Appendix E:
Environmental Justice Analysis

TABLE OF CONTENTS

WHAT IS ENVIRONMENTAL JUSTICE?

The U.S. Environmental Protection Agency (EPA) defines environmental justice (EJ) as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies.

Environmental justice plays an important role in transportation planning. Transportation projects have long-lasting physical impacts on communities, and it is important to evaluate fairness and equity as part of the development of transportation policies and funding decisions. No group of people – by race, ethnicity or socio-economic status – should bear a disproportionate share of negative impacts as a result of decisions made at the federal, state, regional or local levels.

MEASURING ENVIRONMENTAL JUSTICE

Incorporating non-discriminatory considerations and practices into the transportation planning and decision-making processes is one of the main focal areas of the efforts we have undertaken as part of the *FFY2023-FFY2026 Transportation Improvement Program (TIP)*. This appendix outlines and expands on the environmental justice analysis process, which includes the following core elements:

Identification

Gathering data supported by descriptive statistics and mapping to describe and identify EJ populations in the region.

Assessment

Includes reviewing the planned projects in relation to EJ populations. Assessment also includes the implementation of outreach strategies designed to engage traditionally underserved populations.

Evaluation

Evaluating regional benefits and burdens though an overall assessment of the slate of planned transportation projects to determine if there are disproportionate/adverse impacts to the target populations. This section also includes discussion on how any findings of disproportionate and/or adverse impacts may be addressed.

For more information on Environmental Justice, visit the following US Department of Transportation web-page on the subject at https://www.transportation.gov/transportation-policy/environmental-justice.

ENVIRONMENTAL JUSTICE POPULATIONS

To identify those included in this discussion as EJ populations we consider two different Executive Orders. Executive Order12898, discusses Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. There is a separate Executive Order (13166) that addresses Improving Access to Services for Persons with Limited English Proficiency (LEP). For purposes of the analysis in this document, minority and low-income populations are defined as "EJ populations".

Spatial and demographic data from the U.S. Census Bureau's (Census) 2016-2020 American Community Survey (ACS) Five-Year Estimates was used to identify environmental justice populations in the WAMPO

region. In this document, environmental justice analysis data was evaluated at the Census tract level (census tracts include one or more Census block groups with 1,500-8,000 residents).

RACE & ETHNICITY

Aggregated data showing race and ethnicity was organized into the following five categories (the first four of which are classified as EJ "minority" groups):

1. Asian, which refers to people having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent - including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

2. Black or African American, which refers to people having origins in any of the Black racial groups of Africa.

3. Hispanic or Latino, which includes persons of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

4. Other, which includes:
   a. Native Hawaiian or Other Pacific Islander, which refers to people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
   b. American Indian and Alaska Native, which refers to people having origins in any of the original peoples of North and South America (including Central America), and who maintain tribal affiliation or community attachment.
   c. Other Races, and those identified by two or more races.

5. White or Caucasian, which refers to people having origins in any of the original peoples of Europe, the Middle East or North Africa.

LOW-INCOME

Individuals included in the "low-income" category are identified in the analysis as 'Persons Below Poverty' based on the Census definition.

THRESHOLDS & LIMITATIONS

Identifying environmental justice populations is useful in understanding the comparative effects of projects throughout all of the affected populations. Thresholds for EJ populations were established in accordance with policy guidance on environmental justice. Population thresholds establish the number or percentage of individuals within a geographic area that must be exceeded to identify an EJ population.

While a convenient and commonly used method to identify EJ populations, the use of thresholds can mask the presence of small pockets of minority populations or low-income populations. WAMPO is mindful that thresholds may exclude some populations from analysis, despite the potential for those populations to be affected by a proposed plan or program. WAMPO also recognizes that EJ determinations are made based on effects, not population size.

Therefore, WAMPO will be analyzing data based on an "EJ Threshold" as well as a regional average comparison to help identify concentrations of minority and low-income populations. Census tracts in this analysis considered to be "environmental justice census tracts" are those that meet the following criteria:

1. <u>EJ Threshold</u> denotes Census tracts with concentrated minority or low-income populations, specifically 50% or greater.

2. <u>Regional Average Threshold:</u> used for those populations that are less concentrated, but still more than 10% of the WAMPO regional average. These averages are outlined in the following section.

ENVIRONMENTAL JUSTICE ANALYSIS

The following sections include the presentation of the EJ analysis organized by the three previously defined core elements (identification, assessment and evaluation).

IDENTIFICATION

Data supported by descriptive statistics and mapping to describe and identify low income, minority, and LEP populations in the region.

REGIONAL COMMUNITY PROFILE

The EJ analysis process begins with developing an understanding of the EJ populations present in the region. To do this, WAMPO has gathered data on the size and location of low-income, minority, and LEP populations.

Table E1 highlights the distributions of EJ populations in the WAMPO region.

Table E1: Minority and Low-Income Populations

POPULATION CATEGORIES		# OF PEOPLE	PERCENTAGE
Total Population Total		533,530	100%
RACE/ETHNICTY	Minority	124,700	23.4%
	Black or African American	43,454	8.1%
	American Indian and Alaska Native	4,825	0.9%
	Asian	22,841	4.3%
	Native Hawaiian and Pacific Islander	326	0.1%
	Some other race	20,640	3.9%
	Two or more races	32,613	6.1%
	[Hispanic or Latino]*	*[79,054]*	*[14.1%]*
	White	408,830	76.6%
LOW INCOME	'Persons Below Poverty'	68,777	13.1%

* Individuals with overlapping Hispanic or Latino ethnicity have been captured among one of the above listed race categories. Source: ACS 2016-2020 5-Year Estimate (B02001, B03003 and S1701)

MAPPING

Identifying EJ populations and their locations (**Figures E1, E2, E3, and E4**) is the first step in conducting the benefits and burdens analysis of plans, policies, and programs. Furthermore, demographic and other data collected to identify populations supports other targeted neighborhood level studies as well as the transportation funding applications and planning efforts of WAMPO regional partners.

MINORITY POPULATIONS

The minority population of the WAMPO region is nearly 24% of the total population. An analysis of regional Census Tracts has identified the geographic locations where minority populations are most concentrated. **Figure E1** illustrates the geographic locations of minority populations that are:

1. Greater than the 50% of that tract's total population (**EJ Threshold,** solid dark red)

2. More than 10 % greater than the regional average of 23.4% (**Regional Average Threshold,** cross-hatched blue). Therefore, the Regional Average Threshold tracts are those that are at least 33.4% minority, but less than 50%.
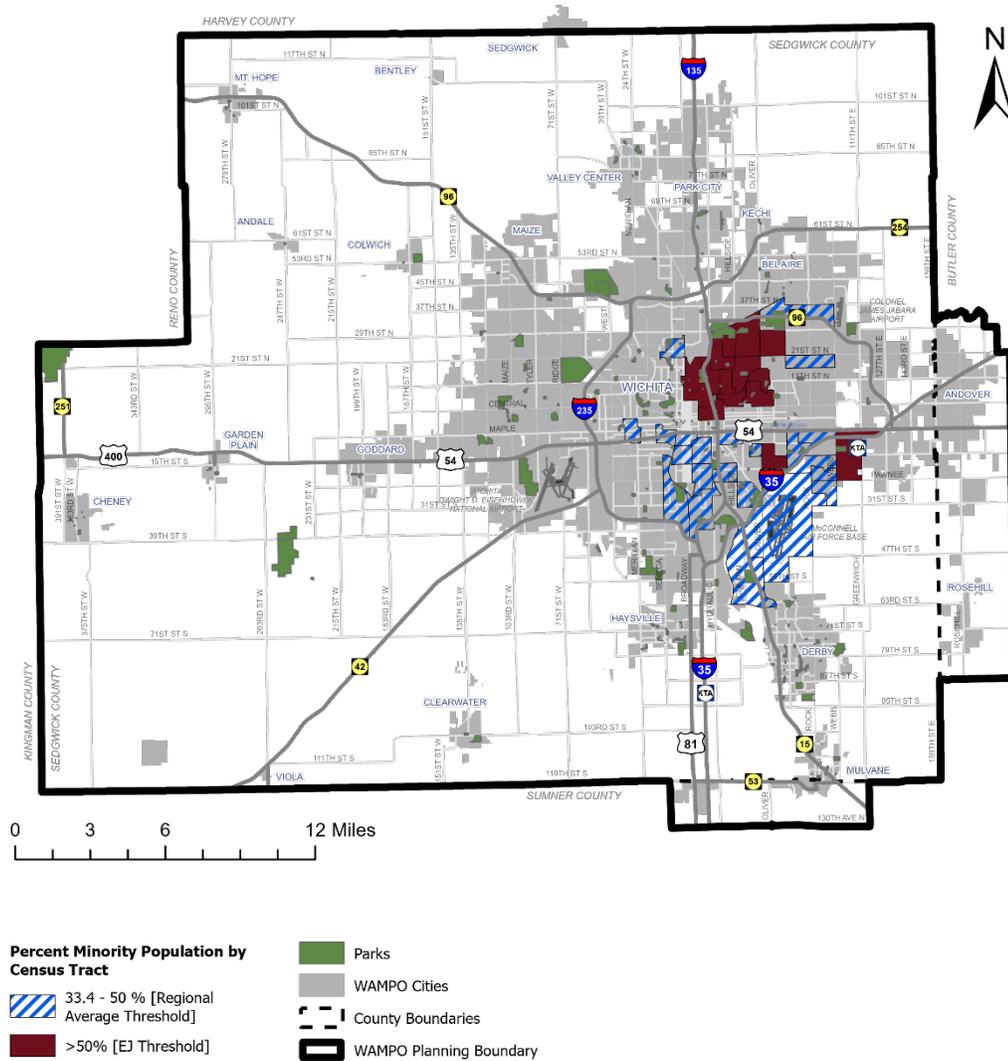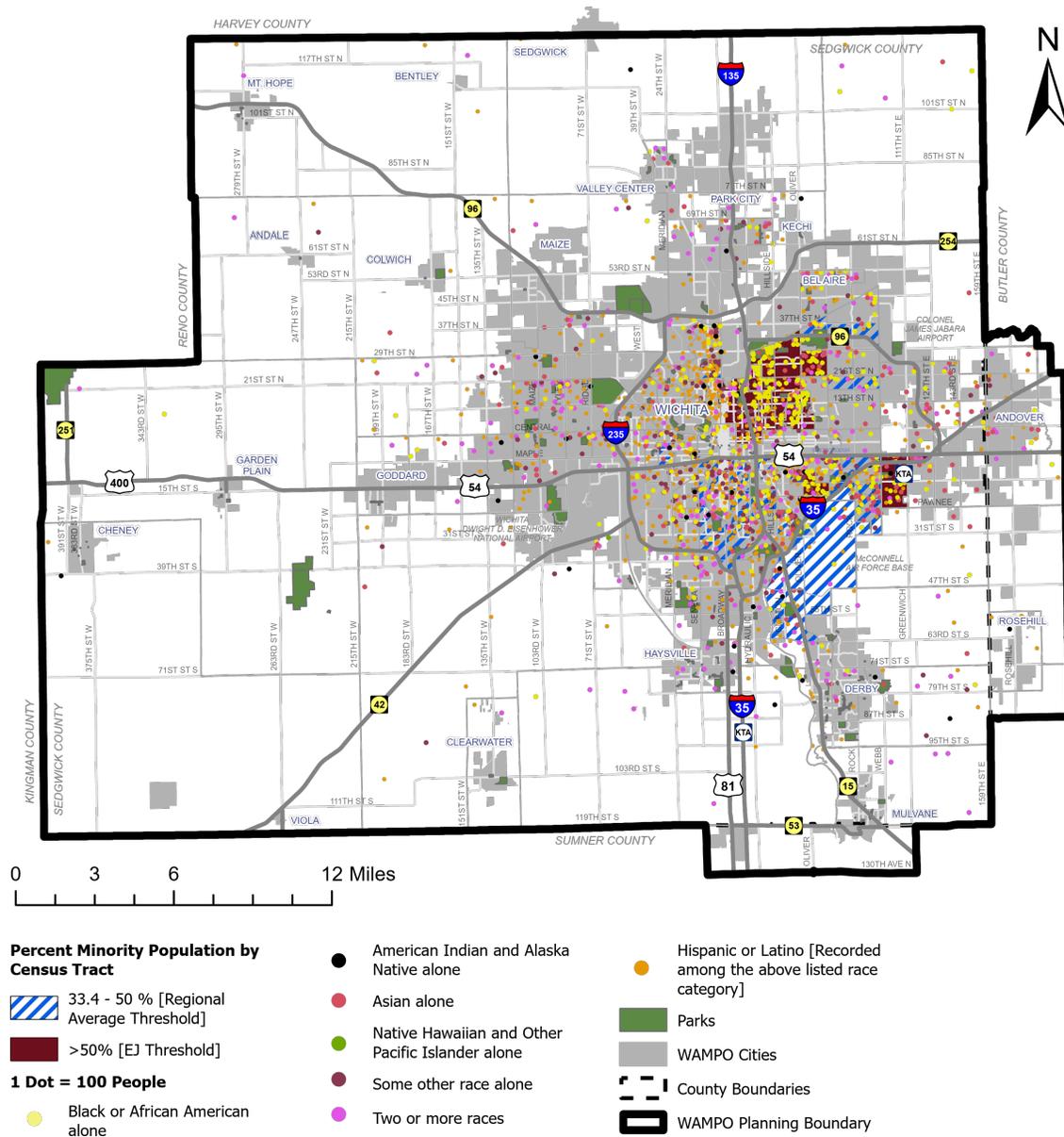
Figure E2: Minority Populations

Percent Minority Population by Census Tract
- 33.4 - 50 % [Regional Average Threshold]
- >50% [EJ Threshold]

- Parks
- WAMPO Cities
- County Boundaries
- WAMPO Planning Boundary

Source: ACS 2016-2020 5-Year Estimate (B02001)
Produced by: WAMPO
Date Exported: 5/10/2022
Folder: T:\Reimagined Move2040\Amendment_in_2022\EJ\
The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

Figure E2 illustrates the geographic locations of minority populations that are:

1. Greater than 50% of the tract's total population (**EJ Threshold,** solid dark red)

2. More than 10% greater than the regional average of 23.4% (**Regional Average Threshold,** cross-hatched blue). Therefore, the Regional Average Threshold tracts are those with at least 33.4% minority but less than 50%.

3. One dot represents 100 people and each color represents a minority group

Figure E2: Minority Population Density

Percent Minority Population by Census Tract

- 33.4 - 50 % [Regional Average Threshold]
- >50% [EJ Threshold]

1 Dot = 100 People

- Black or African American alone
- American Indian and Alaska Native alone
- Asian alone
- Native Hawaiian and Other Pacific Islander alone
- Some other race alone
- Two or more races
- Hispanic or Latino [Recorded among the above listed race category]
- Parks
- WAMPO Cities
- County Boundaries
- WAMPO Planning Boundary

Source: ACS 2016-2020 5-Year Estimate (B02001)
Produced by: WAMPO
Date Exported: 5/11/2022
Folder: T:\Reimagined Move2040\Amendment_in_2022\EJ\
The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
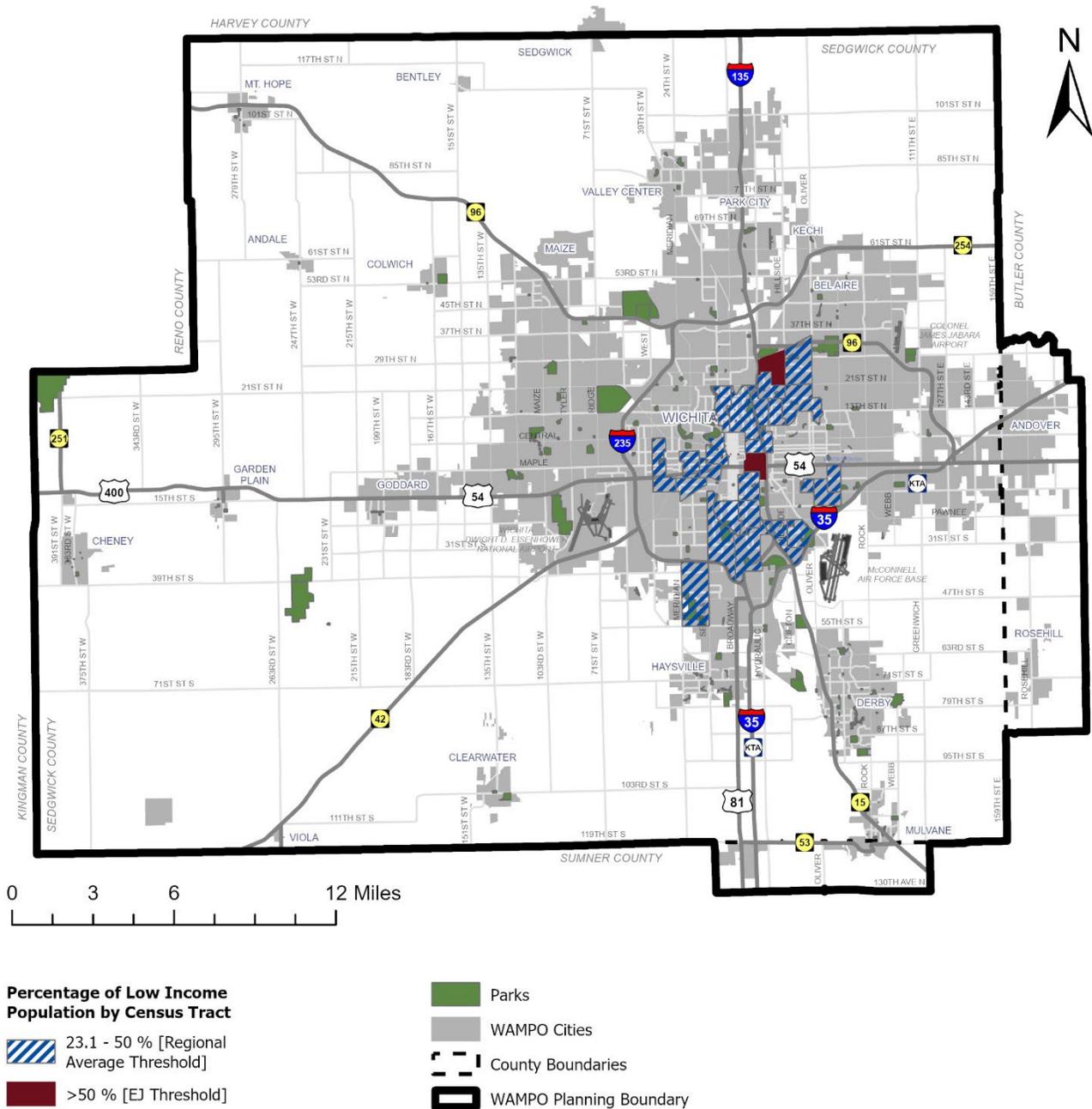
LOW-INCOME POPULATIONS

Populations reporting low incomes in the WAMPO region make up around 13.1% of the total population. An analysis of regional Census Tracts have identified the geographic locations of these low-income populations. **Figure E3** illustrates the geographic locations of low-income populations that are:

1. Greater than the 50% of the tract's total population. (**EJ Threshold,** solid dark red)

2. More than 10% greater than the regional average of 13.1% (**Regional Average Threshold,** cross-hatched blue). Therefore, the Regional Average Threshold tracts are those with at least 23.1% of the population that is low-income, but less than 50%.

Figure E3: Low Income Populations

Percentage of Low Income Population by Census Tract
- 23.1 - 50 % [Regional Average Threshold]
- >50 % [EJ Threshold]

Parks
WAMPO Cities
County Boundaries
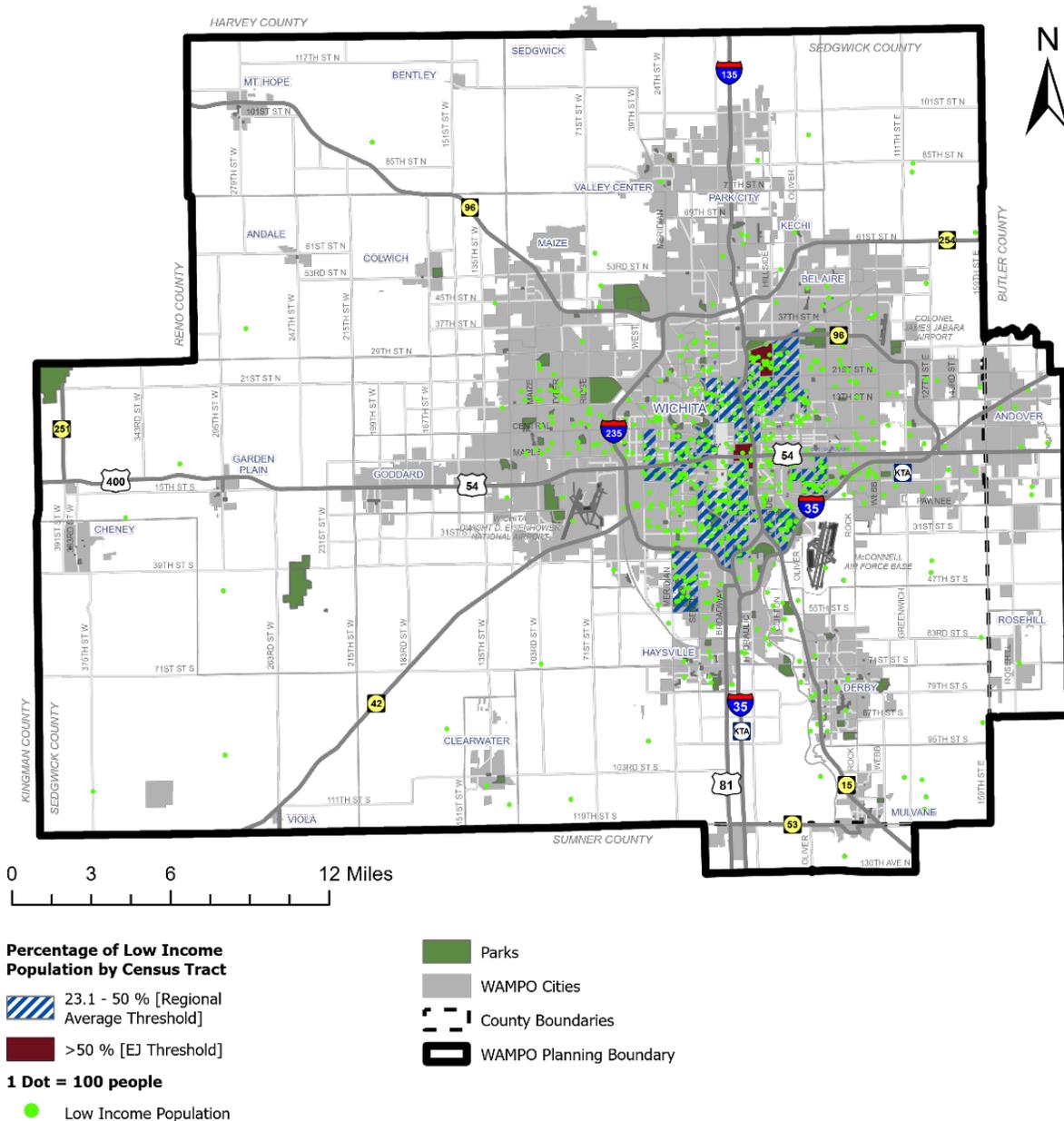WAMPO Planning Boundary

Source: ACS 2016-2020 5-Year Estimate
Produced by: WAMPO
Date Exported: 6/13/2022
Folder: T:\Plans & Projects\TIP\2023-2026 TIP\EJ TIP mapping\GIS\EJ Mapping 2022\
The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

Figure E4 illustrates the geographic locations of low-income populations that meet the previously defined analysis thresholds:

1. Greater than the 50% of that tract's total population. (**EJ Threshold,** solid dark red)
2. Low-income populations more than 10% greater than the regional average of 13.1% (**Regional Average Threshold,** cross-hatched blue), meaning at least 23.1% of the tract population but less than 50%.
3. One dot represents 100 people

Figure E4: Low Income Population Density

Table E2 represents the total population of the census tracts represented in the previous figures. The remainder of this document compares the number of TIP projects in proximity to the populations in EJ census tracts to the number of TIP projects in proximity to the populations that live in census tracts that do not meet the EJ thresholds**.**

Table E2: EJ Populations

	EJ Census Tracts	Non-EJ Census Tracts	Totals
Total Population	145,055	388,475	533,530
Percent of Total Population	27.2%	72.8%	100%

ASSESSMENT

This section documents the conditions of the system in relation to the EJ populations including traditionally underserved population engagement strategies.

EXISTING CONDITIONS & NEEDS

The next step of the EJ analysis process involves a regional assessment that incorporates the EJ Identification findings into the assessment of regional transportation projects.

2023-2026 TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS

The *FFY2023-FFY2026 TIP* project list identifies each project using following categories labels:

Projects Identifiable by Location

Traditional **roadway and bridge** projects are stratified into the following three categories:

1. Expansion projects involve adding significant new capacity.

2. Modernization projects involve: a) significant enhancements to a facility, but without any increase in the number of travel lanes. or b) changing transit routes to reflect changes in employment, school schedules or other demographic changes.

3. Rehabilitation projects involve rebuilding a roadway or other facility without changing the number of travel lanes or other features.

In addition to roadway and bridge projects, there are two other types of geographically identifiable projects found in *FFY2023-FFY2026 TIP*; bicycle/pedestrian projects and transit.

The **bicycle and pedestrian projects** (5 total) include additional bikeways, pathways/trails, safety improvements and wayfinding.

Two **transit** projects and two **technology** projects, are included as a geographically identifiable projects.

Rail projects include track expansions and the rehabilitation of rail facilities within the WAMPO region.

Projects Not Identifiable by Location

27 of the projects on the *FFY2023-FFY2026 TIP* list are not geographically defined because of the nature of the projects.

This category includes 8 **transit projects** which include funding, and replacing paratransit vehicles. The other 19 projects in this category include:

- Planning projects (5) that include asset management, priority planning, travel demand model, and the development of a Safe Routes to School Program.

- Technology projects (4) focused on fiber optic installations and Intelligent Transportation Systems.

- A safety project focused on railroad crossing improvements and a project focused on replacing wayfinding signs.

- The following categories also had projects that were not geographically identifiable as their extent is region wide or they are funding set asides or similar programs: road and bridge (6) and bicycle and pedestrian (2).
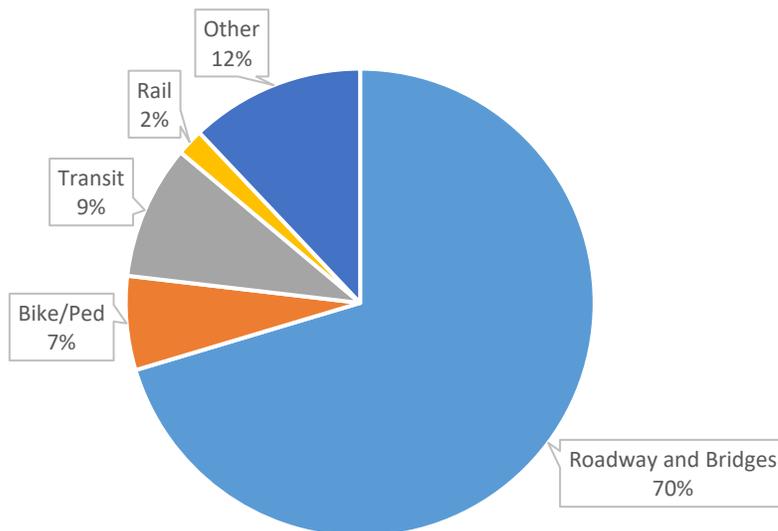
Table E3 shows a frequency distribution of regional projects by category and type.

Table E3: Project Distribution by Category/Type

Category/Type	# of Projects	Percent of Total
Expansion	12	11.1%
Modernization	27	25.0%
Rehabilitation	37	34.3%
Bicycle/Pedestrian	7	6.5%
Transit	10	9.3%
Rail	2	1.9%
Other	13	12.0%
Total	**108**	**100.0%**

Figure E5 shows the overall split of *FFY2023-FFY2026 TIP* project types by mode.
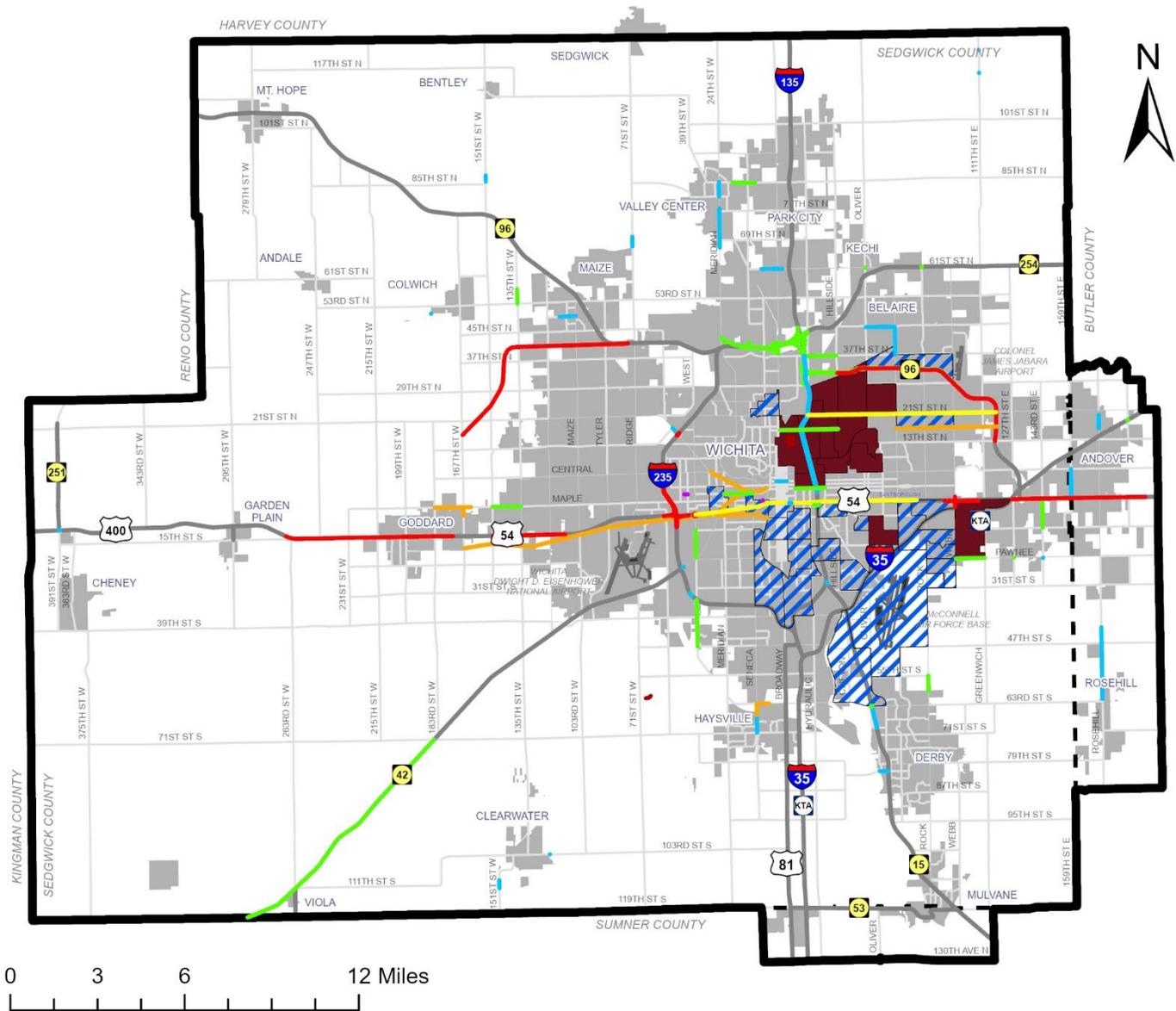
Figure E5: Projects by Mode

PROJECT DISTRIBUTION

The following analysis featured in **Figure E6** through **Figure E8** will illustrate the regional EJ populations in comparison to these projects combined with additional population distribution tables (**Tables E4 through E6**) by EJ category (minority and low-income). Groups of projects not generally identifiable by location (mappable) are not included in project distributions.

MINORITY POPULATIONS

As a reminder, the identification analysis shown previously in **Figure E1** illustrated both the minority EJ Threshold (populations greater than 50%) and the Regional Average Threshold (greater than 33.4%). The following **Figure E6** map overlays the geographic locations of the different mappable projects with the identified thresholds.

Figure E6: Minority Populations and Project Areas

Percent Minority Population by Census Tract

- 33.4 - 50 % [Regional Average Threshold]
- >50% [EJ Threshold]

2023-2026 TIP Projects

- Modernization
- Ped/Bike
- Rail
- Expansion
- Rehabilitation
- Technology
- Transit
- County Boundaries
- WAMPO Planning Boundary

0   3   6   12 Miles

Source: ACS 2016-2020 5-Year Estimate (B02001)
Produced by: WAMPO
Date Exported: 6/13/2022
Folder: T:\Plans & Projects\TIP\2023-2026 TIP\EJ TIP mapping\GIS\EJ Mapping 2022\
The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

The project distribution **Table E4** shows that 29.3% of all mappable projects fall into areas where more than 33.4% of the population identify with a minority group.

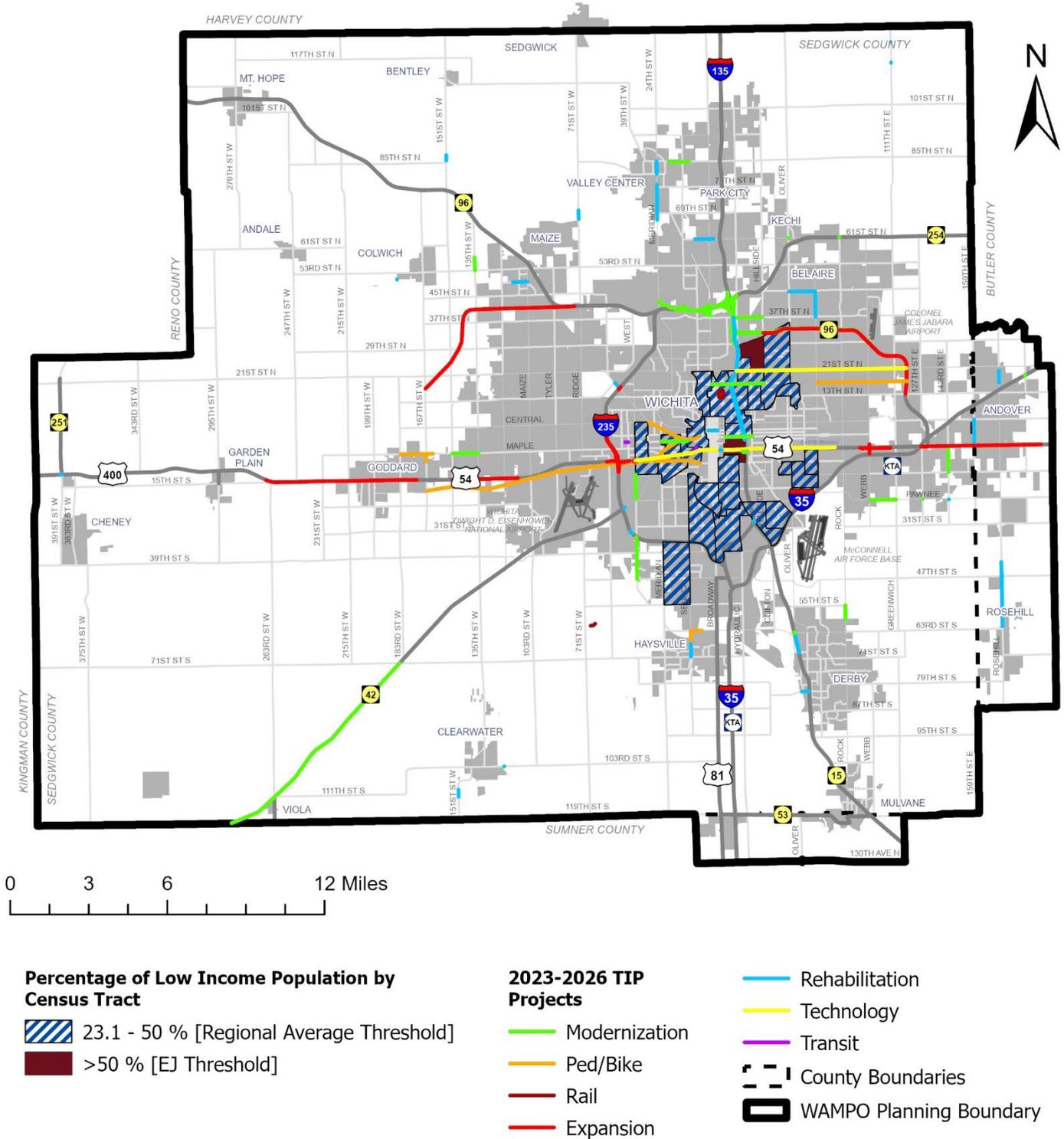*Table E4: Project Distribution in Minority Areas*

Project Category	Total Number of Mappable Projects	Percentage of Mappable Total Projects	Number of Mappable Projects in Minority Areas	Percentage of Mappable Projects located in Minority Areas
Expansion	12	14.6%	2	2.4%
Modernization	27	32.9%	9	11.0%
Rehabilitation	32	39.0%	6	7.3%
Bicycle/Pedestrian	5	6.1%	3	3.7%
Rail	2	2.4%	1	1.2%
Transit	2	2.4%	1	1.2%
Other	2	2.4%	2	2.4%
Total*	82	100%	24	29.3%

*Unmappable projects are not included in the total.

LOW-INCOME POPULATIONS

As a reminder, the identification analysis shown previously in **Figure E3** illustrated that only the Regional Average Threshold for low-income was reached (i.e. low-income populations ranged from greater than 23.1%, but less than the 50% EJ Threshold). The following **Figure E7** map overlays the geographic locations of the different mappable projects with the identified threshold.

Figure E6: Low-Income Populations and Project Areas

Percentage of Low Income Population by Census Tract

- 23.1 - 50 % [Regional Average Threshold]
- >50 % [EJ Threshold]

2023-2026 TIP Projects

- Modernization
- Ped/Bike
- Rail
- Expansion
- Rehabilitation
- Technology
- Transit
- County Boundaries
- WAMPO Planning Boundary

Source: ACS 2016-2020 5-Year Estimate (S1701)
Produced by: WAMPO
Date Exported: 6/13/2022
Folder: T:\Plans & Projects\TIP\2023-2026 TIP\EJ TIP mapping\GIS\EJ Mapping 2022\
The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

The project distribution **Table E5** shows that 25.6% of all mappable projects fall into areas where greater than 23.1%, but less than 50% of the population reported a low-income.

Table E5: Project Distribution in Low-Income Areas

Project Category	Total Number of Mappable Projects	Percentage of Mappable Projects	Number of Mappable Projects in Low-Income Areas	Percentage of Mappable Projects located in Low-Income Areas
Expansion	12	14.6%	2	2.4%
Modernization	27	32.9%	8	9.8%
Rehabilitation	32	39.0%	5	6.1%
Bicycle/Pedestrian	5	6.1%	2	2.4%
Rail	2	2.4%	1	1.2%
Transit	2	2.4%	1	1.2%
Other	2	2.4%	2	2.4%
Total*	**82**	**100%**	**21**	**25.6%**

* Unmappable projects are not included in the total.

ENGAGEMENT STRATEGIES

WAMPO has used the information gathered from mapping to inform the engagement strategies for the *FFY2023-FFY2026 Transportation Improvement Program (TIP)* update. With a focused strategy designed to "going to them" the WAMPO staff, board and committees took a proactive approach to recognizing the potential barriers to involvement, which include language barriers. The below **Table E6** highlights outreach approaches by population characteristic:

Table E6: Traditionally Underserved Outreach Procedures

Outreach Approach	Minority	Low-Income	Disabled	Older Adults	Zero-Car Household
Targeted Ads & Notices	X	X		X	
Language Outreach Strategies	X				
Transit-Accessible Meetings		X	X		X
Convenient Meeting Times & Locales		X		X	X
Partnerships	X	X	X	X	X
Coordination	X	X	X	X	

EVALUATION

This section documents the assumptions related to regional benefits and burdens of specific project types followed by an assessment of anticipated disproportionate and/or adverse impacts associated with the slated *FFY2023-FFY2026 TIP* projects.

BENEFITS & BURDENS

There are benefits and burdens to any transportation project and while some may be project-specific, there are assumptions that can be made about those that come a certain project type. Those assumptions are outlined here.

EXPANSION PROJECTS

It can be anticipated that with the construction of a new road facility or widening project, there is a potential for increased air and noise pollution, physical barriers to community connectivity, and safety issues that accompany construction. Impacts to community cohesion are of particular concern in EJ communities. The major benefit of these projects is serving through traffic but not necessarily local access.

MODERNIZATION PROJECTS

Modernization projects often include features such as turn lanes, deceleration lanes, intersection improvements, and/or enhancements specifically aimed at improving safety all of which provide benefits to local travelers without imposing significant burdens. Projects like these are likely to provide benefits in terms of accessibility and safety.

REHABILITATION PROJECTS

The potential impacts to Rehabilitation Projects will likely be temporary as they relate to construction, for example, possible delays and temporary increases in air pollution while construction is occurring. The benefits of these projects will be the improved usability and comfort of the transportation facilities.

MULTI-MODAL PROJECTS

There are few potential impacts, with the exception of right of way needs, that would accompany multi-modal projects. Projects like bicycle/pedestrian trails and travel lanes, as well as transit improvements and route maintenance provide the benefit of choice in transportation modes. This can be especially important for EJ populations which tend to have a lower percentage of car ownership and are in greater need of economical choices for getting to school, work, etc.

The proposed transit projects, as discussed earlier are not easily identifiable on a map since they involve funding transit programs and paratransit services. Transit projects make up 9.4% of the total projects in the WAMPO area. These would not be expected to adversely impact EJ areas in the region.

RAIL PROJECTS

Impacts related to rail projects are similar to those associated with roadway expansion and widening projects. Potential for air and noise pollution, reduced community connectivity, and safety issues are all present with the construction of new rail facilities.

IMPACTS ON MINORITY POPULATIONS

As identified previously in **Table E4,** 29.3% of the mappable projects listed in the TIP are located within or adjacent to census tracts that meet minority population thresholds. The remaining 70.7% of those mappable projects fall within non-minority census tracts. This percentage of mappable projects in minority census tracts is overall relatively consistent with the regional minority population of 23.4%.

Two Expansion projects fell within identified minority areas which will mean only small impacts are anticipated. The Expansion projects that fall within the minority areas are not expected to have additional impacts to community cohesion.

Roughly 11.0% of Modernization projects fall within or adjacent to minority census tracts. Modernization projects make up roughly 32.9% of the total mappable projects in the WAMPO area. These projects are not expected to disproportionately impact minority areas. There may be significant benefits in terms of accessibility and safety from the relatively high proportion of total Modernization projects.

Similarly, about 7.3% of the Rehabilitation projects fall within minority areas. Rehabilitation projects make up 39.0% of the total mappable projects on the TIP list. These projects are expected to have a negligible effect on minority areas.

There are 3 bicycle/pedestrian project that falls within the identified minority areas, accounting for around 3.7% of the mappable projects. These projects are not expected to have a disproportionate impact on minority populations and has the potential to benefit populations that may utilize multiple modes of transportation more often to reach their destination.

One rail project is located within a minority area, comprising 1.2% of mappable projects. This project is anticipated to have impact on the community owing to the construction of new rail track that could likely impact connectivity within the community.

The Delano Transit Center is located within a minority area, making up an additional 1.2% of the mappable projects.

IMPACTS ON LOW-INCOME POPULATIONS

As identified in **Table E5**, 25.6% of the mappable projects listed in the TIP are located within or adjacent to census tracts that meet low-income population thresholds. Roughly 74.4% of those mappable projects fall within areas not considered to be low-income census tracts. This percentage of mappable projects in low-income census tracts is overall relatively consistent with the regional low-income population of 13.1%.

Two Expansion projects fell within identified low-income areas which will mean only small impacts are anticipated. The Expansion projects that fall within the low-income areas are not expected to have additional impacts to community cohesion.

Modernization projects make up around 9.8% of the mappable projects within the low-income census tracts. Overall Modernization projects account for nearly 32.9% of the region's mappable projects. These projects are not expected to disproportionately impact low-income areas.

There are also a similar percentage of Rehabilitation projects (6.1%) which are not expected to have great benefits or burdens. The percentage of mappable Rehabilitation projects overall in the region is 39.0%. The relatively low proportion of Rehabilitation projects is not anticipated to impact low-income populations.

Of the 6.1% of mappable projects that are dedicated to bicyclists and pedestrians, 2 are located in low-income areas. Disproportionate impacts are not expected from these projects and are likely to benefit low-income populations.

One of the two rail projects is located within a low-income area, making up 1.2% of the mappable projects.

The Delano Transit Center is located within a low-income area, making up an additional 1.2% of the mappable projects.

ADDRESSING DISPROPORTIONATE & ADVERSE EFFECTS

This analysis indicates that the fiscally constrained transportation investments included in this plan do not disproportionately burden or deny benefits to EJ communities. As discussed in the previous sections, roughly between 25.6% and 29.3% of mappable projects fall within EJ areas with the WAMPO region. This is compared with 70.7% to 74.4% of mappable projects that are planned within non EJ areas.

It is important to WAMPO to continue emphasizing geographic equity in its federal-aid transportation programming processes. This is especially important when considering multimodal projects like bicycle/pedestrian and transit projects.

In the event that there are disproportionate and adverse impacts identified, WAMPO will work with our member jurisdictions, planning partners (Kansas Department of Transportation and Wichita Transit) and

USDOT to identify and document strategies to avoid, mitigate, or minimize the impacts. This may include modifying or selecting additional projects that can be programmed prior to the adoption of the WAMPO Transportation Improvement Program (TIP) or MTP through line items and amendments. Individual project sponsors will consider potential project-level environmental justice impacts for federally funded transportation projects in conjunction with the National Environmental Policy Act (NEPA) process.

ENVIRONMENTAL JUSTICE INTEGRATION

Environmental Justice considerations are integrated into all of WAMPO's planning processes, not just the TIP update. This includes the Metropolitan Transportation Plan (MTP), Public Participation Plan (PPP), and the Unified Planning Work Program (UPWP). WAMPO has integrated EJ considerations into the development of the TIP in a number of ways. The TIP implements the long-range transportation plan, *REIMAGINED* MOVE 2040, the development of which included focused attention on burdens and benefits to EJ populations. All projects in the TIP must first be included of these proceedings, along with results and conclusions, can be found in the Public Engagement Appendix.