U.S. Fish and Wildlife Service
Regional Alternative Transportation Evaluation Report – Region 3
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Contents

RATE Background

The U.S. Fish and Wildlife Service (FWS) and the U.S. Department of Transportation (DOT) Volpe Center (Volpe Center) conducted a regional alternative transportation evaluation (RATE) in Region 3, which is comprised of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin, to ensure effective consideration and integration of alternative transportation systems (ATS, Box 1) into the goals and recommendations of the Region 3 long-range transportation plan (LRTP). Staff from the Volpe Center, FWS Region 3, and Eastern Federal Lands Highways (EFLH) met in Bloomington, Minnesota, in June 2011, to discuss alternative transportation needs and constraints in the region and to develop an ATS Questionnaire. This RATE team then visited Minnesota Valley National Wildlife Refuge (NWR), Upper Mississippi NWR – La Crosse District, Necedah NWR, Genoa National Fish Hatchery, and Leopold Wetland Management District to identify specific opportunities for ATS in these stations. The RATE also provided insights and lessons on how ATS may be instituted more broadly across Region 3.

Box 1: What are Alternative Transportation Systems?

Alternative transportation systems generally include any travel means other than personal automobile, such as:

- Motorized transportation systems operating internally within stations
- Shuttles and van transit connecting stations with other destinations
- Regional transit connections (bus, light rail, trolley, commuter rail, passenger rail)
- Bicycle and pedestrian infrastructure (sidewalks, paths, bicycle lanes, regional trails)
- Water-based transportation
- Publicly and privately operated systems

FWS Headquarters and Regional staff approached the RATE with the understanding that increased ATS would benefit Region 3 stations and complement Service-wide goals, particularly those contained in the Region 3 LRTP. ATS addresses LRTP goals in several ways, including:

- The use of transit, non-motorized, and water-based modes supports natural resource protection. By reducing the use of personal automobiles, FWS can also reduce the impacts that these vehicles have upon natural resources. Vehicular resource impacts include wildlife collisions, invasive species, noise pollution, particulate emissions, erosion, and pollutants that can enter the soil or water.
- Over the long term, increasing ATS for stations with increasing visitation can minimize the need for new roads or parking, thus preserving more area for wildlife habitat.
- ATS can be a critical visitor management tool for station staff facing increasing visitor demands and limited resources.
- The use of transit can enhance visitors' understanding of the station's natural resources by facilitating interpretive tours or directing visitors for special events.
- Signage and orientation information directed at non-automobile modes can also help integrate these modes effectively into station transportation.
- ATS can reduce the Service's carbon footprint, reduce the use of carbon-based fuels, enhance accessibility, and reduce air pollutants emitted from vehicles.

Key Findings

Based on the station visits, results from the ATS Questionnaire, and discussions with the RATE team, the following are key findings and outcomes from the RATE:

1. Station staff tends to have relatively limited awareness of the benefits of ATS, and therefore they may be missing straightforward opportunities to enhance ATS as a means to travel to and within the station. Staff tends to have limited time to devote to transportation planning, except on an as-needed basis, and have not considered the use of alternative transportation as a potential means to manage visitation, resource protection, and special events in much depth, if at all. Education about the benefits of ATS is a key first step to increasing its use throughout the region.
2. With the exception of a few stations in urban settings, many Region 3 stations are located far from population centers. However, most stations expressed the need or desire for improved non-motorized infrastructure for access to and within stations. The inclusion of sidewalks, bicycle lanes, separated non-motorized paths, and similar infrastructure can enhance the visitor experience and reduce the number of vehicles at stations.
3. Several stations are successfully partnering with gateway communities to leverage funding for new trail connections or to use buses for special events. Through enhancing partnerships with gateway communities, stations can significantly increase the amount of visitors that access the station using ATS.
4. The region has limited funds for transportation that must be allocated between all Refuge roads, trails, and capital projects. Several measures can help Region 3 better emphasize ATS in its transportation program and budget. First, ensure stations are aware of the benefits of ATS, which will encourage them to seek partnerships and low-cost opportunities to improve ATS. Second, integrate ATS features into roads projects, such as through adding sidewalks or bike lanes. Third, prioritize projects that recognize co-benefits between ATS and other transportation needs, such as safety and wayfinding.

Region 3 Background and Trends

Refuges and hatcheries in Region 3 focus their conservation missions primarily on migratory waterfowl and fish breeding. “String-of-pearl” refuges are located along major rivers, such as the Mississippi River, with multiple units stretching for many miles along the river’s banks. These refuges include the river itself and tend to have multiple uses, such as shipping, recreational boating, and fishing, within varied physical environments, including locks and braided river channels. River refuges also may contain or run adjacent to major railroad or highway corridors. Region 3 also has 12 Wetland Management Districts (WMDs), which consist of numerous small Waterfowl Production Areas (WPAs). The WPAs are pockets of land, such as prairie pothole lakes, among agricultural land, most of which are used for hunting and wildlife observation.

Region 3 visitation has been increasing in the past decade, and many stations in the region have been actively pursuing new visitor amenities to accommodate and attract new visitors. The recession that began in 2008 has slowed growth at the more rural stations, but it may also be responsible for increased growth at urban and suburban stations, as people look for outdoor experiences closer to home. Aligned with the FWS goal of increasing the number of urban refuges, Region 3 is working to acquire more land for refuges near urban areas, with the goal of having a refuge within an hour’s drive of each major city in the region.

Region 3 also has several urban refuges with new transit connections. In December 2009, Metro Transit’s Hiawatha Light Rail began offering service to American Boulevard Station in Bloomfield, Minnesota, one-quarter mile from the Minnesota Valley NWR Bloomington Visitor Center. Shiawassee NWR’s Green Point Environmental Learning Center in Saginaw, Michigan, is located approximately one-half mile from the Saginaw Transit Authority bus route. Whittlesey Creek NWR in Ashland, Wisconsin, has a Northern Great Lakes Visitor Center located less than one-half mile from Bay Area Rural Transit service. These stations have yet to show the full potential of transit connections, but they offer opportunities to

attract new and increased visitation. Other refuge areas that stretch along the Mississippi River and other waterways may also be ripe for transit access to points along the shorelines.

Wildlife observation, and bird watching specifically, are the primary visitor activities at stations. Historically, hunting and fishing were extremely popular in the region, and while they remain significant activities at many stations, hunters have decreased in recent years. Visitors are seeking more active recreation on NWRs in the region. Reports of hiking and bicycling on refuges have increased in the past few years; many residents of adjacent communities visit refuges regularly for walking, jogging, cycling, and other exercise. The increased active recreation use may be due to urban development approaching refuge boundaries, which puts the refuge in closer proximity to people's homes or workplaces.

Finally, the region has built six new visitor centers between 2006 and 2011, with three visitor centers under construction and one additional interpretive center planned and funded. The stations with new visitor centers expect to receive significant increases in visitation, especially from school groups, which will have implications for station management and staff capacity to run educational programs. Several of these stations that may not have had high visitation in the past may need to consider high visitation, and associated transportation challenges, in the near future.

Accessibility for Underserved Populations

Overview
The RATE team selected three metropolitan areas in Region 3 to assess ATS connectivity from locations with high densities of underserved populations to nearby NWRs. The team chose the communities of Minneapolis, MN (including the Minnesota Valley National Wildlife Refuge), Detroit, MI (including the Detroit River International Wildlife Refuge), and Carbondale, IL (including the Crab Orchard National Wildlife Refuge) for study. The team selected these metropolitan areas based on the presence of nearby refuges, the availability of alternative transportation services throughout the region, and the occurrence of underserved populations.

Methods
The team identified three demographic variables – median household income, car ownership per household, and percentage of non-white population – to represent underserved populations. The team classified median household income using the 2009 national poverty threshold ($21,954) and national median household income ($49,777) figures for reference. The yellow circles on each of the resulting maps denote target areas for improving access to refuges, based on high rates of underserved populations in those areas. Each of these demographic variables draws upon 2009 data from the American Community Survey at the Census block level.

In addition to thematic maps created for the three demographic variables, an additional map shows the transportation infrastructure present in each region. Regional metropolitan planning organizations (MPOs), local and state geographic information system (GIS) resources, and other local and state public agencies were sought out for each region as potential providers of this data. The RATE team used the best data available at the time of publication and at the appropriate regional scale, which may not include detailed or new transit routes and trails.

Detroit, MI (Detroit River IWR)
Positioned to the southwest of Detroit, the Detroit River IWR lies outside of the core area of Detroit's ATS infrastructure (Figure 1, left). Aside from its northern-most units, much of the refuge lies next to sparsely populated areas where ATS connections are limited, although the Eagle Island Unit at the

southern end is close to the city of Monroe. Additionally, the lack of bicycle infrastructure inhibits the use of bicycle to reach refuge attractions.

The Detroit area features some of the country's highest occurrences of underserved populations. Analysis shows that high rates of low-income (Figure 1, right) and minority populations (Figure 2, right) are prevalent throughout the metropolitan area, especially in those areas closest to downtown. Accessing the refuge without a personal vehicle (Figure 2, left) may be difficult for citizens that do not own a car, as it would require multiple transfers using a bus and/or bicycling on roads lacking bike infrastructure. Most importantly, however, most of these populations are 10 or more miles away from many of the refuge attractions, a significant obstacle in convincing potential visitors to utilize alternative transportation.

There is strong potential for regional or refuge staff to work with these communities and target expanded connections to the refuge. Strategies may include expanding transit service to stop closer to or at the refuge, improving connections to non-motorized networks or adding bike lanes, and offering a shuttle from underserved communities to the refuge for peak weekends or special events.

Figure 1: **Transportation infrastructure (left) and median household income (right) in the Detroit metropolitan area**

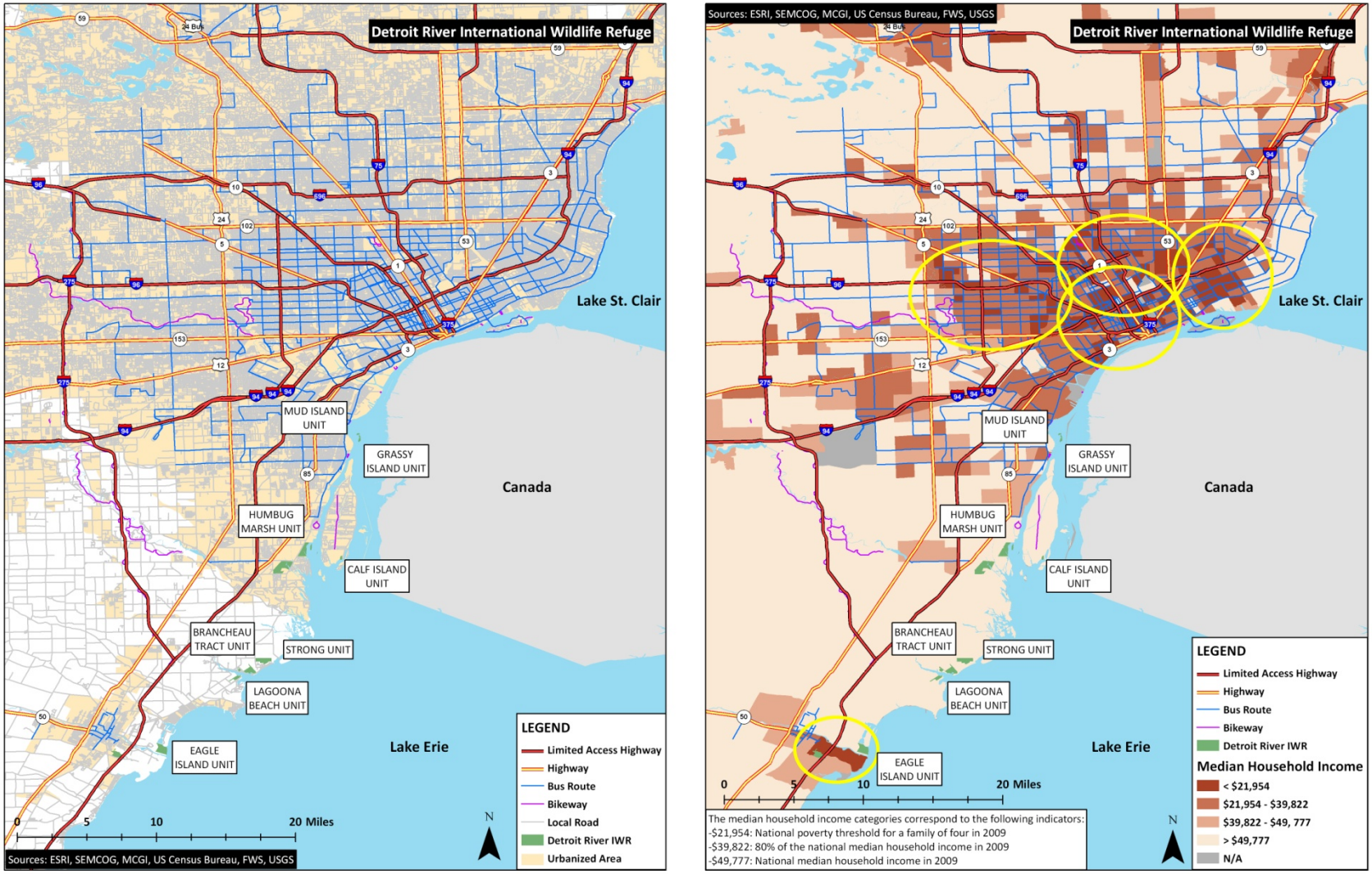
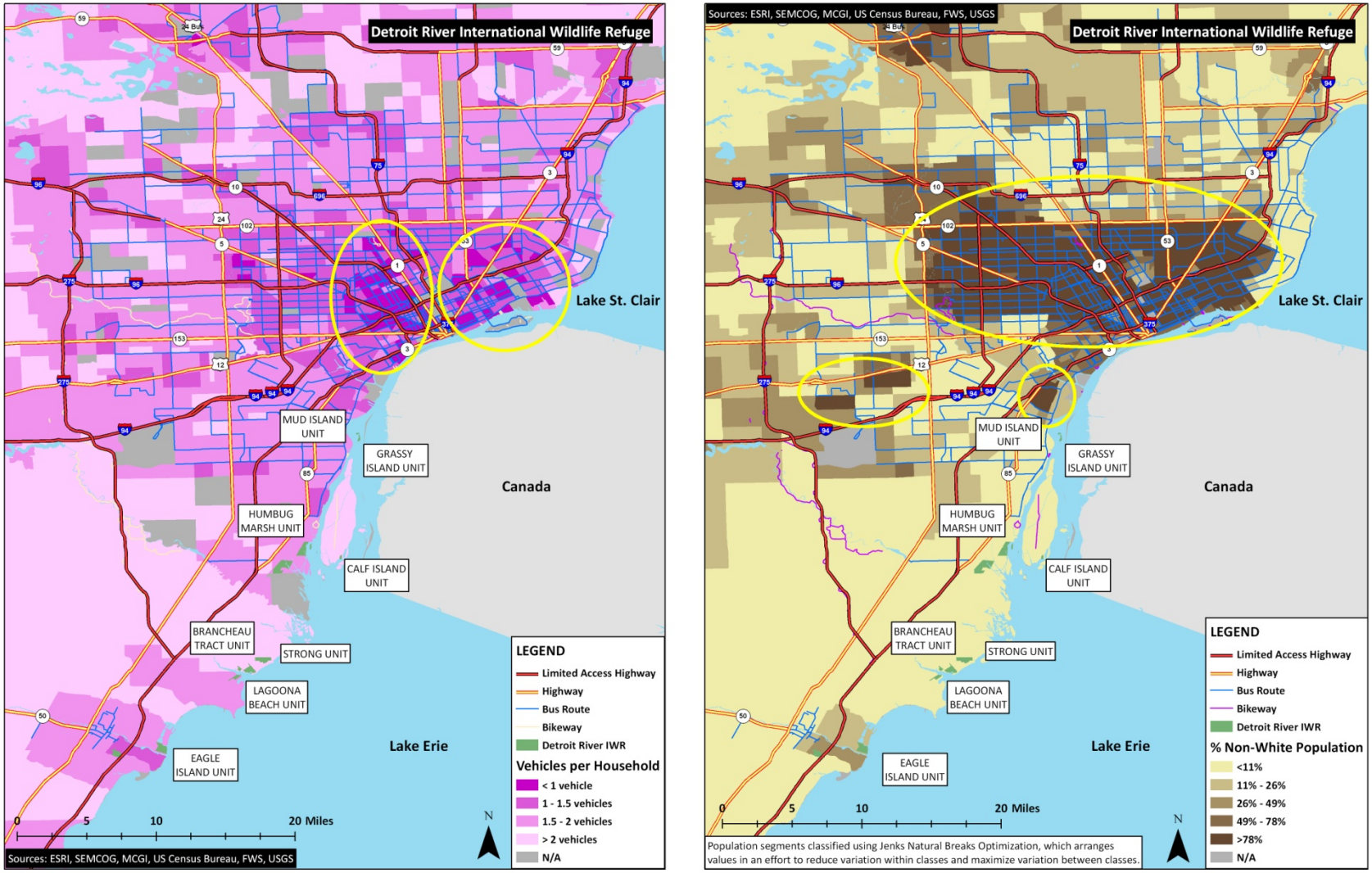


Figure 2: **Vehicle per household (left) and non-white population rates (right) in the Detroit metropolitan area.**



Minneapolis, MN (Minnesota Valley NWR)

The Minnesota Valley NWR is well-situated near Metro Transit's Hiawatha Line, as well as adjacent to bikeways along the Minnesota River. The refuge is therefore accessible via ATS to much of the Minneapolis-St. Paul area (Figure 3). ATS connections remain prevalent near the NWR's southern and western units towards the Rapids Lake Education and Visitor Center. Bike trails along the Minnesota River to the northeast provide high-quality access to Minneapolis and St. Paul.

The Hiawatha Line, which extends south from Minneapolis's downtown, is particularly well-suited to attract ridership from underserved populations. The high-frequency service offered by the light rail and the short, one-half mile walking distance between the Bloomington Visitor Center and the American Boulevard light rail station position it as an attractive means of accessing the refuge. The areas immediately south of downtown, as well as within the downtown and to its east and west, feature a high proportion of underserved populations for all three demographic variables (Figure 4, Figure 5, and Figure 6), many of which are within walking distance or a short bus connection away from a light rail station. Additional areas with underserved populations are dispersed within the communities of Bloomington and Richfield to the northwest of the Bloomington Visitor Center. Much of the population within these communities is connected to the refuge via bus or bikeways.

The connection between the light rail and the Bloomington Visitor Center and Long Meadow Lake Unit are relatively recent, as the American Boulevard light rail station opened in late 2009 and the Visitor Center re-opened in 2010. Refuge staff can focus on promotion of the strong ATS connections, focusing outreach efforts in geographic areas highlighted in Figures 4, 5, and 6.

Figure 3: **Transportation infrastructure in the Minneapolis metropolitan area**

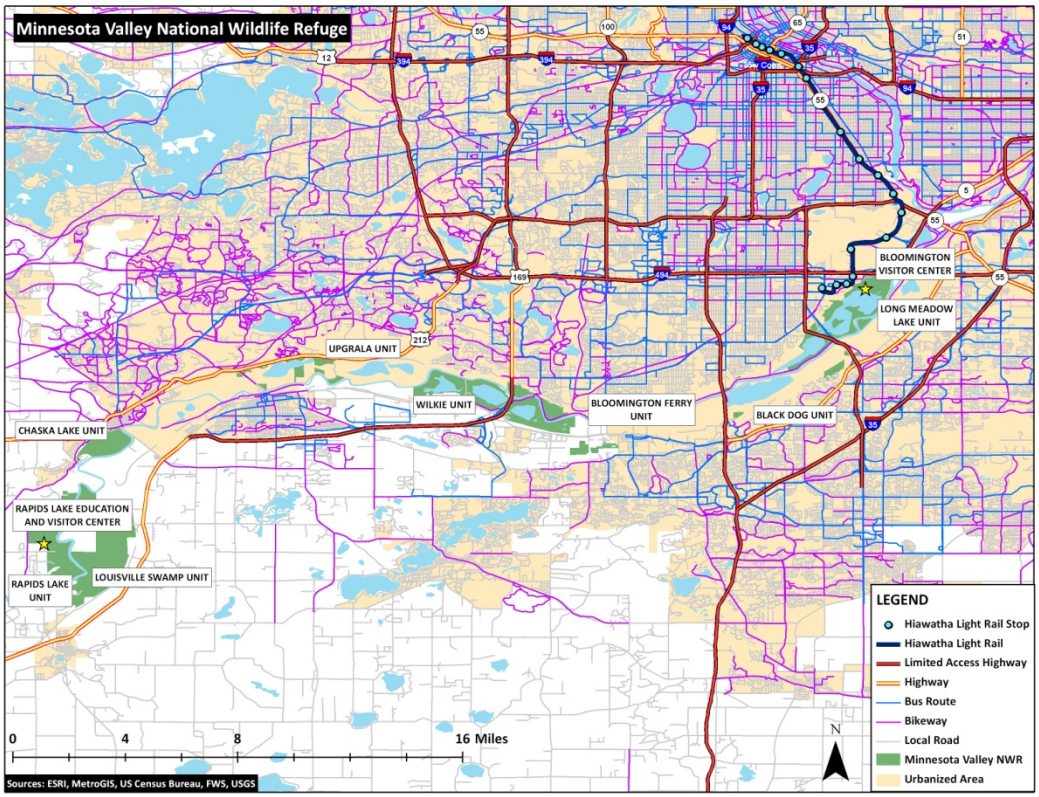


Figure 4: Median household income in the Minneapolis metropolitan area

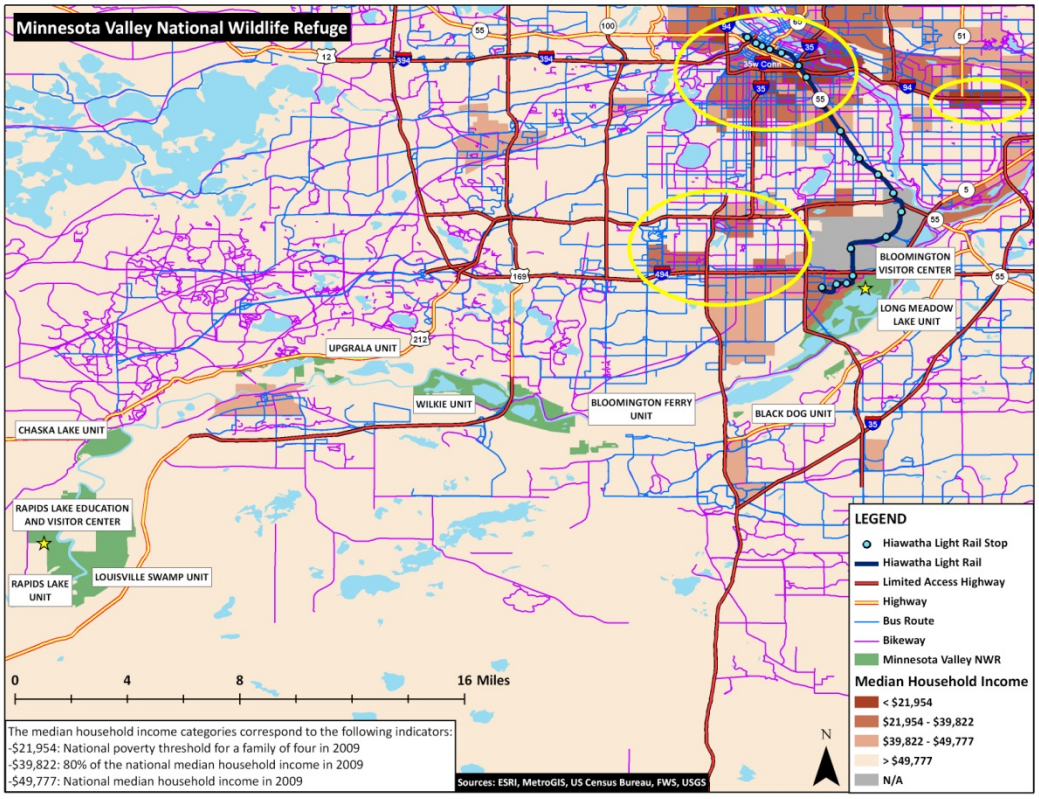


Figure 5: Vehicle per household in the Minneapolis metropolitan area

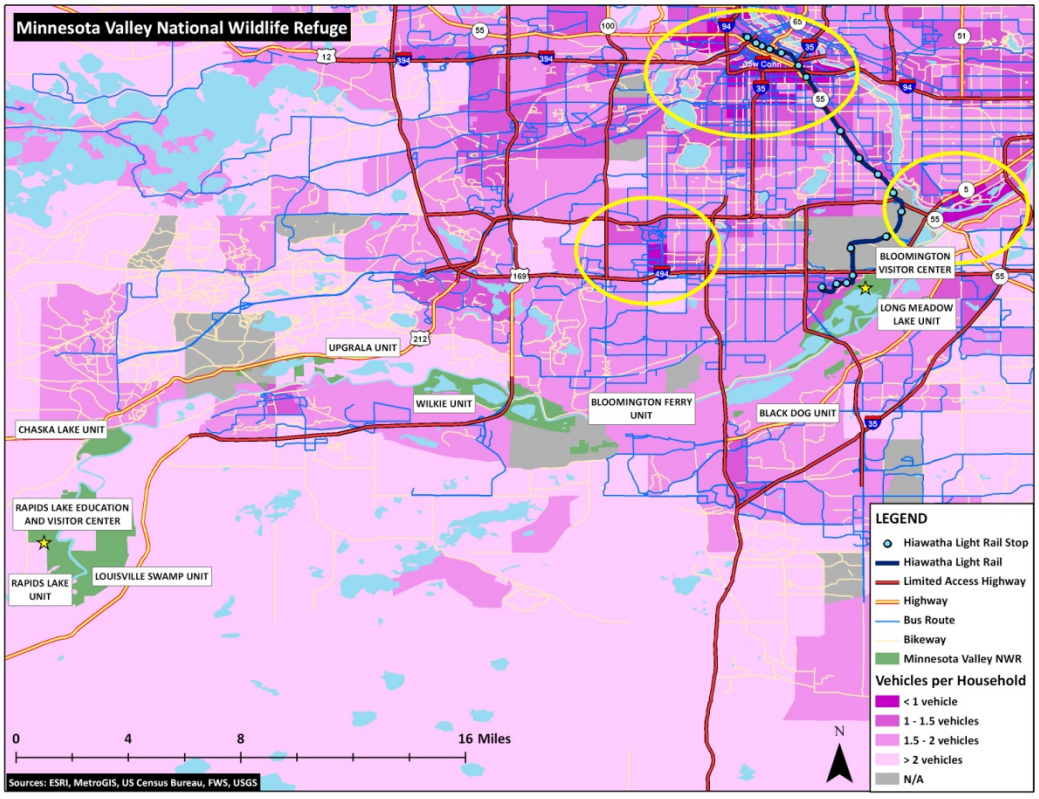
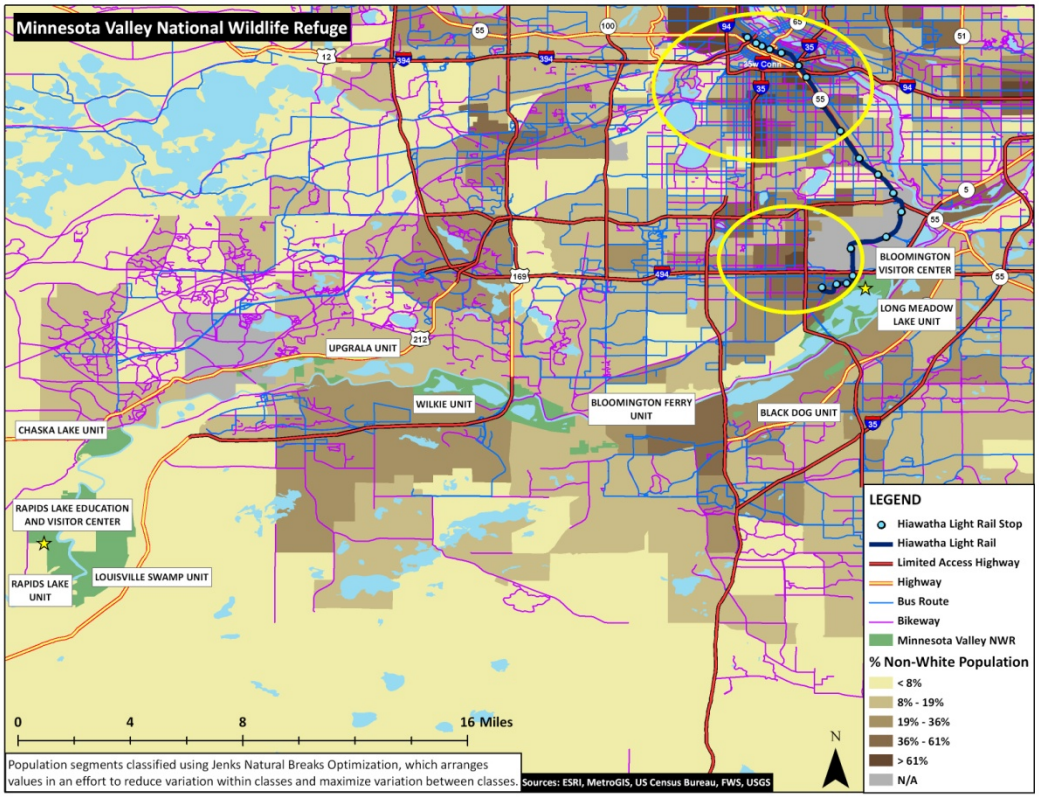


Figure 6: **Non-white population rates in the Minneapolis metropolitan area**



Jackson and Williamson Counties, IL (Crab Orchard and Middle Mississippi River NWRs)[1]
Jackson and Williamson Counties are significantly less populated and have fewer provisions for alternative transportation connections between population centers and the counties' two refuges (Figure 7). The Crab Orchard NWR is situated between the cities of Carbondale to its west and Marion to its east, but there is a lack of transit connections to the refuge from either of those two cities. The Mississippi River Trail extends through the Wilkinson Island Division of the Middle Mississippi River NWR, but connections to Carbondale and other nearby communities is limited to roadways, usually through designated bike routes without bike infrastructure such as bike lanes.

While the presence of ATS infrastructure is limited, the prevalence of underserved populations is decidedly less severe, relative to the other urban areas mapped. Jackson and Williamson Counties (Figure 8 and Figure 10) seem to have fewer low-income and non-white residents than larger metropolitan areas; they also have far fewer low-car-ownership households (Figure 9). Additionally, the presence of Southern Illinois University at the southern end of Carbondale may skew these demographic figures somewhat, as student populations may be less likely to own vehicles and feature lower median household incomes. The student population is less likely to be in town during the summer, which coincides with the most popular visitation season for the refuges. To better connect to nearby communities, the refuges in Jackson and Williamson Counties can pursue new non-motorized connections or provide transit for peak weekends and special events to help underserved populations access the refuges.

[1] Note: Information on transit lines within this area is not available.

Figure 7: **Transportation infrastructure in Jackson and Williamson Counties**

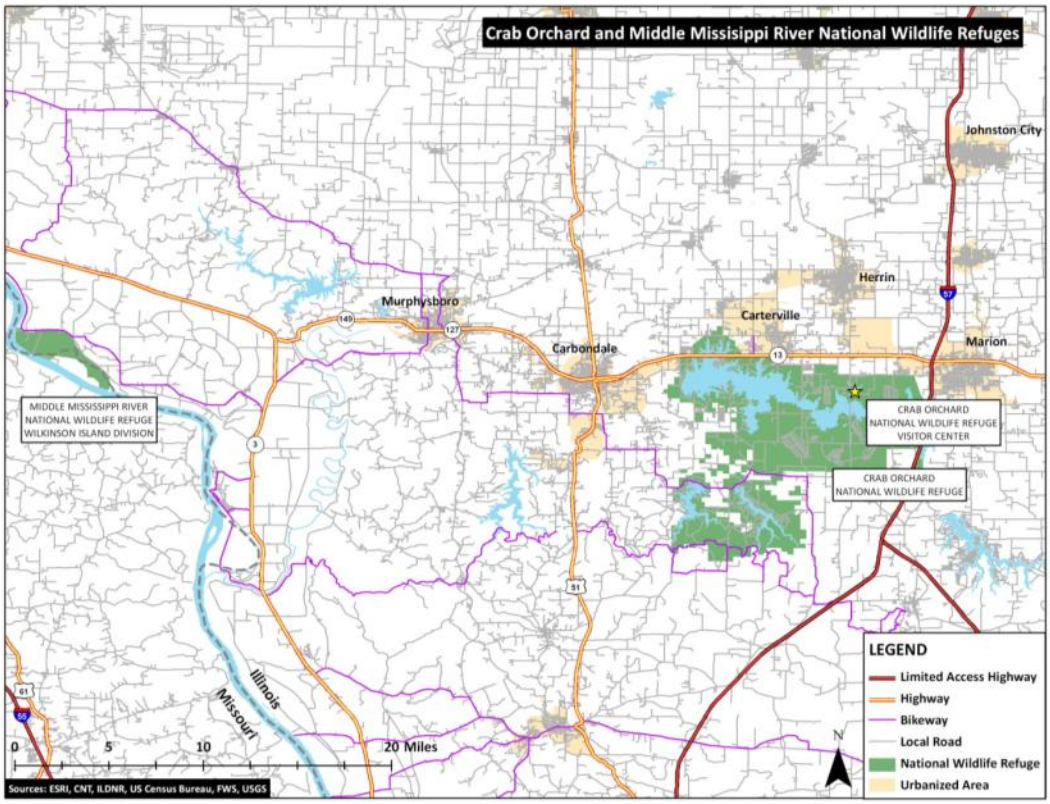


Figure 8: **Median household income in Jackson and Williamson Counties**

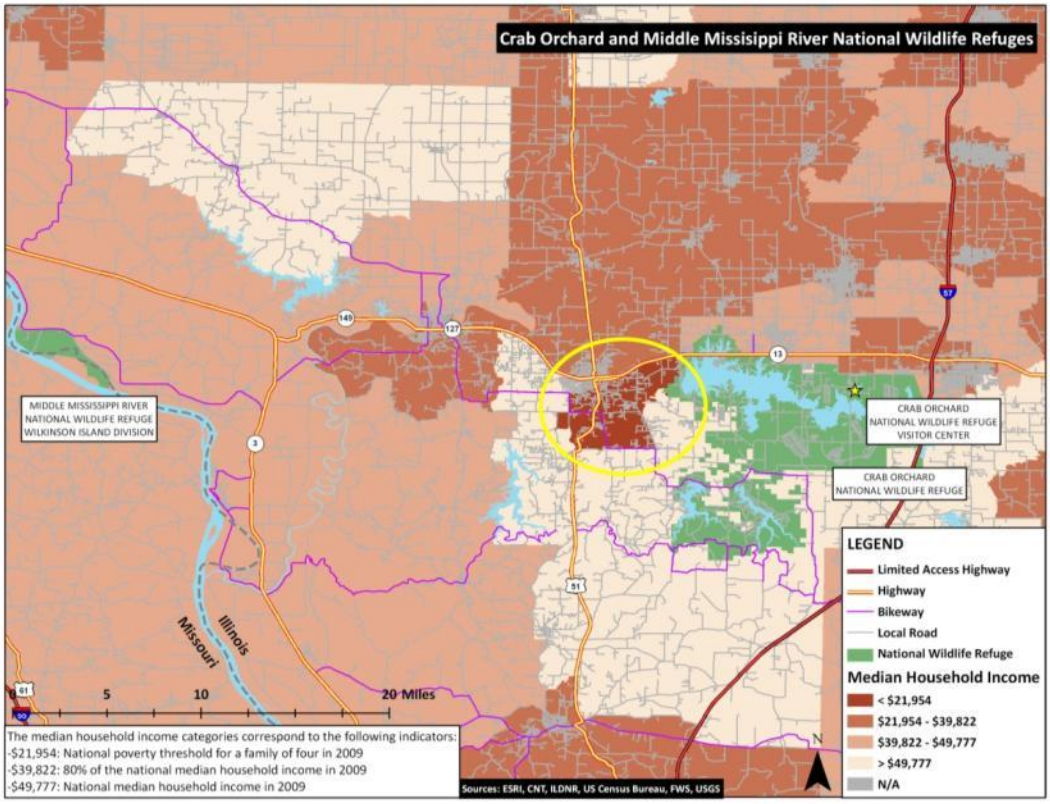


Figure 9: **Vehicle per household in Jackson and Williamson Counties**

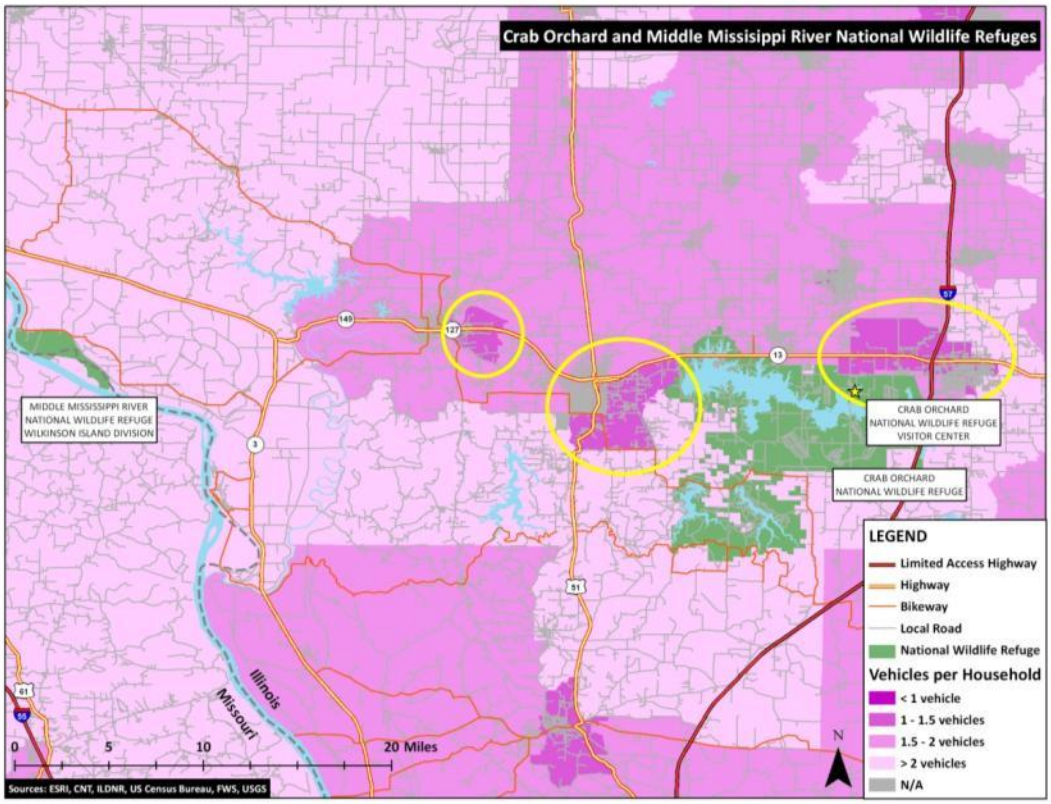
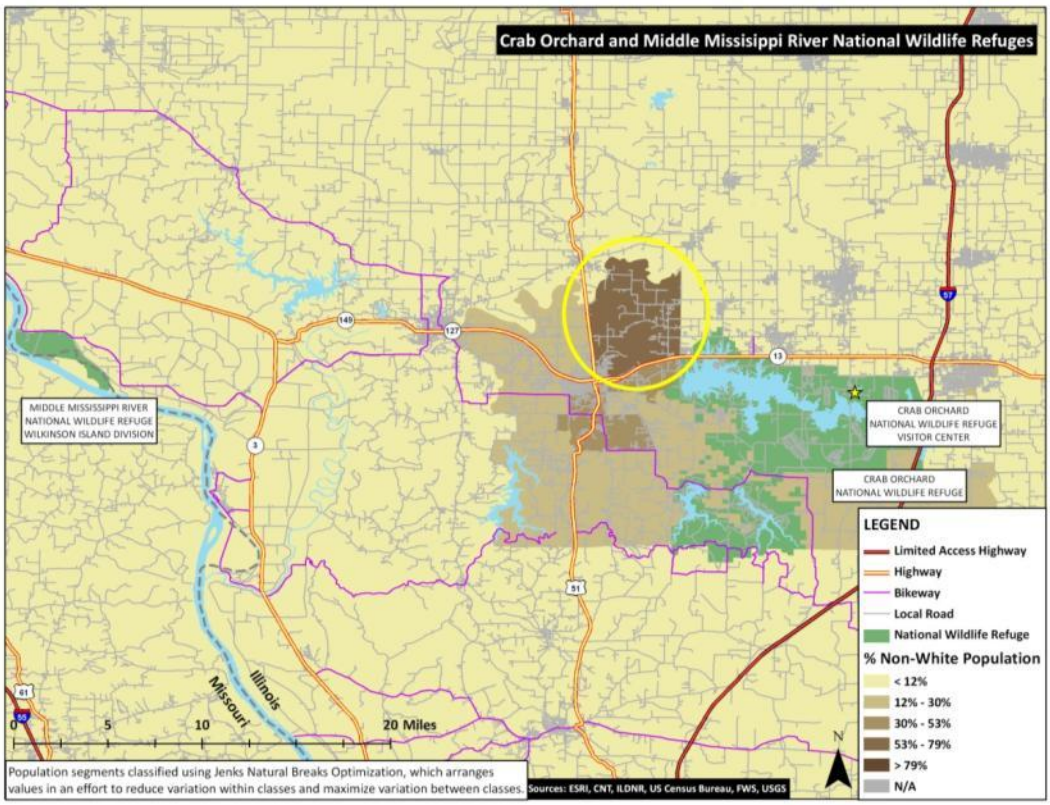


Figure 10: **Non-white population rates in Jackson and Williamson Counties**



Conclusions
Targeted outreach towards underserved areas can help promote refuge resources among these populations and provide enjoyable recreational and cultural experiences to those who may typically lack the means to visit. Promotion of ATS connections within these communities (as well as throughout the surrounding regions of all refuges) can serve to increase visitation among those without access to a personal vehicle. This can be carried out through marketing campaigns or partnering with local transportation or recreational advocacy groups. One method of targeted outreach that has been employed by the Minnesota Valley NWR is partnering with schools in underserved communities. Students visit the refuge on field trips, and refuge staff visits the schools to conduct related lessons. Positive experiences among school groups may convince families to visit refuges at a later time.

Effective ATS Strategies for Region 3

Conversations with FWS regional and station staff, as well as with EFLH staff, indicate several planning and management strategies that can help Region 3 and its stations increase the use of ATS. These strategies include types of ATS that would work well in specific stations and management and planning actions at the station and regional level that can increase ATS use.

For each of the stations included in the RATE, several key strategies would help effectively and appropriately increase ATS. These strategies are as follows:

- Provision of new or improved pedestrian and bicycle infrastructure, facilities, and connections: The construction or provision of non-motorized paths, trails, sidewalks, and bicycle lanes are necessary to connect stations with gateway towns, existing non-motorized trail networks, and local and regional amenities. In some cases, existing connections only need minor maintenance improvements or updates to increase their usability. These types of facilities can be added or enhanced/improved in stations to allow for non-motorized travel on or adjacent to auto tour or station roadways, where appropriate. Signage for non-motorized users, particularly bicyclists, can be added or improved in stations to help improve site access for existing and new bicyclists.
- Partnerships: Transit agencies, local governments, other state and federal agencies, and friends groups can help to enhance or add new transit service, fundraise for new or improved non-motorized infrastructure or bus/shuttle rentals, promote existing connections, and provide transit for special events. Partnerships with transit agencies are the first step to connect urban and suburban stations within transit service areas to local bus routes. Partnerships may also help station staff expand their capacity for the maintenance of trails within and leading to the station.
- Promotion: Stations can advertise existing and underutilized ATS connections through the station website, brochures, local media, station staff, and its partners' promotional materials. Promotional partnerships and materials can emphasize refuge access via non-motorized trails or transit, and they can also advertise the use of transit at special events. Signage along trails may be another means to promote non-motorized refuge access.
- Use of transit for special events and peak weekends: Refuge staff can use transit vehicles, such as buses and vans, during festivals, special events, or peak weekends when visitation is much higher than normal. During these events, refuges can use transit for wildlife observation tours, shuttles to on- or off-site parking, or transportation to public transit stations. Having a large van or small shuttle bus on-site or shared between stations would also enable station staff to accommodate school groups that are not able to use their school bus to access and/or tour the station.
- Consideration of ATS at early planning stages of new visitor facilities: Several stations are planning for or have recently completed construction on new visitor centers. These new centers will draw more visitors from nearby schools and communities. Stations slated for new visitor facilities in coming years should anticipate higher visitation and the potential for ATS service to address new transportation issues. Station staff can plan for parking lots that can accommodate

shuttles and buses and kiosks and entrances to their facilities that are proximate to drop-off areas for ATS passengers.

- Utilize water-based access: Many of the stations in Region 3 include or area adjacent to major rivers and lakes in the region. Accordingly, stations have the potential to utilize water-based access to bring visitors to and transport visitors within their lands. In some cases, private water-based tours and access exist; stations could potentially partner with these companies to explore more public operations.

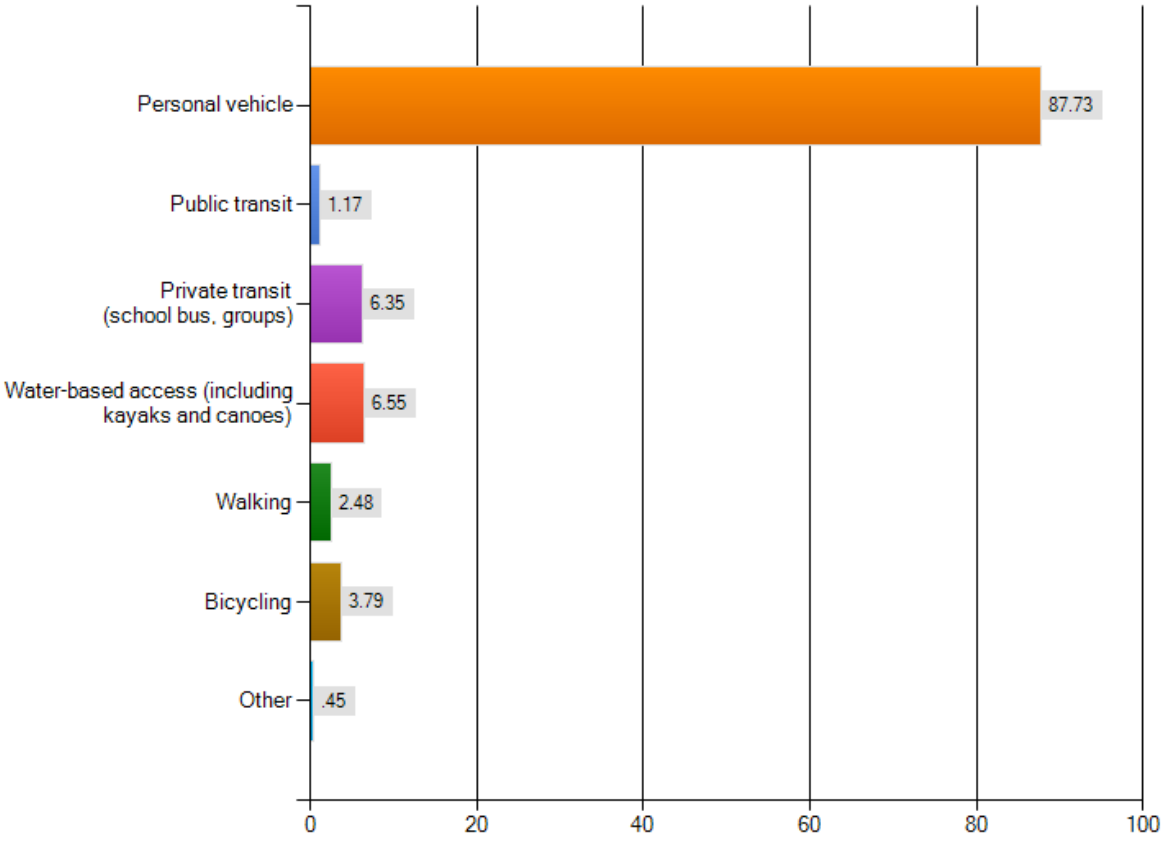
Alternative Transportation Questionnaire

The Volpe Center, FWS Region 3, and EFLH staff jointly developed the RATE Alternative Transportation Questionnaire to collect information comprehensively about the needs and opportunities for transportation among stations in Region 3. The questionnaire was available to station managers in an online format over a three-week period in July and August 2011.

Station and Visitation Background

A total of 51 stations responded to the survey (out of 72 stations in the region, representing a 71 percent response rate), and of these, 98 percent (50 stations) were open to public use. The questionnaire asked each station to estimate its visitors' access modes, as shown in Figure 11. Most visitors access stations by personal vehicle (87.7 percent), followed by water-based access (6.6 percent), private transit (6.4 percent), and bicycling (3.8 percent). There are a few users who access refuges through walking or public transit. The majority of stations (85.7 percent) note that school groups or friends groups provide transportation to the station via bus or van.

Figure 11: **Visitor Access Mode (Average Percent)**



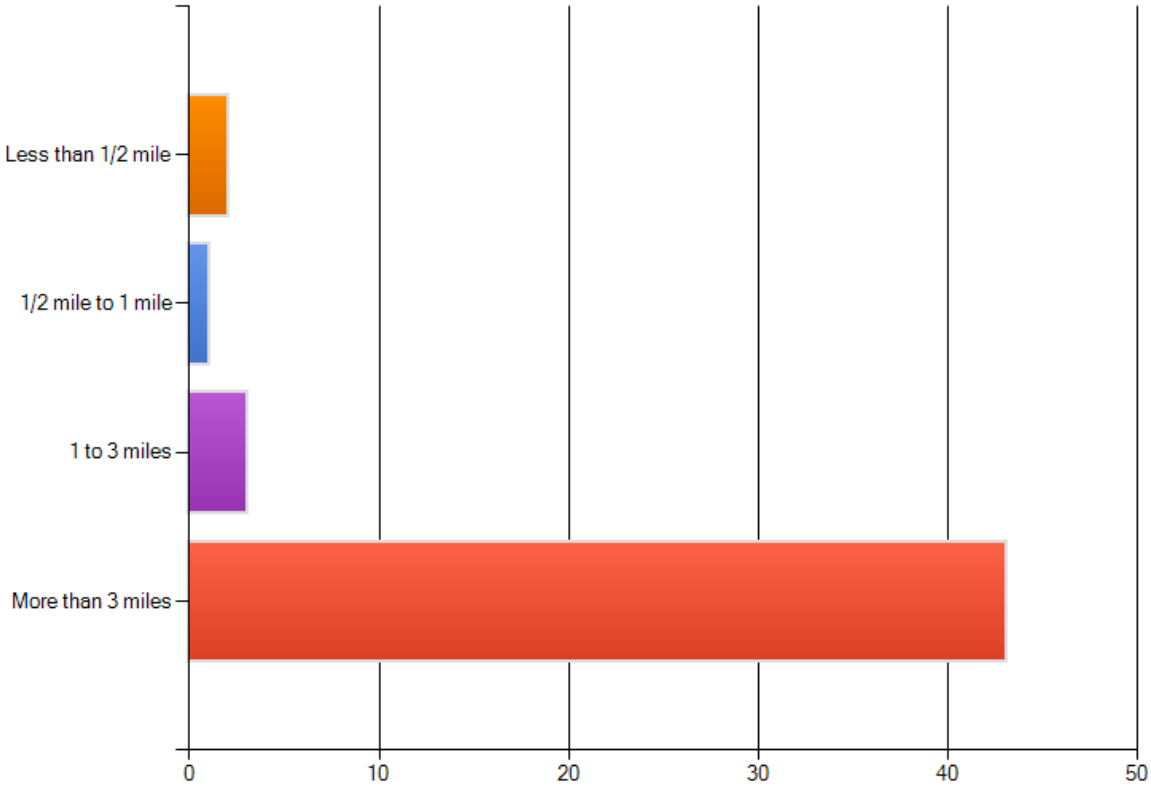
The questionnaire also asked for estimations of visitor demographics, origin, and activities. Families and senior citizens are the most prominent visitor demographic group, according to the respondents. Seventy-four percent of respondents noted a significant number of families, and 61 percent have a significant number of seniors. Approximately half of the stations have a significant number of youth/school groups. Most stations have some minority and low-income visitors, but not a significant number. Sixty-seven percent of stations responded that a significant number or some visitors would be comfortable with bicycling, but only 22 percent responded that their visitors would likely be familiar with transit. Just under half of respondents (45 percent) have some mobility impaired visitors while 47 percent have few or none.

Respondents estimated that a significant number of visitors came from within 10 miles of their station (57 percent) or from 10 to 50 miles from their station (83.7 percent) (note that respondents could note significant numbers of visitors from multiple distances). Most respondents also noted visitation from tourists from more than 50 miles away. Forty percent of respondents noted that they had some international visitors, but more than half of respondents noted that they had few or none. Almost all respondents noted a significant number of visitors engaged in wildlife observation (83 percent), followed by hunting (65 percent) and fishing (51 percent). Approximately 40 percent of respondents also noted significant numbers of photography, environmental education, and interpretation activities, although many respondents also noted a lesser level of participation in these activities.

Transit and Trail Connections

A significant part of the questionnaire focused on transit and trail connections to stations. Two stations have transit service within one-half mile, one station has transit service within a mile, and three stations have transit service between one and three miles from the station. Two of the stations with the most seamless transit access are Minnesota Valley NWR (Long Meadow Lake and Bass Pond Units) and Whittlesey Creek NWR (Northern Great Lakes Visitor Center). Many other stations listed transit services that operate in the region, but currently do not offer service near the station. Twenty-seven percent of respondents listed Amtrak stations and thirteen percent listed Greyhound stations, although the proximity between these transit stations and the FWS stations varies (some stations listed transit stations that are over 100 miles away). Figure 12 shows the distance of transit service from stations.

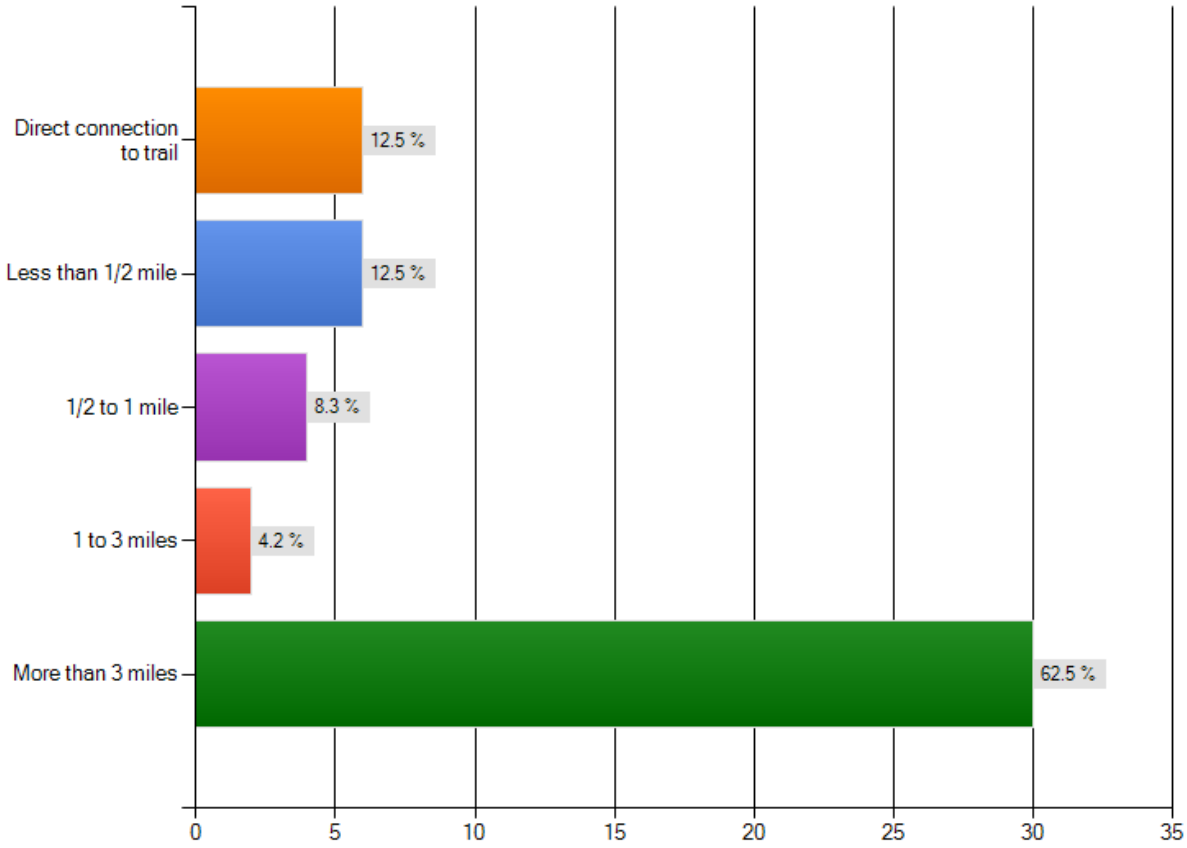
Figure 12: **Distance from Station to Nearest Transit Service**



The majority (73.5 percent) did not see an opportunity for transit to assist for special events. However, 13 respondents (26.5 percent) did see such an opportunity. A smaller minority (14.6 percent) believe their station has an opportunity for transit to provide access for the general visitor.

Trail connections are more prevalent than transit in Region 3. One-quarter of respondents have either a direct trail connection or are located less than one-half mile from a regional trail. An additional six respondents, or 12.5 percent, are located between one-half mile and three miles from a regional trail. The majority of respondents (62.5 percent) are located more than three miles from a regional trail. Figure 13 shows distance from stations to nearby regional trails. Information on specific trail names, types, and potential connections is available on each station fact sheet.

Figure 13: **Distance from Station to Nearest Regional Trails**

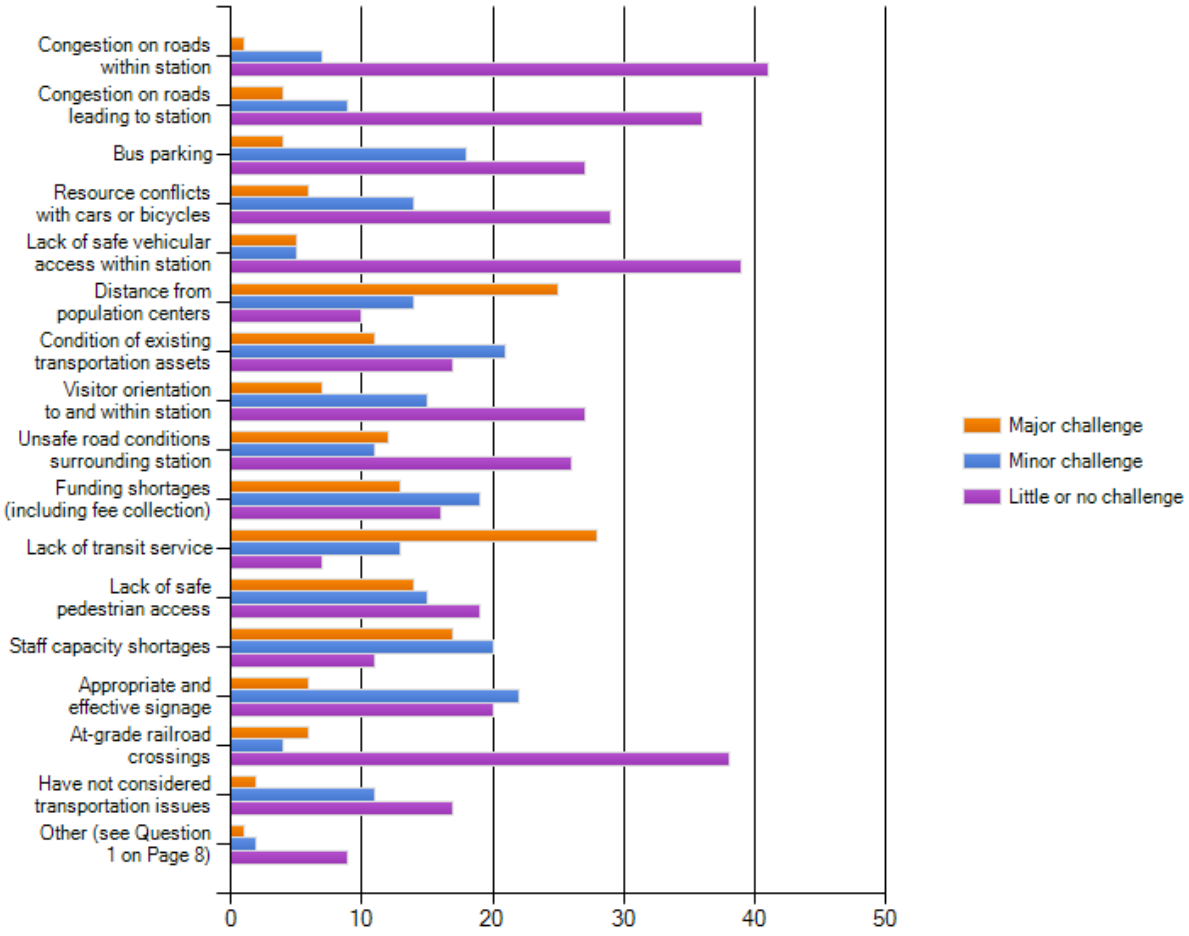


Transportation Challenges and Opportunities

The next section of the questionnaire asked station managers to self-evaluate transportation challenges and opportunities. Respondents rated a list of challenges as major, minor, or little to no challenge (Figure 14). There was a separate section to fill in challenges not listed in the questionnaire and to prioritize the station's greatest challenge. The biggest transportation challenges are often ones that are beyond the control of the USFWS. Station managers most frequently cited the lack of transit service and distance from population centers as major challenges, which make it difficult for many visitors to use alternative transportation. Other significant challenges include management capacity issues, such as funding shortages (67 percent), staff capacity shortages (77 percent), and condition of existing transportation assets (65 percent). Safe pedestrian access was a major concern for 29 percent of respondents, and a minor concern for 31 percent. Almost half of respondents also noted that unsafe road conditions surrounding the station were a challenge. Respondents also noted that signage and orientation could offer

challenges, with 58 percent expressing challenges with appropriate and effective signage, and 45 percent with visitor orientation to and within stations.

Figure 14: **Transportation Challenges**



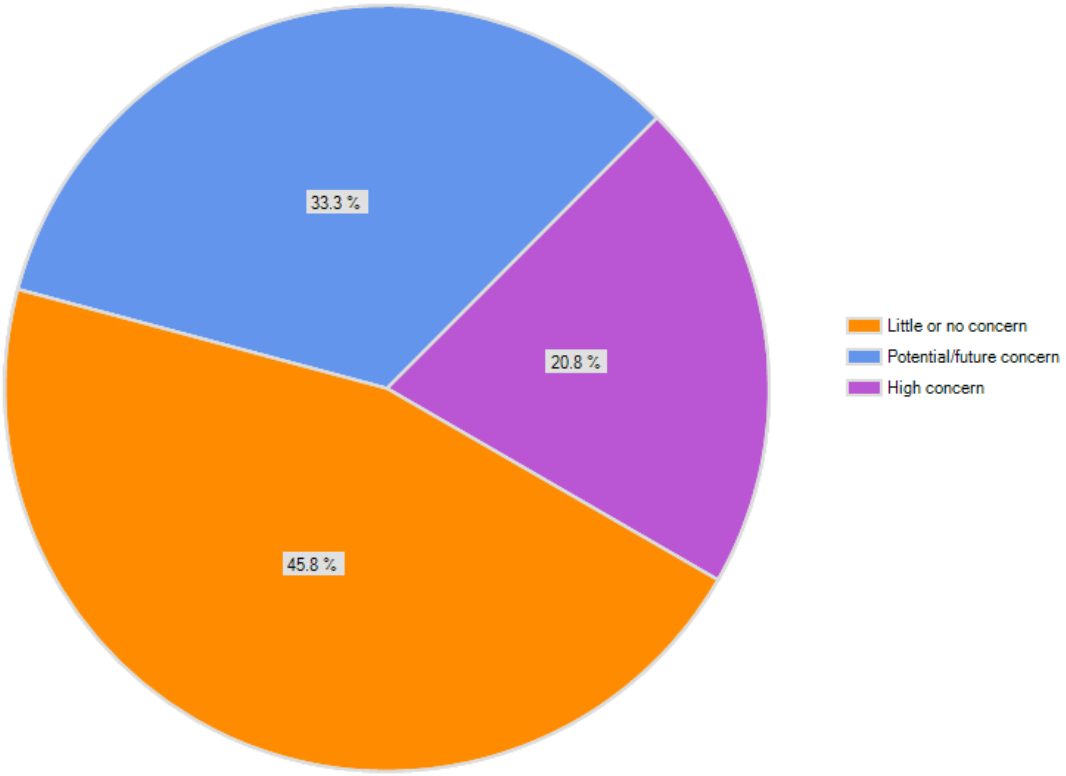
Respondents overwhelmingly called for non-motorized infrastructure improvements to enhance their visitor programs. The most popular transportation improvements were bicycle paths for access to the station (54 percent), pedestrian paths within the station (46 percent), pedestrian paths for access to the station (37.5 percent), and bicycle paths within the station (33 percent). Respondents also expressed a strong need for improved signage for orientation to the station (40 percent) and within the station (27 percent). An additional 27 percent called for new transit service to access the station, while 21 percent believed internal seasonal transit would benefit their station. Most respondents would prioritize the non-motorized improvements and signage, but a few also called for hazard mitigation, new transit service, water access, and promotion and marketing.

Ninety percent of respondents have special events with high visitation, with visitation ranging from 50 to 60,000. Many of these events focus on fishing, hunting, observing migratory birds and eagles, or public open houses. The most popular times of year for these events are May through October. Most station staff manage increased visitation through providing more parking, either through overflow lots on site (49 percent) or through off-site parking with partners (28 percent). Seven percent (three respondents) use transit. Some respondents noted that their current infrastructure can handle the increased visitation.

The stations in Region 3 overwhelmingly expect increased visitation, with 88 percent expecting increased visitation levels in the future, and 65 percent actively working to increase visitation. Only two respondents expected visitation to decrease or were actively seeking to decrease visitation.

Some respondents (21 percent) noted a high level of concern regarding transportation infrastructure that could meet the demands of growing visitation. A smaller number (33 percent) recognized the potential for concern in the future, but the greatest number (46 percent) had little or no concern (see Figure 15).

Figure 15: **Concern about Transportation and Increasing Visitation**



Analysis and Implications

The questionnaire responses indicate that most stations in Region 3 are well-suited to non-motorized forms of alternative transportation, rather than transit. Even stations located in rural or remote areas requested improvements in pedestrian and bicycle infrastructure on roads leading to and within the stations. This might reflect a broader trend in active transportation preferences for Region 3 visitors or a greater shift towards wildlife observation activities that may be well-suited to non-motorized modes. Regional staff can focus technical assistance efforts on funding programs and guidance for trails, sidewalks, bike lanes, and other bicycle and pedestrian facilities.

Many stations also requested assistance with wayfinding and orientation, which may be useful for both motorized and non-motorized access. Wayfinding improvements can often be made with inexpensive strategies such as improved signage and site or trail design. These strategies often require greater coordination with neighboring jurisdictions and transportation agencies.

The greatest barriers to alternative transportation use in Region 3 tend to be ones related to the remote locations of stations and limited funding availability. Stations may not be able to overcome challenges of long distances from population centers or a lack of transit service, but they can identify targeted visitors that may walk or bike to the station and plan to incorporate more non-motorized infrastructure into the station. Similarly, station staff can stretch limited resources by enlisting friends groups and leveraging

partnerships with local governments and transportation agencies. They can also work with regional staff to identify appropriate grant programs or other funding sources.

While almost all stations expected increasing visitation in the next few years, a much smaller number of stations voiced concern about transportation infrastructure meeting visitation demands. Regional staff may target these stations, particularly ones in which transit or trail access could be enhanced or promoted to minimize the need for costly improvements to the roadway and parking infrastructure.

Funding Sources for ATS

Chapter 3 of the Region 3 LRTP describes funding sources, and provides examples of projects funded by these sources, for transportation projects in the region. FWS stations can apply directly to these funding programs, which include (and are described in detail in Chapter 3):

- Eligible to receive:
  - Refuge Roads Program
  - Fish Hatchery Deferred Maintenance
  - Emergency Relief for Federally Owned Roads (ERFO)
- Can apply to:
  - Transportation Enhancements
  - Recreational Trails Program
  - Scenic Byways
  - Rivers, Trails, and Conservation Assistance Program
  - Public Lands Highway – Discretionary Program
  - High Priority Projects Program
  - Paul S. Sarbanes Transit in Parks (TRIP)

There exists a multitude of federal alternative transportation funding sources that local transit agencies and local governments are eligible to receive. Though the funds are federal in origin, application procedures for these funding sources differ by state and some states combine their allotment of federal funds with state funds. Information on the most relevant of these state programs is provided in Table 1. While FWS stations cannot apply directly for these funds, they can work with local transit authorities and/or local governments on project submittals, provided that the local agencies submit the application and are the funding recipients.

Table 1: Relevant Alternative Transportation Programs/Resources in Region 3 States*

State	Transit	Non-motorized
Illinois	Division of Public and Intermodal Transportation (right margin of page)	Federal and State Funding Sources for Bicycle and Pedestrian Facilities
Indiana	Transit	Bicycle and Pedestrian Program
Iowa	Office of Public Transit	Federal and State Recreation Trails
Michigan	Passenger Transportation	Michigan Bike and Pedestrian Funding Opportunities (non-DOT website)
Minnesota	Public Transit Participation Program	Guide to Funding Bicycle and Pedestrian Facilities
Missouri	Transit – Applications – Reports and Programs	Bicycle/Pedestrian Program
Ohio	Office of Transit	Bicycle and Pedestrian Information and Links
Wisconsin	Public Transportation	Bicycle and Pedestrian Facilities Program

*All links are to DOT websites, unless otherwise noted.

The U.S. DOT has several additional websites with links to resources on alternative transportation funding sources. Federal non-motorized transportation funding sources are listed at the following Federal Highway Administration website: http://www.fhwa.dot.gov/hep/bkepedtble.htm. Federal public transit funding sources are available at the following Federal Transit Administration website: http://www.fta.dot.gov/funding/grants_financing_263.html

Partnerships with friends groups, adjacent landowners, local governments, school districts, transportation and government agencies, and transportation providers can help stations expand their funding capacity. These partners may have access to additional funding sources, such as those from local, state, and federal government and private foundations, and can provide matching funds for projects of mutual benefit. They also may be able to share capital infrastructure, such as buses or overflow parking, and technical expertise, such as engineering services. Advanced planning and regular communication with partners allows station staff to identify more cost-savings strategies to reduce overall funding needs.

Project Selection

The Region 3 LRTP includes a new framework for project selection for funding under the Refuge Roads Program (RRP) and the fisheries deferred maintenance program; the framework includes evaluation criteria based on the LRTP goals. The evaluation criteria and weighting scheme reflect the region's priorities, as determined by the LRTP core team, and will guide future transportation projects and programming. Station and regional staff can propose projects, or projects can originate from a Service Asset Maintenance Management System (SAMMS) work order. A small Regional Refuge Transportation System Committee will evaluate all proposed projects. Projects are ranked through quantitative scores, with final funding decisions subject to additional factors such as funding availability and scheduling considerations.

Under this framework, ATS projects are evaluated according to the same criteria as other transportation projects, although ATS projects may be eligible for funding sources outside of the RRP. The evaluating Committee should consider ranking projects by eligible funding sources to open up opportunities for ATS, or communicate with station staff about relevant alternative funding sources for ATS projects that may not score well enough to obtain RRP funds.

ATS projects have the potential to score well in several evaluation criteria areas, due to the inherent benefits of ATS projects. The Committee should consider the following direct and indirect benefits of ATS projects, relative to evaluation criteria:

1. Resource protection:
    a. If ATS projects avoid the need for new or improved roads or parking, they can reduce the impact to wetlands, species habitat, streams, and water quality.
    b. ATS infrastructure should be designed to minimize impacts to natural resources.
2. Visitor Experience:
    a. ATS often enhances the visitor experience by providing fewer barriers between visitors and natural resources, thereby increasing the visual experience.
    b. Trails and transit offer multiple opportunities for interpretation that single-occupancy-vehicle-based transportation does not. These include interpretive kiosks and signs along trails and transit-based interpretive tours.
    c. ATS infrastructure should be designed to include signage for non-motorized and transit users that emphasizes safety and seamless connectivity.

d. The evaluation criteria do not address expanding visitor access to underserved groups or new visitors, including low-income or low-car-ownership populations. ATS projects may enhance the visitor experience for a greater diversity of visitors, which the Committee should also consider in their selection process.

3. System Performance:
    a. If ATS projects can reduce the number of vehicles traveling to and within the station, they will also help reduce wear-and-tear on roadways.
    b. If ATS projects can reduce the number of vehicles traveling to and within the station, they can reduce the risk of accidents caused by vehicle congestion. ATS facilities should be designed for maximum pedestrian and bicycle safety, considering adjacent motorized uses.
4. Partnering:
    a. Strong ATS projects, like strong roads projects, should be the result of collaborative planning with partner agencies and adjacent landowners.
    b. ATS projects are eligible for many alternative funding sources, as described in this report. Strong ATS proposals should consider these funding sources, and the Committee should refer proposal leads to eligible sources.
    c. The Committee should consider partnerships with a county or regional trail network and partnerships with a transit agency as fulfilling the criteria "Partnering with County Road."
5. Sustainability:
    a. All ATS projects will promote walking and biking and reduce the use of greenhouse gases. The Committee should consider the total net benefits of greenhouse gas emissions reductions, particularly if the ATS project could significantly encourage mode shift away from single-occupancy vehicles.
    b. Due to the lesser level of wear-and-tear from non-motorized users, non-motorized ATS infrastructure should have both longer service life and lower annual operations and maintenance costs than comparable infrastructure serving motor vehicles.
    c. ATS projects should be designed to use sustainable construction materials, be context-sensitive, and minimize long-term maintenance costs.
    d. Regional staff could suggest that project managers include ATS elements (such as sidewalks or bicycle lanes) in road project proposals to increase the sustainability evaluation score.
6. Planning:
    a. ATS projects should be coordinated with other management plans, such as Comprehensive Conservation Plans (CCPs). Since many CCPs do not include specific transportation projects, project proposals should also note regional, county, or local trail or transit plans that list the project.

Priority Refuges

Criteria

The Volpe Center developed criteria to rate and prioritize the potential and need for ATS at stations throughout Region 3 (Table 2). These criteria draw from the goals and objectives of the Region 3 LRTP, including focuses on natural resource protection, safety, planning, and partnerships. The criteria focus on assessing relative levels of needs and opportunities. This is accomplished through evaluating specific needs for visitor management, resource protection, and safety, and through determining capacity from existing planning efforts and partnerships. The Volpe Center also incorporated the broad goal areas from the National LRTP into these criteria, which include access, mobility, and connectivity, safety and security, visitor experience, environmental consideration, and organizational effectiveness and coordination.

Table 2: Criteria to Rate and Prioritize the Potential and Need for ATS in Region 3 Stations

	High	**Medium**	**Low**
Severity of Need	Station demonstrates urgent or critical need for ATS to address high visitation, safety, and/or resource protection issues.	Station has a demonstrated or strong future need for ATS, but the station could function effectively without improvements.	ATS is not needed in the short term; there may be a desire or long-term need for ATS.
Visitation	Station has high visitation or growing visitation that is exceeding facility and management capacity.	Station has relatively high visitation, high seasonal visitation, or high visitation during special events.	Station has low visitation.
Opportunity	New visitor infrastructure, partnerships, and/or nearby development provides a unique opportunity to add ATS improvements.	General visitation and development patterns present opportunities for ATS, but these opportunities may not be unique or time-sensitive.	Station has limited opportunities for ATS (due to remote location and lack of visitor amenities or partnerships).
Underserved Populations	The station is located near underserved populations, and ATS can help those potential visitors access the station.	There is some potential to offer ATS access to underserved populations.	The station has limited or no potential to offer ATS access to underserved populations.
Existing ATS Plans/Actions	Station staff are actively planning for and pursuing ATS.	Station staff have considered ATS and may have initiated some planning for ATS.	Station has little or no planning for ATS.

The station fact sheets contain priority ratings to help regional staff target technical assistance and funding efforts. The overall priority ranking of each station reflects the aggregated total of all criteria. For example, a station with a "medium" ranking may meet high priority criteria for one or two areas, but medium rankings for most criteria.

High Priority Stations

High priority stations and their ATS assets and needs are listed in this section (Tables 3 through 7). Ratings for all stations are included on station fact sheets. Low and medium priority stations may become eligible for unique opportunities to improve alternative transportation, such as the construction of a new regional trail that can include a spur to the refuge or a location-specific grant for funding. All station staff should stay connected to local partners to take advantage of these opportunities.

Table 3: Crab Orchard NWR

Refuge	Transit Distance	Trail Distance	Priority
Crab Orchard NWR *Carbondale, IL*	More than 3 miles	More than 3 miles	High

Existing or Planned ATS:

- Greyhound and Amtrak both serve Carbondale, which is located 14 miles from the refuge.
- Rides Mass Transit District offers weekday, on-demand transit service to Marion, Carbondale, Carterville, and other cities around southeastern Illinois.

Opportunities for Future ATS:

- Transit may be able to assist the refuge with the Southern Illinois Hunting and Fishing Days, a large event that attracts 80,000 people. Transit vehicles can help bring people from the community college parking lot to sites around the refuge.
- The greatest challenge is a lack of transit service, and the refuge would like to see better transit connections with the surrounding urbanized areas. While there is some transit available within Carbondale and Marion, there is little service available between the two cities and none with stops at the refuge. This may include a shuttle service on weekend days from central parking areas in Carbondale or Marion or expansion of their Eagle Tours (in FWS-owned vans) for refuge interpretive programs.
- There may be an opportunity to improve bicycle paths or trails leading to and within the station. Refuge staff report increased bicycle use on newly paved roads within the station. Roads surrounding the refuge are not safe for bicycles due to high speeds and narrow shoulders, but there may be long-term potential to add a bike path through the refuge on old rail beds and connect to a regional bike network.

Table 4: Detroit River IWR

Refuge	Transit Distance	Trail Distance	Priority
Detroit River IWR *Detroit, MI*	Less than 2 miles	Direct connection	High

Existing or Planned ATS:

- The SMART bus line has four routes that stop within two miles of the Humbug Marsh unit of the refuge. The bus routes range in frequency from 30 minutes to two hours and run six to seven days per week.
- The Kennedy Park and Elizabeth Park Trails are located within two miles of the refuge.
- A new, two-mile paved section of the North-South Connector Greenway Trail was recently completed within the Humbug Marsh unit, with sidewalk and bike trail connections to the community of Gibraltar and the Lake Erie Metro Park to the south. This is part of a 16 mile trail that will eventually connect to the City of Detroit.

Opportunities for Future ATS:

- The refuge would like to add bicycle trails to link some of the units with nearby communities.
- The refuge is constructing a new Visitor Center and completing a Visitor Services Plan; they expect visitation to increase.
- There are significant opportunities to improve access to underserved populations around the refuge through increase in transit and non-motorized access.

Table 5: Minnesota Valley NWR and WMD

Refuge	Transit Distance	Trail Distance	Priority
Minnesota Valley NWR and WMD *Bloomington, MN*	Less than ½ mile	Direct connection	High

Existing or Planned ATS:

- Metro Transit's American Boulevard light rail station is located approximately one-half mile from the Long Meadow Lake Unit and Visitor Center. The light rail offers high-frequency service seven days per week to the downtown Minneapolis area. Metro Transit bus service also runs nearby and near other units of the refuge (near Bloomington Ferry Road, the Bass Ponds Unit, and the Black Dog Unit). Refuge staff estimate that 15 percent of visitors come via public transit.
- The Minnesota River Valley State Trail, maintained by the Minnesota Department of Natural Resources, is a multi-use gravel trail that runs through the refuge and continues (though not perfectly connected) throughout the river valley.
- There are extensive trails throughout the units with strong connectivity to the region's bicycle and pedestrian network. Most trails within the refuge are packed gravel surface and subject to flooding.
- There is a paved bicycle trail in the Wilkie Unit, adjacent to CR 101. A local bicycle company plows the path during the winter, and it is heavily used by commuters.
- The Sand Creek Pedestrian Bridge in the Louisville Swamp Unit offers a vital connection for cyclists and pedestrians.
- The City or County will be converting the Black Dog Road (in the Black Dog Unit) to a paved bicycle/pedestrian trail in 2016.
- The refuge occasionally rents 16- or 24-passenger shuttles or vans for special events.

Opportunities for Future ATS:

- Refuge staff have a strong partnership history with local governments, businesses, user groups, and the Minnesota Department of Transportation.
- The refuge held two Rail to Refuge tours, in which visitors come to refuge via light rail (with or without bicycles) and then tour the refuge by bicycle or foot.
- The refuge needs improved signage to direct visitors to amenities; signage has been constrained by local ordinances. Since the refuge units are adjacent to residential areas, improved signage may increase visitation by pedestrians.
- The refuge can identify better connections with light rail and bus transit and educate the public about these opportunities.
- Old Cedar Avenue Bridge is a missing connection for commuters from south and east residential areas to access the refuge and get to points north in the Twin Cities. The existing bridge is a safety hazard, but some commuters still use it despite hazardous conditions. The refuge has submitted a TRIP application for capital costs to supplement funds from the City of Bloomington and other sources.

Table 6: Shiawassee NWR

Refuge	Transit Distance	Trail Distance	Priority
Shiawassee NWR *Saginaw, MI*	½ - 1 mile	Less than ½ mile	High

Existing or Planned ATS:

- Saginaw Transit Authority offers regional bus service near the refuge every 40 minutes, six days per week. The bus stop is 6-7 blocks from Green Point Environmental Learning Center (ELC).
- The Saginaw Valley Rail Trail is located approximately two to three miles from the refuge, and recent sidewalk improvements (by the County) have connected the trail to within 100 yards of a refuge trailhead. Visitation by walking and biking to the trailhead has increased over the past few years.
- The City of Saginaw and refuge friends groups have submitted several Public Lands Highway Discretionary applications for road improvements to a section of Gabriel Road/Maple Street for access to the ELC, but the applications have not been selected.
- Road conditions leading to the refuge are very poor and unsafe, which actively deters motorized and non-motorized visitors. Roads in the area are considered to be in poor condition for bicycling.
- The refuge has strong partnerships with the City of Saginaw and Saginaw County for transportation and non-transportation projects.

Opportunities for Future ATS:

- Visitors can currently use transit, pedestrian, or bicycle modes to access the refuge, but these connections may be unsafe, inconvenient, or inappropriate for some visitors. Several simple improvements, such as sidewalk extension near the bus stop and near the trailhead, would significantly increase non-motorized and transit access.
- To better connect existing transit to the refuge, partner with Saginaw Transit Authority to add bus stops closer to the ELC and promote the use of transit for refuge access.
- Connect the Saginaw Valley Rail Trail and Saginaw County sidewalks with the refuge trailhead (100 yards) and provide signage along the Rail Trail to orient users to the refuge trails.
- Several schools within one mile of the ELC have discontinued field trips in recent years, in part due to costs of buses. These schools may be able to walk to the refuge with improved infrastructure.
- Refuge staff would also like improved signage for orientation to and within the station.

Table 7: Upper Mississippi NWR, La Crosse District

Refuge	Transit Distance	Trail Distance	Priority
Upper Mississippi NWR, La Crosse District *La Crosse, WI*	More than 3 miles	1-3 miles	High
Existing or Planned ATS: • There is a local transit service in La Crosse, but it is not used for refuge access nor is information available about its service area. • There is an Amtrak station in La Crosse, located more than three miles from the refuge, but the train stops in La Crosse in the middle of the night. • The Great River State Trail runs along the Mississippi River and is located within one of the refuge visitor center (currently under construction). **Opportunities for Future ATS:** • A new Visitor Center will be opening in 2012, with a planned multi-use trail connecting the Visitor Center with the Mississippi River shore and a boat launch. The greatest priority for the refuge is to connect this trail with existing regional trail networks. There may be an opportunity for bicycle rental or sharing. • There may be an opportunity in the future to extend local bus lines to access the Visitor Center. • Other improvements would include water access facilities, signage, and promotion and marketing of existing ATS. Signage has not yet been planned for the new Visitor Center. • Refuge staff work closely with partners to plan for and fund transportation projects; they could benefit from additional technical assistance to further these partnerships and projects.			

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14. ABSTRACT

The U.S. Fish and Wildlife Service (FWS) and the U.S. Department of Transportation (DOT) Volpe Center (Volpe Center) conducted a regional alternative transportation evaluation (RATE) in Region 3, which is comprised of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin, to ensure effective consideration and integration of alternative transportation systems (ATS) into the goals and recommendations of the Region 3 long-range transportation plan (LRTP). Staff from the Volpe Center, FWS Region 3, and Eastern Federal Lands Highways (EFLH) met in Bloomington, Minnesota, in June 2011, to discuss alternative transportation needs and constraints in the region and to develop an ATS Questionnaire. This RATE team then visited Minnesota Valley National Wildlife Refuge (NWR), Upper Mississippi NWR – La Crosse District, Necedah NWR, Genoa National Fish Hatchery, and Leopold Wetland Management District to identify specific opportunities for ATS in these stations. The RATE also provided insights and lessons on how ATS may be instituted more broadly across Region 3.

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