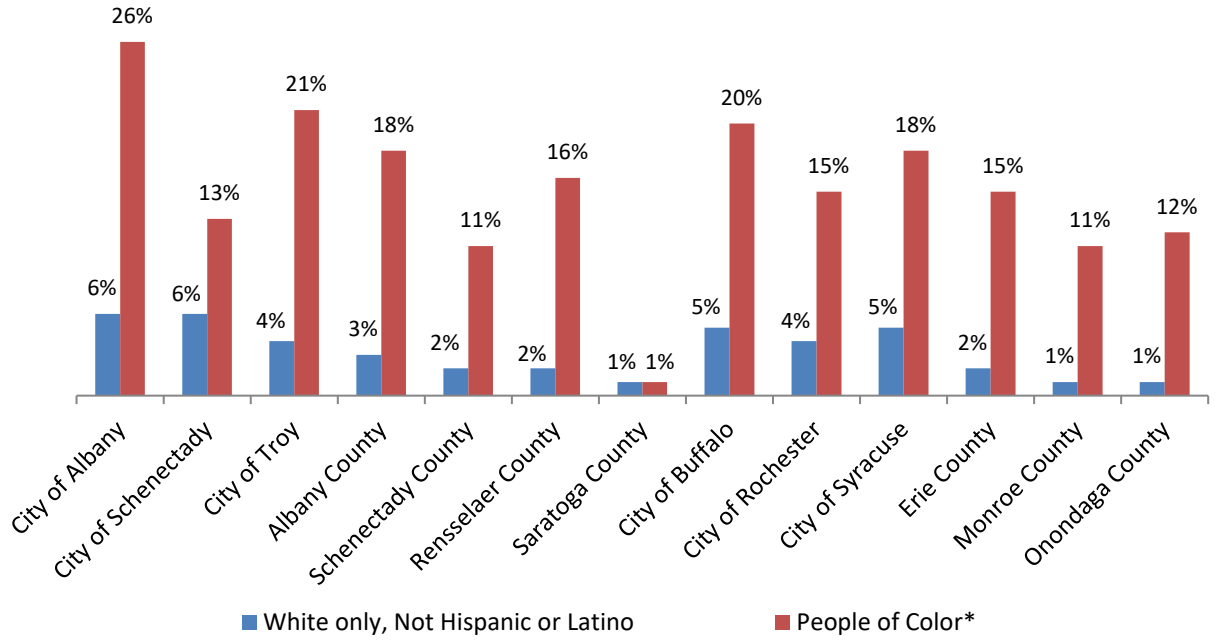
Source: ACS 2017 5-year estimate (S0802)

3.3 Transit Use and Race

Commute modes notably differ by race as well as by poverty status (Figure 3.2). In the Capital Region, the City of Albany has the largest proportion of workers of color using public transportation for their commutes, 26%, as opposed to only 6% of White workers living in the city[12]. The City of Schenectady has the smallest percentage of workers of color using public transportation, 13%, compared to the other major cities in the Capital Region as well as the comparison cities. 21% of commuters of color who live in the City of Troy use public transportation, in contrast to only 4% of White commuters. The data consistently show that commuters of color living in the Capital Region as well as comparison regions in upstate New York are more likely to use public transportation to get to work compared to White commuters.

[12] Public transportation category includes bus, subway or elevated rail, long-distance train, commuter rail, light rail, street car, trolley, ferryboat, and excludes taxicab.

Figure 3.2: Share of Commuters Who Take Public Transportation, By Race



*This category includes Black or African American, Asian, Native Hawaiian and Other Pacific Islander, American Indian and Alaska Native, Two or More Races, and Hispanic or Latino.

Source: ACS 2017 5-year estimate (B08105A-I) and author's calculations. Calculations do not account for margins of error.

3.4 The Cost of Car Ownership

While owning a car in the Capital Region can greatly reduce the amount of time spent commuting, it is a significant financial expense. A 2019 analysis by the insurance information website www.insurance.com estimated that in addition to the cost and financial fees associated with purchasing a vehicle, the cost of owning a car in New York state totals $23,634 over five years[13], or an average of $4,727 per year for expenses such as registration fees, insurance, gas, maintenance and repairs. The American Automotive Association (AAA) estimates that the annual total cost of purchasing and using a small sedan in the United States was $6,729 in 2015 and $7,114 in 2019 (including car payments and loan interest)[14].

The cost of car ownership is often higher for people from low-income communities. Insurance rates in those communities tend to be higher[15, 16]. Similarly, those with weaker credit histories face less favorable loan terms when looking to buy a vehicle. Below is an estimate of car ownership costs for the Capital Region to try to account for some of the circumstances of low-income car buyers in our region.

[13] https://www.insurance.com/total-cost-of-ownership
[14] https://newsroom.aaa.com/tag/your-driving-costs/
[15] Angwin, Larson, Kirchner, and Mattu, 2017. "Minority Neighborhoods Pay Higher Car Insurance Premiums Than White Areas With Same Risk," *ProPublica* and *Consumer Reports*. April 5, 2017. https://www.propublica.org/article/minority-neighborhoods-higher-car-insurance-premiums-white-areas-same-risk
[16] "Actuarial Discrimination: City Residents Pay Up To 198% More For Car Insurance Than County Residents." Baltimore, MD: *Abell Foundation.* https://www.abell.org/sites/default/files/publications/arn105.pdf

The purchase of a reliable older vehicle at $7,500 comes with the following estimated annual costs:

- $2,760 loan payment[17, 18]
- $603 insurance premium[19, 20]
- $1,380 annual fuel costs[21]
- $703 in car maintenance, repairs, and tires[22]
- $513 in license, registration, and taxes[23]

Together this totals $5,960/year or approximately $497/month for the first three years of car ownership. Once the car is paid for, ownership costs are still estimated at $3,200/year or $267/month. For an individual earning New York's minimum wage ($11.80/hour, or $2,045 monthly pre-tax earnings in 2019) this amounts to approximately 24% of their annual pre-tax income, a significant share given other essential living expenses such as housing, food and clothing.

While working individuals may make other choices to try to lower these costs, these estimates are based on car owners with clean records and good credit. These costs may be significantly higher for people with less than perfect histories.

3.5 Car Ownership Trends

Most households in Albany, Schenectady, Rensselaer, and Saratoga Counties own at least one vehicle (87%, 89%, 90%, and 96%, respectively, Table 3.3). This rate is lower in the cities of Albany, Schenectady, and Troy where only 73%, 80%, and 78% of households have access to a vehicle, respectively. This leaves approximately 10% of households throughout the region (33,250 households) and 24% of households in the Cities of Albany, Schenectady, and Troy (19,930 households) without access to a vehicle[24].

Table 3.3: Share of Households, by Number of Vehicles Available

Geography	No Vehicle	1 Vehicle	2 Vehicles	3 Vehicles	4+ Vehicles
City of Albany	27%	43%	24%	5%	1%
City of Schenectady	20%	43%	28%	6%	3%
City of Troy	22%	43%	27%	6%	1%
Albany County	13%	38%	35%	10%	3%
Schenectady County	11%	36%	38%	11%	4%
Rensselaer County	10%	35%	37%	13%	5%

[17] www.carvana.com
[18] Assumes a 3-year used-car loan for someone with a FICO score of 680. This estimate includes 7% interest rate on the loan and no down payment.
[19] www.progressive.com
[20] Average estimated rate for a full-coverage policy (includes minimum liability coverage, and comprehensive and collision coverage) for a single woman in her 30s who rents in one of the poorest zip codes in Albany, Schenectady and Troy. This rate assumes a clean record and good credit.
[21] Assumes 15,000 miles at $2.30/gallon and a car that gets 25 miles per gallon in fuel usage.
[22] Author's calculation using the 2015 AAA average annual costs. https://newsroom.aaa.com/tag/your-driving-costs/
[23] Author's calculation using the 2015 AAA average annual costs. https://newsroom.aaa.com/tag/your-driving-costs/
[24] Census, American Community Survey 2017 5-year survey, B08201

Saratoga County	4%	32%	44%	15%	5%
City of Buffalo	28%	45%	21%	5%	1%
City of Rochester	25%	45%	23%	5%	2%
City of Syracuse	28%	44%	22%	5%	1%
Erie County	13%	39%	35%	9%	4%
Monroe County	11%	37%	37%	10%	4%
Onondaga County	12%	37%	37%	10%	3%

Source: ACS 2017 5-year estimate (B08201)

Beyond households in general, it is important to look at car access for households with at least one worker. If a household has more workers than cars available, then it can be thought of as a vehicle-constrained household. If there are as many, or more, vehicles available than workers, the household can be considered vehicle-sufficient. Most working households in the Capital Region are vehicle-sufficient, but larger percentages of working households in the cities of Albany, Troy and Schenectady are vehicle-constrained (Table 3.4).

Table 3.4: Share of Working Households by Vehicle Constraint Level

Geography	No Vehicle	Vehicle-Constrained*	Vehicle-Sufficient
City of Albany	18%	11%	71%
City of Schenectady	10%	8%	81%
City of Troy	14%	10%	76%
Albany County	8%	8%	85%
Schenectady County	5%	6%	89%
Rensselaer County	6%	6%	89%
Saratoga County	2%	5%	93%
City of Buffalo	16%	12%	72%
City of Rochester	13%	10%	77%
City of Syracuse	17%	11%	72%
Erie County	7%	7%	86%
Monroe County	5%	6%	89%
Onondaga County	6%	8%	86%

*At least one vehicle, but more workers than vehicles.

Source: ACS 2017 5-year estimate (B08203) and author's calculations. Calculations do not account for margins of error.

Schenectady's share of working households without access to a car (10%) is lowest among the three Capital Region cities investigated and lower than the comparison cities. Troy's share of 14% is comparable to the other upstate New York cities. However, Albany's share of 18% of working households without access to a vehicle is larger than comparison cities, including Syracuse (17%). This

larger percentage of vehicle-constrained working households in the City of Albany may be due to the relatively robust transit system our region enjoys as well as the outsized job center in downtown Albany.

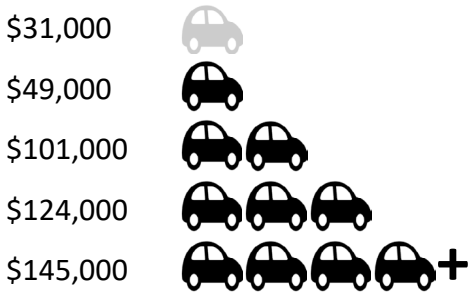
It is worth noting that a much greater share of overall households lack a vehicle than the share of working households, highlighting the relationship between access to a vehicle and employment.

3.6 More Money Often Means More Cars

There is a relationship in the Capital Region between household income and the number of vehicles available to the household. Households without a vehicle available earn an average of $31,000 a year. As the number of vehicles available to the household increases, so does the level of household income. Households with one vehicle available average $49,000 per year. Households with two cars average $101,000 (Figure 3.3).

This highlights how both the need for income and the ability to earn income increases with the number of vehicles. A larger income is needed to support the cost of vehicle ownership. However, the ability of the household to generate income also increases when more workers can get to work.

Figure 3.3: Average Household Income by Number of Vehicles Available



Source: Author's calculations using 2011-2015 5-yr ACS Public Use Microdata Areas (PUMAs) data for the Capital Region.

3.7 The Bus is More Affordable

In comparison to car ownership, taking the bus is quite affordable. An unlinked[25] trip in the Capital Region was $1.50 in 2019, the lowest of the comparison regions. For those who use public transit as their method of commuting to work, it offers a much lower cost option than owning a car (3.2% of pre-tax earnings for a minimum wage worker).

Beyond its low cost, there is the question of the robustness of a transit system. The number of trips people take on the bus (given an area's population) can give a sense of its usage and popularity (Table

[25] An unlinked passenger trip is defined as the number of passengers who board public transit vehicles. Passengers are counted each time they board a vehicle no matter how many vehicles they use to travel from origin to destination.

3.5). On a per capita basis, CDTA has an average of 26 unlinked transit trips taken, more than most of the comparison transit systems. This suggests that CDTA is used more frequently than other upstate transit systems and implies that it is a more robust system.

Table 3.5: Public Transit System Information by Geography

Service Area	Agency Name	2019 Annual Unlinked Passenger Bus Trips	Annual Trips per Capita	Base Fare[26]
Capital region	Capital District Transportation Authority (CDTA)	15,683,929	26	$1.50
Buffalo region	Niagara Frontier Transportation Authority	23,982,380	26	$2.00
Broome County (Binghamton)	Broome County Department of Public Transportation	1,866,060	12	$2.00
Monroe County (Rochester)	Regional Transit Service, Inc.	14,712,832	20	$2.00[27]
Central New York (Syracuse)	CNY Centro, Inc.	10,194,902	25	$2.00[28]

Source: Federal Transit Administration, Annual 2019 Service Data and Agency Information

Note: All public transit is included in the table above, including commuter buses, demand response, vanpools and light rail. An unlinked passenger trip is defined as the number of passengers who board public transit vehicles. Passengers are counted each time they board a vehicle no matter how many vehicles they use to travel from origin to destination. The per capita number is based on the property service area population reported by the transit authority to the Federal Transit Administration.

3.8 Trip Duration by Travel Mode

Residents in the Capital Region enjoy a lower commute time compared to the national average, but commute times in our four counties are higher overall than that of comparison counties (Table 3.6). Commute times have also been increasing over time. For example, in 2009 the average commute time in Rensselaer County was 22.6 minutes. In 2017, it increased to 24.4 minutes (Table 3.6).

[26] Single standard adult fare as of 11/8/2020
[27] Fare is for a trip distance of 3-20 miles
[28] Zone 1 Greater Syracuse

Table 3.6: 2009 and 2017 Average Commute Times by Geography – All Modes

	Average Commute Time (minutes)[29]	
Geography	**2009**	**2017**
City of Albany	18.1	18.6
City of Schenectady	21.5	22.2
City of Troy	21.1	22.3
Albany County	19.5	20.4
Schenectady County	21.6	22.9
Rensselaer County	22.6	24.4
Saratoga County	24.7	25.3
City of Buffalo	20.0	20.9
City of Rochester	18.0	N
City of Syracuse	16.8	N
Erie County	20.9	21.3
Monroe County	19.0	20.1
Onondaga County	19.0	N
United States	25.2	26.4

Source: ACS 2009, 2017 5-year estimate (S0802)

The average commute time increased for commuters in all four Capital Region counties between 2009 and 2017, but the degree of change varied. The average time it took to travel to work increased by only half a minute for City of Albany commuters but increased by almost two minutes (1.8 minutes) for Rensselaer County commuters in the same time period. In the comparison counties, the average commute in Erie County increased by less than half a minute (0.4 minutes) and in Monroe County by just over one minute (1.1 minutes). In 2017 Saratoga County residents experienced the longest average commute (25.3 minutes) while City of Albany residents had the shortest (18.6 minutes).

While average commute time that residents experience is fairly low for the region, there is a large difference in how long it takes to get to work depending on what mode of transportation is being used. In Rensselaer County, commute time averaged 24 minutes for drive-alone commuters and 49 minutes for transit riders in 2017, a difference of 25 minutes (Table 3.7). The difference is even greater for Troy commuters; drive-alone Troy commuters took an average of 21 minutes to get to work while Troy transit riders took 47 minutes, a 26-minute difference. Although City of Albany residents enjoy a shorter transit commute on average (30 minutes), it is still 76% longer than the drive-alone time of 17 minutes. The difference between the two modes in Albany, Schenectady, and Saratoga Counties was smaller than for Monroe County, while Rensselaer County showed the largest difference between commute modes.

[29] Travel time to work refers to the total number of minutes that it usually took the worker to get from home to work. The elapsed time includes time spent waiting for public transportation, picking up passengers in carpools, and time spent in other activities related to getting to work. "ACS 2019 Subject Definitions". https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2019_ACSSubjectDefinitions.pdf

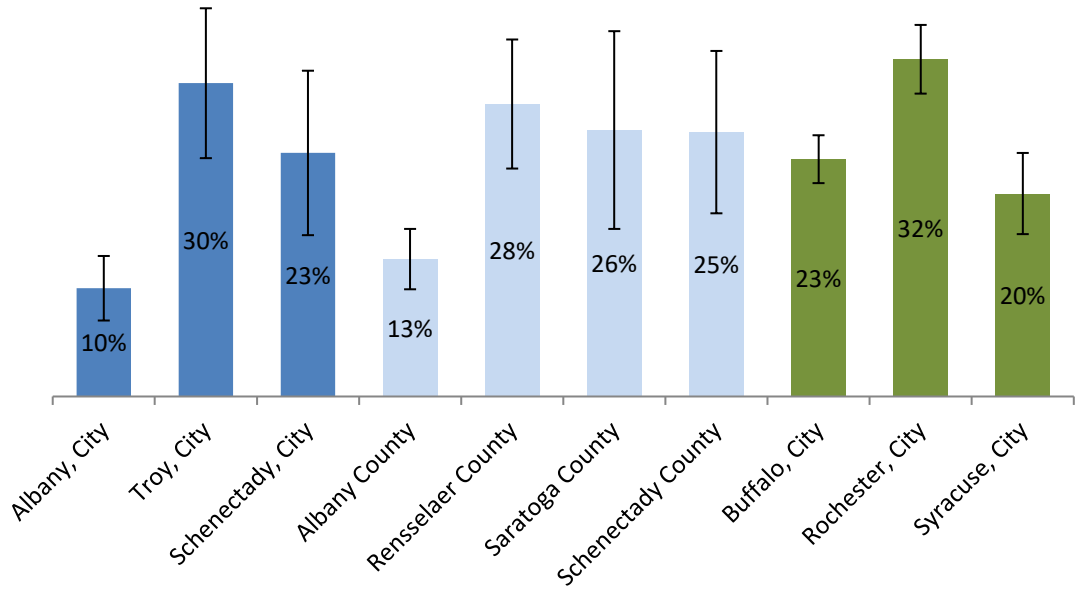
Table 3.7: Average Commute Time by Mode and Geography

	Average Commute Time (minutes)			
Geography	All Modes	Drive Alone	Bus	Difference*
City of Albany	18.6	17.1	30.4	13.3
City of Schenectady	22.2	21.3	40.5	19.2
City of Troy	22.3	21.3	47.1	25.8
Albany County	20.4	19.9	32.8	12.9
Schenectady County	22.9	22.7	40.7	18
Rensselaer County	24.4	24.2	48.7	24.5
Saratoga County	25.3	25.2	45.3	20.1
City of Buffalo	20.9	18.8	39.5	20.7
City of Rochester	N	N	N	N
City of Syracuse	N	N	N	N
Erie County	21.3	20.8	38.4	17.6
Monroe County	20.1	19.4	41.1	21.7
Onondaga County	N	N	N	N

An "N" entry indicates that data for this geographic area cannot be displayed because the number of sample cases is too small. *Author's calculations, which do not account for margins of error. Source: ACS 2017 5-year estimate (S0802)

Almost one third of transit riders in Troy face commutes of over one hour (30%, with a 7.2% Margin of Error, Figure 3.4). This is almost as high as in Rochester (32%, but with a 3.3% Margin of Error). In contrast, the share of commuters who drive alone for 60 minutes or longer is below 5% in all Capital Region counties and the three cities investigated, as well as in all comparison geographies (with all Margins of Error under 1%). Only 2% of Albany County workers who drive alone have a commute of an hour or more, while 4.3% of Saratoga County drive alone commuters travel for an hour or more. The CDTA Bus Rapid Transit Blue Line, which serves the cities of Troy and Albany, among others, began operation in 2020 and is not reflected in these data.

Figure 3.4: Share of Public Transit Commuters with a Commute of an Hour or More



The black brackets indicate the Margins of Error. Source: ACS 2017 5-year estimate (S0802)

Section 4: The Nexus Between Transportation, Housing and Land Use Policy

Understanding land use policy and the heavy influence that it exerts on our transportation system is crucial to understanding transportation patterns. Land use and transportation are interdependent; land development stimulates activity that requires transportation infrastructure, while the nature and quality of the transportation network dictates the speed and ease with which people can travel from one place to another. Local land use laws, which includes zoning, have been used since the early twentieth century to control where people can live relative to each other and relative to job centers, where housing can be built, and how many housing units can be built there. This section explores how local land use policies create development patterns that influence the commutes of low-wage workers.

4.1 Land Use Patterns Can Restrict Access to Affordable Housing

This section uses the availability of low-, middle-, and high-wage jobs relative to the numbers of low-, middle- and high -income working residents (not households) as a proxy to show that some municipalities have land use patterns that limit housing opportunities for their low-wage workers, forcing them to commute from outside the municipality. While other forces, such as economic

development policies, also have an impact on housing opportunities, this report focuses on land use because it is under local control and because of its ability to strongly influence the transportation network.

Table 4.1 shows the ratio of total jobs to total working residents as well as the ratios for low-, middle-, and high-wage jobs for municipalities in the Capital Region with 450 jobs or more in 2015 (LEHD)[31]. A ratio of less than one (<1.0) means that there are more working residents living in that municipality than there are jobs. Municipalities with a ratio of less than one are sometimes called bedroom communities. A municipality with a ratio of more than one (>1.0) means that there are more jobs available in the municipality than there are working residents living there. These municipalities can be considered job centers.

Table 4.1: Ratio of Jobs to Working Residents in Some Capital Region Municipalities in 2015[30]

Municipality	Low-Wage jobs/ Low-Income working residents	Middle-Wage jobs/ Middle-Income working residents	High-Wage jobs/ High-Income working residents	Total jobs/Total working residents
City of Albany	1.74	2.07	4.65	2.94
City of Saratoga Springs	1.98	2.38	1.51	1.84
Town of Colonie	2.27	2.00	1.55	1.82
Village of Menands	1.85	2.16	1.56	1.76
City of Schenectady	0.84	0.76	1.83	1.14
Village of Colonie	1.54	1.23	0.89	1.13
City of Troy	1.02	0.97	1.31	1.11
Town of East Greenbush	1.09	1.09	0.73	0.90
Town of Guilderland	1.37	1.09	0.51	0.83
Town of Clifton Park	1.07	1.05	0.46	0.71
Town of Rotterdam	0.74	0.67	0.49	0.60
Town of Glenville	0.76	0.80	0.41	0.59
Town of Bethlehem	0.81	0.78	0.35	0.54

A ratio of >1.0 means that more workers commute into the municipality than live in the municipality. A ratio of <1.0 means that more working residents commute outside the municipality than work inside.

Employers in municipalities that are job centers are dependent on workers from the outside commuting into the area, effectively "importing" workers from nearby municipalities which, by default, necessitates that workers commute outside their municipality of residence. Albany offers 1.74 and 2.07 low-wage and middle-wage jobs for every low- and middle-income worker residing in the city, respectively, and an astonishing 4.65 high-wage jobs for every one high-income worker residing in the city. While the City of Albany is the largest regional job center that "imports" workers of all income levels, these numbers

[30] LEHD data, 2015

[31] For simplicity, this report refers to a job in the LEHD category "jobs with earnings $1250/month or less" as a low-wage job, a job in the LEHD category of "jobs with earnings between $1251/month to $3333/month" as a middle-wage job and a job in the LEHD category of "jobs with earnings greater than $3,333/month" as a high-wage job.

suggest that the land use pattern within the City does not inequitably limit low-income workers' access to affordable housing. A similar pattern also exists for the cities of Schenectady and Troy (Table 4.1).

In contrast, the City of Saratoga Springs has 1.51 high-wage jobs for every high-income working resident but nearly twice as many (1.98) low-wage jobs for every low-income working resident (Table 4.1). Its ratio for middle-wage jobs is even higher, 2.38 middle-wage jobs for every middle-income working resident. These numbers suggest that affordable housing in Saratoga Springs is especially limited for low- and middle-income workers relative to high-income workers and may contribute to an inequitable transportation burden due to the disproportionately high numbers of low- and middle-wage workers that commute into the City for work.

The data show that low- and middle-income workers may be disproportionately impacted by affordable housing availability in other regional jobs centers as well. The Town of Colonie offers 1.55 high-wage jobs for every high-income working resident, but more low-wage jobs, 2.27, for every low-income resident. A similar pattern is found in the Village of Colonie and the towns of Guilderland, Clifton Park and Bethlehem. A less pronounced, but similar, pattern was shown in the Village of Menands and the towns of Rotterdam, Glenville, and East Greenbush. Figure 4.1 provides a visual summary of the data for the low-income category.

Figure 4.1: Low-Wage Jobs Available and Low-Income Working Residents in Select Municipalities

4.2 Zoning Affects Where People Can Work and Live

Zoning is a tool that is used by local governments to regulate different land uses, such as residential, commercial, industrial, and agricultural uses, and may regulate the size and form of buildings and accessory structures. Traditional zoning emphasizes the separation of uses such as commercial and residential activities. It was widely adopted by local governments after the U.S. Supreme Court struck down government-backed residential racial segregation in 1917. It is still in common use in the Capital Region, though several communities have adopted hybrid zoning that combines traditional zoning with other types that allow higher densities and more flexibility in mixing land uses, improving the efficiency of land use and reducing car dependency. Traditional zoning encourages the creation of major service and retail job centers, such as the Central Avenue corridor in the Town of Colonie or business parks, with few or no residential uses mixed in. Zoning often separates single-family housing into vast, low-density residential-only neighborhoods, driving sprawl and artificially creating car dependency[32].

Traditional zoning makes it very easy for communities to not only separate incompatible land uses but also to separate people[33]. Through zoning requirements like minimum lot sizes and minimum residential square footage requirements, zoning for single family housing can effectively exclude many lower-class families from living in middle- and upper-class neighborhoods[34]. These types of regulations are known as exclusionary zoning.

4.3 Limited Affordable Housing Near Job Centers can Create Transportation Hurdles for Low-Income Workers

How municipalities choose to regulate their land plays a significant, though seemingly invisible and indirect, role on the commute. Modern development patterns often concentrate low-wage jobs apart from higher density housing, where low-income workers often live. Policies that concentrate land use types in separate zones – or in separate municipalities – and limit the availability of affordable housing for low-income workers help create the outsized transportation burden on low-income workers in the region, many of whom are also people of color. Studying this connection is often frustrated by the indirect nature of the impacts of land use and the limitations of local government record-keeping. The remainder of Section 4 presents an analysis that examines how changes to local land use policies over time have fortified a land use pattern that limits the development of affordable housing while simultaneously encouraging the growth of low-wage jobs.

[32] Hall, Eliza. *Divide and Sprawl, Decline and Fall: A Comparative Critique of Euclidean Zoning.* University of Pittsburgh Law Review. Vol 68, No 4. pp. 915.

[33] Shepard, M. (2017). The ugly side of planning: land use and segregation. *Metropolitan Planning Council*. https://www.metroplanning.org/news/8418/The-ugly-side-of-planning-land-use-and-segregation

[34] Rigsby, E. 6/23/2016. *Understanding Exclusionary Zoning and its Impact on Concentrated Poverty*. The Century Foundation. https://tcf.org/content/facts/understanding-exclusionary-zoning-impact-concentrated-poverty/?agreed=1

4.4 Understanding the Analysis

The following analysis uses four communities to illustrate patterns that can be found in most, perhaps all, metropolitan regions in upstate New York. The limitations that communities have imposed on two-family and multi-family housing in the post-World War II housing boom is not unique to the four we consider here. The identities of the communities and their locations have been obscured[35] to focus attention on the near universality of the trends rather than on individual communities.

Through Freedom of Information Law (FOIL) requests, historic and current zoning maps and corresponding zoning ordinances from four communities with notable low-wage job centers in the Capital Region were obtained. Communities were chosen based on the data presented in Figure 4.2 and whether complete historic zoning records were available. The historic and current zoning regulations for each were simplified to show where different housing types are allowed under each regulation[36]. The four housing categories are 1) Single Family Housing Only[37], 2) Two-Family Housing Allowed[38], 3) Multi-Family Housing Allowed[39], and 4) No Housing Allowed[40]. The analysis includes historic zoning regulations which provide the oldest complete zoning records available during the regional growth boom that began in the 1940's (Figure 1.1). The years for each map pair vary depending on when the zoning regulations were modified in each municipality and for which year a complete record could be obtained (Figures 4.3 – 4.6).

It is important to note that this analysis does not consider the land uses that were present at the time the zoning ordinances were created, nor do they consider land uses that currently exist today. Rather, the analysis considers the *potential* land uses allowed under the local zoning during two snapshots in time.

[35] Map images may not be oriented with north facing up and may have been rotated or flipped to obscure its identity.

[36] Allowed land uses in an individual Planned Unit Development (PUD) or Planned Development District (PDD) was assumed to be the same as what was approved during site plan review and what was ultimately built in that PUD/PDD.

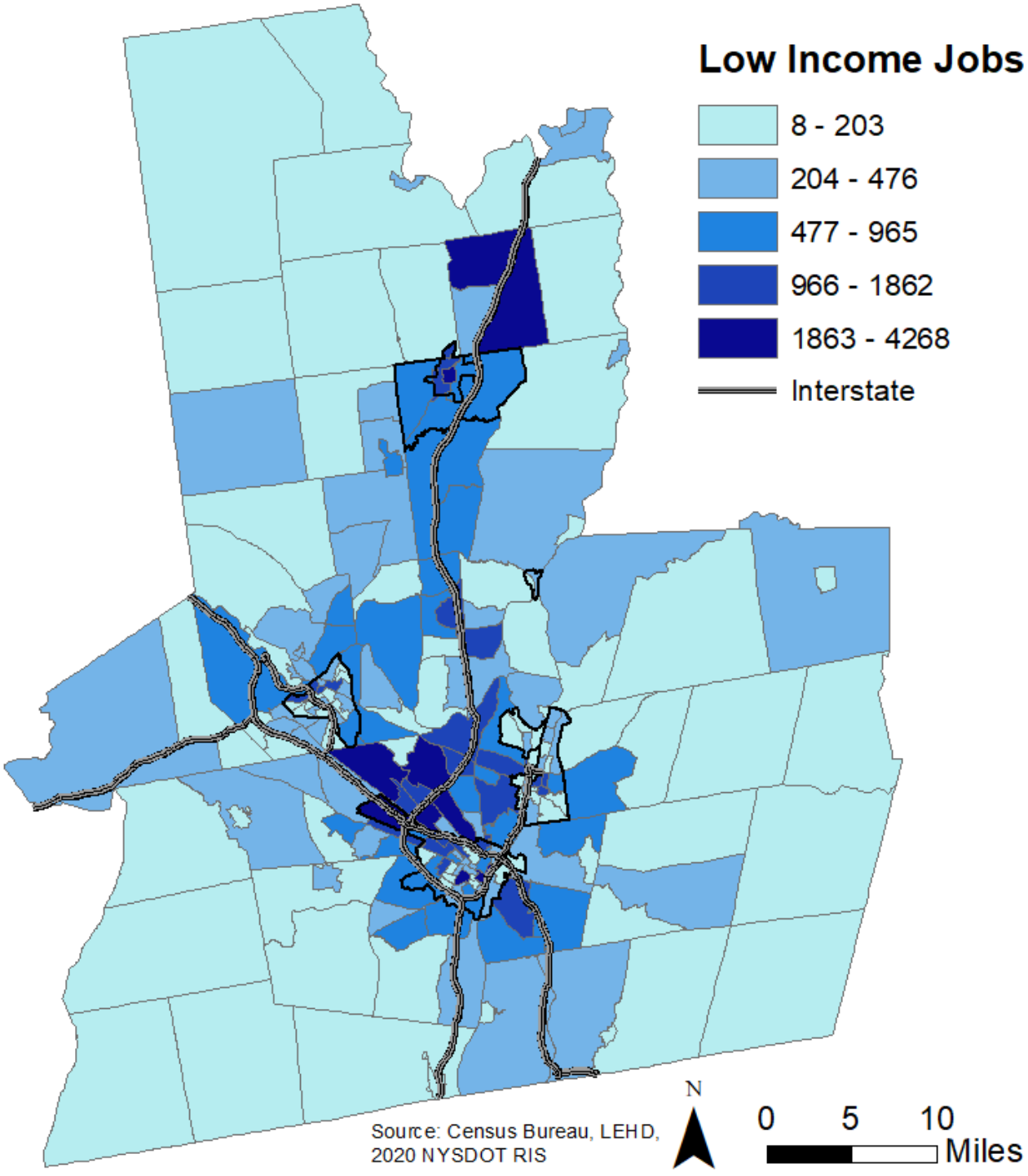
[37] The Single-Family Housing Only category includes zoning that allows one primary residential use per parcel and includes zones that may allow a second *accessory* residential use, such as a "granny flat" or farmworker housing, and townhomes and condominiums, which are attached residences with each residence on its own lot. Zones in this category may also allow other non-residential uses such as retail or agricultural uses.

[38] The Two-Family Housing Allowed category includes zones that allow up to two attached residences per parcel as of right or by special permit but does not allow more than two residences per parcel. Zones in this category may also allow other non-residential uses.

[39] The Multi-Family Housing Allowed category includes zones that allow buildings with three or more residences, mixed-use buildings that include residential uses, and mobile home parks. Zones in this category may also allow other non-residential uses such as commercial or retail uses.

[40] The No Housing Allowed category includes zones that do not allow residences of any type and zones that only allow housing that is limited to a certain subset of the general population such as senior housing, nursing homes, community group homes, or homes that are an accessory use to a non-residential primary use, such as a single-family farmhouse.

Figure 4.2:
Number of Low Income Jobs by Census Tract, 2015



4.5 Where Local Zoning Allows Housing Has Shifted Over Time

In Figures 4.3- 4.6, areas where two-family residential and multi-family residential uses were allowed under the older zoning code and the most recent zoning code are shown in lime green and red, respectively. Single family residential uses are shown in blue, while areas where housing for the general population is not allowed at all are shown in charcoal grey.

Each zoning regulation was reviewed and analyzed to determine the residential types allowed for each zoning district. Based on each zoning code an overlay was applied to the corresponding map to illustrate the housing restrictions present in each community. Stark differences in the spatial distributions of where all residential building types were allowed – single-family, two-family, and multi-family residential – were observed between the zoning regulations of the mid- to late-20th century and the most current version. Generally, zoning regulations shifted from permitting two-family and multi-family building types across extensive areas of the communities to restricting those building types in favor of single-family buildings or disallowing general population housing entirely, although exceptions do exist and the extent of the shift varies from community to community.

4.6 The Land Area Allocated to Two-Family and Multi-Family Housing Has Shrunk

Communities A, B, and C (Figures 4.3, 4.4, and 4.5, respectively) clearly show a decrease in land area where two-family and multi-family housing is allowed between the old time point and the new.

In 1955, Community A allowed multi-family housing (red) in proximity to infrastructure (which is primarily found in, or close to, the blue and gray zones in the 1955 map) as well as in vast rural areas unsuitable for most types of development. This resulted in haphazard development. In subsequent zoning revisions culminating in the 2020 version, Community A mostly confined its multi-family zones to cover existing multi-family residences only. Because this action prohibited new multi-family housing by right in most of the community, it created barriers to the development of new multi-family housing (the 2020 map shifted mostly to blue). Developers have applied for a Change of Zone so that they can get around this limitation and develop new multi-family housing.

The map for Community B based on its 2020 zoning code shows some expansion of areas that allow multi-family housing, such as along major multi-use corridors. However, overall the land area where multi-family housing is allowed shrank since 1966, due to entire regions of the community changing from zones that allow two-family or multi-family housing to zones that either only allow single-family housing, or no housing at all (shown in charcoal grey). The oldest complete zoning information for Community C is relatively recent, from 1984. Still, a similar pattern is evident. The Community C map pair shows modest gains in the areas allocated to multi-family dwellings but a larger loss of area allocated to two-family dwellings.

Community D (Figure 4.6) reallocated a large portion of its land from single family housing only (blue) to allowing two-family dwellings (lime green). While this initially appears to create significant opportunity to provide more affordable housing within the community, the community does not allow two-family

dwellings by right in most of the areas, and instead requires a special use permit. This is because almost all of the zones where two-family dwellings are allowed were primarily established to promote and support ongoing open space and agricultural uses and activities to sustain the rural character of that portion of the community. Community D's zoning code states that obtaining a special use permit requires special consideration so that two-family dwellings "may be properly located and planned with respect to the objectives of [the] chapter and their effect on the surrounding properties and community character." While two-family dwellings are technically allowed in large areas of the town, the additional considerations and particular character of the district sets a higher bar that makes it less likely that two-family dwellings will be built in those areas in Community D. Community D also modestly expanded its land allocation for multi-family housing in its 2020 zoning code.

4.7 Zones That Disallow General Population Housing Have Expanded

Overall, all four communities studied showed a decrease in land area that allows any residential use. This shrinking was due to the expansion of land area allocated to zones that prohibit residential uses and instead are allocated to uses like industrial parks, office parks, golf courses, and wetland protection, and specialized housing such as nursing homes and community homes (charcoal grey)[41].

4.8 Land for Multi-Family Housing is Even More Limited Than it Looks

In order to show how residential land allocations have changed over time, this analysis simplified the various zoning districts and did not indicate where residential uses shared zoning districts with commercial, retail, industrial, and other non-residential uses. In reality, single family residential zoning districts often allow only one primary use (namely, single family dwellings) or share their zones with uses that impose a relatively low development pressure such as agricultural, recreational or open space uses. In contrast, multi-family residential uses are present in a wider range of zone types, from multi-family residential zones, to neighborhood commercial corridors, to general business districts. The demand for developable land in mixed use districts that allow multi-family housing is higher because it must be shared between housing as well as commercial, retail and business uses. This development pressure limits the land available for multi-family housing in those zones.

[41] Overall, zones that allowed only specialized housing types accounted for a very small land area compared to other zones that prohibited all housing types.

Figure 4.3: Where Different Housing Types are Allowed Under the 1955 and 2020 Zoning Codes for Community A

Map and zoning code from 1955

Map and zoning code from 2020

Single Family Housing Only
Two-Family Housing Allowed
Multi-Family Housing Allowed
No Housing Allowed

Figure 4.4: Where Different Housing Types are Allowed Under the 1966 and 2020 Zoning Codes for Community B

Map and zoning code from 1966

Map and zoning code from 2020

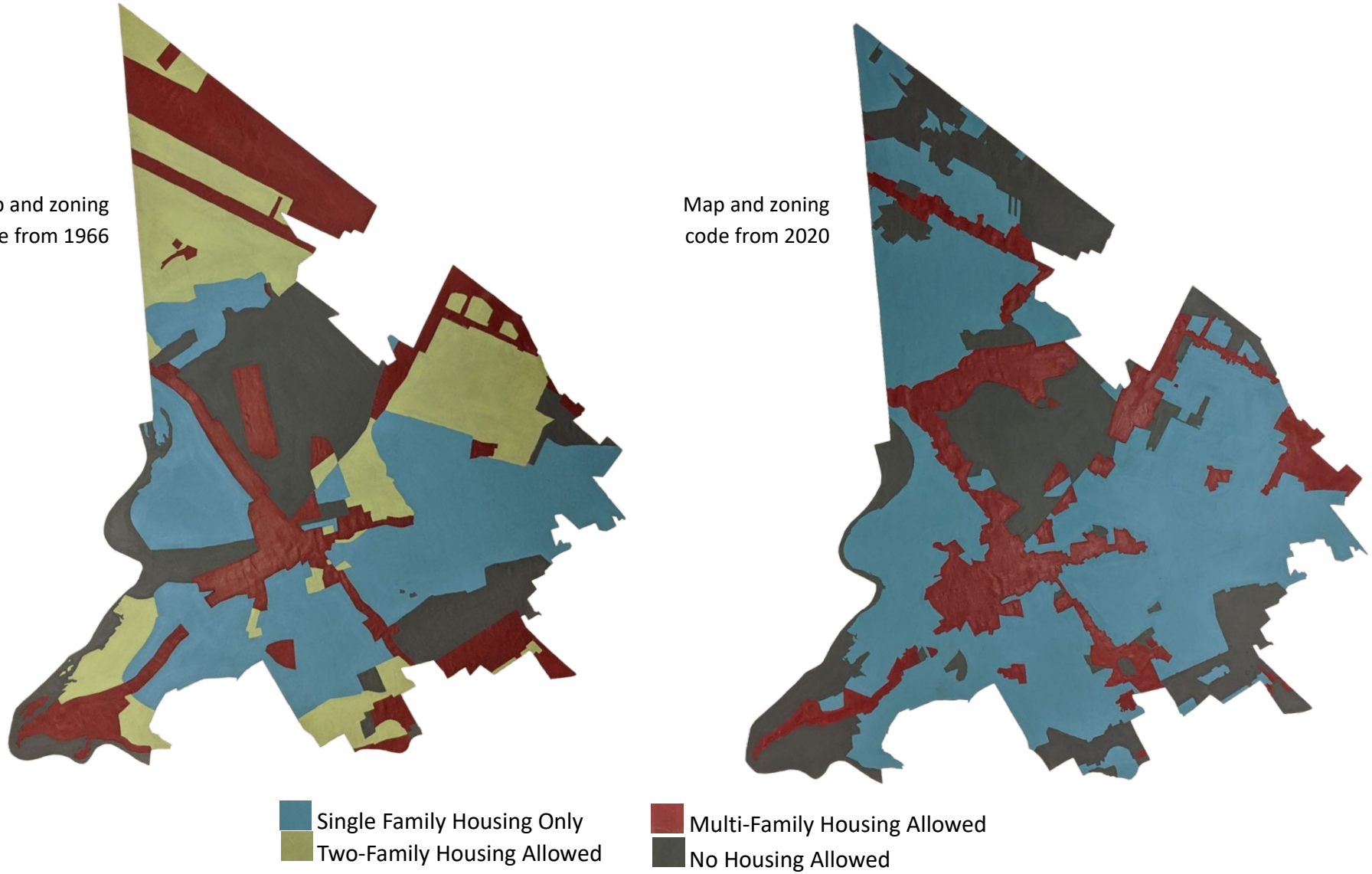


Figure 4.5: Where Different Housing Types are Allowed Under the 1984 and 2008 Zoning Codes for Community C

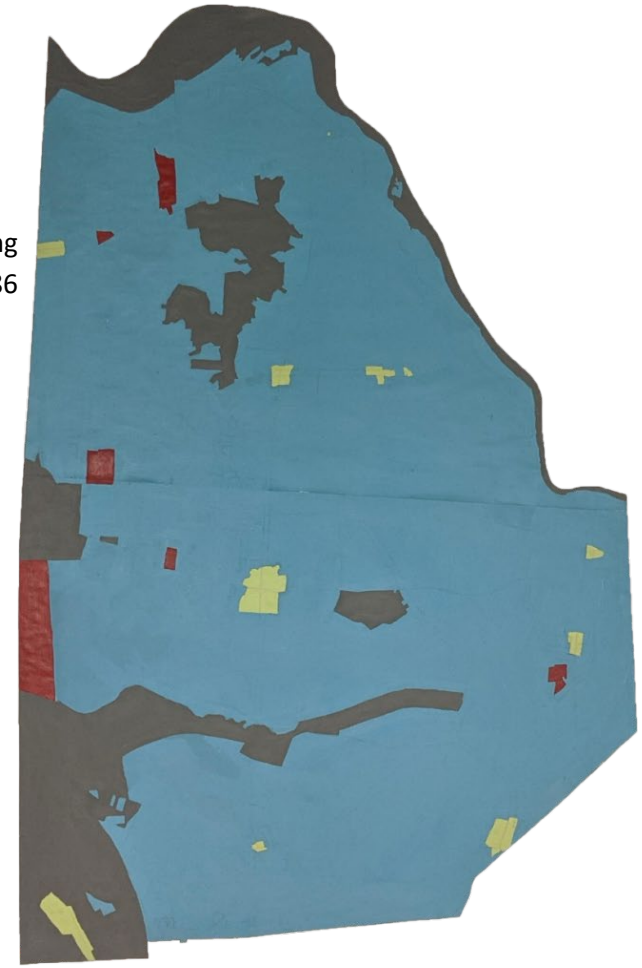
Map and zoning code from 1984

Map and zoning code from 2008

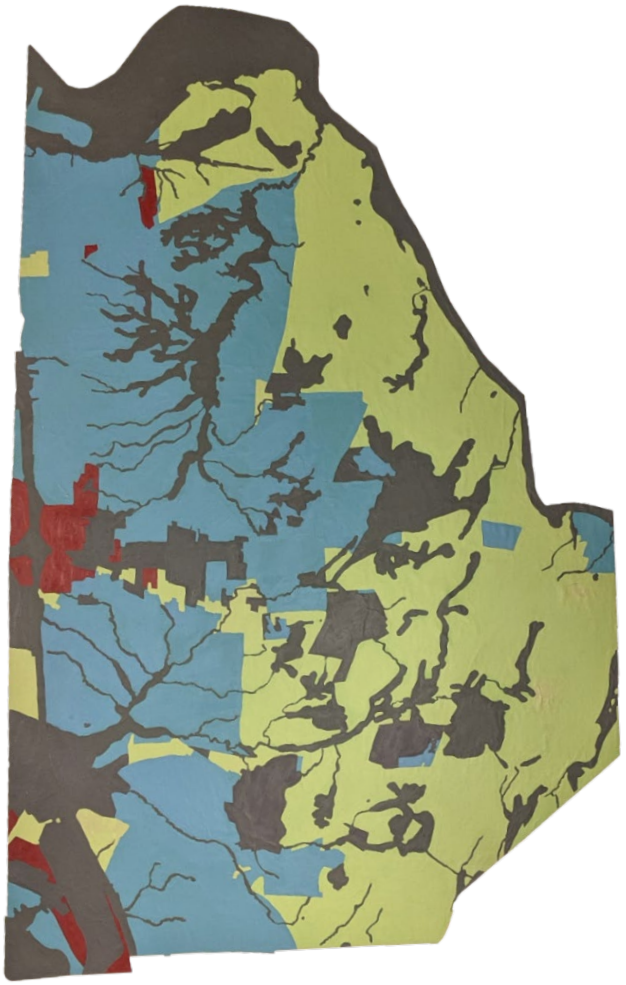
Single Family Housing Only
Two-Family Housing Allowed
Multi-Family Housing Allowed
No Housing Allowed

Figure 4.6: Where Different Housing Types are Allowed Under the 1986 and 2021 Zoning Codes for Community D

Map and zoning code from 1986



Map and zoning code from 2021



Single Family Housing Only
Two-Family Housing Allowed
Multi-Family Housing Allowed
No Housing Allowed

Section 5: Conclusions and Next Steps

The state of transportation options in the Capital Region poses an equity issue for our communities, both in terms of race and income. Drivers, who tend to be Whiter and wealthier than transit riders, face faster commutes (Section 3). Those who ride the bus, who tend to be people of color and those who hold low-wage jobs, face longer commutes. Given these differences, the transportation system reinforces the disparities that already exist in the community rather than helping to reduce them. Given how much longer it takes to get to work by bus, it is likely that many who can afford a vehicle would choose to commute by driving rather than taking transit.

Just as transportation can act as either an opportunity to equalize access or as a barrier to equity, so too can land use. Section 4 showed that efforts to create appealing and welcoming communities through land use can have consequences that reinforce disproportionate transportation burdens on low-income workers and workers of color. Zoning policies that restrict affordable housing in proximity to low-wage job centers create an inequitable transportation burden for low-income workers by leaving them little choice but to commute longer distances to access affordable housing. The Capital District Transportation Committee's current metropolitan transportation plan, New Visions 2050, encourages viewing the regional transportation system through an equity lens so that transportation systems, land use and other policies that may exclude some populations from sharing in the benefits can be addressed.

5.1 Recommended Actions

This report provides some historic context as to how the regional transportation system and local land use policies impacts jobs access for low-income workers and workers of color. Identifying these trends and exploring their impacts can help us determine how to address inequities in our contemporary transportation and land use systems. The following actions are just some of the steps that we can take as a region to begin addressing some of the limitations of our transportation system that compromise the ability of low-income workers and workers of color in their efforts to access jobs. The following list outlines a number of actions that could be taken to help address the access gap in the region's transportation system.

1. Transportation providers should regularly collect and publish measures of equitable access in their systems and use those measures to adjust their services in order to reduce gaps in access.
2. Local governments should incentivize the co-location of affordable housing and low-wage jobs and encourage affordable housing in locations that provide easy transit, walking and/or bicycling access to low- and middle-wage job centers.
3. CDTC should share this report with non-profits, educational and vocational organizations to inform their decision-making.

4. CDTC should present this report to Chambers of Commerce and engage in conversations about what the business community can do to make commuting more efficient and affordable for low- and middle-income workers.
5. CDTC should engage with employers to develop business-wide Transportation Demand Management Plans and provide technical assistance to identify transportation solutions for their employees. CDTC should partner with 511NY Rideshare, CDTA and others to help businesses and communities find transportation solutions to hard-to-reach job centers such as warehouses and distribution centers.
6. CDTC should partner with workforce development agencies, chambers of commerce and others in the business community to develop a boilerplate business plan for the new micro-transit industry catering to employers. Raise awareness of employee transportation limitations in the regional business community and work with that community to create solutions.
7. CDTC should share this report with local and regional policymakers involved in making land use decisions.
8. During the comprehensive planning process, local governments should conduct an analysis similar to a "build-out analysis" that considers projected housing development and projected job growth to determine if there is parity between jobs available and housing available for workers at low-, middle- and high-income levels. As they consider zoning updates and other updates to their local laws, municipalities should consider adopting policies that will help ensure that enough affordable housing is built within their communities to accommodate their workers.
9. As CDTC staff carries out its duties related to various planning projects throughout the region, collect information on barriers related to housing and job access from disadvantaged communities and low- and middle-income workers.

5.2 Further Research

This report focused on growth trends in a few suburban communities and their impacts on the low-income worker's commute. However, many questions remain regarding the role the regional transportation system and local land use policies play in job access for low-income workers. For example, anecdotal reports suggest that housing rehabilitation in some areas of Albany and Troy are resulting in displacement of low-income tenants. If such a trend was to continue and strengthen over time, low-income workers would have less access to affordable housing in two of the largest job centers in the region, weakening job access as well. Further research should investigate the nature and extent of displacement of people in affordable housing in our urban centers and its transportation impacts on low- and middle-income workers. In addition, further investigation is needed on the transportation needs of low-income people living in rural areas. Many have very limited transportation options due to scant transit services available in areas with low population densities.

Land use aside, there is a wealth of information that can be accessed and analyzed to provide a deeper, more impactful understanding of the relationships between transportation, poverty and access to employment. Using the ESRI Network Analyst tool, general transit feed specification (GTFS) data on transit networks and other data sources, CDTC should explore the accessibility of jobs from regional neighborhoods. An analysis that compares low-, middle- and high-income neighborhoods and their

access to low-, middle-, and high-wage jobs by both transit and car would provide a detailed view of job accessibility from neighborhoods in the Capital Region and how it is impacted by the regional transit network.

In addition, CDTC should also explore the impacts of the regional transportation system on workforce development, especially with respect to job centers outside of the cities such as manufacturing and warehouse facilities. How can transportation access be part of the regional workforce development equation? As part of this research, CDTC should consider organizing focus groups of low-income residents and workers to gain an in-depth understanding of the impacts of the regional transportation system on employment. Conversely, persistent labor shortages in the transportation industry, specifically bus drivers, have negatively impacted the transit system and is a topic that warrants additional exploration.