



Transportation Framework

Section 4

Section 4 provides guidance on the future of transportation within Shawnee. Much of the City of Shawnee's transportation network is well defined and serves the community well with a mixture of travel modes. A balanced transportation network enhances economic development, the quality of life, and equity for all users while balancing the ongoing costs and maintenance of what is often the single largest investment of a city. To address this, it is important to understand the long-term vision of the community, including what types of land uses are planned, where enhancements to the existing network should be explored, how to leverage available resources to improve existing roadways, and where to preserve right-of-way for potential future needs.



“ Location, location, location! Shawnee is close to freeways and so close to Downtown Kansas City; it is easy to get to most places.

- *Shawnee resident*

Transportation Framework

The transportation framework addresses transportation issues and opportunities in Shawnee. **Figure 4.1** emphasizes proper classification and subsequent connectivity of existing and future roadways citywide, strategic interchange upgrades, complete streets opportunities as roadways are redesigned or reconstructed, and green street opportunities (illustrated on **Figure 4.2**). All proposed transportation improvements should be implemented in conjunction with the Future Land Use Framework (see **Figure 3.3**) to facilitate citywide connections and improvements that align with future growth patterns.

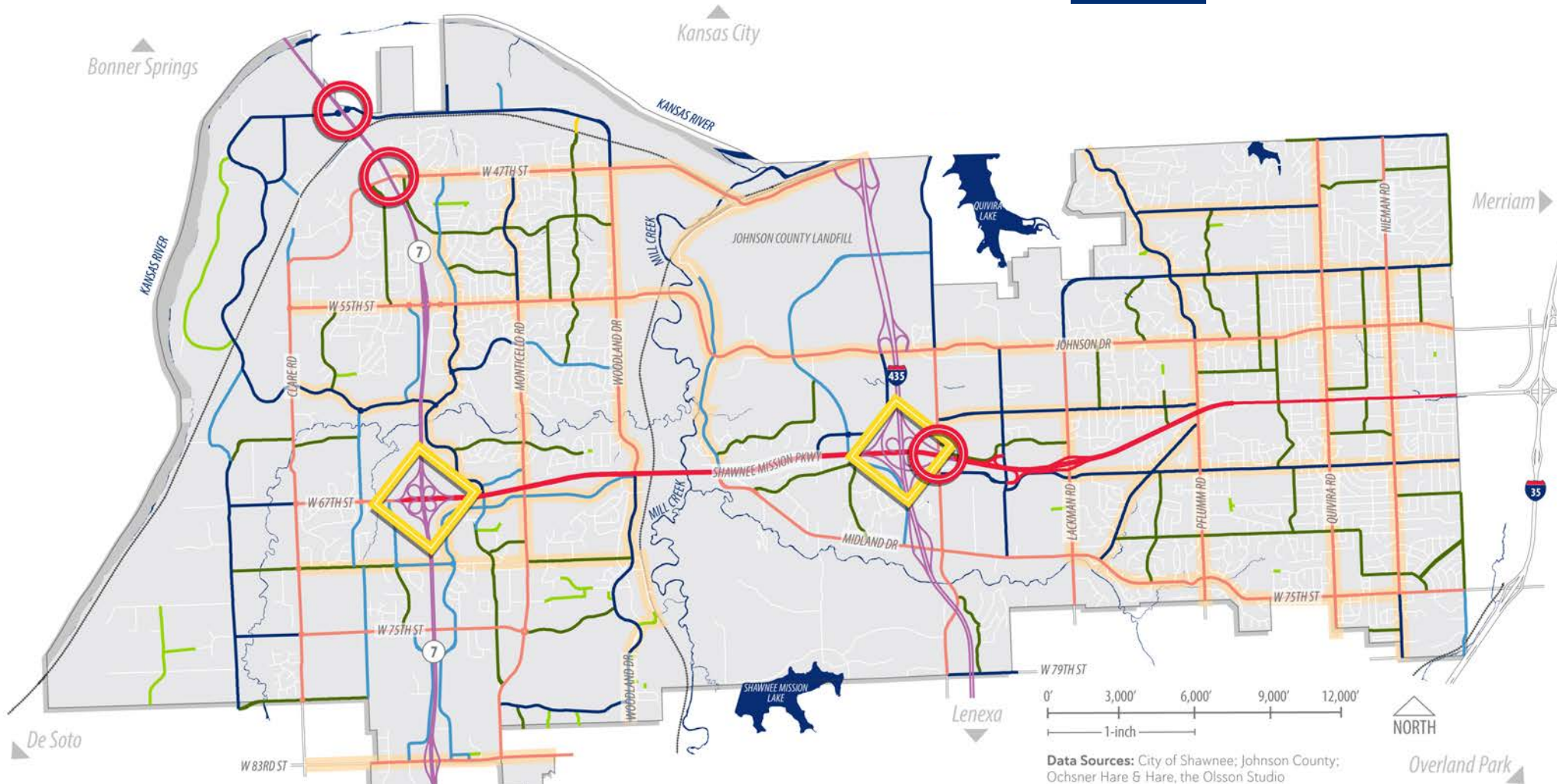
The transportation framework focuses primarily on vehicular connectivity. Active transportation modes are discussed in **Section 5**. The following subsections describe each feature of the transportation framework, including:

- This Comprehensive Plan serves as the official Circulation Plan and Bike and Recreational Trail Master Plan for the City of Shawnee.
- The **roadway classifications**, which are in alignment with the Circulation Plan. In addition to the more traditional roadway classifications, **green streets** are designated and described in more detail.
- **Complete Streets** opportunities are explored along key transportation corridors in Shawnee. These complete streets can vary in intensity, can be implemented in sections, and aim to better connect the city in all directions on various modes of transportation.
- To enhance both the flow of traffic and provide a major economic development opportunity, potential **interchange updates** are illustrated along Shawnee Mission Parkway at major intersections, as well as along K-7.
- A **reimagination of Shawnee Mission Parkway** is meant to inspire a new way of using this major east/west transportation route that would safely and efficiently integrate more users.

Recommendations in this Section are supported by Guiding Principle 4: Connected Community and supporting goals and policies, as outlined in **Section 2**.



Figure 4.1 Transportation Framework



Roadway Classifications

- Interstate / Highway
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Service Collector
- Minor Residential Collector
- Local Street Connection
- Safety Access Road

Vehicular Transportation Enhancements

- Complete Streets Potential
- Potential New Interchange
- Potential Interchange Narrowing

Data Sources: City of Shawnee; Johnson County; Ochsner Hare & Hare, the Olsson Studio



Circulation Plan

In conjunction with this Comprehensive Plan, an updated Circulation Plan was developed, which indicates the vision for arterial, collector, and local roadways throughout Shawnee. While many of the future streets are developed already, there are some areas, particularly west of I-435, where future roadways are not yet constructed. In those areas, the alignments shown on **Figure 4.1** are conceptual and may deviate upon construction as plans by either private developers or the city come forth. The intent is that these levels of roadways serve the connections to other roadways and begin and end approximately as shown on **Figure 4.1**, but the path from one point to another could vary.

Figure 4.1 should serve as the guiding document to preserve right-of-way as future development occurs.

Complete Streets

The concept of complete streets encourages communities to make deliberate and conscious decisions regarding investments in roadways to consider all potential users of the right-of-way, including vehicular traffic, trucks, transit, on-street parking, bicycles, and pedestrians, as roadways are either constructed or improved through reconstruction or major maintenance activities. Consideration to open and green space is also given to preserve trees and native landscaping. These deliberate and conscious decisions do not mean that facilities for pedestrians and/or bicycles are necessary on all roadways. Financial implications, restricted right-of-way, adjacent land uses, and utilities should also be taken into consideration as these decisions are made, as should the impact to potential users, such as if a pleasant and safe environment can be provided for the more vulnerable network users.

Figure 4.1 illustrates potential streets for Complete Street considerations, specifically on corridors that connect activity centers and residential areas where options of enhanced facilities could create less dependence on automobiles.

What are Complete Streets?

Complete streets are planned, designed, constructed, operated, and maintained to support an integrated transportation system inclusive of vehicular traffic, as well as bicyclists, transit riders, pedestrians, scooters, mobility devices, and more. Complete street upgrades may occur as independent projects (e.g., new construction) or concurrent with repaving activities. Such upgrades could be accommodated through the following actions:

- Reconstruction;
- Adding sidewalks;
- Adding shared use paths;
- Repurposing shoulders; and/or
- Changing lane widths to provide other dedicated facilities or changing the number of traffic lanes.



PlanOKC street typology conceptual illustration shown for illustrative purposes only

Green Streets

As part of the most recent update to the Circulation Plan, green streets were added as a new roadway classification (see **Figure 4.2**). Green streets lower the cost of future maintenance by providing less pavement to maintain, while simultaneously providing more natural storm water treatment through engineered ditches (versus an enclosed stormwater system) and a street diet to reduce the amount of stormwater runoff.

This concept, which could serve as an interim investment to a future project or as the ultimate configuration for a roadway, would allow the city to improve more miles of streets and stretch construction dollars. The construction of green streets should be undertaken with the potential that these are interim improvements, with right-of-way persevered for the ultimate Circulation Plan (see **Figure 4.1**).

Further, green streets are not in conflict with Complete Streets. Where they overlap, complete street applications can still be considered, although they may look different than in other parts of the city. For instance, a small, paved shoulder could be constructed to enhance safety for bicycles or pedestrians, or shared use paths could be constructed behind the drainage ditches as separate projects.

What is a Green Street?

Green Streets is an alternative street classification in rural and low density areas of the City that provides the connectivity and amenities many residents desire and encourages development while also saving the City money. A green street is a proposed improvement for currently unimproved streets where development is set to occur and will provide the amenities of a trail system and streetlights our residents desire yet will not include the infrastructure a higher density and higher traffic volume street requires.

Figure 4.2 Green Streets Framework



Interchanges

Potential New Interchanges

To enhance access in areas where growth is anticipated, two potential new interchanges are shown along K-7 at West 47th Street and West 43rd Street. As illustrated on **Figure 4.1**, these are existing at-grade intersections that are recommended to be upgraded to interchanges.

As this part of Shawnee expands both industrial offerings and recreation destinations, interchanges may be necessary in the future to enhance access, reduce congestion, and improve safety. Further, these improvements would make it more attractive for private industry to invest in this part of Shawnee.

Potential Interchange Narrowing

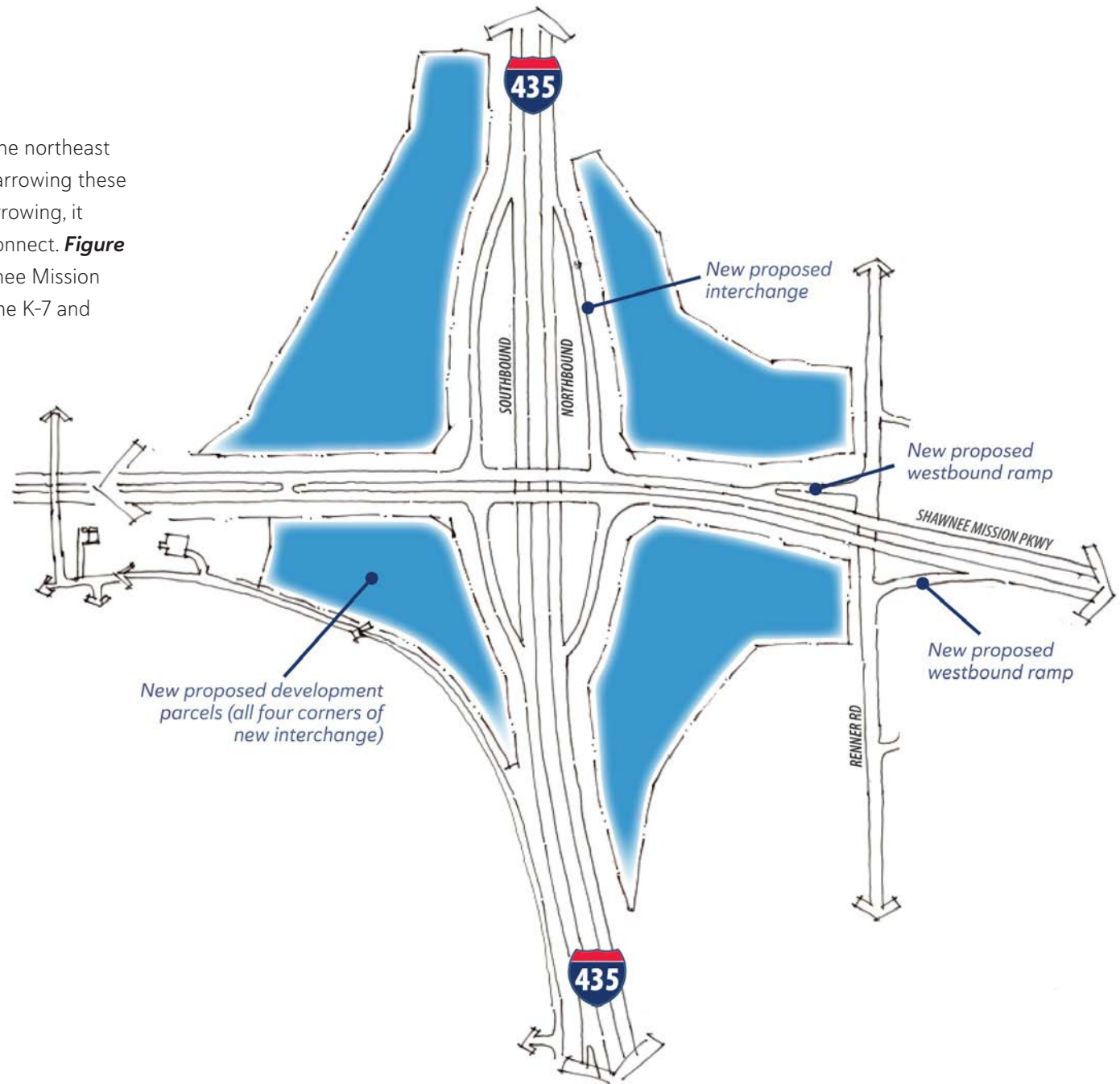
The interchanges of Shawnee Mission Parkway with I-435 and K-7 have been designed for the free-flow of traffic with clover-leaf configurations. While efficient at moving traffic, these designs take a significant amount of physical space, restrict access to adjacent property and major roadways (collectors and arterials), and provide no accommodations for either pedestrians or bicyclists.

Consideration should be given to converting these large interchanges to more typical designs, such as a diamond interchange (see **Figure 4.3**), that would free land for additional economic activity, provide the opportunity for pedestrian and bicycle accommodations, and enhance access to intersecting roadways. In addition to the community benefits provided by this updated design, both the I-435 and K-7 bridges/interchanges are aging. Both were constructed in the early 1980s. The Kansas Department of Transportation (KDOT) considers the lifetime of this type of infrastructure to be approximately 50 years. The reconstruction of both of these bridges/interchanges is therefore within the lifetime of this Comprehensive Plan. With KDOT's increasing priority of having less pavement to maintain and right-sizing infrastructure to demand, this design offers a mutually agreeable option. It should be noted that additional studies would be required to evaluate these changes with approvals necessary from KDOT and the Federal Highway Administration (FHWA).



Figure 4.3 Potential I-435 and Shawnee Mission Parkway Interchange Narrowing

Additional developable land—most notably at the northeast and northwest corners—could be realized by narrowing these two interchanges. Specifically, for the I-435 narrowing, it presents the opportunity for Renner Road to connect. **Figure 4.3** illustrates this potential at I-435 and Shawnee Mission Parkway (a similar design is recommended at the K-7 and Shawnee Mission Parkway interchange).



Shawnee Mission Parkway Framework

Shawnee Mission Parkway, the only major arterial in the city, serves as the primary route to the economic activity for Shawnee with connections that extend east into Kansas City, Missouri. The design and layout of this roadway varies significantly, with a major transition occurring at Pflumm Road. East of Pflumm Road, Shawnee Mission Parkway functions primarily as a six-lane arterial street typical of major suburban communities. In contrast, west of Pflumm Road, Shawnee Mission Parkway has been designed and constructed as a high-speed expressway with restricted access, and large, fully directional interchanges with I-435 and K-7. The right-of-way for Shawnee Mission Parkway varies from 300 feet west of Pflumm Road to approximately 140 feet east of Pflumm Road.

A long-term vision for this roadway could include converting the expressway portions west of Pflumm Road to a more typical arterial street, and considering the application of some complete street components, such as additional native landscaping, decorative lighting, sidewalks, and off-street bicycle facilities (on-street bicycle facilities would not be recommended due to the speed limit or volume of traffic on Shawnee Mission Parkway). Particularly west of Pflumm Road, Shawnee Mission Parkway is suited for a green street application to maintain the more open space and less dense character. East of Pflumm Road, more robust complete street treatments could be appropriate. **Figure 4.4** illustrates these overall potential upgrades (see **Figure 5.2** for an example section east of Pflumm Road).

Another innovation along Shawnee Mission Parkway could include a concept known as the Michigan Left. West of I-435, Shawnee Mission Parkway's signalized intersections may be good candidates to convert to Michigan Left intersections. A Michigan Left is an intersection where left-turns are restricted. Instead, drivers must continue through the intersection then make a U-turn at a median crossover. Removing left-turns at the intersection reduces conflicts and thus increases safety. Additionally, removing the left-turn signal phases increases capacity. Michigan Lefts work best with well-spaced intersections and large medians, similar to on Shawnee Mission Parkway.

Bird's eye view of Shawnee Mission Parkway

Figure 4.4 Shawnee Mission Parkway Framework



- Access, Intersection, and Connectivity Improvements**
- Shawnee Mission Parkway (300' Existing Right-of-Way)
 - Shawnee Mission Parkway (140' Existing Right-of-Way)
 - Existing Intersection
 - Potential New Intersection
 - Potential Interchange Narrowing
 - Potential New Cycle Track
 - Potential New Pedestrian Sidewalk