

CITY OF LENEXA **COMPLETE STREETS PLAN**

DECEMBER 2019



Lenexa's Complete Streets will prioritize safe, active, and sustainable connections in order to improve the livability of current and future residents, workers, and visitors of all ages, abilities, and backgrounds. The City of Lenexa should plan, design, construct, operate, and maintain an integrated system of Complete Streets that supports the accessibility of all users of the roadway system, including pedestrians, bicyclists, transit riders, motorists, freight and service delivery, and emergency responders. Promotion of these principles will be implemented where they can be practical and economically feasible as a catalyst for continued local and regional growth.



ACKNOWLEDGMENTS

Thank you to all participants in the planning process. Your time, technical expertise, and guidance was critical to the development of this plan.

STEERING COMMITTEE

Beccy Yocham	City of Lenexa - City Manager's office
Steve Schooley	City of Lenexa - Traffic Management & ROW
Tim Green	City of Lenexa - Community Development
James Kraatz	City of Lenexa - Community Development
Gary Ristow	City of Lenexa - Parks & Recreation
Charlie Love	City of Lenexa - Municipal Services
Jay Richards	City of Lenexa - Police

ADVISORY COMMITTEE

Eric Bunch	BikeWalkKC
Gary Ewing	Parks Board Representative
Emerson Hartzler	Senior Representative
Mark Hines	Lenexa Resident
Jo Ella Hoye	Planning Commission
Joan Leavens	Shawnee Mission School District
Megan Merryman	iBikeLenexa
Shawn Strate	Kansas City Area Transportation Authority
Allysha Walmann	City of Lenexa
Andy Huckaba	Lenexa City Council

CONSULTANT TEAM

Jeff McKerrow	Olsson
Jon Moore	Olsson
AJ Farris	Olsson
Tammy Sufi	Toole Design
Sally Sharrow	Toole Design
Jayne Siemens	Venice Communications

FOCUS GROUPS

Businesses/Animal Science/Industrial

Laura Baldwin	Consolidated Communications
Kelly Borthelsen	Shawnee Mission Health
Mya Lawrence	Park University
Rhonda Morgan	Heartland Coco-Cola, LLC.
Cathy Nierstheime	COSTCO Wholesale
Rick Oddo	Oddo Development
Dan Short	KIEWIT
Lisa Tomlinson	Bank of Blue Valley

School District

Chris Gralapp	Olathe School District
Josh Kindler	Mill Creek Middle School
Joan Leavens	Shawnee Mission School District
John Muehlberger	St. James Academy

Bicycle Advocates

Paul Arnhold	Bicycle Advocate
Kris Fernhout	Lifetime Fitness
Matt Garrett	Bicycle Advocate
Megan Merryman	iBikeLenexa

Shopping Centers/Retailers/Developers

William Block	Block Real Estate Services
David Harris	Block & Co.
Justin Thompson	Block Real Estate Services

Homeowners Association/Builders

Jim Buffington	Four Colonies
Jeff Julian	Don Julian
Linda Khan	Four Colonies
Bruce Rieke	B.L. Rieke
Brian Rodrock	Rodrock Homes

TABLE OF CONTENTS

1 INTRODUCTION

2 Introduction

2 POLICY ANALYSIS

4 Why Develop a Policy
6 National Examples
8 Local Examples

3 GOALS AND VISION

12 Introduction
12 National Complete Streets Guidance
13 Vision Statement Examples

4 EXISTING PLANS

16 Introduction
16 Existing Plans

5 EXISTING CONDITIONS

22 Introduction
22 Zoning
22 Future Land Use
26 Demographics
36 Conditions

6 PUBLIC ENGAGEMENT

44 Introduction
44 Public Involvement Process

7 DEVELOPING A NETWORK

50 Vision and Priorities
54 Bicycle Network and Pedestrian Priority Areas

8 POLICY AND TECHNOLOGY

70 Ordinance Review Recommendations
76 Complete Streets and Emerging Technology

APPENDICES

Appendix - A Public Engagement
Appendix - B Latent Demand Memo
Appendix - C Bicycle Parking Memo
Appendix - D Wiki Map Results Memo
Appendix - E Crosswalk Policy
Appendix - F Transit Inventory
Appendix - G ETC Survey Results
Appendix - H On-road Bicycle Facility
Recommendations

FIGURES AND TABLES

1 INTRODUCTION

2 POLICY ANALYSIS

- 6 Table 2.1 Pedestrian Zone Design Parameters
- 9 Table 2.2 Facility Type Considerations

3 GOALS AND VISIONS

4 EXISTING PLANS

- 18 Table 4.1 Pedestrian Generation Land Uses
- 18 Table 4.2 Traffic Volume Guide for Crossing Treatment Type
- 19 Figure 4.1 Old Town Area Bike System
- 20 Figure 4.2 Trails, Bikeways, and Trailheads

5 EXISTING CONDITIONS

- 23 Figure 5.1 City Jurisdictions
- 24 Figure 5.2 Zoning
- 25 Figure 5.3 Future Land Use
- 26 Table 5.1 Demographics Characteristics
- 27 Figure 5.4 Population Density
- 28 Figure 5.5 Median Household Income
- 29 Figure 5.6 Poverty
- 30 Figure 5.7 Disabled Population
- 31 Figure 5.8 Youth Population
- 32 Figure 5.9 Elderly Population
- 33 Figure 5.10 Limited English Proficiency Population
- 34 Figure 5.11 Minority Population
- 35 Figure 5.12 Zero Vehicle Households
- 37 Table 5.2 Major Employers
- 37 Figure 5.13 Major Employers
- 38 Figure 5.14 Street Network
- 39 Figure 5.15 Speed Limits
- 40 Figure 5.16 Average Daily Traffic
- 41 Figure 5.17 Existing Transit
- 42 Figure 5.18 Bicycle and Pedestrian Related Crashes

6 PUBLIC ENGAGEMENT

7 DEVELOPING A NETWORK

- 51 Figure 7.1 Existing and Planned Bicycle Infrastructure
- 52 Figure 7.2 Bicyclist Level of Stress
- 53 Figure 7.3 Wikimap and Workshop Public Comments
- 57 Figure 7.4 Interim Bicycle Recommendations
- 58 Figure 7.5 Future Bicycle Network
- 59 Table 7.1 Bicycle Network Recommendations
- 61 Figure 7.6 Sidewalk Gaps
- 67 Figure 7.7 Pedestrian Priority Improvement Areas

8 POLICY AND TECHNOLOGY

- 72 Table 8.1 MARC's Autonomous and Connected Vehicle Framework
- 72 Figure 8.1 Automation Levels

Page Intentionally Left Blank



83 RD ST
MONTICELLO RD 21900W

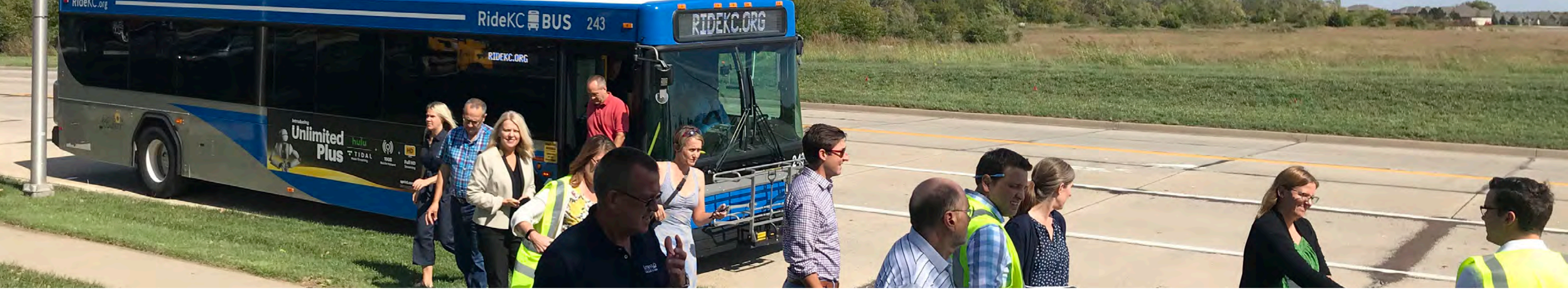
STOP

LENEXA POLICE

lightning
LANDSCAPE & DESIGN

01

INTRODUCTION



INTRODUCTION

Complete Streets provide comfort and access to all users of the roadway system regardless of the user's age, ability, or chosen mode of travel. Many large and small communities across the U.S., including many in Kansas, have embraced this movement to support local land use, health, safety, and economic development through a multimodal approach to the planning, design, construction, operation, and maintenance of their transportation networks. The City of Lenexa has been working to improve multimodal transportation options and meet the diverse needs of the city's residents, employers, and visitors

The City of Lenexa has long been a leader in the metropolitan area in providing off-street recreational trails and paths. More recently, the city has begun conversations on bicycle and pedestrian amenities within public street rights-of-way to provide additional facilities and transportation options. To help Lenexa solidify this approach with a formal Complete Streets Policy, the steering and advisory committee researched national and regional Complete Streets best practices and we have provided a summary below. Lenexa's Complete Streets Policy, Vision, Intent and Goals have been crafted using this information along with guidance from City staff, stakeholders, and the public to ensure Lenexa's policy is tailored to the needs and context of the community. This introductory chapter provides an overview of what Complete Streets are and why they are important to Lenexa's future growth and development.

The following sections summarize the public engagement process, Complete Streets Vision and Goals, and current conditions and policy framework.

WHAT ARE COMPLETE STREETS

Complete Streets is a comprehensive approach to the planning, design, and construction of our roadways that seeks to provide safety and accessibility for everyone regardless of their age, ability, or mode of travel. Not every "complete street" will look the same. They are intended to be sensitive to and reflective of the surrounding land use context. A Complete Streets approach considers the entire right-of-way and its ability to balance the needs of multiple users.

BENEFITS

A Complete Streets approach that routinely considers the needs of multiple users of the transportation network has many potential benefits including improved health and safety; livability; equity; economic development; and reduced traffic and related costs.

Health and Safety There are many health and safety benefits that result from providing a network of accessible, connected streets that are designed for multiple users. These benefits include increased opportunities for physical activity such as walking and bicycling trips, improved air quality from reduced congestion and idling, and improved physical safety for a variety of transportation modes because of design improvements.

Livability Complete Streets can help support the community's identity and provide new ways for social interaction. By focusing on integration with adjacent land uses, streets support walking, bicycling, and taking transit to a variety of destinations such as parks, schools, coffee shops, libraries, commercial centers, and more. Complete Streets can be designed with wide sidewalks, benches, street trees and other amenities that encourage people to linger and socialize.

Equity Low-income communities, people of color, people with disabilities, children, and the elderly are often disproportionately impacted by incomplete streets. By providing complete streets that accommodate users regardless of their age, background, travel mode or ability, the city can provide additional travel choices and improve access to community resources and amenities for these groups.

Economic Development Complete Streets projects not only reduce individuals' transportation costs, but they also increase connectivity of the community and opportunities for walking, and bicycling. This also can increase foot traffic for local businesses, can increase property values, and can encourage private investment.

Reduced Traffic and Related Costs Through the provision of multimodal transportation choices, a Complete Streets approach can help reduce traffic by shifting trips to other modes. It can help reduce individuals' transportation costs as well as construction costs in areas where narrower roads (less pavement) are needed. It is also important to maintain facilities for vehicular traffic and truck/freight traffic where deemed necessary. Lenexa's ability to accommodate these heavier uses will both support their value to the local economy and allow resident to move safely throughout the community.



02

POLICY ANALYSIS

WHY DEVELOP A POLICY

While Lenexa has long been committed to providing multimodal transportation options for the community, the development of a Complete Streets Policy formalizes and strengthens that commitment. By ensuring that all users are considered in the street development process, Lenexa will help increase the transportation choices for residents and visitors as well as improve everyone's access, safety, and comfort. This section provides education and background information on how a new policy can be formed.

ELEMENTS OF A STRONG POLICY

The following elements are recognized as critical components of a Complete Streets policy and are derived from national models and best practices. The National Complete Streets Coalition (NCSC), along with transportation planning and design professionals, have found the following principles important to consider in developing a strong Complete Streets policy:

- Vision and intent
- Diverse users
- Commitment in all projects and phases
- Clear, accountable expectations
- Jurisdiction
- Design
- Land Use and Context Sensitivity
- Project Selection Criteria
- Implementation Steps

Additional details on how these elements contribute to a strong policy are included below in a direct excerpt from NCSC's policy grading framework.

VISION AND INTENT

A Complete Streets vision statement encompasses a community's commitment to integrate a Complete Streets approach into their transportation practices, policies, and decision-making processes. This vision should describe a community's motivation to pursue Complete Streets, such as improved economic, health, safety, access, resilience, or environmental sustainability outcomes. The vision should acknowledge the importance of how Complete Streets contribute to building a comprehensive transportation network. This means that people can travel to and from their destinations in a reasonable amount of time and in a safe, reliable, comfortable, convenient, affordable, and accessible manner using whatever mode of transportation they choose or rely on.



DIVERSE USERS

Complete Streets are intended to benefit all users equitably, ensuring the needs of the most vulnerable users who live in communities that are often underinvested and underserved. Transportation choices should be safe, convenient, reliable, affordable, accessible, and timely regardless of race, ethnicity, religion, income, gender identity, immigration status, age, ability, languages spoken, or level of access to a personal vehicle. The best Complete Streets policies will specifically highlight communities of concern whom the policy will prioritize based on the jurisdiction's composition and objectives.

COMMITMENT IN ALL PROJECTS AND PHASES

The ideal Complete Streets policy has a strong commitment that all transportation projects and maintenance operations account for the needs of all modes of transportation and all users of the road network. Policies may also indicate specific stages of projects to accommodate all modes such as all new construction and reconstruction; all maintenance projects and ongoing operations; as well as during any construction or repair work along the right of way and/or sidewalk.

CLEAR, ACCOUNTABLE, EXCEPTIONS

NCSC believes the following exceptions are appropriate and have a limited potential to weaken the policy.

- Accommodation is not necessary on corridors where specific users are prohibited.
- Cost of accommodation is excessively disproportionate to the need or probable use.
- A documented absence of current and future need.
- Emergency repairs, although temporary accommodations for all modes should still be made.
- Transit accommodations are not required where there is no existing or planned transit service.
- Routine maintenance of the transportation network that does not change the road-way geometry or operations, such as mowing, sweeping, and spot repair.
- Where a reasonable and equivalent project along the same corridor is already programmed to provide facilities exempted from the project at hand.

In addition to defining exceptions through good policy language, there must be a clear process for granting them.

JURISDICTION

Creating a Complete Streets network is difficult because many different agencies control our streets. In the case of private developers, this may entail the developer submitting how they will address Complete Streets in their project through the jurisdiction's permitting process, with approval of the permit being contingent upon meeting the Complete Streets requirements laid out by the jurisdiction. Creating a Complete Streets network can also be achieved through interagency coordination between government departments and partner agencies on Complete Streets.

DESIGN

Complete Streets implementation relies on using the best and latest state-of-the-practice design standards and guidelines to maximize design flexibility. Policy directs the adoption of specific, best state-of-the-practice design guidance and/or requires the development/revision of internal design policies and guides

LAND USE AND CONTEXT SENSITIVITY

An effective Complete Streets policy must be sensitive to the surrounding community including its current and planned buildings, parks, and trails, as well as its current and expected transportation needs. A policy, at a minimum, requires the consideration of context sensitivity in making decisions. The best Complete Streets policies will meaningfully engage with land use by integrating transportation and land use in plans, policies, and practices. NCSC also encourages more detailed discussion of adapting roads to fit the character of the surrounding neighborhood and development.

PROJECT SELECTION CRITERIA

A Complete Streets policy should modify the jurisdiction's project selection criteria, if applicable, for funding to encourage Complete Streets implementation. Criteria for determining the ranking of projects should include assigning weight for active transportation infrastructure; targeting underserved communities; alleviating disparities in health, safety, economic benefit, and access destinations; and creating better multimodal network connectivity for all users.

IMPLEMENTATION STEPS

NCSC has identified the following key steps to implementation¹:

- Restructure or revise related procedures, plans, regulations, and other processes to accommodate all users on every project. Which may include checklists or other tools.
- Develop new, or revise existing design policies and guides to reflect the current state of best practices in transportation design.
- Offer workshops and other training opportunities to transportation staff, community leaders, and the general public so that everyone understands the importance of the Complete Streets vision.
- Create a community engagement plan that considers equity by targeting advocacy organizations and underrepresented communities depending on the local context.

¹ Source: https://smartgrowthamerica.org/app/uploads/2017/12/CS-Policy-Elements_2017.11.30.pdf

NATIONAL EXAMPLES

As of 2017, more than 1,400 communities across the US have adopted Complete Streets policies including nine cities and two counties in Kansas and more than 30 communities in Missouri. These include a range of policy types including the following:

- Council-driven ordinances and policies;
- Plans, policies and design guidelines that are typically, but not always council-approved,
- Executive orders issued by the mayor,
- Ballot measures or tax ordinances voted on by citizens

Each of these policy types includes some level of commitment to incorporating the needs of multiple users in the planning, design, construction and maintenance of streets and the best policies include all or most of the elements detailed above. In addition to this policy language, it is worth calling out a few key components and best practices related to policy implementation including design guidelines and selection of multimodal facilities and target speeds based on street type, network development, and funding strategies. These are briefly described below along with some examples. The right tools for any given community will be largely based on how the street development process functions.

Checklists:

Many communities with Complete Streets policies have developed, at a minimum, a checklist that includes items to help ensure multiple modes are being considered in the given street's design, to make sure multiple departments have input in the process, and to document how decisions and trade-offs were made. Some examples of communities with Complete Streets Checklists are provided below.

- Austin, Texas¹
- Oak Park, Illinois²
- Topeka, Kansas³
- Seattle, Washington⁴
- Philadelphia, Pennsylvania⁵

¹ <http://austintexas.gov/sites/default/files/files/Transportation/Complete_Streets/Complete_Streets_Checklist_-_Private_Projects.pdf>

² <https://www.oak-park.us/sites/default/files/bfc/6_Complete%20Streets%20Checklist.pdf>

³ <<https://s3.amazonaws.com/cot-wp-uploads/wp-content/uploads/planning/PedPlan/Appendix%20Fa.pdf>>

⁴ <<https://www.smartgrowthamerica.org/app/legacy/documents/cs/impl/wa-seattle-checklist.pdf>>

⁵ <https://www.philadelphiastreet.com/images/uploads/resource_library/Complete-Streets-Checklist-Planning.pdf>

Design Guidance:

As mentioned in the section on elements of strong policies above, having clear and flexible design guidance is critical to implementing a community's Complete Streets policy. The best design guidance recognizes the need to shift from a design paradigm based solely on projected traffic volumes and capacity to one based on designing streets that are sensitive to the adjacent land use context while balancing the needs of multiple users, including vehicular traffic. Many communities have designated new street types to supplement, not replace, the traditional functional class system. **Table 2.1** includes examples of design parameters for areas behind the curb, but still within right-of-way. These new land-use based street types can then be used to help determine many design parameters including:

- The widths of sidewalks, frontage zones, and furnishing zones
- The appropriate bicycle facilities such as bike boulevards, buffered and traditional bike lanes, separated bike facilities or sidepaths
- Appropriate target/posted/design speeds given the levels of expected and desired pedestrian and bicyclist activity
- Appropriate number of lanes and lane widths to achieve desired speeds and accommodate multiple users including pedestrians, bicyclists, transit riders, motorists and freight delivery
- Intersections, curb radii and crosswalks
- Curbside management

**Table 2.1
Pedestrian Zone Design Parameters (Ames, Iowa)**

Street Type	Frontage Zone (cafe seating, retail signage, planters)		Clear Zone (space for pedestrian travel)		Amenity Zone (street lights, utilities)		Total Zone Width	
	Preferred	Minimum	Preferred	Minimum	Preferred	Minimum	Preferred	Minimum
Shared Street	Shared streets do not have defined zones. Rather amenities, greenscape, and clear zones are intermingled.						Varies	Varies
Mixed-use Street	4'	0'	10'	6'	8'	2'	22'	8'
Neighborhood Street	2'	0'	5'	5'	8'	2'	15'	7'
Industrial	2'	0'	5'	5'	4'	2'	11'	7'
Mixed-use Avenue	4'	0'	10'	5'	8'	2'	22'	7'
Avenue	2'	0'	6'	5'	8'	2'	16'	7'
Thoroughfare	2'	0'	6'	5'	8'	2'	14'	7'
Boulevard	2'	0'	6'	5'	8'+	4'	18'+	9'

A few of the numerous examples of communities with Complete Streets Design Guidelines or Standards include the following:

- Topeka (Kansas) Complete Streets Design Guidelines
- Boston (Massachusetts) Complete Streets
- Dallas (Texas) Complete Streets Manual
- St Paul (Minnesota) Street Design Manual
- Ames (Iowa) Complete Streets Plan

Network Development:

Providing a network of streets that are well-designed and well-connected is an important aspect of accommodating multiple users. When the street network is well-connected it provides multiple modal and route choices to users and can reduce dependence and burden on the arterial system. Even when street networks are well-connected, many communities have developed supplemental plans that provide additional details on the desired network for pedestrians, bicyclists, and transit. (Pedestrians should be accommodated on every street with only a few exceptions.) Many communities have developed Bicycle Master Plans and Transit Plans and some have incorporated such plans directly into their Complete Streets Plan.

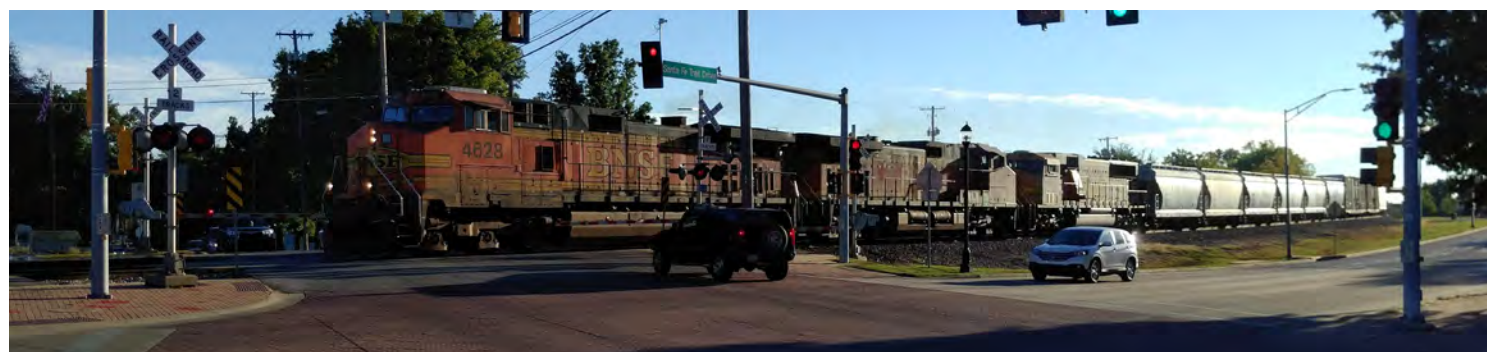
NATIONAL FUNDING STRATEGIES

The following is an analysis of funding strategies used for Complete Streets infrastructure in similar regions and cities.

Using Existing Funding Sources:

While the cost of including multimodal improvements into street design will vary from project to project, it is important to recognize that by incorporating multimodal planning and design into the standard street development process, there are many potential cost savings that result from not having stand-alone projects. Many complete streets improvements are relatively minor in their level of effort and can often be achieved with funds from existing budgets. Examples include the following:

- Retrofits where lanes or roadways are restriped to include more space for bicyclists or pedestrians or to slow traffic and increase safety;
- Restriping crosswalks to increase visibility;
- Adding pedestrian countdown signals and/or adjusting signal timings to allow more time for pedestrians to cross



New Funding Sources:

Another approach is setting aside funds at the state or local level specifically for multimodal improvements or Complete Streets improvements.

- In 2016, Austin, Texas voters approved a 6-year \$720 million mobility bond, dedicated to improving safety and access to transportation for corridors and streets across the city. More than \$111 million of this funding is dedicated to active transportation, where Austin Transportation Department (ATD)'s staff have been working to improve the network of bicycle and pedestrian facilities.
- In Massachusetts, the MassDOT Complete Streets Funding Program provides technical assistance and construction funding to eligible municipalities. Eligible municipalities must pass a Complete Streets Policy and develop a Prioritization Plan.

In addition to the sources above, many communities also rely on traditional sources of funding for multimodal improvements include the following:

- **State Motor Fuel Tax:** Typically these funds can be used for street maintenance and may include such Complete Streets elements as crosswalks, bikeway pavement markings, signs, crossing beacons, and stoplights.
- **Community Services Block Grant:** The Community Services Block Grant provides funds to alleviate the causes and conditions of poverty in communities and includes transportation projects. Administered by the U.S. Department of Health and Human Services, funding is allocated to states who then make it available to local communities. Funded projects have included commercial district streetscape improvements; sidewalk improvements; safe routes to school; and neighborhood-based walking and bicycling facilities that improve local transportation options or help revitalize neighborhoods.
- **Federal Highway Administration Pedestrian and Bicycle Funding Opportunities:** The Federal Highway Administration maintains a data-table to assist communities in understanding which federal funding programs could be used for pedestrian and bicycle projects. The table provides an overview. Specific program requirements must be met and eligibility must be determined on a case-by-case basis. For example: transit funds must provide access to transit and Congestion Mitigation and Air Quality Improvement (CMAQ) funds must benefit air quality in eligible areas.
- **Highway Safety Improvement Program:** Federal Highway Safety Improvement Program (HSIP) funds are available for safety projects aimed at reducing traffic fatalities and serious injuries. Bike lanes, roadway shoulders, crosswalks, intersection improvements, underpasses and signs are examples of eligible projects. Projects in high-crash locations are most likely to receive funding. Kansas Department of Transportation (KDOT), which administers federal funds within the state, has not yet identified pedestrian and bicycle safety as an emphasis area, which makes pedestrian and bicycle safety projects less likely to be funded under this program.
- **Transportation Alternatives Program:** The Transportation Alternatives Program (TAP) provides federal funds to KDOT for projects that advance bicycle, pedestrian, and recreational trail facilities. TAP pays for up to 80 percent of eligible project costs, with a local match of 20 percent required. Eligible activities include sidewalks, bicycle infrastructure, rail-to-trail projects, pedestrian and bicycle signals, traffic calming, lighting, and safety-related infrastructure. Safe Routes to School projects may be funded through TAP, and include both infrastructure and non-infrastructure projects, such as education, enforcement, training, and public awareness campaigns. Projects must be included in an existing plan document, such as a pedestrian or bicycle master plan.



LOCAL EXAMPLES

Of the 12 municipalities/counties with Complete Streets policies in the Kansas City metro area, there are three Johnson County suburbs such as Leawood, Overland Park and Roeland Park with Complete Streets resolutions adopted as early as 2011. This is in addition to two state resolutions and one City ordinance. The Mid-America Regional Council's policy handbook summarizes some of the major details included in each of the three Johnson County municipalities listed below as direct excerpts from the report.

Overland Park, Kansas (2013)

- Policy applies to all public streets that are newly constructed or reconstructed, whether privately or publicly financed.
- Facilities will be designed in context with the land uses and physical characteristics of the surrounding area.
- Policy articulates the need to work with Johnson County Transit.
- Planning and Parks Departments are designated to oversee implementation of aesthetic treatments.
- Policy specifies the need to develop a comprehensive Bicycle Master Plan

Leawood, Kansas (2011)

- Policy is to go beyond the Comprehensive Plan specifically to designate, design and operate streets for the safety of multiple users; approach is targeted towards specific corridors.
- Sets out the agencies that will have to adopt principles into their own policies, regulations, standards and rules to support the Complete Streets Policy, as well as the agencies that have to review the policy when engaging in new development or retrofitting.

Roeland Park, Kansas (2011)

- Policy is aimed at enhancing the public environment experience for all modes, including single-occupancy vehicles. The aim is that Complete Streets design and consideration become part of the routine infrastructure planning process.

While these resolutions designate Complete Streets elements to be addressed in future plans and projects, resolutions are lacking in functional details regarding elements of the transportation network. These finer details were found in other plans adopted by the adjacent municipalities of Shawnee, Overland Park and Olathe. Findings from these plans are important when planning for facilities sharing the same city boundary.

LOCAL FUNDING STRATEGIES

In Overland Park, Complete Streets projects are coordinated with resurfacing, reconstruction and construction projects. The City also uses general funds and general obligation debt in some cases.

In Shawnee, when property is platted, the City requires dedication of open space or payment in lieu of dedication. This Park and Recreation Land use Fund is used to acquire new park land and construct new bicycle and pedestrian trail improvements.

In Olathe, dedicated funds were not found, but the Olathe Transportation Master Plan recommends Olathe's Capital Improvement Plan include an annual line item for bicycle and pedestrian connectivity improvements. Initial recommendations started at \$500,000 annually, or slightly less than 1 percent of the City's typical annual CIP budget.

FACILITY TYPES FOR DIFFERENT TYPES OF STREETS

In Overland Park's bicycle plan, facilities are broken down by each street type, as well as by three categories of bicycle networks. Within each facility network, considerations are made for the type of connection, trip purpose, facility type, and experience of rider. The three bikeway networks included the City Network comprised of bikeways on thoroughfare streets; the Neighborhood Network comprised of bikeways on collector and some local streets; and the Trail and Sidepath Network comprised of shared use paths throughout the city. **Table 2.2** illustrates these considerations based on street type.

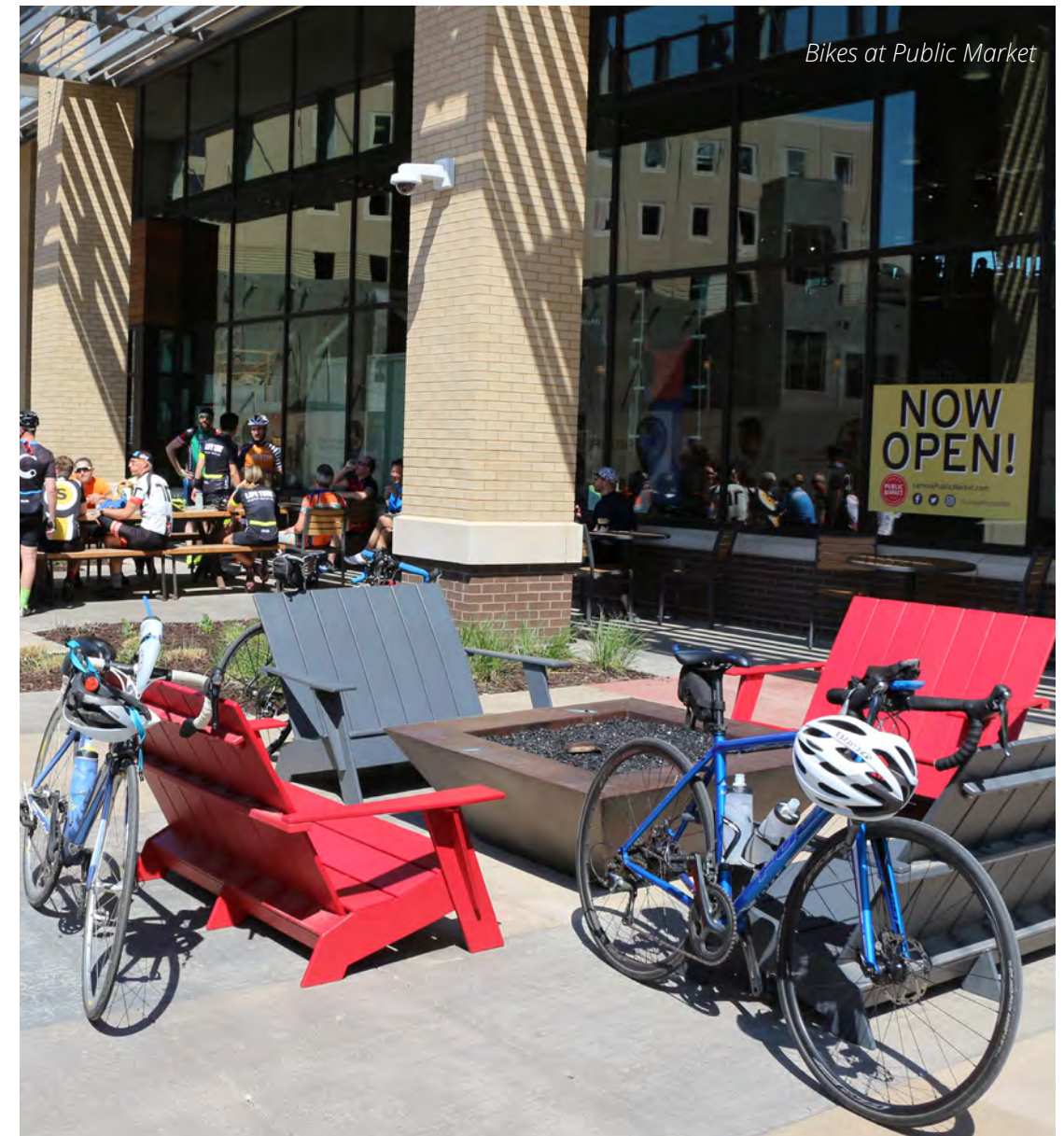
VEHICLE VOLUMES AND SPEED THRESHOLDS

Standards for volume and speed thresholds for facility types were found for two adjacent communities including Shawnee and Overland Park. Shawnee's comprehensive plan includes both geometric and roadway design criteria for a range of functional classes.

Overland Park's bicycle plan also summarizes street types within the city's network. Elements included in the summary categorize the purpose, number of lanes, width, right-of-way minimum and average daily traffic of each facility type.

Table 2.2
Facility Type Considerations (Overland Park, Kansas)

Street Type	Bicycle Facility	Minimum Facility Width (in feet)	Change to Existing Cross-Section
Local (low speed)	None or shared lane markings	Not applicable	No change
Collector and Apartment	Bike lane or shared bike/parking lane	4+ (exclusive of gutter)	No change, may require use of narrow travel lanes
Commercial and Industrial	Bike lane or shared bike/parking lane	4+ (exclusive of gutter)	No change, may require use of narrow travel lanes
Super-Collector	Bike lane or shared bike/parking lane	5+ (exclusive of gutter)	No change, may require use of narrow travel lanes
Thoroughfare	Buffered bike lane and shared-use paths	7+ (exclusive of gutter) on-street 6+ for wide sidewalks 10+ for shared-use paths	Requires widening of street or reduction of travel lanes; wide sidewalks or side paths should be provided on both sides.



Page Intentionally Left Blank



Arthur & Murray
Dance Centers

Arthur & Murray
Dance Centers

Old Town
Hair & Nail

Old Town
Hair & Nail

bulk-it
LESS PACKAGING. MORE SAVINGS. EAT

03

VISION and GOALS

INTRODUCTION

This section gives a brief overview of potential elements to include in the vision and goal statements for the Lenexa Complete Streets Plan. Review of national best practices, example policies and potential vision elements from prior Lenexa plans and visioning exercises were used to get the conversation started. Comments were received from both the Steering Committee and the Advisory Committee and are considered in the final updated vision statement.

NATIONAL COMPLETE STREETS GUIDANCE

Smart Growth America identifies critical components of a successful Complete Streets policy that include the following:

- Vision and intent
- Diverse users
- Network creation
- Commitment in all projects and phases
- Clear, accountable expectations
- Jurisdiction
- Design
- Land use and context sensitivity
- Performance measures
- Project selection criteria, and
- Implementation

“A Complete Streets vision states a community’s **commitment to integrate a Complete Streets approach into their transportation practices, policies, and decision-making processes.**

This vision should describe a **community’s motivation** to pursue Complete Streets, such as improved economic, health, safety, access, resilience, or environmental sustainability outcomes.

The vision should acknowledge the **importance of how Complete Streets contribute to building a comprehensive transportation network.** This means that people are able to travel to and from their destinations in a reasonable amount of time and in a safe, reliable, comfortable, convenient, affordable, and accessible manner using whatever mode of transportation they choose or rely on. This does not mean putting a bike lane on every street or a bus on every corridor. Rather, it requires decision-makers to **consider the needs of diverse modes** that use the transportation system, including but not limited to walking, biking, driving, wheeling/rolling, riding public transit, car sharing/carpooling, paratransit, taxis, delivering goods and services, and providing emergency response transportation.”

–Smart Growth America



VISION STATEMENT EXAMPLES

While more than 1,400 communities have adopted Complete Streets policies, nine cities and two counties in Kansas have adopted policies. Below are a few examples of vision statements found across the nation. Examples chosen were intended to include a variety of large and small communities.

BOSTON, MASSACHUSETTS

“Boston’s Complete Streets initiative aims to improve the quality of life in Boston by creating streets that are both great places to live and sustainable transportation networks. The Complete Streets approach places pedestrians, bicyclists, and transit users on equal footing with motor vehicle users, and embraces innovative designs and technologies to address climate change and promote active healthy communities.”

MINNEAPOLIS, MINNESOTA

“The City of Minneapolis is committed to building a complete and integrated public right-of-way to ensure that everyone can travel safely and comfortably along and across a street regardless of whether they are walking, biking, taking transit, or driving. This Complete Streets policy will inform decision-making throughout all phases of transportation projects and initiatives. The overarching policy purpose is the establishment of a modal priority framework that prioritizes public right-of-way use in the following order: walking, biking or taking transit, and driving motor vehicles.”

SOUTH BEND, INDIANA

“The safety, convenience, accessibility, and comfort of all users of the transportation system, including pedestrians, bicyclists, users of public transportation, motorists, freight providers, those of all ages and abilities (including children, the elderly, and the disabled), emergency responders, and adjacent land users, shall be accommodated when planning, designing, constructing, and operating South Bend’s streets.”

WARSAW, MISSOURI

“The purpose of this policy is to set forth guiding principles and practices for use in all transportation projects, where practicable, economically feasible, and otherwise in accordance with applicable law, so as to encourage walking, bicycling, and other non-motorized forms of transit, in addition to normal motorized transit, including personal, freight, and public transit vehicles. All uses must be designed to allow safe operations for all uses regardless of age or ability. The ultimate goal of this policy is the creation of an interconnected network of Complete Streets that balances the needs of all users in pleasant and appealing ways in order to achieve maximum functionality and use.”



Public Open House #1



VISION STATEMENT

“Lenexa’s Complete Streets will prioritize safe, active, and sustainable connections in order to improve the livability of current and future residents, workers, and visitors of all ages, abilities, and backgrounds. The City of Lenexa should plan, design, construct, operate, and maintain an integrated system of Complete Streets that supports the accessibility of all users of the roadway system, including pedestrians, bicyclists, transit riders, motorists, freight and service delivery, and emergency responders. Promotion of these principles will be implemented where they can be practical and economically feasible as a catalyst for continued local and regional growth.”

STEERING COMMITTEE VISIONING

During our discussions with the Steering Committee, there were a few themes the committee expressed as important to include when devising the final vision statement. Points to consider include the following:

- Making sure all modes of transportation are included in the statement and not just active modes.
- Analyzing comments from Vision Fest 2040 to be considered in Complete Streets vision statement.
- Favoring a vision that prioritizes ‘integration,’ ‘connection,’ and ‘intentional focus.’
- Preferring to implement policies that are practical and economically feasible.
- Establishing every major road as a safe bicycle route is not the goal of this plan.

ADVISORY COMMITTEE VISIONING

During our discussion with the Advisory Committee, there were some themes the committee expressed that were important to include in the final vision statement. Points to consider included the following:

- New technologies are changing our needs and how we address accessibility.
- Health and wellness are a large reason communities embark on Complete Streets.
- Equity, accessibility, safety, livability, activity and health are all interrelated.
- There are both health and environmental benefits to gain from Complete Streets.
- The plan should consider both the daytime and evening population of the City.
- Hold the City accountable, such as South Bend’s vision that applies during planning, design, construction, and the operation of streets.
- Education is an essential element to include.
- How does Lenexa fit in with the rest of the metro area?
- Recommendations must be achievable and implementable.

GOAL DISCUSSION

Following the discussions from committee members, input was evaluated, and seven themes were identified to strive toward as Complete Streets are further implemented into the City’s internal processes. Summarized below are the goals attached to each of the popular themes. A preference towards quantifiable objectives will be established during future discussions with City staff and stakeholders.

SAFETY - Enhance the safety and comfort of all users in street design, with an emphasis on school children, seniors, and disabled individuals.

HEALTH - Promote the physical and mental health benefits of increased walking and bicycling.

LIVABILITY - Emphasize the positive environmental impacts of investing in sustainable design and how those elements can support the surrounding area as a place people want to live, shop, work and play.

MULTIMODAL INTERCONNECTIVITY - Maintain and develop a more connected, integrated mobility network that considers users of all modes and abilities, including pedestrians, bicyclists, scooters, personal vehicles, first responders, freight, and other innovative transportation technologies.

EQUITY - Consider the accommodation of vulnerable users in the community such as children, the elderly and the disabled when planning, designing, operating and maintaining public infrastructure.

COORDINATION - Reinforce coordination on transportation facilities among the business community, adjacent municipalities, the county, the state, elected and appointed officials, and various city departments.

ECONOMIC DEVELOPMENT AND FISCAL RESPONSIBILITY - Incorporate efficient transportation connections between daily activities, so vibrant spaces can better foster future growth in the local economy by attracting new people and business investments to the community.



04

EXISTING PLANS



INTRODUCTION

The following section serves to review the previous plans that have paved the way and set a precedent for this Complete Streets project. Through the use of these plans the project team will ensure compliance with previous visions and goals and work to create a Complete Streets network that will work for the City of Lenexa.

EXISTING PLANS

VISION 2040

Ten years following Vision 2030, the Vision 2040 plan was recently completed. As part of the public engagement process, three surveys were distributed to residents regarding what people want Lenexa to look like in 2040; what would make Lenexa a strong, vibrant, healthy and connected community; and their agreement with statements reflecting strong themes heard from residents and businesses in Lenexa.

The first survey highlighted several Complete Streets elements as a priority for residents. Most of the respondents felt their neighborhoods should be walkable and facilities and infrastructure should include greenways and trails.

The second survey asked residents to respond to emerging themes originating from the Steering Committee and Joint Task Forces. Themes supporting Complete Streets concepts included residents preferring walking over any other alternative transportation method and regarded safety as the most important factor to maintaining and creating healthy neighborhoods.

In the third survey, respondents ranked their agreement to the following themes, all in support of what Complete Streets endorses.

It is important to promote physical and mental health.

Our vision is to have active people throughout their lifespans.

It is important to connect the community using technology.

Our vision is to provide a public technology network to attract businesses and residents.

It is important to be on the forefront of innovation and change.

Our vision is to be a place where companies, entrepreneurs, universities, researchers and investors - across sectors and disciplines - co-invent new discoveries for changing markets.

It is important to have a variety of housing types available for purchase or rent.

Our vision is to keep current housing types, but also include smaller homes that are well-designed, comfortable and in walkable neighborhoods with shared community spaces.

It is important to design our community to accommodate changes in transportation such as vehicle sharing and driverless cars.

Our vision is to create a seamless transportation system where you can easily transition between all transportation modes.

VISION 2030

Various goals and strategies considered in Vision 2030 supported the very same principles this plan is intending to accomplish. Visions applicable to Complete Streets related to health and sustainability, multimodal transportation, and economic development. Specific goals and strategies are explained further in the list below.

HEALTH AND SUSTAINABILITY

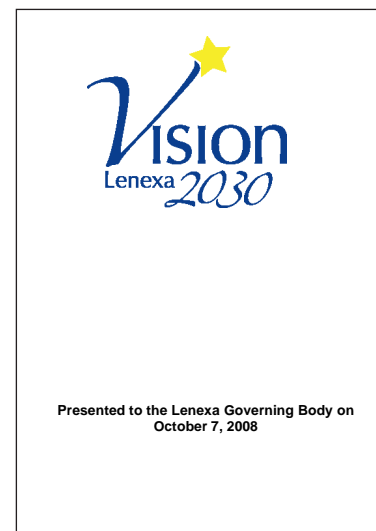
- Promote physical and mental health
- Reinforce the importance of a healthy community through education
- Establish Lenexa as an environmental leader within the region.
- Explore opportunities to use materials and methods that offer extended life and reduced maintenance cost for future infrastructure

MULTIMODAL TRANSPORTATION

- Design community to accommodate changes in transportation
 - Seamless transition between all transportation modes: walking, biking, cars, transit, and regional transportation
- Develop an intracity transit policy toward achieving intercity and ultimately regional interconnectivity, because developing regional hubs will keep Lenexa on the forefront of providing transit options to its citizens and workforce
- Promote multimodal transportation options, including pedestrian, bicycle, transit, and personal vehicles, in both public and private development
- Make new construction bicycle friendly, and renovate existing infrastructure to accommodate bicycles where possible

ECONOMIC DEVELOPMENT

- Build on a scale that accommodates pedestrian traffic, adding sidewalks and other amenities such as landscaping and lighting, to link destinations, while also emphasizing aesthetics and safety.
- Apply Smart Growth principles to new and existing transportation and infrastructure.
- Maintain and update transportation, utilities, public works and aesthetic infrastructure to promote and facilitate economic retention and growth



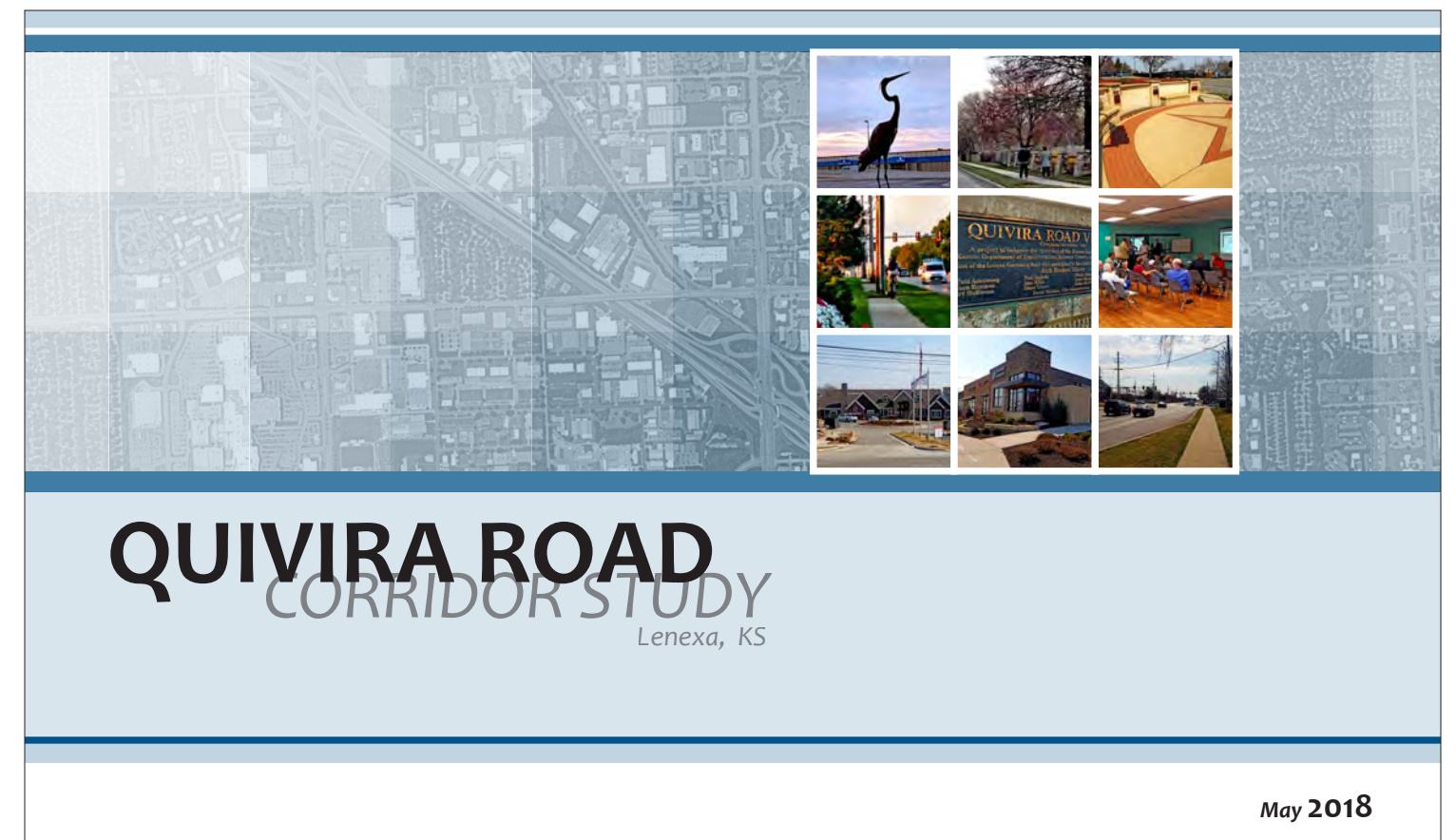
2018 - 2022 CAPITAL IMPROVEMENT PROGRAM (CIP)

Lenexa's current Capital Improvement Program (CIP) guides implementation and financing of various capital needs that coordinate with the City Council's strategic goals. In addition to streets, traffic signals, and public facilities, this is where bicycle and pedestrian projects would be. Projects impacting the overall transportation network will be considered when documenting the existing segments of all transportation modes in this plan.

QUIVIRA ROAD CORRIDOR STUDY 2018

The Quivira Road Corridor Study analyzed the relationship between land use and transportation along the roadway and made recommendations regarding appropriate land uses, transportation improvements, and placemaking opportunities.

Recommendations for the plan included both for the short-term and long-term. For short-term actions, a Complete Streets Study was recommended so improvements of all mobility networks could be prioritized. Specific improvements detailed elements such as pedestrian connections to transit stops, bicycle and pedestrian design standards, and inventorying where lighting enhancements were needed. The development of calm street treatments and implementing projects from the Complete Streets Study were considered for the long-term throughout the corridor.



CITIZEN SURVEY 2017

Lenexa surveys residents on a biennial basis to assess citizen satisfaction of major City services. Results also help to determine priorities of the overall community, so preferences can be incorporated into the City's planning process. The most recent survey was taken in 2017. Findings from that survey included some significant support of Complete Streets principles and some helpful details to incorporate into the plan. Details are specified below.

- Of the services Parks and Recreation provides, the second highest priority behind the maintenance of city parks was walking and biking trails. This result can help guide Parks and Recreation with their current programming and any future facility considerations.
- 56 percent of respondents believe it is important for the City to allocate funds to bicycle infrastructure (bike lanes, signs, pavement markings, trails). This majority lends a case for the City to consider additional investment in these types of facilities.
- 79 percent are satisfied with traveling north/south, while 68 percent are satisfied traveling east/west.

PEDESTRIAN CROSSING POLICY 2017

Lenexa's Pedestrian Crossing Policy, an internal staff-level policy not adopted by the City Council, determines where crossing treatments are most appropriate at mid block and between signalized pedestrian crossings along major streets. The policy will be considered during the planning process to confirm if any additional crossings are warranted in the Complete Streets Plan. Elements considered when measuring the need for a crossing includes the consideration of the specific source and attraction; a set minimum distance of 400 feet between crossings; and a traffic control type methodology based on crossing width, speed of traffic and average daily traffic (ADT).

If demand for a crossing is in question, pedestrian counts may be taken over a 6-hour time period. Based on the criteria set, a required minimum of 200 pedestrians in a 6-hour time period or a count of over 50 pedestrians during any consecutive 60-minute time period would then be considered for a crossing location. The pedestrian generation land uses and the traffic volume guide for crossing treatment type are illustrated in **Table 4.1** and **Table 4.2**.

**Table 4.1
Pedestrian Generation Land Uses**

Attractions	Source
Swimming Pool	Residential
Large Park (greater than 5 acres)	Trail System
Retail Center	Transit Stop
Trail System	
Recreation Center	
Transit Stop	

Table 4.2 Traffic Volume Guide for Crossing Treatment Type

	2 or 3 Lane	4 or 5 Lane
Posted Speed Limit less than 35 mph		
Ped Hybrid Beacon	12,000	8,000
Rectangular Rapid Flash Beacon (RRFB)	6,000	4,000
Posted Speed Limit 40 mph and over		
Ped Hybrid Beacon	8,500	6,000
Rectangular Rapid Flash Beacon (RRFB)	4,250	3,000

City of Lenexa Citizen Survey

Findings Report

...helping organizations make better decisions since 1982

2017

Submitted to the City of Lenexa

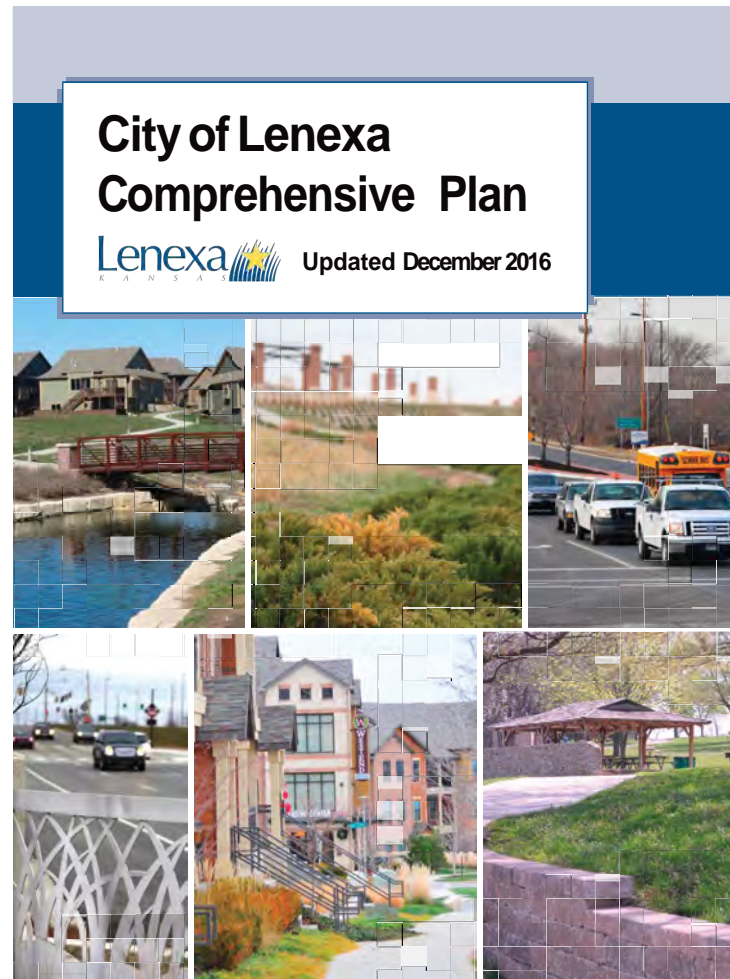
By:
ETC Institute
725 W. Frontier Lane,
Olathe, Kansas
66061
January 2018



COMPREHENSIVE PLAN 2016

In Lenexa's Comprehensive Plan update, the document serves as an official policy guide for future growth and development. The plan's intention is to provide the policy framework to address land use changes, planning capital improvement programs, and accommodate for the growth of the community. Crucial visioning and goal statements included in the plan and supported by Complete Streets elements are as follows:

- Promoting multi-modal transportation options, including pedestrian, bicycle, transit and personal vehicles, in both public and private development.
- Designing roadways to be sensitive to the natural environment, offer a human-scale to development, and provide for the needs of existing and planned uses in the vicinity.
- Using street design to reinforce a sense of community.
- Designing and constructing the City's transportation facilities for efficiency, safety, ease of maintenance and longevity, while also being a visual asset to the community



Early on, the plan made a point to address the importance of preserving Lenexa's role as a regional leader. This goes so far as to consider transportation beyond only vehicles and pedestrians. Not only was recreational cycling a component, but also cycling as a daily commute. Bicycle and pedestrian infrastructure were also considered a potential catalyst for areas that otherwise would not be used for development because of floodplain boundaries.

A NEW LOOK AT OLD TOWN PLAN 2016

The historic business district at the intersection of Pflumm Road and Santa Fe Trail Drive is the original town site, known as Old Town. The 2016 plan established an action plan for redeveloping the area by improving the overall appearance, its connectivity, and by expanding the role as a destination for events. In addition to a final site concept for the district, a list of recommendations was made to accomplish the stated goals. One of the final recommendations was to establish a citywide approach for bicycle, pedestrian and transit accommodations. As part of this overall recommendation, the increasing demand of multimodal uses are to be addressed by the following:

- Constructing an off-street trail along Santa Fe Trail Drive
- Consider designating Noland Road to accommodate bicycles across the at-grade railroad crossing.
- Consider bicycle and pedestrian regional connections with existing paths at 95th Street and Santa Fe Trail Drive and at 87th Street and Quivira Road

Refer to **Figure 4.1** for the proposed bike system map for the Old Town area.

Figure 4.1 Old Town Area Bike System



PARKS, RECREATION, AND OPEN SPACE COMPREHENSIVE PLAN 2012

In 2012, the City adopted this plan to provide direction on program offerings, facility construction and management, general capital improvements, park amenities, and the budget and financing of these matters. As part of the plan's long-term vision, there were 10 public realm planning and design attributes to consider when programming recommendations. The two most relevant to Complete Streets included connecting public spaces, neighborhoods and commercial areas and promoting healthy lifestyles. These were further described in the points below.

Connect Public Spaces, Neighborhoods, and Commercial Areas

- Focus on connectivity both to and within public spaces; connectivity continues to rank as the highest need among all of the needs assessments we conduct around the country
- Focus on streets as well as trails and greenways
- Work with transportation, public works, DOT, the Metropolitan Planning Organization, IT, businesses and others to develop a network of "complete streets, that include wide sidewalks, bike lanes, street trees, storm drainage and public art to create a linear parks system to connect to the traditional parks system

Promote Healthy Lifestyles

- Provide a framework for wellness for all residents
- Provide opportunities for walking, biking, running and skating through streets, bikeways and trails; use parks and recreation centers to provide everything from fitness testing to community gardens and healthy cooking classes, to immunizations and health provider referrals
- Collaborate with partners such as schools, hospitals, health departments and others to help them achieve their mission through the use of the public realm



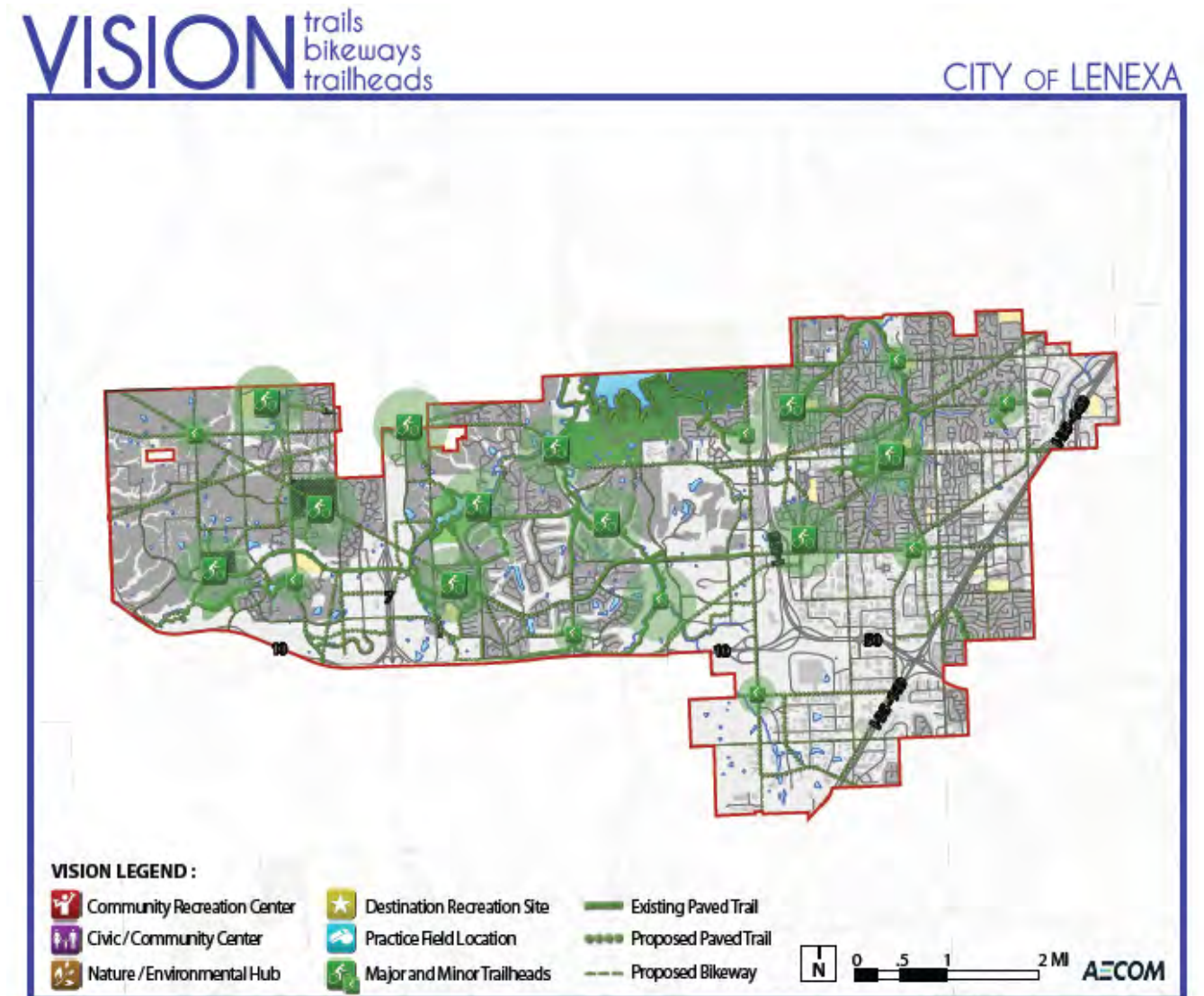
City Council Bus Tour

Following a three-day visioning workshop to develop consensus on the future goals and direction of Parks and Recreation, results were then incorporated into the updated mission involving various subsystems. The vision for the bikeways and trails included several elements considered in the Complete Streets Plan focusing on the following:

- Pedestrian connectors
- Improved access points, trailheads and trail amenities
- Bikeway and trail maintenance
- City role and partnerships related to bikeways and trails vision

In the pedestrian connectors initiative, a 136-mile interconnected network of multi-use trails and on-road bicycle lanes were identified. Additional study of these recommended corridors will be needed since some trails were considered for implementation along utility corridors. Other proposed on-street facilities will need confirmation regarding feasibility with current traffic levels and required costs. These alignments, illustrated in **Figure 4.2** will be studied further in the Complete Streets Plan.

Figure 4.2 Trails, Bikeways, and Trailheads



Illustrative Vision Map for Trails, Bikeways, and Trailheads

05

**EXISTING
CONDITIONS**

INTRODUCTION

This section examines the existing conditions of the City of Lenexa. This section will be broken down into the following four areas of focus:

- Zoning/Existing Land Use
- Demographics
- Future Land Use
- Conditions

Figure 5.1 shows the jurisdictional boundaries of Lenexa. The surrounding jurisdictions play a large part in providing the planning team with potential connections and gateways to existing bicycle and pedestrian facilities.

ZONING/EXISTING LAND USE

Zoning throughout the City of Lenexa determines the structure and patterns of the City's transportation network. Items to be considered when examining zoning includes the presence of a large business park, the growth of single-family housing, and dispersed areas of commercial attractions. Lenexa has several key areas of land use including the following:

- Lenexa's business core is the area of business parks to the west of I-35 and surrounding I-435. This area is home to some of Lenexa's largest employers and acts as a major attraction for commuters.
- Single-family residential uses are dispersed throughout Lenexa. While residential uses are dispersed, many neighborhoods have formed with structured home owners associations.
- Lenexa City Center is one of the few examples of multi-use development in the city. This area features amenities such as the Public Market, apartments, hotels, City Hall, and Park University, along with several retail and office uses. The existing land use map is shown in **Figure 5.2**.



Lenexa Rec Center

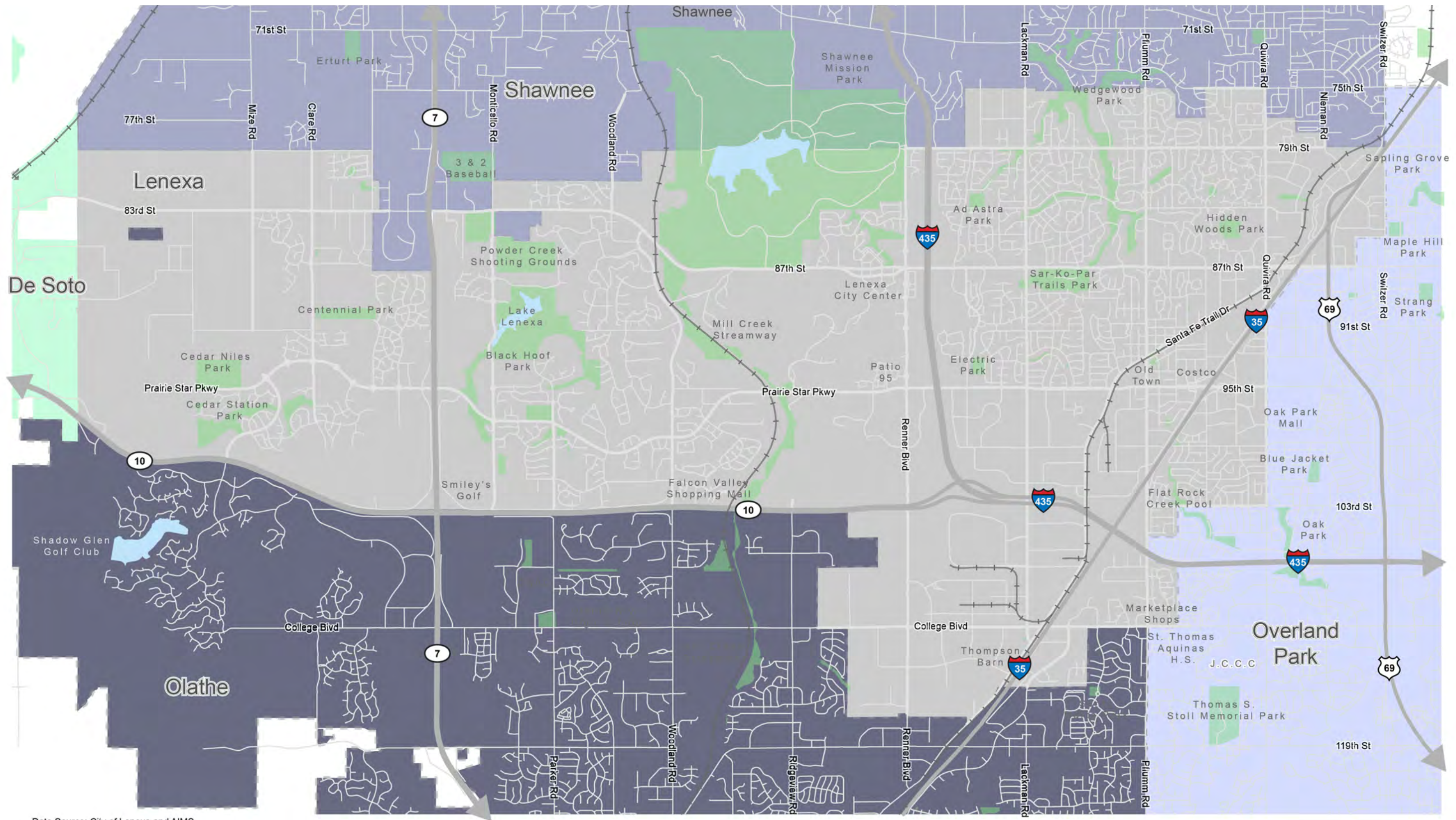


Lake Lenexa

FUTURE LAND USE

Lenexa's future land use includes designations such as Public Open Space, Neighborhood Retail, and High, Medium, and Low Density Residential. This will allow the City to better control the growth of development and create spaces consistent to the goals outlined in the City's Comprehensive plan. Future land use is summarized in **Figure 5.3**, although the City's Comprehensive Plan has more refined designations.

Figure 5.1 City Jurisdictions



Data Source: City of Lenexa and AIMS



olsson

TOOLE DESIGN

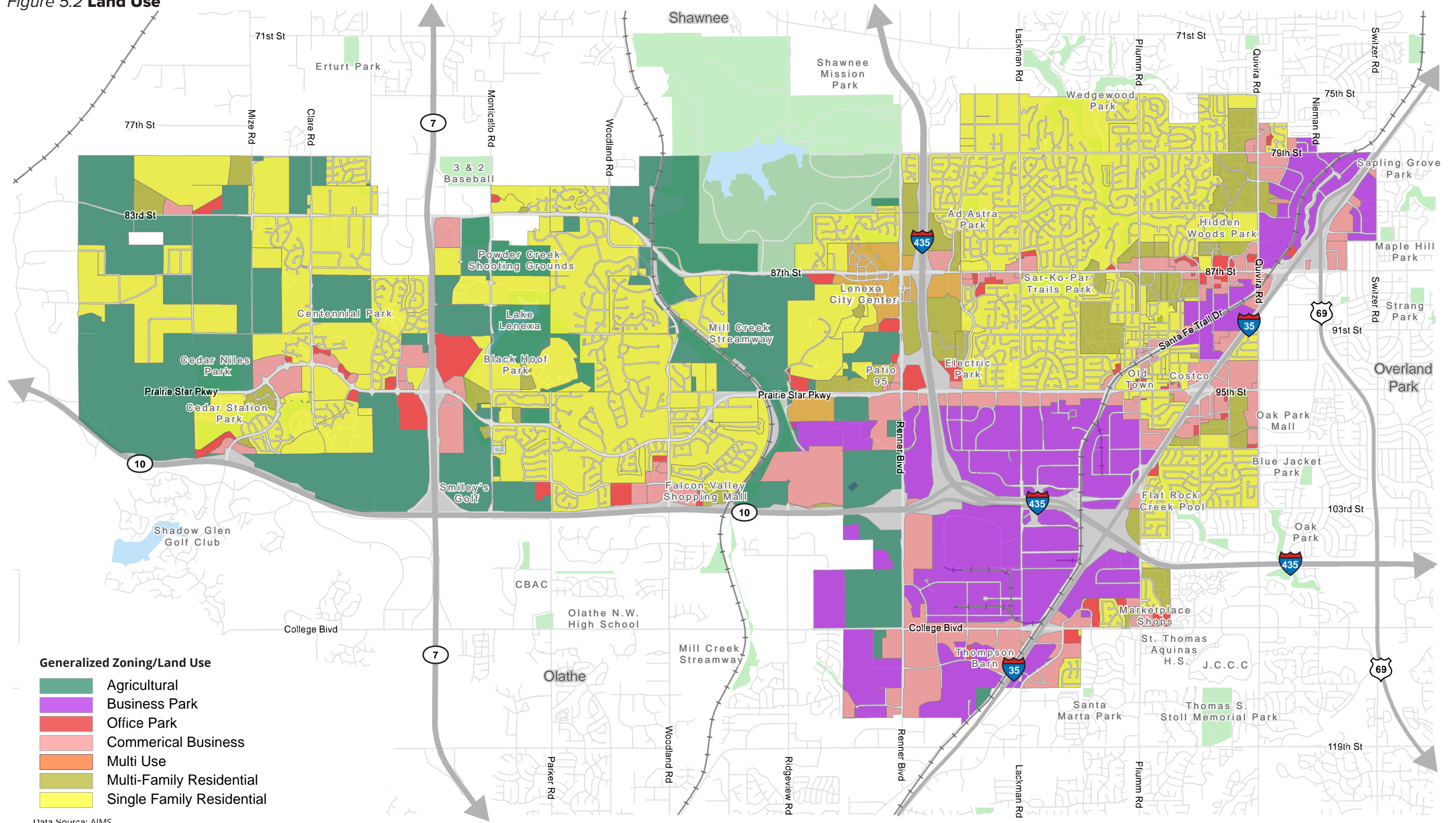
VENICE COMMUNICATIONS, INC.

City Jurisdictions

LENEXA COMPLETE STREETS

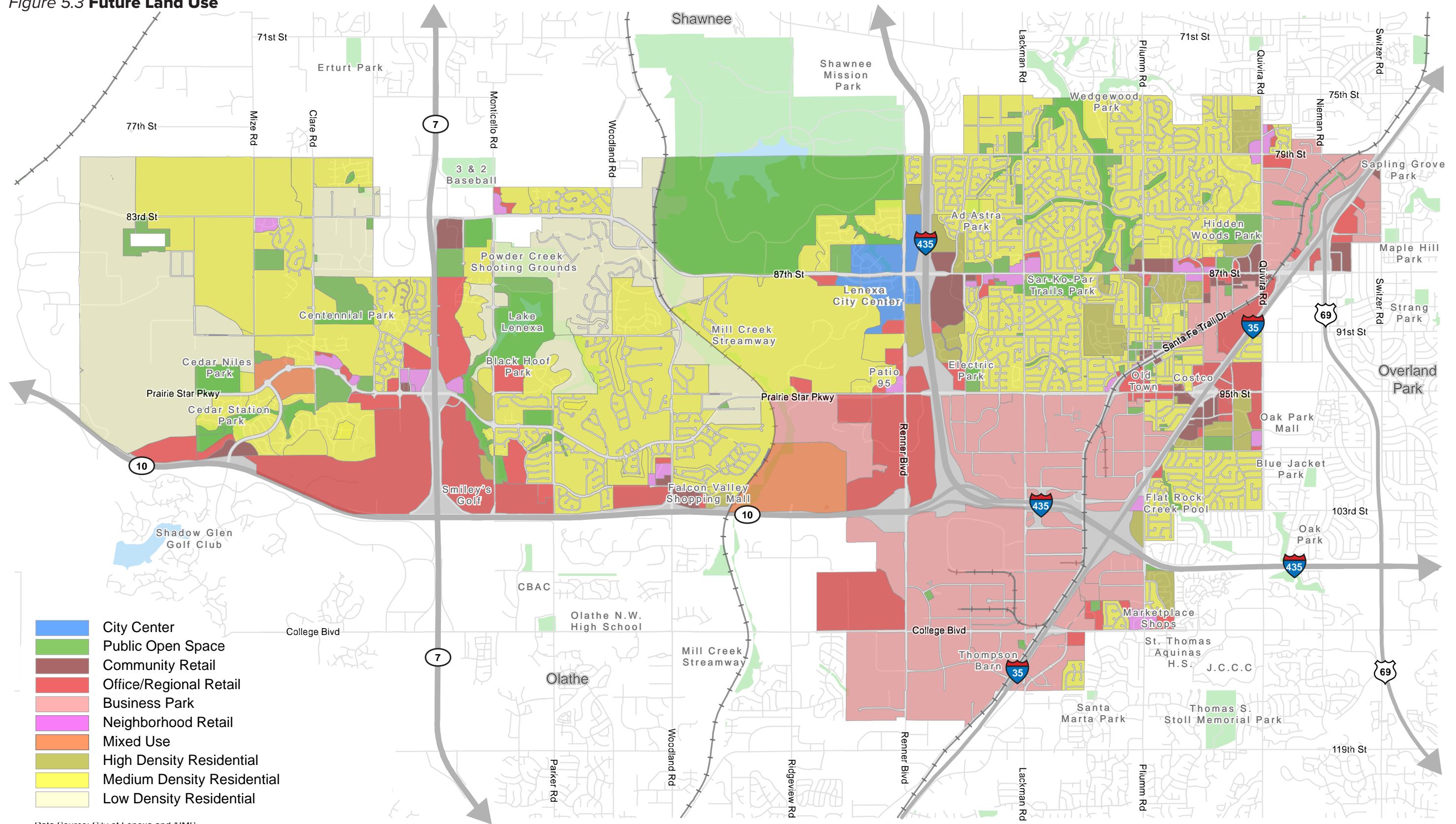
Lenexa Complete Streets / Existing Conditions

Figure 5.2 Land Use



Existing Land Use

Figure 5.3 Future Land Use



Data Source: City of Lenexa and AIMS



olsson

TOOLE
DESIGN

VENICE
COMMUNICATIONS, INC.

Generalized Future Land Use

LENEXA
COMPLETE
STREETS



Monticello Road at Night

DEMOGRAPHICS

The following figures represent Lenexa’s population characteristics as of 2016. The concentration of the noted populations will help in determining where the greatest need for alternative transportation services is located. These population groups often are more reliant on transportation alternatives to give them access to their daily needs. By improving the existing street network with Complete Streets principles, fewer residents are forced to move out of the community where more opportunities may be more accessible. **Table 5.1** compares the demographics of Lenexa with the surrounding Johnson County and the Kansas City Metropolitan Statistical Area. Lenexa’s citywide characteristics were found to be representative of Johnson County’s population characteristics, with the largest difference being a lower rate of youth population in Lenexa.

Table 5.1 Demographic Characteristics

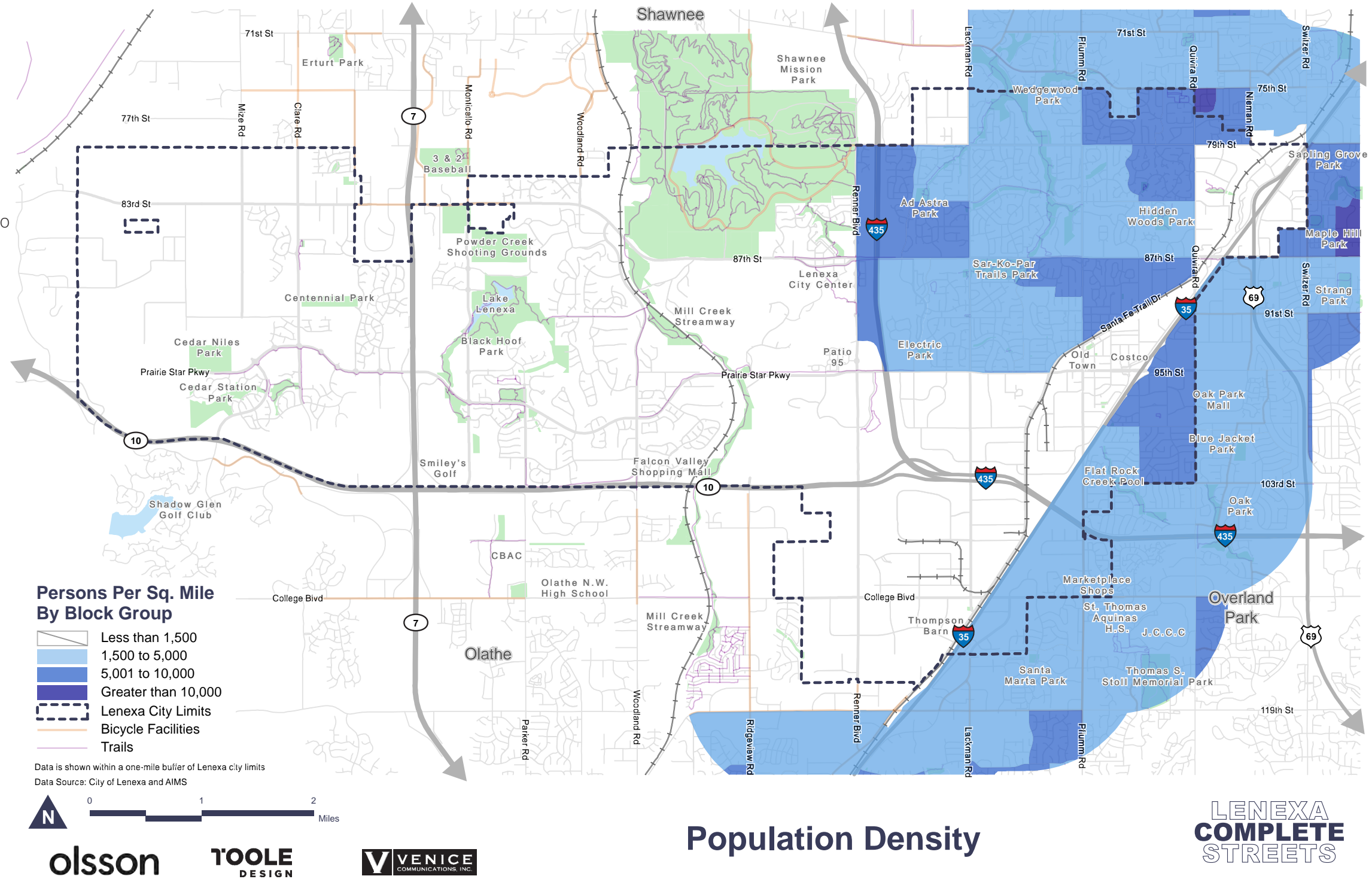
Demographic	Lenexa	Johnson County	Kansas City Metropolitan Area
Total Population	51,206	572,428	2,070,147
Median Household Income	\$78,798	\$78,186	\$59,344
Poverty (% of total)	6%	6%	12%
Disabled Population (% of total)	10%	9%	12%
Youth Population (Under 18) (% of total)	23%	25%	25%
Elderly Population (Over 65) (% of total)	13%	13%	13%
Limited English Proficiency Population (% of total)	4%	4%	4%
Minority Population (% of total)	12%	13%	21%
Zero Vehicle Households (% of total)	2%	1%	2%

Source: U.S. Census Bureau, 2012 - 2016 American Community Survey 5-Year Estimates

POPULATION DENSITY

In Figure 5.4, the highest density areas are represented in the eastern sections of the city. The predominantly smaller lot sizes in the older developed areas commonly result in higher overall densities than the newer developed neighborhoods to the west. Residential areas west of the Mill Creek Streamway tend to be larger lot sizes than those in the eastern area of the city. The area directly west of I-35 is zoned primarily as commercial business and business park, so this explains the lack of population.

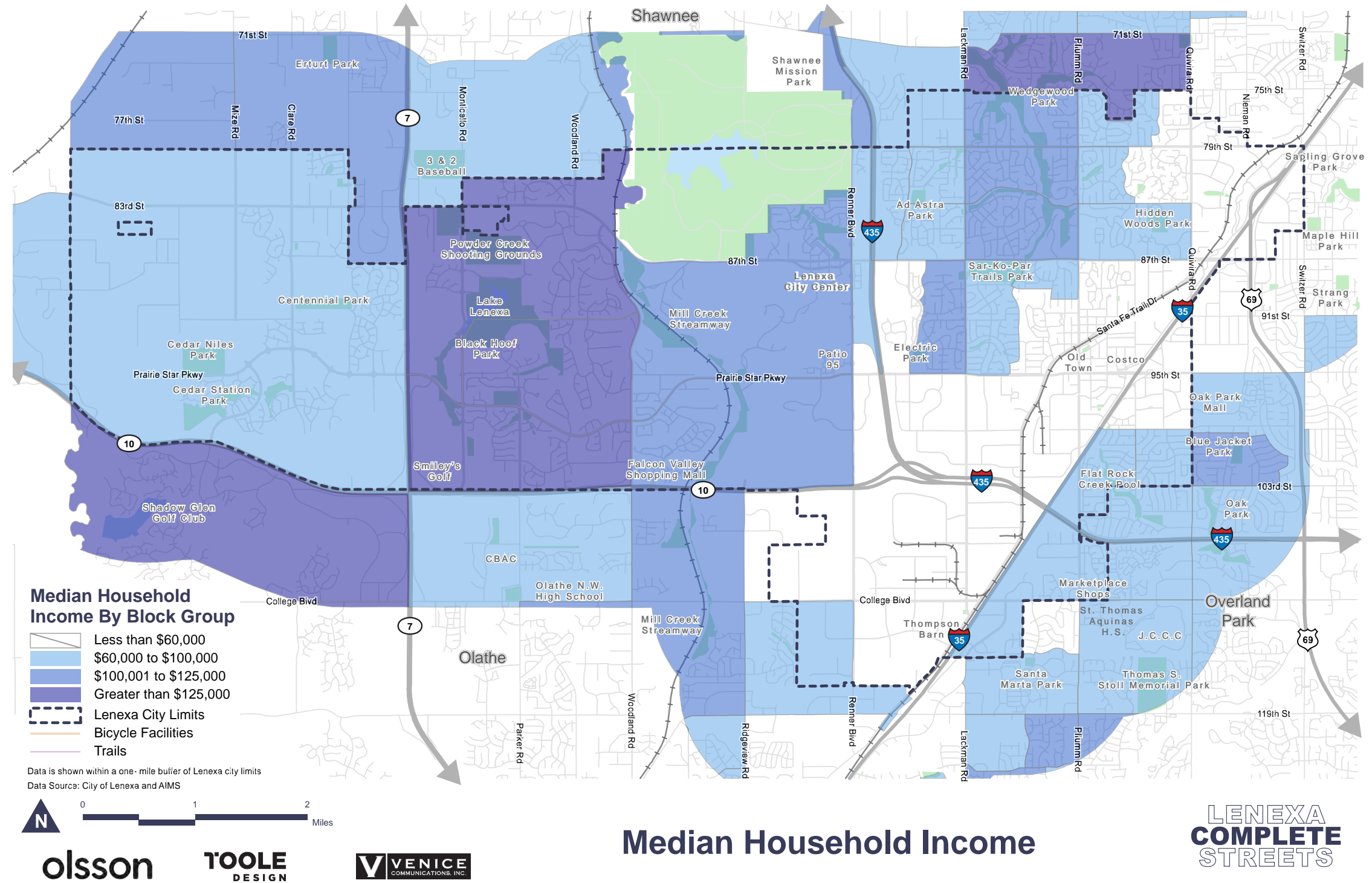
Figure 5.4 Population Density



MEDIAN HOUSEHOLD INCOME

In Figure 5.5, the area west of I-435 includes much of the higher household incomes. The area directly west of I-35 is zoned primarily as commercial business and business park, so this explains the lack of household income information in these areas. Lower income households are more common near the 87th Street and Quivira Road corridors.

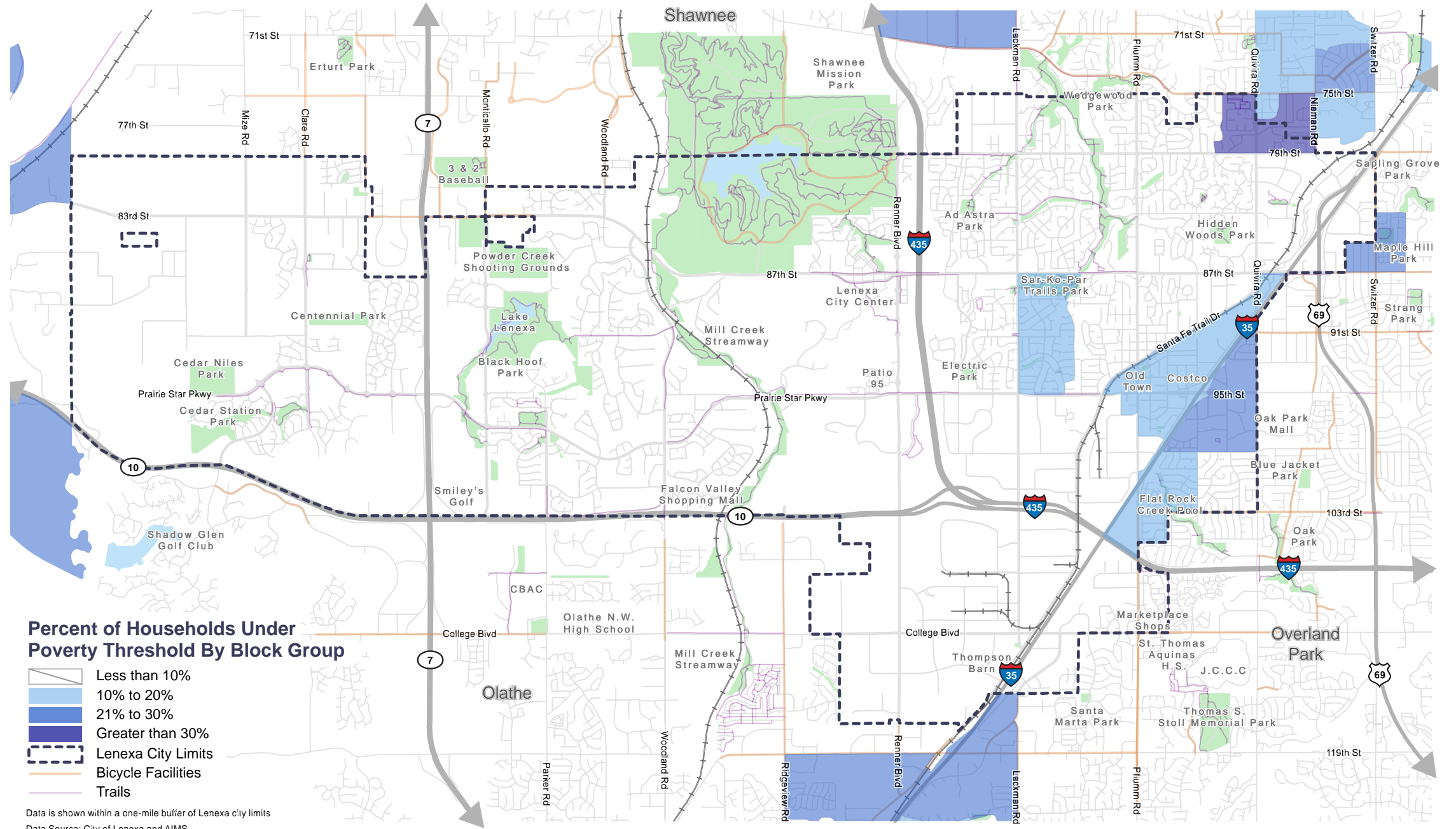
Figure 5.5 Median Household Income



POVERTY

Figure 5.6 demonstrates the areas of Lenexa where households fall below the federal poverty threshold. For example, the poverty threshold for a family of three is a household income of approximately \$30,000 a year. As **Figure 5.5** and **Figure 5.6** demonstrate, those areas are commonly found near some of the business parks and the northeastern areas of Lenexa.

Figure 5.6 Poverty



olsson

TOOLE DESIGN

VENICE COMMUNICATIONS, INC.

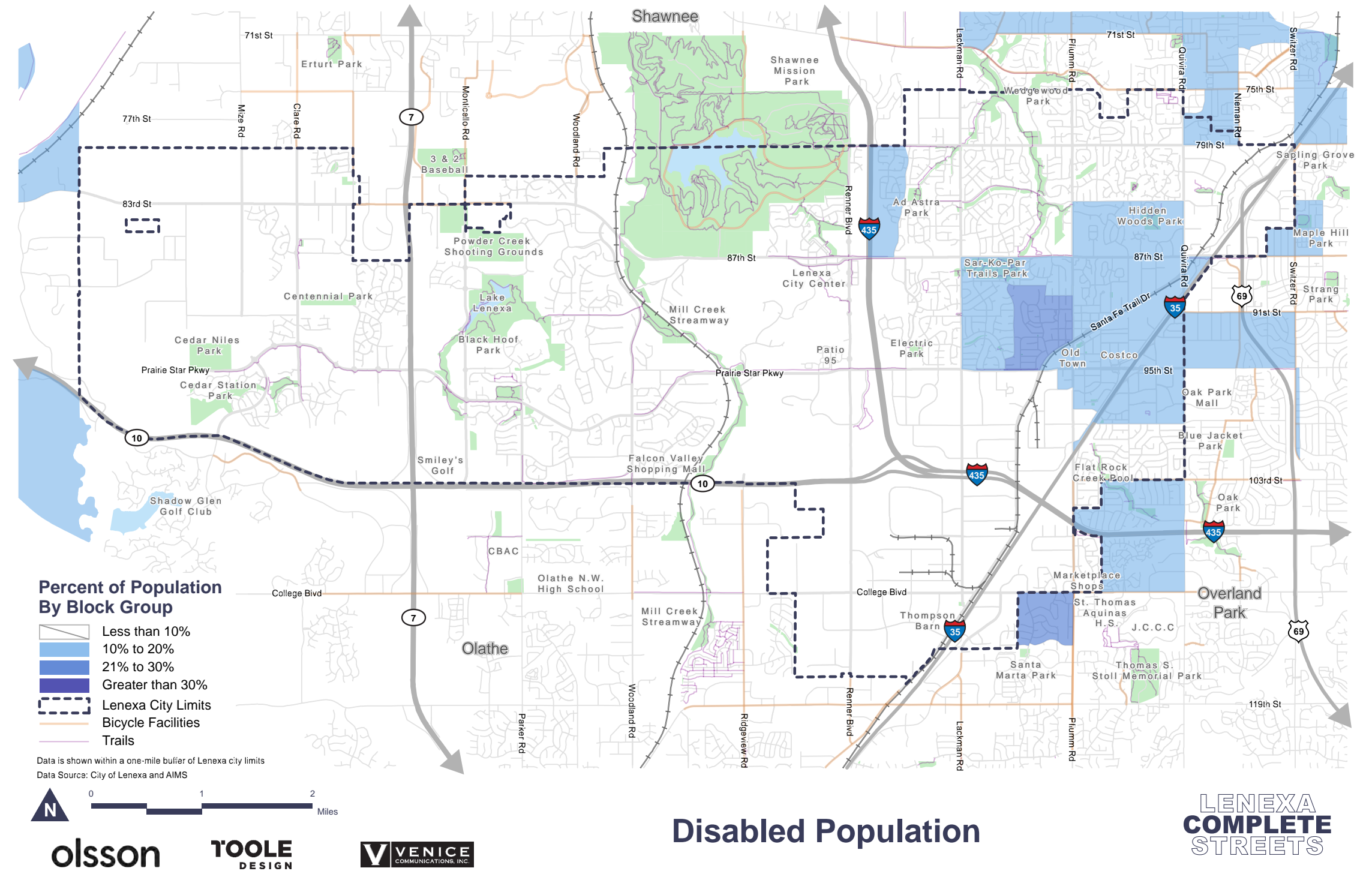
Households Under Poverty Threshold

LENEXA COMPLETE STREETS

DISABLED POPULATION

Figure 5.7 illustrates the concentrations of disabled persons based on data from the U.S. Census. Neighborhoods generally bordered by Quivira Road on the east, Lackman Road on the west, 79th Street on the north, and 99th Street on the south, contain the largest concentration of disabled persons. Approximately 10 percent to 20 percent of persons living within these boundaries live with a disability, with a smaller sub-section of over 20 percent which represents the location of a large senior living and continuing care facility.

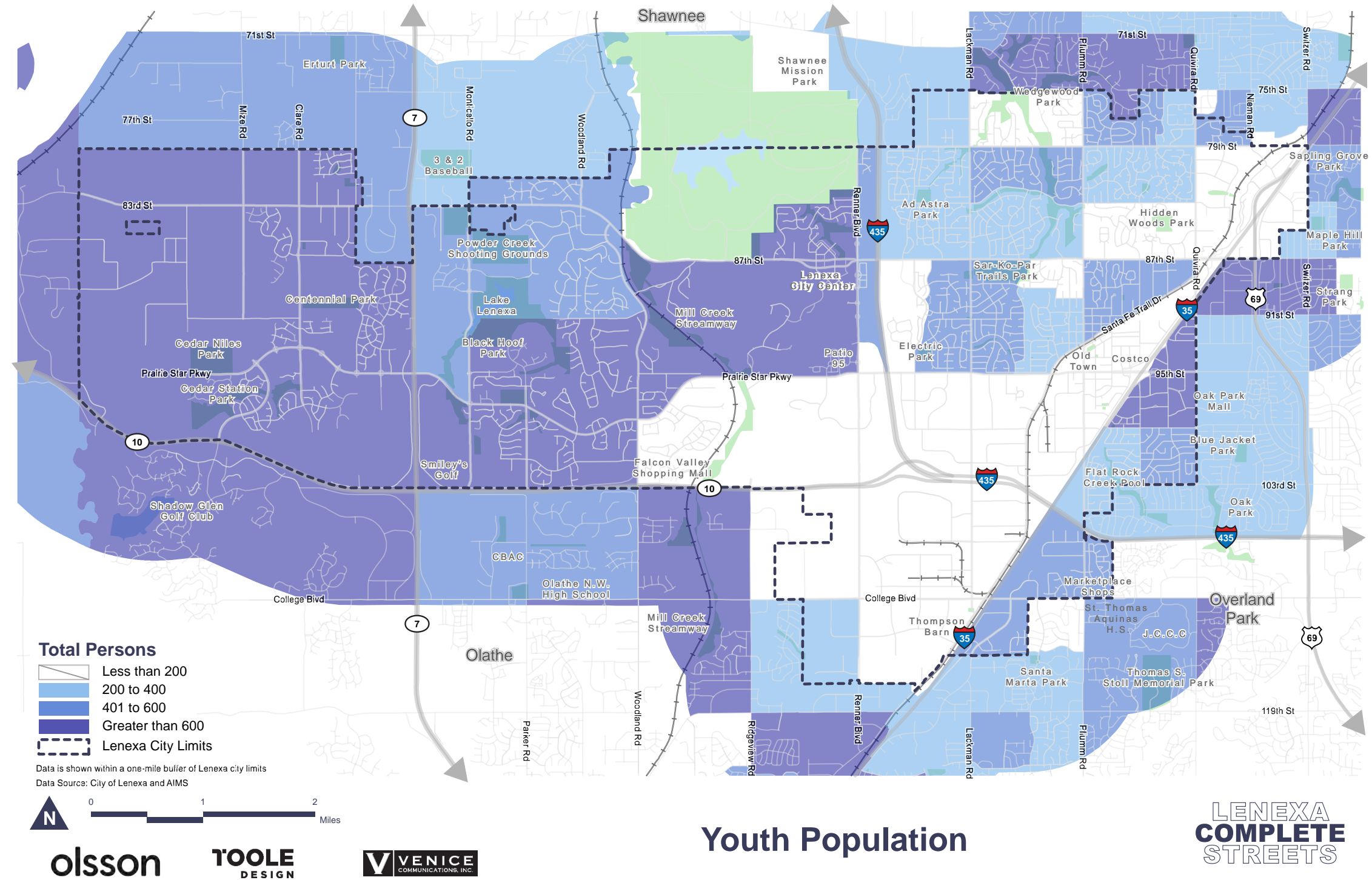
Figure 5.7 Disabled Population



YOUTH POPULATION

Figure 5.8 illustrates the concentrations of persons under the age of 18. With several public school districts represented within Lenexa, including Olathe, Shawnee Mission and De Soto, concentrations of this demographic are found across Lenexa.

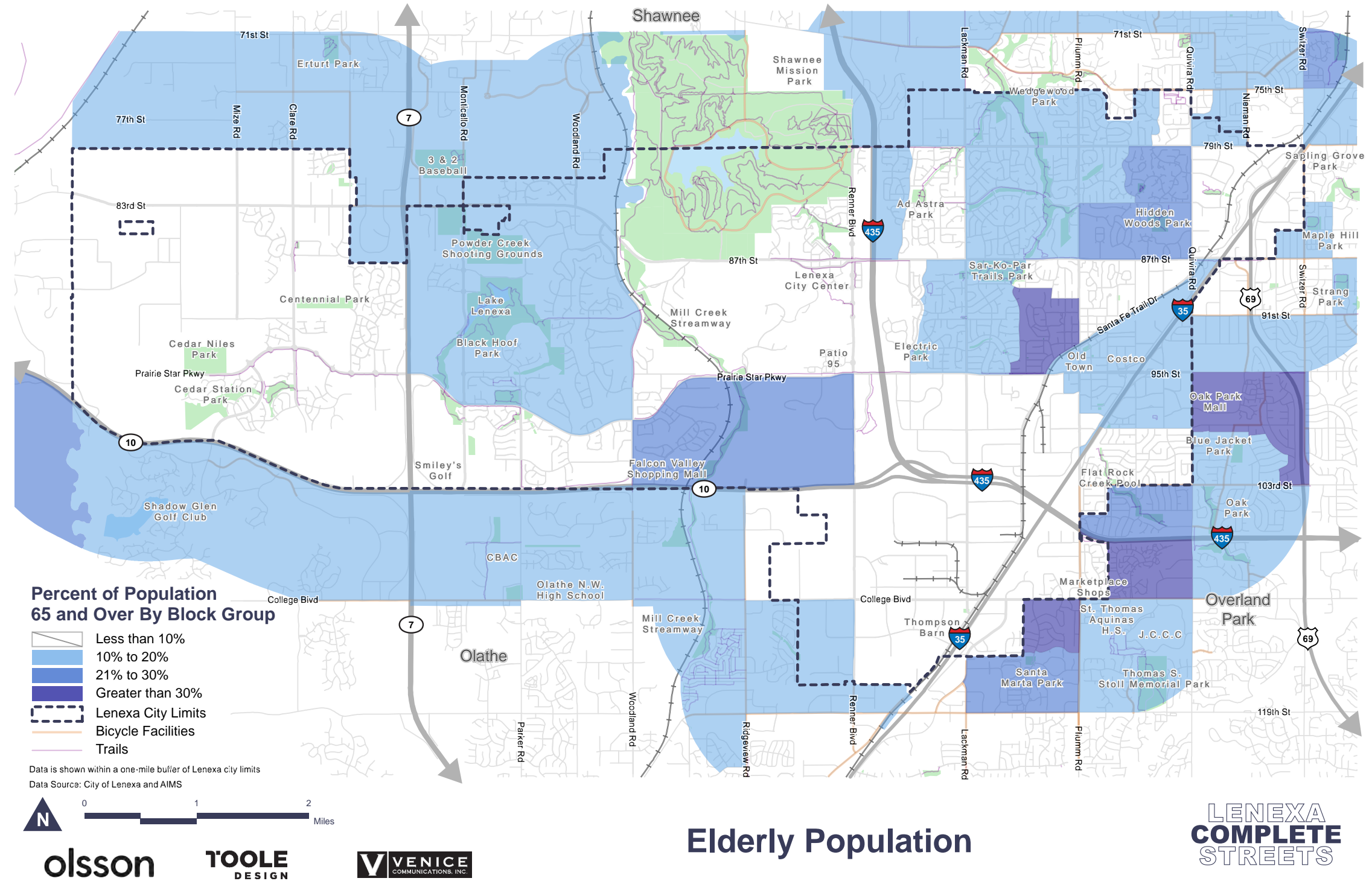
Figure 5.8 Youth Population



ELDERLY POPULATION

Figure 5.9 illustrates the concentrations of persons 65 years and older based on U.S. Census data. The largest concentration of this population group is located where there is a large senior living facility.

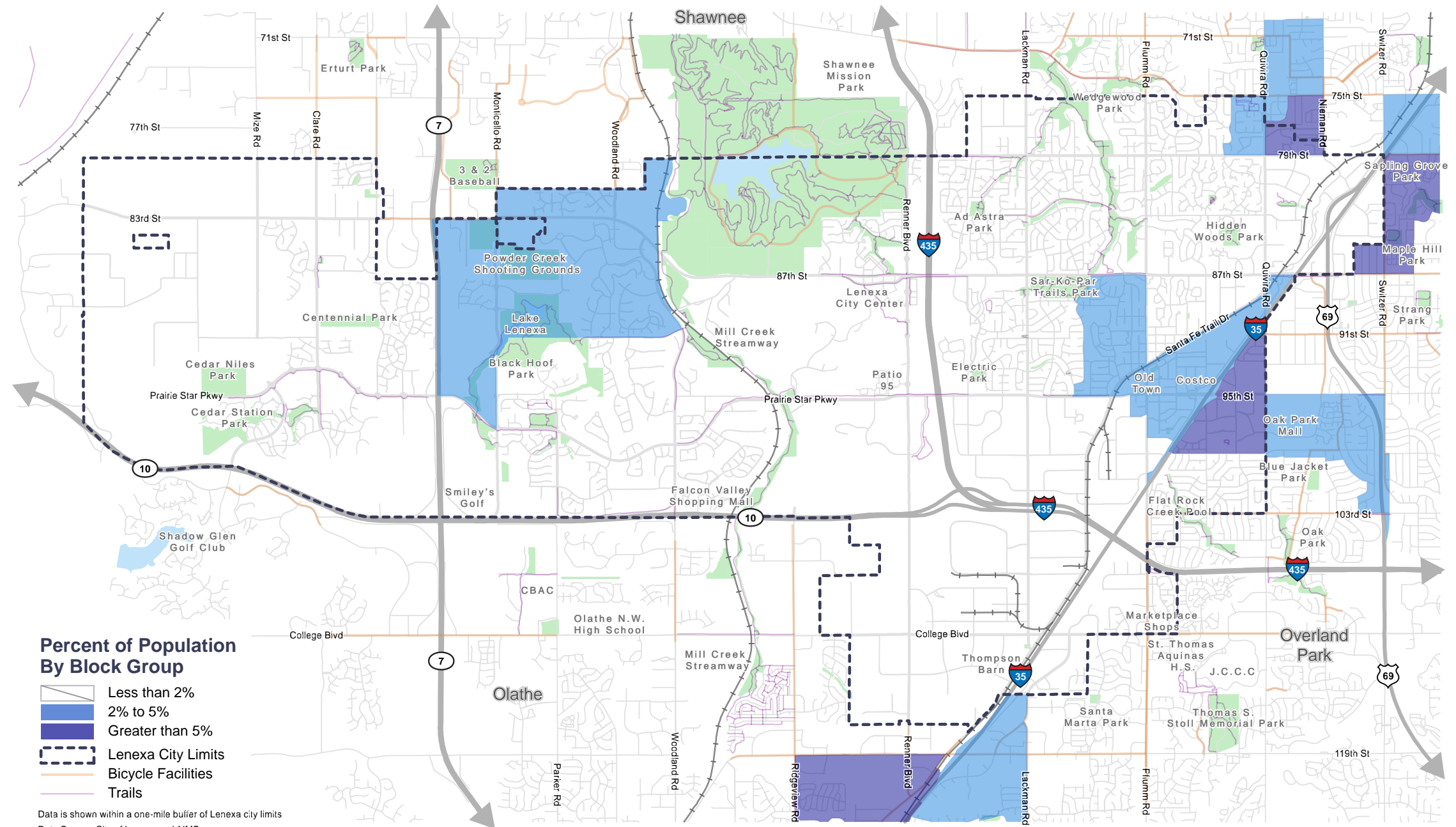
Figure 5.9 Elderly Population



LIMITED ENGLISH PROFICIENCY POPULATION (LEP)

Figure 5.10 illustrates concentrations of individuals with limited English proficiency (LEP) based on U.S. Census data. These individuals may not speak English as their primary language and have limited ability to read, speak, write, or understand English. The areas in Lenexa with greater than 5 percent of its population considered in this group are located west of Oak Park Mall, and north of 79th Street, bounded by Neiman Road to the east.

Figure 5.10 Limited English Proficiency Population



Percent of Population By Block Group

- Less than 2%
- 2% to 5%
- Greater than 5%
- Lenexa City Limits
- Bicycle Facilities
- Trails

Data is shown within a one-mile buffer of Lenexa city limits
 Data Source: City of Lenexa and AIMS

0 1 2 Miles

olsson

TOOLE DESIGN

VENICE COMMUNICATIONS, INC.

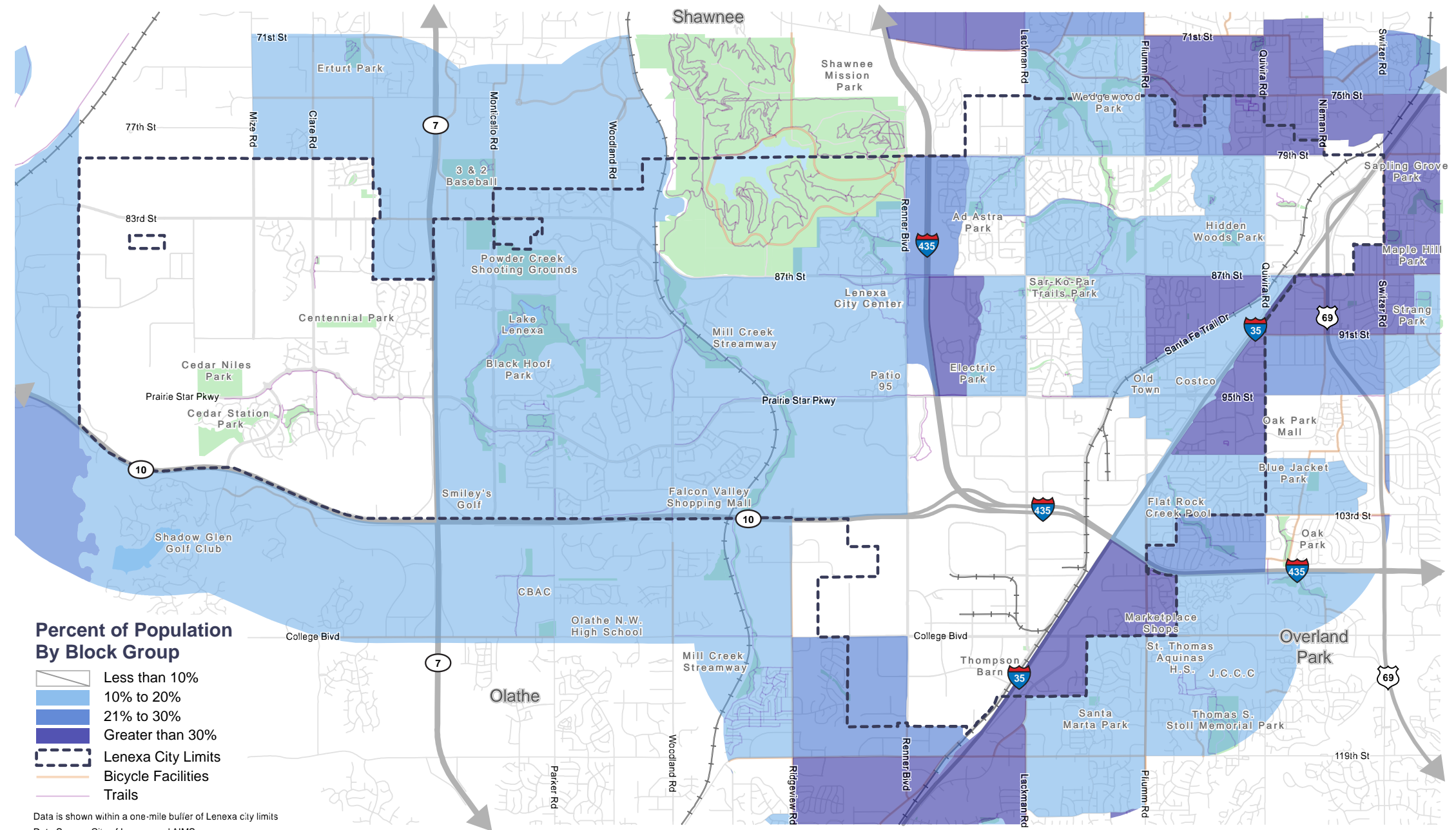
Limited English Proficiency Population

LENEXA COMPLETE STREETS

MINORITY POPULATION

Figure 5.11 illustrates the concentration of non-white individuals based on U.S. Census data. The largest concentration of minority populations is located on the eastern side of the city, along the I-35 corridor.

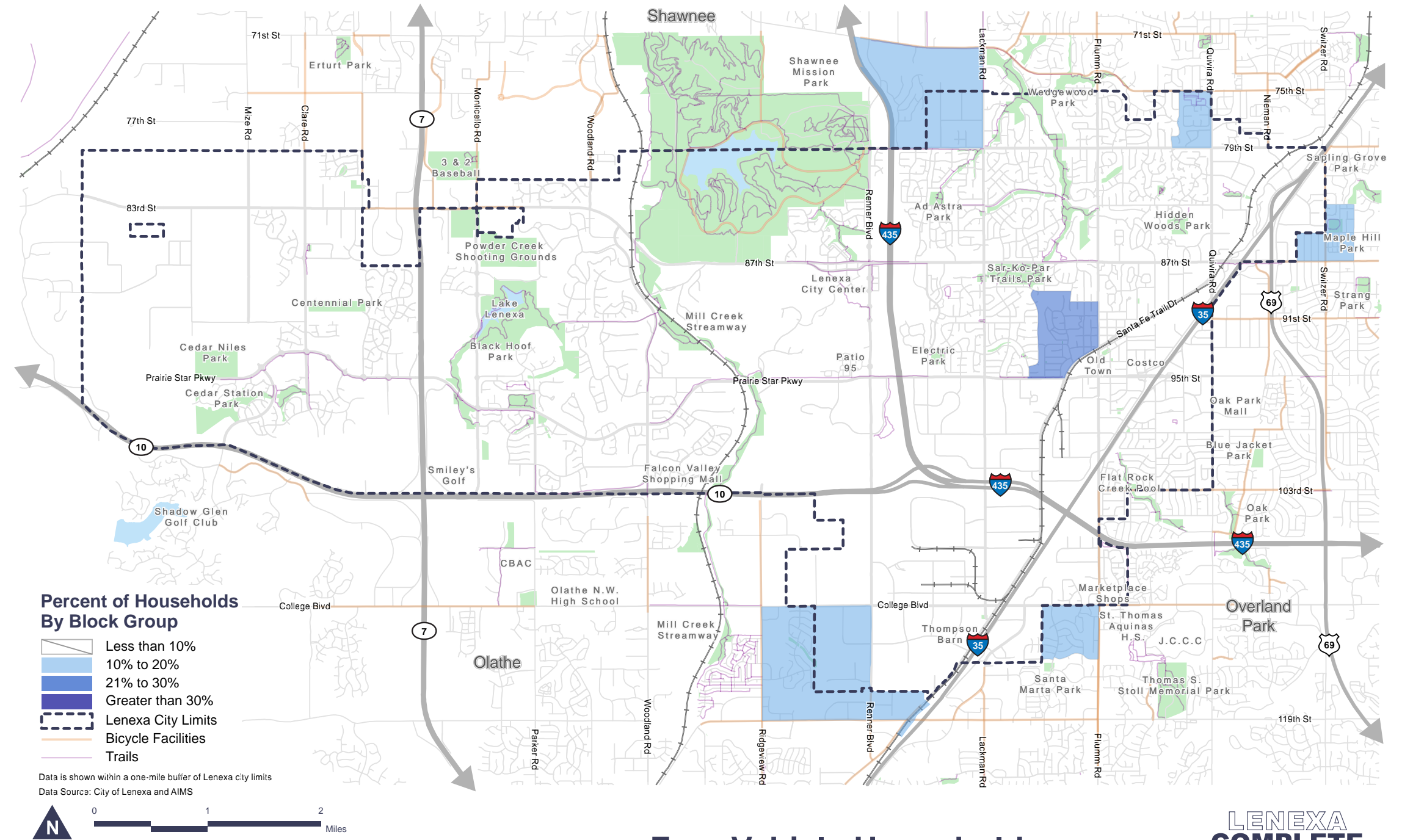
Figure 5.11 Minority Population



ZERO VEHICLE HOUSEHOLDS

Figure 5.12 illustrates the concentration of households without access to a vehicle based on U.S. Census data. The area northwest of Old Town, which includes Lakeview Village has the largest concentration of this group with 25 percent of households without access to a vehicle. This is to be expected with the large portion of senior housing.

Figure 5.12 Zero Vehicle Households



olsson

TOOLE
DESIGN

VENICE
COMMUNICATIONS, INC.

Zero Vehicle Households

LENEXA
COMPLETE
STREETS



Green Prairie Center

CONDITIONS

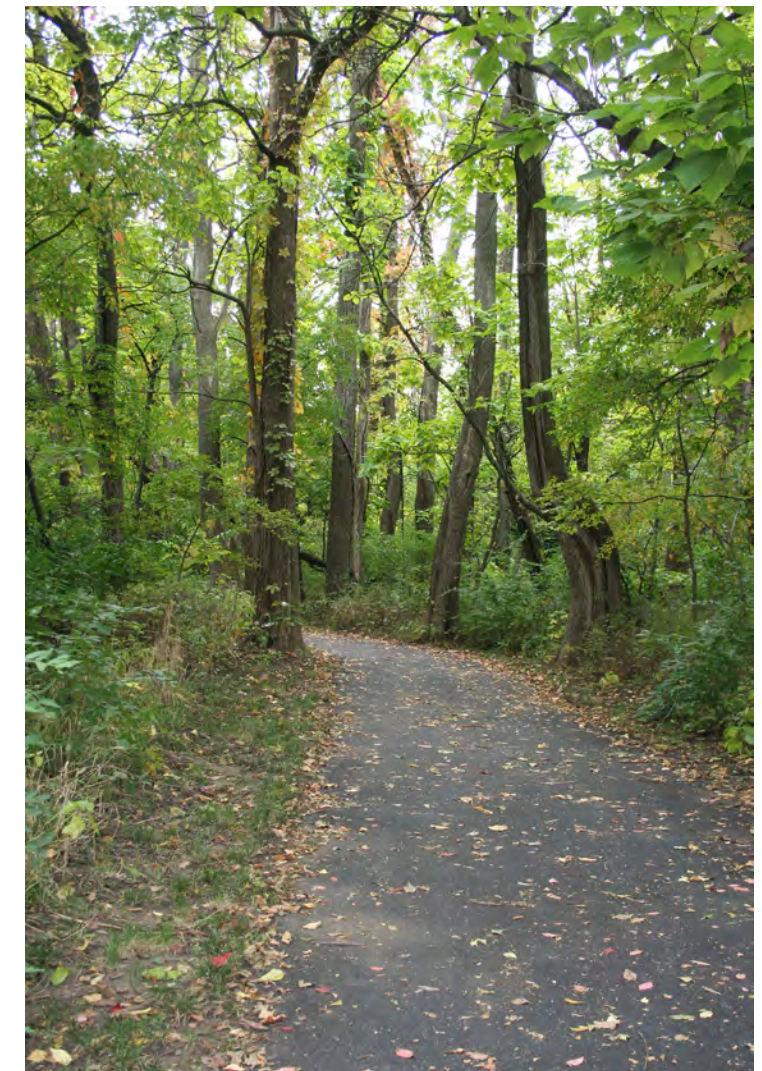
The following figures illustrate the current conditions of the City of Lenexa regarding the following:

- Major Employers
- Street Network
- Existing Speed Limits
- Average Daily Traffic
- Existing Transit
- Existing Sidewalks
- Bicycle- and Pedestrian-related Crashes
- On-/Off-street Facilities

Understanding the existing transportation network and popular destinations is critical to understanding how employees and citizens of Lenexa access major facilities.



Public Market at Night



Oak Valley Park Trail

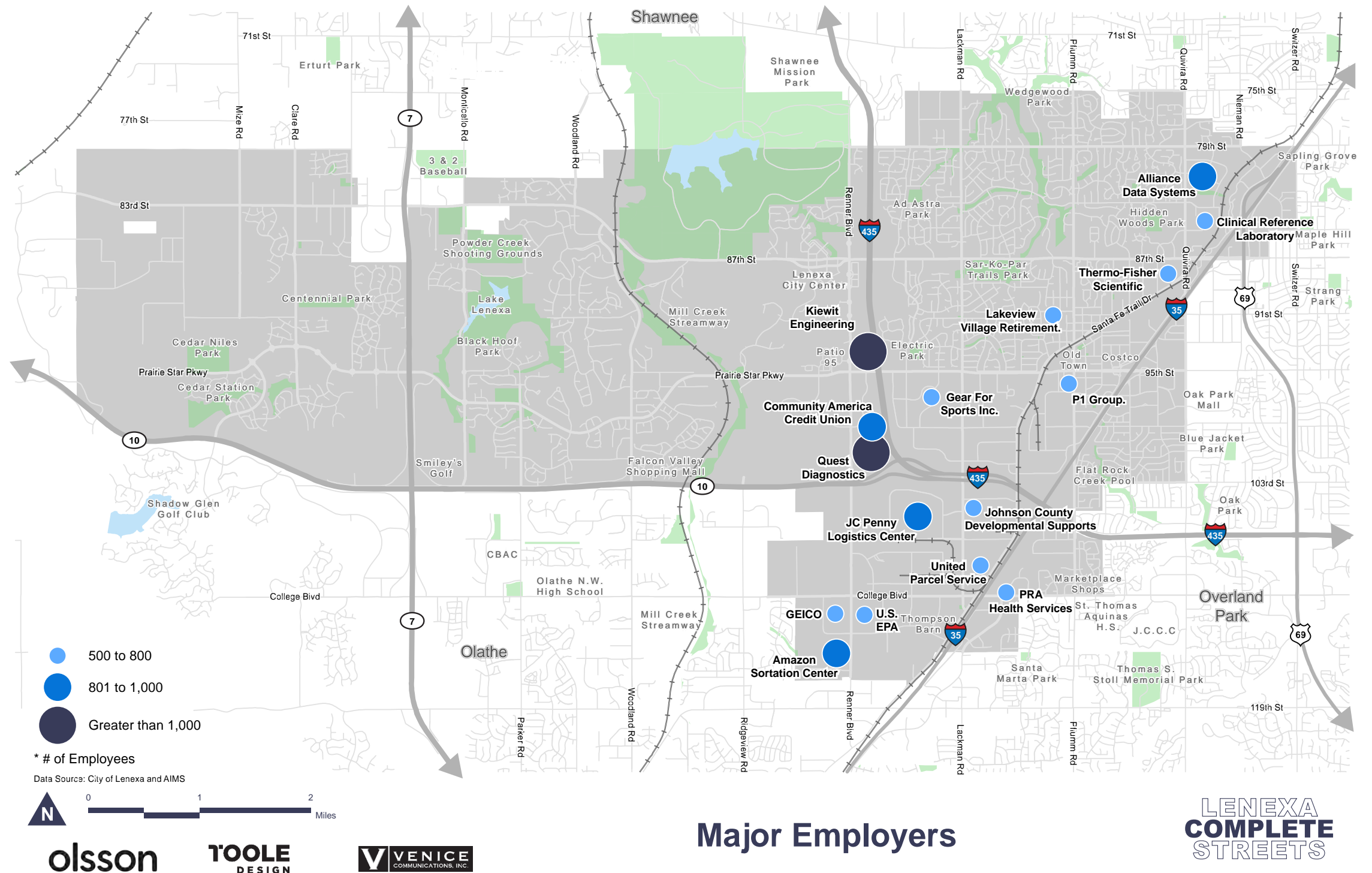
MAJOR EMPLOYERS

Figure 5.13 illustrates the major employers of Lenexa. These locations will be some of the largest daily attractions in the city. Employers like Quest Diagnostics and Kiewit Engineering pull employees from surrounding jurisdictions as well as from Lenexa. The largest clusters of these employers is on the eastern side of the city and near the I-35 corridor. These employers are also found within several business and office parks within Lenexa. **Table 5.2** shows the number of employees for each employer.

Table 5.2 Major Employers

Employer	~ Total Employees
Quest Diagnostics	1,830
Kiewit Engineering	1,500
J.C. Penney Logistics Center	1,000
Amazon Sortation Center	1,000
Alliance Data Systems	890
Community America Credit Union	754
Johnson County Developmental Supports	682
United Parcel Service	650
Gear For Sports Inc.	600
Lakeview Village Retirement	600
PRA Health Sciences	562
Thermo-Fischer Scientific	534
P1 Group	500
Clinical Reference Laboratory	500
GEICO	500
U.S. EPA	500

Figure 5.13 Major Employers



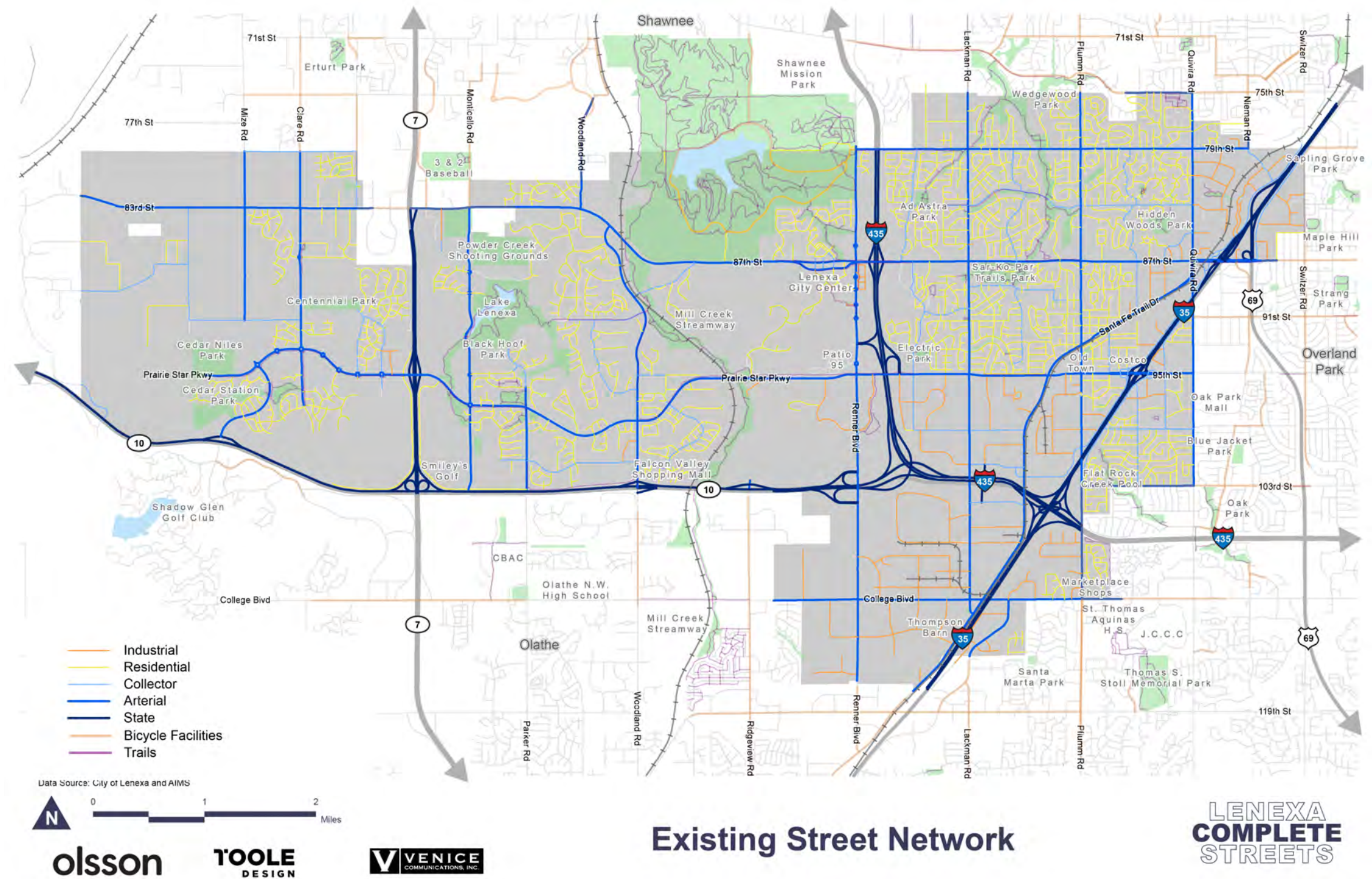
Note: Kiewit was in the process of relocating to the Lenexa City Center at the time of the study.

Source: Johnson County Economic Research Institute

STREET NETWORK

Figure 5.14 illustrates the network of arterials, collectors, and local roads connecting the City of Lenexa based on AIMS mapping. Arterials like 79th Street, 87th Street, Prairie Star Parkway, and Lackman Road act as major thoroughfares transporting persons throughout the city. Collectors and local roads then provide access to more specific destinations like jobs and neighborhoods. Understanding this network and how it connects the people of Lenexa is critical to planning Complete Streets as it allows planners to assess the paths pedestrians, bicyclists and motorists will use. The vast majority of Lenexa's arterials and collectors have been constructed with fewer new roads left to be built.

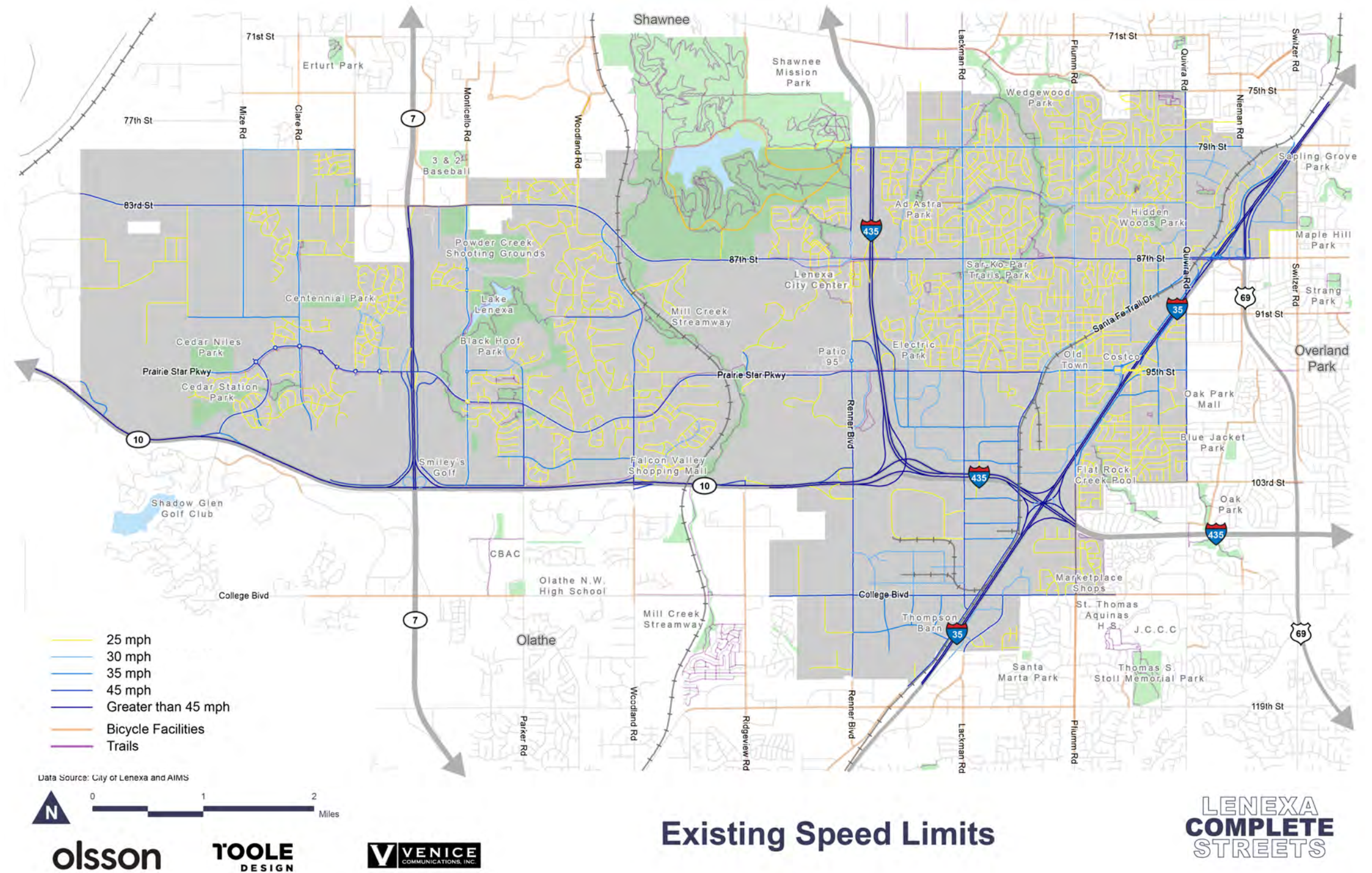
Figure 5.14 Street Network



SPEED LIMITS

Figure 5.15 illustrates the posted speed limits along Lenexa's transportation network. Arterials are posted as between 35 mph and 45 mph while collectors are normally between 25 mph and 30 mph. All local roads in Lenexa are posted as 25 mph. Posted speed limits are an important element in determining the appropriate type of bicycle and pedestrian facility. Non-motorized users not only have a lower perception of safety along higher speed corridors, but also the potential impact of collisions is far greater along those same segments.

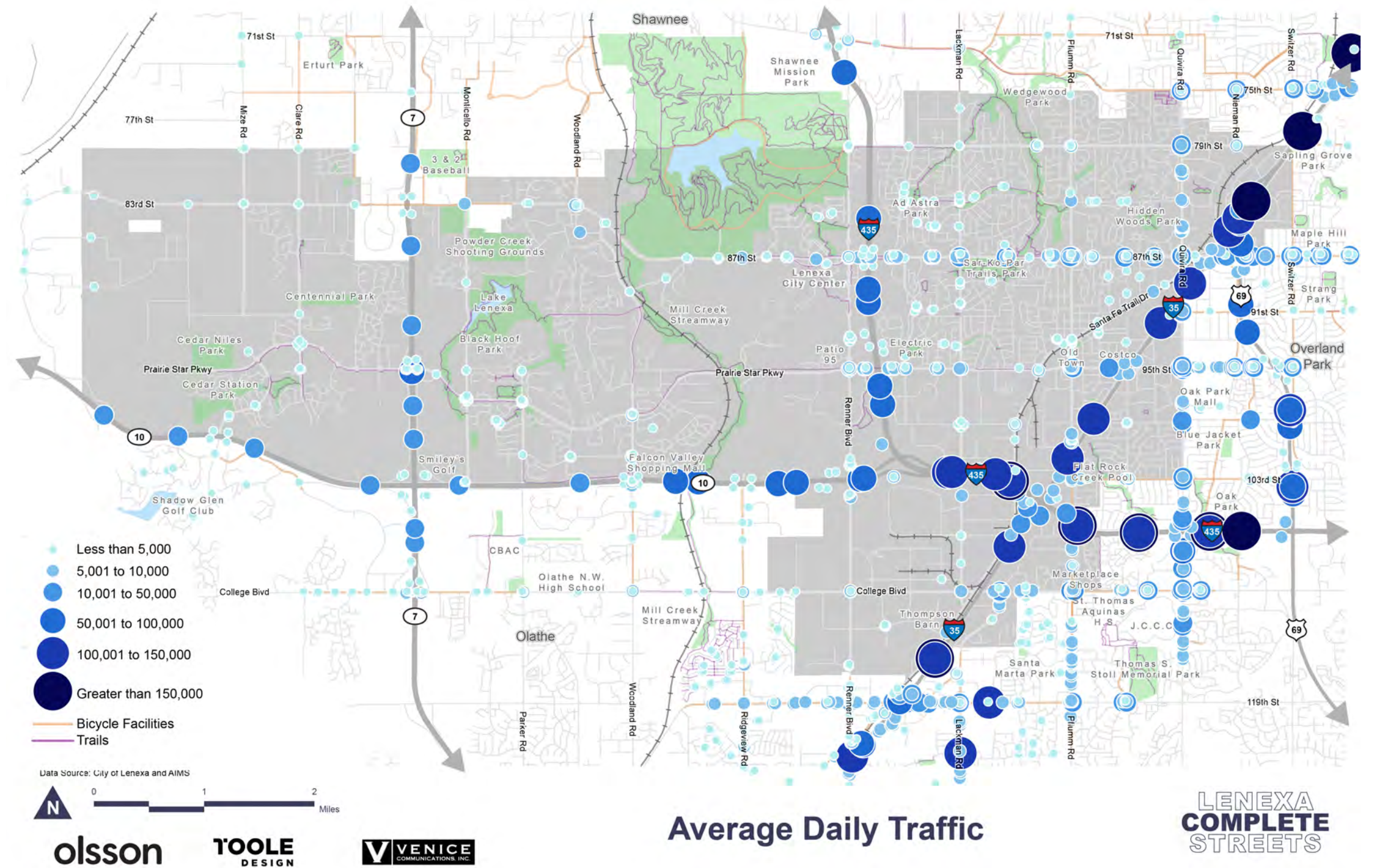
Figure 5.15 Speed Limits



AVERAGE DAILY TRAFFIC

Figure 5.16 illustrates average flow of traffic throughout Lenexa. The dense areas of Lenexa toward the eastern side of the city tend to have higher traffic counts than the areas to the west. This is because of the higher population and employment density.

Figure 5.16 Average Daily Traffic



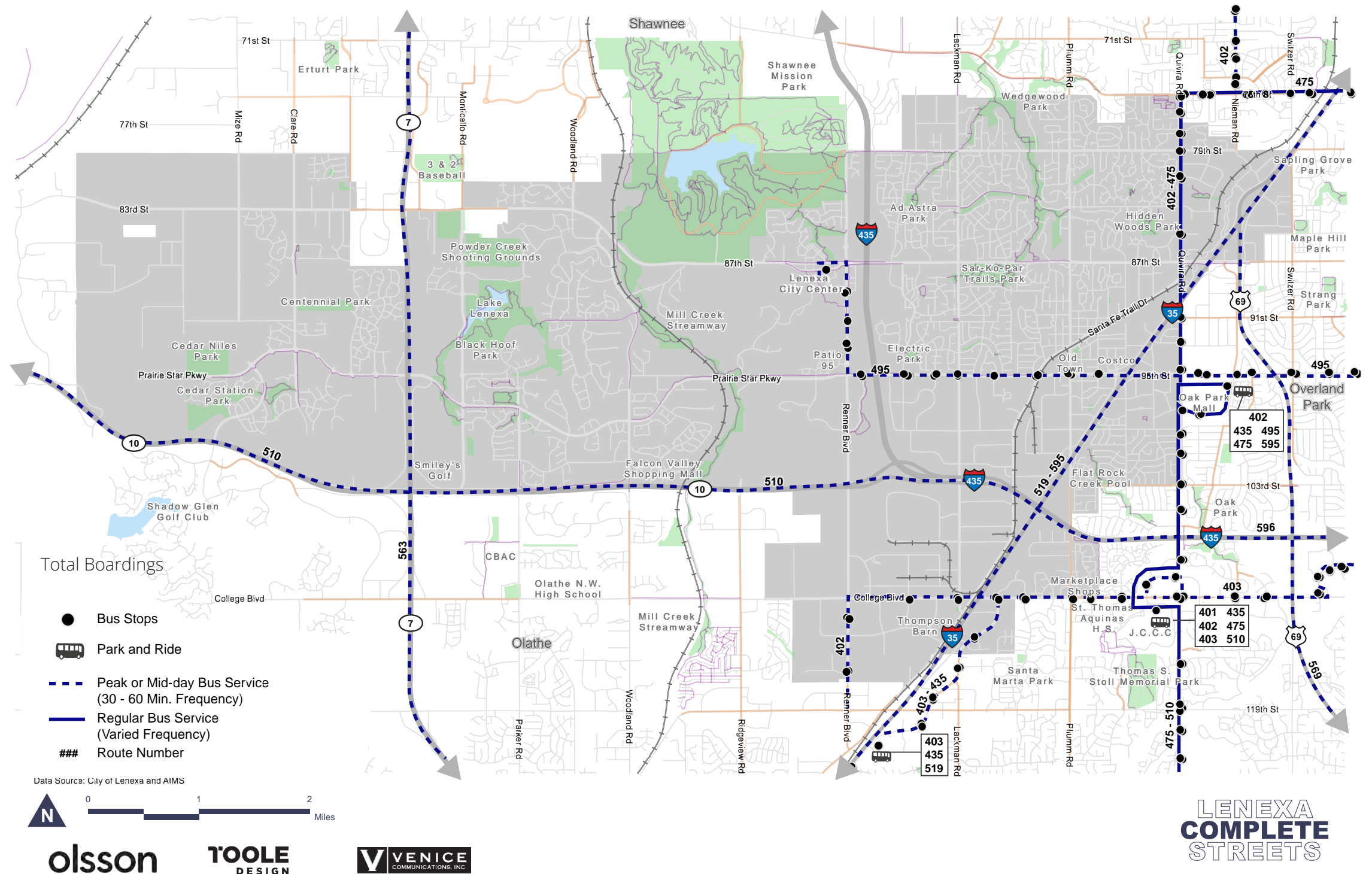
EXISTING TRANSIT

Figure 5.17 illustrates the fixed transit route services available in Lenexa. While there are routes traveling along K-10 and K-7, stops are currently unavailable at highway interchanges. The main routes providing service in Lenexa includes routes 402, 475 and 495. All three of these routes fall under the regional brand of RideKC, but they are funded through Johnson County.

TOTAL SYSTEM BOARDINGS

Figure 5.17 illustrates that the City of Lenexa currently has minimal transit ridership. Along Route 495, no stops experience more than five daily riders. While these stops are not in Lenexa, park and ride lots at Oak Park Mall, Johnson County Community College (JCCC), and Strang Line have greater than 20 riders each day. All these stops represent potential connections for residents and employees of Lenexa. Additional information regarding the existing status of bus stop infrastructure in Lenexa is available in **Appendix F**, and it is worth noting that the buses occasionally pick-up/drop-off rides in between official stops. Those boardings were recorded at the nearest stop.

Figure 5.17 Existing Transit Service



BICYCLE- AND PEDESTRIAN-RELATED CRASHES

For the four-year period that included calendar years 2015 through 2018, there were, on average, approximately eight bicycle or pedestrian related crashes that occurred per year on public streets within the City of Lenexa. The fault of these collisions varied between the drivers of vehicles and either bicyclists or pedestrians. There were no locations where patterns of these types of crashes occurred. Further education, for driving public as well as pedestrians and bicyclists is encouraged.

DEFINED TRUCK ROUTES

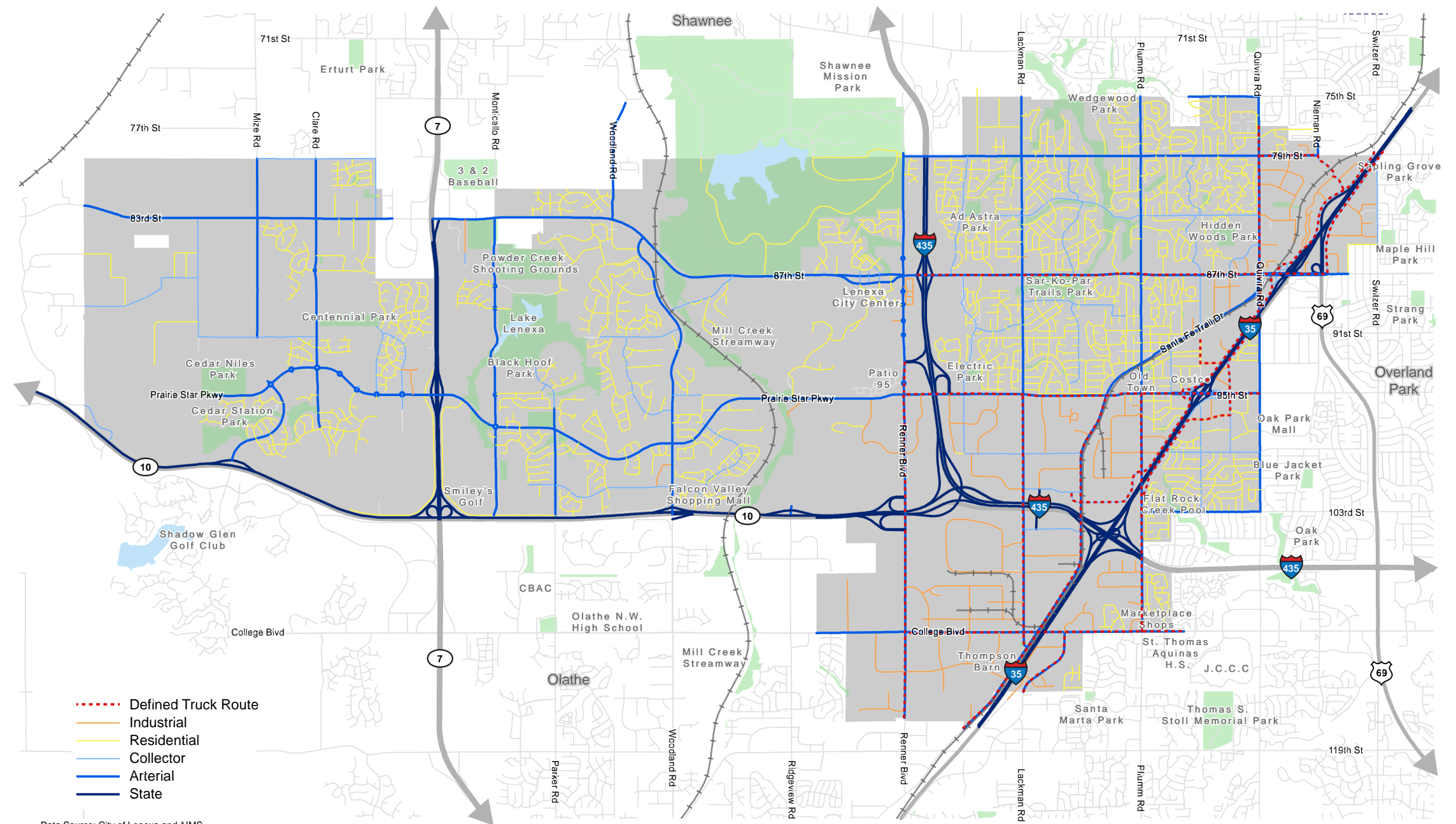
The City of Lenexa has defined specific truck routes, predominately in the eastern portions of the city near the heavier commercial and industrial locations and these routes are shown on **Figure 5.18**. Additional separation between locations with heavy truck traffic and both pedestrians and bicyclists is often desired for the comfort and safety of these more vulnerable travelers.

ON-/OFF-STREET FACILITIES

While on-street facilities are not found within Lenexa, there are facilities built up to the city limits in Shawnee, Overland Park, and Olathe. Recommendations detailed later in this plan will describe how best to take advantage of the nearby on-street facilities.

While Lenexa does have several different types of off-street facilities, trails are less connected so many users must drive to each recreational destination. Later in **Chapter 7**, the plan will further detail these existing facilities, including sidewalks, and how best to connect them to existing neighborhoods and other areas of interest.

Figure 5.18 Defined Truck Routes



Data Source: City of Lenexa and AIMS

0 1 2 Miles

olsson

TOOLE DESIGN

VENICE COMMUNICATIONS, INC.

Defined Truck Routes

LENEXA COMPLETE STREETS



06

Public Engagement



INTRODUCTION

This chapter summarizes the public participation effort conducted as part of the Lenexa Complete Streets Policy process. The goal of the process was to develop a comprehensive Complete Streets policy that identifies, defines, and recommends strategies for implementing Complete Streets elements. Public participation is a critical element in engaging citizens and stakeholders to inform decisions and ensure that the plan outcomes are meaningful, appropriate, and achievable. Keeping officials, agencies, local governments, the public, and interested parties informed of the planning effort further promoted opportunities for input into the plan. The team synthesized information from public engagement to develop project goals, prioritize projects, and review proposed projects' consistency with the adopted goals and objectives of the Complete Streets Plan.

PUBLIC INVOLVEMENT PROCESS

A Public Involvement Process (PIP) was prepared at the beginning of the development process of the Lenexa Complete Streets Planning process to identify the outreach efforts and techniques that would be appropriate to use. This ensured officials, agencies, local government, the public and interested parties would have adequate opportunities to provide their input into the development of the plan. Steering committee meetings and public engagement efforts began in August of 2018 and continued through plan adoption. The following summarizes the Lenexa Complete Streets public engagement efforts.

BUS TOURS

Local bus tours for both the Advisory Committee and the City Council were offered. The tours gave committee members an opportunity to get out in the community and put the members in the shoes of pedestrians and bicyclists. The bus tour drove participants around the city and stopped at some pre-determined locations. Stops along the tour were identified to represent a variety of roadway facility types, sections of the city, adjacent land uses and access for pedestrians, bicyclists and transit riders. An online survey was also provided for bus tour participants to answer questions regarding their thoughts on the aesthetics, personal safety, and the safety of others at each stop. Surveys were made available for members to complete on their phones as the tour went along. As discussions followed the personal reactions of members at each stop, participants were able to take away what Lenexa does right, gaps in facilities, opportunities for improvement, and collaboration with adjacent cities.

FOCUS GROUPS

A day of focus group discussions was held at City Hall. This was an opportunity for the team to sit down and listen to targeted groups about Complete Streets and confirm what the groups' needs are given the current condition of Lenexa's infrastructure. A total of 25 stakeholders represented the six focus groups including the developers of multi-family housing and retail developments; major employers; senior living or retirement communities; school districts; mobility advocates; and home builders and Homeowner Associations (HOA's). Following these discussions, the project team had an improved understanding of opportunities and challenges faced by these groups. Further coordination with the focus groups was a great resource for getting the word out on the project.

LOCAL SPOTLIGHT

LENEXA COMPLETE STREETS ADVISORY COMMITTEE

The Lenexa Complete Streets Advisory Committee is comprised of different stakeholders and community representatives throughout the City of Lenexa. People representing elected and appointed city officials, first responders, seniors, city staff, schools, mobility advocates, and many other interested groups participated in the process for deciding what Complete Streets means for Lenexa.

The advisory committee represents the best of Lenexa coming together to ensure all voices are heard throughout the planning process. The committee



Advisory Committee



Advisory Committee

PUBLIC WORKSHOP ONE

The first open house drew a total of 22 participants to the Lenexa Public Market. At the event, members from each committee and the project team were present to answer questions from the public. In addition to some information on Complete Streets and existing conditions, a representative from RideKC was there to inform others about the services provided in Lenexa and potential connections to the greater metropolitan area.

Finally, a mapping exercise was hosted allowing participants to record where they either currently walk and/or bike or where they would like to travel if adequate bicycle and/or pedestrian facilities were made available. Other information requested from the public was to identify barriers to walking and biking and to suggest bikeshare locations. This same exercise was also made available online where participants could provide their local knowledge in establishing where they thought future bicycle and pedestrian connections should be planned.

PUBLIC WORKSHOP TWO

The final stakeholder and public workshop was held at the Thompson Barn. This event focused on sharing the recommendations in an informal setting with 40 stakeholders and residents attending. The primary purpose of the workshops was to have an open-ended discussion with participants so they could share their thoughts and concerns directly with staff and the project team. Participants were asked to share feedback directly on the maps provided. Comment cards and online forms were available for additional comments and feedback. Discussion and comments helped bring consensus for the final policy plan write-up. The public was given a 30-day comment period for each workshop.

COMMUNITY SURVEY RESULTS

A community survey was administered by ETC Institute in early 2019 to provide a statistically and scientifically valid assessment of what the public would like to see developed within the Lenexa Complete Streets Policy plan. The community survey was administered as a random sample of residents by a combination of mail, internet, and phone. Residents who receive a mailed survey had the option to return a printed survey by mail or complete the survey online with the link provided in a cover letter. A total of 768 completed surveys were collected with a goal of 600 respondents, providing a 95 percent level of confidence with a precision of ± 3.5 percent. Some of the initial conclusions from the survey are listed below and a portion of the results based on where the survey-takers lived is illustrated on the following page. The complete survey report is available in

Appendix G.

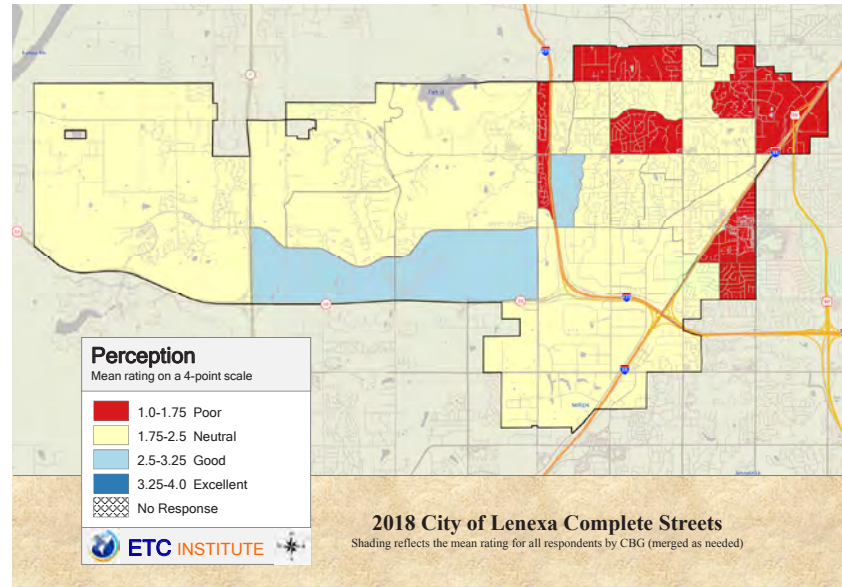
- > 50 percent of all respondents thought it was important or very important to be able to travel by all transportation modes (auto, walking, bicycling, and transit)
- > 50 percent of all respondents are supportive or very supportive of investing in all transportation modes
- 66 percent walk on sidewalks at least once-a-week
- 54 percent walk on trails at least once-a-week
- 12 percent bike on streets at least once-a-week
- 17 percent bike on trails at least once-a-week
- 23 percent would use designated on-street bicycle facilities at least once-a-week
- 68 percent support spending on Complete Streets
- 64 percent have at least one working bicycle in their household

PUBLIC ENGAGEMENT IN ACTION

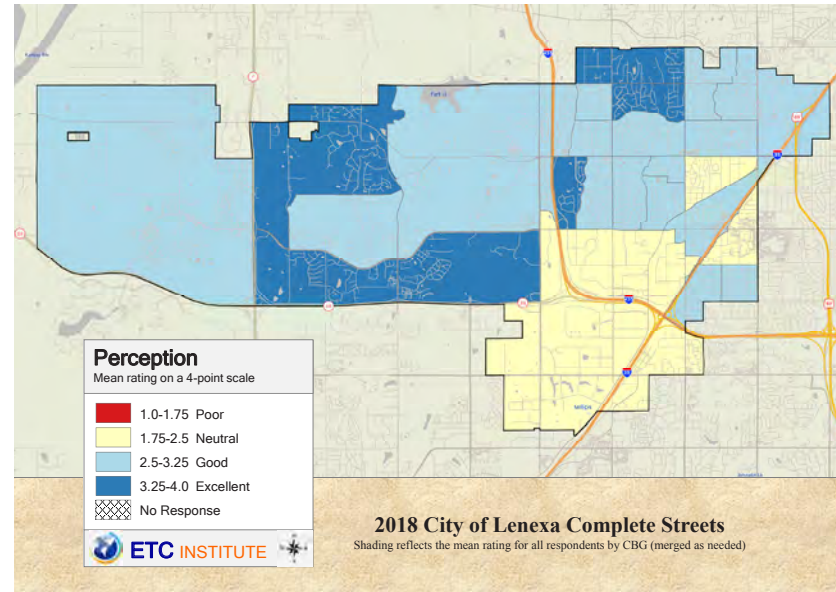


COMMUNITY SURVEY RESULTS, CONTINUED

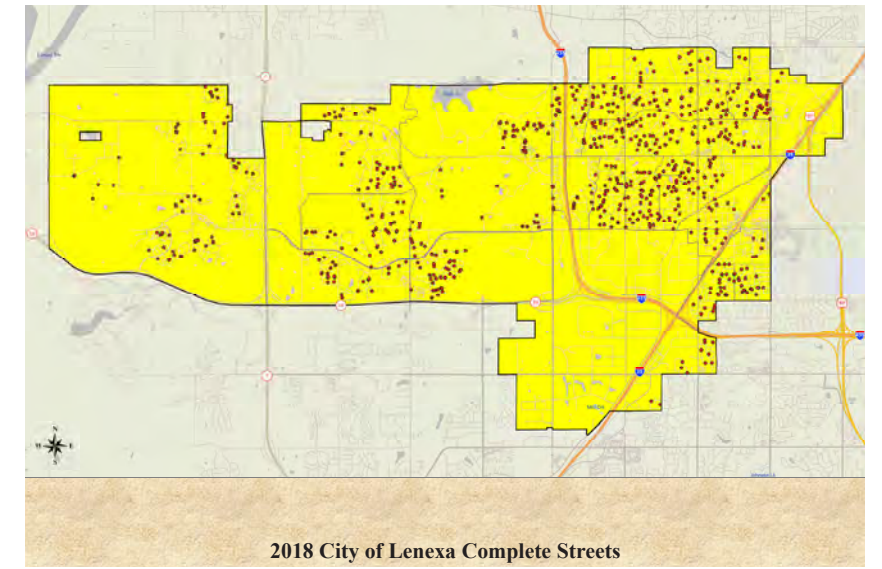
PERCEPTION OF BIKING ON STREETS (QUALITY)



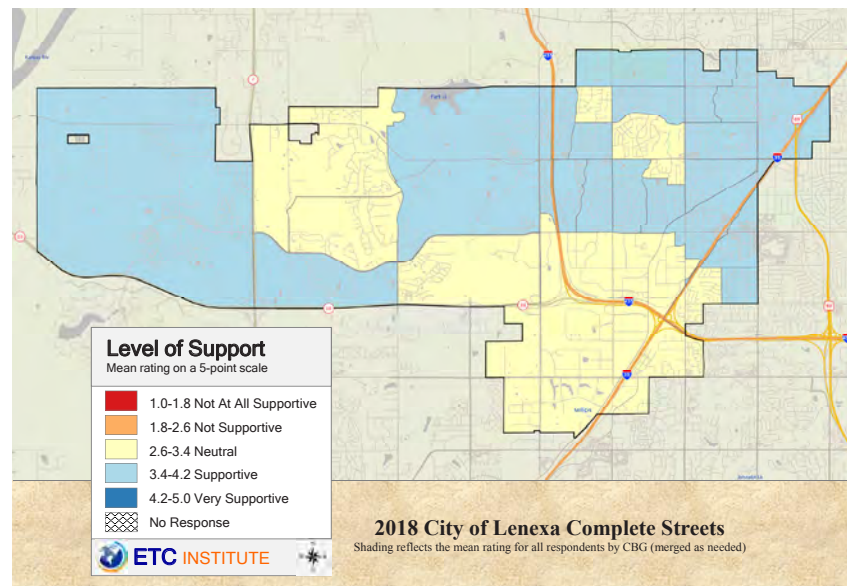
PERCEPTION OF BIKE TRAILS



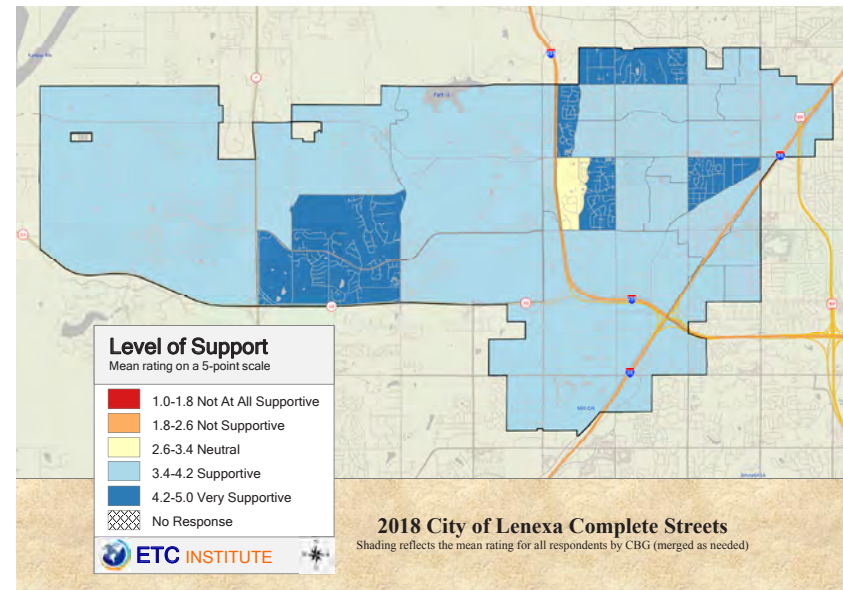
LOCATION OF SURVEY RESPONDENTS



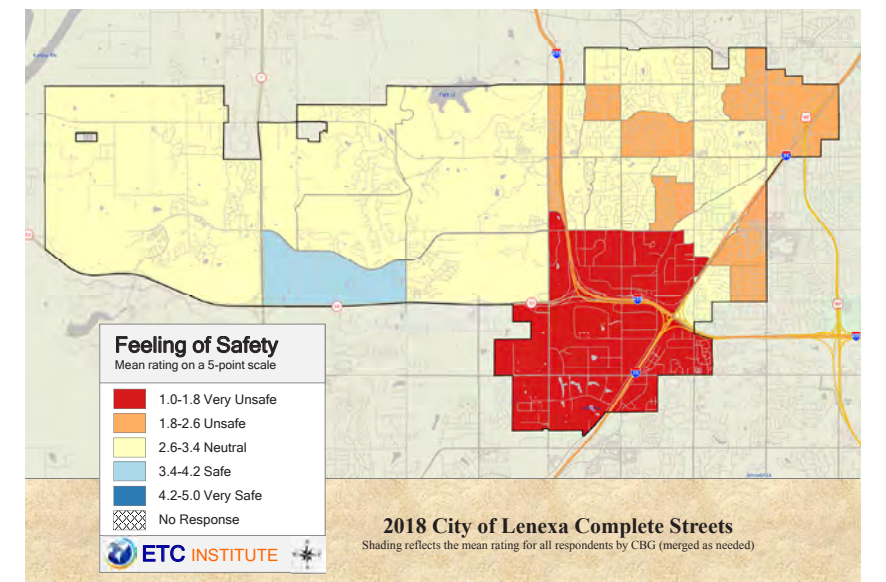
SUPPORT FOR INVESTING IN ON-STREET FACILITIES



SUPPORT FOR INVESTING IN TRAILS



SAFETY OF BIKING ON STREETS



TRADITIONAL AND SOCIAL MEDIA OUTREACH

Key components of the public engagement effort were typically advertised through traditional media sources such as local newspaper, television, radio outlets, city website, project website, and social media outlets including NextDoor. Traditional and social media outreach occurred throughout the Complete Streets policy planning process to build awareness of the process and to make the public aware of the survey opportunities and public workshops offered to build participation. Media outreach garnered coverage and interviews with City staff from all four TV stations, KMBC, CH. 9, WHB – Ch. 4, KSHB – Ch. 41, and KCTV – Ch. 5 as well as radio outlets 89.3 Radio- NPR Affiliate, 980 KMBZ; and print media in the Kansas City Star – 913 and Shawnee Mission Post. Multiple social media messages were composed for the City of Lenexa to post on their social media sites throughout the project to invite the public to participate in the public workshops, to share where information was provided about the project and to announce the ETC Institute survey and process. City council, advocates and consulting staff who live in the area also posted on social media sites to build awareness and attendance.



PUBLIC WORKSHOP NOTICE

LENEXA COMPLETE STREETS PUBLIC WORKSHOP

THURSDAY, MAR. 21
5:00 to 7:00 pm

THOMPSON BARN
11184 Lackman Rd, Lenexa, KS
66219

- INTERACTIVE DISCUSSIONS
- DRAFT RECOMMENDATIONS AND CONCEPTS UNVEILED

YOUR INPUT IS NEEDED!

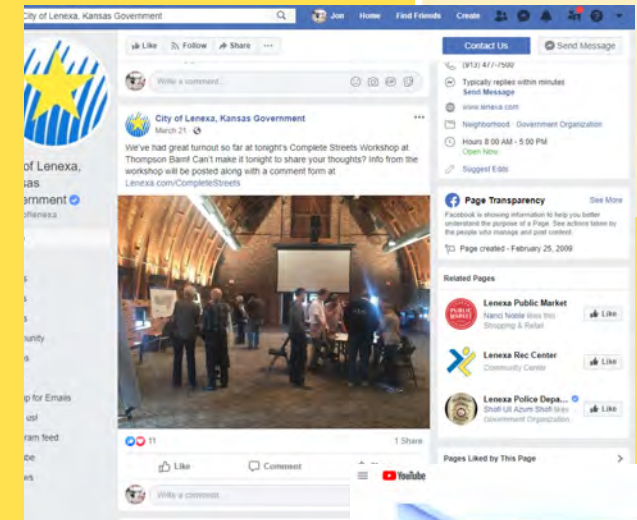
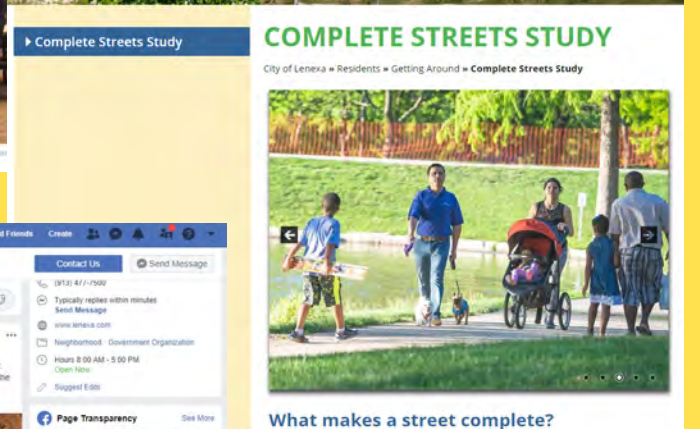
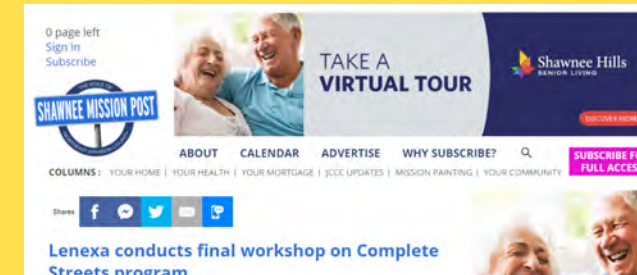
Join us for the Lenexa Complete Streets Study final public workshop. This is an informal workshop to share draft recommendations and concepts. What do you want to see? How should the city plan for key enhancements that consider all users of a roadway for people who drive, walk, bicycle, and take transit to increase safety, comfort, and efficiency? Let's work together to create a livable environment for all ages and lifestyles!

This is a come-and-go event. So bring the family, stay five minutes or the entire time. Make sure YOUR voice is heard!

CHECK OUT INFORMATION ON THE LENEXA COMPLETE STREETS STUDY AT WWW.LENEXA.COM/COMPLETESTREETS



MEDIA CONTENT APPROACH



Page Intentionally Left Blank

A person in a white t-shirt and shorts is walking a black dog on a leash along a paved path. The path is surrounded by dense green foliage and trees. The entire image has a blue color cast. A large white number '07' is overlaid on the path.

07

Developing A Network



VISION AND PRIORITIES

As described in this plan, Complete Streets provide comfort and access to all users of the roadway system regardless of the user's age, ability or chosen mode of travel. The City of Lenexa has been working to improve multimodal transportation options and meet the diverse needs of the city's residents and visitors. Providing accommodations for pedestrians and bicyclists is an integral part of a complete streets network and, while the City has long been known as a regional leader for its off-street trails system for recreational walking and bicycling, one of the goals of this plan is to improve connectivity, safety, and comfort for people who would like to walk and bike for a variety of trip purposes. This chapter of the Lenexa Complete Streets Policy and Plan examines the existing conditions, opportunities, and constraints for walking and bicycling within the community and provides a series of recommendations regarding infrastructure improvements, policies, and programs to achieve these complete street goals. This chapter concludes with a clear implementation strategy for the walking and bicycling recommendations.

WALKING AND BICYCLING VISION

Lenexa will be a community where walking and bicycling are safe, comfortable, convenient, and reliable choices for recreational and transportation trips.

WALKING AND BICYCLING PRIORITIES

In addition to the broader Complete Streets goals detailed in Chapter 3 of this plan, this chapter focuses on the following specific priorities for walking and bicycling in Lenexa:

- Priority 1: Provide Access and Connectivity
- Priority 2: Improve Safety and Comfort
- Priority 3: Encourage a Culture of Walking and Bicycling

WHY FOCUS ON WALKING AND BICYCLING

The City of Lenexa has spent many years developing its off-road walking and bicycling system, planning for more dense and walkable development in the City Center area, and solidifying its position in the region as a community leader that attracts families, businesses, and visitors. However, the city's roadway network, particularly in the western portion of the city has been largely designed and implemented with a focus on automobile traffic and can be intimidating to those who wish to walk or bicycle, particularly those who are from the youngest and oldest age groups. Now is the perfect time to build on the city's strengths of a healthy economy, an extensive roadway network, and vibrant, attractive neighborhoods to integrate more walking and bicycling activity and infrastructure into the roadway network and community fabric.

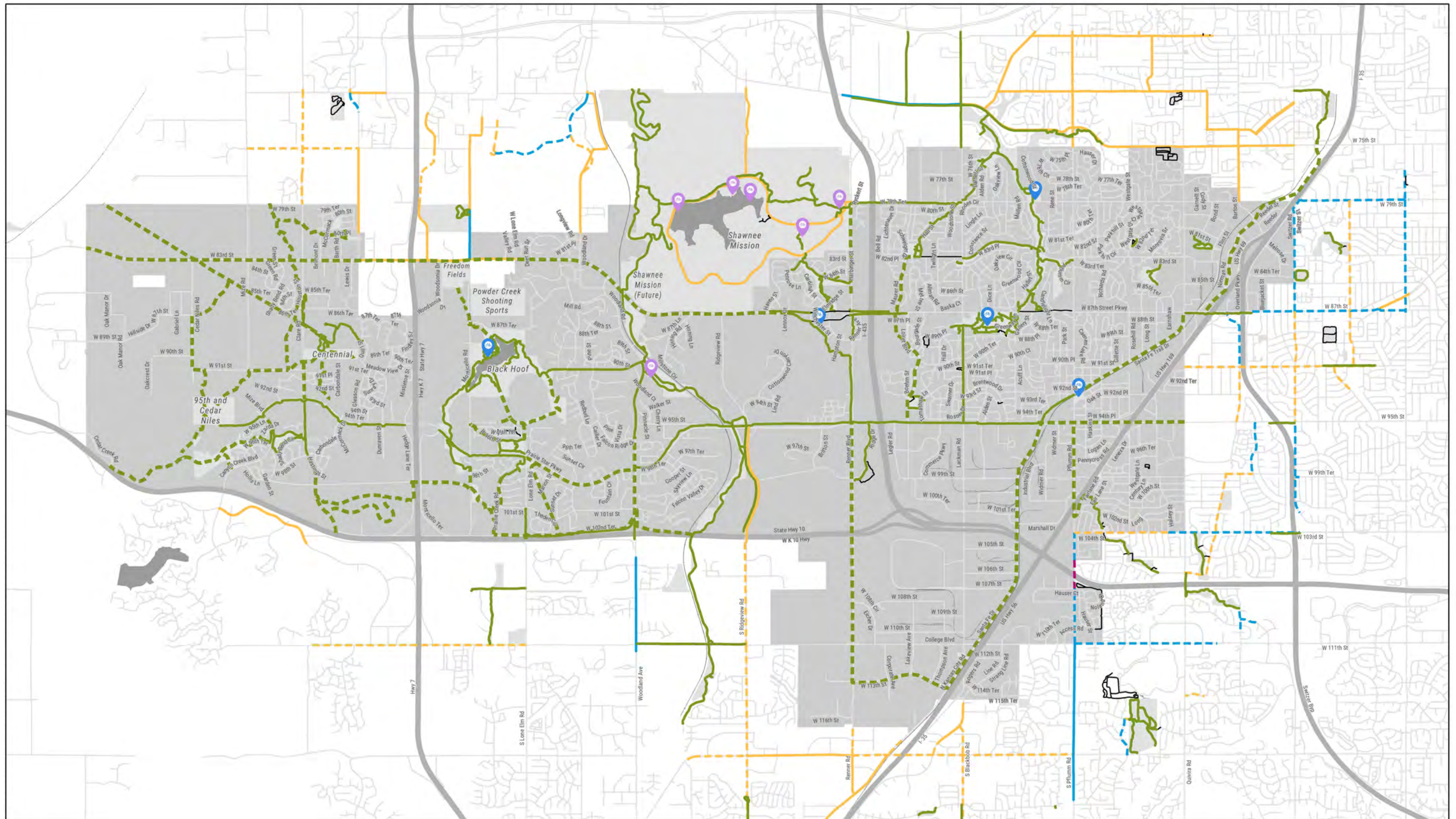
PLANNING CONTEXT

The recommendations in this chapter build on previous plans and documents that address walking and bicycling in Lenexa including the city's Parks, Recreation, and Open Space Comprehensive Plan, the Old Town Plan, the Quivira Road Corridor Study, various projects programmed in the City's Capital Improvement Plan, the Greater Kansas City Regional Bikeways Plan, and the regional MetroGreen Plan as well as an analysis of existing conditions, fieldwork, public input and best practices.

EXISTING CONDITIONS AND PUBLIC INPUT

Lenexa's 50,000+ residents have great access to existing off-road paths within the city limits and a comprehensive sidewalk network with sidewalks on at least one side of the street in much of the developed areas. While this infrastructure provides a good base from which to build a network of walking and bicycling facilities, input gathered from the public and fieldwork conducted by the consultant team for this project identified several gaps and barriers in the pedestrian and bicycle network. Walking and bicycling networks are only as good as their weakest link and these gaps and barriers limit the usefulness of the existing facilities for a wide range of transportation purposes. Refer to **Figure 7.1** for the existing and planned bicycle infrastructure.

Figure 7.1 Existing and Planned Bicycle Infrastructure



Existing and Previously Planned Bicycle Facilities



Existing and Funded Routes / Previously Planned Routes

- Shared Roadway or Wide Outside Lane
- Bicycle Lane
- Shared Use Path or Sidewalk
- Buffered Bicycle Lane

Funded Bikeshare Stations

- City-Funded Bikeshare Station
- County-Funded Bikeshare Station

- Lenexa City Limits
- Park

LEVEL OF TRAFFIC STRESS FOR BICYCLISTS

People for Bikes, a national bicycle advocacy organization, has developed a Bike Network Analysis (BNA) scoring tool to evaluate bike networks in cities across the United States. Lenexa’s bicyclist level of stress is illustrated in **Figure 7.2**.

From the BNA website: <https://peopleforbikes.org/placesforbikes/bicycle-network-analysis/>

“The Bike Network Analysis (BNA) score is an evolving project to measure how well bike networks connect people with the places they want to go. Because most people are interested in biking only when it’s a low-stress option, the BNA maps recognize only low-stress biking connections. The BNA relies on the concept of a low-stress bike network. The concept of Traffic Stress has emerged as a useful way to think of bicycle facilities in terms of the types of users who would be comfortable riding on them in a given situation. In practical terms, this is intended to correspond with the comfort level of a typical adult with an interest in riding a bicycle but who is concerned about interactions with vehicular traffic.”

Lenexa receives an overall score of 28 (out of 100). The score is based on the level of traffic stress and destination access, i.e., how many destinations can be accessed via low stress routes. An explanation of the full methodology is available online (<https://bna.peopleforbikes.org/#/methodology>). **Figure 7.2** is a visual representation of the high (red) and low (blue) stress streets in Lenexa. The recommendations in this plan seek to increase the number of low-stress routes by providing more separation between modes on the high-stress roadways and addressing potential conflicts at intersections currently serving as barriers along otherwise low-stress routes. For comparison, other Kansas communities reported scores of 27 (Topeka), 28 (Wichita), 30 (Shawnee), 31 (Overland Park), 32 (Lawrence), 34 (Olathe), and 39 (Manhattan.)

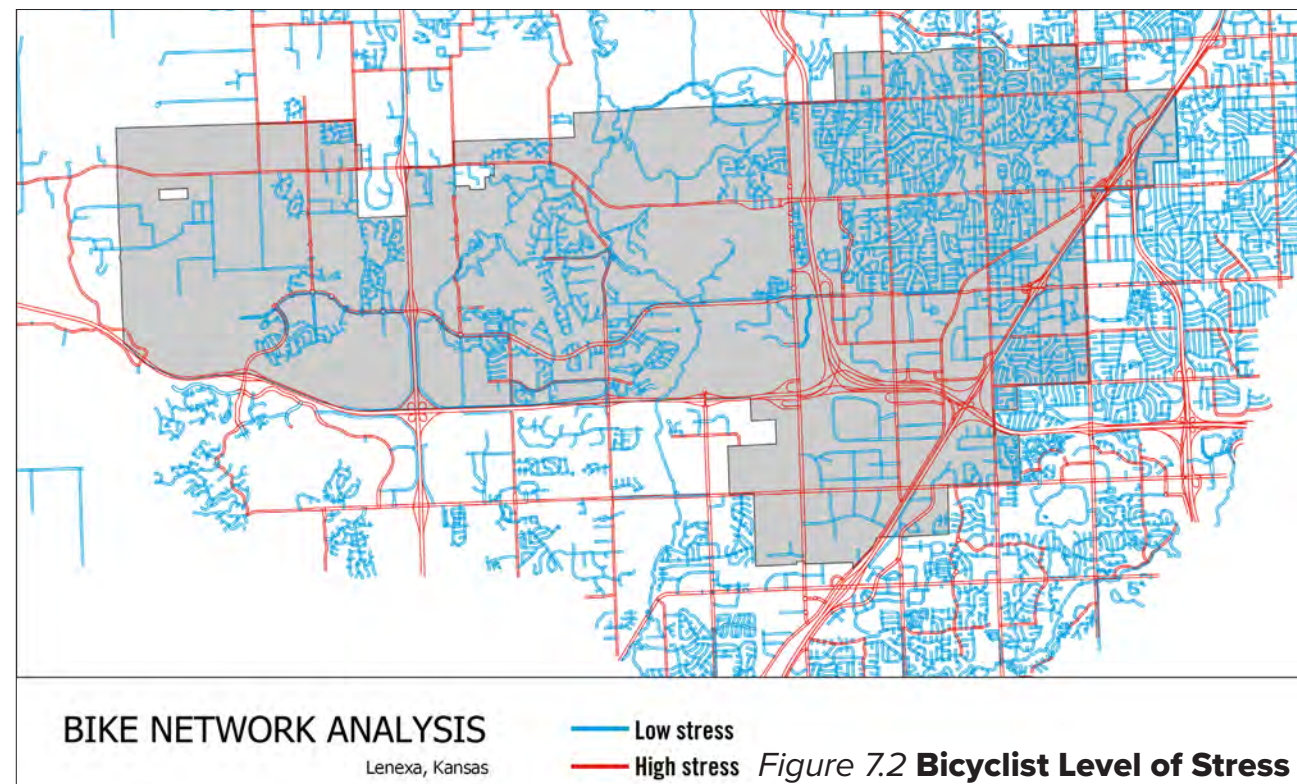


Figure 7.2 Bicyclist Level of Stress

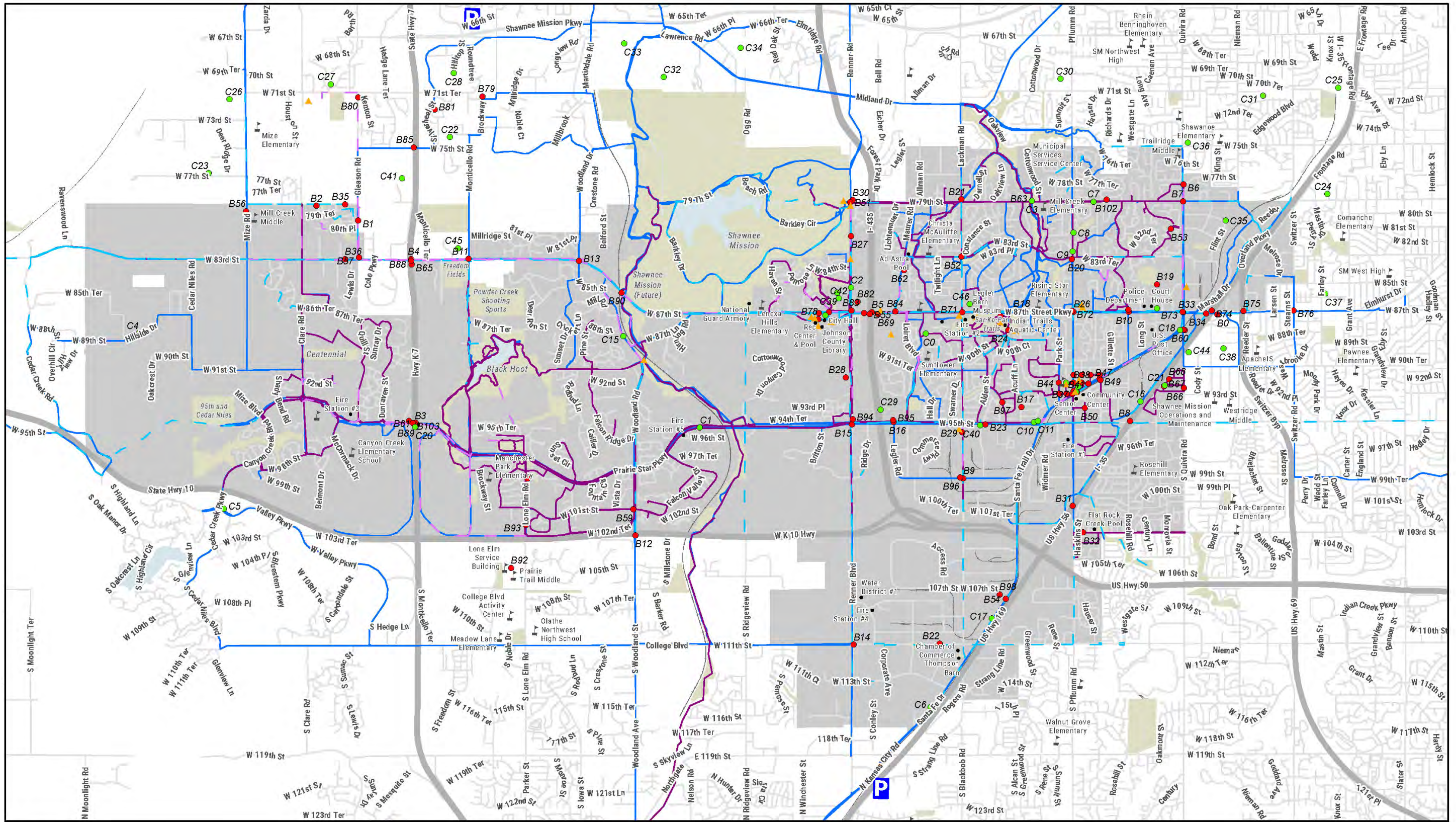
PUBLIC ENGAGEMENT REGARDING WALKING AND BICYCLING

The residents of Lenexa helped inform the recommendations for walking and bicycling improvements through participation in an online survey, a mailed survey, and a public open house. Full summaries of these input opportunities are provided in the appendix. While many people already walk and bicycle in the city, the online survey results indicated that many would feel more comfortable or better able to reach their destinations if additional sidewalks and bike infrastructure were provided. The following specific feedback helped inform the development of the bicycle network and pedestrian priority areas described later in this section:

- Installing sidewalks or sidepaths would allow respondents/workshop participants to access desired destinations or routes
- Installing painted bike lanes, separated bike lanes, and sharrows were the top treatments respondents/workshop participants cited would help them access destinations or routes
- Greater separation from motor vehicle traffic and bicyclists is desired when walking
- The most common barriers to walking and bicycling included the following:
 - High vehicle speed location
 - Heavy traffic
 - Safety concerns at intersections
- Other barriers included the following:
 - Sidewalk or bike route gap
 - Wide street
 - Streets and trail do not connect
 - Narrow street
 - Long wait at intersection
- Reinforce the importance of a healthy community through education
- Barriers were most common along major roads, with significant hotspots at the intersection of:
 - 87th Street and Renner Boulevard near the I-435 interchange
 - Santa Fe Trail Drive and Pflumm Road

For a detailed summary of the results of the online survey and Wikimap, the latent demand mapping methodology and bicycle level of stress analysis, please see the appendices. Results from the Wikimap are summarized on **Figure 7.3**.

Figure 7.3 Wikimap and Workshop Public Comments



Wikimap

- Comment
- Barrier
- ▲ Bikeshare Station
- Route I Walk/Want to Walk
- Route I Bike/Want to Bike
- Public Building
- School
- P Park and Ride

BICYCLE NETWORK AND PEDESTRIAN PRIORITY AREAS

BICYCLE NETWORK

The recommended network of bicycle routes builds upon existing bicycle routes in the city; planned routes and trails from the city's Parks, Recreation, and Open Space Comprehensive Plan, Quivira Road Study and Old Town Plan; and regional existing and planned routes identified in the Kansas City Regional Bikeways Plan and MetroGreen Plan. The network was developed to accomplish several key principles and goals including the following:

- Affirm and build upon the existing and previously planned network within Lenexa (assuming all previously planned trails will be installed)
- Ensure full connectivity and continuity between network segments and destinations, especially in areas of higher conflict with vehicles
- Ensure connectivity to the regional existing and planned network
- Focus on sidepaths and shared-use paths whenever feasible, supplemented by on-street facilities and shared lane markings, to provide a network that serves the needs of confident commuters to more casual bike riders

BICYCLE FACILITIES

The recommended network is a planning-level “study network” only. Further engineering analysis must be completed for final location and design of actual facility types and locations. If during implementation it becomes clear that a parallel route or alternative facility type is preferable, that alternative should be studied and implemented instead.

The existing and planned routes are shown in **Figure 7.4** and **Figure 7.5** as solid lines. The additional routes recommended by this plan are shown as dotted lines. The Bicycle Network includes several different facility types. They include the following

Sidepath



- Path for use by both bicyclists and pedestrians within street right-of-way
- At curb level to separate from traffic, preferably with buffer between path and street
- For use on high-volume or high-speed routes
- Intersection crossings should be in close proximity to the parallel road for better detection from drivers.

Shared-use Path



- Path fully separated from a street, shared by bicyclists, pedestrians and others
- Typically paved and marked with a center line
- Located along a separate alignment from street right-of-way
- Street crossings should be enhanced for visibility

Bicycle Lane



Standard Bicycle Lane

- On-street lane designated exclusively for bicyclists
- Standard lane demarcated with a painted white line on pavement
- Buffered lanes include horizontal separation with a painted buffer zone between the bicycle lane and motor vehicle travel lane
- Separated lanes (sometimes called cycle tracks) include both horizontal and vertical separation between the bicycle lane and motor vehicle lane with bollards, planters, raised curbs or other means
- Particular attention should be paid to intersections along these routes and accompanied by route signage



Buffered Bicycle Lane



Two-Way Separated Bicycle Lane

Bicycle Boulevard



- A low-stress bicycle route on a low-volume, low-speed shared roadway
- Indicated through special bicycle boulevard pavement markings and wayfinding signage
- May be accompanied/enhanced by traffic calming and/or diversion to help reduce vehicle speeds and/or volumes
- A key feature of bicycle boulevards is enhanced intersection treatments at major roadway crossings. Examples of enhanced intersection treatments can be found in NCATO's *Urban Bikeway Design Guide* and AAHSTO's *Guide for the Development of Bicycle Facilities* (estimated to be published in late 2019).

Signed Route



- “Bicycle may use full lane” signs placed along roadways commonly used by bicyclists
- Serves highly confident users, not considered a dedicated bicycle facility
- Addition of a sign will not improve bicycling conditions or likely attract less confident riders
- May be used on some roadways with sharrow or during construction when a bicycle facility is temporarily closed
- May be used to reinforce and remind roadway users that the law allows bicyclists to use the roadway

Shared Roadway



- Pavement marking known as a “sharrow” painted on shared lane along best path of travel for bicyclists
- Should be used along short sections of roadway that connect gaps between other, more robust facilities.
- Indications to drivers to expect bicyclists.
- Reinforces bicyclists belong in the lane and drivers must share the road
- “Share the Road” or “Bicycle may use full lane” signs often used in addition (latter preferred)
- Appropriate for low- to medium-speed and volume streets where bicycle lanes cannot be accommodated

BIKESHARE

The City of Lenexa and Johnson County will be extending the regional bike share program into the City of Lenexa boundaries. Both maps show eight recommended locations for future bikeshare stations. These locations were selected based on their proximity to commercial, recreational or institutional land uses, existing bike facilities, and the latent bike demand analysis.

INTERIM BICYCLE RECOMMENDATIONS

The interim bicycle recommendations map, **Figure 7.4**, includes bicycle facilities that may be implemented in the short-term (within approximately one to five years) to improve the visibility and safety of bicyclists already riding in Lenexa and begin to build a network that connects to key destinations for all user types. The interim network relies on bicycle boulevards, shared lanes and signed routes and may be implemented in a shorter time frame, along with some bicycle lanes and paved shoulders where the current roadway geometry allows for such facilities. The signed routes recognize there are also roads in Lenexa where more confident cyclists currently ride and are likely to continue to do so even without additional facilities. “Bicycles May Use Full Lane” signage is recommended on these routes to indicate to both bicyclists and motorists this is allowed under the law. The existing and planned routes are shown on the map as solid lines. The additional routes recommended in the interim are shown as dashed lines.

LONG-TERM BICYCLE NETWORK

The long-term vision for Lenexa’s bicycle network, **Figure 7.5**, includes a network of off-street shared-use paths and trails spread throughout the city that provide a low-stress network where bicyclists of all ages and abilities will feel safe and comfortable riding. These will be complemented by on-street facilities that range from low-stress bicycle boulevards to more separated bicycle lanes, some of which could be installed as roads come up for reconstruction under the City’s capital improvement plans. All existing, planned and recommended routes are shown as solid lines on the long-term recommendations map, to demonstrate what the fully built-out network would look like.

The recommended network is a planning-level network. While these recommendations have been determined to be generally feasible as part of the high-level planning analysis conducted for this study, further engineering analysis will be needed to determine the exact location, facility type and final design for each of the proposed routes. If during implementation it becomes clear that a parallel route or alternative facility type is preferable, that alternative should be studied and implemented instead. As Lenexa undergoes its continued development, roadway characteristics and volumes will change along with the land use. Ongoing evaluation of installed facilities and of future traffic volumes should be completed to determine if facilities remain adequate, and if design speed and speed limits could be adjusted as the nature of the corridors evolve. A summary of the recommended bicycle facilities is included in **Table 7.1**; a more detailed table is found in **Appendix H**.

Figure 7.4 Interim Bicycle Recommendations

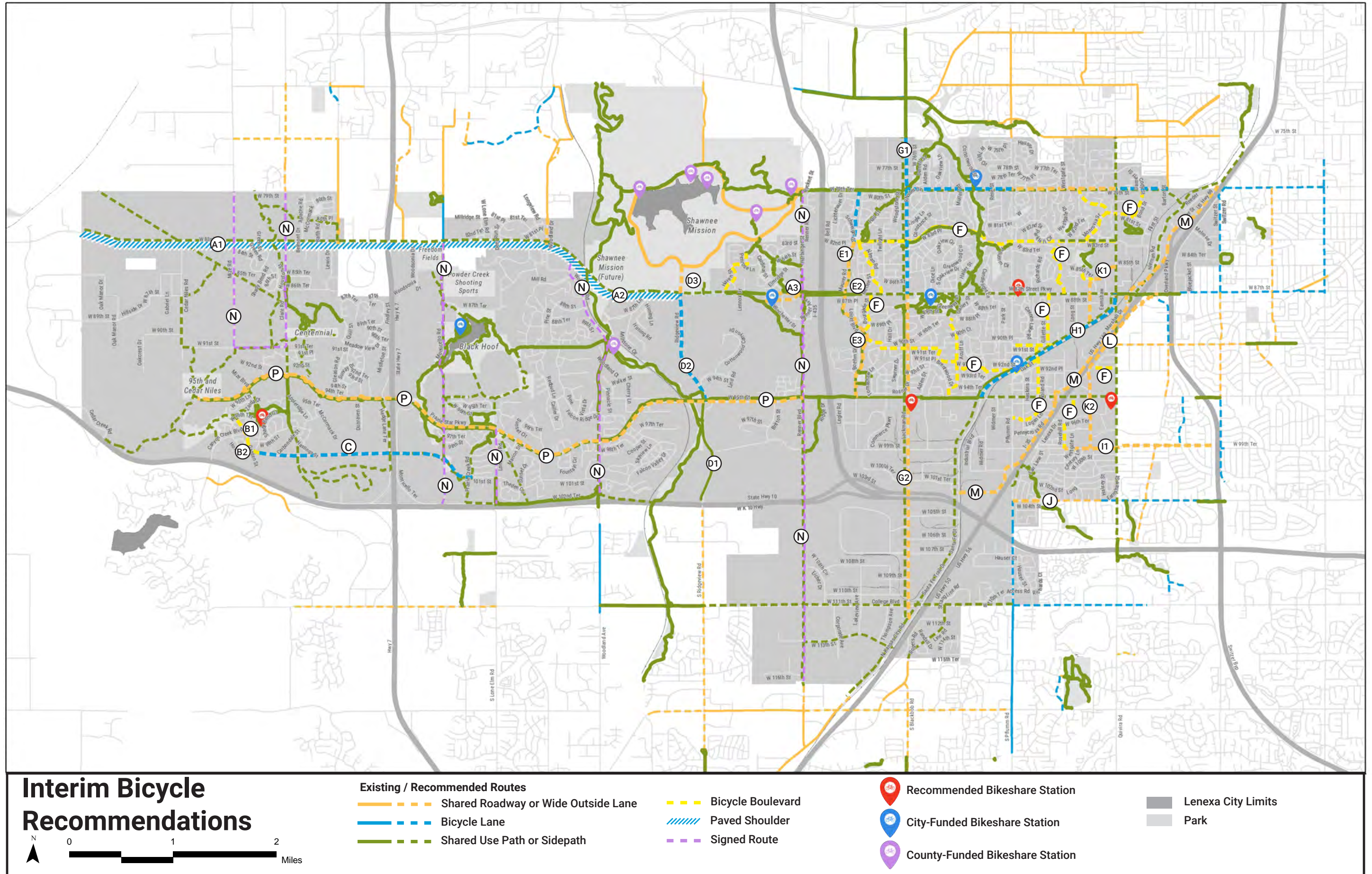


Figure 7.5 Future Bicycle Network

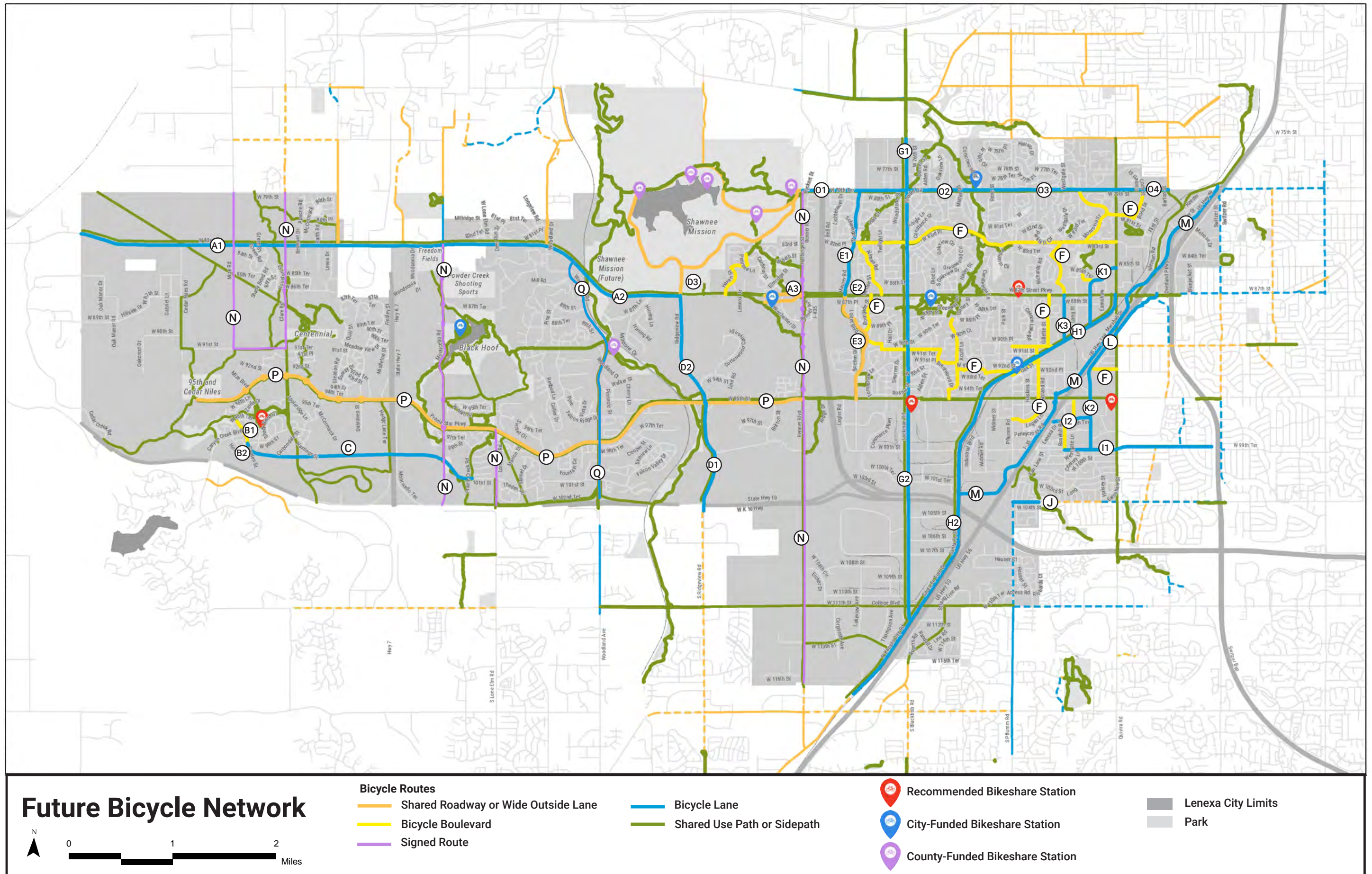


Table 7.1 Bicycle Network Recommendations

Corridor/ Route	Street Name	From	To	Interim Facility	Long Term (Preferred) Facility
A1	West 83rd Street	West City Limits	Woodland Road	Paved shoulder	Buffered bike lane or separated bike lane
A2	West 87th Street	Woodland Road	Ridgeview Road	Paved shoulder	Buffered bike lane or separated bike lane
A3	West 87th Street	Ridgeview Road	Renner Boulevard	Shared roadway	Shared roadway or bike lane
B1	Pickering Street	West 96th Terrace (shared-use path)	Canyon Creek Boulevard	Bike boulevard	Bike boulevard
B2	99th Street	Canyon Creek Boulevard	West 99th / West 101st Street (new roadway)	Bike boulevard	Bike lane
C	99th Street / 101st Street extension (planned roadway)	Pickering Street	Prairie Creek Road	Bike lane	Buffered bike lane or separated bike lane
D1	Ridgeview Road (under construction)	K-7 Highway	Prairie Star Parkway	None (shared-use path planned)	Bike lane
D2	Ridgeview Road (planned roadway)	Prairie Star Parkway	87th Street	Bike lane	Buffered bike lane or separated bike lane
D3	Ridgeview Road	87th Street	Barkley Drive	Shared roadway	Shared roadway
E1	Maurer Road	79th Street	83rd Street	Bike lane	Bike lane
E2	Maurer Road	83rd Street	87th Street	Shared roadway	Bike lane
E3	Maurer Court / Loiret Boulevard	87th Street	95th Street	Shared roadway	Bike lane
F	East Lenexa Bike Loop (multiple streets)	Varies	Varies	Bike boulevard	Bike boulevard
G1	Lackman Road	North city limit	87th Street	Bike lane	Buffered bike lane or separated bike lane
G2	Lackman Road	87th Street	95th Street	Shared roadway	Buffered bike lane or separated bike lane
H1	Santa Fe Trail Drive	Quivira Road	95th Street	Bike lane	Buffered bike lane or separated bike lane
H2	Santa Fe Trail Drive	95th Street	South City Limit	None	Buffered bike lane or separated bike lane
I1	99th Street	Rosehill Road	Quivira Road	Shared roadway	Bike lane
I2	West 96th Terrace	Lenexa Road	Monrovia Road	None	Bike lane
J	103rd Street	Pflumm Road	Quivira Road	Shared roadway	Buffered bike lane or separated bike lane
K1	Monrovia	Santa Fe Trail Drive	85th Street	Shared roadway	Bike lane
K2	Monrovia	99th Street	Lenexa Drive	Shared roadway	Bike lane
K3	Rosehill Road	87th Street Parkway	Santa Fe Trail Drive	None	Bike lane
L	Lenexa Drive	87th Street Parkway	94th Terrace	Shared roadway	Buffered bike lane or separated bike lane
M	Marshall Drive	79th Terrace	Santa Fe Trail Dr	Shared roadway	Buffered bike lane or separated bike lane
N	Multiple streets	Varies	Varies	Signed route	Signed route
O1	79th Street	Renner Road	Lackman Road	Bike Lane	Bike Lane
O2	79th Street	Lackman Road	Pflumm Street	Bike Lane	Bike Lane
O3	79th Street	Pflumm Street	Quivira Road	Shared Roadway	Bike Lane
O4	79th Street	Quivira Road	Nieman Road	Bike Lane	Bike Lane
P	Prairie Star Parkway	Renner Road	Western Terminus	Shared Roadway	Shared Roadway
Q	Woodland Avenue	K-10	83rd Street	Shared Roadway	Buffered bike lane or separated bike lane

PEDESTRIAN NETWORK

The creation of a pedestrian network involves several small details in addition to providing a network of sidewalks and trails for pedestrians to walk on. Pedestrians take short trips that are not necessarily centered on arterial streets but are much more destination-oriented and, focus on locations such as transit stops, parks, schools, business parks, and shopping centers. This plan identifies high-priority locations for pedestrian improvements. These priority locations vary in their needs and include locations with a concentration of barriers to walking identified by public input, areas where crossing the street is especially challenging, corridors with significant sidewalk gaps, and connections between pedestrian traffic generators such as schools and shopping destinations.

The recommendations focus on the following three key elements:

- Filling in existing gaps in the sidewalk network
- Making crossing the street easier and safer
- Addressing other area-specific barriers

SIDEWALK GAP INFILL

Lenexa provides sufficient pedestrian accommodations in residential areas by requiring sidewalks to be constructed on one side of local streets once an individual lot is developed. The only opportunity for gaps to appear in newly developed areas are when lots are not fully developed. This seldom occurrence along with areas that are grandfathered in pose one of the greatest obstacles to closing the gaps in the sidewalk network. These gaps create discontinuous sidewalks that discourage walking and make travel in some areas impossible for persons with physical disabilities or those using strollers or assistive devices. Sidewalks should be provided on both sides of all arterial and collector roadways (or a combination of sidewalk on one side and sidepath on the other.) However, because of policies that were in place when the roadways were constructed, many arterials and collectors in Lenexa have sidewalks and/or sidepaths on only one side of the road. Arterial streets often have long distances between signalized crossings where pedestrians can not access destinations on the other side of the street. This creates a situation where pedestrians often walk along sections of roadway without a sidewalk or they cross at uncontrolled locations. This plan recommends prioritizing sidewalks along higher-volume, higher-traffic arterial roads and adjacent to schools.

All of the sidepath and shared-use path facilities described in the bicycle network recommendations will also benefit pedestrians. Some sidepath recommendations will close small sidewalk gaps, while others will provide longer distance connections more likely to be used by recreational walkers and runners. Where sidepaths are recommended along one side of the roadway, 5-foot sidewalks should still be installed on the opposite side of the street. All local roadways should have sidewalks installed on at least one side of the street. As sidewalks and shared-use paths are installed, high-visibility and Americans with Disabilities Act (ADA) compliant crosswalks should be considered concurrently (see the following section for further details on marking crossings).

Business and industrial park areas should also be a focus of sidewalk gap infill. Though existing standards do not require sidewalks to be installed in business and industrial parks, these are needed to ensure that workers have multimodal options for accessing jobs in these locations. A continuous sidewalk network in these areas will connect employees to transit stops, ensure individuals with disabilities have ADA-accessible routes, and prevent conflicts between pedestrians and motor vehicles, especially in industrial and business parks with high volumes of truck traffic. It is recommended the City should begin to retrofit business and industrial parks with sidewalks on at least one side of the street, and update standards to require them to be installed in future developments. This could occur during pavement maintenance activities.

Streets with sidewalk gaps are shown in **Figure 7.6**, alongside the existing and proposed shared-use paths and sidepaths. The priority streets for sidewalk infill are listed below and were selected based upon public input, proximity to key destinations (schools, retail areas, businesses, parks, etc.) and the latent demand analysis results, see **Appendix B**. When possible, the City should take advantage of programmed curb ramp, roadway, and maintenance projects to install nearby priority sidewalks at the same time.

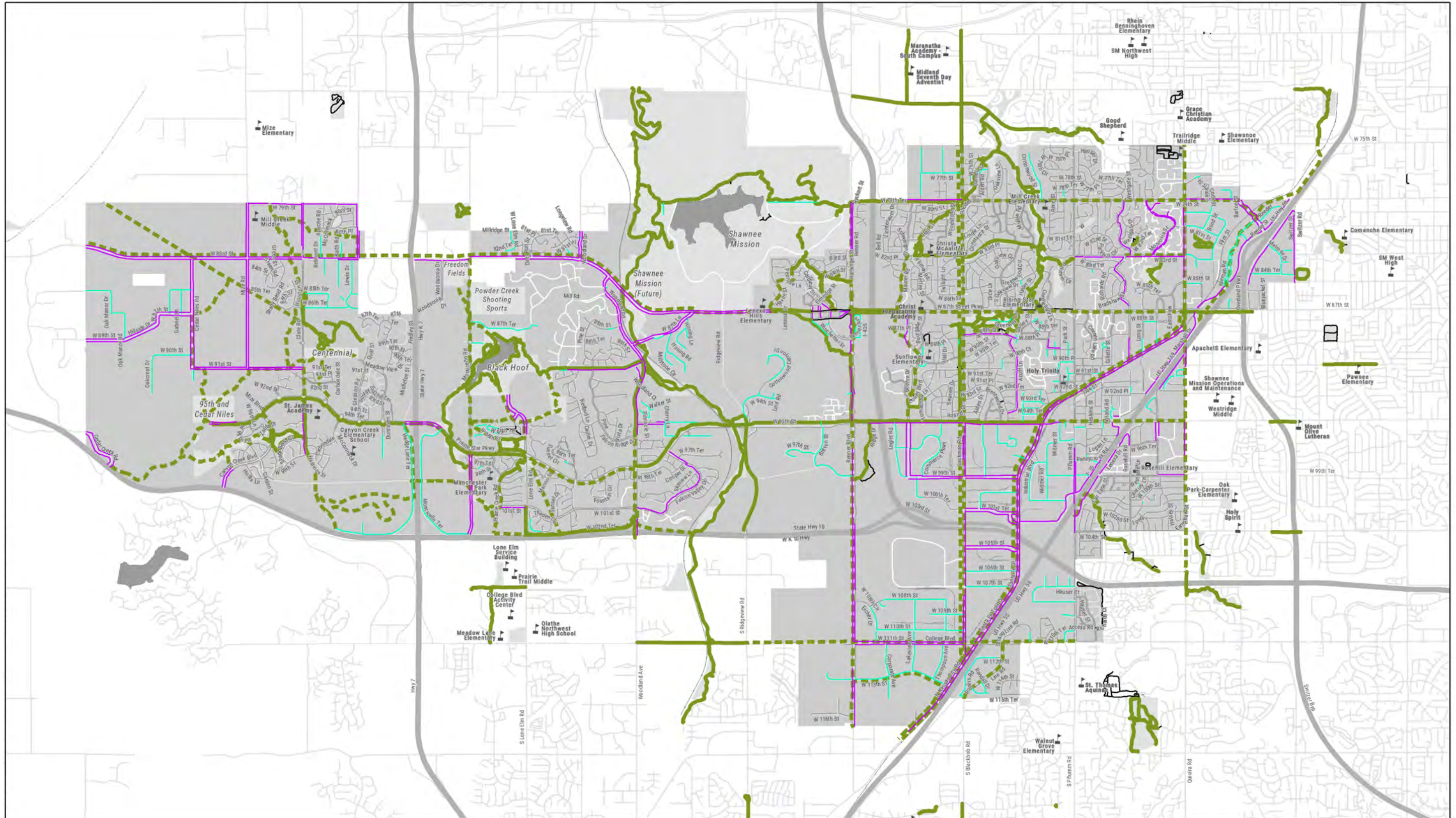
ARTERIALS AND COLLECTORS

- West 83rd Street from Pflumm Road to Quivira Road (One side, planned side use path (SUP) may cover this)
- Woodland Road from West 83rd Street to K-10 Highway (Both sides. The trail on the east side of Woodland is mostly on the other side of railroad track, so sidewalk on both sides is still needed.)
- Renner Boulevard from West 79th Street to south city limit (Planned SUP will cover sidewalks on west side. East side needed 79th Terrace to 83rd Street, K-10 Highway to College Boulevard, 113th Street to south city limit)
- College Boulevard from Renner Boulevard to Lackman Road (Both sides; planned SUP will cover north side)
- West 99th Street from Legler Road to Santa Fe Trail Drive (Both sides)
- Lackman Road from West 95th Street to Santa Fe Trail Drive (West side will be covered by planned SUP. East side intermittently.)
- Prairie Star Parkway at K-7 Highway (Both sides)
- West 79th Terrace from west city limits to Lackman Road, Quivira Road to east city limit (One side)
- West 95th Road from Renner Boulevard to Santa Fe Trail Drive (One side)
- Santa Fe Trail Drive from Quivira Road to south city limit (Both sides; planned SUP will cover one side).
- West 83rd Street from west city limit to City Center (Both sides; one side will be covered by SUP)
- Quivira Road from West 79th Street to West 85th Street (West side)
- Mize Road from West 79th Street to West 91st Street (Both sides)
- Clare Road north of W 83rd Street (Mill Creek Middle School) (Both sides)
- Pflumm Road from W 103rd Street to W 96th Terrace (West side, East side intermittently)
- Monrovia Street from W 83rd Street to W 79th Terrace (One side) Business Parks

LOCAL

- W 99th Street from Santa Fe Trail Drive to Marshall Dr. (One side)
- Clear Creek Estates (One side)
- Business park area between W 95th St/I-35/I-435
- Mill Creek Business Park
- Pine Ridge West Business Park

Figure 7.6 Sidewalk Gaps



Sidewalk Gaps



Sidewalk Gaps

- Gap on Arterial/Collector Road (Sidewalk recommended on both sides)
- Gap on Local Road (Sidewalk recommended on one side)
- Private Road (Pedestrian accommodations vary)

Existing and Funded / Planned Infrastructure

- - - Shared Use Path
- Paved Walking Trail
- Sidewalk
- Private Road
- Public Road

- School
- Lenexa City Limits
- Park

PEDESTRIAN CROSSINGS

A network of sidewalks and sidepaths is not complete without safe ways for pedestrians to cross the street to follow continuous pathways and reach their destinations. Standard crosswalks consisting of two parallel white lines are less visible to drivers than “zebra” or “ladder” designs that include wide white stripes perpendicular to the road edge; these markings will be standard for all marked crosswalks in Lenexa. High visibility crosswalks can also be complemented with standard signage and/or enhancements such as rectangular rapid flashing beacons. Long gaps between signalized crossings on commercial arterial roads can lead to mid-block crossings at uncontrolled or unmarked locations, as pedestrians are unlikely to detour very far from their intended path. Shared-use trails that cross roadways at mid-block locations should also have marked crosswalks in alignment with the pathway to allow for continuous travel along the path. In addition, the active railroad crossings along Santa Fe Trail Drive provides additional crossing challenges for pedestrians. The facility types described in this section include several countermeasures to improve visibility and safety at pedestrian crossings.

Several locations are already funded and slated for crossing improvements. High visibility marked crosswalks with pedestrian signals will be installed at all signalized intersections on Quivira Road from 75th Street to 87th Street, and at West 95th Road and Santa Fe Trail Drive. A mid-block marked crosswalk will be installed across Lackman Road at Sar-Ko-Par Trails Park along with the construction of the Lackman Road shared-use trail.

At some locations, public participants identified that the time allotted for crossing the street is insufficient, and that drivers fail to yield to pedestrians crossing in the crosswalk.

- Traffic signal programming is a low-cost strategy for improving safety at crossings without the need to install new infrastructure. Signal programming throughout the city should be examined to ensure that the time allocated for crossings at key intersections is adequate for pedestrians of all ages and abilities.
- Adding Leading Pedestrian Intervals (described in this section) should also be considered at intersections with a high volume of turning vehicles, to give pedestrians a head start to clear the intersection. In addition, all traffic signals that are actuated by motor vehicles should be calibrated to detect bicycles waiting at the intersection.
- This planning effort also includes the development of a new Marked Crosswalk Policy for the City of Lenexa.

In recent years, the City of Lenexa has implemented a flashing yellow arrow for permitted left-turns. It may be beneficial to program the traffic signals to display a solid red arrow indication during any activated pedestrian walk phase, or to provide a leading pedestrian interval.

The new Marked Crosswalk Policy should be used to evaluate the following key corridors, along with any new crossing locations on future roadways, to determine the appropriate crossing treatments to improve safety and visibility for pedestrians and bicyclists crossing the street. Several key crossing locations in need of improvements are located in the following section (Pedestrian Improvement Priority Areas), illustrated in **Figure 7.7**.

Sidewalk



- Provide space to walk separate from vehicles.
- Must meet Americans with Disability Act (ADA) and other accessibility requirements

Curb Extension



- Reduces pedestrian crossing distances at intersections or mid-block crossings.
- Slows motor vehicle turning speeds and visually narrows the roadway helping reduce vehicle speeds
- Treatment should be cautioned in locations with significant truck traffic

Refuge Island



- Areas between vehicle travel lanes, allowing pedestrians to cross streets in two stages
- Visually narrows the roadway to reduce vehicle speeds
- Used on multi-lane roadways or roadways with high traffic volumes

Sidewalk Buffer



- Sidewalks set back from the curb and moving vehicles
- Wider buffers generally increase pedestrian comfort
- Provide space for trees, signs and utility poles outside of the pedestrian travel zone

Curb Ramp



- Provides access for people with physical disabilities
- Allows wheelchairs, mobility devices, strollers, bicycles, and deliveries to access sidewalks or shared-use paths

High Visibility Crosswalk



- Bold, reflective striping at crossing and lighting
- Improves driver yielding at intersections and mid-block crossings

Raised Crosswalk



- A crosswalk elevated to sidewalk height using a speed table
- Reduces vehicle speeds and increases visibility of pedestrians
- Generally not desirable on higher speed roadways

Rectangular Rapid Flashing Beacon (RRFB)



- Bright LED flashers activated by a pedestrian (or bicyclist) on demand with a push button
- Often used at mid-block crossings in combination with high-visibility crosswalk and median island
- Draws the driver's attention to the crossing location, but is only activated when pedestrians or bicyclists are present.

Leading Pedestrian Interval (LPI)



- Programmed into intersection signalization to provide pedestrians a few seconds of additional crossing time prior to the green signal for motor vehicles
- Provides a head start for pedestrians and increased visibility to motorists
- This treatment will add a slight delay to vehicular traffic

Location (A): W 83rd St at K-7 Highway

Issues:

The crossing of K-7 Highway on West 83rd Street provides no protection for pedestrians and cyclists. There are no sidewalks, but a shared-use sidepath is planned for this area. (Note: This interchange is mostly within the City of Shawnee).

Recommendations:

- Ensure continuity of sidewalks/sidepaths across K-7 Highway.
- Provide an enhanced marked crossing of the intersection (per the Marked Crosswalk Policy provided in Appendix E).
- Full improvements will be difficult until the interchange is reconstructed.

Location (B): Prairie Star Pkwy at K-7 Highway

Issues:

While a broad sidepath and sidewalks extend along Prairie Star Parkway on either side of the highway, these end at the highway bridge, leaving pedestrians and cyclists without a facility at a critical location.

Recommendations:

- Ensure continuity of sidewalks/sidepath across K-7 Highway.
- Provide an enhanced marked crossing of the intersection (per the Marked Crosswalk Guide)
- Full improvements will be difficult until the interchange is reconstructed.



Right Turn on Red Restrictions



- Prohibits motorists from turning right until the signal is green
- Can reduce the potential conflict between people walking and bicycling on the crosswalk and motorists turning
- Can result in significant delay in traffic in some locations, so implement with caution
- Can utilize “black-out” signs that are only illuminated when pedestrians are present

Location (C): City Center

Issues:

Public participants cited difficulties crossing the street within City Center because of fast speeds and a lack of traffic signals, although additional signals were installed following the public meetings. Traffic signals are being studied for Elmridge Street and Scarborough Street at West 87th Street. Because this area is undergoing rapid development and is still under construction, ongoing observation and review of pedestrian and bicycling conditions should be undertaken to determine how well the roadway design works under the changing conditions.

Recommendations:

- Conduct ongoing monitoring of City Center traffic patterns and multimodal access after construction is completed and signals installed. Examine vehicular speeds, interactions at crosswalks, and level of bicycle stress.



PEDESTRIAN IMPROVEMENT PRIORITY AREAS

The locations selected as Pedestrian Improvement Priority Areas are centered around major city destinations and areas identified by public comments as posing barriers to safety and comfort. It is assumed that the sidewalk gaps identified in the previous section will be completed in conjunction with the recommendations in this section, and the Marked Crosswalk Policy in **Appendix E** used in designing marked crosswalks. The areas are not listed in order of priority. As with the specific bicycle recommendations, these are planning level recommendations and further engineering study may be required prior to full design and installation. Improvements are illustrated in **Figure 7.8**.

Location (D): W 79th St at Quivira Rd

Issues:

Participants cited difficulties in crossing West 79th Street in general due to high vehicle speeds and drivers failing to yield at crosswalks, with multiple comments made about this intersection which has wide corner radii that facilitate fast turns. The crosswalk activation buttons are not accessibly placed.

Recommendations:

- Relocate crosswalk activation buttons according to ADA-accessibility standards
- Examine timing of pedestrian walk intervals
- Consider reprogramming signals to include Leading Pedestrian Intervals and/or replace flashing yellow arrow with solid red arrow during conflicting pedestrian phases.

Location (E): Trails at Sar-Ko-Par Trails Park and Rising Star Elementary School

Issues:

Multiple trails cross Sar-Ko-Par Park and connect out of the park through the neighborhood across West 87th Street behind Rising Star Elementary School providing a local pedestrian amenity. However, continuity of the trails across West 87th Street is disjointed. The trail from the park does not lead directly to the marked crossing at Acuff Lane. Across the street, access to the trail is provided via a staircase, which is not ADA-accessible, although it does have a bicycle stair access ramp.

Recommendations:

- Modify trail entrance north of West 87th Street to an ADA-accessible ramp.
- Widen sidewalks to sidepath width for better access to marked crossings.
- Consider underpass under West 87th Street east of Acuff Lane to directly connect trails north and south of 87th Street (Installation of an underpass could be feasible but would be costly. Underpasses, like pedestrian bridges, are often underused because of inconvenience, poor visibility and perceived lack of safety. Underpass design would have to include prominent signage, lighting, and other design features to make the facility safe, comfortable and attractive to users.)

Location (F): Old Town

Issues:

Several challenging issues face pedestrians in the Old Town area where Sante Fe Trail Drive, the railroad and Walnut Street all intersect Pflumm Road within very close proximity adjacent to the small commercial area on Sante Fe Trail Drive. At grade railroads crossing occur on both the west and east sides of Pflumm. While the west side railroad crossing is the preferred crossing, anyone who may be accessing the Senior Center at Walnut is more likely to use the east side railroad crossing which does not have a crossing arm that lowers for pedestrians in the event that a train is approaching. Not all curb ramps and pedestrian push buttons in this area are accessible to people with disabilities.

In addition to the intersection issues, there are several locations in this area where historic street lamps overlap the pedestrian zone, making passage with wheelchairs and strollers difficult. While in some areas this is due to limited space, in other areas there are alternative locations for either the walkway or the street lamps.

Recommendations:

- Improve and/or relocate curb ramps further from utility poles or in locations more appropriate to the marked crossing location.
- Relocate pedestrian signal push buttons or provide extenders.
- Mark the crosswalk south leg of Sante Fe Trail Dr and Pflumm.
- Relocate historic street lamps out of pedestrian zone, if practical.



Location (G): West 87th St from City Center to east City Limit**Issues:**

Participants cited difficulties in crossing West 87th Street at multiple locations because of high vehicle speeds and wide streets (up to seven lanes in some locations). Marked and signalized crossings are provided at intervals of approximately a quarter mile or more, with a density of retail destinations and housing on both sides of the street. Several existing and proposed trails cross the street and there are two schools (Christ Preparatory Academy at Allman Road and Rising Star Elementary School at Candlelight Lane). Participants cited poor yielding by vehicles at Pflumm Road, and long wait times to cross the street at I-35.

Recommendations:

- Examine frequency of crosswalks and provide adequate marked crosswalks at all trail crossings, major intersections and school crossings.
- Examine signal programming and consider adding leading pedestrian intervals and/or replace flashing yellow arrow with solid red arrow during conflicting pedestrian phases, especially at Pflumm Rd and I-35.

Location (H): West 79th Street at Little Mill Creek Park**Issues:**

A shared-use path intersects West 79th Street and provides access to Mill Creek Elementary School and Little Mill Creek Park.

Recommendations:

- Provide an enhanced marked mid-block crosswalk where the trail crosses West 79th Street (per Marked Crosswalk Policy).

Location (I): Mill Creek Middle School**Issues:**

The four roads surrounding Mill Creek Middle School have no sidewalks, and no marked crosswalk or sidewalk is provided at the main school entrance on Mize Road, making it difficult for students living in the neighborhood to safely walk to school.

Recommendations:

- Fill sidewalk gaps on the streets around the school campus
- Add marked crosswalk at school entrance (per Marked Crosswalk Policy)

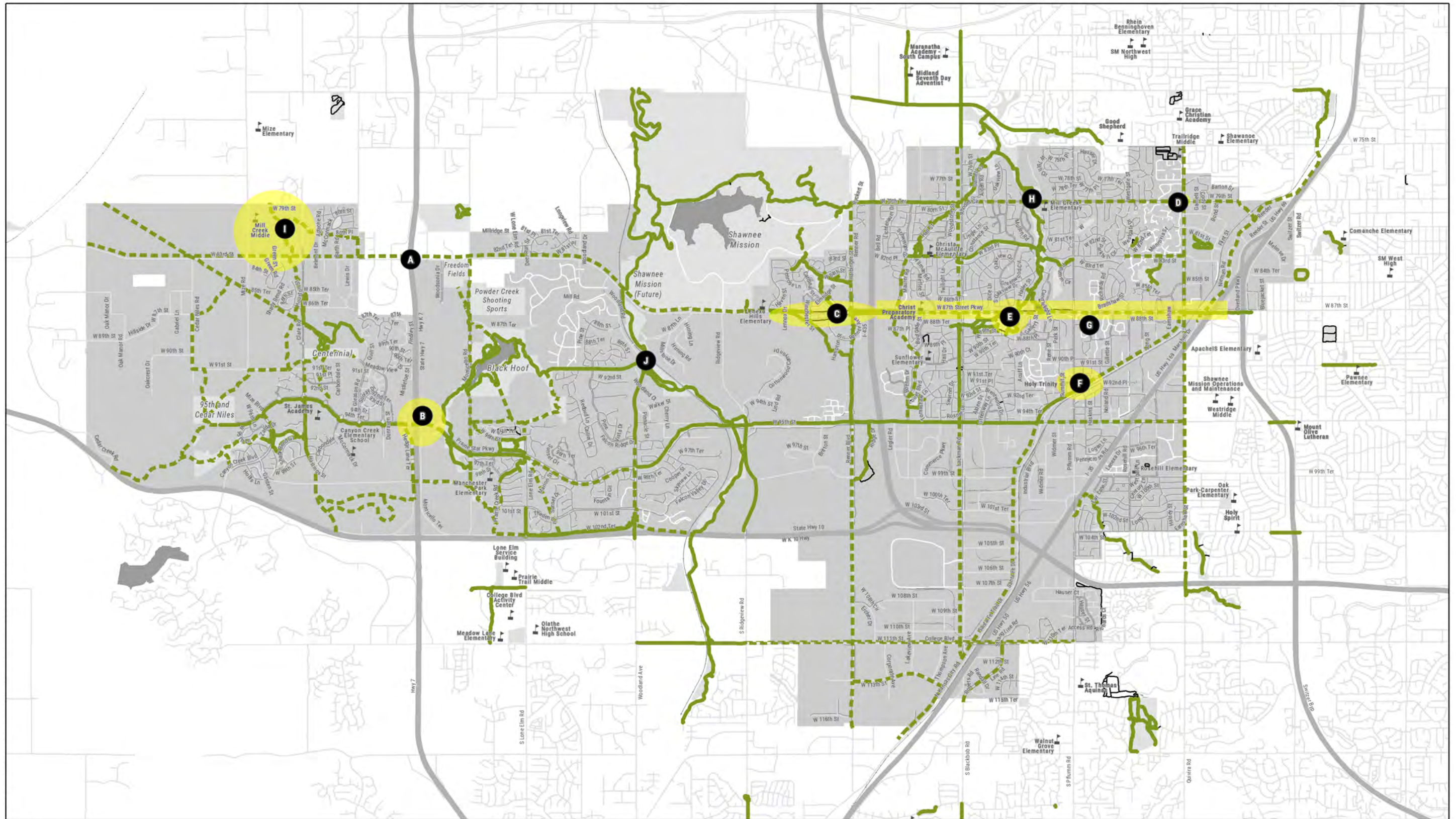
Location (J): Woodland Rd and W 91st Street**Issues:**

Several shared-use paths intersect at this location, without additional signage or enhancements to alert motorists to the presence of bicyclists and pedestrians.

Recommendations:

- Add enhanced marked crosswalks at the trail intersection (per Marked Crosswalk Policy)

Figure 7.7 Pedestrian Priority Improvement Areas



Pedestrian Improvement Areas

Pedestrian Improvement Area

Existing and Funded / Planned Infrastructure

- Shared Use Path
- Paved Walking Trail
- Sidewalk
- Private Road
- Public Road
- School
- Lenexa City Limits
- Park



Page Intentionally Left Blank



08

Policy and Technology

ORDINANCE REVIEW RECOMMENDATIONS

This section reviews the local ordinances related to Complete Streets. The initial review of policies included identifying opportunities where modifications could be made to improve accommodation for bicyclists, pedestrians and transit users. These ordinances were also reviewed by City staff in order to get a better understanding of why the policy is there now and what improvements could be made.

SECTION 3-8-A-1, STANDARD TRAFFIC ORDINANCE INCORPORATED

Current Language

- Makes motorized skateboards illegal to operate on any street, road, highway or recreational path in the city
- Allows the use of motorized skateboards on sidewalks and driveways during daylight hours, as long as they are operated under 15 (mph). People under the age of 18 are required to wear a helmet while operating a motorized skateboard.

Comment / Recommendation

- Motorized skateboards may not be appropriate on sidewalks where pedestrians are present. On quiet local streets and on streets with bike lanes, they can safely operate on the road. The ordinance should be more flexible to account for these distinctions.
- Consider modifying this ordinance to allow motorized skateboards to operate on local streets and in bicycle lanes.
- Consider allowing motorized skateboards on paths but implement a 15 mph speed limit on paths.

Current Language

- Requires any person operating a motorized bicycle to have valid driver's license and motor vehicle liability insurance.

Comment / Recommendation

- It is our understanding that the current code language regarding "motorized bicycles" does not refer to e-bikes, but rather to mopeds or bikes that have been outfitted with a gas motor. Some clarifying language is needed here to distinguish mopeds from e-bikes as they should not be treated equally.
- Kansas state law defines "electric-assisted bicycles" as bicycles under 1,000 watts with a maximum speed of 20 mph and with operable pedals. Under Kansas state law, a driver's license shall not be required for operation of an electric-assisted bicycle.
- E-bike share is being launched in the Kansas City area and Lenexa should adopt policies that will be friendly to the expansion of e-bike share into the city. Finally, auto insurance companies may not offer insurance for motorized bicycles because they do not need to be registered and in most jurisdictions, bicycle riders are not required to have a valid driver's license.
- If the purpose of the ordinance is to protect other path users on paths and trails, consider implementing a 15 mph speed limit on paths.
- If the purpose of the ordinance is to require insurance and driver's licenses for people operating higher-speed motorized bicycles, amend the ordinance so it applies only to users of motorized bicycles that can reach speeds over 20 mph and only requires "liability insurance", not "motor vehicle liability insurance."

Section 3-8-A-4, Walking, Jogging, and/or Running Regulations

Current Language

- Requires pedestrians using the streets at night to wear reflective apparel or material to be visible to vehicular traffic at a distance of 200 feet. Failure to do so results in a fine of \$50.

Comment / Recommendation

- While pedestrian safety is a concern, especially where sidewalks are scarce, this clause places the burden of safety on the pedestrian, the vulnerable road user. For example, a pedestrian who is hit by a motorist and suffers injuries from the crash could be fined, in addition to their injuries. There are other ways to improve safety for pedestrians at night, including better street lighting, road user education campaigns, and light give-aways.
- Review with police department and consider repealing or modifying this ordinance.

Section 3-8-B-8, Bicycles, Roller Skates and Skateboards

Current Language

- Makes it illegal to ride a bicycle, skateboard, or use a motorized device with wheels on sidewalks and public parking lots within Lenexa civic campus (Winchester Street, Penrose Lane, 87th Street Parkway to 88th Street) except sidewalks adjacent to the public streets.

Comment / Recommendation

- It is reasonable to prohibit wheeled vehicles on sidewalks in areas with many pedestrians or where building doors open directly onto a sidewalk, as in commercial districts. In such areas, there should be safe bicycle accommodation on the street.
- Consider changing the language to more broadly prohibit riding on sidewalks in certain areas: "No person shall ride a bicycle or use a motorized device with wheels on the sidewalk within 3-to-5 feet of a doorway."
- Give priority to pedestrians: a bicyclist must yield to a pedestrian; and a bicyclist must give an audible signal before passing a pedestrian.
- Establish rules for bicycling on sidewalks: Bicycles may be prohibited from sidewalks, paths, trails, and crosswalks by sign and ordinance; bicycles must not be operated in a negligent manner so as to collide with pedestrians, other bicyclists, or other vehicles or devices propelled by human power; and bicycles must be operated at a reasonable and prudent speed.
- Other resources are available at <<https://bikeleague.org/content/bike-law-university-sidewalk-riding>>

Section 3-8-B-8, Bicycles, Roller Skates and Skateboards

Current Language

- Defines proper behavior (yielding to pedestrians, making audible signal) for persons operating such devices on sidewalks adjacent to or abutting the Lenexa civic campus.

Comment / Recommendation

- This kind of language (defining legal behavior, not the type of device used) is a best practice for sidewalk riding laws.
- This should apply throughout the city. Remove the specific reference to the Lenexa civic campus so that the regulation applies to the entire City of Lenexa.

Section 4-1-D-1-C, Off-street Parking, Drive-Thru Queuing and Loading

Current Language

- Sets forth an Off-street Parking Schedule with minimum vehicle parking standards for different types of uses
- States that parking lots containing more than one use shall provide parking and loading in an amount equal to the total of the requirements for all uses
- Exempts development in the Planned Historic Business District and City Center District from strict compliance
- Allows the Planning Commission to “defer” the provision of the required off-street parking spaces under an approved “deferred parking plan”
- Allows for the use of “shared parking” for multiple-use developments if a shared parking study is submitted
- Specifies that sidewalks serving off-street parking areas shall be at least 4 feet in width and at least 6 feet where adjacent to parking areas where car overhangs are permitted

Comment / Recommendation

- It does not appear that there are any bicycle parking requirements. Many communities now have bike parking minimums. Refer to **Appendix C** for some standards regarding bicycle parking requirements.
- Add “bicycle parking minimum” to the Off-street Parking Schedule; the City will need to adopt best-practice guidelines on bicycle parking design and layout
- Increase the width of sidewalks in off-street parking areas to at least 5 feet (and 7 feet where car overhangs are permitted)
- Encourage parking lot design standards that will require large parking lots to be located at the side or rear of the building to provide for safe and convenient pedestrian access from the adjoining sidewalk
- Encourage sidewalk connection from public sidewalks to building entrances

Section 4-2-C-2 Subdivision Design Standards--Streets

Current Language

- States that local street networks shall be laid out so that their use by through traffic is discouraged and maintains connectivity for active transportation (bicyclist/pedestrian). This could be considered traffic calming
- Establishes minimum right-of-way, minimum street widths, and design speeds, based on the American Association of State Highway and Transportation Officials (AASHTO) “Green Book” standards
- Allows the use of cul-de-sacs and establishes design standards for cul-de-sacs
- Establishes sidewalk requirements and sidewalk widths for different classes of streets
- States that an 8-foot wide path may be required in lieu of sidewalks in locations where recreational paths are planned.

Comment / Recommendation

- Consider revising the code so that it states that traffic calming treatments such as curb extensions, traffic circles, chicanes, and pedestrian islands can discourage their use by through-traffic but still allow pedestrian and bicycle connections.
- Add language stating that a path of a minimum of 10 feet, within an easement of 20 feet, be required at the end of the cul-de-sac to connect cul-de-sacs to schools, churches, parks, and may be considered for shopping areas, or other cul-de-sacs or residential areas
- AASHTO has released an updated framework for design standards; the table in this chapter should be revised to reflect that.
- Require sidewalks on at least one side of the street in industrial/business parks.
- Increase the minimum sidewalk width on local streets from 4 feet to 5 feet.
- Increase the minimum width of the path in lieu of sidewalk to 10 feet. (Note: Lenexa’s 2019 Design Criteria have been updated to reflect the 10-foot path requirement, but it appears that the ordinance has not been updated.)
- Require sidewalks to provide direct access from all adjacent public street sidewalks to commercial buildings.

Section 4-2-C-4 Subdivision Design Standards--Blocks

Current Language

- Sets forth maximum block lengths in residential areas; states that the Planning Commission may require the installation of pedestrian pathways through the center of blocks that are more than 600 feet in length.

Comment / Recommendation

- Add language stating that, in addition to the pedestrian pathways that may be required for long blocks, additional pedestrian pathway connections may be required where necessary to provide pedestrian connections to schools, churches, parks, shopping areas, or other community resources.

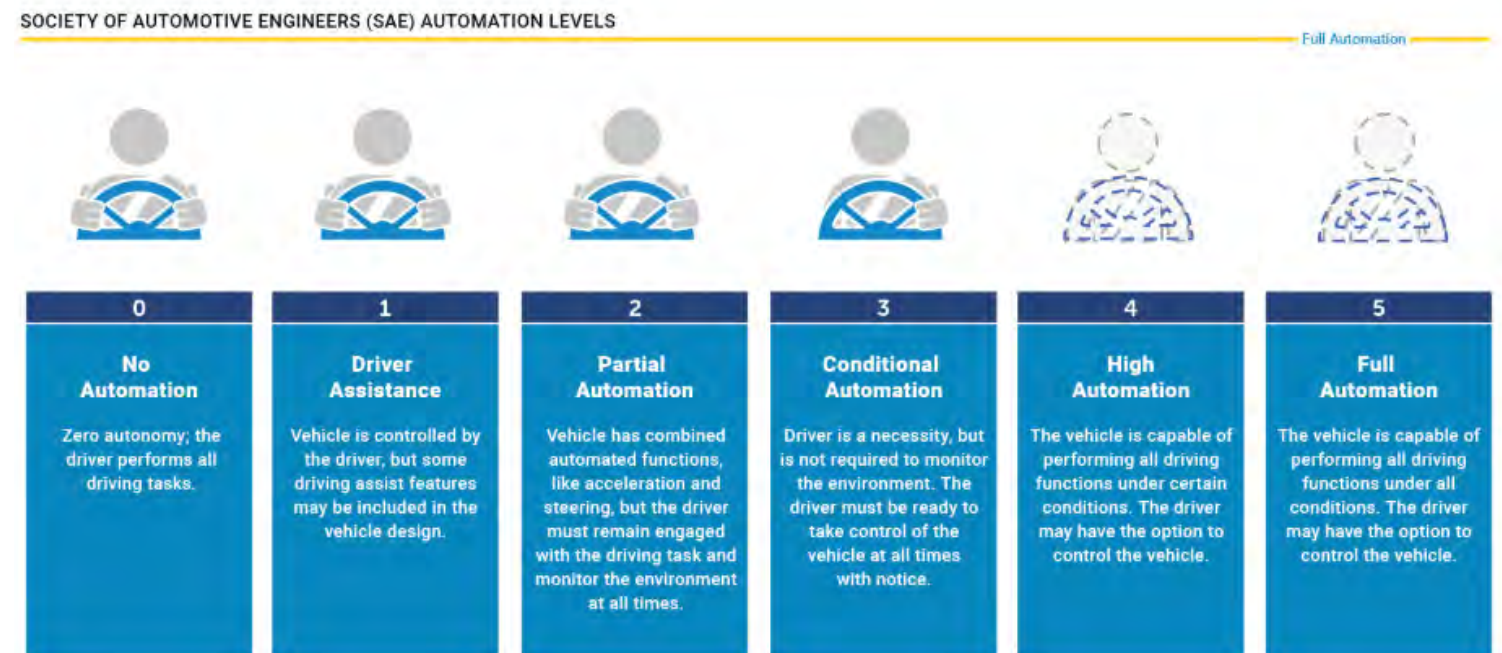
COMPLETE STREETS AND EMERGING TECHNOLOGY

Technology is changing rapidly – and in ways that will have profound impacts on planning and designing transportation facilities for all modes of transportation. The emergence of e-scooters, for example, has demonstrated that the modes of transportation themselves are changing. As Lenexa works towards incorporating Complete Streets into the City’s policies and designs, City staff should closely monitor emerging technologies for opportunities to improve conditions for walking, bicycling, transit use, and freight, as well as driving. The outcomes of these new technologies are still largely unknown, but communities are already wrestling with the implications for safety, comfort, the allocation of road, sidewalk, and curb space, and transportation mobility choices. As recently as 2017, the Mid-America Regional Council began a regional effort to develop a policy framework, see **Table 8.1**, in anticipation of autonomous and connected vehicles. **Figure 8.1** illustrates the range in vehicular automation from existing technology to what automation may look like in the future. Lenexa continues to develop their own approach to accommodating new modes to their transportation network, coordinating with MARC will be a helpful resource throughout this process. The following section discusses several key emerging technologies, identifies implementation considerations, and point to existing resources.

Table 8.1 MARC’s Autonomous and Connected Vehicle Framework

Policy Focus Areas	MARC Recommendations
<ul style="list-style-type: none"> • Travel demand management and system performance • Infrastructure, planning, and investment • Data management • Environment and land use • Equitable access and mobility services • Economic and workforce opportunity • Certification, liability, and insurance 	<ul style="list-style-type: none"> • Identify ongoing opportunities to provide AV information, education and training to a wide range of stakeholders in the region. • Research, develop and build regional consensus on land-use policies related to AV implementation. • Develop pricing strategies to address shifts in revenue sources. • Develop agreements for sharing and storing data. • Ensure equitable access to the opportunities provided by AV technology.

Figure 8.1 Automation Levels



Source: National Highway Traffic Safety Administration (NHTSA). <https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety>

CONNECTED AND AUTOMATED VEHICLES (CAV)

Description

Connected and automated vehicle technology is rapidly developing and will ultimately need to be considered in Lenexa's transportation policies and street design. Levels of automation expected in the coming years range from advanced driver assistance (Level 1) to automated driving systems that do all the driving in all circumstances (Level 5) ⁶. Connected vehicles will use communication technologies to communicate with the driver, other vehicles (V2V), infrastructure (V2I), the Cloud (V2C), and pedestrians (V2P) ⁷.

While the implications for bicyclists, pedestrians, and transit users are still being researched and considered by transportation professionals, these vehicles offer a range of potential advantages and challenges. Potential advantages include improved traffic safety, increased roadway space for active transportation facilities, and converting space devoted to parking toward other uses. Potential disadvantages include increased vehicle miles traveled (VMT) and sprawl development, as people's tolerance for longer commutes increases and autonomous vehicles circle to avoid parking charges. There are also challenges with the technology being able to consistently recognize pedestrians and bicyclists. For example, recent research has shown that the technology is worse at detecting pedestrians with darker skin tones than lighter ⁸. The long-term goal is to provide ways for pedestrians and bicyclists to communicate with vehicles and infrastructure making it safer and more efficient for all users.

Autonomous rapid transit (ART) could help some areas capture the advantages of autonomous vehicles while avoiding many of the downsides related to increased VMT and sprawl. An ART system would operate much like bus rapid transit (BRT) with transit vehicles operating in a dedicated lane to avoid traffic delays but would have lower operating costs because of the absence of drivers. ART systems would likely be more flexible and efficient, since transit capacity could be more easily tailored to match demand. This flexibility could be particularly valuable in Lenexa's more suburban context.

Local Context

While 29 states and the District of Columbia have enacted legislation related to automated vehicles and 11 states have issued executive orders on the topic, the State of Kansas currently has no legislation or an executive order addressing automated vehicles.

⁶ National Highway Traffic Safety Administration (NHTSA), Automated Vehicles for Safety
<<https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety>>

⁷ Center for Advanced Automotive Technology (CAAT)
<http://autocaat.org/Technologies/Automated_and_Connected_Vehicles/>

⁸ Wilson, Benjamin, Judy Hoffman, and Jamie Morgenstern, Predictive Inequity in Object Detection, Georgia Tech
<<https://arxiv.org/pdf/1902.11097.pdf>>

Implementation Considerations

The National Association of City Transportation Officials (NACTO) policy statement on automated vehicles provides a good starting point for issues Lenexa should consider as it prepares for a future with automated vehicles. The statement supports policies and regulations that follow these principles: promote safety; incentivize shared, automated, and electric vehicles; support the future vision of communities; rebalance the use of the right-of-way with less space for cars and more space for people; support public transit; and improve mobility for all.

NACTO notes that cities are doing the following to prepare for a future with automated vehicles: control speeds, create a working group, stop expanding roads, collect data, invest in bicycling and walking, dedicate transit lanes, set operating principles that prioritize people, collaborate regionally, and repurpose travel lanes for pedestrians and public space.

The neighboring State of Missouri has developed the following recommendations for preparing and planning for connected and automated vehicles: Establish a steering committee, monitor ongoing activities and developments, consider implementing congestion pricing, leverage technology to enhance mobility, prioritize and modernize modern transit, encourage adaptable parking, and plan for mixed-use, car light neighborhoods and connections.

Available Resources

- NACTO, Blueprint for Autonomous Urbanism, <https://nacto.org/wp-content/uploads/2017/11/BAU_Mod1_raster-sm.pdf>
- National Association of City Transportation Officials, Policy Statement on Automated Vehicles, <<https://nacto.org/wp-content/uploads/2016/06/NACTO-Policy-Automated-Vehicles-201606.pdf>>
- Section 5 2018 of Missouri's Transportation Long Range Transportation Plan Update: Technical Memorandums, <http://www2.modot.org/LRTP/assets/files/TechMemo_MoDOT_053018.pdf>
- US DOT, Preparing for the Future of Transportation, Automated Vehicles 3.0, <<https://www.transportation.gov/sites/dot.gov/files/docs/policy-initiatives/automated-vehicles/320656/av-30-web-version.pdf>>
- NACTO, Blueprint for Autonomous Urbanism, <<https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety#issue-road-self-driving>>



MICROMOBILITY

Description

The term “micromobility” applies to a growing class of small motorized vehicles that include e-bikes, e-scooters, e-skateboards, and other small electric vehicles, as well as conventional and dockless bike-sharing programs. These devices have rapidly increased in popularity because of their convenience related to the ease of parking, motorization, and availability through rental and subscription services. Micromobility has great potential to support access to transit, reduce reliance on private motor vehicle travel, and support sustainability goals. However, there are concerns about how these vehicles interact with other transportation system users, particularly pedestrians on the sidewalk and motor vehicle traffic on roads with high speeds and volumes. On roads with high motor vehicle volumes or speeds, dedicated infrastructure, such as separated bike lanes and shared-use paths, may be the most appropriate place to accommodate micro mobility users. Because the widespread use of these devices is a relatively recent phenomenon, standards for where and how they should be used have not been widely established.

Local Context

Docked bike share – Bike share refers to a system in which bikes are made available to individuals for a short period of time for a small fee. Traditional bike share includes a dock or station where users locate bikes at the beginning and end of their trip. A bike share program is being launched in Lenexa that will include 25 smart dockless bikes and parking docks at Mill Creek Park, Sar-Ko-Par Trails Park, Old Town Lenexa, the Civic Campus and Black Hoof Park.

Dockless bike share – Dockless bike share is a “free-floating” system that has no dock or station. Users check out bikes by smartphone app, and the location of the bikes is monitored by GPS and self-locking technology. Dockless bike share is being explored by communities in the region, such as Overland Park and is currently in place in Lawrence and Topeka.

E-scooter share – E-scooter share has not yet come to Lenexa, but it does exist nearby and Lenexa should prepare for how it wants to manage this mode if it should come to Lenexa. E-scooter vendors currently operate in Kansas City, and some bike share companies have begun to change their fleet over to support E-scooters in lieu of bicycles. The Kansas cities of Topeka and Wichita recently passed policies to address E-scooters.

Topeka’s recently passed ordinance can be found here:

<https://s3.amazonaws.com/topeka-ordinances/02019/20178-Electric-assisted_scooters_TMC_3.35.pdf>

Information on current practices conducted for the City of Wichita can be found here:

<<https://www.wichita.gov/Scooters/Documents/Wichita%20E-Scooter%20Review%2011-15-2018.pdf>>

E-scooters/motorized skateboards—Lenexa’s current traffic ordinance makes it unlawful to operate e-scooters (“motorized skateboards”) on streets and recreational paths throughout the city. They are allowed on sidewalks and driveways during daylight hours, as long as they are operated under 15 mph; people under the age of 18 are required to wear a helmet. In addition, motorized skateboards are not allowed on sidewalks in the Lenexa civic campus. It is recommended that the City develop more flexible guidance for the locations where these emerging modes may safely operate. The code and policy recommendations for this plan include suggestions on how to revise Lenexa ordinances regarding motorized skateboards.

Electric/electric-assist bicycles – Kansas state law defines “electric assisted bicycle,” as one with a motor under 1,000 watts, a maximum speed of 20 mph, and with operable pedals. Under Kansas state law, a driver’s license shall not be required for operation of an electric-assisted bicycle. Lenexa’s ordinances require that any person operating a motorized bicycle have a valid driver’s license and carry motor vehicle liability insurance. Helmets are not required. In general, e-bikes provide a great opportunity to extend the trip lengths and terrain upon which many bicyclists can ride or are willing to ride thus widening the pool of potential riders. KCATA, BikeWalk KC and Drop Bikes have partnered to bring this technology to the Kansas City area, so Lenexa should consider allowing e-bikes on city streets and trails, but require users to limit their speeds to 15 mph to reduce potential conflicts with other bicycles and pedestrians. The code and policy recommendations for this plan include suggestions on how to revise Lenexa ordinances regarding e-bikes.

Neighborhood light vehicles / golf carts – Lenexa generally adopts Kansas laws for golf carts and “micro-utility trucks”. They are not allowed to be operated on any public street in the city unless they comply with certain equipment requirements. Lenexa code does allow golf carts to cross public highways and to be used by public agencies in the course of their authorized duties.

Implementation Considerations

- To ensure that dockless mobility and bike-sharing programs in general are equitable and inclusive, local programs should include requirements for vehicle distribution, cash payment options and accessible/adaptive vehicles.
- Designating dockless vehicle parking areas and increasing bicycle parking may reduce occurrences of parked vehicles blocking walkways.
- Communities should clearly communicate where e-scooters and e-bikes can be operated to reduce conflicts and increase safety.
- The National Association of City Transportation Officials (NACTO) suggests cross-jurisdictional coordination should include oversight and authority, data standards and small vehicle standards.
- The North American BikeShare Association, which represents shared scooter and other microbidity devices as well as the bike-share industry, supports regulatory language that defines and regulates electric scooters and shared scooters separately of regulations regarding bicycles, electric bicycles, and shared bicycles.

Available Resources

- NACTO, Guidelines for the Regulation and Management of Shared Active Transportation, <<https://nacto.org/wp-content/uploads/2018/07/NACTO-Shared-Active-Transportation-Guidelines.pdf>>
- North American Bikeshare Association, Dockless Bikeshare Regulation Preliminary Guidance, <<https://nabsa.net/wp-content/uploads/2017/09/Dockless-Regulation-Preliminary-Guidance-1.pdf>>
- PeopleForBikes, E-Bike Regulations <<https://peopleforbikes.org/our-work/e-bikes/>>

Mobility as a Service (MaaS) or Ride-hailing Services

Description

Mobility as a Service (MaaS) is new way of thinking about transportation service that emphasizes multi-modal connections. Rather than treating transportation modes as separate and competing, MaaS seeks to integrate them in a way that enables transportation consumers to identify the mobility solutions that best meet their needs in a given context on demand. Ride-hailing services are a well-known example. Ride-hailing services pair drivers using their private vehicles as taxis with customers via a mobile app or website.

Ride-hailing services are typically administered and operated by transportation network companies (TNCs) such as Uber and Lyft. These services affect curbside management in downtown areas where curbside areas serve a variety of functions from public space to delivery areas and bicycle parking to transit stops. Ride-hailing services also provide a first- and last-mile connection to transit. The effect of ride-hailing on active transportation is not yet established. Such services may enable people to live without a personal vehicle but may also increase congestion as drivers circle waiting their next pick up.

Local Context

- Ride-hailing services Uber and Lyft operate in Lenexa, Kansas.
- Kansas Transportation Network Company Services Act requires fare disclosure, display of driver photos and license plate number, electronic receipts, liability insurance, background checks, and certain driver requirements.⁹

Implementation Considerations

- Communities can manage ride-hailing service pickups and drop-offs at popular destinations by allocating dedicated curbside zones. Such designations may become necessary in the City Center area as these services become more popular.
- Strategic enforcement paired with physical infrastructure (such as curb extensions, separated bike lanes, signs and markings) can discourage TNC drivers from stopping or parking too close to crosswalks, in bike lanes, and at bus stops.

Available Resources

- Institute of Transportation Studies, University of California – Davis, Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States, <https://itspubs.ucdavis.edu/wp-content/themes/ucdavis/pubs/download_pdf.php?id=2752>
- Alejandro Henao, University of Colorado, Impacts of Ridesourcing – Lyft and Uber – on Transportation Including VMT, Mode Replacement, Parking, and Travel Behavior, <http://digital.auraria.edu/content/AA/00/00/60/55/00001/Henao_ucdenver_0765D_10823.pdf>
- National Association of City Transportation Officials, Blueprint for Autonomous Urbanism – Curbside Management, <https://nacto.org/wp-content/uploads/2017/11/BAU_Mod1_raster-sm.pdf>

⁹ Kansas Transportation Network Company Services Act , <<https://www.kaia.com/Products/SiteAssets/Pages/OtherResources/TechnicalIssues/default/Uber%20-%20Statues.pdf>>

Page Intentionally Left Blank