

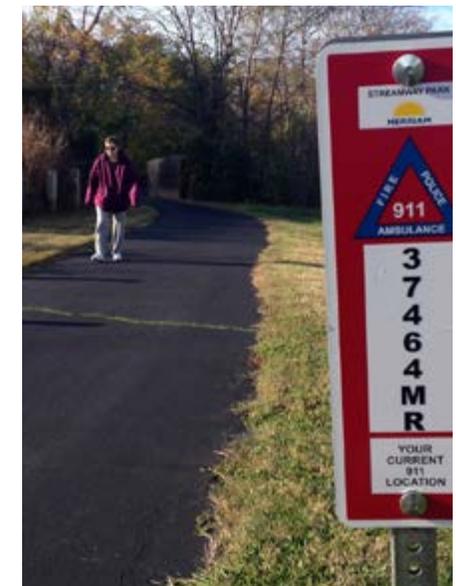
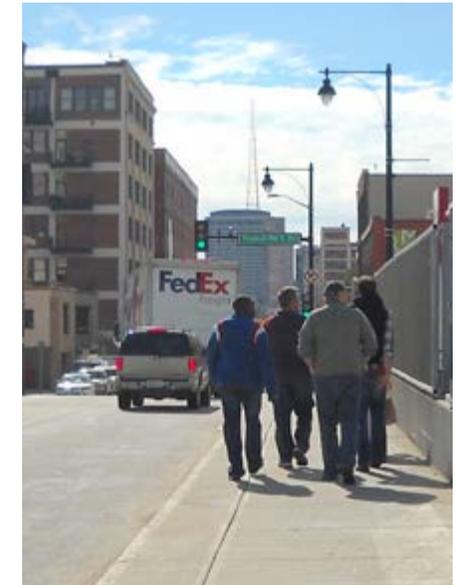
15.0 PUBLIC HEALTH

Expanding the availability, safety and variety of transportation choices will better integrate public health into transportation policy, which has the potential to save lives by preventing chronic diseases and reducing and preventing motor-vehicle-related injuries and deaths. It can also help protect the environment, stimulate economic development and ensure access for everyone.

Needs assessment

The lack of physical activity is a major contributor to the steady rise in rates of obesity, diabetes, heart disease, stroke and other chronic health conditions in the United States and in the Kansas City region. The U.S. Centers for Disease Control and Prevention (CDC) data for 2011 shows that all but one of the eight counties in the MARC region had adult obesity rates greater than 25 percent. Johnson County's rate was 22.7 percent. Seven of the eight counties in the Kansas City region had adult obesity rates greater than 30 percent, with Wyandotte County ranking highest at 38.3 percent. The CDC database also provides information for rates of diabetes. In 2011, adult diabetes rates in the region ranged from a low of 6.8 percent of the total population in Johnson County to a high of 12.9 percent in Wyandotte County. All but two counties had diabetes rates higher than the national average of 8.5 percent.

Many residents view walking and bicycling within their communities as unsafe because of traffic and the lack of sidewalks, crosswalks and bicycle facilities. Incorporating bicycle and pedestrian infrastructure and facilities for active transportation and recreation promotes physical activity. There is strong evidence that increased physical



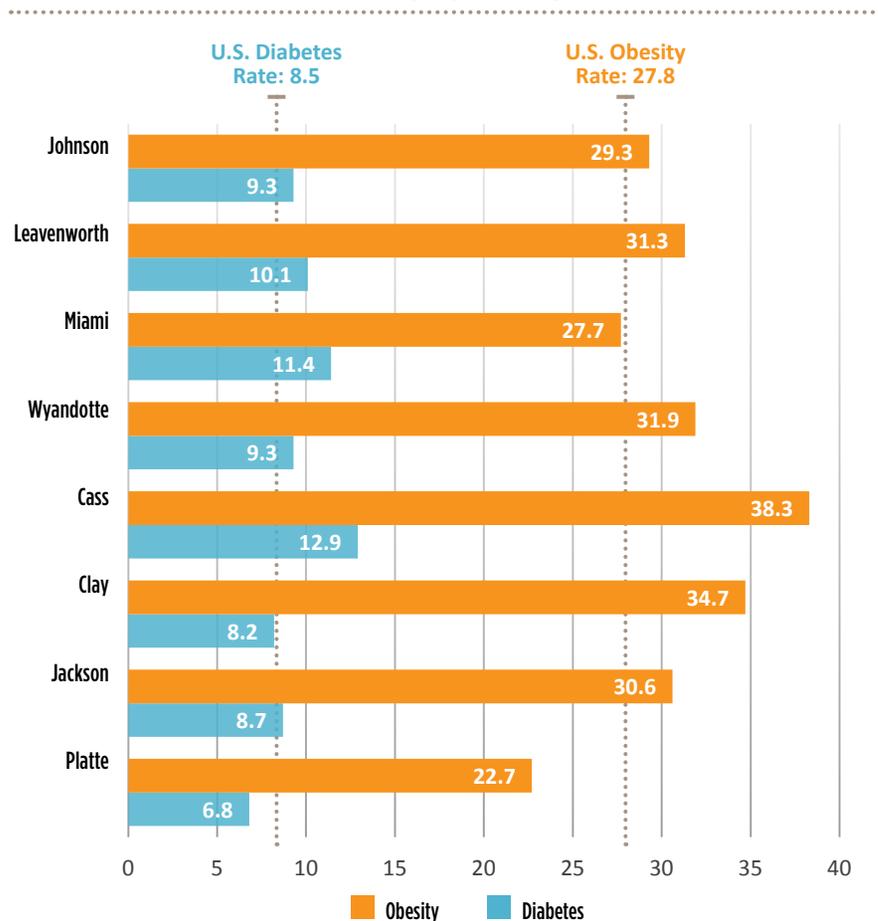
activity can lower the risk of early death, heart disease, stroke, high blood pressure, obesity and Type 2 diabetes. A recent study presented at the American Diabetes Association conference found improvements in reducing Type 2 diabetes and obesity for those living in walkable neighborhoods.¹ Physical activity can also reduce depression and improve cognitive function for older adults.

The Kansas City region experienced 539 pedestrian deaths or serious injuries between 2008 and 2012, with 81 percent on city and county roadways. Pedestrians and bicyclists are at a greater risk of death from crashes than those who travel by motor vehicles. In the first half of 2014, there were 11 pedestrian fatalities in the region. Motor vehicle crashes continue to be the leading overall cause of injury-related death for many age groups.

The lack of alternatives to automobile travel in the Kansas City region disproportionately affects vulnerable populations, such as residents living in poverty, older adults, persons with disabilities and children under age 18. Residents in some Kansas City area neighborhoods have limited access to grocery stores that carry healthy food choices, such as fresh fruits and vegetables. This can have a significant impact on public health. More than 78 percent of residents in area counties do not consume adequate amounts of fruits and vegetables, with the highest total in Wyandotte County, at 84.1 percent. The U.S. average is 76 percent.

Motor vehicle emissions in the region have decreased significantly over the past three decades. However, air pollution from motor vehicles continues to contribute to adverse respiratory and cardiovascular health effects. Alternative modes of transportation help reduce emissions and lessen their impact on public health.

Figure 15.1: Prevalence of Adult Diabetes and Obesity by county, 2009

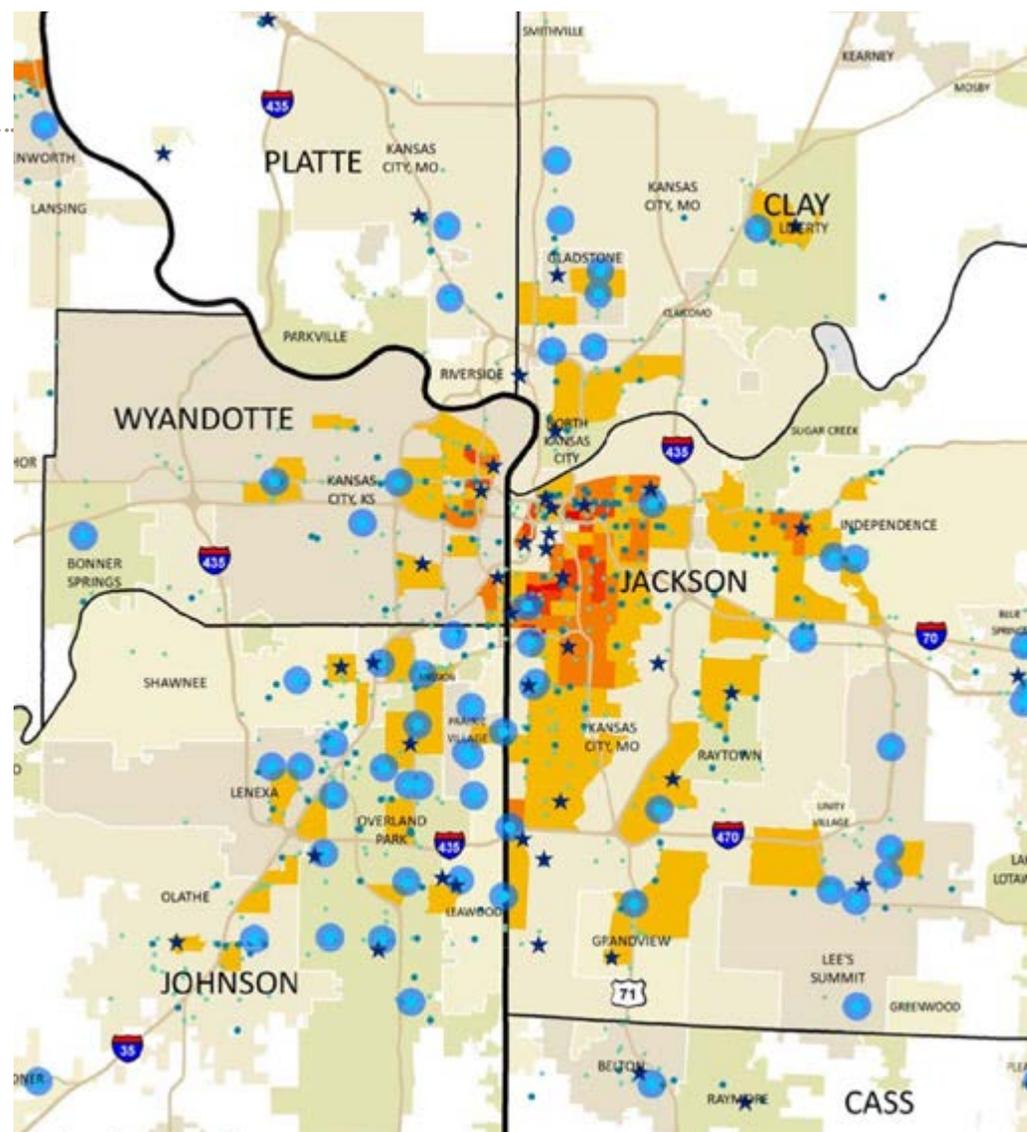


Source: U.S. Centers for Disease Control and Prevention

Figure 15.2: Grocery stores and zero-car households

Transportation systems can support healthy lifestyles by improving access to recreational opportunities, healthy foods, health care, jobs, education and other necessities that improve quality of life.

Access to adequate transportation affects more than employment. Minority and low-income residents are also less likely to have convenient access to fresh, healthy food options, as fewer full-line grocery stores are located in the urban core. More zero-vehicle households are found in these “food desert” areas than in other parts of the region. A food desert is a geographic area where access to healthy and fresh foods is limited.



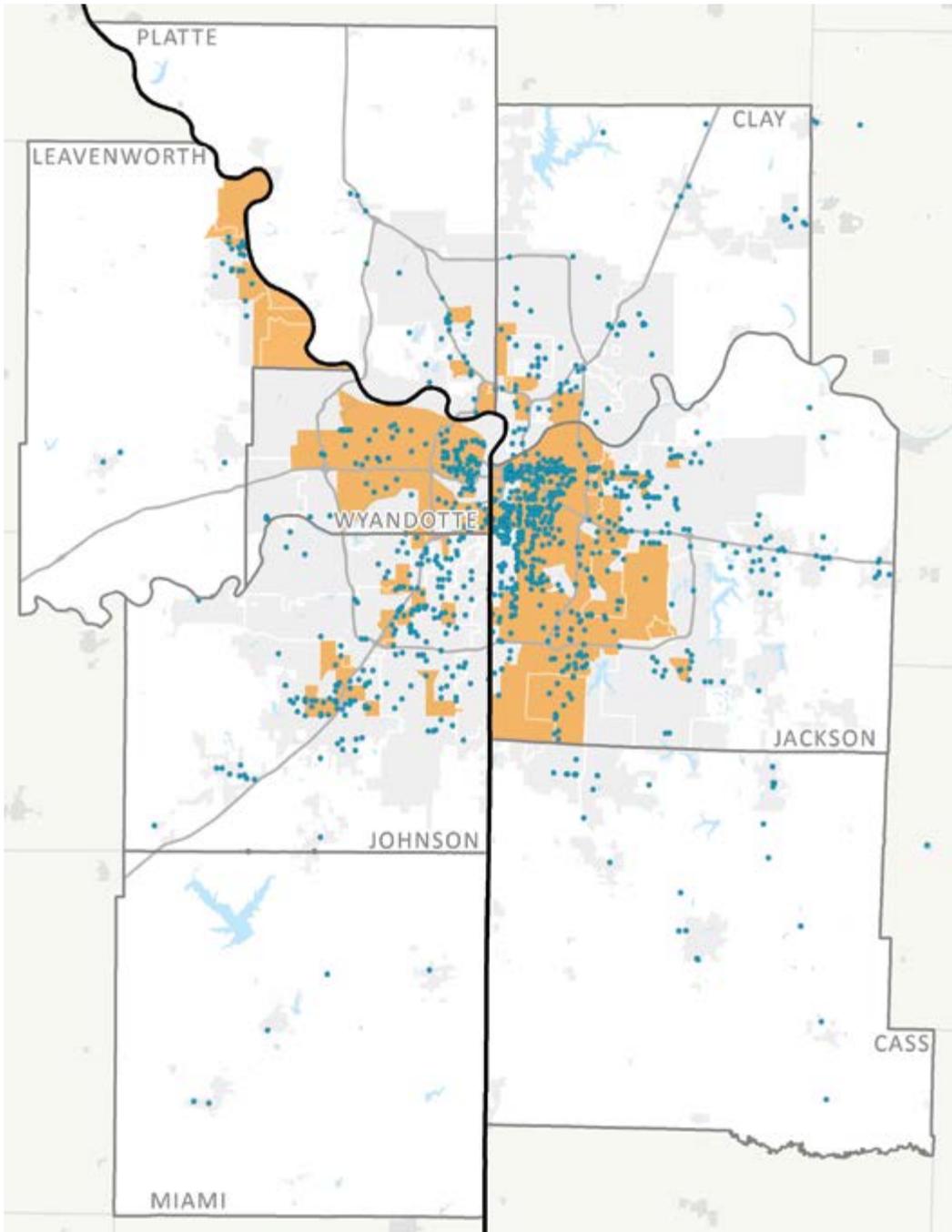


Figure 15.3: Pedestrian crashes and environmental justice tracts

A recent environmental justice (EJ) analysis found that a disproportionate share — more than half — of all crashes involving pedestrians took place in EJ areas. Additionally, more high-severity pedestrian crashes occurred in urban corridors that tend to be home to large minority and low-income populations.

- Pedestrian crashes
- Environmental justice tracts

Strategies

15-1: Promote active transportation.

Active transportation systems should connect the places where people live, learn, work, shop and play with safe and convenient options for walking and bicycling. MARC and a number of local governments in the Kansas City region have adopted complete streets policies and bicycle, pedestrian and trail facility plans. Broader adoption and implementation of these types of policies and plans could increase opportunities for safe, active transportation and physical activity by children and adults.

- a. Encourage the adoption and implementation of complete streets policies by more jurisdictions to ensure that people of all abilities are able to safely use transportation corridors.
- b. Promote safe, convenient opportunities for physical activity by providing:
 - Well-lit sidewalks, shared-use paths and recreational trails.
 - Safe roadway crossings for pedestrians and bicyclists.
 - Safe pedestrian and bicycle connections to public transportation.
 - Safe, convenient pedestrian and bicycle connections to public parks and recreation areas.
- c. Promote Safe Routes to School initiatives to ensure that children can safely walk and bicycle to school.
- d. Bring health, transportation and community planners together to develop safe, convenient and complete pedestrian and bicycle master plans, including an inventory of current sidewalks, bicycle facilities, recreational trails and shared-use paths that can be incorporated into city general plans and capital improvement programs.



15-2: Encourage healthy community design.

Healthy community design incorporates elements such as transportation networks, street designs, and zoning and land-use policies that can work synergistically to promote health and safety.

- a. Encourage the adoption of transportation and land-use planning policies that encourage transit-oriented and mixed-use development, such as:
 - Dense networks of connected streets that serve the needs of all transportation modes.
 - Roadways with robust infrastructure for bicycling and walking activities that mitigate potential adverse effects of motor vehicle travel.
- b. Consider design measures to protect residents from local air and noise pollution from high-volume roadways.
- c. Encourage community design that provides destinations for children (such as schools, parks and libraries) within neighborhoods so they can reach these places without having to cross busy streets.
- d. Work cooperatively with federal, state and local transportation officials to ensure that all people have access to safe, healthy, convenient and affordable transportation options, regardless of age, income and other socioeconomic factors.
- e. Promote the use of technical tools developed through MARC's Creating Sustainable Places initiative to help local communities to evaluate various land-use scenarios.

15-3: Design to minimize adverse health and safety consequences.

Active transportation options can improve overall health by providing opportunities for physical activity and helping to reduce automobile emissions. But without proper attention to safety, it could also produce the unintended consequence of increased pedestrian and bicyclist injuries on the region's vehicle-centric transportation network. Increases in active transportation options may directly increase the number of injuries unless protective infrastructure and policies are implemented at the same time.

- a. Support policies that protect pedestrians and bicyclists from motor vehicle crashes.
 - Design streets to reduce motor vehicle speeds and minimize pedestrian and bicycle injuries.
 - Implement multimodal level-of-service indicators as performance measures for roadways, with measurements for pedestrian, bicyclists and public transportation operability.
 - Correct existing hazards and enhance infrastructure for pedestrians and bicyclists.
 - Implement traffic-calming measures.
 - Reduce traffic speeds in neighborhoods.
- b. Encourage communities to consider health impacts as part of transportation planning. Health impact assessments (HIAs) and safety audits may be useful tools that can help identify impacts of new policies, programs or major transportation projects on community and individual health.

- c. Account for pedestrian and bicycle vulnerabilities with streetscape design, placing an emphasis on increased visibility, route signage and buffer zones.
- d. Improve safety at transit stops through crime prevention and environmental design techniques.
- e. Ensure adequate lighting on roadways, along trails and in parks. Add trail markers for to help locate 9-1-1 callers along trails.

15-4: Reduce injuries associated with motor vehicle crashes.

Motor vehicle travel has become safer over time, but crashes are still the leading cause of death for people of age 1 to 34. Transportation policies that encourage the safe operation of motor vehicles can help prevent crashes, and advances in medical care can increase victim survivability when crashes occur.

- a. Implement, strengthen, and continue to use effective interventions that improve road traffic safety, such as:
 - Reduce speeds with lower speed limits and roadway design within neighborhoods.
 - Install centerline rumble strips.
 - Provide education on safe driving, bicycling and walking habits.
- b. Bring health, transportation and community planners together to address roadway safety issues through community design.

15-5: Improve air quality.

Transportation-related air pollutants are among the largest contributors to unhealthy air quality. Exposure to traffic emissions has been linked to many adverse health effects, including premature mortality, cardiac symptoms, exacerbation of asthma symptoms, diminished lung function, increased hospitalization and others. Motor vehicles are a significant source of air pollution in urban areas.

- a. Reduce human exposure to transportation-related air pollution and the adverse health impacts associated with air pollutants through the following actions:
 - Retrofit existing diesel vehicles with updated pollution control measures to reduce emissions.
 - Require effective inspection and maintenance programs for medium- and heavy-duty vehicles.
 - Encourage motor vehicle drivers to purchase vehicles with technologies designed to control pollution and reduce emissions.
 - Seek solutions to reduce pollution generated by ports, high-volume roadways and railroads.
 - Promote transportation choices and innovative transportation measures that reduce emissions.
- b. Support policies that reduce environmental pollution (including greenhouse gas emissions) by changing to renewable energy sources, strengthening fuel efficiency policies and expanding programs that reduce the number of fleet vehicles with poor fuel economy.

15-6: Expand public transportation.

The availability and use of public transportation systems can reduce the need for single-occupancy vehicle trips. Positive outcomes of increased public transportation use include a reduction in motor vehicle emissions; an increase in physical activity; and better transportation access for people with physical, economic or other limitations that impede their access to and use of automobiles. Policies that encourage public transportation infrastructure will improve access for everyone.

- a. Improve public transportation systems to support positive health outcomes.
 - Plan improvements to public transit services to increase access to health care facilities and retail outlets with healthy food choices, particularly in neighborhoods with high concentrations of households that do not have automobiles.
- b. Encourage local governments to develop and implement land-use policies that encourage transit-oriented mixed-use development, and increase connectivity across neighborhoods and communities for all transportation modes.
- c. Work with local governments and transit operators to increase safe access to public transportation stations for bicyclists and pedestrians by making connecting trips easier, faster and safer.
 - Provide bicycle storage at public transportation stations and bus stops.
 - Assess and address safety hazards for pedestrians and bicyclists through safety measures such as well-lighted crosswalks and signal timing.
 - Minimize and remove barriers to pedestrians and bicyclists on roads and intersections near public transportation stations and bus stops.
 - Enhance the public transportation system to better accommodate bicyclists.



15-7: Require research and surveillance.

Data and evaluation are critical tools that help ensure that the region has current and reliable information about the transportation system's impact on health and determine the effectiveness of intervention actions.

- a. Support research to better understand and frame the relationships between transportation, health and safety.
- b. Support public health data collection and analysis activities for active transportation and public transportation. Examples include:
 - Improved specificity of external cause-of-injury codes for transportation-related deaths, hospitalizations and emergency department visits to capture information on traffic conditions, vehicle type and occupant status.
 - Comprehensive counts of fatalities and improved data estimates of injuries related to all modes of transportation, including walking and bicycling.
 - Systematic counts of users of all modes of transportation, including pedestrians and bicyclists.
 - Targeted, community-level data to track the impact of policies, programs and services.
 - Enhanced travel demand modeling capability that reflects all modes of transportation.
- c. Encourage the inclusion of health- and safety-related questions in transportation surveys, particularly the travel diary study.

¹ <http://medicalxpress.com/news/2014-06-walkable-neighborhoods-obesity-diabetes.html>

Transportation Outlook 2040

<i>Policy framework strategies and goals:</i>	15-1: Active transportation	15-2: Healthy Design	15-3: Health and Safety	15-4: Injury reduction	15-5: Air quality	15-6: Public transportation	15-7: Research and surveillance
 Economic vitality	X			X	X	X	
 Placemaking	X	X	X	X		X	X
 Equity	X	X	X	X	X	X	X
 Transportation choices	X					X	X
 Safety and security	X	X	X	X		X	X
 System condition						X	
 System performance	X					X	
 Public health	X	X	X	X	X	X	X
 Environment	X	X	X		X	X	
 Climate change and energy use	X				X	X	