

APPENDIX D:

COMMUNITY IMPACT ANALYSIS

MVRPC SS4A SAFETY ACTION PLAN

COMMUNITY IMPACT ASSESSMENT

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Demographic Mapping

Demographic mapping helps identify correlations between demographic patterns and transportation outcomes across the region, leading to stronger, community-informed planning. In these analyses, we compare locations across the Miami Valley Regional Planning Commission (MVRPC) Metropolitan Planning Organization (MPO) region that have heightened sociodemographic vulnerabilities (larger populations that typically have greater need or are more likely to face transportation insecurity¹) with the safety risk throughout the region. This allows an examination of the outcomes experienced by various key populations, reveals disparities, and establishes a baseline of disparate safety impacts, which should be used to monitor the effectiveness of safety investments and how they improve the fair balancing of transportation resources.

Key Populations and Key Population Mapping

In order to identify areas of greatest need, a number of demographic groups, otherwise known as “key populations”, have been identified. Key populations that will be analyzed often experience greater transportation insecurity, have an elevated need for safety enhancements, and are more likely to rely on walking and bicycling as primary modes of travel. The Safe Streets and Roads for All (SS4A) Action Plan will utilize the key population geography when conducting data-based prioritizations. Populations that have been marginalized and/or underserved by the transportation system and that align with easily available data include:

- Youth and older adults
- People of Color
- People with disabilities
- People with a language barrier
- Low-income households
- People who are unemployed
- Households that do not own a personal vehicle
- Renter-occupied houses

Table 1: (2023: American Community Survey 5-Year)

County	Population	Under 18 years	65 and over	Under age 65 living with a disability	White	Black	Asian	Hispanic	Avg. Min. Commute Time
Greene	168,531	21%	19%	9.2%	82%	5.8%	2.8%	1.4%	22
Miami	109,549	23%	20%	8.4%	91%	2%	1.7%	1%	21
Montgomery	535,528	22%	19%	11%	68%	20.4%	2.2%	1.7%	22

¹ Transportation Insecurity is defined as the condition in which individuals or households lack consistent, safe, reliable, and affordable access to transportation necessary for meeting basic needs (e.g., employment, healthcare, education, groceries). It encompasses barriers related to cost, availability, safety, and accessibility across all modes.

Table 1 provides a brief overview of demographic data for the three counties that are entirely within the MPO region, however all analyses include only the northern portion of Warren County. Table 2 describes the demographic data, typically Census/American Community Survey (ACS) data, which will be mapped. Census Block Groups² and census tracts³ will be used for demographic data. Census tracts and block groups located within Warren County may extend beyond MVRPC's MPO boundary. Complete datasets for each census tract and/or block group are utilized rather than applying normalization techniques to adjust for partial inclusion within the MPO area. This approach ensures that areas are not inadvertently deprioritized in the analysis.

Table 2: Description of data for populations mapped

CATEGORY	VARIABLE	CENSUS/ACS DESCRIPTION
Age	Youth	percentage of population aged 18 and younger
	Older Adults	percentage of population aged 65 and older
Race	Race and Ethnicity	percentage of population that is Black
		Percentage of population that is Hispanic (any race)
Ability	Disability	percentage of households where one or more persons have a disability (hearing, vision, cognitive, and ambulatory disabilities and self-care and independent living difficulties)
Language	Language Barrier	percentage of population over the age of five years with a language barrier (census definition: people with limited English proficiency - those who do not speak English or do not speak English "very well")
Income	Poverty Level	percentage of population with income below 200% of the federal poverty level
Income	Unemployment	percentage of population over the age of 16 who is job seeking
Transportation	Zero Car Households	percentage of households that do not own a personal vehicle
Housing	House Tenure	percentage of houses that are renter occupied

The following maps and accompanying text present key population characteristics across the study area. Each map is paired with a brief summary highlighting the most relevant insights and spatial patterns illustrated, helping to contextualize how demographic factors may inform the creation and prioritization of recommendations in the SS4A Safety Action Plan.

² **Block Groups (BGs)** are statistical divisions of census tracts, are generally defined to contain between 600 and 3,000 people, and are used to present data and control block numbering." (United States Census Bureau. Glossary. https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_4)

³ "Census tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. A census tract usually covers a contiguous area; however, the spatial size of census tracts varies widely depending on the density of settlement." (United States Census Bureau. Glossary. https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_13)

Youth (% of population aged 18 or younger)

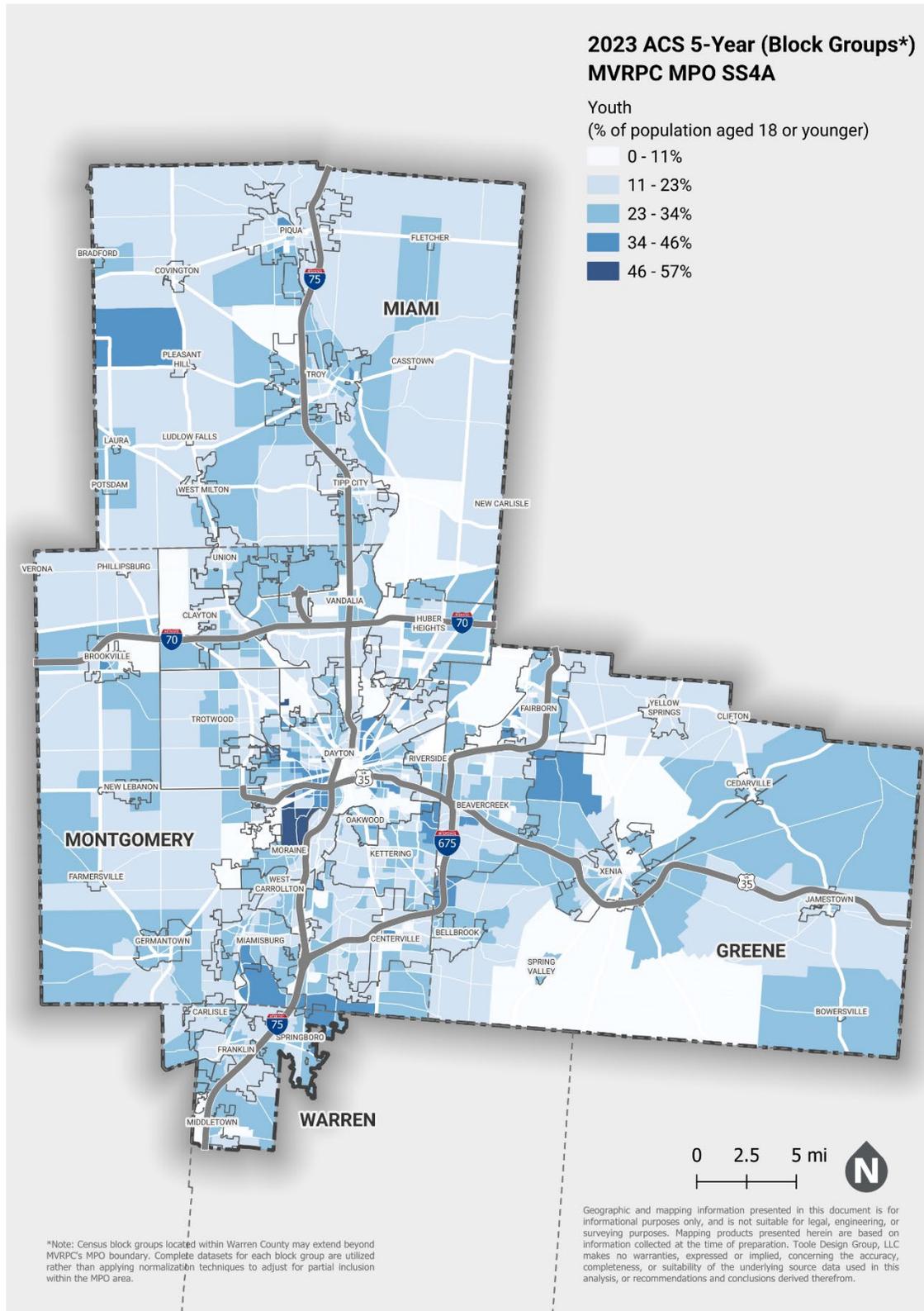


Figure 1: Youth (% of population aged 18 and younger)

Key Takeaways

Figure 1 displays concentrations of youth populations (aged 18 and younger) by census block groups. Most block groups within the MPO region have a youth population between 11 to 34 percent, showing an almost even spread between Greene, Miami, Montgomery County, and part of Warren County. Higher concentrations of youth populated block groups tend to be in the city of Dayton and along the border of the counties (southern Montgomery County border/northern Warren County border and eastern Montgomery border/western Greene County border). The block groups with the greatest concentration (46 to 57 percent) of youth populations are few and located in the middle of the MPO region within the city of Dayton, west of I-75. There are a few block groups that have a youth population between 34 to 46 percent, such as in or near the cities of Beavercreek, Miamisburg, and Pleasant Hill. Overall, block groups that have the greatest concentration of youth are within the city of Dayton and near/in cities with higher population density.

Older adults (% of population aged 65 and older)

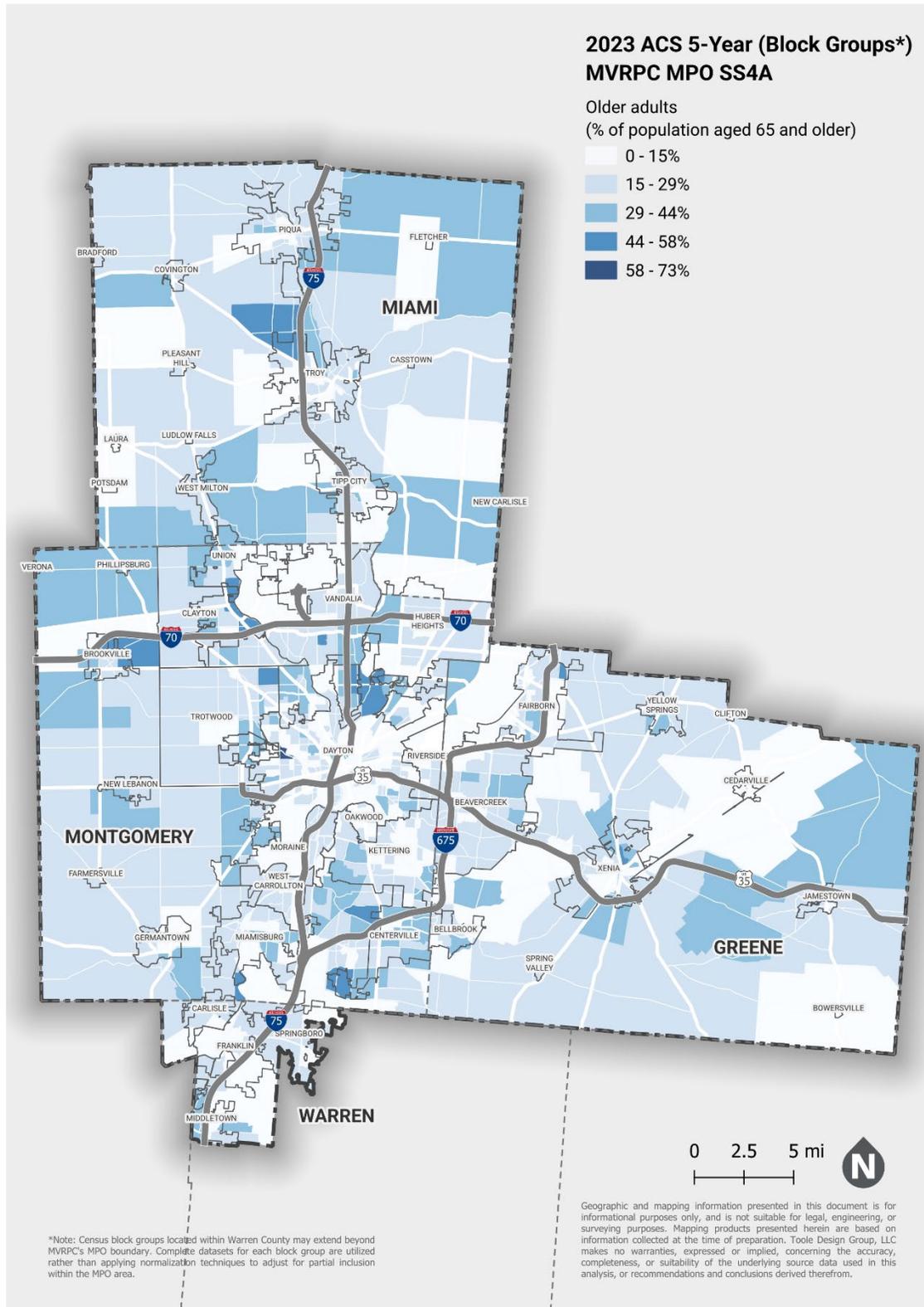


Figure 2: Older adults (% of population aged 65 and older)

Key Takeaways

Figure 2 displays concentrations of older adults (aged 65 and older) by census block groups. Older adults in the MVRPC MPO region are shown to live mostly outside of urban areas, along the outskirts of cities and near the county borders. The MPO region is comprised mostly of block groups that have zero to 29 percent of their population being older adults. The cities of Brookville, Troy, and Vandalia have a few, small blocks groups whose older adult populations are between 44 to 58 percent. There are two block groups that have the greatest concentration of older adults (58 to 73 percent) located in west Dayton. One block group is south of James H McGee Boulevard, east of Gettysburg Avenue, and north of Dandridge. The other block group is in the Five Oaks neighborhood east of Salem Avenue, west of Forest Avenue and between Neal Avenue and W Grand Avenue.

Black populations (% of population)

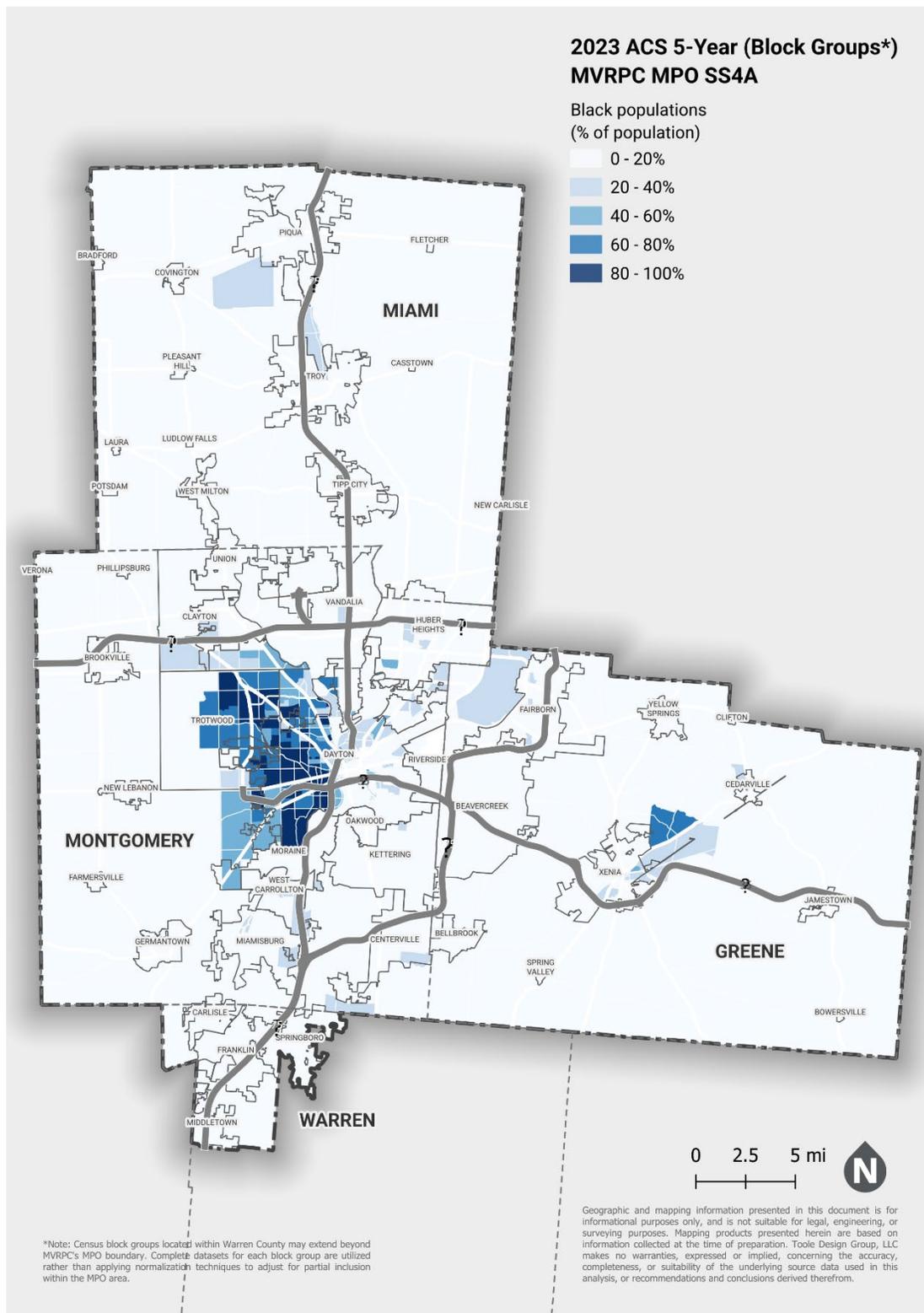


Figure 3: Black populations (% of population)

Key Takeaways

Figure 3 displays concentrations of Black populations by census block groups. A significant concentration of blocks groups comprised of 60 to 100 percent black populations are in the cities of Dayton (west of I-75), Trotwood, and northeast of Xenia along US42. Smaller concentrations are also spread throughout, near the Wright Patt Air Force Base, Clayton, Huber Heights, and Moraine. Overall, the majority of the MPO region consists of block groups that have Black populations between zero and 20 percent, with urban centers showing higher concentrations compared to suburban and rural areas.

Hispanic (any race) populations (% of population)

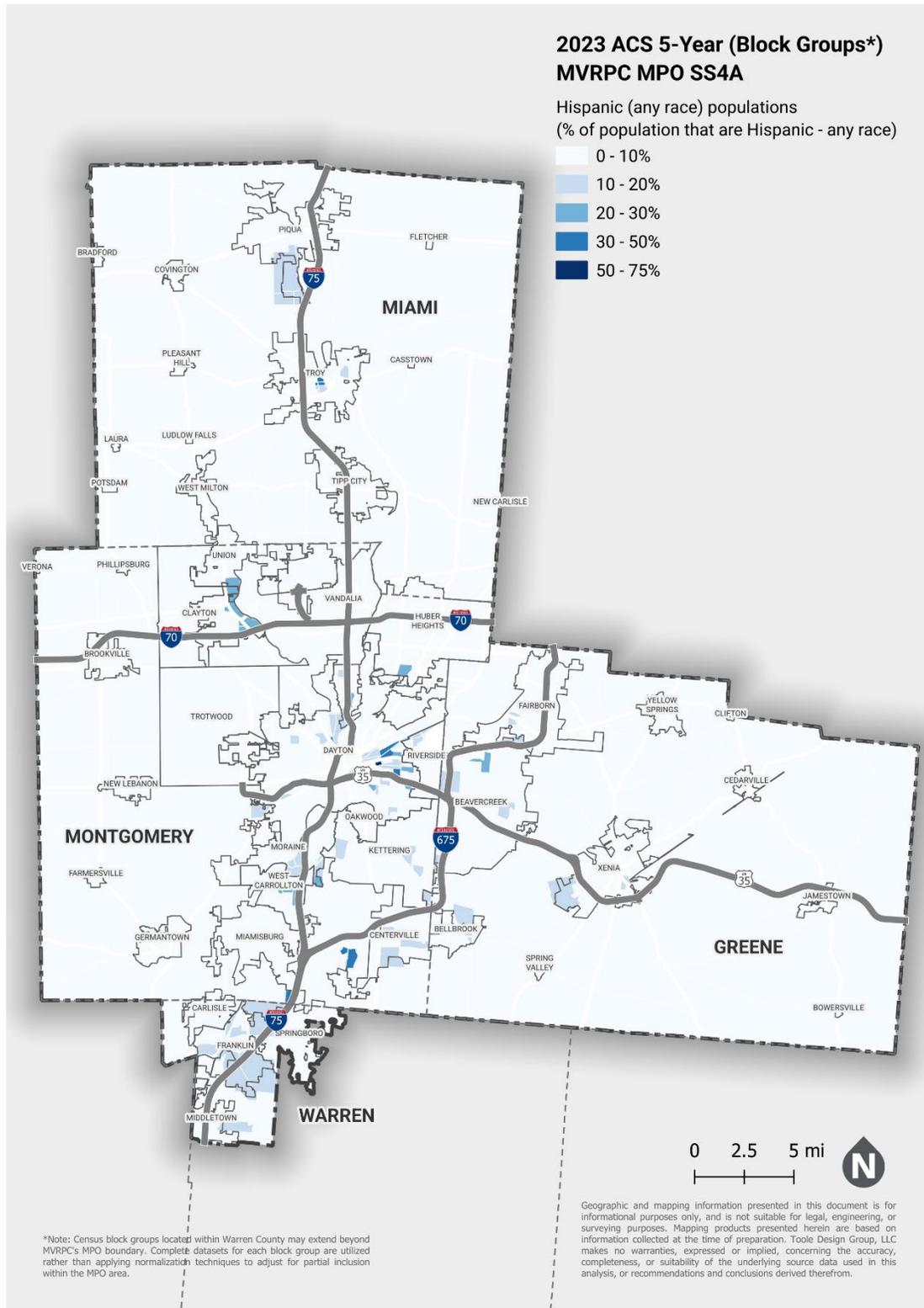


Figure 4: Hispanic (any race) populations (% of population)

Key Takeaways

Figure 4 displays concentrations of Hispanic (any race) populations by census block groups. Most areas within the MPO region fall within the zero to 10 percent range, indicating relatively low Hispanic population density. A few pockets of higher concentration (10 to 30 percent) appear typically near urban centers and along major corridors. There are very few areas that reach the 30 to 75 percent range, suggesting that high-density Hispanic communities are limited and localized. There are few block groups that fall within the highest range 30 to 75 percent, within east Dayton (north of US35), Washington Township (south of I-675, west of Centerville), Miami Township (bordering I-75, Franklin Township, and Clearcreek Township), and downtown Troy. The distribution is more dispersed compared to the Black population map, with fewer areas showing high concentrations.

People with disabilities (% of population)

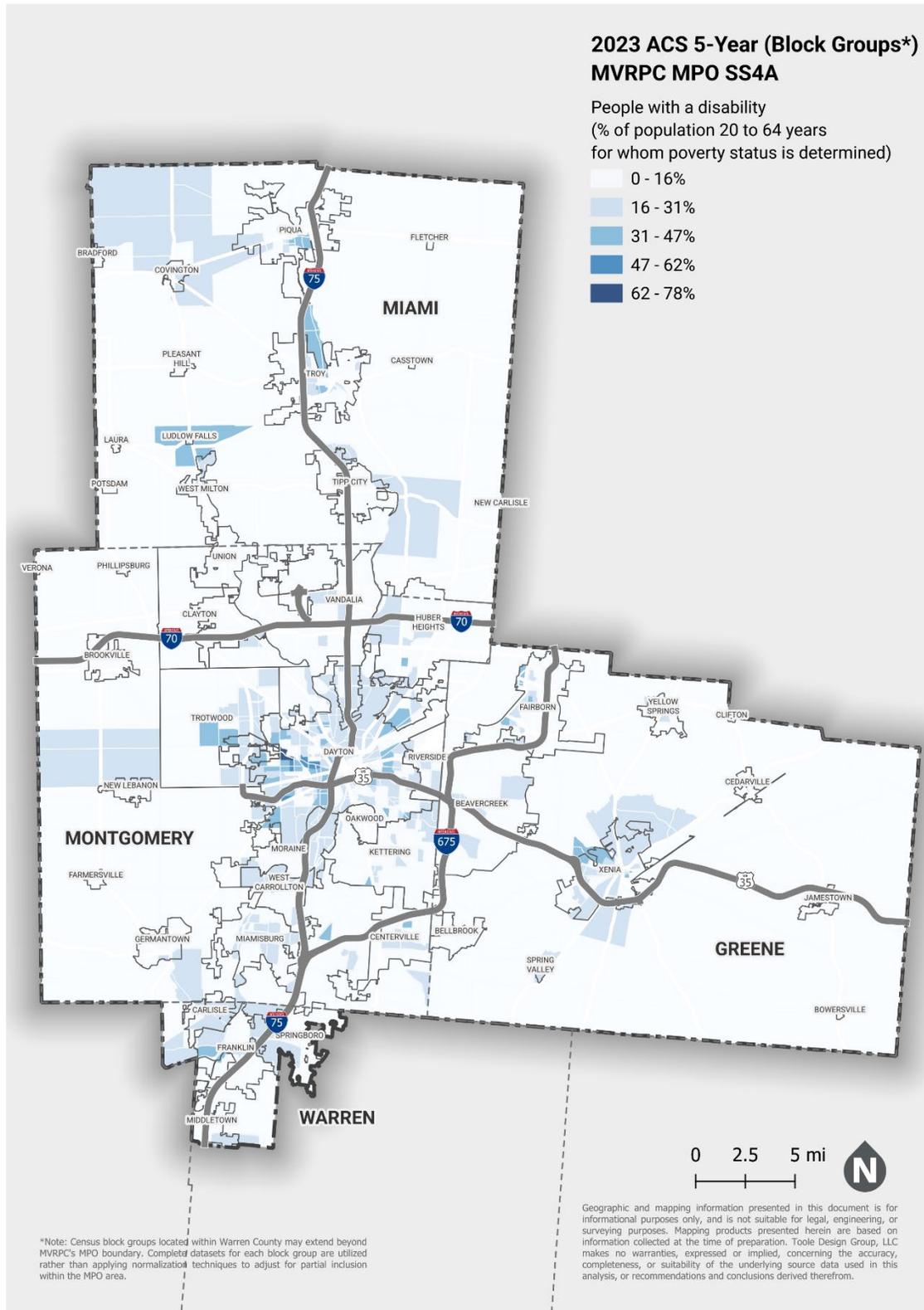
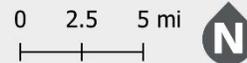
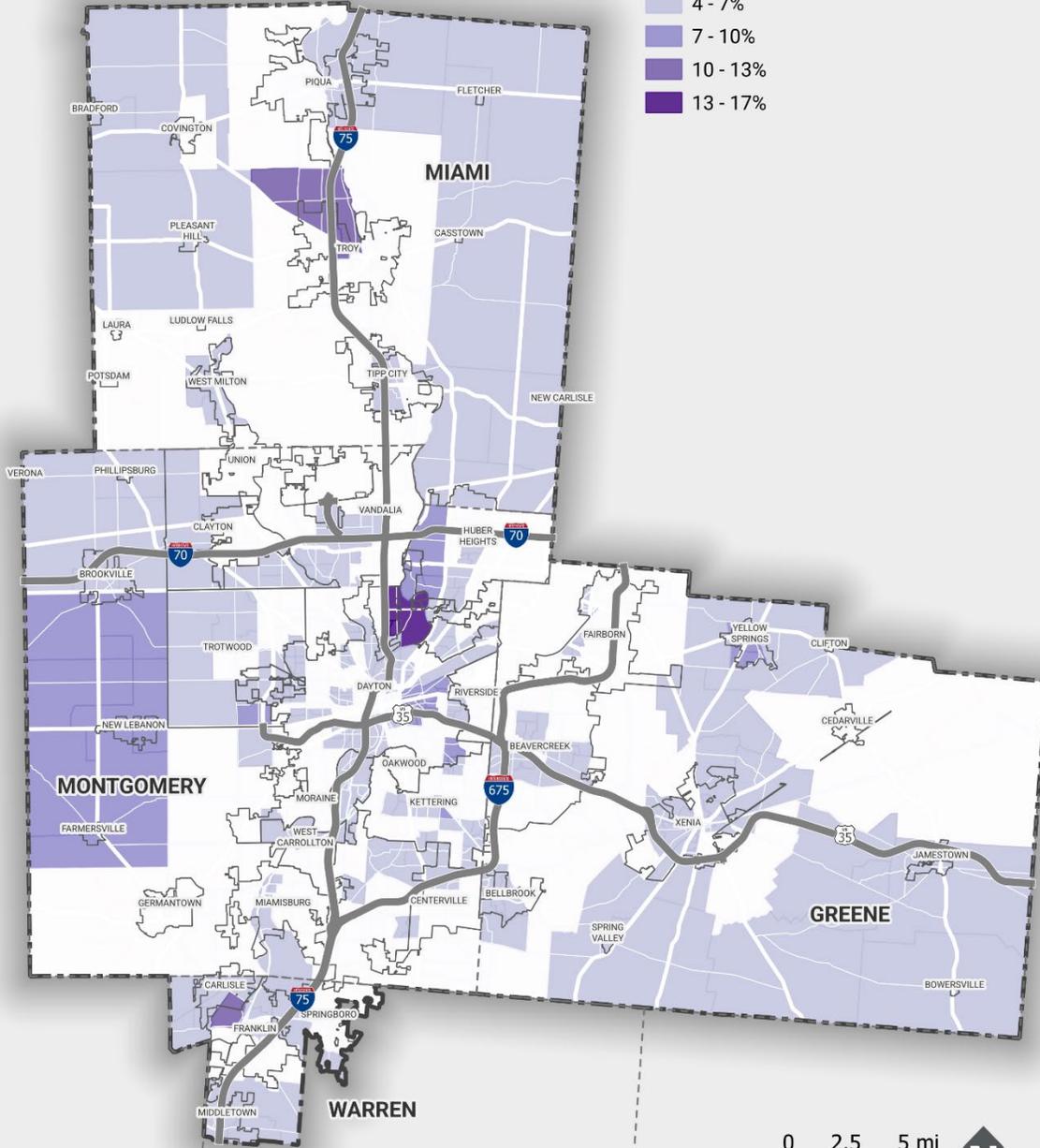
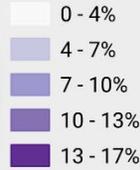


Figure 5: People with disabilities (% of population)

**2023 ACS 5-Year (Census Tracts*)
MVRPC MPO SS4A**

People with a hearing difficulty



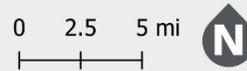
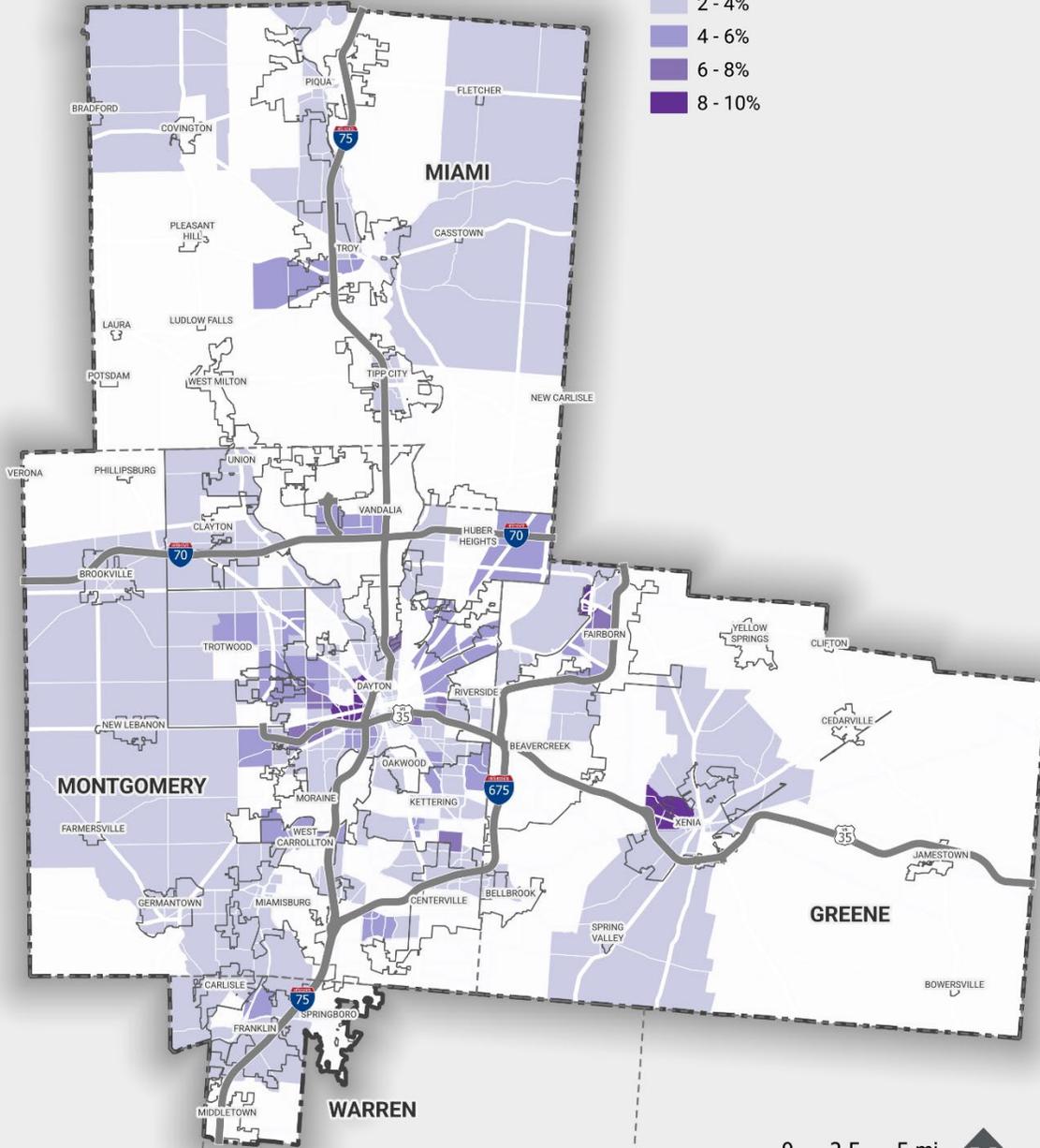
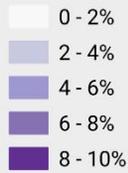
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*Note: Census tracts located within Warren County may extend beyond MVRPC's MPO boundary. Complete datasets for each tract are utilized rather than applying normalization techniques to adjust for partial inclusion within the MPO area.

Figure 6: People with a hearing difficulty

**2023 ACS 5-Year (Census Tracts*)
MVRPC MPO SS4A**

People with a vision difficulty



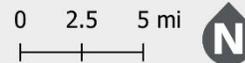
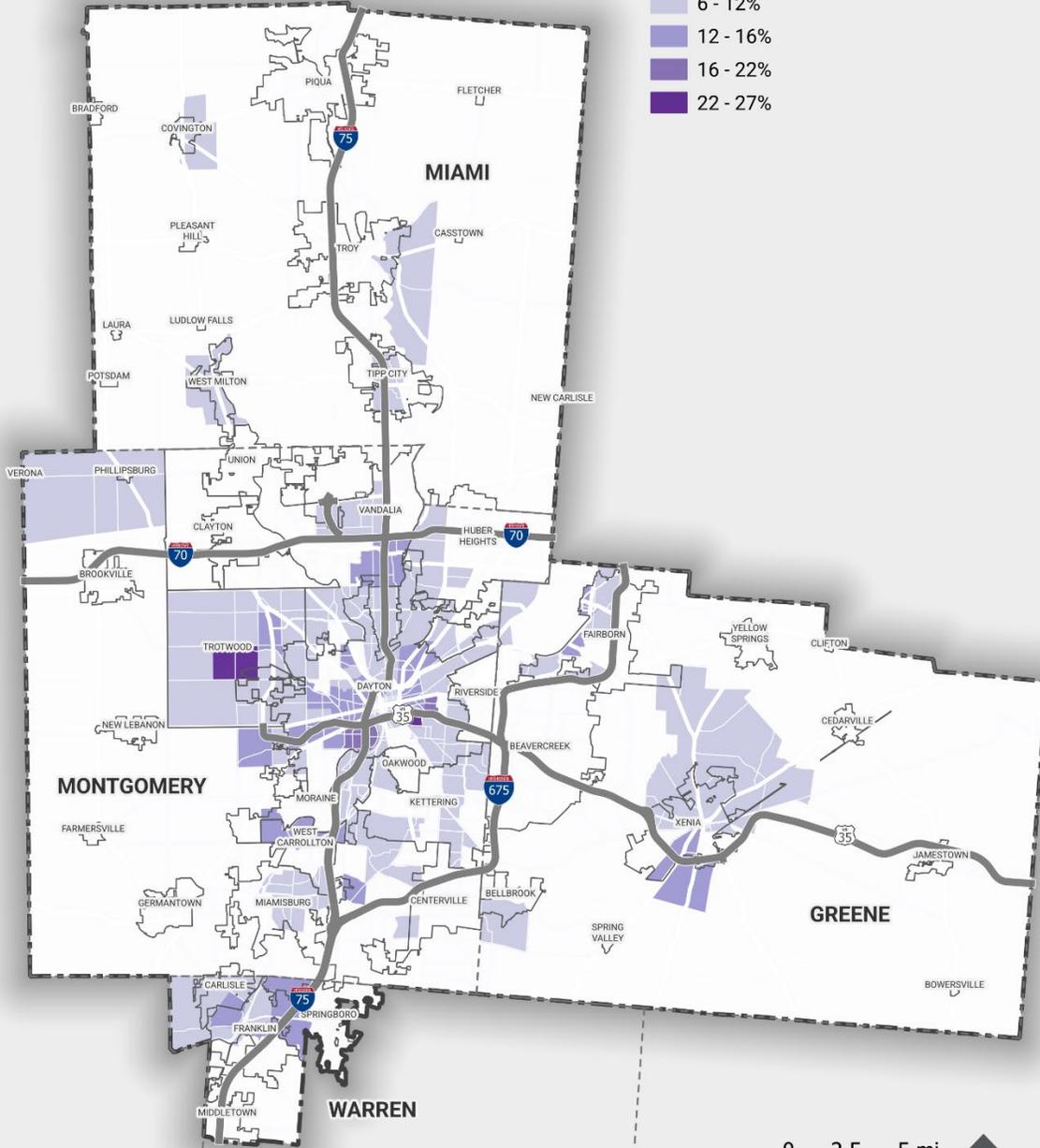
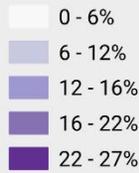
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Figure 7: People with a vision difficulty

**2023 ACS 5-Year (Census Tracts*)
MVRPC MPO SS4A**

People with a cognitive difficulty



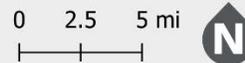
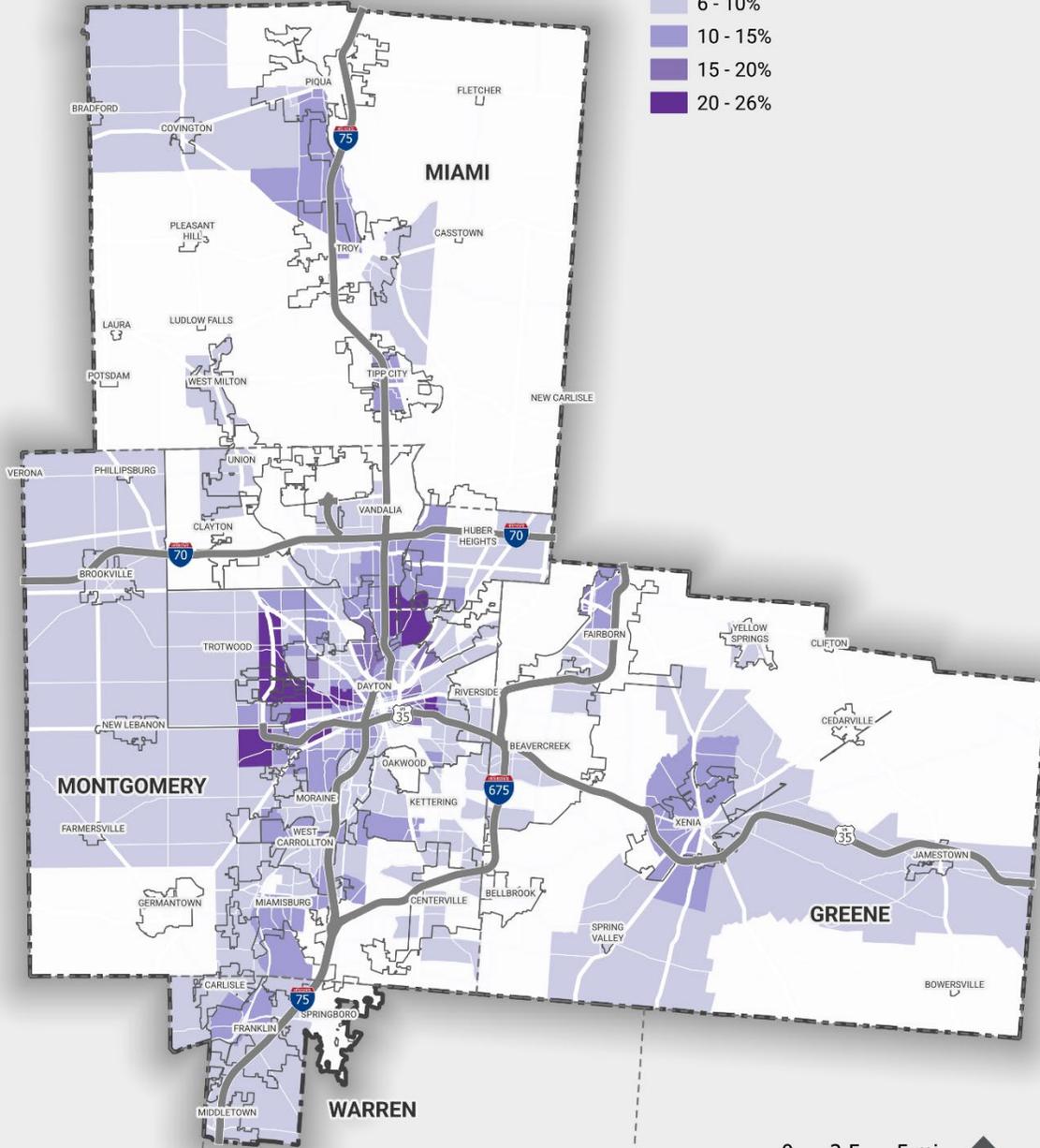
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Figure 8: People with a cognitive difficulty

**2023 ACS 5-Year (Census Tracts*)
MVRPC MPO SS4A**

People with an ambulatory difficulty



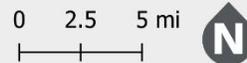
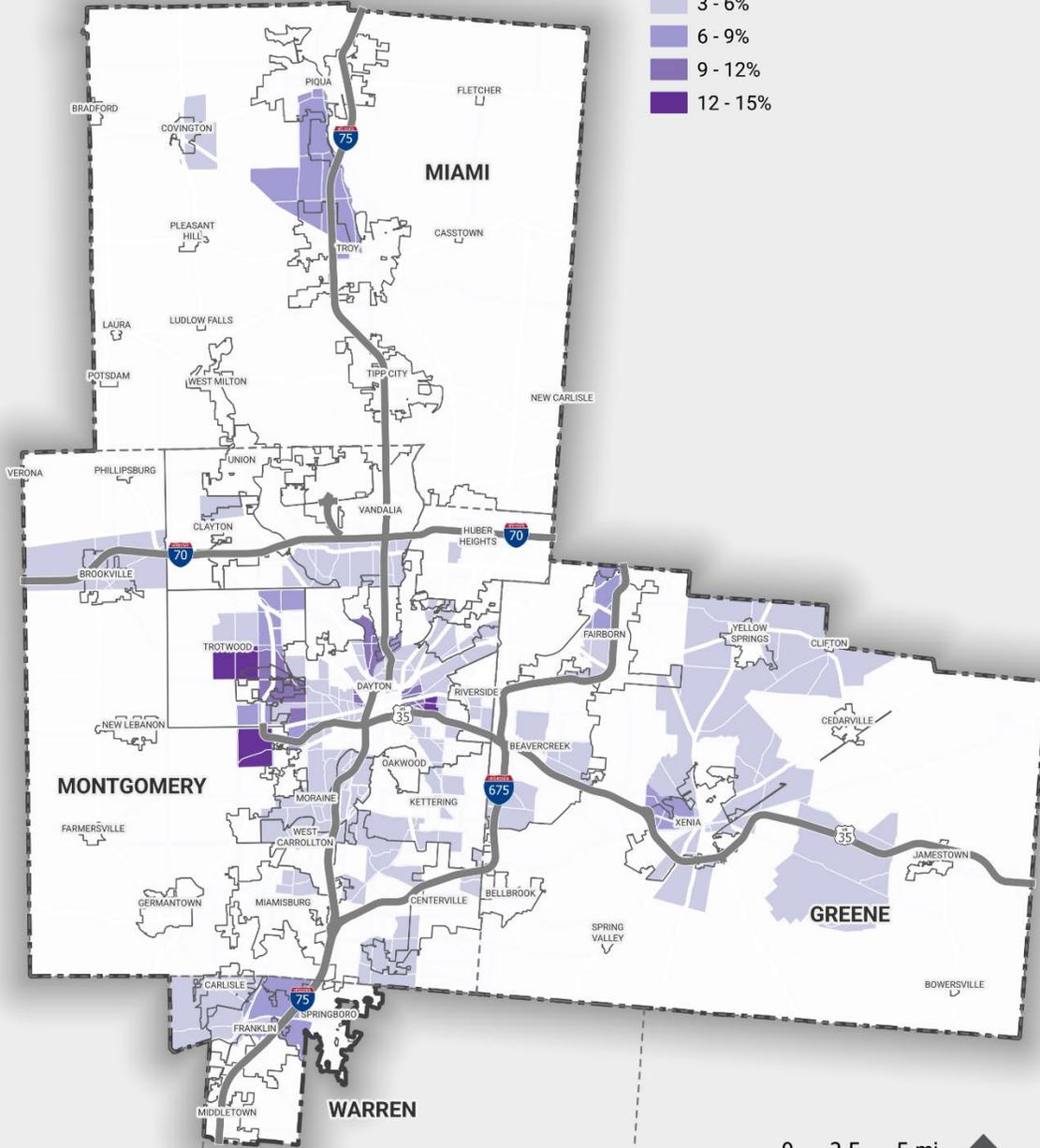
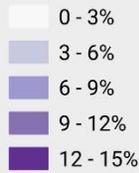
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Figure 9: People with ambulatory difficulty

**2023 ACS 5-Year (Census Tracts*)
MVRPC MPO SS4A**

People with a self-care difficulty



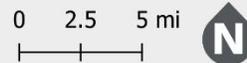
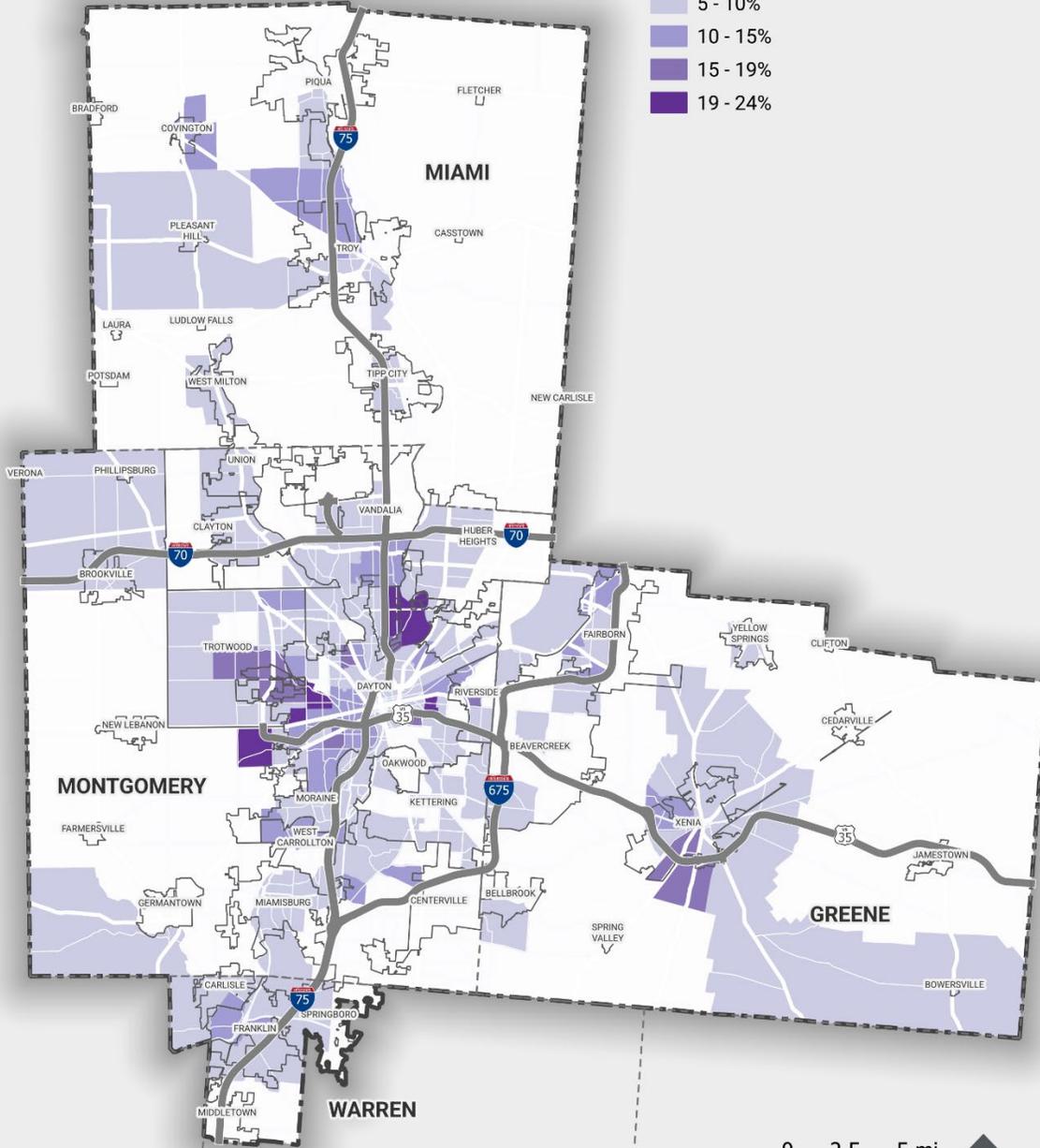
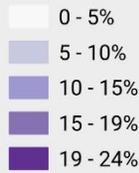
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Figure 10: People with a self-care difficulty

**2023 ACS 5-Year (Census Tracts*)
MVRPC MPO SS4A**

People with an independent living difficulty



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Figure 11: People with an independent living difficulty

Key Takeaways

Figure 5 displays concentrations of people with a disability by census block groups. The greatest concentration of people with disabilities, 47 to 78 percent, are within the city of Dayton. Block groups with populations between 16 and 47 percent are located near cities. However, the MPO region is minimally comprised of blocks groups with populations exceeding 31 percent of people having a disability.

Figure 6 through Figure 11 display the concentrations of people with disabilities by census tract broken down by six types: vision difficulties, hearing difficulties, cognitive difficulties, independent living difficulties, self-care difficulties, and ambulatory difficulties.

Figure 6: People with a hearing difficulty and **Figure 9: People with ambulatory difficulty** have similar concentrations with high concentrations of both people with hearing and ambulatory difficulties being located in Harrison Township/north Dayton, west Dayton (near Dayton Liberty Road), Troy/Concord Township, Carlisle/Franklin, Perry Township, Jackson Township, and east Xenia/Xenia Township.

Figure 7: People with a vision difficulty – High concentrations of people with vision difficulties are located in west Xenia, west Dayton, and areas of Troy/Concord Township, Vandalia/Butler Township, Huber Heights, West Carrollton, and Trotwood.

Figure 8: People with a cognitive difficulty, **Figure 10: People with a self-care difficulty**, and **Figure 11: People with an independent living difficulty** have similar concentrations, with high concentrations of people with cognitive, self-care, and independent living difficulties living in Trotwood, Jefferson Township/west Dayton, Concord Township, Washington Township near Piqua, south Xenia/Xenia Township, southern Butler Township, and western Springboro/eastern Franklin.

People with a language barrier (% of population over 5 years)

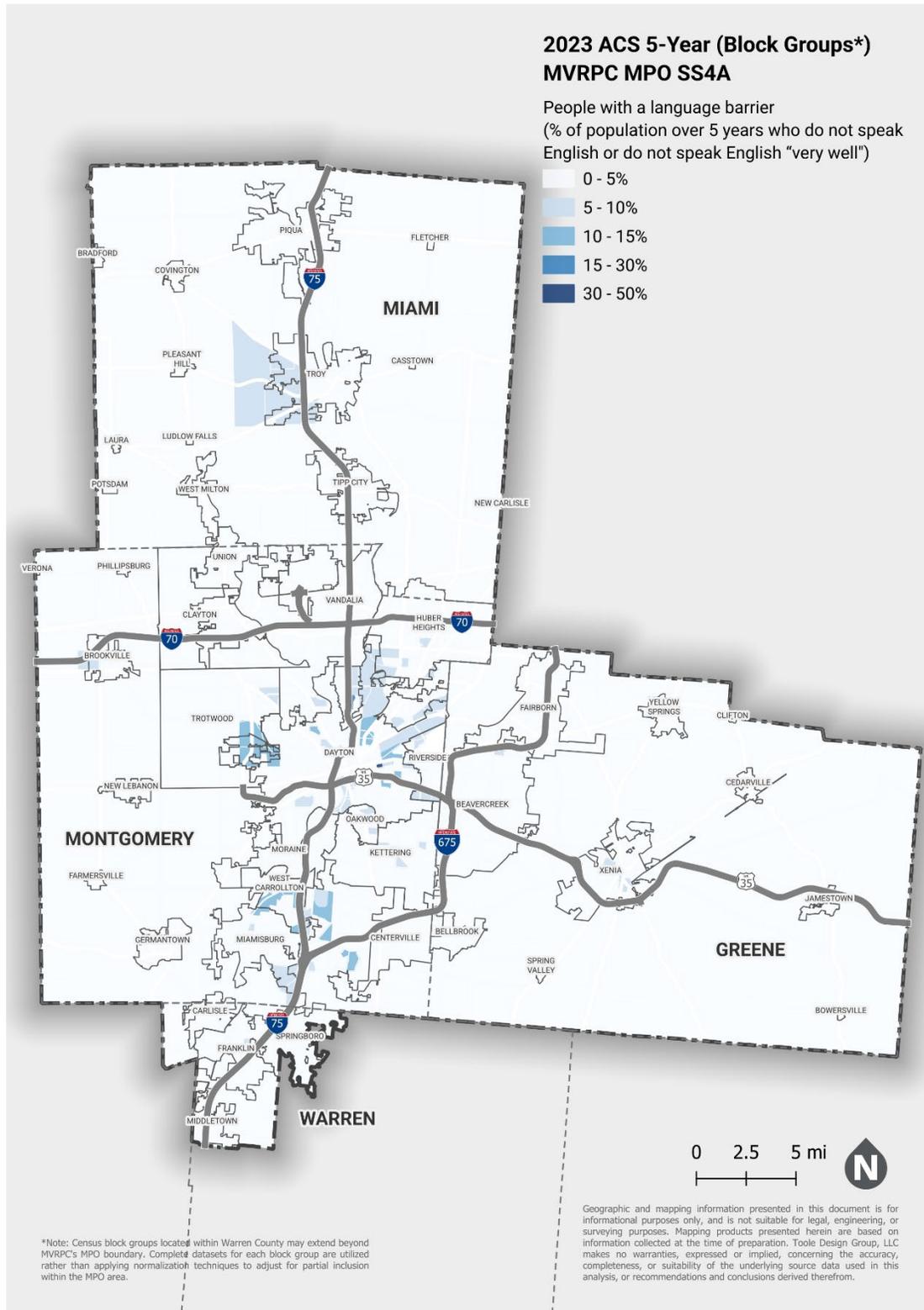


Figure 12: People with a language barrier (% of population over 5 years)

Key Takeaways

Figure 12 displays that most people in the region do not have a language barrier as most block groups fall under five percent of people with a language barrier. 26 percent of limited English-speaking households within Dayton live in Spanish speaking households.⁴ Only one block group with the highest language barrier concentration (30 to 50 percent) is in the city of Dayton, south of 3rd Street between Van Lear Street and Findlay Street, north of 5th Street. There are smaller pockets of block groups that fall into the five to 30 percent of populations with a language barrier and those tend to be within the cities of Dayton, Brookville, Huber Heights, Xenia, Troy/surrounding areas, and Miamisburg/surrounding areas.

⁴ United States Census Bureau. "S1601 Language Spoken at Home"
<https://data.census.gov/table/ACSST1Y2023.S1601?q=dayton+ohio&t=Language+Spoken+at+Home>

Poverty level (% of population with income below 200% of the poverty line)

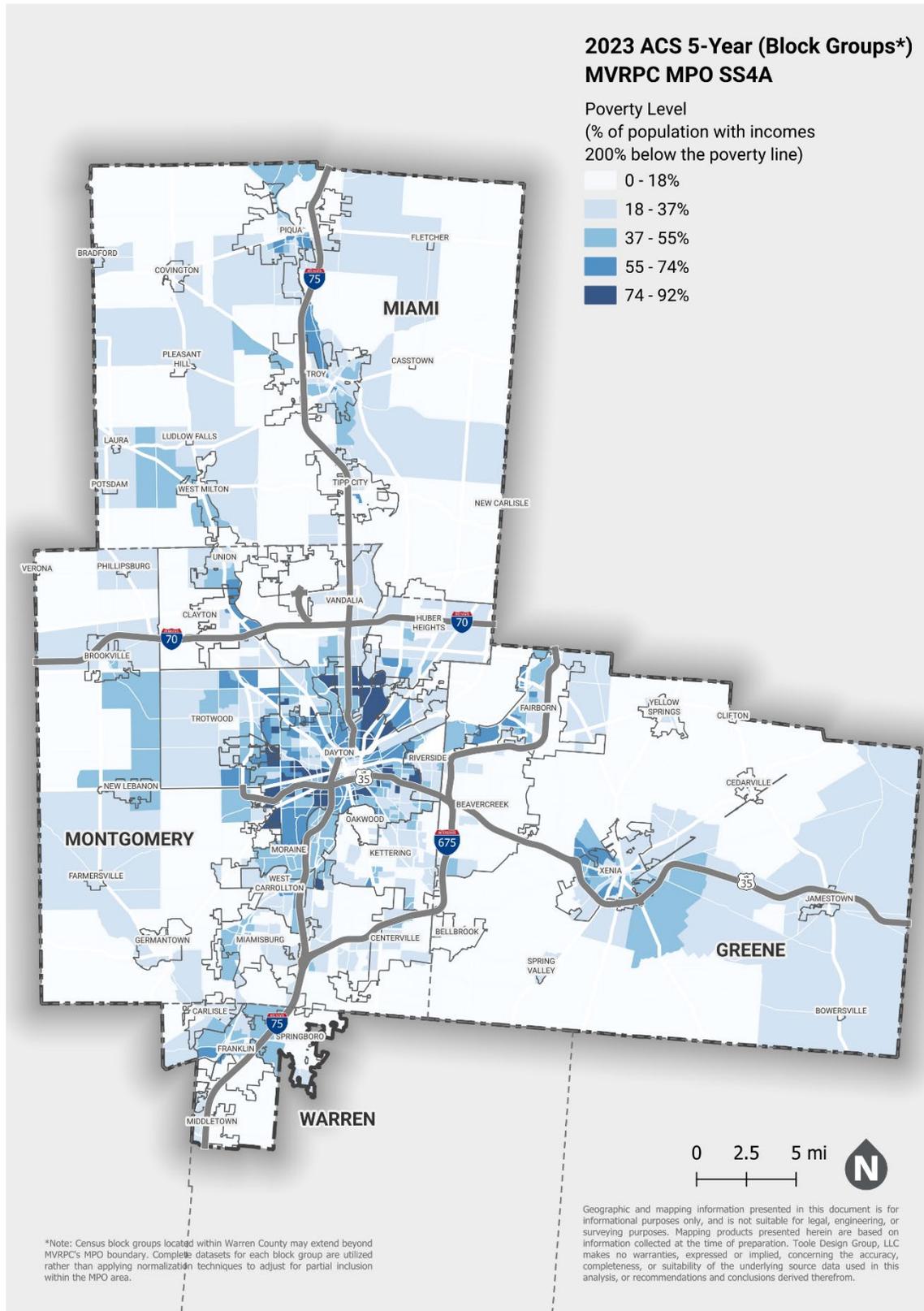


Figure 13: Poverty level (% of population with income below 200% of the poverty line)

Key Takeaways

Figure 13 displays concentrations of people with an income below 200 percent of the poverty line census block groups. People with income below 200 percent of the poverty line are concentrated in blocks groups, centered in the city of Dayton, which is heavily comprised of populations between 37 to 92 percent of people living two times below the poverty level. Specifically, the city of Dayton is the only city with the highest concentration percentage group (74 to 92 percent). There is a largely urban pattern in the MPO region, which shows that the more urban areas, such as Xenia, Miamisburg, Moraine, Franklin, Troy, West Milton, Fairborn, Brookville, Trotwood, New Lebanon, and Piqua have block groups with higher concentrations of poverty level (between 37 and 74 percent). Areas that are outside of urban areas, which are more rural, have large block groups with lower concentrations of people with incomes two times below the poverty line (18 to 37 percent).

People who are unemployed (% of people over 16 who is job seeking)

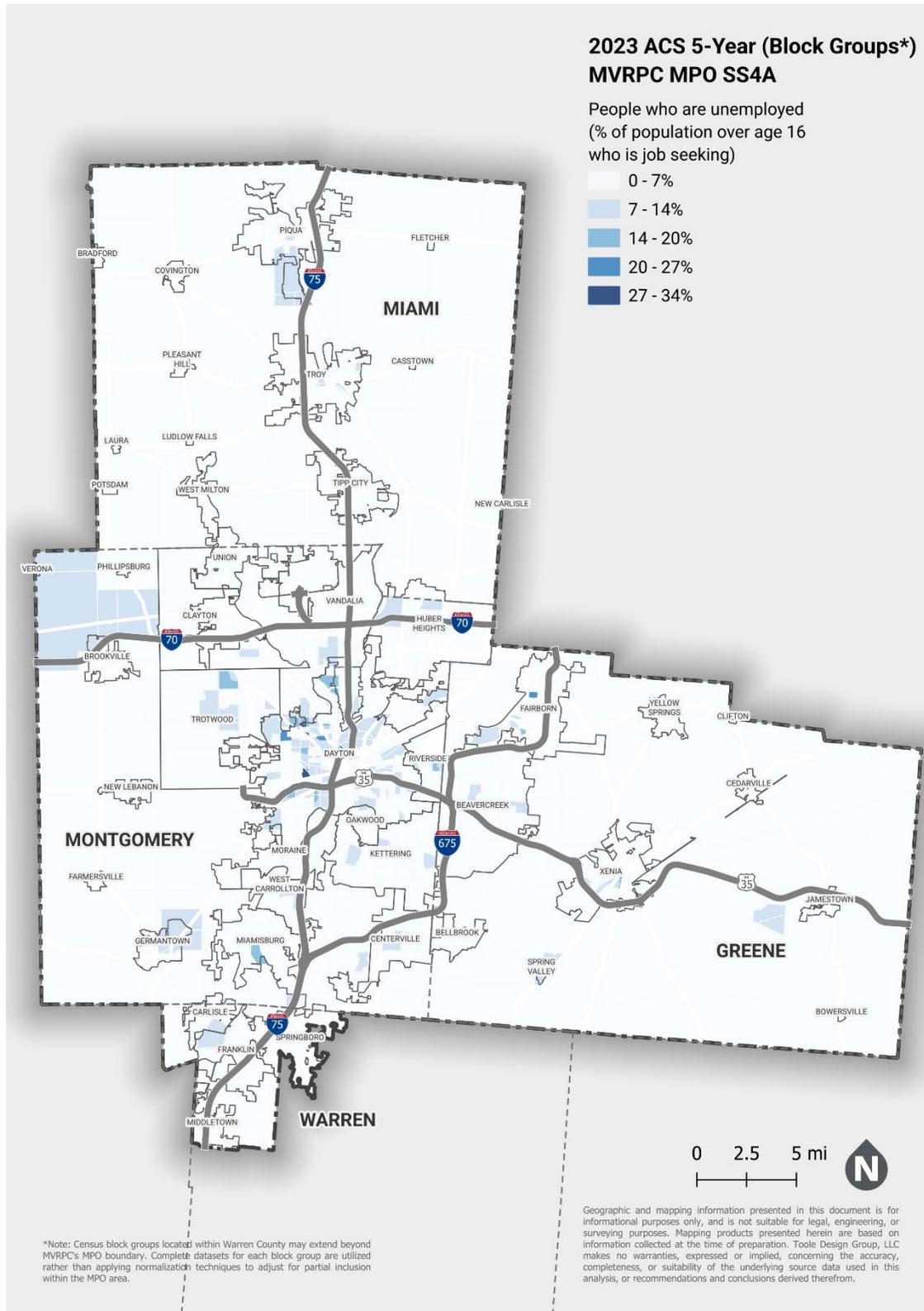


Figure 14: People who are unemployed (% of population over age 16 who is job seeking)

Key Takeaways

Figure 14 displays concentrations of people who are unemployed by census block groups. The MPO region overall has a low unemployment rate. Most of the region falls within the lowest percentage group with zero to seven percent of the block group populations being unemployed. Only five block groups have the highest concentrations of unemployment (20 to 34 percent). Four of the five highest concentration block groups are in the city of Dayton (all west of I-75) and one block group is in the city of Fairborn (west of I-675). Mid-percentage levels of unemployment (7 to 20 percent) are concentrated within block groups within the city of Dayton, as well as parts of Germantown, Carlisle, Spring Valley, Fairborn, and Piqua.

Households that do not own a vehicle (% of households)

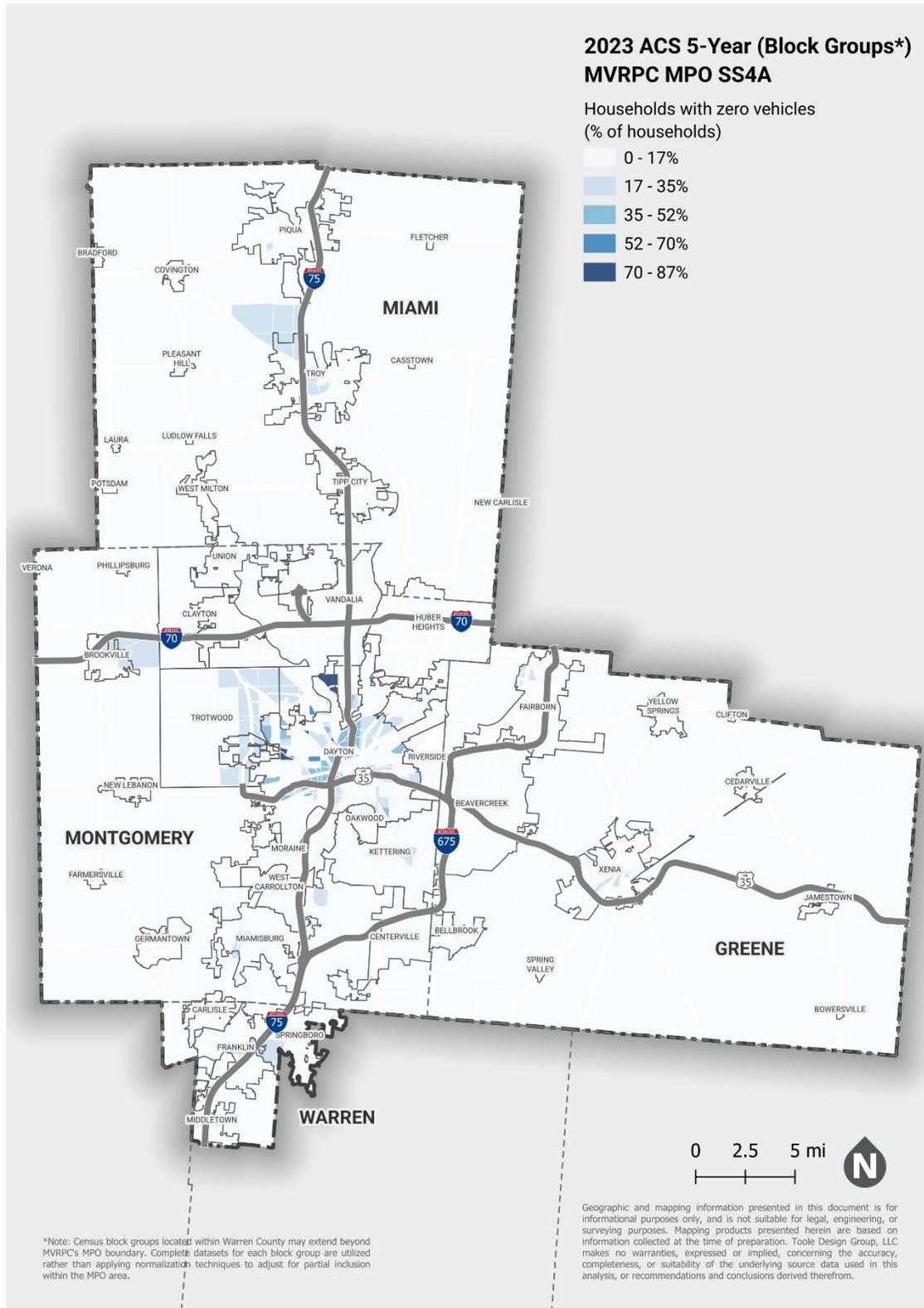


Figure 15: Households that do not own a vehicle (% of households)

Key Takeaways

Figure 15 displays concentrations of households that do not own a vehicle by census block groups. It is important to note that the American Community Survey measures how many vehicles and whether vehicles are available to the household; therefore, households indicated as zero vehicles means there is no access to a vehicle or access to consistently borrow a vehicle. There are minimal block groups in the MPO region that are considered zero vehicle households. Most of the highest percentage level (35 to 87 percent) block groups are concentrated in the city of Dayton. The highest percentage groups (70 to 87) of zero car household block groups are in the city of Dayton (west of I-75). Block groups outside of the middle-MPO region have a few concentrations of 17 to 35 percent zero car households block groups, within Trotwood and surrounding areas of Troy and Brookville. For the most part, the region has low percentages of zero car households with most of the region falling between zero to 17 percent.

Renter occupied housing units (% of households)

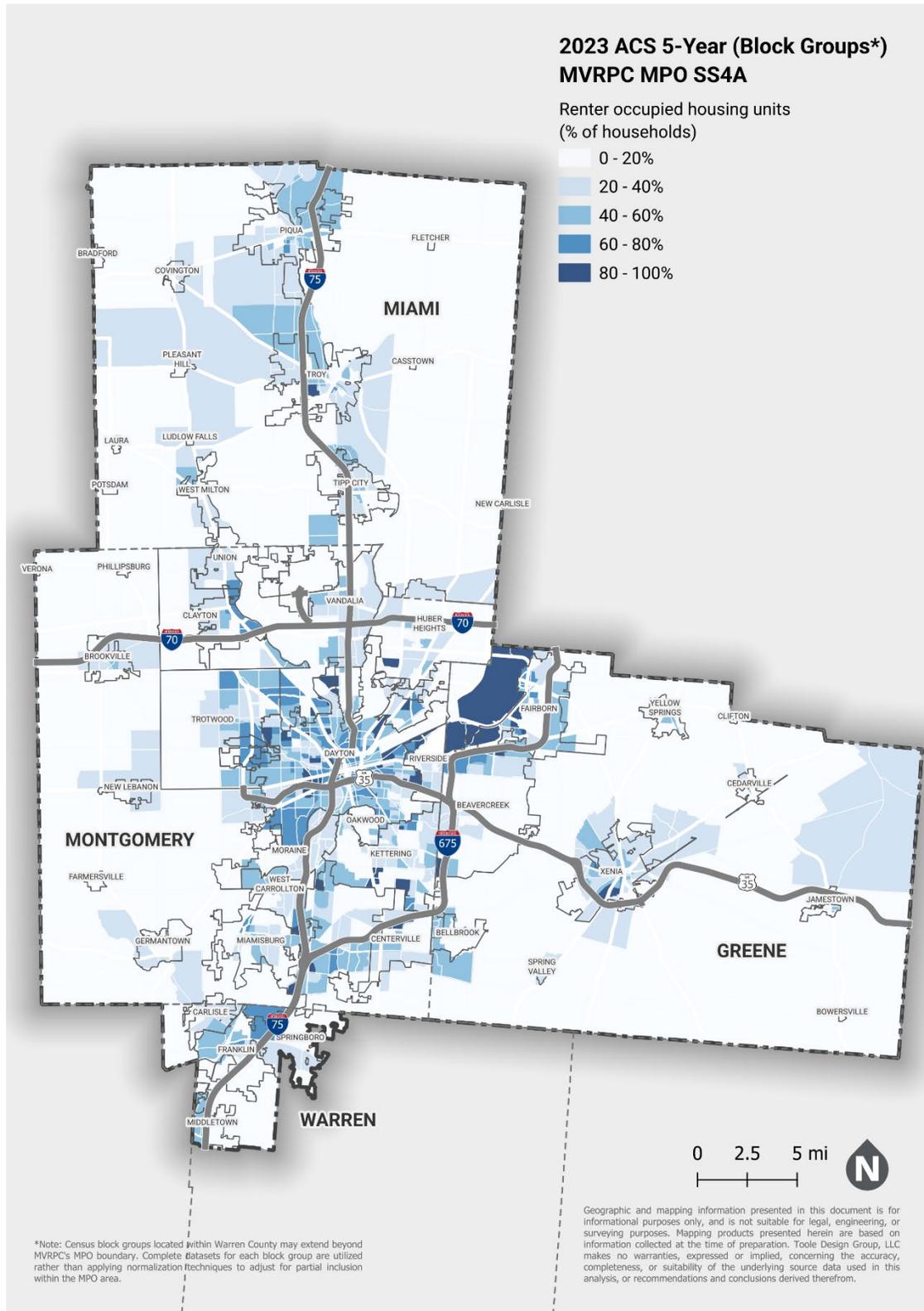


Figure 16: Renter occupied housing units (% of households)

Key Takeaways

Figure 16 displays concentrations of renter occupied housing units by census block groups. Renter occupied housing is very prevalent within the middle of the MPO region. The city of Dayton and in/near Fairborn have the highest concentrations (60 to 100 percent, south of I-70, west of I-675) of block groups being renter occupied. This could be attributed to the universities and employment in the area. Fairborn is home to Wright State University and the Wright-Patterson Air Force Base is located just outside the city, while Dayton is home to the University of Dayton. These universities and employment jobs may lead to higher percentages of renters due to people only being at university and military jobs for a certain duration of time. Smaller block groups with high percentages of renter occupied populations (60 to 100 percent) are also located in Piqua, Troy, Clayton, Kettering, Xenia, Springboro, and Franklin. Most block groups within cities/urban areas fall within the 20 to 40 percent renter occupied housing, while the more rural areas fall within the zero to 20 percent group.

There is a high correlation between renter occupied housing and low-income households. The more urban areas, which are mainly the middle of the MPO Region/Dayton area, have concentrations of blocks groups with the highest densities of renter occupied housing, which is common in urban areas. The sprawl of some high concentrated block groups also shows how marginalized populations could be easily missed when not mostly urban.

Areas of Persistent Poverty

In addition to demographic mapping, the Areas of Persistent Poverty were reviewed to understand where communities that are underserved within the region are located. USDOT states that an Area of Persistent Poverty includes:

- *Any county (or equivalent jurisdiction) in which, during the 30-year period ending on the date of enactment of this chapter, 20 percent or more of the population continually lived in poverty, as measured by*
 - *the 1990 decennial Census;*
 - *the 2000 decennial Census; and*
 - *the most recent annual small area income and poverty estimate of the Bureau of the Census;*
- *Any Census tract with a poverty rate of not less than 20 percent, as measured by the 5-year data series available from the American Community Survey of the Bureau of the Census for the period of 2014 through 2018; and*
- *Any territory or possession of the United States.*⁵

Key Takeaways

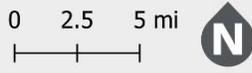
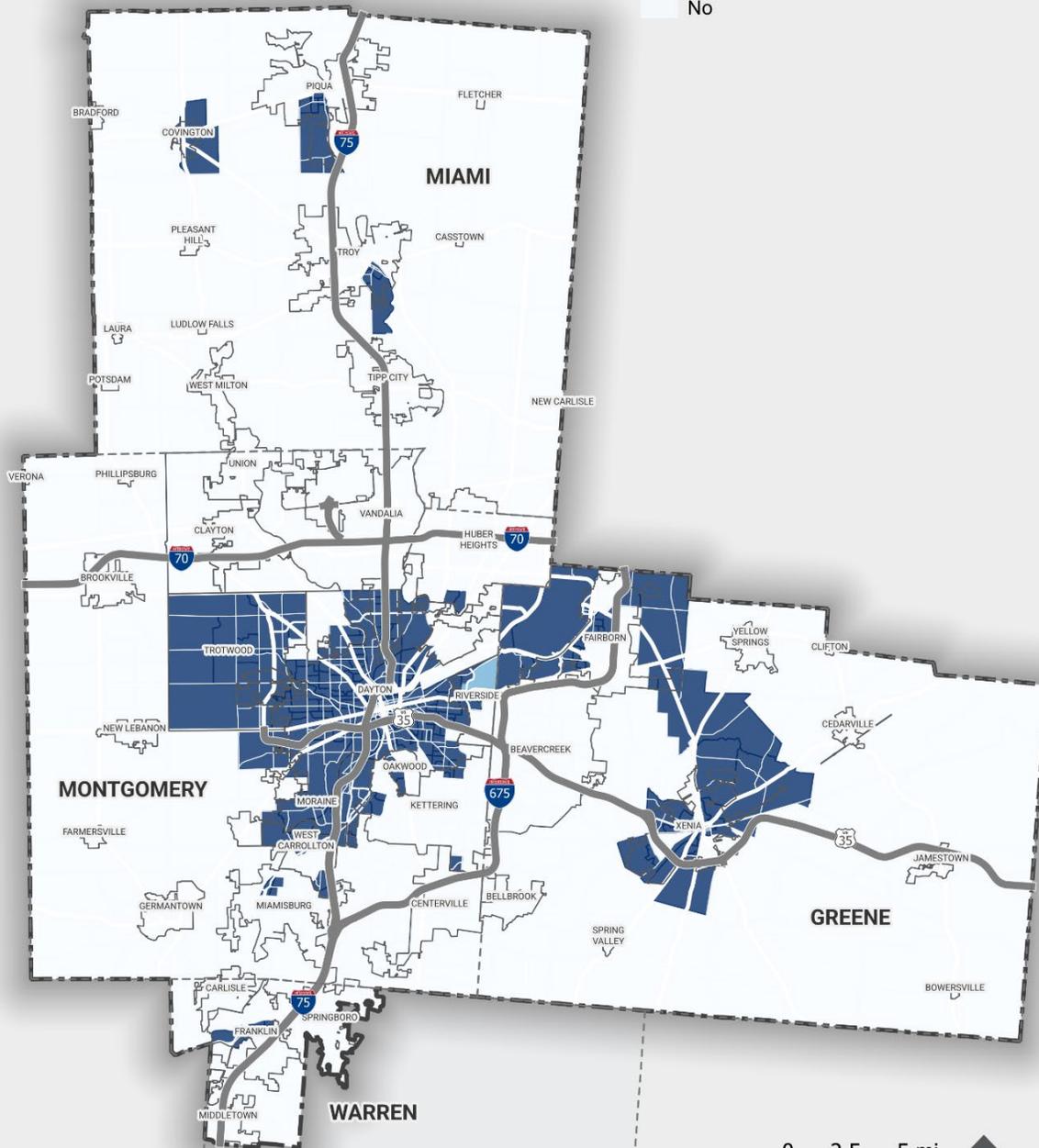
Figure 17 displays the Areas of Persistent Poverty from the USDOT's Multimodal Project Discretionary Grant Program using 2025-2026 data. Areas of persistent poverty by census tracts within the MVRPC MPO region include, but are not limited to the cities of Dayton, Moraine, Trotwood, Riverside, Xenia/Xenia Township, Wright Patt Air Force Base, Bath Township, southern Newberry Township/city of Covington, southern Washington Township, and southern Concord Township.

⁵ USDOT. SS4A Frequently Asked Questions. <https://www.transportation.gov/grants/ss4a/faqs>

MVRPC MPO SS4A

Areas of Persistent Poverty (Census Tracts)

- Yes
- Not Identified
- No



Source: USDOT, Areas of Persistent Poverty (APP) for MPDG 2025-2026
<https://www.transportation.gov/grants/mpdg-areas-persistent-poverty>

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Figure 17: Areas of Persistent Poverty

Composite Map

The composite map displays the two highest percentage groups of each demographic key population overlapping with one another to indicate areas with higher needs, as well as the USDOT's Areas of Persistent Poverty. Areas that are shaded with a darker blue indicate a higher composite index, while areas shaded with a lighter blue indicate a lower composite index.

Key Takeaways

Figure 18 displays the composite index map. Areas within the urban area boundary display the greatest variation in composite need. The cities of Dayton, Moraine, Trotwood, Xenia, and West Carrollton display the highest level of need. Transitional suburban areas between cities also tend to show moderate need, such as between Miamisburg and Springboro, Brookville and Clayton, Beavercreek and Xenia, and Piqua and Troy. Some rural areas also display notable need, particularly smaller cities or villages such as Covington and areas surrounding Pleasant Hill.