CHAPTER 10

COMMUNITY IMPACT ASSESSMENT

10.1 Overview

MVRPC conducts a Community Impact Assessment to address Environmental Justice (EJ) & Equity issues in the 2050 LRTP, and ensure that vulnerable population groups do not bear an unreasonable or inequitable share of the costs associated with planning processes and initiatives. As such, MVRPC undertakes extensive measures to identify locations where such vulnerable populations are concentrated in the Region, and to extend additional public outreach efforts to those communities.

Technical analyses — travel time to work; travel time to basic services such as grocery stores, medical centers, and community centers; and transit and regional bikeway accessibility — were performed, and the findings indicated that vulnerable population groups were largely unaffected by the 2050 LRTP in comparison to the general population.

The following sections of this chapter articulate those efforts and document the results of MVRPC's efforts towards addressing Environmental Justice (EJ) & Equity issues in the 2050 LRTP.

10.2 Background[14]

MVRPC, as a MPO, receives federal funding to support many of its programs and activities, and must address the federal EJ requirements as a condition of receiving those funds.

Principles of Environmental Justice

The U.S. Department of Transportation (U.S. DOT) describes the three basic principles of EJ as:

- Ensuring public involvement of low-income and minority groups in decision making;
- Preventing "disproportionately high and adverse" impacts of decisions on low-income and minority groups; and
- Assuring low-income and minority groups receive proportionate share of benefits.

In general, this means that for any program or activity for which any federal funds will be used, the agency receiving the federal funds must make a meaningful effort to involve low-income and minority populations in the decision-making processes established for the use of federal funds, and evaluate the nature, extent, and incidence of probable favorable and adverse human health or environmental impacts of the program or activity upon minority or low-income populations.

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[14] Ohio Department of Transportation (ODOT), Guidance and Best Practices for Incorporating Environmental Justice into Ohio Transportation Planning and Environmental Processes, August, 2002.

Regulatory Framework

Under Title VI of the 1964 Civil Rights Act and related statutes, each federal agency is required to ensure that no person is excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, disability, or religion. Title VI bars intentional discrimination as well as disparate impact discrimination (i.e., a neutral policy or practice that has a disparate impact on low income and minority groups).

The National Environmental Policy Act of 1969 (NEPA) stressed the importance of providing for, "all Americans a safe, healthful, productive, and aesthetically pleasing surroundings," and provided a requirement for taking a "systematic, interdisciplinary approach" to aid in considering environmental and community factors in decision-making.

This approach was further emphasized in the Federal-aid Highway Act of 1970: 23 United States Code 109(h). It established a further basis for equitable treatment of communities affected by transportation projects. It requires consideration of the anticipated effects of proposed transportation projects upon residences, businesses, farms, accessibility of public facilities, tax base, and other community resources.

On February 11, 1994, President Clinton, recognizing that the impacts of federal programs and activities may raise questions of fairness to affected groups, signed Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The Executive Order requires that each federal agency shall, to the greatest extent allowed by law, administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid "disproportionately high and adverse" effects on minority and low-income populations.

On June 29, 1995, the U.S. Department of Transportation (U.S. DOT) published its draft Order to Address Environmental Justice in Minority Populations and Low-Income Populations in the Federal Register. The report was primarily a reaffirmation of the principles of 1964's Title VI.

On April 15, 1997, U.S. DOT published the final Order to Address Environmental Justice in Minority Populations and Low-Income Populations (U.S. DOT Order 5610.2). The order complies with the President's 1994 Executive Order 12898.

On October 1, 1999, a U.S. DOT letter interpreting EJ further clarified that transportation agencies are to ensure that low-income populations and minority populations receive a proportionate share of benefit from federally funded transportation investments.

On August 11, 2000, Executive Order 13166: Improving Access to Services for Persons with Limited English Proficiency, was signed by President Clinton. This executive order stated that individuals who do not speak English well and who have a limited ability to read, write, speak, or understand English are entitle to language assistance under 1964's Title VI with respect to a particular type of service, benefit, or encounter.

In June 2012, the Federal Highway Administration (FHWA) issued FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (DOT Order 6640.23A) that require the FHWA

to implement the principles of the DOT Order 5610.2(a) and the Executive Order 12898 by incorporating environmental justice principles in all FHWA programs, policies, and activities.

10.3 MVRPC's Approach to Environmental Justice

Recognizing the importance of incorporating EJ issues into the transportation planning process, MVRPC initiated both quantitative and qualitative approaches to address EJ requirements for the 2050 LRTP.

MVRPC adopted four main approaches during the process of updating its 2050 LRTP to address EJ issues, following the guidelines in Guidance and Best Practices for Incorporating Environmental Justice into Ohio Transportation Planning and Environmental Processes, published by ODOT, and recommendations of the Ohio EJ Task Force. This guidance document presents methods and approaches for ensuring that the interests of minority and low-income populations are considered and the impacts on these populations are identified and addressed within the current transportation decision-making processes. Further, it presents concepts for developing public participation programs that reach target populations. MVRPC's approach included:

- Defining target populations;
- Identifying target areas;
- Conducting tests for adverse impacts; and
- Taking extra public participation efforts to fully engage diverse population groups.

10.4 Defining Vulnerable Populations

MVRPC's analysis groups included the EJ populations of racial and ethnic minorities and persons in poverty. Further, MVRPC expanded the target populations to include other traditionally vulnerable groups, such as persons with disabilities, the elderly, and households without automobiles.

Data Sources

A variety of data sources exist pertaining to population demographics. Not all sources, however, are of equal quality. MVRPC, therefore, used the 2010 Census and the 2008-2012 American Community Survey (ACS) data as primary data sources for analysis of target population groups. For minority, elderly, and Hispanic variables, 2010 Census Summary File 1 (SF1) block level data were aggregated to the traffic analysis zone (TAZ) level using GIS. For the remaining variables (poverty, disability, and zero-car households), 2008-2012 ACS 5-Year Estimate block group data was converted to the TAZ level, using spatial analysis techniques.

Definition of Population Groups

MVRPC defined the target populations as follows:

Minority Population

All persons of races other than Caucasian were considered minorities, including African-American; American Indian or Alaska Native; Asian; Native Hawaiian or Other Pacific Islander; some other race alone; and persons of two or more races. It is important to note that the population of Hispanic origin was not counted as a race since the U.S. Census Bureau treats persons of Hispanic origin as an ethnic group, not a race.

Hispanic Population

Persons who classified themselves in one of the specific Spanish/Hispanic/Latino origin categories listed, such as Mexican, Mexican-American, Puerto Rican, or Cuban, as well as those who indicated that they were of other Spanish/Hispanic/Latino origin. Persons of Hispanic origin may be of any race.

Persons in Poverty

Persons in poverty are defined as the sum of the number of persons in families with income below the poverty threshold and the number of unrelated individuals with incomes below the poverty thresholds. The set of poverty thresholds varies by family size and composition and age of householder. MVRPC defined the poverty population based on available ACS data tabulated for total household population plus non-institutionalized group quarters.

Disabled Population

In 2010, the ACS began using a new definition of disabled populations, focusing on the impact conditions have on basic functioning rather than the presence of conditions. Consistent with this new definition, MVRPC defined the disabled population based on available ACS data tabulated for household population 18 years of age and over. A person was considered as having a disability if he/she met any of the following conditions. A brief description of each disability category is as follows:

- Hearing difficulty — deaf or having serious difficulty hearing.
- Vision difficulty — blind or having serious difficulty seeing, even when wearing glasses.
- Cognitive difficulty — because of a physical, mental, or emotional problem, having difficulty remembering, concentrating, or making decisions.
- Ambulatory difficulty — having serious difficulty walking or climbing stairs.
- Self-care difficulty — having difficulty bathing or dressing.
- Independent living difficulty — because of a physical, mental, or emotional problem, having difficulty doing errands alone such as visiting a doctor's office or shopping.

Elderly Population

The elderly population is defined as all persons 65 years of age and older.

Zero-Car Households

Zero-Car Households are households with no automobiles at home and available for the use of household members.

Limited English Proficiency Population

In SFY 2013, MVRPC completed a Limited English Proficiency (LEP) analysis for the MPO area.[15] The analysis indicates that less than 1 percent of the population 5 years or older (approximately 5,400 individuals) is not proficient in English. Approximately 50 percent of the LEP individuals speak Spanish as their primary language with the remainder speaking other Indo-Euro, Asian Pacific, or other languages. As a result, MVRPC is focusing its outreach efforts on the Spanish speaking population.

Posters, both English and Spanish versions, advertising the public participation meetings are provided to GDRTA hubs, Greene CATS Public Transit, and Miami County Transit offices. They are also distributed to the Latino Connection, a local Hispanic community-based outreach organization. Newspaper ads are printed in both Spanish and English in La Mega Nota, a free newspaper distributed throughout the Region.

10.5 Identifying Target Areas

MVRPC identified target areas by examining the concentration of the target populations at the TAZ level using Geographic Information Systems (GIS).

Population Thresholds

The target population thresholds were calculated for each population demographic variable under examination in order to locate the areas of high concentration. The TAZ population (e.g., elderly persons) was aggregated to the county level and a county average percentage for each target population was calculated. Using the county average percentage as a threshold, the areas of high concentration were identified. Target population averages were calculated individually for each county, as opposed to an MPO average, to reflect the unique nature of each county. The county thresholds for each target population are listed in Table 10.1.

- Minority Population — Montgomery County has the highest percentage of minorities in the Region. Over 26% of Montgomery County residents are minorities. On the other hand, only 5.6% of the Miami County residents are minorities.

- Hispanic Population — A higher percentage of persons of Hispanic descent live in Montgomery and Warren Counties (2.3% each), followed closely by Greene County (2.1%) and Miami County with the least (1.3%).

- People in Poverty — In the Region, Montgomery County has the highest percentage of people in poverty (16.7%), compared to Greene, Miami, and Warren Counties with 13.5%, 12.2%, and 6.3%, respectively.

- Disabled Population — Montgomery County has the highest percentage of disabled population in the Region (18.4%), followed by Miami, Greene, and Warren Counties, at 15.5%, 14.1%, and 11.4%, respectively.

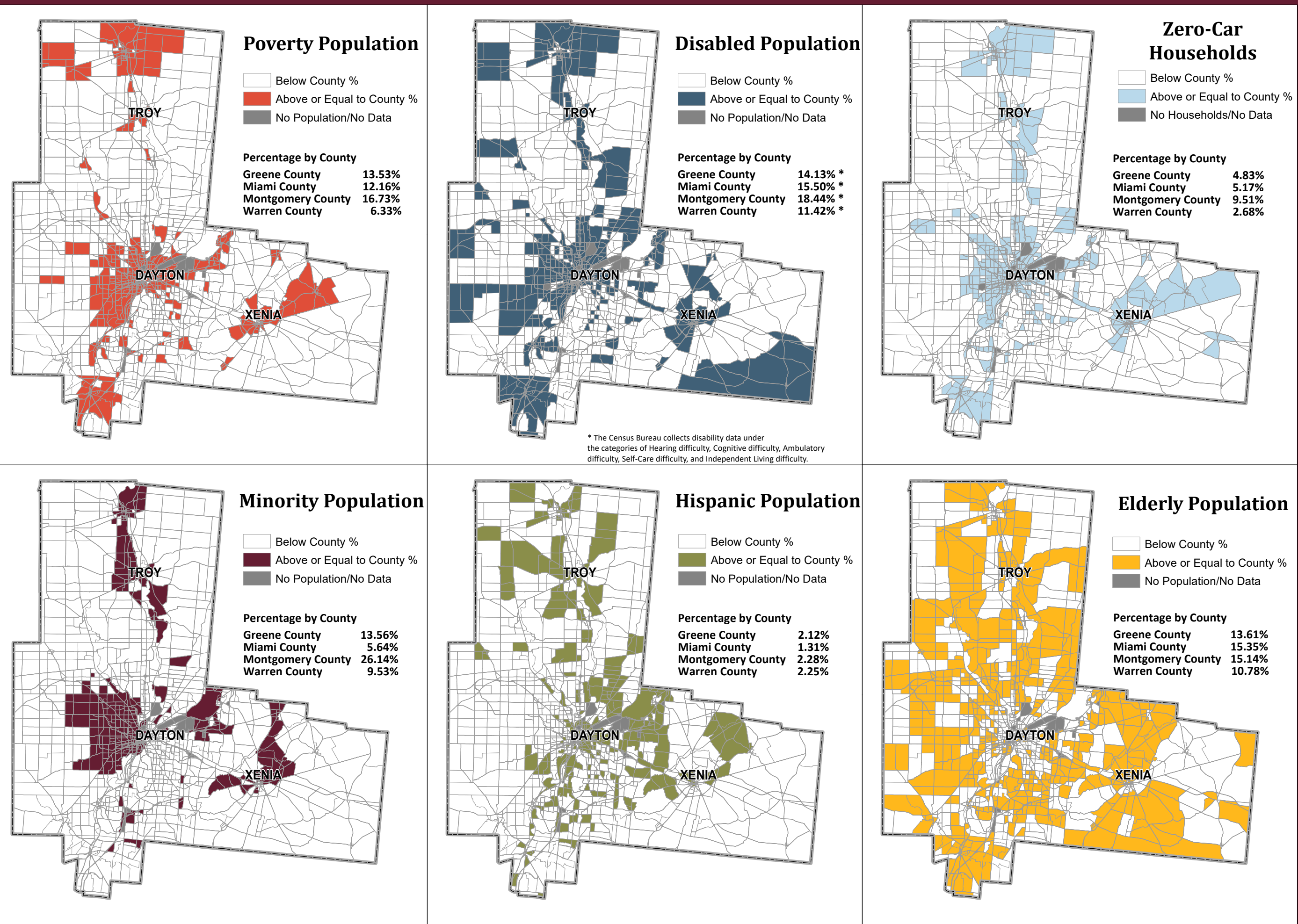[15] The full report can be viewed here: http://www.mvrpc.org/sites/default/files/LimitedEnglishProficiencyAnalysis.pdf

- Elderly Population — A higher percentage of elderly population lives in Miami and Montgomery counties (15.4% and 15.1%, respectively), compared to Greene and Warren Counties (13.6% and 10.8%, respectively).

- Zero-Car Households — Montgomery County has the highest percentage of households without access to cars. Almost one in ten households (9.5%) reported having no cars in the 2008-2012 data.

Table 10.1 — Target Population Thresholds

	County	Total	Threshold
People in Poverty	Greene	20,714	13.53%
	Miami	12,366	12.16%
	Montgomery	87,503	16.73%
	Warren	3,929	6.33%
Disabled Population	Greene	16,647	14.13%
	Miami	11,897	15.50%
	Montgomery	73,416	18.44%
	Warren	4,396	11.42%
Zero-Car Households	Greene	3,037	4.83%
	Miami	2,112	5.17%
	Montgomery	21,304	9.51%
	Warren	2,047	2.68%
Minority Population	Greene	21,903	13.56%
	Miami	5,784	5.64%
	Montgomery	139,881	26.14%
	Warren	20,262	9.53%
Hispanic Population	Greene	3,439	2.13%
	Miami	1,341	1.31%
	Montgomery	12,177	2.28%
	Warren	4,784	2.25%
Elderly Population	Greene	21,998	13.61%
	Miami	15,731	15.35%
	Montgomery	81,041	15.14%
	Warren	22,936	10.78%

Sources: 2010 Census and 2008-2012 American Community Survey

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Poverty Population

- ☐ Below County %
- 🟥 Above or Equal to County %
- ⬜ No Population/No Data

Percentage by County
Greene County	13.53%
Miami County	12.16%
Montgomery County	16.73%
Warren County	6.33%

Disabled Population

- ☐ Below County %
- 🟦 Above or Equal to County %
- ⬜ No Population/No Data

Percentage by County
Greene County	14.13% *
Miami County	15.50% *
Montgomery County	18.44% *
Warren County	11.42% *

* The Census Bureau collects disability data under the categories of Hearing difficulty, Cognitive difficulty, Ambulatory difficulty, Self-Care difficulty, and Independent Living difficulty.

Zero-Car Households

- ☐ Below County %
- 🟦 Above or Equal to County %
- ⬜ No Households/No Data

Percentage by County
Greene County	4.83%
Miami County	5.17%
Montgomery County	9.51%
Warren County	2.68%

Minority Population

- ☐ Below County %
- 🟥 Above or Equal to County %
- ⬜ No Population/No Data

Percentage by County
Greene County	13.56%
Miami County	5.64%
Montgomery County	26.14%
Warren County	9.53%

Hispanic Population

- ☐ Below County %
- 🟩 Above or Equal to County %
- ⬜ No Population/No Data

Percentage by County
Greene County	2.12%
Miami County	1.31%
Montgomery County	2.28%
Warren County	2.25%

Elderly Population

- ☐ Below County %
- 🟧 Above or Equal to County %
- ⬜ No Population/No Data

Percentage by County
Greene County	13.61%
Miami County	15.35%
Montgomery County	15.14%
Warren County	10.78%

Figure 10.1 Environmental Impact Assessment: Target Group Populations

N

0 2.5 5 7.5 10 Miles
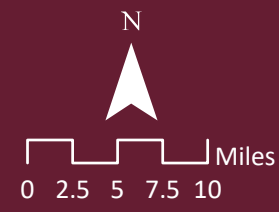
Figure 10.2
Regional Facilities

Downtown Dayton

TROY

XENIA

Facilitiy Type

- Community Center
- Grocery Store
+ Medical Facility

N

0 2 4 6 8 Miles

Date: May 2021
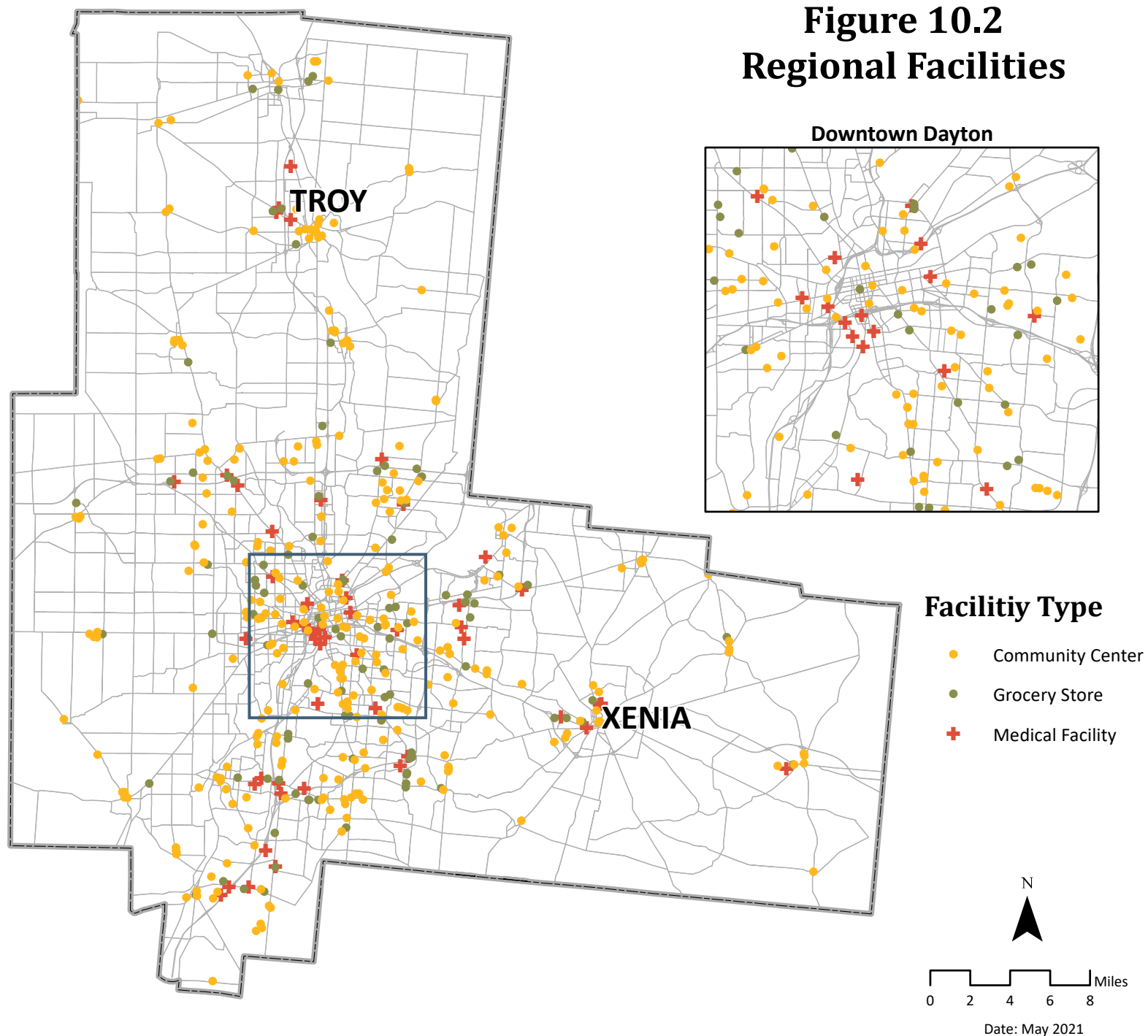
Note: In 2018 Good Samaritan Hospital closed.

MVRPC

Distribution of Target Areas

Using the county's threshold for each target population, TAZs were examined and coded as either "Above County Average" or "Below County Average." It is important to note here that a specific TAZ could be a target area for several target population groups.

MVRPC used GIS to produce a series of maps showing the geographic distribution of target areas for each population group in the Region. The maps are shown in Figure 10.1.

- Minority Population Distribution — Minority areas are concentrated around urban areas or cities.
- Distribution of People in Poverty — The distribution of people in poverty revealed a high concentration in the central city areas of Montgomery County. Greene and Miami Counties also showed the highest concentrations in the central city areas, as well as selected rural areas.
- Disabled Population Distribution — The distribution of the disabled population showed no particular pattern. Disabled populations are spread throughout the entire Region.
- Elderly Population Distribution — No strong patterns were identified with the elderly population, aside from a slight but perceptible lack of concentration near urban centers. In general, the elderly population appears to be spread evenly over the Region.
- Hispanic Population Distribution — In contrast with the distribution patterns for the minority population and people in poverty, the Hispanic population in the Region appears to be located away from city centers and closer to rural areas and large employment centers, particularly Wright Patterson Air Force Base.
- Zero-Car Households Distribution — The distribution of households with no cars shows greater concentration patterns in city centers.

10.6 Community Impact Analysis

MVRPC conducted various technical analyses for the 2050 LRTP to address EJ issues, recognizing that no single measurement can determine whether disproportionate adverse impacts exist or not. Specifically, MVRPC analyzed: 1) Accessibility to Basic Services; 2) Home-Based-Work (HBW) Travel Times; and 3) Transit and Regional Bikeway Accessibility. The purpose of these analyses was to determine if target areas are adversely affected by the Plan, compared to non-target areas, for vulnerable population groups. The following sections provide information on each analysis's methodology.

Accessibility to Basic Services

MVRPC conducted the accessibility analysis by measuring travel time from TAZs to basic service facilities for driving and transit, and from Micro Analysis Zones (MAZs) based on U.S. Census blocks to basic service facilities for walking. The facilities included were grocery stores, medical centers, and community centers (including schools) located in the Region based on inventories conducted in the summer of 2018. The analysis will be repeated periodically as facilities' locations shift over time and the location of the facility is the principal determinant of accessibility. The locations of basic service facilities considered in the analysis can be seen in Figure 10.2.

MVRPC calculated the travel time from each TAZ to the closest facility using the Transportation Demand Forecasting Model (TDFM) with 2010 based conditions, and walking time from each MAZ was calculated assuming a constant walking speed of 3 mph. TAZs and MAZs were then determined to have driving, transit, or walking access to each facility type based on travel time thresholds. From there, the percentage of each target group with access was compared to the percentage of the general population with access for each travel mode and each facility type.

Identifying Basic Service Facilities

MVRPC developed the following criteria to determine which facilities would be included in the analysis.

Grocery Stores — Grocery stores can come in many different forms, so a set of criteria was developed to standardize whether a particular store should be included. The following criteria were used:

- The store must stock fresh produce;
- The store must have a deli and/or stock butchered meats;
- The store must carry basic pantry items, like rice and canned goods;
- The store must carry staples including milk, bread, and eggs; and
- The store must meet basic sanitation requirements.

Medical Centers — Hospitals and urgent care centers were included in the medical center analysis. Urgent care centers were defined as follows:

- Hours which extend beyond the business day (after 5 p.m. and/or some weekend services);
- Provide basic emergency services, such as stitches; and
- Staffed by a doctor.

Additionally, community health centers focused on providing healthcare to low-income and underserved populations were also included in the analysis.

Community Centers — The community center analysis was intended to capture locations which contribute to the civic, social, and physical health of a community. Public schools were included for their common usage as a meeting space for local events. Libraries often hold classes and programs for community enrichment and vitality, in addition to their everyday functions. Cultural centers, recreation centers, and senior centers were also included for their contributions to community cohesion and vitality.
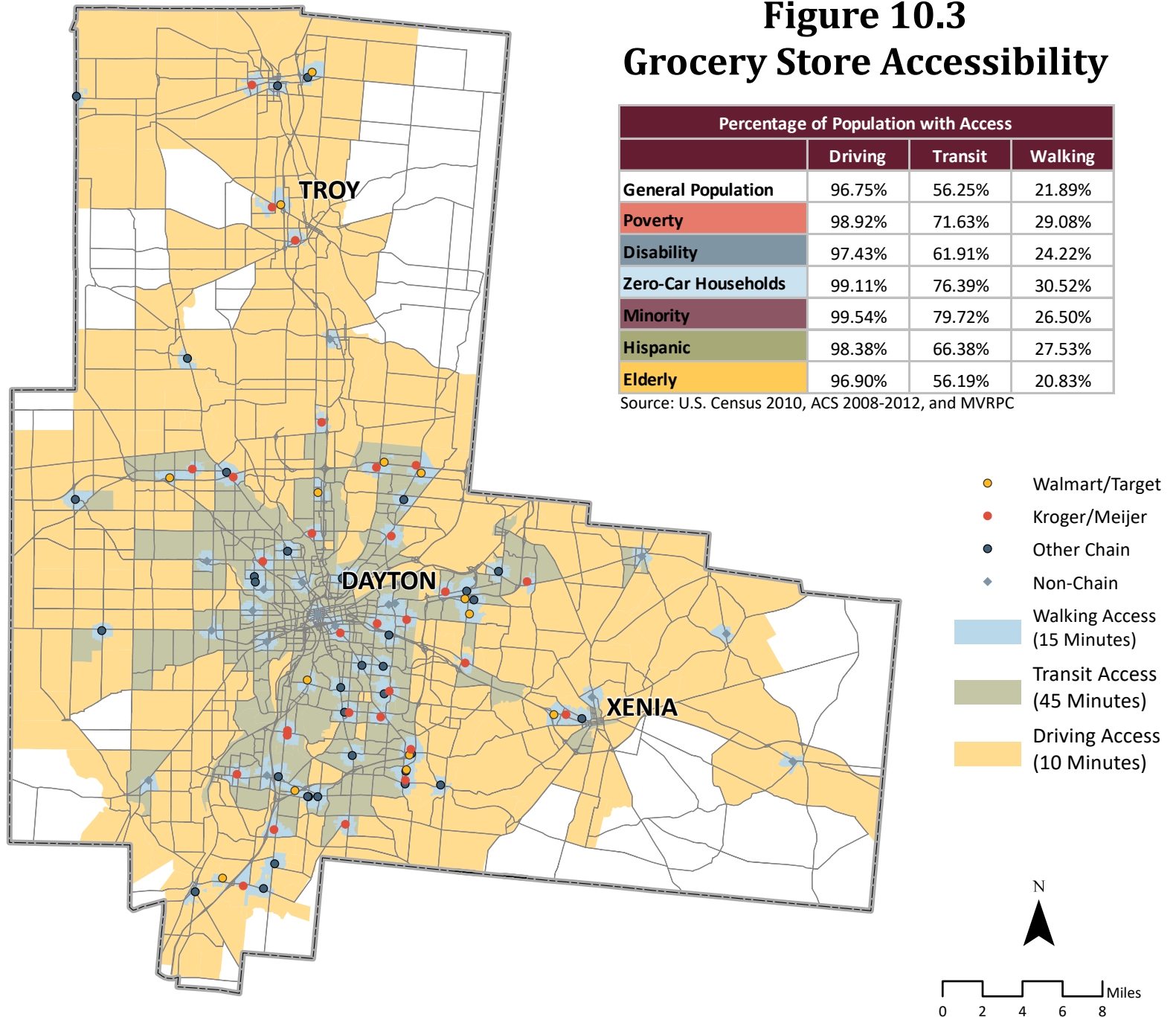
Accessibility Thresholds

- Walking Threshold:
  - Accessible: 15 minutes
- Transit Threshold:
  - Includes access/egress, waiting, transfers, and in-vehicle times
  - Accessible for Grocery Stores and Medical Centers: 45 minutes (equivalent to 10 minutes driving in Travel Demand Model)
  - Accessible for Schools and Community Centers: 30 minutes
- Driving Threshold:
  - Accessible: 10 minutes

Figure 10.3
Grocery Store Accessibility

Percentage of Population with Access			
	Driving	**Transit**	**Walking**
General Population	96.75%	56.25%	21.89%
Poverty	98.92%	71.63%	29.08%
Disability	97.43%	61.91%	24.22%
Zero-Car Households	99.11%	76.39%	30.52%
Minority	99.54%	79.72%	26.50%
Hispanic	98.38%	66.38%	27.53%
Elderly	96.90%	56.19%	20.83%

Source: U.S. Census 2010, ACS 2008-2012, and MVRPC

Legend:
- Walmart/Target
- Kroger/Meijer
- Other Chain
- Non-Chain
- Walking Access (15 Minutes)
- Transit Access (45 Minutes)
- Driving Access (10 Minutes)

N

0 2 4 6 8 Miles

Date: May 2021

Figure 10.4
Medical Center Accessibility

Percentage of Population with Access			
	Driving	**Transit**	**Walking**
General Population	89.17%	50.15%	8.72%
Poverty	94.38%	64.72%	13.01%
Disability	91.08%	56.17%	10.64%
Zero-Car Households	96.65%	70.99%	17.03%
Minority	98.06%	76.07%	11.58%
Hispanic	94.54%	58.83%	10.97%
Elderly	88.68%	50.34%	9.66%

Source: U.S. Census 2010, ACS 2008-2012, and MVRPC

TROY

DAYTON

XENIA

✚ Hospital

✚ Community Health Center

✚ Urgent Care Center

Walking Access (15 Minutes)

Transit Access (45 Minutes)

Driving Access (10 Minutes)

N

0 2 4 6 8 Miles
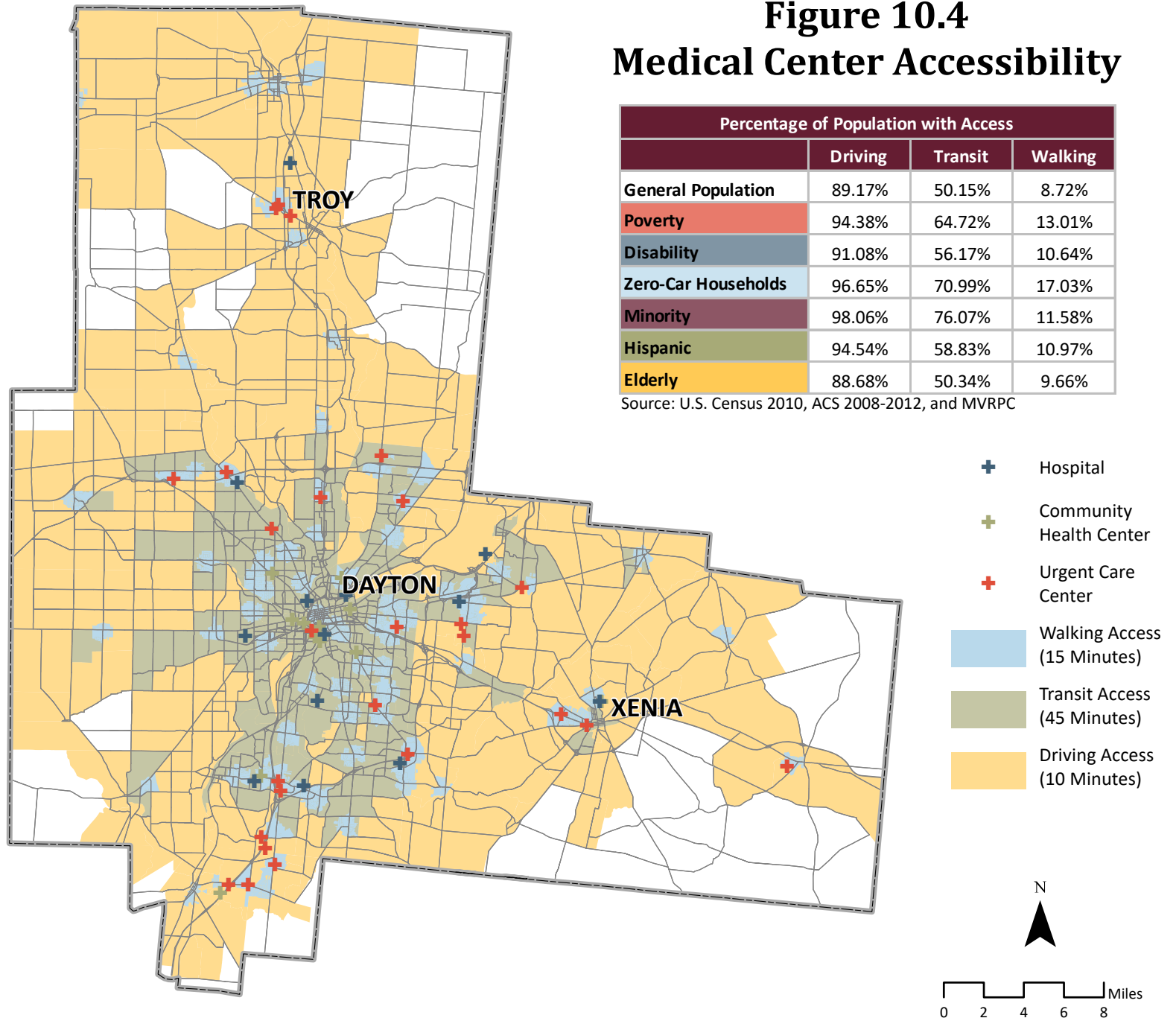
Date: May 2021

Figure 10.5
Community Center Accessibility
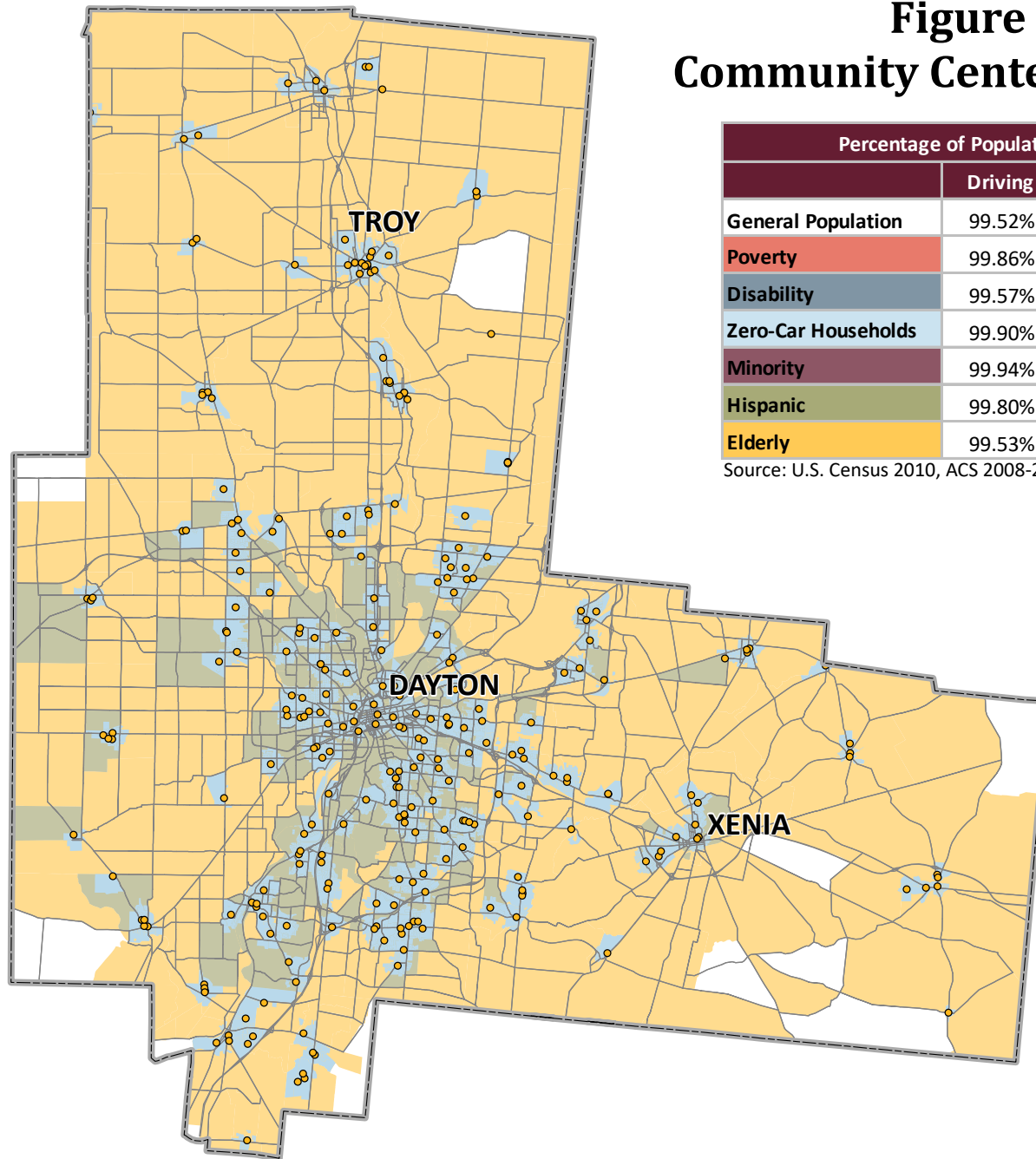
Percentage of Population with Access			
	Driving	Transit	Walking
General Population	99.52%	50.07%	46.87%
Poverty	99.86%	65.47%	56.67%
Disability	99.57%	57.27%	52.02%
Zero-Car Households	99.90%	72.60%	58.86%
Minority	99.94%	70.91%	51.09%
Hispanic	99.80%	57.79%	50.23%
Elderly	99.53%	50.88%	46.98%

Source: U.S. Census 2010, ACS 2008-2012, and MVRPC

- Community Center
- Walking Access (15 Minutes)
- Transit Access (30 Minutes)
- Driving Access (10 Minutes)

N

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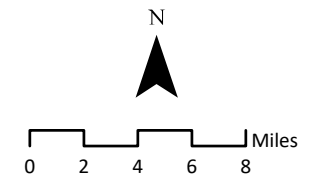
Date: May 2021

Results

MVRPC generated maps, shown in Figures 10.3-10.5 above, with TAZs and MAZs highlighted which are within accessibility thresholds for each facility type and travel mode. Each figure also contains a table showing the percentage of the general population and target populations with access to each facility type. In general, all examined populations have better accessibility than the general population except for the elderly, whose accessibility closely resembles that of the general population due to a similar geographic distribution. Rural populations have more gaps in accessibility than urban and suburban populations.

Grocery Store Accessibility — All populations have greater than 95% driving access, greater than 55% transit access, and greater than 20% walking access. The groups with the most access per mode are minority for driving and transit (99.5% and 80%, respectively), and zero-car households for walking (31%).

Rural populations tend to have lower access than urban and suburban populations to grocery stores. Driving access tapers off on the outskirts of the region (e.g. western Greene and western Miami counties), especially outside the Interstate 75 corridor. Target populations living in rural communities, especially those unable to drive, may experience difficulty shopping for food.

It is also notable that accessibility would decrease significantly if only major grocery chains were included in the analysis.

Medical Center Accessibility — All target groups have greater transit and walking access than the general population. All populations have greater than 88% driving access, greater than 50% transit access, and greater than 8% walking access. The groups with the most access per mode are minority for driving and transit (98% and 76%, respectively), and zero-car households for walking (17%).

Medical center access for rural communities is the lowest of any facility type. Low driving access extends into some exurban communities such as Germantown and Brookville.

Community Center Accessibility — All target groups have greater access for all modes than the general population. All populations have greater than 99.5% driving access, greater than 50% transit access, and greater than 46% walking access. The groups with the most access per mode are minority for driving (99.94%), and zero-car households for transit and walking (73% and 59%, respectively).

Community centers and schools enjoy a wider geographic coverage than the other facility types. Still, there are accessibility gaps, even for driving, in less-populated parts of the region.

Travel Time to Work

MVRPC analyzed travel time to work (HBW Trips) as a second community impact evaluation of the 2050 LRTP. This evaluation identifies whether adverse impacts exist regarding the travel time to work between target areas and non-target areas, with respect to employment locations as a result of the Plan.

The average travel time to work for each TAZ was derived using MVRPC's TDFM for all three scenarios (2010 Base, 2050 E+C, and 2050 Plan). The average HBW travel time for each TAZ was calculated for target areas

for all population groups and the general population. The results of the analysis can be seen in Table 10.2 below.

Table 10.2 — Average Travel Time to Work by EJ Status in Minutes

	2010	2050 E+C	2050 Plan
General Population	9.7	12.6	12.5
People in Poverty	9.6	12.6	12.3
Disabled Population	9.5	12.5	12.3
Zero-Car Households	9.6	12.5	12.3
Minority Population	9.7	12.4	12.3
Hispanic Population	9.5	12.3	12.1
Elderly Population	**10.0**	**13.0**	**12.9**

Source: MVRPC

The differences between the target areas and the general population in the Region, with respect to HBW travel time, are consistent (less than or equal to the general population's travel time for target areas) for all population groups in each scenario, except for the elderly population. A comparison of HBW travel times between the 2050 E+C and 2050 Plan scenarios reveals that implementation of the 2050 LRTP will decrease HBW travel times for all population groups.

The analysis of the average travel time to work in the Region indicates that target areas are favorably situated as compared to non-target areas in terms of travel time to work, aside from the elderly target areas. Further, the analysis shows that all target areas will benefit as much or more than non-target areas as a result of the 2050 LRTP. Given that the elderly are less likely to work the more their age affects their mobility, HBW travel times are not likely to be seen as a concern by individuals (unlike, for example, access to shopping centers and hospitals discussed above). It is therefore fair to say that there are no significant adverse impacts on target areas compared to non-target areas.

Transit Accessibility Analysis

MVRPC conducted a Transit Accessibility Analysis as a third measure of community impact evaluation of the 2050 LRTP. The analysis was conducted using GIS to identify how much access each target population group has to public transit in the Region. Further, this analysis evaluates how much transit access various target population groups have in comparison to the overall population.

With the exception of limited portions of Greene County (Wright Patterson Air Force Base and Wright State University), Montgomery County is the only County in the MPO area that is served by regularly scheduled fixed transit routes through the Greater Dayton Regional Transit Authority (GDRTA). Therefore, the analysis in this section focuses on Montgomery County (see Figure 10.6). Miami and Greene counties have demand-responsive transit services that are open to the general public.

Figure 10.6
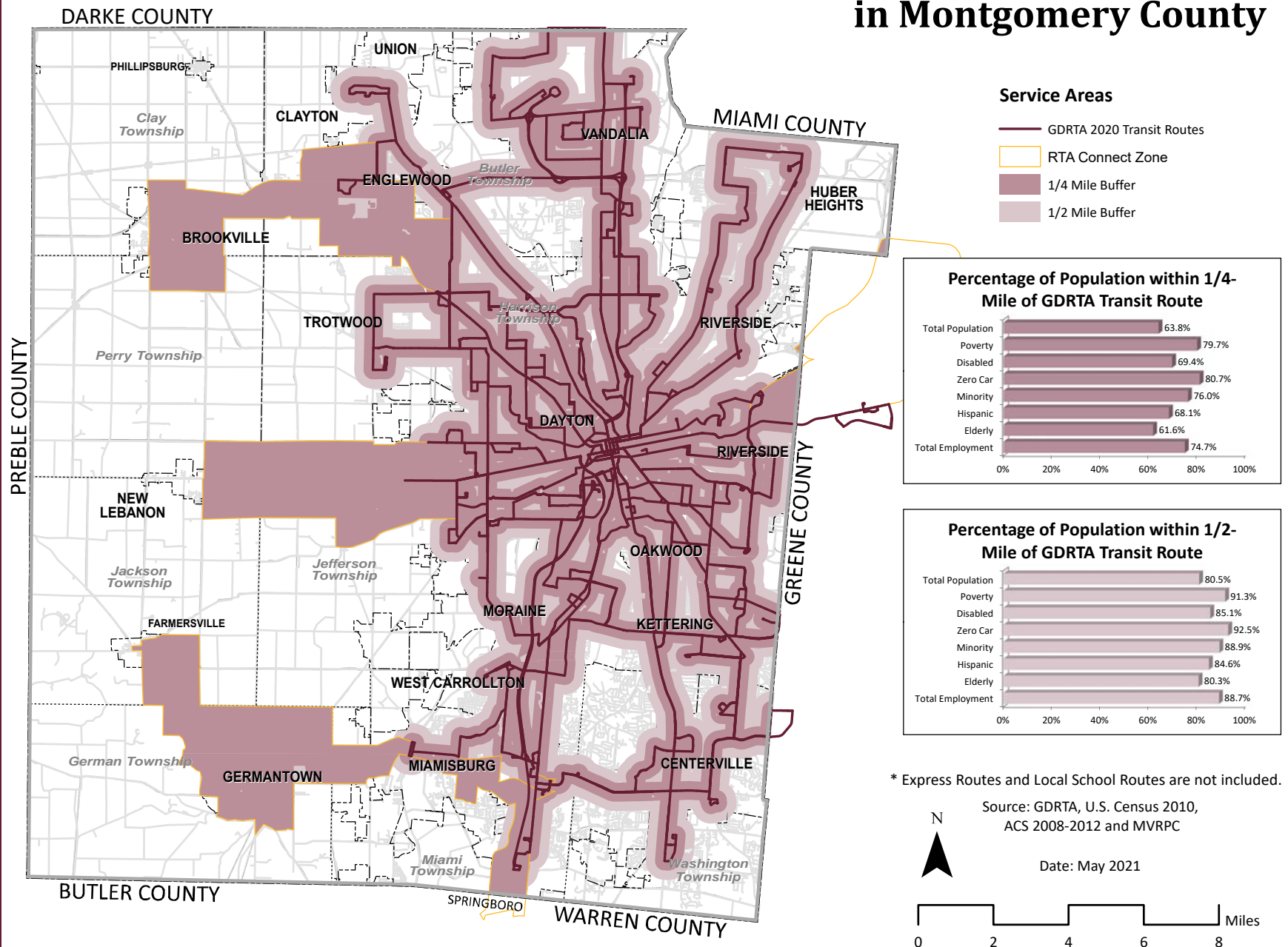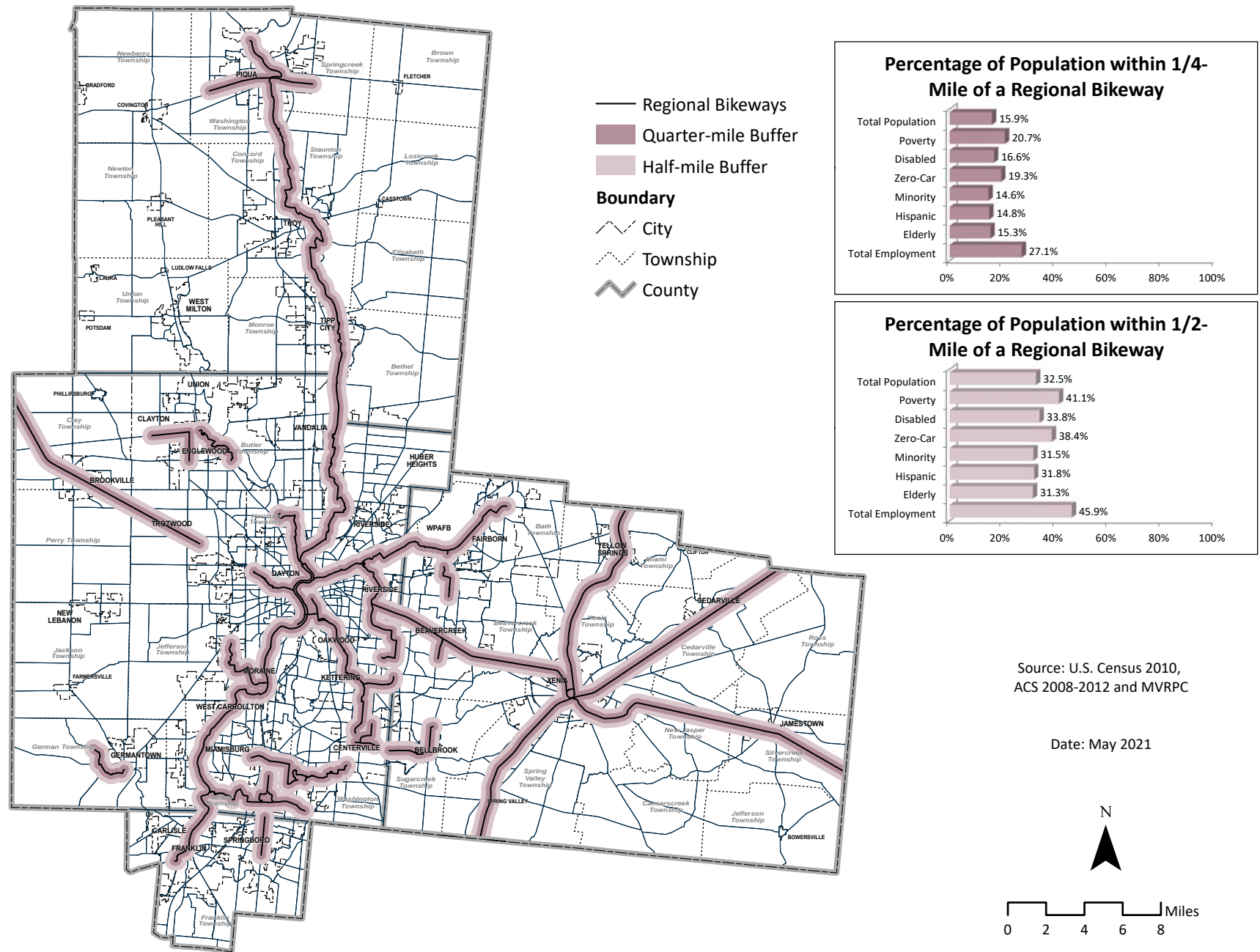# Transit Accessibility in Montgomery County

MVRPC

DARKE COUNTY

MIAMI COUNTY

PHILLIPSBURG

UNION

Clay Township

CLAYTON

VANDALIA

ENGLEWOOD

Butler Township

HUBER HEIGHTS

BROOKVILLE

PREBLE COUNTY

Perry Township

Harrison Township

TROTWOOD

RIVERSIDE

DAYTON

RIVERSIDE

NEW LEBANON

GREENE COUNTY

OAKWOOD

Jackson Township

Jefferson Township

FARMERSVILLE

MORAINE

KETTERING

WEST CARROLLTON

German Township

GERMANTOWN

MIAMISBURG

CENTERVILLE

Miami Township

Washington Township

BUTLER COUNTY

SPRINGBORO

WARREN COUNTY

Service Areas

—— GDRTA 2020 Transit Routes

☐ RTA Connect Zone

■ 1/4 Mile Buffer

▨ 1/2 Mile Buffer

Percentage of Population within 1/4-Mile of GDRTA Transit Route

Total Population	63.8%
Poverty	79.7%
Disabled	69.4%
Zero Car	80.7%
Minority	76.0%
Hispanic	68.1%
Elderly	61.6%
Total Employment	74.7%

0% 20% 40% 60% 80% 100%

Percentage of Population within 1/2-Mile of GDRTA Transit Route

Total Population	80.5%
Poverty	91.3%
Disabled	85.1%
Zero Car	92.5%
Minority	88.9%
Hispanic	84.6%
Elderly	80.3%
Total Employment	88.7%

0% 20% 40% 60% 80% 100%

* Express Routes and Local School Routes are not included.

Source: GDRTA, U.S. Census 2010, ACS 2008-2012 and MVRPC

Date: May 2021

N

Miles
0 2 4 6 8

Figure 10.7
Regional Bikeway Accessibility

MVRPC

Legend

— Regional Bikeways

▬ Quarter-mile Buffer

▬ Half-mile Buffer

Boundary

⌒ City

⋯ Township

⌒ County

Percentage of Population within 1/4-Mile of a Regional Bikeway

Category	Percentage
Total Population	15.9%
Poverty	20.7%
Disabled	16.6%
Zero-Car	19.3%
Minority	14.6%
Hispanic	14.8%
Elderly	15.3%
Total Employment	27.1%

Percentage of Population within 1/2-Mile of a Regional Bikeway

Category	Percentage
Total Population	32.5%
Poverty	41.1%
Disabled	33.8%
Zero-Car	38.4%
Minority	31.5%
Hispanic	31.8%
Elderly	31.3%
Total Employment	45.9%

Source: U.S. Census 2010, ACS 2008-2012 and MVRPC

Date: May 2021

N

0 2 4 6 8 Miles

Due to the close proximity of transit stop locations — less than ¼ mile apart on most routes (with the exception of express routes) — and relatively comprehensive time/location coverage (with the exception of local school routes), bus routes, not bus stops, were used as the basis for the analysis. The analysis utilized the updated 2020 GDRTA transit routes and RTA Connect Zones. GDRTA began using RTA Connect service in 2018, which designates Connect Zones within which ride-hailing service can be utilized to connect to a bus or travel within a zone for the cost of bus fare.

Transit route buffers were overlaid on TAZ and census block boundaries to determine the area covered by the buffer with respect to the overall population and target population groups. RTA Connect Zones were then added to the buffers to account for service provided within the zones. Using the assumptions that population is evenly spread throughout underlying census blocks and target population proportions are consistent within TAZs, the percentage of the general population and target population groups covered in the combined buffer was calculated.

The results of the analysis are presented in two charts in Figure 10.6. The first chart shows the percentage of the general population and target population groups within ¼ mile of a transit route. The second chart shows percentages within ½ mile.

The results reveal that 63.8% of the total population of Montgomery County lives within ¼ mile and 80.5% within ½ mile of a transit route. It was also revealed that high percentages of target populations are covered by public transportation. Further, the results show that target population groups, with the exception of the elderly, are better served than the overall population in both the ¼ mile and ½ mile buffer analyses. For example, 76.0% of minorities, 79.7% of persons living in poverty, 69.4% of persons with a disability, 68.1% of persons of Hispanic origin, and 80.7% of zero car households live within ¼ mile of a transit route, compared to 63.8% for the general population in the same area. The elderly population is slightly less served than the general population at 61.6%, but is a much more evenly spread demographic throughout the county.

The transit accessibility analysis indicates that, in general, target population groups have better accessibility to transit compared to the general population, which leads to the conclusion that there are no adverse impacts regarding target populations.

Regional Bikeway Accessibility Analysis

The importance of measuring the accessibility of the Region's bikeways for target population groups has become an important focus as investment in the system has increased over time. Unlike GDRTA's fixed route transit service, the regional bikeway network extends throughout the MPO Region and continues to grow as new sections are designed and constructed. Only existing regional bikeways — bike paths or bike routes — were included in the analysis.

Bike path facilities are typically grade separated, paved trails intended for non-motorized vehicles; while bike routes are designated portions of the surface roadway network that serve both motorized and non-motorized vehicles. Bike routes are typically identified through signs and/or pavement markings.

Currently there are roughly 225 miles of bikeways in the Region with approximately 14 miles of bikeways added to the Region since 2016.

As in the transit analysis, regional bikeway buffers were overlaid on TAZ and census block boundaries to determine the area covered by the buffer with respect to overall population and target population groups. Using the assumptions that population is evenly spread throughout underlying census blocks and target population proportions are consistent within TAZs, the percentage of the general population and target population groups covered in the buffer was calculated.

The results of the analysis are presented in two charts in Figure 10.7. The first chart shows the percentage of the general population and target population groups within ¼ mile of a regional bikeway. The second chart shows percentages within ½ mile.

The analysis shows that only 15.9% and 32.5% of the general population live within ¼ and ½ mile of a regional bikeway, respectively. Access for target populations is either similar to or higher than the general population, with the largest deficit being the 1.2% difference between 31.3% Elderly access at the ½ mile distance and 32.5% access for the general population. All other deficits are within 1% of the general population. Poverty and Zero-Car populations experience the greatest access, with 20.7% and 19.3% at the ¼ mile distance, and 41.1% and 38.4% at ½ mile, respectively. In addition, 45.9% of the Region's total employment exists within ½ mile of a regional bikeway.

The Regional bikeway accessibility analysis indicates that, in general, target population groups have comparable or better accessibility to regional bikeway facilities as compared to the general population, which leads to the conclusion that there are no adverse impacts regarding target populations.

10.7 Equity Considerations

On October 2020, the MVRPC Board of Directors passed a resolution ensuring equity, diversity, and inclusion in all MVRPC staff, committee and Board of Director's actions denouncing all forms of discrimination and racism as it works to increase equity, diversity, and inclusion in the Region's communities.

Project Evaluation System Update

In 2019, and in preparation for the Long Range Transportation Plan update, MVRPC staff worked with a committee of 15 MPO members to conduct a major review and update the Project Evaluation System (PES). The motivation behind the 2019 update effort was to better align the criteria with the type of projects that are currently being funded; to address member concerns; and to incorporate equity criteria and the performance management approach that is now the foundation of the Federal Surface Transportation legislation.

With respect to equity, points are awarded based on a community's income level with more points being awarded to projects in low income communities. The revised criteria will be used for all MVRPC solicitation and funding processes including the LRTP and the STP/CMAQ/TA solicitation starting in CY 2020.

Institute for Livable and Equitable Communities

Since its inception in 2019, the Institute for Livable and Equitable Communities has placed a deliberate focus on livability and equity, launching programs and transforming systems to build a community where people of all ages, races, incomes, and abilities can thrive. The Institute convenes and works with key regional partners to create a long-term, multi-faceted effort addressing nine critical domains proven to enhance livability and equity in communities including:

- Education;
- Entrepreneurship, Employment and Volunteering;
- Engagement;
- Health and Environment;
- Housing;
- Neighborhood;
- Safety and Justice;
- Technology and Connectivity; and
- Transportation.

As we continue to stand up the Institute, MVRPC will incorporate livability and equity in all of our work products and how we conduct planning and agency operations. We will engage representatives from local jurisdictions with community and business organizations in a variety of working groups that are organized around the domains. Through discussions, programs, and projects, the Institute will be a long term resource for creating livable and equitable communities in the Miami Valley.

10.8 Environmental Justice and Public Participation

Refer to Chapter 11 — Public Participation and Consultation, for a discussion of additional public participation efforts to reach Environmental Justice populations.

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