6.0 ACTIVE TRANSPORTATION

Non-motorized options can be an important part of daily travel and mobility for the Kansas City region's residents. The term "active transportation" describes travel powered by human energy — primarily walking and bicycling. These options are not only healthy and cost effective, but, in most cases safe, convenient ways to travel without the use of an automobile.

The Kansas City region contains a diverse active transportation system that includes trails, paths, sidewalks, bike lanes and neighborhood streets that connect residents to work and other destinations. Demographic, economic, health and environmental factors are driving a desire for more active transportation opportunities for bicyclists and pedestrians and helping the region become more vibrant, connected and green.

Changing demographics

Active transportation options are important for people of all ages, especially for those who are unable to drive or do not have access to a motorized vehicle. The region's population over age 65 is expected to double by 2030, from a little over 200,000 people today to over 400,000. The number of people under the age of 25 is also expected to grow, reaching 100,000 over the next 30 years. These population groups tend to rely more frequently on transportation options other than the automobile.

Some households choose transportation options other than a personal motorized vehicle, primarily due to the costs associated with owning a vehicle. One way to reduce the burden of transportation costs on low-income households is to make more active transportation options available.

Land use and the built environment

Following World War II, many communities in the region opted for urban planning and design techniques that prioritized the automobile and made walking and bicycling to desired destinations difficult. Conventional zoning and development regulations led to the separation of residential, commercial and industrial land uses in low-density patterns. Transportation investments focused on constructing highways to reach outlying areas. This fueled much of the region's growth in suburban locations over the last half-century. It also led to a greater dependency on personal vehicles for travel and increases in the total vehicle miles traveled (VMT) by the region's residents.

These historic development patterns present a challenge to active transportation today. Segregated land uses increase trip distances and make walking and cycling trips less attractive. The region's network of highways and arterial streets has discouraged bicycle travel, since many of these roads have were designed for high-speed vehicular traffic, and often have no space or dedicated lanes for cyclists. The design of large arterial roadways also hinders pedestrian travel because of the number of lanes and crossing distances. Today, however, many communities in the region are beginning to reinvest in downtowns and older neighborhoods with designs that support active transportation. Interest in higher density and mixed-use development is increasing in suburban areas and the outer regions.

Pedestrian trips are generally made over short distances — shorter than typical cycling trips. Access to safe sidewalks and roadways allows residents to walk to nearby shops, schools and parks.

A shift in land uses

Mixed-use styles of development, such as the new Prairiefire development in Overland Park, Kansas, emphasize integration of multiple land uses, shorter trip distances and improved access for active transportation.

The proximity of destinations and availability of adequate pedestrian accommodations are particularly important for people who are too young to drive or cannot afford to own a car. Even for drivers, most trips begin and end with walking, such as to and from a transit stop or a parking garage. Active transportation infrastructure — such as sidewalks, sharrows, designated bikeways and bike-sharing facilities — is becoming more common throughout the region and helps bridge the gap between intermediary stops and final destinations.

Non-motorized mode data

Public works personnel install a bicycle tube counter in Independence, Missouri, and a bicycle/pedestrian PYRO counter keeps count along the Prairie Creek Greenway in Platte County.

Non-motorized transportation data

Measuring the benefits of active transportation investments is difficult without accurate and consistent data. Since the adoption of *Transportation Outlook 2040*, MARC has purchased bicycle/pedestrian counting equipment and implemented its first ever Regional Counting Program. Over the past five years, MARC has loaned this equipment to member communities and obtained helpful data that provides more information about the use of current facilities and the region's needs.

MARC also uses non-motorized transportation data to conduct meaningful safety research for Kansas City's regional safety coalition, Destination Safe, and works with the Transportation Safety Data Task Team (TSDTT) to collect and analyze bicycle and pedestrian crash data for reviews such as the 2013 Pedestrian Crash Analysis and the Kansas City Regional Bikeway Plan. Bicycle and pedestrian fatalities and serious injuries are tracked over time, and the data is compiled and published in Destination Safe's quarterly and annual fatality reports for local, regional and bistate stakeholders. More information on MARC's work with non-motorized transportation safety data can be found in Chapter 12.0 — Safety.

Complete Streets

In 2012, MARC adopted a regional Complete Streets Policy to address context-sensitive solutions and consider the needs and safety of all roadway users, including bicyclists and pedestrians, on all public rights-of-way.

Since its adoption, the policy has been used as a tool for evaluate transportation project applications that seek federal funding through MARC's transportation programming processes. Project applications are evaluated based on their compliance with the policy. As a result, more project applicants and local officials across the region are considering ways to incorporate modal equity and design principles into transportation project scopes. Members of MARC's Total Transportation Policy Committee (TTPC) also consider the impact and benefits of Complete Streets in project funding decisions.

Pedestrian planning efforts

Walking is the most basic form of transportation. Pedestrian needs are an important consideration for all communities, and many communities are taking steps to provide more pedestrian-friendly environments. One national recognition program that encourages cities to establish or recommit to a high priority for safe walking environments is Walk Friendly Communities (WFC). The WFC program recognizes communities that are working to improve a wide range of conditions related to walking, including safety, mobility access and comfort. Several cities within the eight-county region, including Kansas City, Missouri, are using walkability measures from the WFC Community Assessment Tool to evaluate local systems at the macro level and develop their own walkability plans. The extensive WFC program addresses a variety of factors that affect walkability and provides an effective process to improve conditions through planning, policy development and best practices.

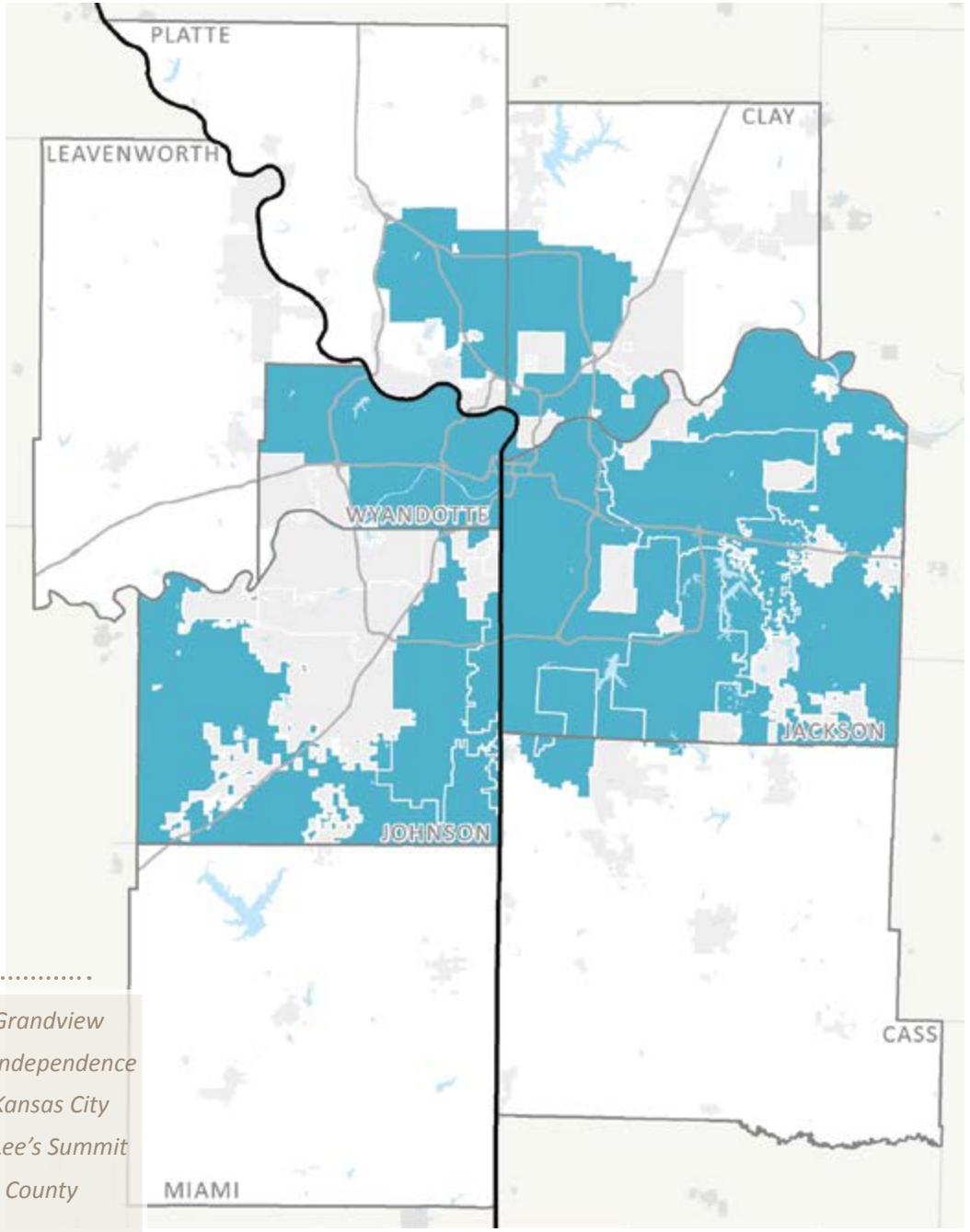


Figure 6.1: Complete Streets policies adopted

__Kansas,__ state resolution
City of Leawood
City of Overland Park
City of Roeland Park
Johnson County
Unified Government of Wyandotte County/Kansas City, Kansas
__Missouri,__ state resolution
City of Belton
City of Blue Springs
City of Grandview
City of Independence
City of Kansas City
City of Lee's Summit
Jackson County

Active transportation has been integral part of many regional initiatives, including Creating Quality Places, Livable Communities Partnership and Creating Sustainable Places. It is an important element of the centers-and-corridors strategy that *Transportation Outlook 2040* seeks to employ. These initiatives have elevated awareness of the role that active transportation plays and helped lead to the development of a walk score as a regional planning tool.

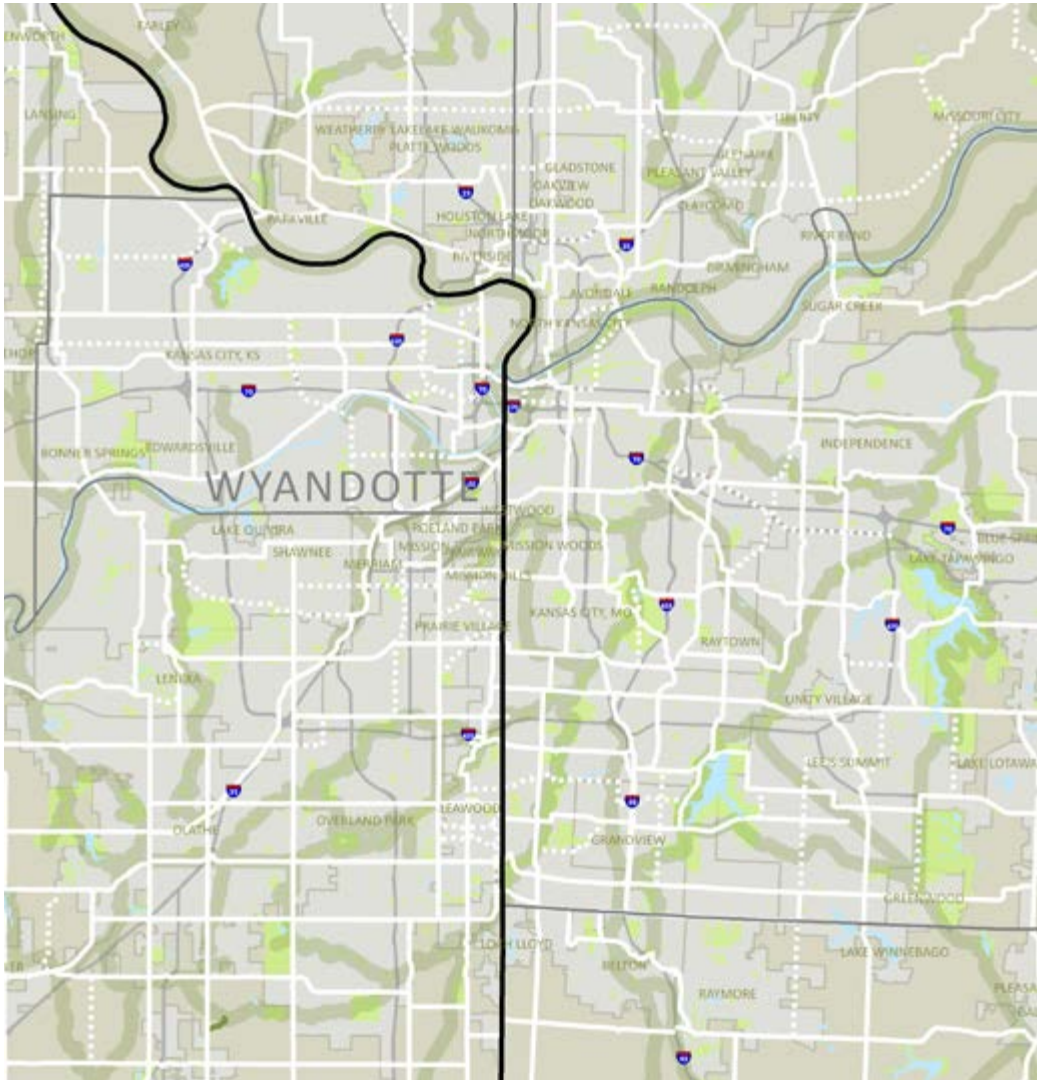
Bicycle planning efforts

Over the years, MARC has worked with local jurisdictions and the public to develop bicycle transportation plans for communities across the region. Early long-range plans aggregated information from local plans on common policy statements, and mapped existing and proposed on-road and off-road bicycle facilities. The MARC Board of Directors adopted the first regional bikeway plan in 1997. Since then, MARC periodically surveys cities and counties to obtain bicycle facility information to update its regional facility plans.

MetroGreen™

In 1991, MARC adopted the MetroGreen action plan. The plan identified an 1,144-mile interconnected system of public and private natural areas, greenways and trails linking communities throughout the Kansas City region. While primarily an environmental plan that focuses on preserving greenways and stream corridors, MetroGreen also provides off-road corridors serving as non-motorized routes for active transportation users. During a plan update in 2002, a public survey found that "more than 80 percent of respondents were either very supportive (57 percent) or somewhat supportive (37 percent) of using the system for walking and biking transportation projects and linkages between neighborhoods and communities."

In 2010, the U.S. Department of Transportation issued an updated Policy Statement on Bicycle and Pedestrian Accommodation that calls for every transportation agency to "improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems." The policy considers walking and bicycling equal to other transportation modes and encourages transportation agencies to "go beyond minimum standards to provide safe and convenient facilities for these modes."



The Regional Bikeway Plan is a plan for people of all ages and abilities to safely live, work and play using bikeways that link regional and local destinations, increase transportation choices, promote healthy, active living and improve the environment throughout Greater Kansas City.

Kansas City Regional Bikeway Plan Vision Statement

Greater Kansas City Regional Bikeway Plan

In 2014, local and regional stakeholders worked with MARC to create the Greater Kansas City Regional Bikeway Plan, which examines connections between local bikeway systems. The plan, adopted in early 2015, combines local plans and bikeway facilities — both on street and off-street — and prioritizes corridors and connections planned for the future in order to help local governments allocate financial resources strategically. The plan promotes a cohesive, regional system of bikeways and long-distance corridors that serve users of non-motorized active transportation.

The Regional Bikeway Plan includes a summary of existing facility conditions in the eight-county region. It also analyzes gaps, barriers, safety hot spots and opportunities for better connections. It functions, in part, as an update to MetroGreen by expanding the regional network of streams and greenways into Miami County, Kansas. The plan expands the MetroGreen concept of bike and pedestrian facilities in rights-of-way using a Complete Streets approach and provides a set of recommended design guides.

The Regional Bikeway Plan will serve as the guiding document for MARC to help local governments implement their individual bikeway plans in a manner that emphasizes regional connectivity and the continuity of facility types along long-distance roadway corridors. Key strategies and recommendations from the Regional Bikeway Plan are in the strategies section of this chapter.

Needs assessment

A lack of active transportation options limits the ability of the Kansas City region to respond to changing circumstances. Strategically placed bicycle and pedestrian investments could significantly increase non-motorized trips and help meet active transportation needs of residents.

Barrier elimination

Physical barriers are the most significant impediments to pedestrian and bicycle travel. Major transportation facilities (e.g., freeways, arterial roadways, railroads and bridges) frequently create barriers because pedestrians and bicyclists are not lawfully permitted access or do not have safe accommodations. Improvements for pedestrians, including sidewalks, crosswalks and signals, can help overcome some significant barriers. Bicycle accommodations may include bike lanes, wide curb lanes or paved shoulders that provide additional or dedicated roadway width. In some cases, protective barrier separation may be required where pedestrians and bicyclists are not lawfully permitted or where traffic speeds or volumes pose safety risks.

The proximity of pedestrian and bicycle trip origins and destinations also plays a key role in limiting transportation choices. Areas may lack adequate facilities because past local development policies and standards did not require them. New improvements such as bike share facilities throughout the region's urban core support intermediary trips between origins and destinations.

MARC adopted a River Crossing Policy in 2006 to help eliminate barriers to active transportation over major rivers. The policy guides bicycle and pedestrian accommodations on projects that span the Kansas and Missouri rivers within the region.

Bicyclists overlooking the Missouri River. (*Image courtesy of Kenneth Walker)*

Regional continuity

Many active transportation corridors run through multiple jurisdictions and differ in their level of bicycle and pedestrian accommodations. When multiple communities are involved, no single entity may take responsibility for the entire facility design; instead, each local jurisdiction develops and maintains its segment. Collaboration across jurisdictional boundaries is needed to plan, design, construct and maintain transportation corridors and to achieve consistency and continuity. The Regional Bikeways Plan is an example of inter-jurisdictional cooperation that emphasizes connectivity and continuity. The plan prioritizes corridors and connections so that financial resources can be allocated strategically to improve the overall regional system.

Poor sidewalk conditions can present a barrier to bicyclists and pedestrians. Communities are encouraged to include provisions for routine maintenance in their local budgets.

Facilities and maintenance

The lack of designated bikeways and sidewalks is another factor that often prevents people from traveling by bicycle or on foot. Bicycle users prefer a safe, continuous and direct path to their destinations, but many roadways in the region were constructed before local development policies and standards required consideration of bicycle elements. To address this issue, *Transportation Outlook 2040* supports the integration of bicycle and pedestrian accommodations early in planning and design stages, as well as in the implementation in all transportation facilities, whenever possible.

Maintaining active transportation infrastructure is another challenge. Sidewalks, shared-use-paths, and shoulders sometimes are not deemed as high a priority for limited maintenance funds as facilities for automobiles (e.g., highways, arterials and local streets). Communities are encouraged to review maintenance policies and include provisions in local budgets for bicycle/pedestrian system preservation and routine maintenance.

Lack of non-motorized transportation data

The ability to review current and future regional conditions requires accurate and consistent data. For active transportation, non-motorized transportation data is essential to making strategic investment decisions in the system. MARC often faces a shortfall in available data.

Regional counting program

In the Kansas City region, there is a lack of consistent data for walking and bicycling trips, compared to data routinely collected for other modes of travel. MARC began its regional counting program in 2012 to collect bicycle/pedestrian counts for local jurisdictions. This has mainly consisted of short-duration counts. As outlined in the Regional Bikeway Plan, MARC should work with partners to expand the counting program with continuous count stations in order to establish baseline estimates for specific factor groups (e.g., rural, urban, mixed).

Travel-demand modeling

MARC's travel-demand model can generate estimates for automobile trips throughout the region, but it does not currently forecast trips on any bicycle or pedestrian network. Organizations like the Transportation Research Board (TRB) are exploring ways to forecast these behaviors through open-access online databases to create pedestrian networks for urban areas. MARC staff will continue to monitor TRB efforts and the latest research methods for estimating bicycle/pedestrian behavior.

Walk-to-school data

MARC seeks to improve is collection of International Walk to School Day (IWTSD) participation data and counts from schools around the region. Many schools participate in Safe Routes to School (SRTS) programs and organize "Walking School Bus" programs, but most efforts are not coordinated at the regional level.

Bicycle and trail facilities

Since 1997, MARC has periodically used bicycle facility information collected from local communities to update regional facility data. The Regional Bikeway Plan provides an up-to-date inventory of the number and types of bicycle facilities currently in place by city or county entity. This includes the number of miles of bike lanes, signed bike routes, share-the-road corridors (signed), share-the-road corridors (unsigned), shared-use paths, pedestrian hiking trails, and mountain bike trails.

Sidewalk inventories

Local sidewalk inventories provide information about the location and conditions of pedestrian systems. This information is necessary to address network gaps and maintenance concerns. While some communities collect and maintain information on their sidewalks, street crossings and other pedestrian facilities, they may still have incomplete or unavailable data.

Local communities are responsible for collecting data on their sidewalk networks, but this is a time-consuming process that does not occur frequently. The Walk Friendly Community (WFC) program provides communities with relevant examples of sidewalk inventory practices and the rationale for their development.

Consistent design guidelines

Consistency in signage, design and construction of bicycle/pedestrian facilities is another challenge facing the Kansas City region. MARC, in cooperation with the American Public Works Association's (APWA) Kansas City Metro Chapter, created facility design guidelines consistent with the American Association of State Highway and Transportation Officials (AASHTO). The Regional Bikeway Plan recommends design guidelines and standards to achieve Complete Streets solutions. State-of-the-art practices in design of bikeway and pedestrian facilities are advancing rapidly, and the National Association of City Transportation Officials (NACTO) provides online design guidelines that are setting the pace. MARC and its planning partners should continue to periodically review new standards of guidance for development and improvement of active transportation facilities.

Cost and funding evaluation

The Regional Bikeway Plan envisions a cohesive regional network that connects across city, county and state boundaries, and will expand active transportation choices for area residents over a 2,000-mile network of on-road and off-road facilities. Depending on local investment priorities, the system be built over years or decades. To provide a cost and funding evaluation, the plan used average per-mile cost to develop planning level build-out estimate for the network shown in Figure 6.2. Costs will vary widely, depending on the type of facility

and whether it is constructed independently or as part of a larger roadway project. Estimated costs include expenses for maintenance of traffic (rerouting during facility installation) and other lump-sum costs where appropriate. The cost figures also include a 25 percent contingency amount. Estimates do not include potential costs such as intersection geometric improvements, signal timing or utility relocation. The Regional Bikeway Plan contains additional assumption details used to calculate average per-mile costs.

The Regional Bikeway Plan estimates implementation costs for the entire system at approximately $603 million. Adjusting for inflation, this same system would cost $720 million to build in 2020, $968 million in 2030 or $1.3 billion in 2040.

The update to *Transportation Outlook 2040* forecasts $987 million in federal suballocated funds and $22.2 billion dollars local revenue. Bikeway projects compete against many other types of projects for federal funds, so local government funding will be essential to complete the Regional Bikeway Network. Project prioritization, using tools such as the demand model described earlier, will help make the best use of limited resources.

Figure 6.2: Cost-estimate scenario for Regional Bikeway Plan

	Average cost per mile	High priority		Medium priority		Low priority		Total system	
	Cost	Miles	Cost	Miles	Cost	Miles	Cost	Miles	Cost
On-street facilities (i.e., signage, sharrows, bike lanes, paved shoulders, road diets)	$121,270	167	$20,246,027	251	$30,450,897	391	$47,368,062	809	$98,064,986
Off-street facilities (shared-use paths)	$452,300	204	$92,291,815	307	$138,810,870	477	$215,928,020	988	$447,030,705
Proposed MetroGreen corridors (new)	$452,300							128	$57,894,400
Total		**382**	**$115,965,544**	**380**	**$115,380,105**	**1,156**	**$350,656,994**	**1,925**	**$602,990,091**

Note: The cost-estimate scenario includes some assumptions (based on historical data and information), and should not be seen as a recommendation. The average cost per mile is estimated at 2014 prices, assuming construction independent of other projects.

Strategies

6–1: Support communities in creating quality places with a range of lifestyle and transportation choices, particularly active transportation options.

a. Provide assistance to local jurisdictions that are working to achieve Walk Friendly Communities (WFC) status through the University of North Carolina Highway Safety Research Center's Pedestrian and Bicycle Information Center, and increase the number of WFC designations in the region.

b. Explore regional pedestrian plans and practices to develop a framework for regional pedestrian strategies.

c. Provide assistance to local jurisdictions working to achieve Bicycle Friendly Community (BFC) status through the League of American Bicyclists, and increase the number of BFC designations in the region.

6–2: Build Complete Streets.

a. Promote the concepts of context-sensitive solutions and Complete Streets in the region's transportation planning, project development and project selection processes.

b. Develop a technical framework to analyze and identify opportunities for incremental Complete Street improvements.

c. Encourage, facilitate and incentivize the development and adoption of Complete Street policies by local jurisdictions.

6–3: Support regional planning strategies to implement the Greater Kansas City Regional Bikeway Plan and MetroGreen Action Plan.

a. Implement the Greater Kansas City Regional Bikeway Plan by facilitating coordinated investments with the greatest opportunity to address bikeway demand and connectivity.

b. Develop regional bikeway wayfinding signage standards.

c. Maintain an inventory of pedestrian and cyclist accommodations for bridges crossing major rivers and freeways and improve bridge ratings to C or higher.

d. Continue implementing the MetroGreen™ Action Plan, with an emphasis on greenway trail corridors that offer non-motorized transportation opportunities to key destinations.

6–4: Support outreach programs and initiatives in the region through Explore KC.

a. Provide support for the Safety Ambassador training program.

b. Support local Safe Routes to School programs and initiatives through trainings, workshops and technical assistance.

c. Support activities promoting National Bike Month.

d. Encourage local communities to enact mandatory bicycle helmet use ordinances.

6–5: Provide assistance to local jurisdictions through MARC's regional counting program.

a. Loan MARC's automated counting equipment to local jurisdictions for the collection and analysis of bicycle/pedestrian volume data.

b. Help local jurisdictions establish counting programs.

Transportation Outlook 2040					
Policy framework strategies and goals:	6-1: Support communities	6-2: Complete Streets	6-3: Regional Bikeway Plan	6-4: Outreach support	6-5: Counting program
 Economic vitality	X	X	X		
 Placemaking	X	X	X		
 Equity	X	X	X	X	
 Transportation choices	X	X	X		
 Safety and security	X	X		X	
 System condition					X
 System performance		X	X		X
 Public health	X	X	X		
 Environment	X	X	X	X	
 Climate change and energy use	X	X	X	X	