30 day public comment News Release

Lawrence Pedestrian Plan, Improving Walkability One Step at a Time.

The Lawrence-Douglas County Metropolitan Planning Organization (MPO) is releasing a draft Lawrence Pedestrian Plan. The Plan defines a set of recommendations to advance the walkability of Lawrence for the next 5 years. The plan development was guided by a community Pedestrian Plan Steering Committee and public engagement throughout Fall of 2021.

The public comment period is February 28 thru March 30, 2022. Following the public comment period, the Pedestrian Plan Steering Committee will review input and a final draft will be prepared for recommendation and/or approval by the Multimodal Transportation Commission, the Metropolitan Planning Organization Technical Advisory Committee (TAC), the Metropolitan Planning Organization Policy Board and the Lawrence City Commission.

Comments can be submitted in writing via:
Email: mpo@lawrenceks.org
Mail: Lawrence-Douglas County Metropolitan Planning Office, PO Box 708, Lawrence, KS 66044-0708
Web: www.lawrenceks.org/mpo/tellus

Lawrence Pedestrian Plan

LAWRENCE - DOUGLAS COUNTY MPO
METROPOLITAN PLANNING ORGANIZATION

Public Comment Period

February 28 - March 30

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Adopted by:

Lawrence-Douglas County MPO Policy Board [insert date]

Lawrence City Commission [insert date]

[Insert resolution number]

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Funding Note: This report was funded in part through grant[s] from the Federal Highway Administration [and Federal Transit Administration], U.S. Department of Transportation. The views and opinions of the authors [or agency] expressed herein do not necessarily state or reflect those of the U. S. Department of Transportation.

Title VI Note: The L-DC MPO hereby gives public notice that it is the policy of the agency to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related statutes and regulations in all programs and activities. Title VI requires that no person in the United States of America shall, on the grounds of race, color, or national origin, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the L-DC MPO receives federal financial assistance. Any person who believes they have been aggrieved by an unlawful discriminatory practice under Title VI has a right to file a formal complaint with the L-DC MPO. Any such complaint must be in writing and filed with the L-DC MPO's Title VI Coordinator within one hundred and eighty (180) days following the date of the alleged discriminatory occurrence.

For more information, or to obtain a Title VI Discriminatory Complaint Form, please see our website at www.lawrenceks.org/mpo.

Table of Contents

DRAFT

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Introduction

Introduction

This plan was developed by the Lawrence-Douglas County Metropolitan Planning Organization (MPO) and the City of Lawrence. This planning process occurred during the fall/winter of 2021-2022. The plan was approved by the MPO Policy Board on [insert date] and the Lawrence City Commission on [insert date] by resolution #####.

This plan updates and replaces the first pedestrian plan for Lawrence and Douglas County, which was completed in 2016. The 2016 plan was regional and included all the cities in Douglas County, however this plan establishes a Lawrence specific plan. A plan update was necessary to engage with the community on next steps to continue advancing regional walkability. The City received a "Silver" designation from the national Walk Friendly Communities program in April 2017. Scores range from Bronze (lowest), Silver, Gold, to Platinum (highest). The Walk Friendly designation is based on community efforts to expand opportunities for walking and to improve pedestrian safety across a wide range of programs and activities, from planning and design to outreach and law enforcement. This plan determines best next steps for the City to achieve a higher Walk Friendly rating.

From ongoing conversations with the Multi-Modal Transportation Commission, the staff advisor group for this plan update, and the Lawrence Pedestrian Plan Steering Committee, the following topics have been discussed as needing additional planning work. These topics serve as the scope of work for this planning process:

- Develop a long-term vision for walkability in Lawrence, more specifically for the citywide sidewalk network. Walkability includes the use of mobility devices as active transportation.
- Determine a goal for sidewalk development in new versus existing neighborhoods (installation on one side or both sides of the street). Determine the feasibility of installing sidewalks on local streets with no sidewalks (one side or both). Review best practices of timing for requiring in-fill sidewalks with redevelopment (i.e. benefit district).
- Identify sidewalk network gaps for inclusion in the Non-Motorized Prioritization project list that improve access to bus stops, healthy food destinations, and recreation.
- Analyze the distribution of the existing sidewalk network within census defined minority block groups and among transportation disadvantaged populations (household with a person who has a disability, people who have less than a high school education, minorities, single parent households, zero vehicle households, population under 18 and over 65, and low-moderate income households) to evaluate inequities of pedestrian access.[1]
- Identify and prioritize pedestrian crossing locations and improvements for inclusion in the Nonmotorized Prioritization process and ensure the street design criteria has pedestrian-oriented design elements and pedestrian safety crossing improvement options.
- Research controlled crossing improvements/signalized intersections (lanes, crossing times, vehicle delay, etc). Evaluate the balance between vehicles and pedestrians needs appropriate to meet walkability goals.
- Coordinate with the separate, ongoing discussion about brick streets and sidewalks as it relates to the Sidewalk Improvement Program, and coordinate with the ongoing ADA transition implementation and plans for the 2023 ADA planning for public right-of-way.

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1 https://lawrenceks.org/mpo/transportation-disadvantaged/

- Evaluate national best practices for enhancing walkability, safety, placemaking/design comfort, resiliency, multimodal connectivity: transit stop accessibility/amenities and coordination with local Land Development Code (planned for update beginning 2022).
- Based on a survey regarding the 2016 City of Lawrence vision for walkability, there is overwhelming support for the plan, as 90% of respondents indicated support or strong support for it. Comments regarding missing elements from the 2016 vision indicated that accessibility and equity should be included in the updated vision that guides the process and strategies identified in this plan.

The refined vision for the pedestrian plan:

THE RESIDENTS OF LAWRENCE ENVISION A COMMUNITY THAT INVITES PEOPLE OF ALL AGES AND ABILITIES TO TRAVEL ON FOOT OR WITH AN ASSISTIVE DEVICE FOR ENJOYMENT, EXERCISE, AND DAILY TRANSPORTATION BY PROVIDING AN EQUITABLE, SAFE, ACCESSIBLE, CONVENIENT, AND ATTRACTIVE PEDESTRIAN ENVIRONMENT.

"***Pedestrian***" is defined for Plan purposes as any person who travels by foot or including scooters, wheelchairs and other mobility devices, that are not a bicycle. "***Walking***" is defined as the *act of being a pedestrian*.

Benefits of Walking

Quality pedestrian environments can positively impact much more than the individuals who are walking. While health and access may be improved for pedestrians only, reduced traffic congestion, economic gains, and improved air quality can benefit everyone in the city. Cities within Douglas County could take advantage of several of the following benefits with enhanced pedestrian facilities.

Health and Wellness

- Only half of adults and one quarter of high school students get the amount of physical activity recommended in national guidelines.[1]
- Regular walking can help prevent or manage various conditions, including heart disease, high blood pressure, and type 2 diabetes.[2]
- Older non-drivers take 65% fewer social, family, and religious trips than older people who still drive. However, 30% of older non-drivers walk in dense areas, compared to 7% in more widespread areas.[3]

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1 U.S. Department of Health and Human Services. Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities. Washington, DC: U.S. Dept of Health and Human Services, Office of the Surgeon General; 2015. Accessed from http://www.surgeongeneral.gov/library/calls/walking-and-walkable-communities/call-to-action-walking-and-walkable-communites.pdf

2 Mayo Clinic staff (2015, March 19). Walking: Trim your waistline, improve your health. Accessed on June 13, 2016 from http://www.mayoclinic.org/healthy-lifestyle/fitness/in-depth/walking/art-20046261

3 Surface Transportation Policy Institute. Aging Americans: Stranded Without Options Fact Sheet. 2012. Accessed from www.transact.org/library/reports_html/seniors/fact_sheet.asp

Environment

- The more people who walk instead of drive, the less pollution is emitted from automobiles. Automobile pollution contributes to ground-level ozone which can lead to shortness of breath and asthma. In 2016, transportation accounted for approximately 28% of total U.S. greenhouse gas emissions.[1]
- 60% of trips under 1 mile are made by automobile.[2]
- Walking is a more beneficial use of space. The same area of a car can hold around 20 people who are walking. Additionally, vehicle parking requires space that walking does not. Reducing the need for parking and paved surfaces benefits the urban heat island effect and habitat destruction required for car dependent development patters.
- A leading cause of air pollution in many urban regions is household vehicle travel.[3]
- In Lawrence, 57% of households have 2 or more vehicles, which contributes to the number of vehicles on the road per day.

WHAT WE HEARD

> ***"I truly believe a city with walkable resources and amenities creates healthier, happier, and more connected individuals. There are many urban planning studies that invite the same conclusion! (Green spaces also have similar results.) Thank you for dedicating time and resources to a city with a lower carbon footprint."***

Improved Economy

- In 2020, driving a newer medium sized sedan costs an average of $9,880 per year and driving a newer medium sized SUV costs $11,518 per year.[4]
- Improved walking environments have been correlated to increased retail sales. While automobile drivers tend to spend more per trip, pedestrians shop more frequently and spend more per capita over a month or a year.[5]
- Neighborhood streets built in a grid to serve all users reduce the need for wide automobile lanes and complex intersections, while also lowering infrastructure costs up to 35-40% compared to conventional suburban development.[6]

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1 United States Environmental Protection Agency. (2018, August 27). Fast Facts on Transportation Greenhouse Gas Emissions. Accessed on November 12, 2018 from https://www.epa.gov/greenvehicles/fastfacts-transportation-greenhouse-gas-emissions

2 U.S. Department of Transportation Federal Highway Administration. (2009). Summary of travel trends: National household transportation survey. Accessed on January 22, 2016 from http://nhts.ornl.gov/2009/pub/stt.pdf

3 Frank, L. D., Stone, B., & Bachman, W. (2000). Linking land use with household vehicle emissions in the central Puget Sound: Methodological framework and findings. Transportation Research D, 5(3).

4 AAA, (2020) AAA Your Driving Costs accessed on February 7, 2022 https://newsroom.aaa.com/wp-content/uploads/2020/12/2020-Your-Driving-Costs-Brochure-Interactive-FINAL-12-9-20.pdf

5 Transportation Alternatives and Schaller Consulting. Curbing Cars: Shopping, Parking and Pedestrian Space in SoHo. 2006. Accessed on www.transalt.org/files/newsroom/reports/soho_curbing_cars.pdf

6 Costs. (2016). Accessed on July 13, 2016 from http://www.smartgrowthamerica.org/complete-streets/implementation/factsheets/costs

Equity and Access for All

- One-third of all Americans are unable to drive either due to age-related loss of function, being too young to drive, being unable to afford a vehicle, or having some type of disability that precents the ability to drive.[1]
- More people walking means more "eyes on the street," which can improve the sense of safety and security for everyone.
- 1 in 17 (5.8%) Lawrence residents do not have access to a vehicle.[2]
- More than 50% of Americans 65 and older who do not drive stay home on a given day because they lack transportation options.[3]
- Safe non-motorized transportation options, combined with access to public transportation, are critical components of a transportation network that connects people—especially low-income households—with jobs, education, and essential services, providing "ladders of opportunity."[4]

The US DOT Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations states, "Walking and bicycling foster safer, more livable, family-friendly communities; promote physical activity and health; and reduce vehicle emissions and fuel use."

The Lawrence Pedestrian Plan recognizes these benefits and strives to address pedestrian needs in Lawrence.

Comprehensive Approach to Pedestrian Planning

It is necessary to have a comprehensive approach to multimodal planning. This is called the 5 E's. It is important to recognize that walkability and a pedestrian-oriented culture rely on sustained improvements across the elements rather than only focusing on one element. The five E's are Education, Encouragement, Engineering, Evaluation, and Enforcement.

Education – Providing community members with the skills to walk and bicycle safely, educating about benefits of walking and bicycling, deterring unsafe behaviors and encouraging safe habits by people when walking, bicycling, and driving.

Encouragement – Generating enthusiasm and increased walking through events, activities, and programs.

Engineering – Creating physical improvements to streets and neighborhoods that make walking safer, more accessible, more comfortable, and more convenient.

Evaluation – Providing a baseline understanding of what is happening in the community, such as how many people currently walk and bike, what the barriers are, and which strategies are most effective at addressing them.

Enforcement – Monitoring drivers for adherence to traffic laws, and enforcing those laws in a way that minimizes or eliminates potential for bias.

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1 Rails to Trails Conservancy. Active Transportation for America: A Case for Increased Federal Investment in Bicycling and Walking. Published 1/1/2008. Accessed from http://www.railstotrails.org/resource-library/resources/active-transportation-for-america/

2 U.S. Census Bureau, American Community Survey 2019 5-Year Estimates, Table B25044. Accessed on December 17, 2021 from https://data.census.gov

3 Surface Transportation Policy Institute. Aging Americans: Stranded Without Options Fact Sheet. 2012. Accessed from www.transact.org/library/reports_html/seniors/fact_sheet.asp

4 Safer People, Safer Streets: Pedestrian and Bicycle Safety Initiative. (2015, October 28). Accessed on July 13, 2016 from https://www.transportation.gov/safer-people-safer-streets

The Planning Process

The first pedestrian plan for Lawrence and Douglas County was completed in 2016. This plan update replaces the 2016 plan. A plan update was necessary to engage with the community on next steps to continue advancing walkability. The MPO Policy Board created a Public Steering Committee and a Staff Advisors Group to guide the development of the plan which reflects the community vision, issues, and preferences (Table 1). The Steering Committee met XXX. The planning process is displayed in Figure 1.

Table 1: Steering Committee and Staff Advisors

2021 Lawrence Pedestrian Plan Update Steering	
Organization	**Contact**
At Large - MPO Policy Board Appointee	Althea Schnacke
Haskell Indian Nations University - Student	
Independence Inc. Accessibility Taskforce	Kevin T. Smith
L-DC MPO Policy Board - Planning Commission City Representative	David Carttar
Lawrence Association of Neighborhoods (LAN)	Josh Spence
Lawrence Multimodal Transportation Commission	Nick Kuzmyak/Gregory Crichlow
Lawrence Public Transit Advisory Committee (PTAC)	Lance Fahy
LiveWell Douglas County - Built Environment	Dot Nary
United Way Human Services Coalition	Frankie Haynes
University of Kansas - Transit Commissioner	Max Schieber until TC appointment in Sept/Oct
Staff Advisors	
Equity & Inclusion	Farris Muhammad
Lawrence Transit	Adam Weigel/Felice Lavergne
Metropolitan Planning Organization (MPO)	Jessica Mortinger/Ashley Bryers
ADA Compliance Administrator	Evan Korynta
Municipal Services & Operations	Jake Baldwin/David Cronin
Parks & Recreation	Taylor Martin/Levi Parkin
Planning & Development Services	Becky Pepper/Amy Miller
L-DC Public Health	Laura McCulloch
L-DC Sustainability Office	Jasmin Moore/Kim Criner-Ritchie
University of Kansas - Facilities Planning & Development	Mark Reiske
FHWA-Kansas	Cecelie Cochran
FTA Region VII	Eva Steinman
KDOT	Jenny Kramer/Matt Messina

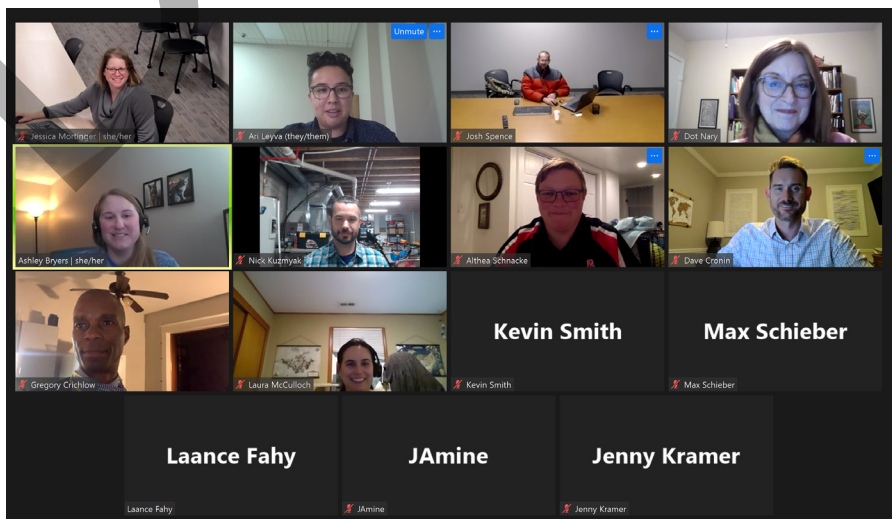

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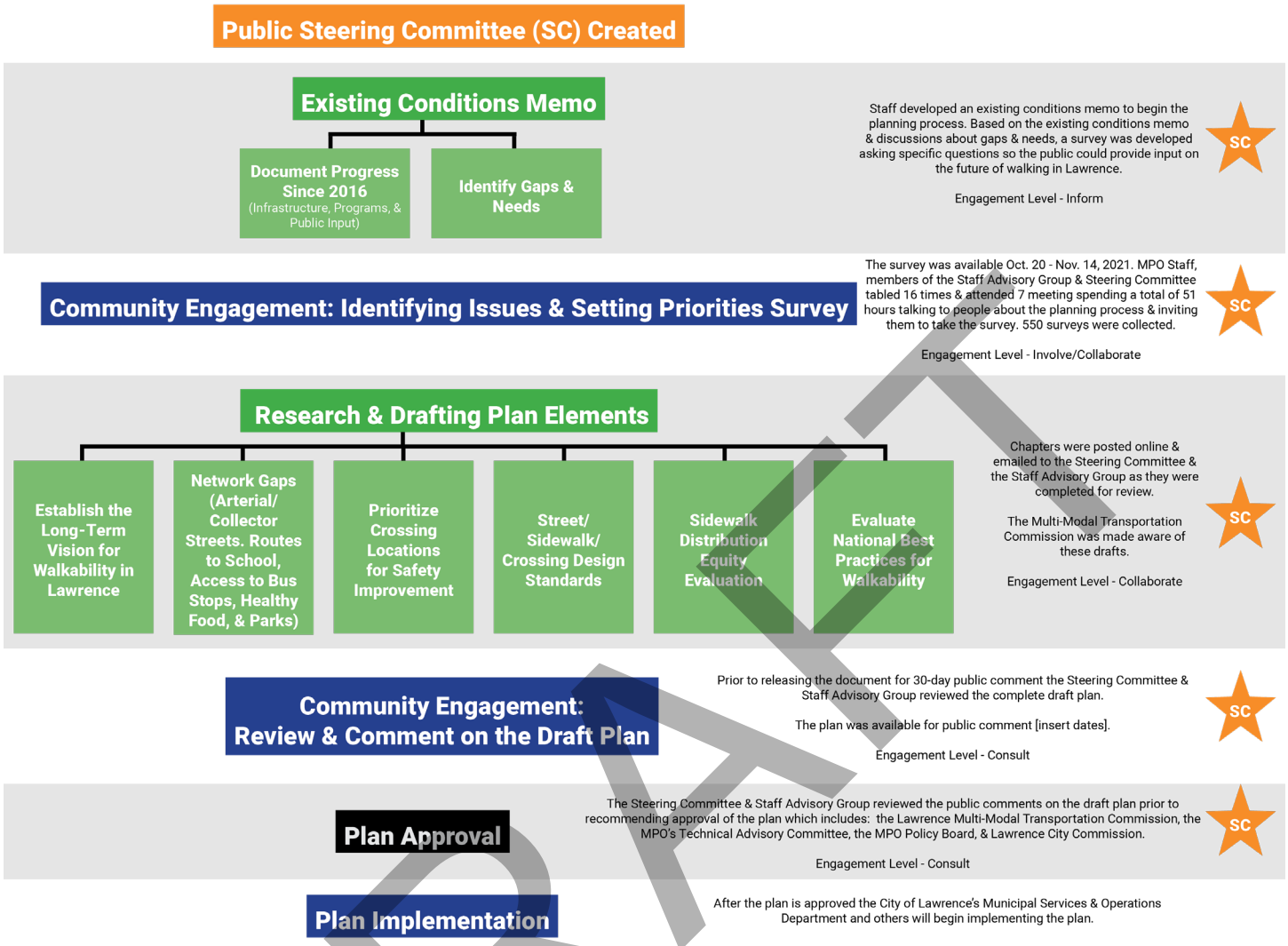
Figure 1: Planning Process



** Levels of engagement are defined in the MPO Public Participation Plan: https://lawrenceks.org/mpo/public-participation/

A public comment period was held [insert once known].

The draft plan was reviewed by the Lawrence Multi-Modal Transportation Commission on [insert date]. The MPO's Technical Advisory Committee reviewed it on [insert date]. The MPO Policy Board approved the plan on [insert date]. The Lawrence City Commission adopted the plan via resolution [insert number] on [insert date]

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Current Context

Current Context

Reviewing the improvements since the last plan was adopted, the existing infrastructure, sidewalk distribution equity evaluation, and crash analysis will inform strategies and prioritize resources to improve walkability.

Existing Plan Recommendations and Progress since 2016

This plan updates and replaces the first pedestrian plan for Lawrence and Douglas County, which was completed in 2016. A major component of this Plan is documenting the progress the City has made since 2016. The Existing Conditions memo in Appendix B provides a more detailed review of progress. The Regional Pedestrian Plan and the Pedestrian-Bicycle Issues Task Force report were implemented which led to many achievements. The City of Lawrence achieved a "Silver" designation from the national Walk Friendly Communities program. Scores range from Bronze (lowest), Silver, Gold, to Platinum (highest). The Multi-Modal Transportation Commission (MMTC) was established in January 2017 via resolution 7172. This was a direct outcome of the Pedestrian-Bicycle Issues Task Force report and the Regional Pedestrian Plan. The Multi-Modal Transportation Commission works to advance the health, safety, and welfare of all residents of the City of Lawrence through strong multi-modal transportation planning.

The following programs were established or improved since 2016.

Dedicated City Pedestrian/Bicycle Funding and Pedestrian Projects

In 2016, the first set aside funding for standalone bicycle and pedestrian projects in Lawrence was established. After the sales tax referendum passed in November 2017, the city allocated a portion of the funding towards non-motorized projects for the 10-year life of the sales tax (sunsetting in April 2029). The sales tax referendum will need to be renewed by voters.

Since 2016, progress has been made in filling sidewalk gaps. Three Transportation Alternatives (TA) grants from Kansas Department of Transportation (KDOT) filled 2.98 Safe Route to School sidewalk mile gaps and 6.77 miles of sidewalk gaps along city streets – equaling 9.75 new miles of sidewalk. Pedestrian and bicycle tunnels were installed at Iowa Street and 19th Street.

The Lawrence Loop has several committed projects funded by Transportation Alternatives grants as shown in Figure 2.

- 2021 Construction – E. 29th Street from the Haskell Rail Trail to Haskell Lane and from E. 11th Street to E. 9th Street along Delaware Street and northeast of Hobbs Park – .50 miles
- 2021-2022 Construction – Michigan Street to Peterson Road (including tunnel under McDonald Road) – .64 miles
- 2023 Construction – Michigan Street to Sandra Shaw Park – .53 miles

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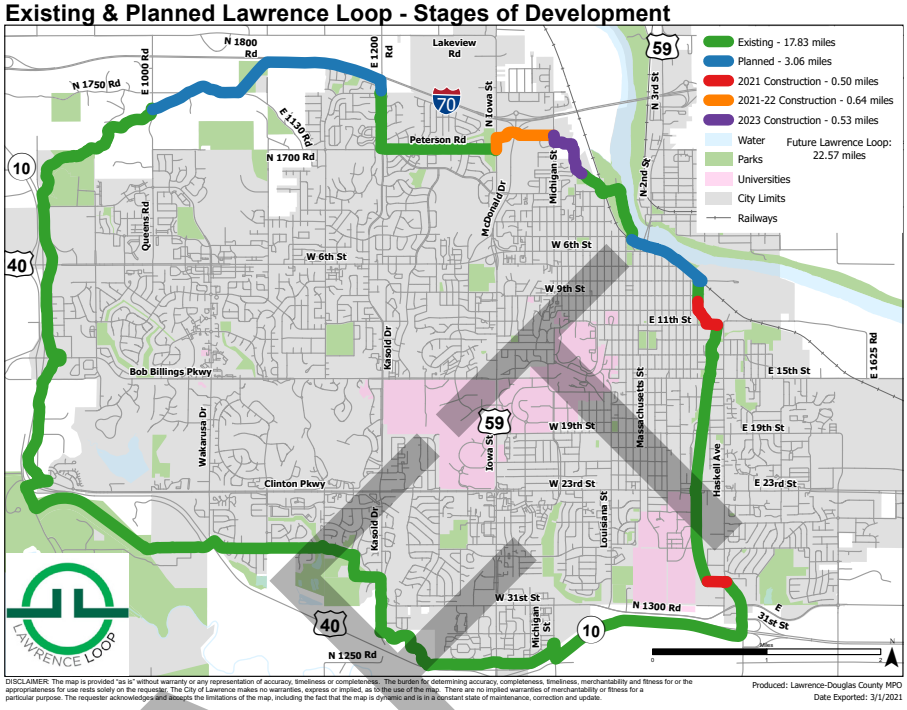
Before and After: Research Park Drive north of Bob Billings on the west side

Figure 2: Existing and Planned Lawrence Loop - Stages of Development



Enforcement of the Sidewalk Improvement Program

The Sidewalk Improvement Program assists property owners in meeting their legal requirements (Kansas Statute and City Code) by helping identify and repairing hazards, as well as providing technical and financial assistance (where applicable). Additionally, as part of the program, the City is improving ADA sidewalk ramps along the target routes. Starting in 2019, the first two years of the program geographic areas were chosen for inspection, however in 2021, the program began using a data driven process to select high demand pedestrian areas incorporating public feedback into the program. The implementation of the Sidewalk Improvement Program led to 83 miles of sidewalk being inspected and 1,468 hazards being repaired in year 1 and 2. Year 3 of the program is in progress in 2021.[1] Appendix B: Existing Conditions Memo shows the seven sidewalk hazard categories.

1 Learn about the Sidewalk Improvement Program at https://lawrenceks.org/sidewalk-improvement

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Establishment and Implementation of the Neighborhood Traffic Management Program

The Neighborhood Traffic Management Program was established in 2019. The program reduced speed limits on neighborhood streets (that were previously 30 mph) to 25 mph and included a community outreach, media campaign, and traffic law enforcement and education about the lower speed limits. Further temporary engineering solutions were used in a pilot project.

Development and Implementation of the Lawrence Safe Routes to School Plan

During the 2019-2020 school year a citywide plan that includes bicycling and walking engagement, encouragement, education, equity, evaluation, and engineering was developed for all USD 497 Lawrence Public Elementary and Middle Schools. The planning process included opportunities for parents and the community at large to weigh in on strategies to reduce barriers for kids walking and biking to school.

Improvement of the Right-Of-Way Management Program

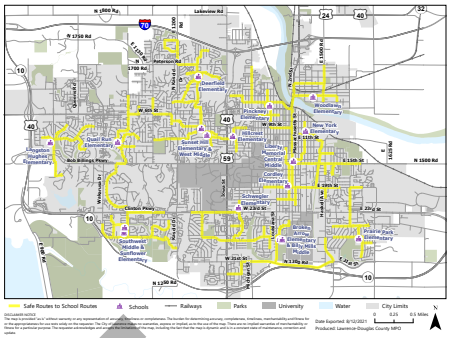
In June 2019, the City established a new right-of-way permit process for the temporary use of the public right-of-way. Temporary traffic control requirements are implemented when work impacts pedestrian, bicycle, or vehicular traffic.

Signal Coordination and Pedestrian Crossing Time Updates

In 2020-2021 signals along 6th, Iowa, & 23rd/Clinton Pkwy were evaluated by the most recent standards. Pedestrian "Walk" and flashing "Don't Walk" crossing times were modified. Phase 2 in 2021-2022 will evaluate signals along N 2nd, 19th, 9th, & Bob Billings Pkwy

Implementation of Transit Passenger Amenities

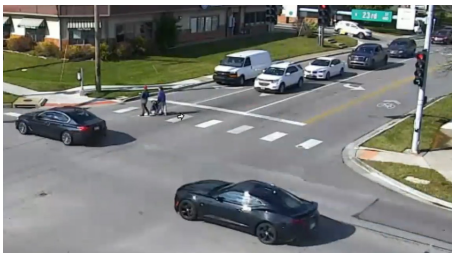
In 2020, Lawrence Transit improved seven stops with shelters, benches, and accessible boarding pads, and improved five additional stops through coordination with the Street Maintenance Program. In 2021, 19 stops were improved through Lawrence Transit programming, and four others were improved through the Street Maintenance Program and private development. Currently, Lawrence Transit has 374 bus stops, with: 63 shelters, 54 benches, 18 bicycle racks, and 176 accessible boarding pads.



Go to https://lawrenceks.org/safe-routes to see the most up-to-date routes.

Inappropriate Placement: *Warning sign is placed too close to the disruption of the right-of-way which does not provide enough warning to cross prior to the disturbance*

Appropriate Placement: *Early warning sign placed to the side of the sidewalk (where it is safe to cross) to allow access to local businesses*



Staff and members of the Steering Committee experienced the revised crossing times in the Fall of 2021.

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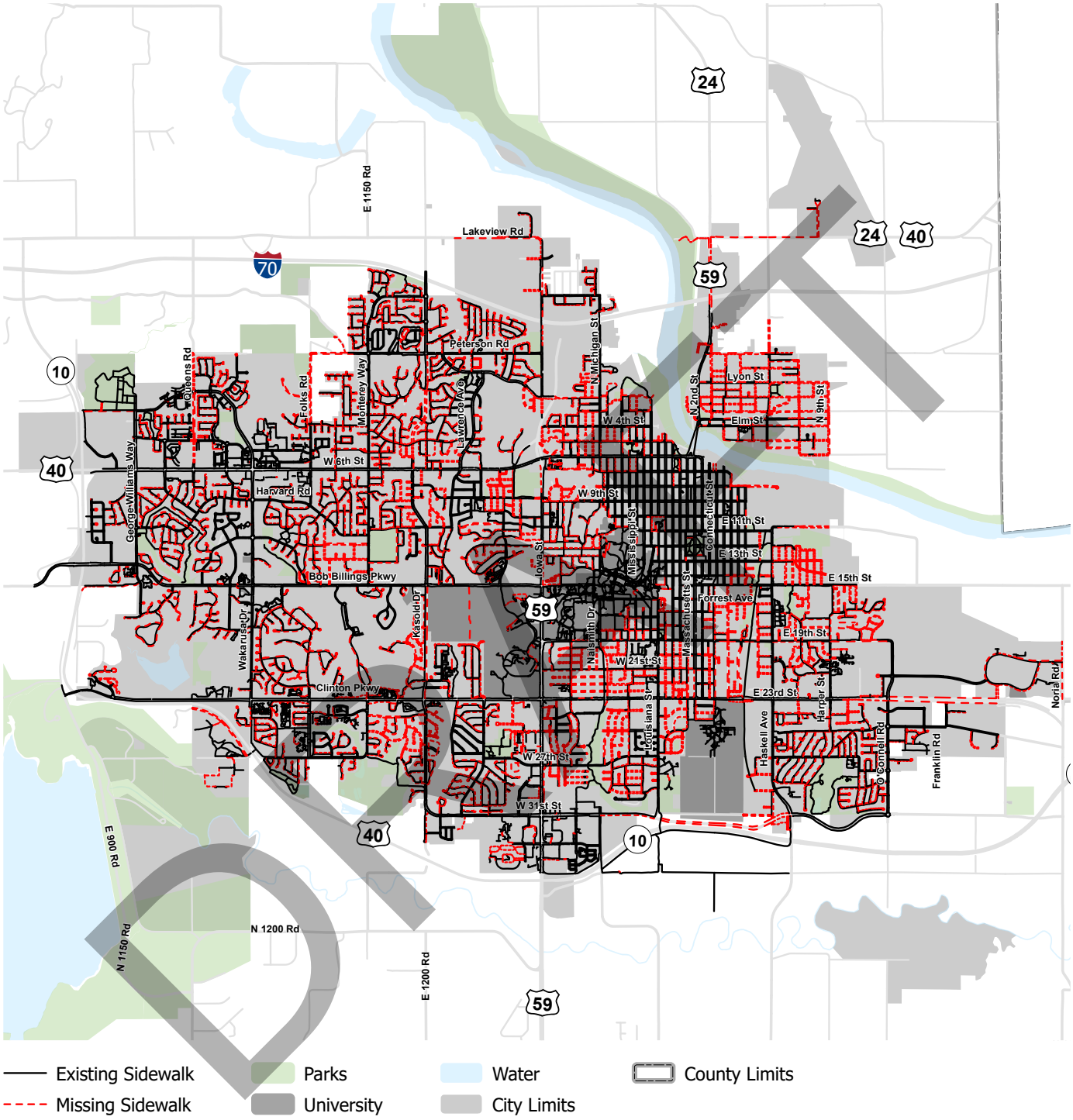
Figure 3: Missing and Existing Sidewalk



Date Exported: 12/7/2021
Source: City of Lawrence Sidewalk
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

DISCLAIMER NOTICE
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Existing Infrastructure

Sidewalk Network

Overall, there are 368 centerline miles of existing streets and 302 miles of existing sidewalks. Figure 3 shows the existing and missing sidewalk.

Sidewalk Distribution Equity Evaluation

In an effort to understand how the sidewalk network impacts people across our community, the existing sidewalk network was evaluated to understand how sidewalk connectivity/availability impacts transportation disadvantaged and minority populations. Currently sidewalk gap projects are selected using the Non-Motorized Projects Prioritization Program, which includes non-exclusive factors such as equity in selecting the final list of prioritized projects. However, this plan recognizes historical injustices perpetrated against people of color or other minorities and the national current day link between ethnicity and pedestrian deaths. Members of racial/ethnic minority populations are less likely to own a vehicle and more likely to walk, bicycle and/or use public transportation, resulting in greater exposure to the dangers of the street.[1]

To understand where disparity exists within access across geographic areas demographic data was analyzed in several ways. The City of Lawrence Strategic Plan has intentionally prioritized race to elevate the fair and impartial delivery of services, so no group is disadvantaged or burdened. Minority data was one way that sidewalk data was analyzed. Additionally, the MPO researched population characteristics that are typically associated with more transportation vulnerable communities including households with a person who has a disability, people who have less than a high school education, racial/ethnic minorities, single parent households, zero vehicle households, population under 18 and over 65, and low-moderate income households. These data sets were examined based on the Lawrence average. A total score from the 8 categories was derived.

The Lawrence geography is broken up by the US Census into block groups. A total number of public and private roads and sidewalks were calculated for each block group. Then the ratio of sidewalk-to-roads was developed. The resulting map displays the development pattern of the City as the City Code evolved over time. In the historical portion of the City (around downtown), streets were developed with sidewalk on both sides of the road. As opinions changed regarding the significance of sidewalk on both sides of the street, the code changed to only require it on one side of the street as shown in in the block groups between 19th and 23rd Streets. Additionally, as opinion swayed back to developing sidewalk on both sides of the street, the curvilinear style development in west Lawrence reflected this.

Then, the existing sidewalk network distribution across block groups with above average minority households and the historically transportation disadvantaged population were evaluated. Figure 4 shows the sidewalk-to-road ratio with higher concentrations of minorities.

Figure 5 shows the sidewalk-to-road ratio with the transportation disadvantaged population.

To increase sidewalk distribution equity, the Non-Motorized Projects Prioritization Program should prioritize gap projects on the priority network in high scoring Transportation Disadvantaged Population areas with the lowest sidewalk-to-road percentage shown in yellow in the map. If the proposed projects are implemented citywide, the sidewalk mileage would increase by approximately 50 miles or approximately 10 percent. This would take the overall percentage of sidewalk to roadway from 106% to 117%; with the highest transportation disadvantaged block group increasing from 66% to 98% percent.

1 Surface Transportation Policy Project. (2002). Mean streets. Accessed from http://www.transact.org/wp-content/uploads/2014/04/Mean_Streets_2002.pdf

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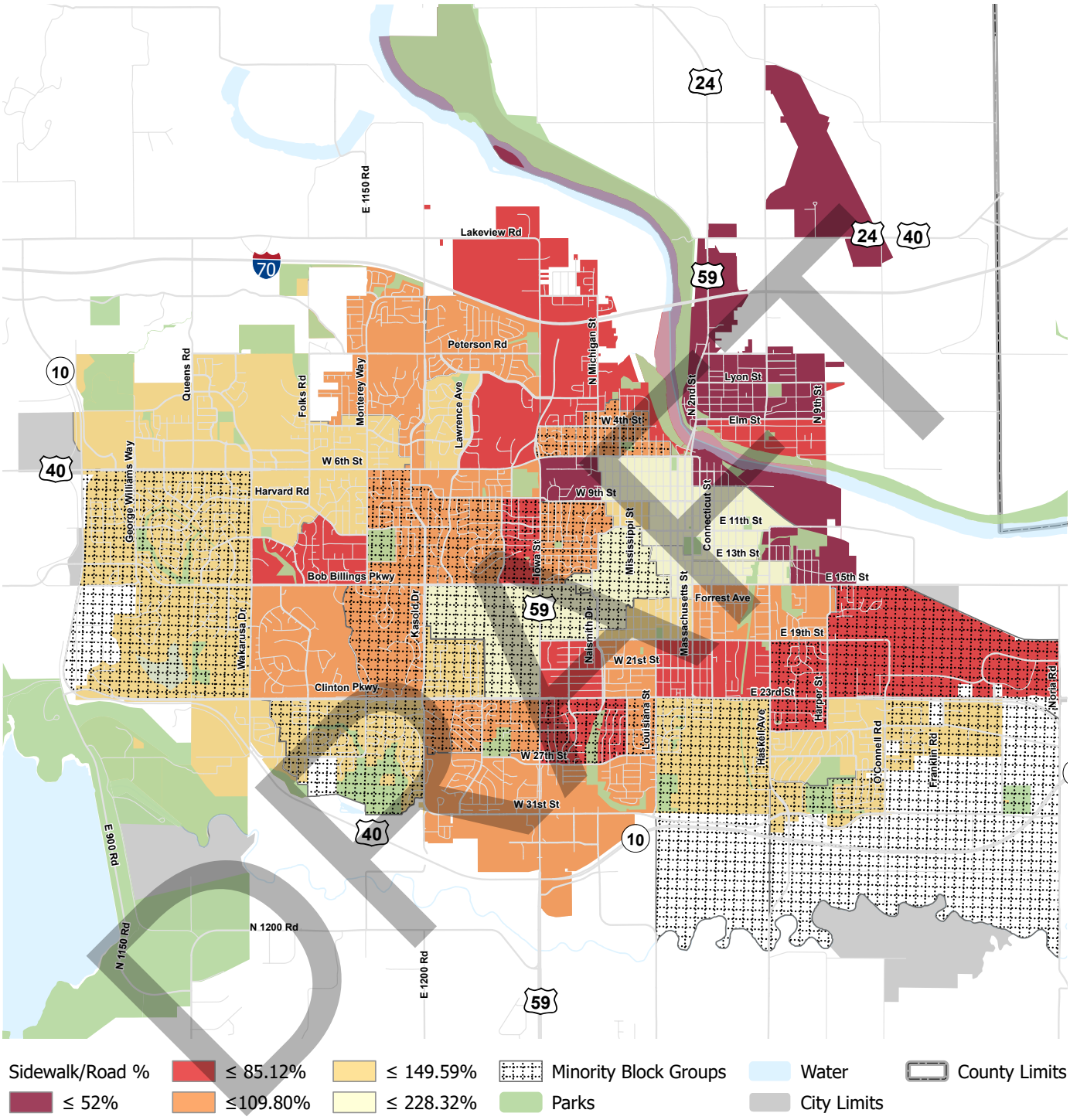
Figure 4: Sidewalk-to-Road Percentage and Minority Block Groups



Date Exported: 1/25/2022

Source: Sidewalk to Road % + Minority 2018 ACS 5yr 2021 TIP

Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

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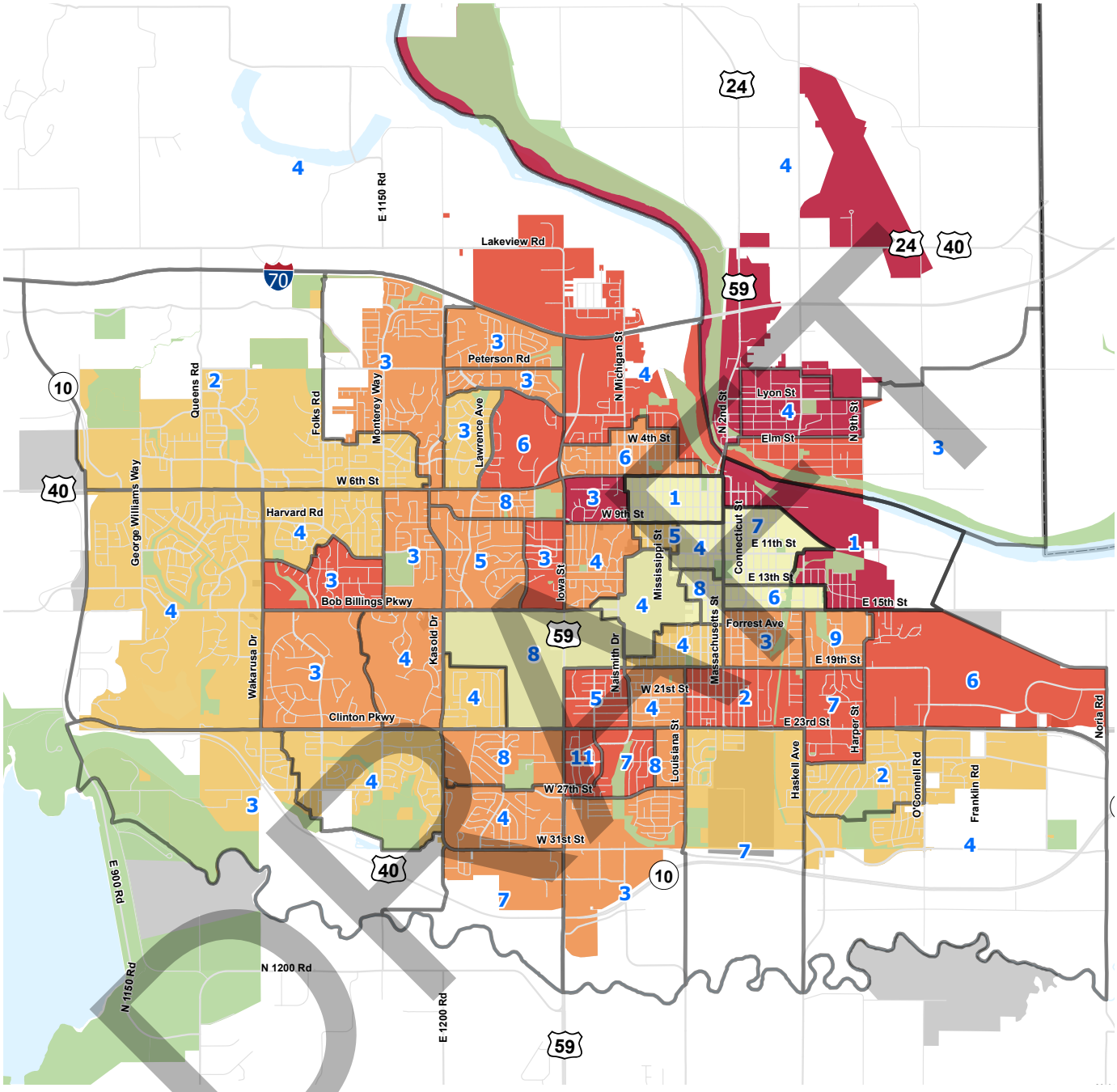
Figure 5: Sidewalk-to-Road Percentage and Transportation Disadvantaged Population Block Groups



Appendix C shows each block group, its existing sidewalk network, and the pedestrian priority network projects as well as a table that shows the breakdown and percentages for each block group.

Figure 6: Field of Vision Based on Speed of Driver[1]

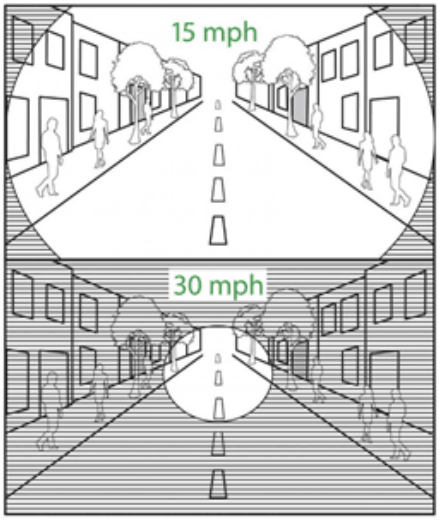


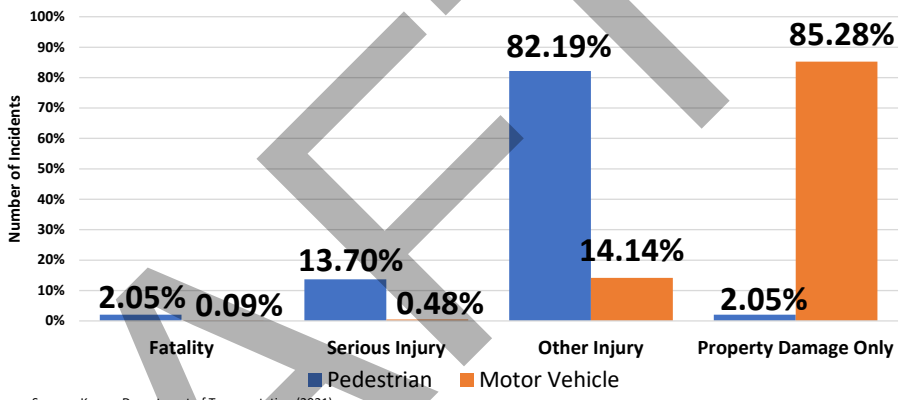
Table 2: Average Risk of Pedestrian Severe Injury or Death Based on Vehicle Miles per Hour Speed[2]

	Severe Injury	Death
10.0%	16 mph	23 mph
25.0%	23 mph	32 mph
50.0%	31 mph	42 mph
75.0%	39 mph	50 mph
90.0%	46 mph	58 mph

Crash History

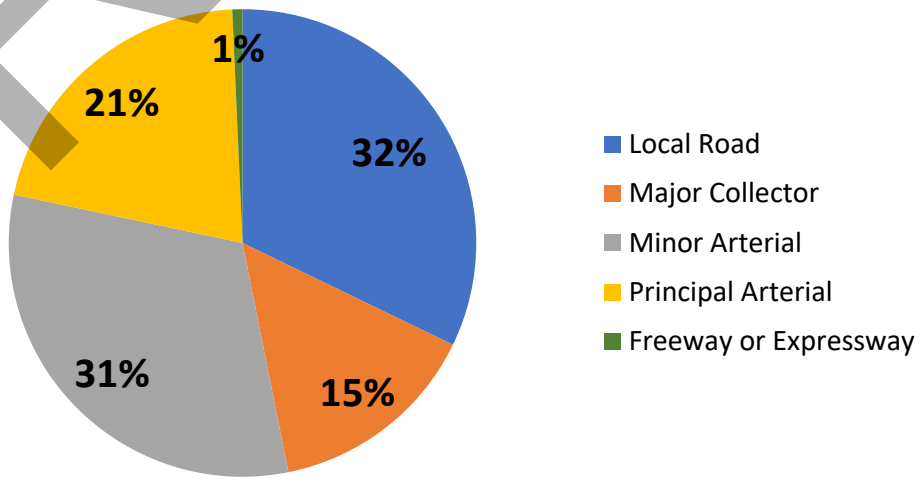
An overview of pedestrian crashes is provided below. For a more in-depth review see Appendix C: Existing Conditions Memo. Crash data was provided within Lawrence from the Kansas Department of Transportation. Between 2016 and 2020, there were 146 pedestrian related auto crashes compared to 9,927 motor vehicle crashes. However, the fatality rate is 2.05% for pedestrians versus 0.09% for motor vehicle crashes (Figure 6). Crashes that involve pedestrians have a higher likelihood of injury or death.

Figure 7: Pedestrian Crashes Compared to Motor Vehicle Crashes (2016-2020)



Source: Kansas Department of Transportation (2021)

Figure 8: Road Classification by Pedestrian Incident (2016-2020)



Source: Kansas Department of Transportation (2021)

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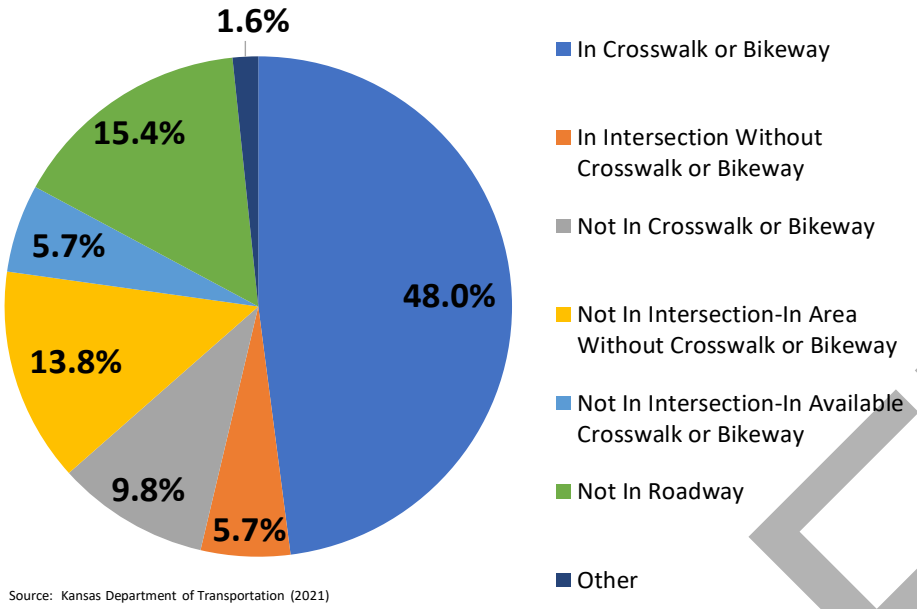
Figure 9: Location of First Harmful Event in Pedestrian Crashes (2016-2020)



Source: Kansas Department of Transportation (2021)

First Harmful Event is the first injury or damage-producing event that characterizes the crash type. The location of the first harmful event as it relates to its position within or outside the trafficway.

Figure 9 demonstrates the majority of pedestrian crash incidents by location of first harmful event occurred "in crosswalk or bikeway" – 48%. This data is important because almost half of all pedestrian incidents occur when a pedestrian is using a marked crosswalk/bikeway. When pedestrians are using a marked crosswalk, there is the expectation that the crossing is safe; however, this is not always the case.

Acknowledging the type of road and location of pedestrian crashes gives insight to strategies to improve the comfort of walking.

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1 Speed as a Safety Problem. Institute of Transportation Engineers. Accessed on December 20, 2021 from https://www.ite.org/technical-resources/topics/speed-management-for-safety/speed-as-a-safety-problem/

2 Impact Speed and a Pedestrian's Risk of Severe Injury or Death. AAA Foundation for Traffic Safety. 2011. Accessed on December 20, 2021 from https://aaafoundation.org/impact-speed-pedestrians-risk-severe-injury-death/

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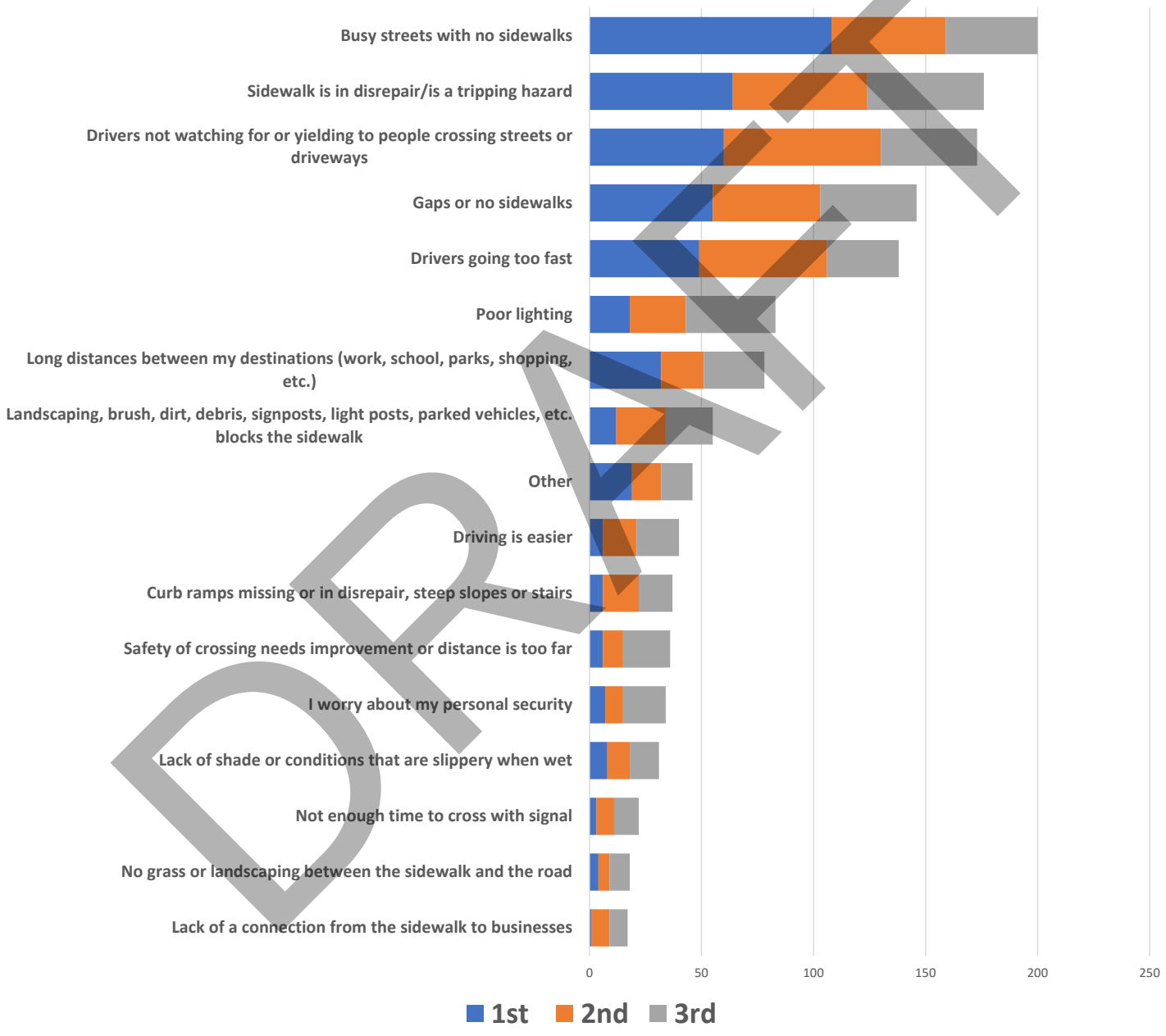
Issues and Strategies

Issues and Strategies

Survey Respondents were asked to identify the top three barriers that make it difficult or unpleasant to walk/wheel in Lawrence. Figure 10 displays the results in a combined chart. The first selection is shown in blue, the second in orange, and the third selection in gray. The overwhelming majority of responses were concerned with sidewalk existence and condition and driver behavior. These results informed strategies in this chapter.

Figure 10: Difficult or Unpleasant Walking/Wheeling Conditions



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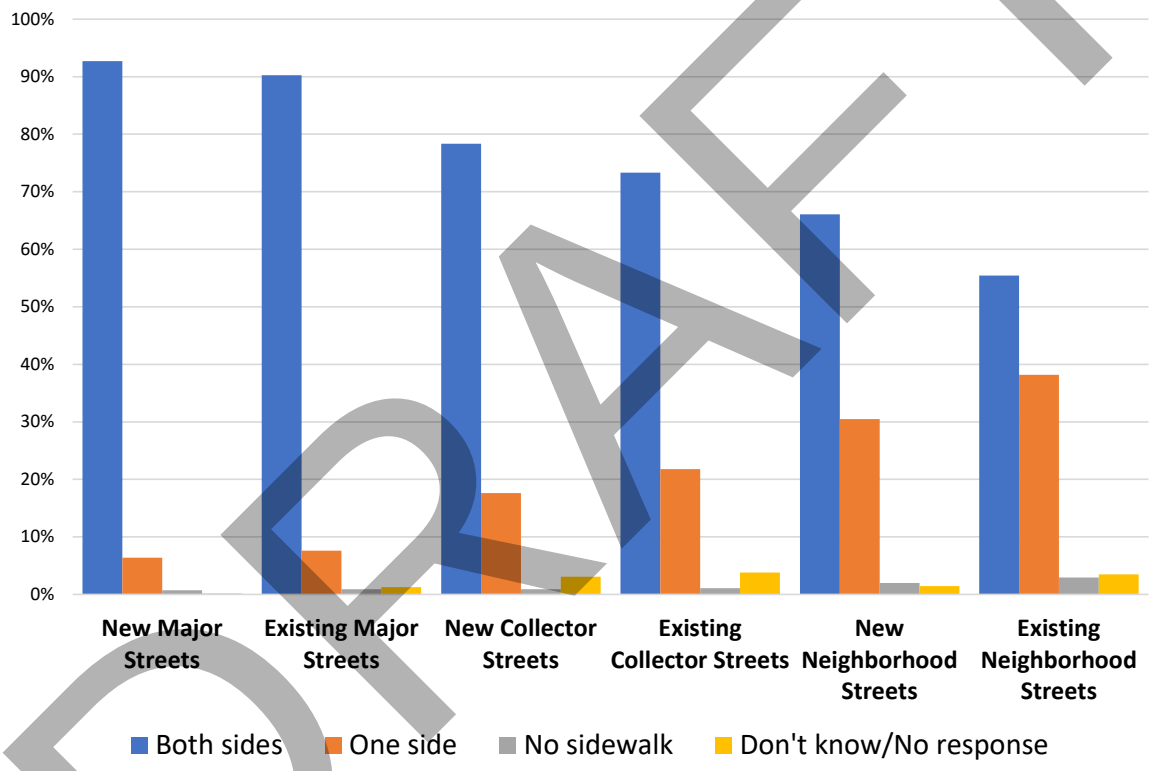
Building and Maintaining the Pedestrian Network

The community's expectations for a connected and well-maintained sidewalk network are not being met by the current pedestrian infrastructure. Although progress is being made, for most survey respondents, there are still barriers to walking in our community, and many of those are generated by the built environment. These strategies address the action recommended for Lawrence to make continued progress on walkability.

Establish the Long-Term Sidewalk Vision

A major component of this pedestrian plan is establishing a long-term sidewalk vision. Respondents were asked to provide their opinion for sidewalk installation on new and existing major streets, collector streets, and neighborhood streets.

Figure 11: Survey Respondent's Sidewalk Desires



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As shown in Figure 11, a majority of people indicated sidewalk should be on both sides of all types of streets. This input was used to form the long-term sidewalk vision.

To achieve sidewalk on both sides of all public streets in Lawrence, 70 miles of sidewalk is needed. At the current funding levels ($337,500 annually which is half of the annual dedicated pedestrian and bicycle funding), this would take 248 years to achieve and cost $82.8 million (plus design costs); while constructing sidewalk on both sides of arterial/collector streets and one side of local public streets at current funding levels would take 143 years to accomplish and cost $48.4 million (plus design cost). The sidewalk gaps prioritized for City funding are arterial streets, collector streets, Safe Routes to School and additionally segments that improve access to bus stops, healthy food destinations, and parks. These segments are referred to as the priority pedestrian network gap sidewalks.

Sidewalk is desired across the city in locations beyond the priority network, however, City funding has been prioritized for the priority network. Without significant additional investment in the sidewalk network, this vision is unlikely to be realized within our lifetimes. Table 3 depicts the estimated cost and timelines to complete the network with estimates on how long that would take. The long-term vision for sidewalks in Lawrence, at the least, is to have sidewalk on both sides of new and existing Arterial and Collector streets, both sides of new local streets, and one side of all existing local streets.

Thus, sidewalk should be installed when private development or redevelopment occurs. When sites are being developed, they are required to install the sidewalk and install sidewalk within pedestrian easements. With additional input from the public, a policy or a Code update should establish what side of the local streets the sidewalk should be constructed on.

Table 3:Advanced Funding Scenarios to Build a Complete Sidewalk Network – Filling Gaps (does not include hazard mitigation or ADA reconstruction)

Sidewalk Goal	Years to Complete		Per Year Funding
Sidewalk on all sides of all streets (70 miles)	248 Years - Current Funding	$	337,500
	20 Years	$	4,141,965
	10 Years	$	8,283,930
	5 Years	$	16,567,860
Sidewalk on all sides of arterials/collectors & one side of locals (42 miles)	143 Years - Current Funding	$	337,500
	20 Years	$	2,420,725
	10 Years	$	4,841,450
	5 Years	$	9,682,901

Note: This high level planning estimate has caveats. The cost for designs is not factored into this calculation. The dedicated pedestrian funding is also used for crossing improvements meaning there is less funding for sidewalks. An unknown quantity of sidewalks will be built through private developers, and grant funding will continuously be sought to install sidewalk so not all the miles of missing sidewalk would need to be funded through the dedicated pedestrian funding. The calculation for determining the number of years uses the price per square foot based on sidewalk width per road type. The costs are in today's dollars and do not include inflation. Private roads are not included in this calculation because they include apartment complexes and commercial development. Additional analysis is needed to determine which private roads need additional sidewalk. Further this analysis uses centerline miles.

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Fill Prioritized Sidewalk Gaps

The Non-Motorized Projects Prioritization Program developed in 2016 and revised in 2019 helps the Multi-Modal Transportation Commission prioritizes pedestrian projects for construction with the pedestrian allocation of the bike/ped annual funding identified in the City's annual budget. The program scores projects based on various conditions including street classification, the presence of existing sidewalk on one or both side of the street, pedestrian access to priority destinations, and traffic volume. The current pedestrian project list includes arterial and collector streets sidewalk gaps (on both sides of the street) and Safe Routes to School Plan missing sidewalk along routes on one side of the local street. These gaps have been referred to as the priority pedestrian network.

This Plan developed a process to identify sidewalk gaps, that, if filled, would benefit sidewalk connectivity for access to bus stops, access to healthy food destinations and access to parks. These are destinations that have been identified as additional priorities for mobility within the City's strategic planning process.[1] During this planning process, block groups with high transportation disadvantaged populations and low quantity/connectivity of sidewalk network were considered for additional sidewalk gaps.

WHAT WE HEARD

> ***"I think Lawrence is the most walkable city in Kansas but it still has far to go."***

To identify these gaps, a pedestrian demand model was created in ArcGIS (a mapping program) using household locations and the predicted trips each person would take along existing and missing sidewalk. Then the locations with both missing sidewalks and higher pedestrian demand were evaluated for inclusion on the non-motorized prioritization pedestrian project list. Figure 12 shows the existing and proposed prioritized pedestrian projects. Figure 13 shows the Pedestrian Priority network of Arterial and Collector streets, Safe Routes to School Routes and gaps identified to support access to Transit, Healthy Food Destinations and Parks.

Appendix C: Technical Analysis includes the pedestrian demand maps for each destination type (transit, food and park access) and each block group across the community with its Transportation Disadvantaged Population score and sidewalk network (existing and proposed priority gaps). Appendix D: Priority Network Sidewalk Gap Projects includes a text list of the pedestrian priority gap projects.

It is estimated that $33.5 million is needed to construct the priority network based in the estimates developed as part of the Non-Motorized Prioritization Program process by Municipal Services and Operations for existing projects and at $44 per sq ft for projects identified as part of this planning process (not including the pending projects already committed for funding in 2021/22). However, this is a high-level planning estimate, which has caveats. The cost for design/ inspection (estimated at 25% of the construction cost) and inflation are not included in this analysis. Projects were evaluated on their potential ability to assist in access to parks, transit stops/routes, and healthy food destinations. This calculation was based on a 1/8 mile walkshed. There are 236 projects shown on the map (including pending projects). Of these 236 projects, 61 provide access to a park, 151 provide access to transit, and 41 provide access to a healthy food destination.

To help convey progress the city is making in constructing the priority pedestrian network a webpage should be created to show a prioritized list of sidewalk projects, funding sources, and estimated dates of completion. The webpage should include an interactive map and easy-to-ready descriptions. An example of this webpage is the Boulder, Colorado Missing Sidewalk Links Program.[2]

1 Learn about the Lawrence Strategic Plan at https://lawrenceks.org/strategic-plan

2 Boulder, Colorado Missing Sidewalks Links Program. Accessed on October 3, 2021 from https://bouldercolorado.gov/projects/missing-sidewalk-links

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Figure 12: Existing and Proposed Prioritized Pedestrian Projects

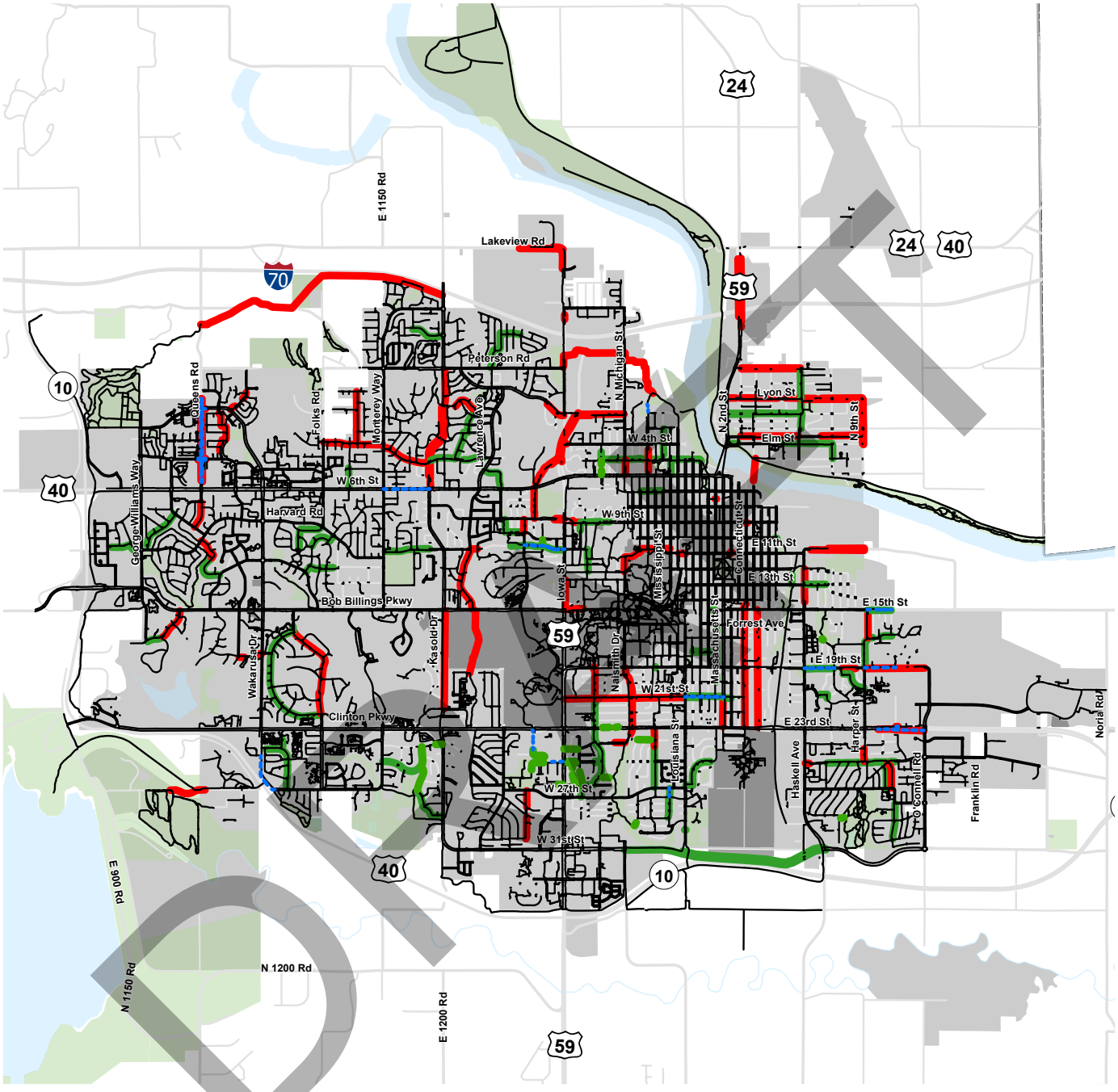
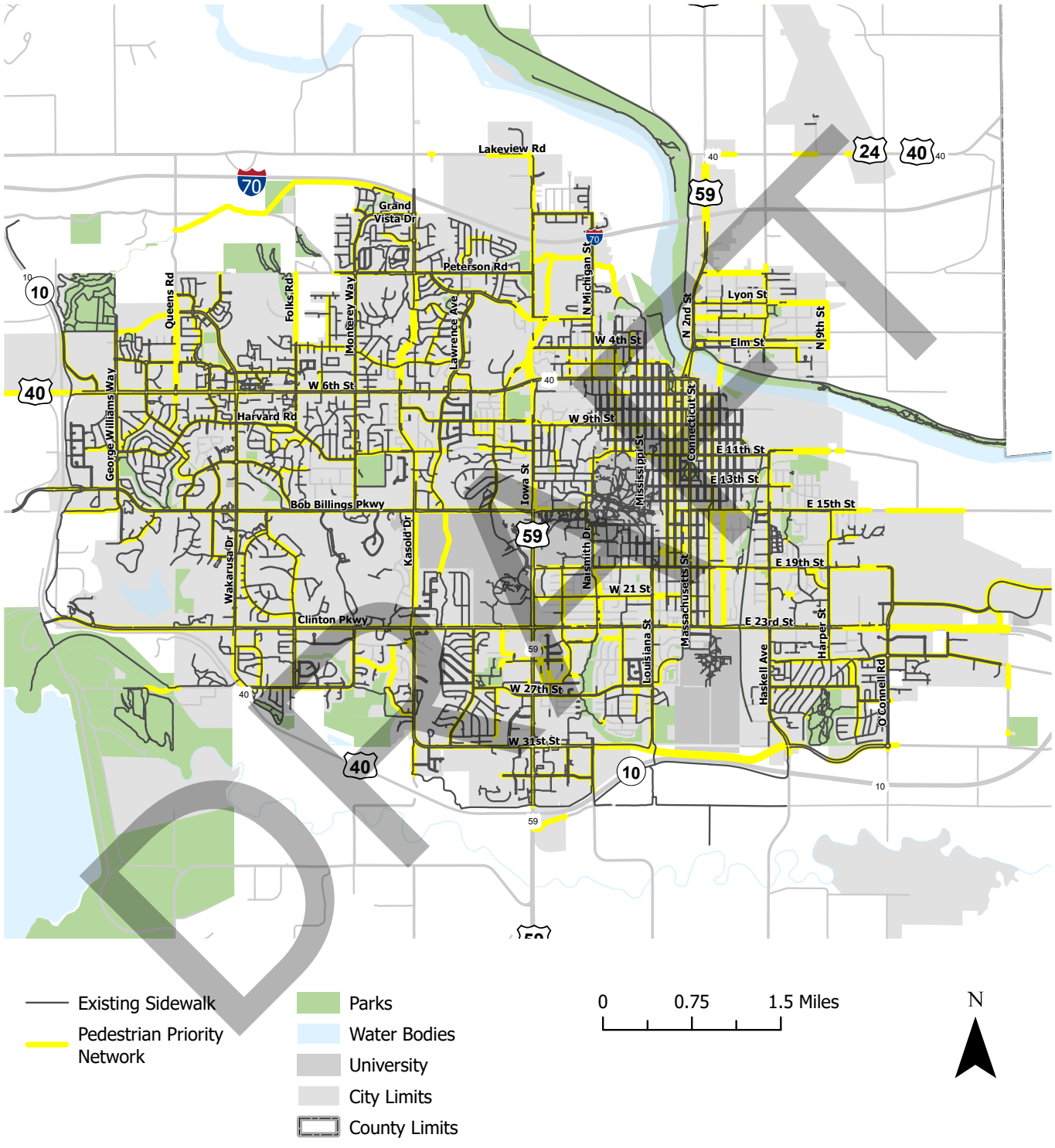


Figure 13: Lawrence Pedestrian Priority Network for Prioritized Gap Infill (Sidewalks on Arterial & Collector Streets, Safe Routes to School Routes, Access to Transit, Healthy Food and Parks)



DISCLAIMER NOTICE
The map is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. The City of Lawrence makes no warranties, express or implied, as to the use of the map. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the map, including the fact that the map is dynamic and is in a constant state of maintenance, correction and update.

Invest at a Higher Level to Meet Community Expectations

Additionally, the City should consider investing at a higher level (pursuing grants, increased funding sources, and increased sales/property tax) to continue elevating progress on walkability in constructing, reducing hazards, and reconstructing sidewalk across the community.

Amend the Non-Motorized Projects Prioritization Program

The Multimodal Transportation Commission recognized the need to evolve the Non-Motorized Projects Prioritization Program for a third time as the program matures and additional planning work is completed. The following changes/revisions should be considered in the 2022 planned revisions to the Program based on the work identified in this plan:

1. The current Non-Motorized Projects Prioritization Program includes non-exclusive factors such as equity in selecting the final list of prioritized projects. However, Transportation Disadvantaged Populations experience greater exposure to the dangers of the street, and national evidence shows that racial and ethnic minority populations are less likely to own a vehicle and more likely to walk, bicycle and/or use public transportation, resulting in greater exposure to the dangers of the street.[1] Projects within areas of greater Transportation Disadvantaged Populations should be prioritized to elevate equity in access and mobility.

2. The priority sidewalk gaps (this includes gaps supporting access to bus stops, healthy food destinations, parks and segments that improve equity in access across Transportation Disadvantaged block groups) identified in the sidewalk gap section should be added to the project list.

3. The identified intersections/crossings of concern should be evaluated for consideration to add to the project list using the standards developed for crossings, and consideration should be given to how crossing improvements are weighted. Currently the way they are scored would prioritize a majority of crossing projects over sidewalk gap projects, even those on arterial/collector streets gaps which were identified as a barrier by survey respondents.

4. Update the access to priority destinations scoring methodology with the sidewalk improvement program area prioritization pedestrian demand model. The data-driven pedestrian demand model uses a shortest path analysis in GIS, which analyzes routes that take the shortest path between identified origins and destinations. The model generates route paths from pedestrian origins to destinations, while adding value for route preference (Ex: local road with sidewalk vs. arterial with no sidewalk), destination type and distance (Ex: schools weighted over retail), and transportation disadvantaged population.

5. Segments of sidewalk that require total reconstruction as part of the yearly sidewalk improvement program, that exceed the budget to reconstruct for that program year should be added to the list.

6. It should be clarified that while all the sidewalk gaps, crossings and sidewalk reconstruction segments are on the same list for the purpose of understanding pedestrian infrastructure needs, funding eligibility may vary based on project type and/or location for local, state and federal funds.

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1 Surface Transportation Policy Project. (2002). Mean streets. Accessed from http://www.transact.org/wp-content/uploads/2014/04/Mean_Streets_2002.pdf

Continue to Implement the Sidewalk Improvement Program and Evolve as Needed

There has been ongoing conversation about whose responsibility it is to maintain sidewalk along private property. State statute and City Code state the maintenance of sidewalk is the property owner's responsibility. Many survey respondents believe sidewalks should be considered a public good and, like roadways, should be paid for and maintained by the government. The responsibility for sidewalk maintenance has been an ongoing discussion for many years in Lawrence. Beginning in 2019, the City began a multi-year plan to assist property owners in meeting their legal requirements (Kansas Statute – KSA 12-1801 and 12-1808 – and City Code – Chapter 16, Article 105) by helping identify and repair these hazards as well as providing technical and financial assistance where applicable).[1] The sidewalk improvement program should continue annually until all areas of the city have been inspected and repaired. The City should weigh priorities for pedestrian infrastructure and consider the City's commitment to funding/responsibility to achieve the goals set in the strategic plan.

While this program provides a means to identify hazards, there are some locations where a replacement of sidewalk panels would not make the sidewalk accessible without complete reconstruction of the segment. During year 3 of the Sidewalk Improvement Program, these segments were identified, and the remaining program funding was used to begin reconstruction (approximately only 1/10 of these segments was able to be reconstructed with the funding). Additional funding will be needed to make significant progress on addressing accessibility on these segments. The remaining segments should be added to the Non-Motorized Projects Prioritization Program list so they can be scored for prioritization when additional funding becomes available and should be funded based on their scoring prioritization.

WHAT WE HEARD

> ***"Do not give priority to cars/motorized vehicles in all transportation decision"***

Develop and Implement the ADA Transition Plan for the Public Rights-of-Way

The Americans with Disabilities Act (ADA) addresses accessible sidewalks within the public rights-of-way. The ADA does not mandate the installation of sidewalks, but it does require curb ramps at intersections where existing sidewalks are provided on both sides of the roadway. Sidewalks are an integral part of the transportation system and allow individuals to work, live, participate and thrive in their communities. Therefore, design criteria shoud include accessibility and useability for all potential users, especially people with disabilities.

The data collection and cost projection process has begun on the ADA Transition Plan for the Public-Rights-of-Way. In 2021/2022, the City will start public engagement activities to help identify community priorities. The anticipated presentation of the Public-Right-of-Way Transition Plan is 2023. During the development of the plan, the City of Lawrence should consider a point of sale program to require sidewalk repair/reconstruction with the sale of property. Point of sale programs are being used around the country.[2] In the meantime, the reconstruction and hazard reduction noted above are a first step in improving accessibility of our pedestrian environment. Brick sidewalk reconstruction standards will greatly impact accessibility, and they should be developed with consideration for the accessibility of the pedestrian network for the entire community.

1 Kansas State Statute 12-1801 - https://www.ksrevisor.org/statutes/chapters/ch12/012_018_0001.html, Kansas State Statute 12-1808 - https://www.ksrevisor.org/statutes/chapters/ch12/012_018_0008.html, City of Lawrence. City Code Chapter 16, Article 105 - https://assets.lawrenceks.org/city-code/chapter16.pdf

2 http://shoup.bol.ucla.edu/PuttingCitiesBackOnTheirFeet.pdf

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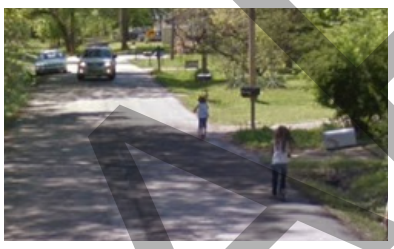
Other Pedestrian Facilities Besides Sidewalks

Due to the cost of sidewalks, other facilities were considered for locations where it is not cost effective to build sidewalk due to open ditches or other necessary infrastructure. Residents were generally not receptive to these shared street environments. However, it may be necessary in the short term as the cost to build sidewalks in some areas is prohibitive. Additional understanding of the lack of comfort people perceive in these shared environments may be necessary to make existing shared street environments more inviting. Preliminary comments seem to indicate that driver speed and yielding is of a high concern to people when walking. Education and enforcement targeting these concerns would be fundamental to improving perception of comfort on shared streets.

Yield Roadway

A **yield roadway** is a neighborhood street designed to serve pedestrians, bicycle riders, and motor vehicle traffic in the same slow-speed travel area. Yield roadways do not have sidewalks or lane markings. Currently, many Lawrence streets act as unofficial yield roadways. 31% of survey respondents indicated they are somewhat comfortable/very comfortable walking or wheeling on a yield roadway. However, it is important to remember that respondents were considering the existing streets they are walking on. More education and encouragement about how to use a yield roadway would be necessary build the walking culture our vision is hoping to inspire.

Longfellow St, Santa Monica, CA obtained from https://nacto.org/case-study/longfellow-street-residential-shared-street-santa-monica-ca

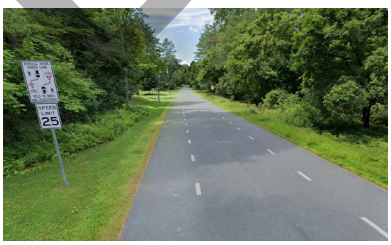


*Ash St, Lawrence, KS obtained from https://maps.google.com *While this street is not currently an official yield roadway, it is serving as one.*

Bloomington, IN sign obtained from https://altago.com/resources/advisory-bike-lanes-north-america

Advisory Shoulders

An **Advisory shoulders** is a type of a shared roadway with mixed traffic. Pedestrians or bicycle riders share the low-volume, low-speed streets. A single motor vehicle lane is established where drivers share the single lane with oncoming vehicles. When two vehicles meet, they yield to pedestrians and bicycle riders before merging into the dashed shoulder. This roadway type would require education and encouragement to make people feel for more comfortable with using it, as currently 31% of survey respondents indicated they are somewhat comfortable/very comfortable walking or wheeling on an advisory shoulder.



Valley Rd, Hanover, NH obtained from https://maps.google.com

Hanover, NH obtained from https://data.bikeleague.org/chapter-1/history-of-the-benchmarking-project

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Crossings

Drivers not watching or yielding at crosswalks and driveways was the third barrier identified by survey respondents. Built environment crossing improvements are one approach to making people who walk more visible and reducing exposure and risk. Improving crossings will require not only built environment improvements but also new policy/design criteria and education/enforcement. This section includes the recommendations related to the built environment improvements and policy/design.

There are two types of **crossings** – controlled (stop sign or traffic light) or uncontrolled. Both types of crossings can pose challenges that present real and perceived concerns for safety. There has been an established need to identify and prioritize pedestrian crossing improvements. Crossing improvements should be part of roadway reconstruction and maintenance; standalone crossing projects should be part of the Non-Motorized Projects Prioritization Program process rather than relying on citizen complaints and political pressure.

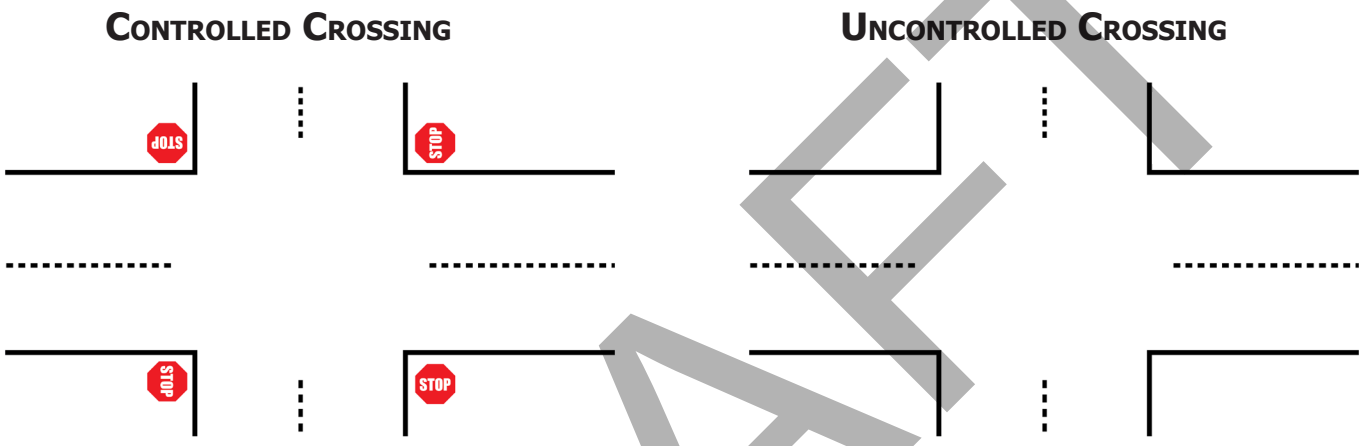
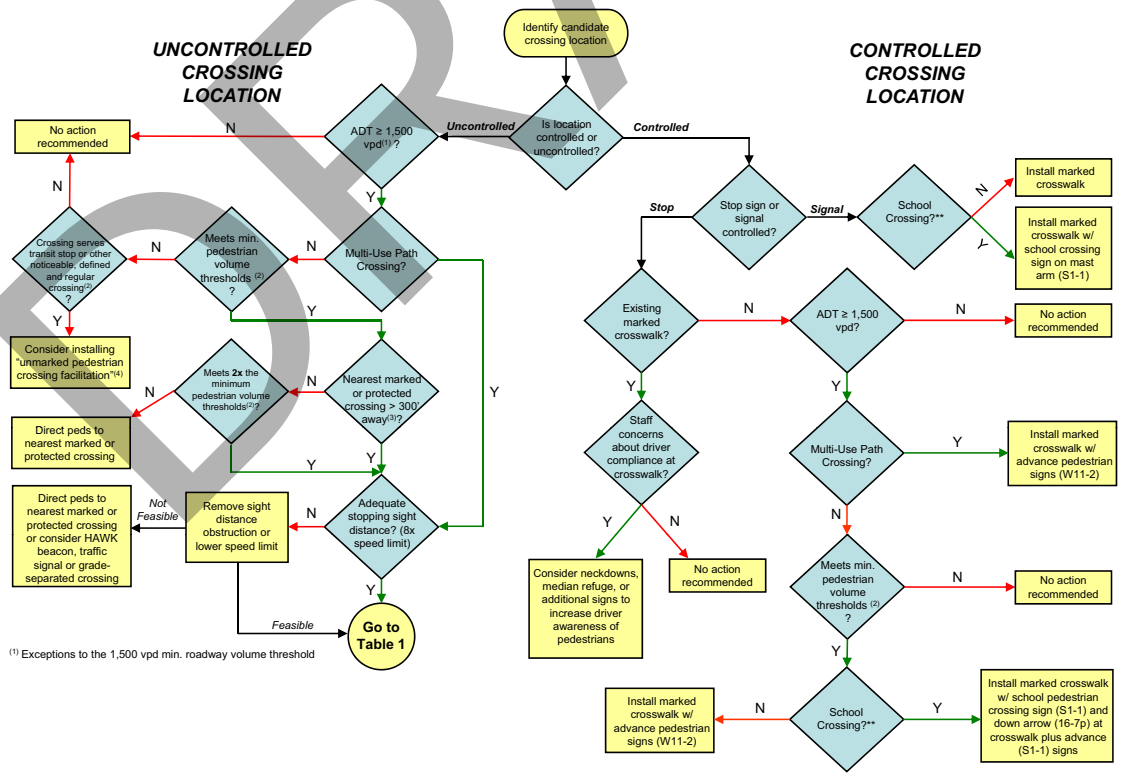


Figure 14: Pedestrian Crossing Treatment Flowchart (Boulder, CO)



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Adopt Standards to Identify Appropriate Crossing Improvements

To assist engineers and set clear community expectations, the City should establish a flow chart to navigate the various types of improvements for uncontrolled and controlled crossing locations. Figure 14 is from the City of Boulder Pedestrian Crossing Treatment Installation Guidelines, and it provides guidance for crossing improvements based on the type of crossing and the number of vehicles.[1] This flow chart should be used to evaluate crossings for consideration and addition of specific projects/locations to the Non-Motorized Prioritization Program pedestrian projects list.

The Federal Highway Administration's Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations provides the appropriate crossing improvement based on the characteristics of the roadway including speed, number of lanes, and number of vehicles which typically use it.[2]

Table 4 displays the application of crash countermeasures by roadway feature and Table 5 explains the safety issue addressed by each countermeasure. The City should develop a flow chart that works in sync with safety best practices like those included in the FHWA guidance.

Table 4: Application of Pedestrian Crash Countermeasures by Roadway Feature

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	❶ 2 4 5 6	❶ 5 6 7 9	① 5 6 ❼ ❾	❶ 4 5 6	❶ 5 6 7 9	① 5 6 ❼ ❾	4 5 6 7 9	① 5 6 7 9	① 5 6 ❾
3 lanes with raised median (1 lane in each direction)	❶ 2 3 4 5	❶ ❸ 5 7 9	① ❸ 5 ❼ ❾	① 3 4 5 7 9	① ❸ 5 ❼ ❾	① ❸ 5 ❼ ❾	① ❸ 4 5 7 9	① ❸ 5 7 ❾	① ❸ 5 ❾
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	❶ 2 3 4 5 6 7 9	❶ ❸ 5 6 7 9	① ❸ 5 6 ❾	① 3 4 5 6 7 9	① ❸ 5 6 ❼ ❾	① ❸ 5 6 ❾	① ❸ 4 5 6 7 9	① ❸ 5 6 7 ❾	① ❸ 5 6 ❾
4+ lanes with raised median (2 or more lanes in each direction)	❶ ❸ 5 7 8 9	❶ ❸ 5 7 8 9	① ❸ 5 8 ❾	① ❸ 5 7 8 9	① ❸ 5 ❼ 8 ❾	① ❸ 5 8 ❾	① ❸ 5 ❼ 8 ❾	① ❸ 5 8 ❾	① ❸ 5 8 ❾
4+ lanes w/o raised median (2 or more lanes in each direction)	❶ ❸ 5 6 7 8 9	① ❸ 5 ❻ 7 8 9	① ❸ 5 ❻ 8 ❾	① ❸ 5 ❻ 7 8 9	① ❸ 5 ❻ ❼ 8 ❾	① ❸ 5 ❻ 8 ❾	① ❸ 5 ❻ ❼ 8 ❾	① ❸ 5 ❻ 8 ❾	① ❸ 5 ❻ 8 ❾

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Rectangular Rapid-Flashing Beacon (RRFB)**
8 Road Diet
9 Pedestrian Hybrid Beacon (PHB)**

*Refer to Chapter 4, 'Using Table 1 and Table 2 to Select Countermeasures,' for more information about using multiple countermeasures.

**It should be noted that the PHB and RRFB are not both installed at the same crossing location.

This table was developed using information from: Zegeer, C.V., J.R. Stewart, H.H. Huang, P.A. Lagerwey, J. Feaganes, and B.J. Campbell. (2005). Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines. FHWA, No. FHWA-HRT-04-100, Washington, D.C.; FHWA. Manual on Uniform Traffic Control Devices, 2009 Edition. (revised 2012). Chapter 4F, Pedestrian Hybrid Beacons. FHWA, Washington, D.C.; FHWA. Crash Modification Factors (CMF) Clearinghouse. http://www.cmfclearinghouse.org/; FHWA. Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE). http://www.pedbikesafe.org/PEDSAFE/; Zegeer, C., R. Srinivasan, B. Lan, D. Carter, S. Smith, C. Sundstrom, N.J. Thirsk, J. Zegeer, C. Lyon, E. Ferguson, and R. Van Houten. (2017). NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. Transportation Research Board, Washington, D.C.; Thomas, Thirsk, and Zegeer. (2016). NCHRP Synthesis 498: Application of Pedestrian Crossing Treatments for Streets and Highways. Transportation Research Board, Washington, D.C.; and personal interviews with selected pedestrian safety practitioners.

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1 City of Boulder. Pedestrian Crossing Treatment Installation Guidelines. (November 2011). p. 22. Accessed on November 1, 2021 from https://www-static.bouldercolorado.gov/docs/pedestrian-crossing-treamtment-installation-guidelines-1-201307011719.pdf#page=22

2 Federal Highway Administration. Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations.(July 2018). p. 16-17. Accessed on November 1, 2021 from https://safety.fhwa.dot.gov/ped_bike/step/docs/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf

Table 5: Safety Issues Addressed per Countermeasure

Pedestrian Crash Countermeasure for Uncontrolled Crossings	Safety Issue Addressed				
	Conflicts at crossing locations	Excessive vehicle speed	Inadequate conspicuity/ visibility	Drivers not yielding to pedestrians in crosswalks	Insufficient separation from traffic
Crosswalk visibility enhancement	✓	✓	✓	✓	✓
High-visibility crosswalk markings*	✓		✓	✓	
Parking restriction on crosswalk approach*	✓		✓	✓	
Improved nighttime lighting*	✓		✓		
Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line*	✓		✓	✓	✓
In-Street Pedestrian Crossing sign*	✓	✓	✓	✓	
Curb extension*	✓	✓	✓		✓
Raised crosswalk	✓	✓	✓	✓	
Pedestrian refuge island	✓	✓	✓		✓
Pedestrian Hybrid Beacon	✓	✓	✓	✓	
Road Diet	✓	✓	✓		✓
Rectangular Rapid-Flashing Beacon	✓		✓	✓	✓

*These countermeasures make up the STEP countermeasure "crosswalk visibility enhancements." Multiple countermeasures may be implemented at a location as part of crosswalk visibility enhancements.

Crossing Improvements

Additionally, the modifications described below can improve a pedestrian's experience in the built environment.[1]

Curb extensions

Also known as bulb-outs or neckdowns – extend the sidewalk or curb line out into the parking lane, which reduces the effective street width. Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance; visually and physically narrowing the roadway; improving the ability of pedestrians and drivers to see each other; and reducing the time that pedestrians are in the street.

Tighter turning radius

A wide curb radius typically results in high-speed turning movements by drivers, which can lead to a right-turning vehicle hitting a pedestrian. Reconstructing the turning radius to a tighter turn will reduce turning speeds, shorten the crossing distance for pedestrians, and also improve sight distance between pedestrians and drivers.

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1 Information for this section is from PedSafe. (August 2013). Federal Highway Administration. Accessed on December 8, 2021 from http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

Daylighting

Practice of converting a parking space at the crosswalk to a red painted curb, or installing vertical delineators in the street to prevent vehicles from parking too close to intersections. This improves the visibility of pedestrians at crosswalks, which was limited due to closely parked vehicles. This has been instituted in many different US cities, including Hoboken, New Jersey as a cost-effective strategy. [1]

Lane Reconfiguration

Reduces the number of travel lanes on a road, reallocating this space for other needs (pedestrian paths, bicycle lanes, transit facilities, etc.). Lane reconfigurations provide many benefits to pedestrians, including reduced crossing distance, room for median islands to break the crossing into two simpler crossings, and a buffer zone for the sidewalk through the addition of wider sidewalks, parking, or bicycle lanes.

Curb extensions

Photo source: Lawrence, KS

Tighter Turning Radius

Photo source: Memphis, TN

Daylighting

Photo source: San Fransisco, CA

Lane Reconfiguration

Photo source: Lawrence, KS

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1 Hoboken New Jersey Daylighting http://www.pedbikesafe.org/PEDSAFE/casestudies_detail.cfm?CM_NUM=5&CS_NUM=74

Technology Options

Signalized intersections have the advantage of technology which can be used to provide pedestrians crossing with streets enhanced options.[1]

- **Pedestrian Recall** – pedestrians receiving a walk signal during every phase without using a push button is typically deployed in high pedestrian corridors. The City uses this technology downtown as there are no pushbuttons present.
- **Leading Pedestrian Interval (LPI)** – gives pedestrians an advance walk signal before drivers get a green indication, giving the pedestrian several seconds to start in the crosswalk before there is a concurrent indication for vehicular traffic. Pedestrians are more visible to drivers and drivers are more likely to yield to them. The LPI is particularly effective where there are multiple lanes turning. The City uses this technology at the intersection of 23rd Street and Massachusetts Street.
- **All-Red Pedestrian Scramble Signal Phasing (Exclusive Pedestrian Phasing)** – is a pedestrian phase that is active only when all conflicting vehicle movements are stopped across an approach to an intersection. When vehicles are stopped on all approaches to an intersection while pedestrians are given a WALK indication, the phasing is referred to as "exclusive" or as a "pedestrian scramble." Intersections with pedestrian scramble phases often feature pedestrian crossing markings indicating pedestrians may walk diagonally across the intersection. Exclusive pedestrian timing has been shown to reduce pedestrian crashes by 50 percent in some downtown locations with heavy pedestrian volumes and low vehicle speeds and volumes.
- **Prohibiting Right Turn on Red (RTOR) or Instituting a Protected Left Turn Phasing** – where and/or when there are high pedestrian volumes, or where there is a proven problem with drivers conflicting with pedestrians. This is due to drivers being so intent on looking for traffic approaching on their left that they may not be alert to pedestrians approaching on their right.
- **Signal Coordination** – This measure involves timing the phasing of adjacent traffic signals along a corridor to control the speeds of motor vehicles. For example, the sequence of green signal cycles can be timed to speeds of 20 or 25 mph.
    - Signal Coordination began in 2020 to focus on expedited movement of thru traffic along major corridors. This option is already occurring in Lawrence. In 2020-2021, changes were implemented to traffic signal timing on 6th Street (Massachusetts Street to George Williams Drive), Iowa Street (6th Street to 34th Street), and 23rd/Clinton Parkway (Harper Street to Inverness Drive). N 2nd Street (6th Street to I70), 19th Street (Iowa Street to Haskell Avenue), 9th Street (Iowa Street to Kentucky Street), Bob Billings (Iowa Street to K-10) will be evaluated in 2021-2022. Future signal coordination may require additional consideration about elevating the needs of non motorized trips for safety/comfort.
- **Concurrent Phasing** – Pedestrian signal phase activates simultaneously with the parallel vehicle phase, permitting drivers to turn left or right across pedestrians' paths after yielding to pedestrians. The city uses this technology with pedestrian recalls downtown.

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1 Information for this section is from PedSafe. (August 2013). Federal Highway Administration. Accessed on December 8, 2021 from http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

- **Split Phasing** – The vehicular green phase is split into two parts: (1) pedestrians receive protected walk time while vehicles travelling parallel are given a green signal to go straight but not turn, and (2) the pedestrian DON'T WALK is activated when vehicles are permitted to turn. A study in New York City suggests the split phasing significantly reduces pedestrian conflicts, crashes, and illegal pedestrian crossings. The City uses this technology when needed for a construction projects.
- **Hot Response** – A hot response detector activates a pedestrian signal immediately upon actuation, subsequent to providing at least the minimum allowable green time for conflicting vehicles. Hot response signal phasing is desirable where pedestrian crossing volumes are significant or high pedestrian compliance is desirable. The High-Intensity Activated Crosswalk, or HAWK, pedestrian beacons, like the one mid-block on the 900 block of New Hampshire is an example of hot response.

Marking Crosswalks

The City of Lawrence doesn't currently have a policy for pavement markings. The practice the City has been following is to install pavement markings at roundabouts, signals, and school crossings. A formal policy needs to be established so residents know what to expect.

While the pedestrian crash countermeasures provide general recommendations, good engineering judgment is needed for design of specific crosswalks. Even though an intersection may be eligible for a marked crossing, prioritization should occur in the development of the policy that considers the cost to install and maintain marked crosswalks as part of the overall asset management system.

Identifying Crossings for Evaluation and Inclusion in the Non-Motorized Projects Prioritization Program

Crossing locations for this planning process were identified by survey respondents who submitted unsignalized crossing locations where they would like to see improvements for safety or comfort based on their experiences walking. 147 unique unsignalized intersections across the community were identified with requested consideration for crossing improvements. 26 signalized intersections and 6 comments that were not mappable were also submitted. These locations will need to be evaluated based on standards, which will need to be developed, to identify appropriate crossing improvements.

The list of submitted intersections of concern also included a list of intersections to be considered for installation of stop signs and evaluation of sight concerns identified and will be evaluated by city engineers.

Unsignalized Intersections requested for consideration of crossing improvements are shown in Figure 15 with a potential pedestrian crossing count from the data-driven GIS pedestrian demand model.

As these locations/intersections are evaluated, they should be added to the Non-Motorized Projects Prioritization list. Crossing projects should be scored and prioritized based on the Non-Motorized Projects Prioritization process. Additional crossings can be submitted and should be considered as part of the annual call for projects for the non-motorized prioritization process.

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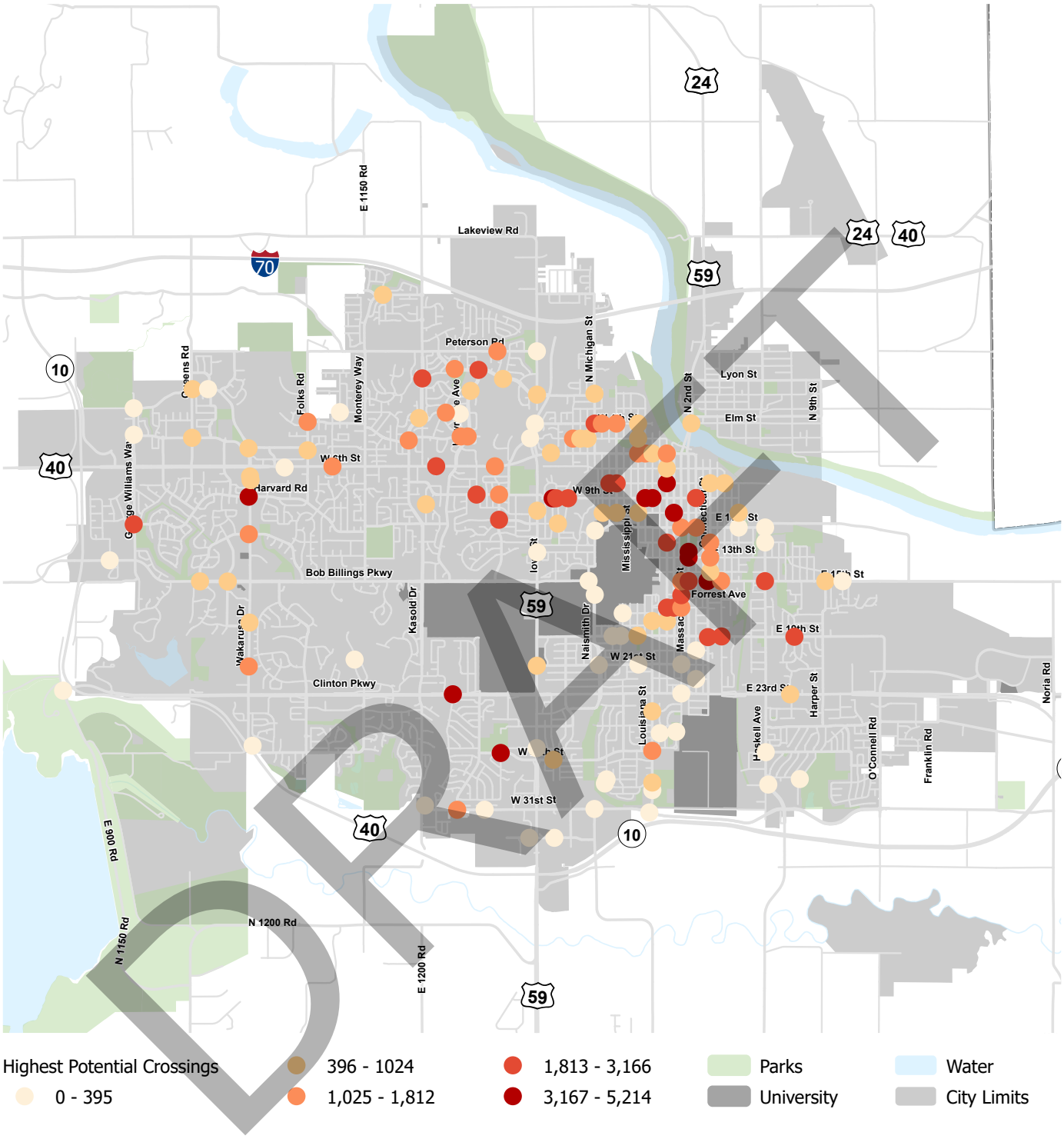
Figure 15: Survey Submitted Unsignalized Intersections with Potential Crossing Demand



Complete the Update of Pedestrian Crossing Times Standards at Signalized Crossings

In 2020, the City began a process to improve signal coordination and pedestrian crossing times on 47% of the existing traffic signals. Another 37% are slated for review in 2021-2022. The remaining signals should be evaluated to ensure they adhere to current crossing time standards.

Incorporate Pedestrian Crossing Improvements into Roadway Reconstruction and Major Street Maintenance Projects

As part of implementing the Complete Streets policy, streets should be designed to consider the safety of all users. This should include evaluating crossing improvements within the context of the project.

Land Use, Transportation and Design

The relationship between transportation and land use is fundamental. Land use impacts distance between origin and destination, density, the size and scale of the roadway, and the overall comfort and walkability of our community. Design should evolve to improve access, safety, and comfort for pedestrians. Land use should support walking as a mode of transportation that supports access to opportunities for vibrancy and health in our neighborhoods.

Street and Sidewalk Design Standards

There has been an ongoing discussion about the width of streets, the placement of sidewalks, and balancing their use between people who walk, people who bike, and people who drive.

Establish Brick Sidewalk Standards

Lawrence has brick sidewalk and streets in the older sections of the city. The disrepair of brick sidewalks has been an issue for Lawrence for many years. The City needs to decide if brick sidewalks will be replaced with brick sidewalks as hazards are repaired. This discussion is part of a separate process and is not included in the scope of this Pedestrian Plan. However, the impact to setting design standards and reconstructing brick sidewalks will be valuable to mobility and accessibility. These standards and repairs will also have additional consideration within the public right-of-way ADA Transition Plan, which is planned for 2023. A Brick Committee was formed in 2019 to develop design specifications for brick streets and sidewalks. The Brick Committee's recommendation should be used to develop standards for installing and maintaining brick streets and sidewalks as well as identifying locations where brick sidewalks and streets will/should be allowed in Lawrence. The standards should adhere to the ADA Transition Plan to ensure provisions for accessible surfaces to walk/wheel.

WHAT WE HEARD

> ***"I'd like the city to address the uneven, often slick brick sidewalks in Lawrence. They are not accessible to everyone."***

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Street Classifications Design Standards

Street classification is a system that defines "the part that any particular road or street should play in serving the flow of trips through a highway network." Classifications categorize streets according to their ability to 1) move traffic, and 2) provide access to adjacent properties.

There is a concern that the major thoroughfare street classification and/or design criteria lack stratification of classification and/or flexibility of design. During the development of upcoming Transportation 2050 and the update to the Land Development Code, consideration should be given to ensuring that street classifications provide adequate stratification and/or design flexibility, especially for existing streets that are being reconstructed/ retrofit. Additionally, the design toolbox should be expanded for pedestrian crossings improvements based on the crossing standards established.

WHAT WE HEARD

> ***"Mainly, driving is easier because of the distance between destinations and between my home and destinations. Lawrence is designed for cars."***

Implementing Planning: Plan 2040 and Lawrence Strategic Plan

This Pedestrian Plan is coordinated and consistent with Plan 2040 (the Comprehensive Plan) and the Lawrence Strategic Plan. A portion of the Plan 2040 Vision states "Our urban development is human-scale, and our vibrant and livable neighborhoods allow people to age in place. We have ample choices for safe, efficient transportation including bicycling, walking and transit." Further, at least four of the plan's goals relate to promoting walkability and changing regulations to make walking more convenient and comfortable. Implementing the Pedestrian Plan supports the vision of Plan 2040 and the Lawrence Strategic Plan.

Consider the Pedestrian Experience in the Land Development Code Update

Pedestrian planning will help achieve several of the Outcomes of the Lawrence Strategic Plan. By making it easier to walk, it will improve our Unmistakable Identity, make Strong, Welcoming Neighborhoods, and lead to a Connected City. These outcomes support health and equity in access to opportunities and sustainability by reducing single occupancy vehicle trips. A specific strategy included in the strategic plan to help achieve the goals is "Establish land use policies and codes that minimize the need to walk or bike more than 15 minutes for basic needs such as groceries, medicine, general merchandise, schools, and transit." This strategy will require consideration of the pedestrian environment in the Land Development Code Update.

Pedestrian-oriented development is a pedestrian friendly policy providing clear, comfortable pedestrian access to commercial and residential areas and transit stops. Pedestrian-oriented development is employed through a combination of land design practices including compact development, mixed land use, traffic calming, pedestrian and public transit-orientation, and a mix of housing types.[1]

1 New Hampshire Department of Environmental Services. Innovative Land Use Planning Techniques: A Handbook for Sustainable Development. Chapter 3.2 Pedestrian Oriented Development. Page 321. 2008. Accessed on November 10, 2021, from https://www.nh.gov/osi/planning/

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Consider the Pedestrian Experience in the Land Development Code Update

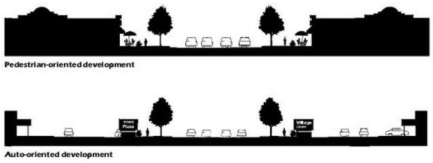
According to the Innovative Land use Planning Techniques: A Handbook for Sustainable Development, pedestrian-oriented development encourages people to walk, rather than drive, to local destinations. It requires the integration of safe, human-scale pedestrian access throughout sites.

In subdivisions, pedestrian opportunities may be provided in the form of sidewalks throughout a development or walkways linking new development with existing destinations. Within commercial developments, pedestrians should be separated from vehicular traffic using walkways and landscaped buffers that promote a sense of safety and visual appeal that encourage people to walk. Pedestrian circulation should consider not only movement within a site or development, but also access to adjoining development. Increased use of pedestrian walkways between adjoining developments improves traffic safety by reducing the number of vehicles turning into and out of streets and commercial driveways along public highways.

The Lawrence Community Design Manual: Defining Neighborhoods, Building Community, and Making Places for the City of Lawrence, Kansas provides examples of pedestrian oriented development compared to auto orientated development as shown in the sidebar.[1]

The Community Design Manual goes further saying, "the standards and guidelines are also rooted in the concept that streetscapes are the community's most visible public spaces. Streets play a pivotal role in determining both resident and visitor experiences and, to a great extent, help to define the character of the community. The standards and guidelines recommend that buildings within new retail developments, especially out-lot or pad site buildings, be pulled forward to define the edges of public streets and internal private drives. It is also recommended that buildings located at intersection corners be oriented in a manner that addresses both streets. This emphasis on streetscape and defining the 'edge' helps to create a genuine 'sense of place' along the streets of the community and within individual developments.

The standards and guidelines also encourage the presence of, or the appearance of, smaller retail stores to promote walkability and a pedestrian-oriented commercial development by creating variety, breaking up large expanses of exterior walls, expanding the range of the site's activities, and helping to define the streetscape.



defining the street edge – pedestrian-oriented development vs. auto-oriented development

traditional auto-oriented strip development with parking at the street (top) vs. pedestrian-oriented development with buildings & amenities at the street & parking in the interior of the site (bottom)

Lawrence Community Design Manual: Defining Neighborhoods, Building Community, and Making Places for the City of Lawrence, Kansas. Page 2-13. 2010. Retrieved November 10, 2021 from https://assets.lawrenceks.org/pds/planning/documents/CommunityDesignManual-Commercial-Industrial-Design-Standards.pdf

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resources/innovative-land-use-guide.htm

1 Lawrence Community Design Manual: Defining Neighborhoods, Building Community, and Making Places for the City of Lawrence, Kansas. Page 2-13. 2010. Accessed on November 10, 2021 from https://assets.lawrenceks.org/pds/planning/documents/CommunityDesignManual-Commercial-Industrial-Design-Standards.pdf

When buildings are located closer to streets, the scale of the development is reduced, pedestrian traffic is encouraged, and architectural details take on added importance."

The Land Development Code determines how our community looks and feels. It dictates where buildings, sidewalks, and roads will be constructed. There seems to be a large disconnect between the current Land Development Code and the Community Design Manual. While the Land Development Code attempts to accommodate pedestrian thru requiring sidewalks between the public sidewalk and building entrances it does not go as far as implementing concurrent design elements that make the urban form truly walkable such as recognizing the distance of the trip matters also. However, it doesn't go as far as the Community Design Manual in implementing urban form that truly impacts walkability. This disconnect should be evaluated in the Land Development Code revision Lawrence-Douglas County Planning and Development Services is undertaking in 2022-2023.

Updates to the Land Development Code and the Subdivision Regulations should consider the pedestrian experience. Consideration should be given to:

- **Deploy Pedestrian Oriented Development** to create places where people feel safe and comfortable. Consider the built environment in making walking spaces that are comfortable (adequate lighting, shade, shelter, seating.)
- **Plan and Construct Connective Road Patterns** to emphasize grid style streets because curvilinear style streets make it harder for people to have multimodal trip choices. Provide pedestrian access with pedestrian easements to reduce trip length. Ensure that the street and sidewalk network allow for short trips between residential and commercial areas to ensure residents have access to parks, healthy food destinations and bus stops that improve their opportunities for access.
- **Allow denser residential and commercial construction** and prevent low-density sprawl. Ensure that densification improves the pedestrian environment with an active ground floor at the human scale and reduction in setbacks. Increase small neighborhood commercial. This helps ensure reasonable access to destinations by foot. Make space for people of all ages and income levels by setting appropriate citywide policies to maintain and encourage housing variety and affordability.
- **Incentivize development within the city** instead of on the fringes. Remove parking minimums and create parking maximums to allow developers to build space for people instead of cars.

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Safety, Comfort, and the Streetscape

The walkability of our community is impacted by the actual and perception of safety for people who walk. Walking is not prioritized in the Midwest American culture. Driving is the norm, and all users can be observed disregarding traffic laws. However, pedestrians are vulnerable road users, and therefore addressing traffic speed and yielding to pedestrians should make walking more comfortable and reduce the severity of crashes when they do occur.

Education and Enforcement of Traffic Laws to Improve Safety

The City of Lawrence has not had a Traffic Enforcement Unit since 2012. However, several studies have shown how law enforcement coupled with public engagement and improvements to the built environment can improve safety related behaviors, which may lead to crash reductions.[1] Enforcement and education of traffic laws cannot be thought of as separate items. Enforcement educates people about the laws and education reduces the need for enforcement. The City needs to provide community members with the skills to walk and bicycle safely, education about benefits of walking and bicycling, and deterring unsafe behaviors and encouraging safe habits by people walking, bicycling, and driving. Enforcement of traffic laws should be done in a way that minimizes or eliminates potential for bias and considers the impact of fines on those who may be experiencing poverty. There are several ways to address the enforcement of illegal driver behavior (not yielding to pedestrians, speeding, etc.). These targeted examples provide insight into strategies for traffic education and enforcement that may be useful in Lawrence. But at a minimum, Lawrence needs to reestablish the Traffic Enforcement Unit.

Case Studies

Case studies from Gainesville, Florida and San Francisco, California are included on the following pages.

Case Study

Gainesville, Florida High-Visibility Enforcement on Driver Compliance with Pedestrian Right-of-Way Laws

This study evaluated the effect of a high-visibility pedestrian enforcement operation on driver yielding right-of-way to pedestrians and driver perception of enforcement.[2]

To establish a perception of a high level of enforcement, it was essential that the program attract broad attention within the community. Gainesville achieved this by implementing frequent prompts or reminders to drivers with earned media coverage, reminders to parents and other community stakeholders, paid media, signs at crosswalks that remind drivers of the legal obligation to yield right-of-way to pedestrians, and community feedback signs.

There are two distinct components to increase the visibility of enforcement operations. Drivers who receive citations are aware of the program, but the intent of an HVE operation is to persuade another 1,000 drivers or so for each ticketed driver of the increased risk of receiving a citation.

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1 Blank, K., Sandt, L., & O'Brien, S. (2020, August). The role of law enforcement in supporting pedestrian and bicyclist safety: An idea book (Report No. DOT HS 812 852). National Highway Traffic Safety Administration. Accessed on November 11, 2021 from https://rosap.ntl.bts.gov/view/dot/49827

2 Van Houten, R., Malenfant, L., Blomberg, R. D., Huitema, B. E., & Casella, S. (2013, August). High-Visibility Enforcement on Driver Compliance with Pedestrian Right-of-Way Laws. Page i – vi. (Report No. DOT HS 811 786). Washington, DC: National Highway Traffic Safety Administration. Accessed on November 11, 2021 from https://www.nhtsa.gov/sites/nhtsa.gov/files/811786.pdf

The intent is to encourage compliance with the pedestrian crossing laws to increase pedestrian safety. One way to achieve this is to make sure that a driver who passes a stopped vehicle knows that the stop is for a pedestrian crossing violation. Gainesville selected busy streets where officers could make numerous stops and use "Pedestrian Enforcement Crossing Operations" signs to communicate the reason they stopped vehicles to passing drivers. Second, widely publicizing that police are enforcing pedestrian right-of-way laws at crosswalks can increase the perception of enforcement. Community feedback signs placed on busy Gainesville streets conveyed the message that yielding to pedestrians is an important safety issue. Updating the percentages weekly showing how many drivers properly yielded conveyed the message that Gainesville drivers were improving but had not reached 100 percent compliance yet and that enforcement continued.

This study produced several interesting results. High-visibility enforcement led to a slow and steady increase in the percentage of drivers yielding right-of-way to pedestrians over the course of the year. Yielding began to increase during the first wave when officers mainly issued warnings instead of citations to drivers, along with information flyers that explained proper yielding behaviors and announced upcoming enforcement efforts. Yielding increased more when officers issued citations. Yielding increased again when Gainesville added paid ads, in-street signs, and feedback signs. Yielding also steadily increased at comparison (untreated) crosswalks in the city, although not as much, showing that the effects of the program generalized to other crosswalks. There was more yielding at comparison sites that were closer to the treated crosswalks – that is, the amount of generalization to unenforced sites was inversely proportional to the distance from sites that received enforcement. The steady increase in yielding behavior across treated and untreated sites suggests a sustained change in driving culture.

The introduction of high-visibility enforcement over the course of a year led to a marked increase in yielding to pedestrians from a baseline level of 32% to 62% at enforcement crosswalk sites for staged crossings, and an increase from 54% to 83% for regular crosswalk users (unstaged crossings). At comparison crosswalk sites, yielding to pedestrians increased from 37% to 59% for staged crossings and from 50% to 73% for regular crosswalk users. A time-series regression model showed that all treatment sites (with the exception of one site with very high yield rates at the beginning of the study) showed a significant increase in yielding behavior. At the generalization sites, the change was approximately half that produced at the enforcement sites.

A comparison of unstaged and **staged pedestrian crossing**[1] results showed that, after adjustments for the difference in baseline levels, there was no difference in drivers who responded to a staged versus unstaged procedure.Gainesville's pedestrian enforcement strategies could be adapted to other cities. Pedestrian decoy operations are best suited for busy city streets with high traffic volume, low driver compliance to pedestrian crossing laws, and pedestrian crossing issues.

Selecting busy streets with properly marked crosswalks in areas of high pedestrian crossings is the first requirement. Assuring that these sites have no more than two travel lanes in each direction and safe areas when vehicles can be pulled over and stopped allows officers to make the stops safely and increases the visibility of the program to passing drivers. There were higher levels of yielding to natural pedestrian crossings than to staged crossings, and the changes in both were highly correlated. Engineering treatments include advance crossing markings and in street pedestrian signs, both of which remind drivers when and where to stop for pedestrians. Low cost paid media, community outreach messages, earned media with local TV, radio, and newspaper outlets, and feedback signs remind drivers of the reasons why officers are stepping up enforcement and report progress to date.

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1 **Stage Pedestrians:** Enforcement uses staged crossings where a pedestrian follows a crossing protocol requiring the pedestrians to place only one foot in the street and wait for vehicles to stop instead of naturally occuring pedestrian crossing.

Case Study

San Francisco, California Pedestrian Safety Enforcement Operations

In a continuous effort to reduce collisions between vehicles and pedestrians, San Francisco Police conduct three types of pedestrian safety enforcement operations:

1. **Pedestrian decoys** – targeting drivers who fail to yield to pedestrians in crosswalks,

2. **Light Detection and Ranging (LIDAR) Speed enforcement** – targeting drivers who operate vehicles at unsafe speeds through pedestrian zones, and

3. **Saturation patrol** – targeting primary collision factors and violations related to distracted driving.

These high-visibility operations target unlawful driving behaviors that contribute to or directly cause pedestrian collisions and are conducted at locations where serious or fatal collisions have occurred. Sites are selected based on complaints and incident occurrence. Operations are conducted at least four times weekly and are sometimes filmed by local media to draw necessary attention to traffic safety.

Prior to an operation, officers are briefed at lineup to ensure that they are aware of and understand the laws they will be enforcing. Decoy operations can involve one or more decoy officers and between four and six citing officers, LIDAR speed enforcement operations utilize up to six officers, and motor-officer saturation patrol operations can involve eight or more motor-officers.[1]

Neighborhood Traffic Management

The Neighborhood Traffic Management Program is a multifaceted approach to addressing traffic-related concerns within residential areas throughout the city. This program aims to improve the quality of life by reducing speeding and cut-through traffic on local and collector streets. Other concerns related to traffic safety involving pedestrians, bicyclists, and drivers may also be addressed with this program.

Managing local traffic to enhance safety can be accomplished through a wide range of strategies including enforcement, education, or physical infrastructure changes. Tools to implement these strategies include automated speed radar signs, curb extensions/neckdowns, chicanes, speed cushions, traffic circles or mini roundabouts, raised pedestrian crosswalks, signage, and more. Each of these strategies and tools are evaluated on a case-by-case basis, and will consider type of street, surrounding land use, and existing traffic volumes of all modes.

Education and Enforcement around yielding to pedestrian and speeding should continue to be included in future years of the Neighborhood Traffic Management Program.

DRAFT

1 National Highway Traffic Safety Administration. (2014, November). Pedestrian Safety Enforcement Operations: A How-to Guide. Page 25. (Report No. DOT HS 812 059). Accessed on November 11, 2021 from https://www.nhtsa.gov/sites/nhtsa.gov/files/812059-pedestriansafetyenforceoperahowtoguide.pdf.

Conflicting Users of the Sidewalk

As the City of Lawrence constructs additional Shared Use Paths across the community there should be additional consideration given to how the varying types of users share the sidewalks and Shared Use Paths. The proliferation of electric and motorized bikes and scooters have made the encounters between these devices and pedestrians a commonly occurring situation. The operating characteristics of some devices makes them faster and faster and that is of concern to safety for the slower pace of people who walk, but also makes crossings of greater concern, because people who drive do not expect to encounter a 20-30mph device on the sidewalk and in the crossing. Clearly defined rules about the plethora of user/device types should be clarified and speed should be regulated for sidewalk and shared use path environments.

Fatality Crash Investigation

Currently when a pedestrian fatality crash occurs the Lawrence Police Department Accident Investigation Unit reviews the crash information. This process can take months. Every crash has a unique set of circumstances, understanding the conditions and situation leading to the loss of life provide opportunities to review what can be done to improve the location of the crash. In the past, the crashes were discussed with the Municipal Services and Operations Department to discuss potential engineering solutions to mitigate crashes through future geometric improvement projects. It is recommended this practice resumes.

Automated Enforcement Systems

While automated enforcement systems are not legal in Kansas, they are a potential solution for improving pedestrian safety. An automated enforcement system uses a camera to enforce traffic laws by assisting with detection of infractions and providing photo documentation of the vehicle or driver violating the traffic law. Two of the most common types of automated enforcement systems are red-light cameras and automated speed enforcement cameras. Studies have shown automated speed enforcement reported statistically significant reductions (20-25%) in crashes following the introduction of automated speed enforcement.[1]

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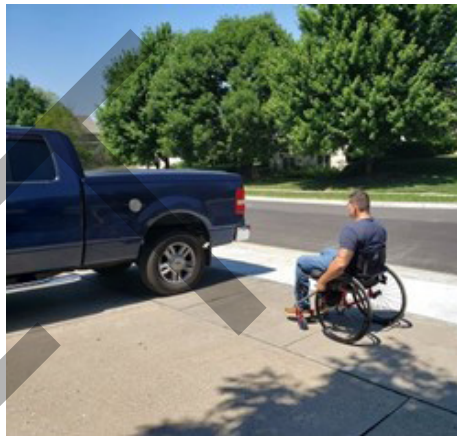
1 Pedestrian and Bicycle Information Center Research Brief – An Overview of Automated Enforcement Systems and Their Potential for Improving Pedestrian and Bicyclist Safety. https://www.pedbikeinfo.org/cms/downloads/WhitePaper_AutomatedSafetyEnforcement_PBIC.pdf

Implement Pedestrian Legal Frameworks - Decriminalize Walking

Anti-Harassment Laws

"Street harassment" describes unwanted interactions in public spaces between strangers that are motivated by a person's actual or perceived gender, sexual orientation, or gender expression, and make the harassee feel annoyed, angry, humiliated, or scared. Street harassment can take place on the streets, in stores, on public transportation, in parks, and at beaches. It ranges from verbal harassment to flashing, following, groping, and rape. It differs from issues like sexual harassment in school and the workplace or dating or domestic violence because it happens between strangers in a public place, which means there is less legal recourse.[1]



Lawrence, KS

Street harassment is an under-researched topic, but it's clear from the few studies that exist that it is a significant and prevalent problem. In 2014, Stop Street Harassment commissioned a 2,000-person national survey in the USA with surveying firm GfK. The survey found that 65% of all women had experienced street harassment. Among all women, 23% had been sexually touched, 20% had been followed, and 9% had been forced to do something sexual. Among men, 25% had been street harassed (a higher percentage of men identifying as belonging to the LGBT community) and their most common form of harassment was homophobic or transphobic slurs (9%). Eighty-six percent of women and 79% of men who reported being harassed said they had been harassed more than once. Women were more likely than men to say it happened sometimes, often, or daily. Around 50% of harassed women and men experienced street harassment by age 17. However, these numbers are typically much higher, as many cases of harassment go unreported.[2]

Kansas City, Missouri enacted an anti-harassment ordinance (14077) in October 2014. It amended Chapter 50, Article VI, Offenses Against Public Safety to have a new section 50-205, Harassment of a Bicyclist, Pedestrian or Wheelchair Operator which says:

> (a) No person shall, for the purpose of intimidating or injuring any person riding a bicycle, walking, running, or operating a wheelchair or for the purpose of intimidating or injuring such person's service animal:
>
> (1) Throw an object, direct a projectile, or operate a vehicle at or in such person's direction or at or in the direction of such person's service animal; or
>
> (2) Threaten such person; or
>
> (3) Sound a horn, shout or otherwise direct loud or unusual sounds toward such person or toward such person's service animal; or

DRAFT

1 Stop Street Harassment. Unsafe and Harassed in Public Spaces: A National Report on Street Harassment. Executive Summary. 2014. Accessed on November 10, 2021 from https://stops

2 Stop Street Harassment. Unsafe and Harassed in Public Spaces: A National Report on Street Harassment. 2014. Accessed on November 10, 2021 from https://stopstreetharassment.org/our-work/nationalstudy

WAYFINDING PROVIDES A SYSTEM OF SIGNAGE OR PAVEMENT MARKINGS TO GUIDE PEOPLE ALONG PREFERRED ROUTES TO THEIR DESTINATIONS.

Oakland, CA

Concept

Portland Metro Cities, OR

https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/bike-route-wayfinding-signage-and-markings-system/

(4) Place such person in apprehension of immediate physical injury; or

(5) Engage in conduct that creates a risk of death or serious physical injury to such person or such person's service animal.

(b) Any person convicted of a violation of this chapter shall be punished for that violation by a fine of not less than $50.00, but not more than $500.00 or by imprisonment of not more than 180 days or by both such fine and imprisonment.[1]

The City of Lawrence should pursue adopting a similar anti-harassment ordinance in lieu of a state law.

Jaywalking Laws

Historically across the country, jaywalking laws have not been enforced in an equal way. Cities across the country are either eliminating jaywalking laws or eliminating it as a primary offence, meaning law enforcement can't stop a pedestrian for that act alone, after finding that minorities were ticketed at higher rates.[2] Most jaywalking regulation date back to early years when car companies advocated for laws to help place blame of crashes on the pedestrian rather than the driver of cars.[3] This law may not even impact pedestrian safety and should be weighed against equity considerations.

WHAT WE HEARD

"I think the city should consider decriminalizing jaywalking - Kansas has done this, and myriad of other cities are considering doing the same. This law is not applied consistently, and often it is used to unfairly police black or indigenous people of color. It should simply not be illegal to cross the street - this dated law prioritizes the folks who are the most protected, in their increasingly larger vehicles."

1 Kansas City, Missouri Code of Ordinances. Ordinance No. 140777. Amending Chapter 50, Article VI, Offenses Against Public Safety to have a new section 50-205 which will prohibit certain acts against bicyclists, pedestrians, and wheelchair operators. October 2, 2014. Accessed on November 10, 2021 from https://library.municode.com/mo/kansas_city/ordinances/code_of_ordinances?nodeId=671430

2 California State Act. Racial and Identify Profiling Act (RIPA). Assembly Bill (AB) 953 Impact on Law Enforcement Agencies. Accessed on December 1, 2021 from https://post.ca.gov/Racial-and-Identity-Profiling-Act

3 Goffman, Ethan. (2021 February). Walking Back Jaywalking May Be a Step Forward for Pedestrians. Mobility Lab. Accessed on December 1, 2021 from https://mobilitylab.org/2021/02/17/walking-back-jaywalking-may-be-a-step-forward-for-pedestrians/

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Improve Comfort

Walking is not always the most comfortable activity. Extreme heat, precipitation, blocked driveways, darkness, and vegetation all hinder comfortable walking. Specific policies need to be implemented to address each of them.

Shade

Street trees provide shade to homes, businesses, and pedestrians. The City of Lawrence Street Tree Policy dictates the spacing of trees shall be determined by the Director of Parks and Recreation or his or her designee. Generally, all large trees shall be planted 40 to 60 feet on center, all medium sized trees shall be planted a minimum of 35 feet on center; and all small trees shall be planted a minimum of 25 feet on center. No tree shall be planted where the clear space between the curb and sidewalk is less than three (3) feet. No tree shall be planted nearer than one (1) foot from the curbline or outer line of the sidewalk. No tree or shrub shall be planted on a corner nearer than 50 feet from the intersecting curbline of the two (2) streets or within the triangle connecting these two (2) points.[1] This policy supports walkability and should continue.

Winter Weather Policies

To make public sidewalks safe for pedestrians, property owners or the occupant of the property immediately adjacent to a public sidewalk are required to remove snow or ice within 48 hours of the end of a snowfall or ice accumulation. If removal of ice is impossible, the property owner or occupant is required to place sand on the sidewalk within 48 hours.[2]

If a property owner fails to comply with the ordinance and the Development Services Division receives a complaint, a citation will be written. Property owners will be fined $20 for each day the violation occurs, plus court costs if found guilty.

The City should continue to annually educate property owners about their responsibility to keep sidewalks clear of snow & ice. Additionally, the City should consider how street snow removal impacts curb ramps and crossing of streets.

Lighting

Walking along dark streets can be unnerving. It is a City policy for residential streets to have streetlights at intersections and in each cul-de-sac. Streets with the most traffic generally have more lights than residential streets. On average, the City has about 11.5 streetlights for each mile of street. The City pays a per light fee to Evergy. As of July 2021, as many as 240 streetlights have taken on a purple hue due to the lights failing prematurely. Evergy is working with the light manufacturer to replace the lights. The map in the sidebar shows the locations of streetlights.

Additional evaluation should be done to evaluate that adequate nighttime lighting is provided at marked crosswalks to enhance the safety of pedestrians crossing at night.

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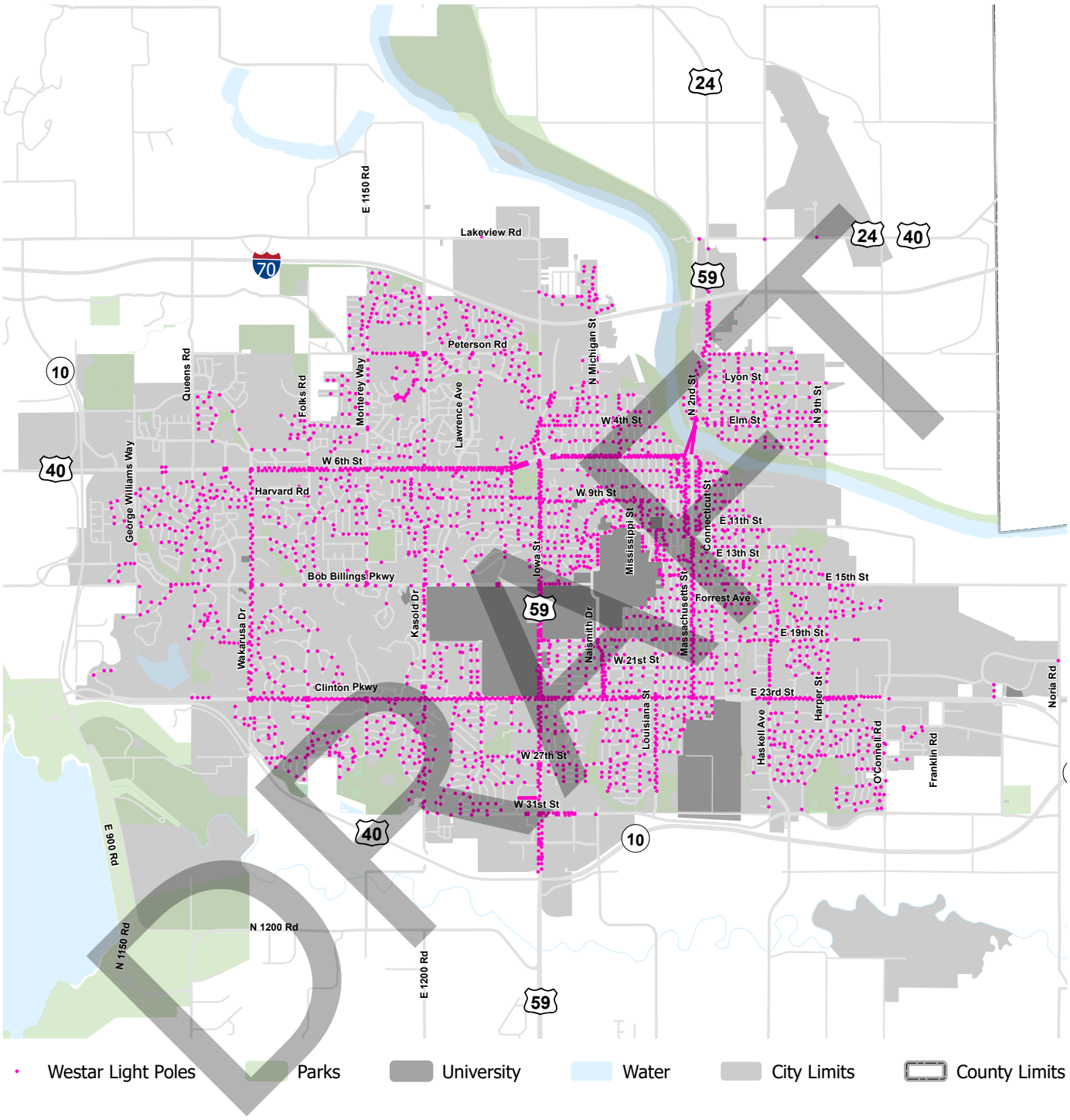
1 City of Lawrence. (1979). City Code 18-304. Accessed on November 12, 2021 from https://assets.lawrenceks.org/city-code/chapter18.pdf

2 City of Lawrence. (2008, December). Ordinance No. 8324. 16-115 – Removal of snow or ice from public sidewalks. Accessed on November 10, 2021 from https://assets.lawrenceks.org/pds/devservices/Ord8324.pdf

Figure 16:Westar Light Poles



Date Exported: 12/30/2021
Source: Westar March 2015
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

DISCLAIMER NOTICE
The map is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. The City of Lawrence makes no warranties, express or implied, as to the use of the map. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the map, including the fact that the map is dynamic and is in a constant state of maintenance, correction and update.

Blocked Driveways

City Code prohibits vehicles or any object blocking the sidewalk's path as it runs through driveways. (17-410.28, Ordinance 5470)[1]

WHAT WE HEARD

"I think we need better enforcement when sidewalks are blocked by vehicles"

If the item blocking the driveway is a vehicle, enforcement is conducted by the Lawrence Police Department. Enforcement is on a complaint basis and officers responding can educate the driver of the blocked vehicle getting them to move the vehicle, write a ticket or even have the vehicle towed if is completely blocking the driveway crossing and preventing someone from using it. If the driveway is blocked with trash carts, junk or other similar items, use the Lawrence Listens Request function at https://lawrenceks.org/listens.

The City should annually educate property owners about their responsibility to keep sidewalks clear of parked vehicles. The City should annually educate property owners about their responsibility to keep sidewalks clear of parked vehicles.

Wayfinding

A wayfinding system helps create a culture of walking as it helps residents and visitors create a walking route to nearby destinations. The City should develop and implement a multimodal wayfinding plan.

Brush Clearing

Sidewalks must be clear of tree limbs, brush, debris to provide an accessible path for people to travel. To report limbs or bushes growing over the sidewalk access the Lawrence Listens Requests function at https://lawrenceks.org/listens.

16-410 – Maintaining Clear Passage – All persons making excavations under, in or through any street, alley, lane, avenue, sidewalk or crosswalk in the City shall at all times keep open in such street, alley, lane, avenue, sidewalk or crosswalk, a good, sufficient, secure and unobstructed passageway for both pedestrians and vehicles. (Code 1979, 16-411).

16-815(C) – It shall be unlawful, unless otherwise permitted or exempted hereunder, for any Person intentionally to obstruct traffic in a Public Right of Way.[2]

The City should annually educate property owners about their responsibility to keep sidewalks clear of brush.

WHAT WE HEARD

"Safety is key, given how many sidewalks are partially or wholly obscured by people not keeping trees, shrubs, fines, and other overgrowth trimmed back"

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1 City of Lawrence. (1983, July). Ordinance No. 5470. 17-410.28 – Parking, Sidewalk. Accessed on November 10, 2021 from https://assets.lawrenceks.org/city-code/chapter17.pdf

2 City of Lawrence. (1979). City Code. Page 11 for 16-410 and page 24 for 16-815(c) of Chapter 16. Accessed on September 5, 2021 from https://assets.lawrenceks.org/city-code/chapter16.pdf

Increase Transit Accessibility and Placemaking

Everyone is a pedestrian at some point in their day. Whether it is walking from the parking lot to the building or walking from the bus to the store entrance, everyone walks or wheels to their destination. Making connections between the different forms of transportation – walking, biking, transit, and driving are critical to making the pedestrian portion of the trip enjoyable. There is also an opportunity to create placemaking at the bus stops by using art to customize the bus stop to reflect its neighborhood.

In 2020, Lawrence Transit improved seven stops with shelters, benches, and accessible boarding pads, and improved five additional stops through coordination with the Street Maintenance Program. In 2021, 19 stops were improved through Lawrence Transit programming, and four others were improved through the Street Maintenance Program and private development. Transit staff is currently awaiting news on a possible state grant award for bus stop improvements that would supplement the $150,000 program scheduled in 2022. Currently, Lawrence Transit has 374 bus stops, with:

- 63 shelters,
- 54 benches,
- 18 bicycle racks, and;
- 176 accessible boarding pads

An additional project that will impact accessibility is the development of a new transit center at the southeast corner of Bob Billings & Crestline Dr. This new facility will provide dedicated bus bays for 8 local buses and 2 regional buses, a covered outdoor waiting area with seating, an indoor passenger waiting area with customer service, and restrooms. Improvements to the downtown transfer area are planned as well, though additional public engagement is required to identify a suitable site.

Lawrence Transit should continue to implement the bus stop amenities program (including installing concrete pads to make boarding and leaving the bus easier) and consider incorporating placemaking elements into their stops.

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Lawrence, KS
31st St and Iowa St

Lawrence, KS
Clinton Pkwy and Hawthorn Dr

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Next Steps

Action Plan

Implementation Recommendations

Ensuring that the time invested in this process results in action, the following Table X.X was generated as the high-level actionable recommendations of the Issues and Strategies discussed in the previous section. This table should be used to create work plans and prioritize work to advance walkability in Lawrence. However, the list is not exclusive, additional work may be identified as process is made on these items.

Building and Maintaining Pedestrian Network	Construct Prioritized Sidewalk Gaps
	Amend the Non-Motorized Projects Prioritization Program
	Continue to Implement the Sidewalk Improvement Program and Evolve as Needed
	Develop and implement the ADA Transition Plan for the Public Rights-of-Way
Crossings	Adopt Standards to Identify Appropriate Crossing Improvements
	Complete the Update of Pedestrian Crossing Times Standards at Signalized Crossings
	Identifying Crossings for Evaluation and Inclusion in the Non-Motorized Projects Prioritization Program
	Incorporate Pedestrian Crossing Improvements into Roadway Reconstruction and Major Street Maintenance Projects
Land Use, Transportation and Design	Street Classification Design Standards and consider other Pedestrian Facilities Besides Sidewalks
	Establish Brick Sidewalk Standards
	Consider the Pedestrian Experience in the Land Development Code Update
	Incorporate the Long-Term Sidewalk Vision into the Land Development Code
Safety, Comfort, and the Streetscape	Education and Enforcement of Traffic Laws to Improve Safety -Reestablish the Traffic Enforcement Unit
	Implement the Neighborhood Traffic Management and elevate enforcement of speeding and failure to yield
	Review and update regulations to clarify rules for Conflicting Users of the Sidewalk
	Re-establish Fatality Crash Investigation to use crash data to identify future roadway geometric improvement projects
	Implement Pedestrian Legal Frameworks to Decriminalize Walking
	Implement City of Lawrence Street Tree Policy and lighting to improve comfort of the streetscape
	Enforce Winter Weather Policies, Blocked Driveways and Brush Clearing
	Develop and Implement a Multimodal Wayfinding Plan
	Implement Transit Amenities
Evaluation	Track performance measures and incorporate them into Transportation 2050 and coordinate with the Lawrence Strategic Plan.

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Updating and Amending the Plan

This Plan should have a major update every 5 years in rotation with the city's other multi-modal plans as they are incorporated into the regional transportation plan, Transportation 2040. This plan documents and recommends ongoing pedestrian programs, processes and projects.

Amendments to the priority sidewalk network could be made outside of the 5-year process, only when warranted by school boundary changes based on Safe Routes to School Plan changes following the process in the School Area Traffic Control Policy.

The need for other amendments can be evaluated by City and MPO staff and incorporated into workflow if warranted and as needed.

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Appendix A Community Engagement

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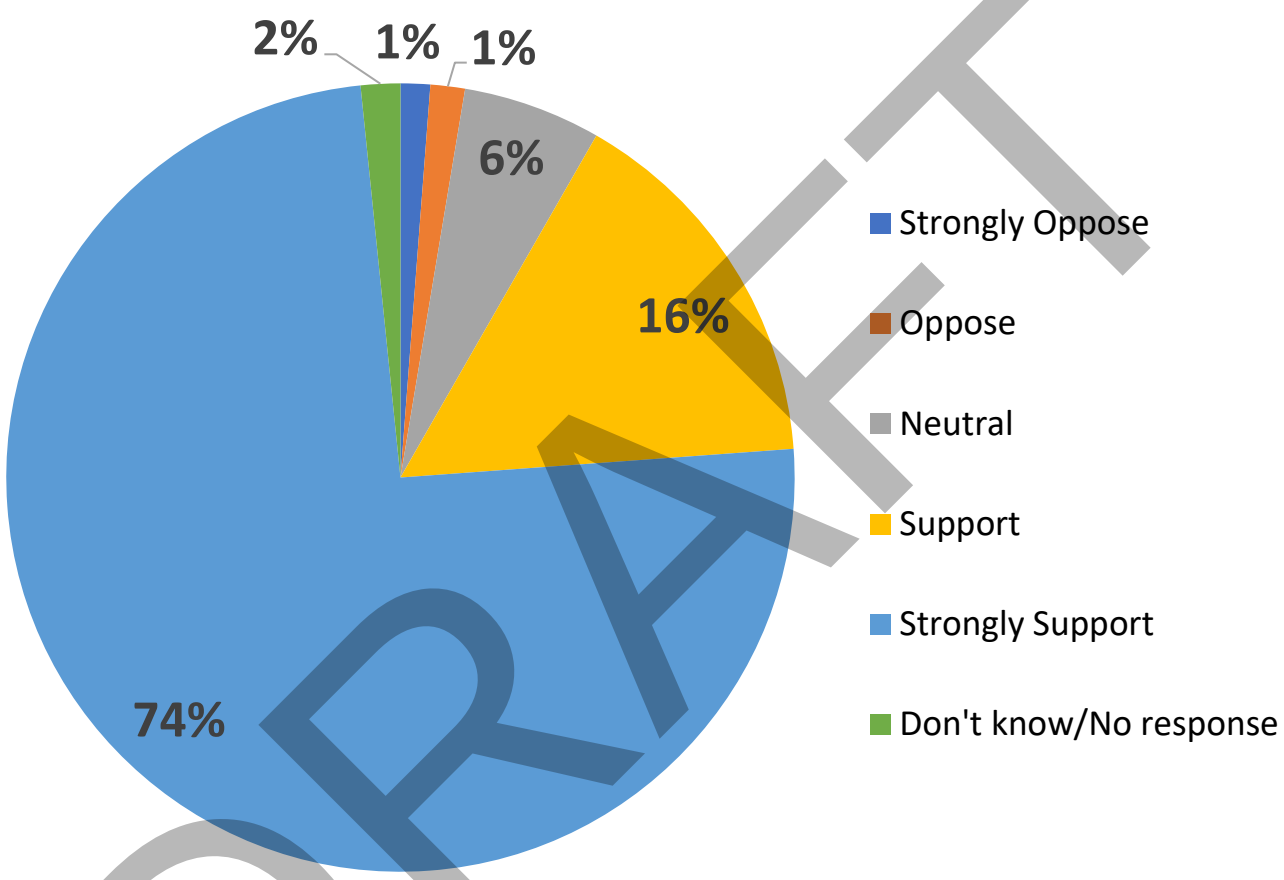
The Lawrence Pedestrian Plan survey was available October 20 - November 14, 2021. MPO Staff, members of the Staff Advisory Group and Steering Committee tabled 16 times and attended 7 meeting spending a total of 51 hours talking to people about the planning process and inviting them to take the survey. 550 surveys were collected; however, none of the questions were required so each question has its own number of responses.

When asked "How strongly do you support the previously adopted vision described below?" respondents indicated:

2016 Vision: The residents of Lawrence envision a community that invites people of all ages and abilities to walk for enjoyment, exercise, and daily transportation by providing a safe, convenient, and attractive pedestrian environment. *Walking includes using a manual or powered mobility device.

Figure A1: Support for the 2016 Pedestrian Plan Vision



Number of Responses - 495

When asked "Is there anything else that should be included in the Vision?" respondents indicated:

Idea

- ..providing a safe, convenient, accessible, and attractive pedestrian environment.
- "In all areas of our community." Should be added to the end of the statement.
- and daily utilitarian transportation, for example, to schools, food stores, and healthcare services, by providing a safe
- accessibility
- "Accessible
- add equitable
- Aligning the vision w/ climate action/community health
- How about ' . . . in a healthy environment free from air pollution.'
- I like the language, BUT it doesn't include anything about HOW you will achieve this. You say "providing...." but don't explain HOW this will happen.
- I would add the word "accessible" over attractive.
- I would expand this to any non-vehicle based travel for enjoyment, exercise, and transportation. Biking and similar forms of non-vehicle travel should be thought of

Part 1/5

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holistically with this vision.
- Link the pedestrian plan to addressing community health and climate resilience - promoting walking as a way to reduce emissions and improve health outcomes.
- perhaps adding the word 'connected' to the statement. by providing a safe, convenient, connected, and attractive pedestrian environment.
- Perhaps including a reference to both daylit and dark hours as being important.
- Recognizing more fully priority of transportation for those of reduced means
- something that encompasses individuals ability to complete daily tasks such as work and commerce
- Stress abilities, high priority
- What about including a statement or reference to cyclists and runners? Some people might navigate the city with a combination of walking and cycling.
- While I'm strongly in favor of the 2016 vision, there should be exceptions for brick streets and brick sidewalks.
- Yes, more specific means to accomplish the goals that were identified.

Idea - Bike
- Also be multi-modal; bikes, roller-blades, skateboards, scooters, etc
- We should accommodate and encourage biking, too.
- Why focus just on pedestrians? Multimodal travel would be much more useful and practical.
- https://rg.smartcitiescouncil.com/readiness-guide/article/multi-modal-what-multi-modal-transportation-does-smart-cities

Statement - Downtown Pedestrian Plaza
- Make the portion of Massachusetts street that stretches through Downtown a walking and biking only zone (see Boulder, CO and Burlington, VT for a model). Make portions of KU campus a walking / biking / bus only zone (See Univ. of MN campus for models). This will reduce traffic, incentivize people to use less carbon-emitting vehicles, and create spaces for public art and community-building.
- Making Mass St. pedestrian ONLY
- Making Mass Street a walking plaza
- pedestrian walk-way down mass st
- The exclusion of motor vehicles from a section of downtown.

Statement
- New neighborhoods are getting all kinds of attention but as a resident of the Historic Pinckney Neighborhood, our sidewalks and crosswalks are strongly in need of repair and update.
- 1) The area between 11th Street and 6th Street on Mass Street should be converted to a pedestrian-only plaza. Vehicular traffic in the area is often congested and loud for what needs to be a communal space
- A safe and wider path on 9th from Avalon to Iowa
- As a part of that vision, it is important to keep commercial development *out* of neighborhoods (meaning off thoroughfares) , especially if those neighborhoods are housing schools.
- As part of city services it would be really nice if city employees could make sure all stop signs are visible and turning out from a city street onto oncoming traffic is not obscured by trees or bushes. If the public had some way of reporting obscured signs and street visibility or when police officers see a sign that is not visible they could report it to the city. I think it would cut down on running stop signs, traffic accidents and make it less dangerous for people walking. I would think the city could legally trim growth (after notifying the property owner) that is obscuring traffic since it is more than likely on the city easement.
- Benches along the trails
- Better streets, repair damaged streets especially on east side of lawrence
- Bicycle/ mobility scooter lanes added to wider sidewalks
- bicycles
- bike paths
- Biking and walking should be the cities priority for future planning!
- Biking?
- Bricked pathways, while historically valuable, should be updated safety purposes
- Could be pedestrian only, but that's tough
- cycling and walking should NOT take priority over motor vehicle traffic.
- Do not give priority to cars/motorized vehicles in all transportation decision
- Don't slow down traffic.
- Drivers need to be held accountable for parking over the crosswalk line at stoplights. There are cameras on most, if not all, signal light intersections and they should be used to cite drivers for these traffic violations. The cross walk time should be extended to allow pedestrains with slower crossing times to make it safely across the street without feeling rushed or a sense of urgency. If a person is feeling rushed or a sense of

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urgency to cross the street, this could possibly cause a person to fall trying to "hurry".
- enforcing speed limit and sound pollution (train car muffles) in residential areas
- everything being said about the vision support.
- Extension of lights in residential areas to make walking safer off the main thoroughfares.
- Financial assistance for people to repair their sidewalks.
- Fix the roads, they are horrible and dangerous to bike on due to the numerous pot holes and breaks in the asphalt and concrete.
- Free transportation
- Get a bus out past 15th and Haskell
- I can't think of anything.
- "I like improving pedestrian facilities in Lawrence.
- I was reading a report about the Old West Lawrence and there was a mention that a stop light or stop sign could not be implemented without a engineering study. Does this apply to pedestrian facilities? If so this seems very time/labor responsive. Could this be done city wide or neighborhood wide? If not could the city rewrite ordinances to remove this requirement or lobby to the state/fed to change this if it is not a local issue? Making these changes cheaper and easier to implement will allow more of them to be done for the same cost faster.
- I like that its specific
- I think the vision should include eliminating pedestrian fatalities in our city. Safer infrastructure exists - it's simply a choice whether or not to build to that standard. Pedestrians will continue to be killed by drivers until we build up to those standards.
- I would like to see one provision strengthened. I read that there has been increased enforcement of sidewalk regulations. In the Oread Neighborhood I see no evidence of enforcement of city regulations regarding vehicular obstruction of sidewalks, and indeed, when I have pointed out violations to police officers in the neighborhood I've been told that it's enforced only on a complaint basis. Apparently my telling an officer on duty and pointing directly to a number of violations does not constitute a "complaint".
- The Oread neighborhood has large concentrations of students, young people, and newcomers, all populations less likely to know what the regulations are, much less where to direct comment (and, it seems, more likely to drive over curbs and to park in yards, over sidewalks, and blocking sightlines at cross streets and alleys). With its proximity to the university, it also has constant use of sidewalks. Leaving it up to the users and neighbors to report violations before they are addressed seems terrible policy.
- At officers' recommendation I have been compiling photo documentation of the problem."
- "If there are good sidewalks and crossing points, there is no need for a 25 mph speed limit and virtually no difference between 25 and 30 mph. There are many streets where the speed limit varies between 25 or 30 mph and 45 mph within two miles, with no visible changes in the type of neighborhood.
- The Vision should include insuring the walkability of downtown areas, especially Massachusetts Street. It is impossible to walk, much less stroll, on Massachusetts St. sidewalks. Pedestrian traffic is reduced to a single lane with people moving in both directions. Outside dining (a good thing) has usurped walking space and is not at all uniform. One must be constantly on the watch for obstructions intruding into the sidewalk as well as people with dogs, bicycles and boards of various kinds. I don't object to any of those things, but the space that they must share is continually reduced. Not such a long time ago, it was fun to walk up one side of Mass and down in the other direction, window shopping and people watching. "
- Improve existing sidewalks as well
- Improved existing road maintenance and a commitment to a road diet.
- In historic areas, if brick sidewalks are to be replaced, it would be nice to retain that look.
- In the neighborhoods with alleys, such as Old West Lawrence There are often problems where the sidewalks meet the alleys. Ramps have been installed at the street corners, but not at the alleys, so someone in a wheelchair cannot get across the alley in most instances.
- In the University Place neighborhood there are many sidewalks that are impassible for wheelchairs or people with impaired mobility. Repairing dangerous sidewalks should be a high priority. There is a stretch of a "safe walk" to school on 18th street that has NO sidewalk and children must walk in the street on the way to Cordley.
- Include bike lanes.
- Include Learnard Ave in this vision
- Increased bicycle infrastructure. Painted bicycle lanes do not count. Bike paths must be expanded.
- Individuals hired to clean Wipe Down the Inside and Outside of "Each Bus" everyday and "Everyshift" the bus are filled with germs. Germ's are transmitted "Hand to Mouth" and some stink. "Urine"
- Interface with bike laws in some circumstances
- Keep the new walkways off of existing roads.

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When asked "Is there anything else that should be included in the Vision?" respondents indicated: **Part 4/5**

- Lighting and water
- Lights in case get dark
- making walking safer by enforcing proper stop & yield sign usage by vehicle drivers.
- Many streets and sidewalks should have better lighting.
- The plan should include the financing of improvements to existing sidewalks. The existing sidewalks are as important or more important than those that will be put into new developments. Sidewalks are a public good, the construction and maintenance should be paid by the city as a whole, not just those on whose property the sidewalk resides.
- more accessible trash bins
- More continuous sidewalks while crossing the streets, see here https://www.youtube.com/watch?v=9OfBpQgLXUc. Especially across collectors (9th, Kentucky and Tennessee) and busier residential roads (Connecticut, Delaware, 2nd). This should be a prevalent street design to align posted speeds with vehicle traffic speeds and reduce injuries, near misses and conflicts. The pedestrian infrastructure needs to improve further. Streets should be neck downed and bump outs added. Street trees should be planted to shade walkers. Leading pedestrian intervals (and bikes allowed to go on them should be added at all intersections with high pedestrian crossings (https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/traffic-signals/leading-pedestrian-interval/).
- More crosswalks or tunnels or pedestrian bridges to ensure safe passage across streets.
- More direct sidewalks and crossing zones, I don't want to have to walk all the way to the corner just to turn or to cross the street
- Neighborhoods have decent sidewalks
- New streets
- No
- No roundabouts
- Not at this time
- Not only the walkability of surfaces and access to them, but PLEASE more streetlights. I do not feel safe walking in most places in Lawrence past dark because of how little light there is. ESPECIALLY on campus.
- Not that I can think of at the momemt
- Not that i can think of right now
- not to my knowledge
- Note: daily transportation includes getting to destinations such as work, accessing food, needed services, etc.
- People and pets
- Put up sign it will be enforced at crosswalk
- Repairs to existing sidewalks in the older parts of town. This should be done at the expense of the City of Lawrence within the City right of way.
- Require that sidewalks be installed or repaired whenever a new house is built on a lot regardless of whether the project required a site plan or re-platting.
- Restore the 30MPH residential speed limits and restore the 85th percentile and sound engineering standards. Fix the roads. Remove the manmade roadway obstacles. Put stop signs where people can see conflicting traffic, instead of halfway down the block. End revenue enhancement.
- Safe is key, given how many sidewalks are partially or wholly obscured by people not keeping trees, shrubs, fines, and other overgrowth trimmed back.
- Safer crosswalks at circles, stop lights and trails
- Should look at Denver's walk in mal concept. Include a trolley in the walk way for residence with walking issues
- Shoveled sidewalks in 48 hours. It is hard in winter when the sidewalks are covered in snow and eventually ice, one has to walk in the rode to keep away from the possibility of slips and falls. The sidewalk ordinance for snow seems not to be enforced.
- Sidewalk repairs
- Sidewalks should be paid with county tax dollars. We all use the sidewalks.
- signs, street lights, MPH
- Since I don't have anywhere else to write this in, I'd like the city to address the uneven, often slick brick sidewalks in Lawrence. They are not accessible to everyone.
- Skate Boarding
- Something for cyclists - KY St. & TN St.
- Speed bumps on Harvard Road between Kasold and Monterey Way in front of Dad's Perry Park
- standardized/consistent rules/guidelines
- Take it easy with the speed bumps please!
- The City of Lawrence should define ALL sidewalks as infrastructure and pay to maintain them, to ensure equitable upkeep throughout the city.
- The vision should not be developed at the expense of public transportation
- This vision lacks necessity, now. The 2016 on enjoyment rather than safety.
- Update cobblestone road routes.
- Water + trash cans
- We have lived in our residence since 1990. Our curbs were deteriorating then; now we have no curbs! I would like curbs instead of spending $$ to screw up a

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major through street (which are few) like 21st St.

- With increased time allowed for pedestrian crossings at lights to consider folks with assistive walking devices, children, strollers, etc...
- Worry about lowering taxes then raising them for all the sidewalks, bike lines.
- Yeah, extension to county lines of Douglas county for K.U. and local residents. So smaller towns can come to and from communities, bring more business to and from all parties at hand to get help in public transportation safe rides. Jobs, shopping, visitors come and go to Lawrence or others go to those smaller communities Town conduct business and those other communities that's within the Douglas county. Transportation back forth for lacking transportation who love come to Lawrence do little shopping, visitors. Business, Jobs, and or vice versa. Your benches and smaller shelter to help shield from weather. Run 1 extra bus on more busy area's. Remind drivers to offer the ramps for senior citizens and people with disabilities.
- Add sidewalks to both sides of streets where space permits.
- Adequate street lighting for night walking (e.g., needed along 19th)
- All this to bring in tourism as well.

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When asked:

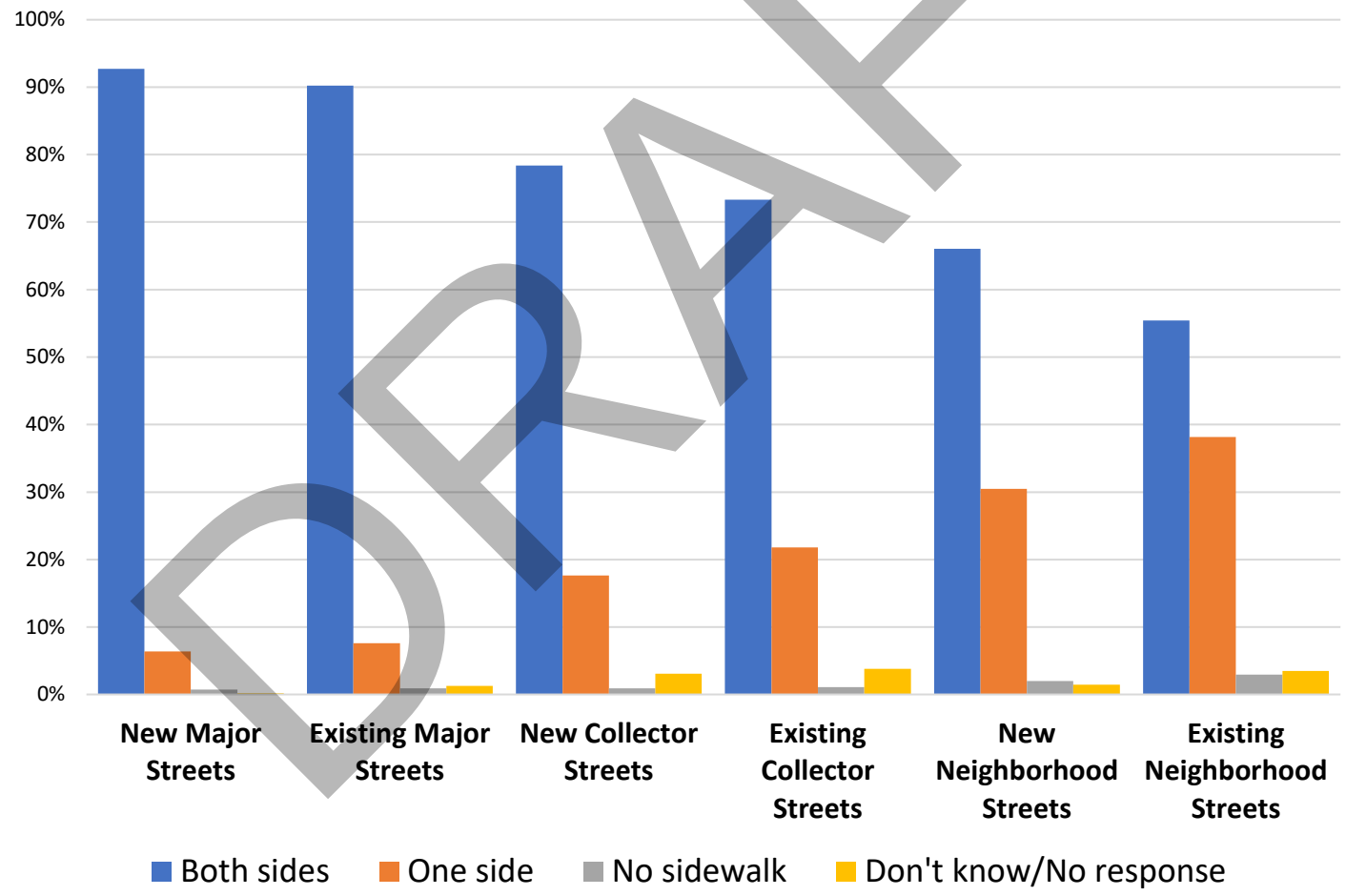
"I believe as new major streets are developed they should have sidewalk on _____ side(s) of the street. I believe existing major streets should have sidewalk on _____ side(s) of the street.
Examples include W. 6th St., Iowa St., Clinton Pkwy.

I believe existing major streets should have sidewalk on _____ side(s) of the street. I believe existing collector streets should have sidewalk on _____ side(s) of the street.
Examples include W. 6th St., Iowa St., Clinton Pkwy., etc.

I believe as new neighborhood streets are developed they should have sidewalk on _____ side(s) of the street. I believe existing neighborhood streets in established neighborhoods should have sidewalk on _____ side(s) of the street.
Examples include W. 5th St., Delaware St., Legends Cir., etc."

respondents indicated:

Figure A2: Sidewalk Desires



Number of Responses - 548, 553, 550, 551, 548, 545

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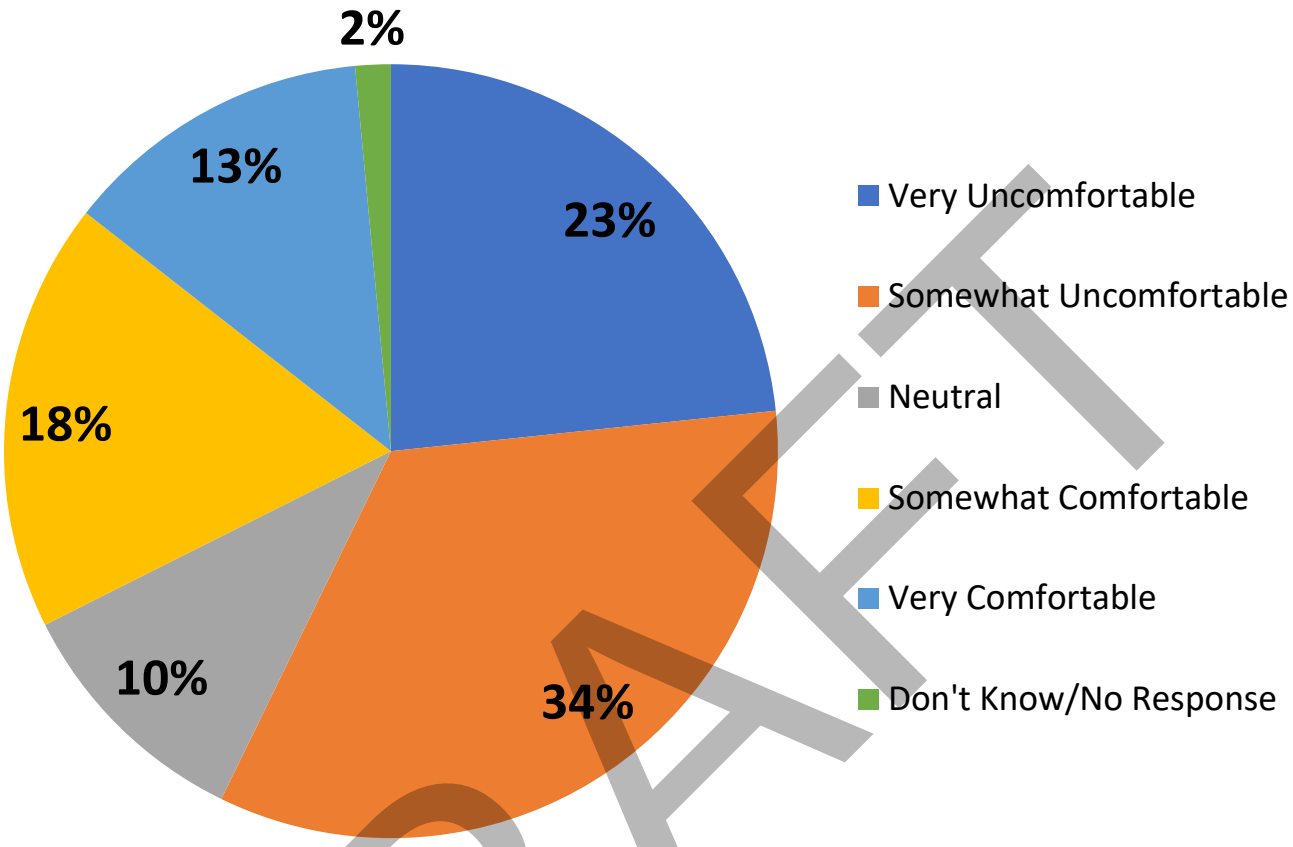
When asked: "How comfortable would you feel walking or wheeling on a Yield Roadway?" respondents indicated:

Figure A3: Comfort with Yield Roadways



Number of Responses - 540

A yield roadway is a neighborhood street designed to serve pedestrians, bicycle riders, and motor vehicle traffic in the same slow-speed travel area. Yield roadways do not have sidewalks or lane markings. Examples are shown below. (This explanation and the following pictures were included in the survey prior to the question.)

Sisters, OR obtained from https://ruraldesignguide.com/mixed-traffic/yield-roadway

*Ash St, Lawrence, KS obtained from https://maps.google.com *While this street is not currently an official yield roadway, it is serving as one.*

Longfellow St, Santa Monica, CA obtained from https://nacto.org/case-study/longfellow-street-residential-shared-street-santa-monica-ca

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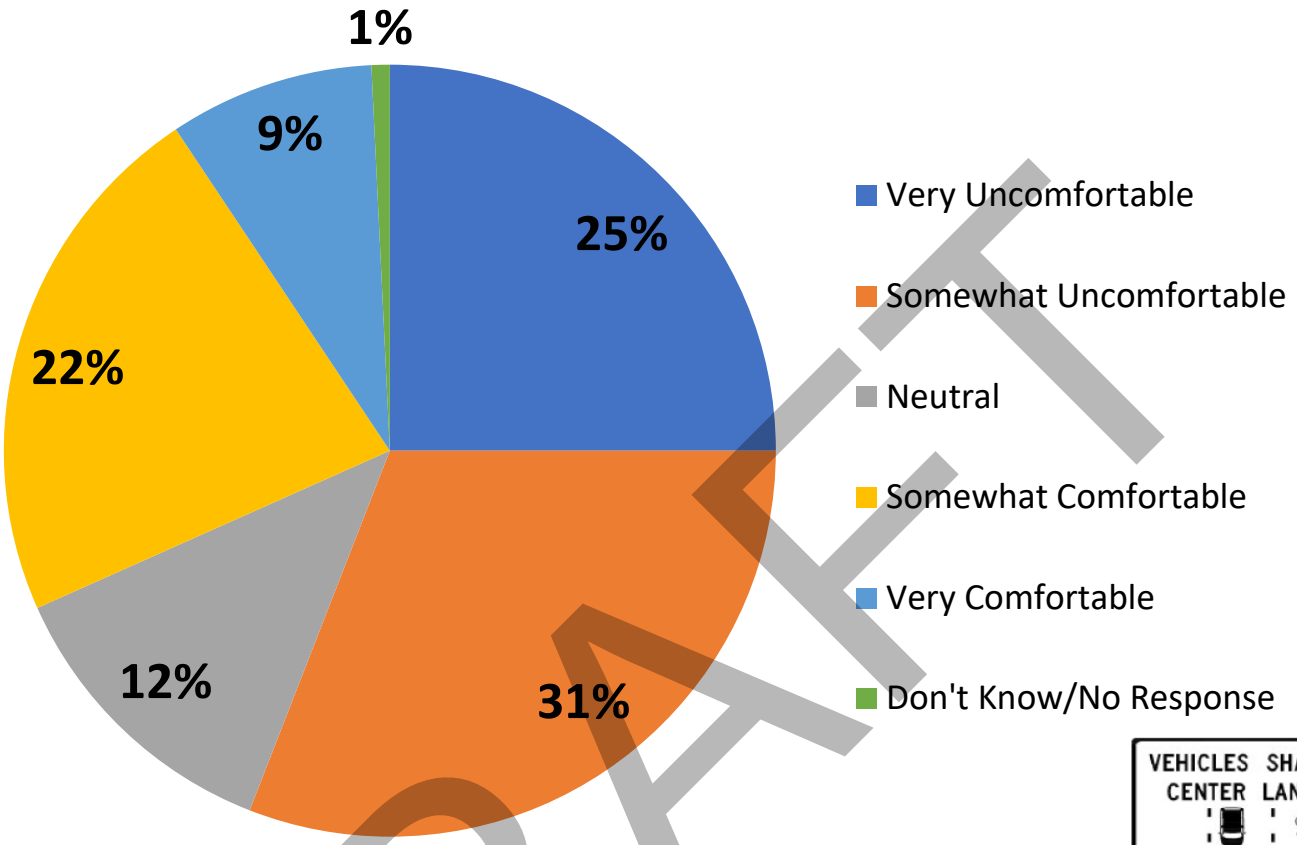
When asked: "How comfortable would you feel walking or wheeling on an Advisory Shoulder?" respondents indicated:

Figure A4: Comfort with Advisory Shoulders



Number of Responses - 524

Advisory shoulders are a type of a shared roadway with mixed traffic. Pedestrians or bicycle riders share the low-volume, low-speed streets. A single motor vehicle lane is established, where drivers share the single lane with oncoming vehicles. When two vehicles meet they yield to pedestrians and bicycle riders before merging into the dashed shoulder. Examples are shown below. (This explanation and the following pictures were included in the survey prior to the question.)

Valley Rd, Hanover, NH obtained from https://maps.google.com

Hanover, NH obtained from https://data.bikeleague.org/chapter-1/history-of-the-benchmarking-project

Bloomington, IN obtained from https://altago.com/resources/advisory-bike-lanes-north-america. (The sign above is also from this source.)

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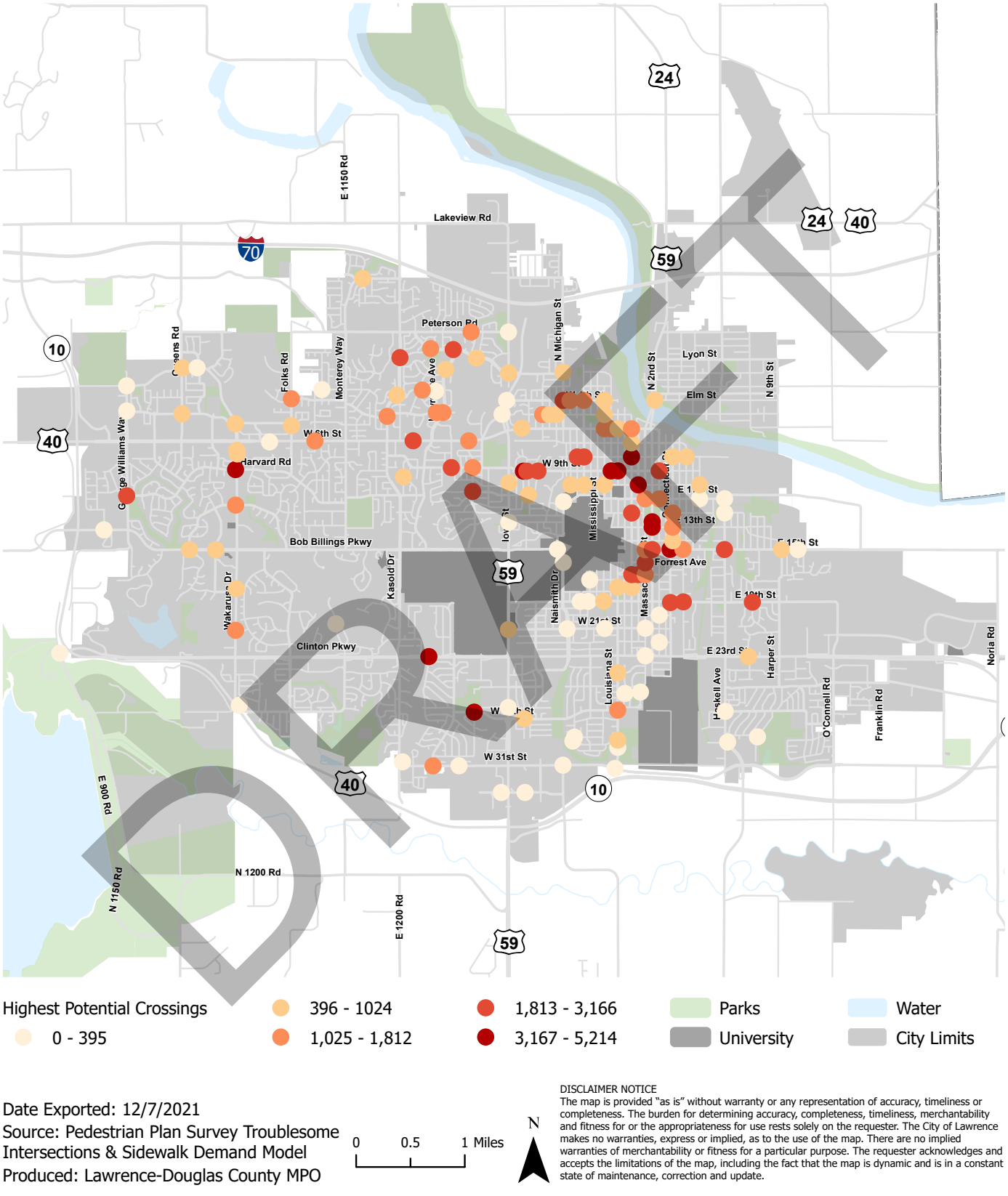
When asked: "Is there an unsignalized (no traffic light) intersection/crossing that you feel should have improvements made for safety or comfort?" respondents indicated:



Date Exported: 12/7/2021
Source: Pedestrian Plan Survey Troublesome Intersections & Sidewalk Demand Model
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

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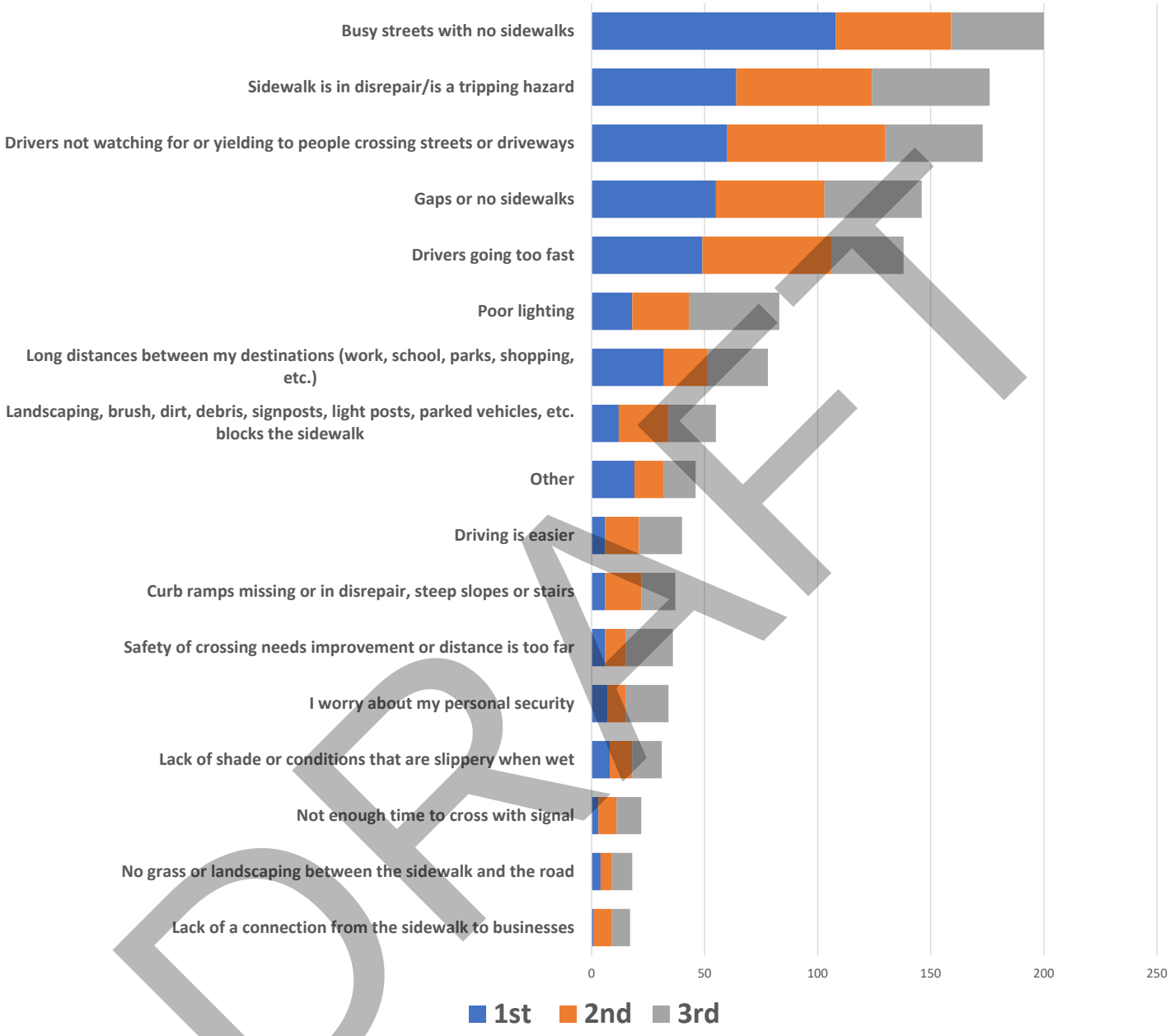
Number of Responses - 254 (147 individual intersections)

When asked: "What makes it difficult or unpleasant for you to walk or wheel in Lawrence?" respondents indicated:

Figure A5: Difficult or Unpleasant Walking/Wheeling Conditions



Number of Responses - 1,330

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When asked: "What makes it difficult or unpleasant for you to walk or wheel in Lawrence?" respondents indicated: Other (Responses are below.)

All

- All of the above
- ALL OF THESE ARE MOST difficult/unpleasant. In addition to not having sidewalks cleared during winter efficiently enough and to include the curb cut.
- All the above

Bikes

- Bikes need paths
- Honestly it is dangerous to ride a bicycle in the USA. I'm fine with bike paths that we have in Lawrence although I never use them . But to screw up streets like 21st & changes to Mass St.
- I assume 'wheel' means cycling. I don't wheel however removing obstructions would be # 1
- I don't bike. I walk in my neighborhood & shopping. Most walking is at Eagle Bend (which had improved over the years. The original putting green needs to be reconfigured to make it 100% usable).
- No problems but it would be nice to have more bike routes

Maintenance/Amenities

- Brick sidewalks may be historic, but they suck functionally. Too often poorly maintained. Overgrown. Bricks too widely spaced, uneven, missing, or just pulled up. So, chief offenders in a number of the above.
- Brush, trees, obstructing sidewalk
- city curbs , storm drains in disrepair and potholes in street - I.E. around 3200 Sherwood Dr
- Lack of seating options available for those with disabilities or limitations
- Lack of sidewalks and the danger for kids walking/biking/playing
- Lane markings are poor, worn, or non-existant
- Need an additional stop sign @ Connecticut and 8th
- No Crosswalks
- No sidewalks on wintebrook Dr and mostly duplexes, lots of residents and children and a park
- Not being able to see oncoming traffic at roundabouts
- Not enough bike paths in the city for use in commuting. We have plenty of recreational use paths but we need to have more streets like W6th in the 5000 block with bike paths separated from the road
- Not enough spaces dedicated to pedestrians cyclists exist in Lawrence. Downtown is cramped, and desginated zones for cycling either end in the middle of the street or provide little protection to cyclists.
- obscured vision for both drivers and walkers
- Plants and trees cover the sidewalk
- Safe streets, safe pedestrian, corner street lights, speed bumps in the highly trafficked street, and more public safety serving the community
- This relates to my answer in 5C: bike routes and sidewalks sometimes disappear en route to the grocery store or work. Too often there is no crosspath or traffic light at these instances.
- Traffic noise can be deafening on major streets and sometimes have to walk through large parking lots to get to destination.
- Water sprinklers that spray water on sidewalk and makes sidewalks wet and slick with algee ant turns to "black-ice"
- When there is snow, the streets and/or sidewalks are cleared of snow yet piled in front of the crossing space at the intersection. It's very difficult to walk when there are "mountains" of snow to negotiate in the midst of traffic.

Other

- crackheads & crime
- I wouldn't walk where I didn't feel comfortable
- Not a lot of others walking/riding is discouraging. Nothing the city can really do. It's a personal choice and most choose to drive instead.
- I live in far west Lawrence and walking is easy and safe. I walk about three miles every day and have no issues. I especially like trails like the DeVictor Park Trail, the Lawrence Loop, the Lawrence Nature Park, and Rock Chalk Trail.

User Behavior

- Bicyclists using sidewalk when there is a bike lane on the same street. Bikes on sidewalks in general are really bad. We either need more mixed use (wider sidewalks) or better enforcement to keep bikes off sidewalks
- Biking on the road is scary with speeding cars so I prefer to bike on sidewalks, but get ugly looks from walkers
- Cyclists riding bikes on sidewalk instead of the road
- Drivers drive fast & on FB, Snapchat the same time
- Drivers going too fast on wintebrook Dr
- drivers not stopping
- drivers not watching for or yield to people crossing streets or driveways, lack of shade or conditions that are slippery when wet, landscaping, brush, dirt, debris, signposts, light posts, parked vehicles, etc, Poor lighting: the blue leds will cause lawsuits, just wait!
- Far too many cars, and a severe lack of infrastructure and resources along the sidewalk. The experience of walking along a road like 6th Street is incredibly poor.
- sharing car and bike in traffic circle

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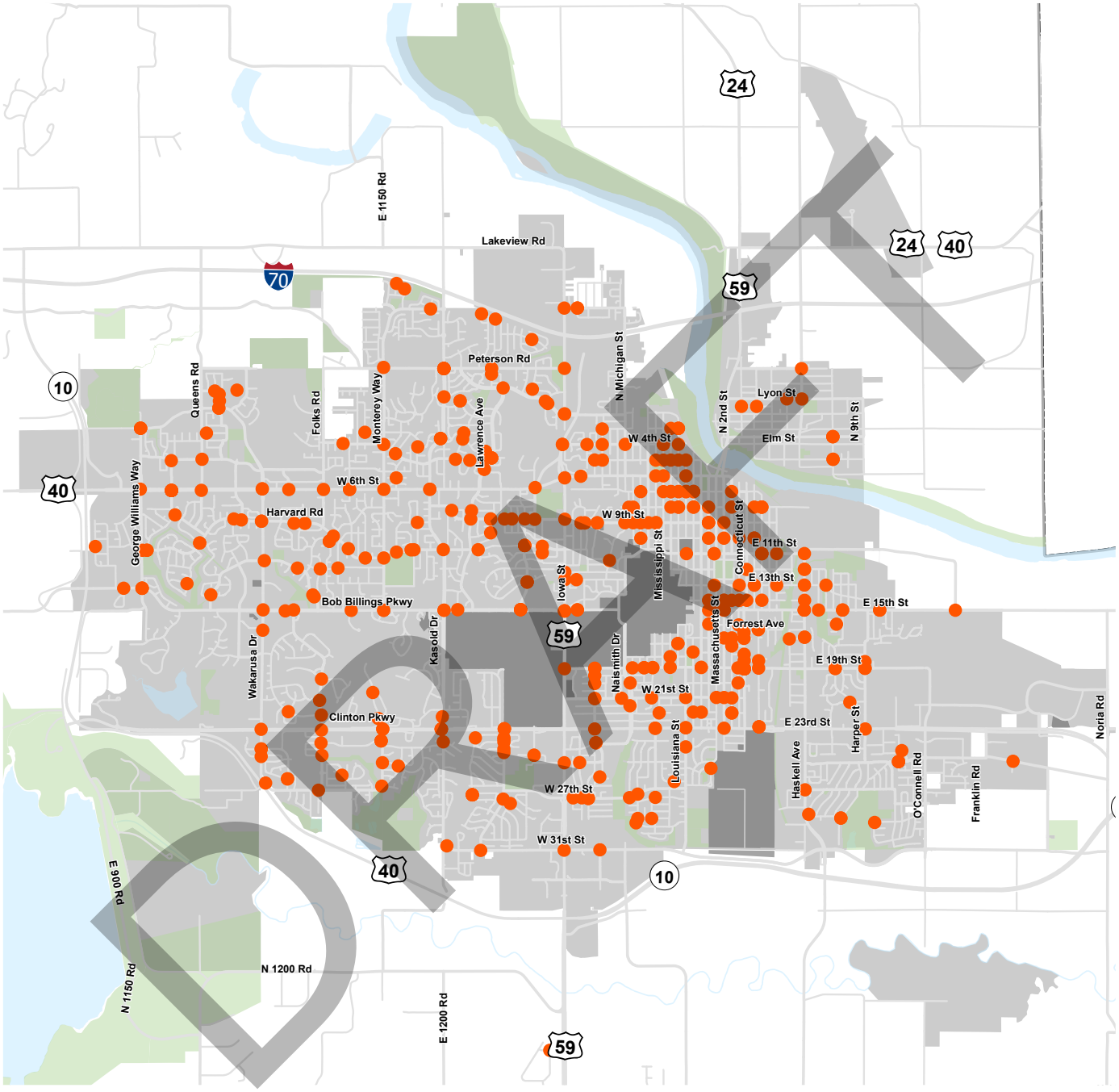
Demographics

When asked: "Where do you live? (nearest cross streets/intersection)" respondents indicated:



Date Exported: 12/7/2021
Source: Pedestrian Plan Survey Responses
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

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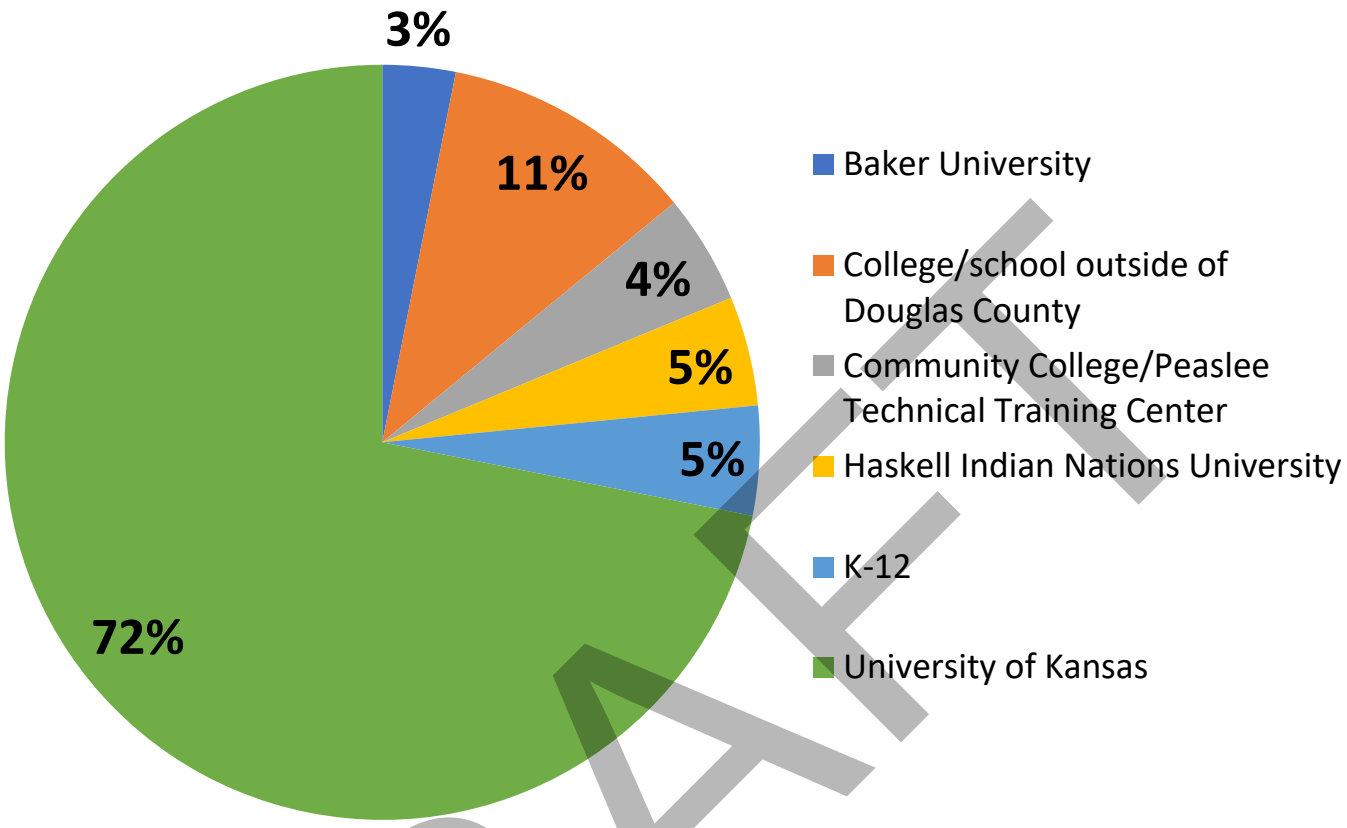
Number of Responses - 487

When asked: "If you are a student, select all that apply?" respondents indicated:

Figure A6: Student



Number of Responses - 64

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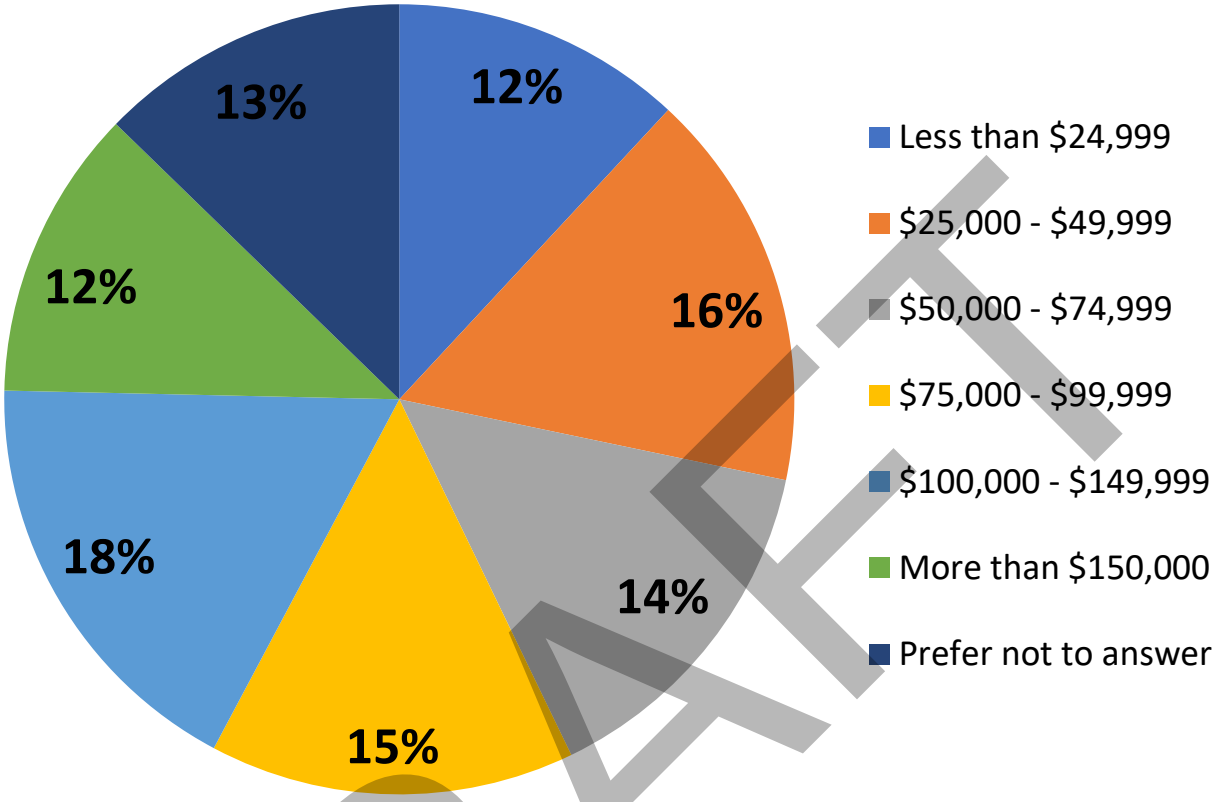
When asked: "What is the approximate average household income?" respondents indicated:

Figure A7: Household Income



Number of Responses - 495

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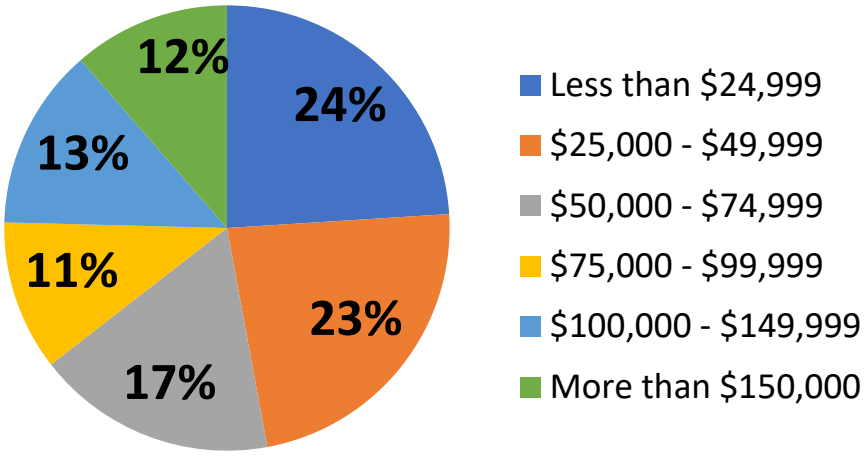
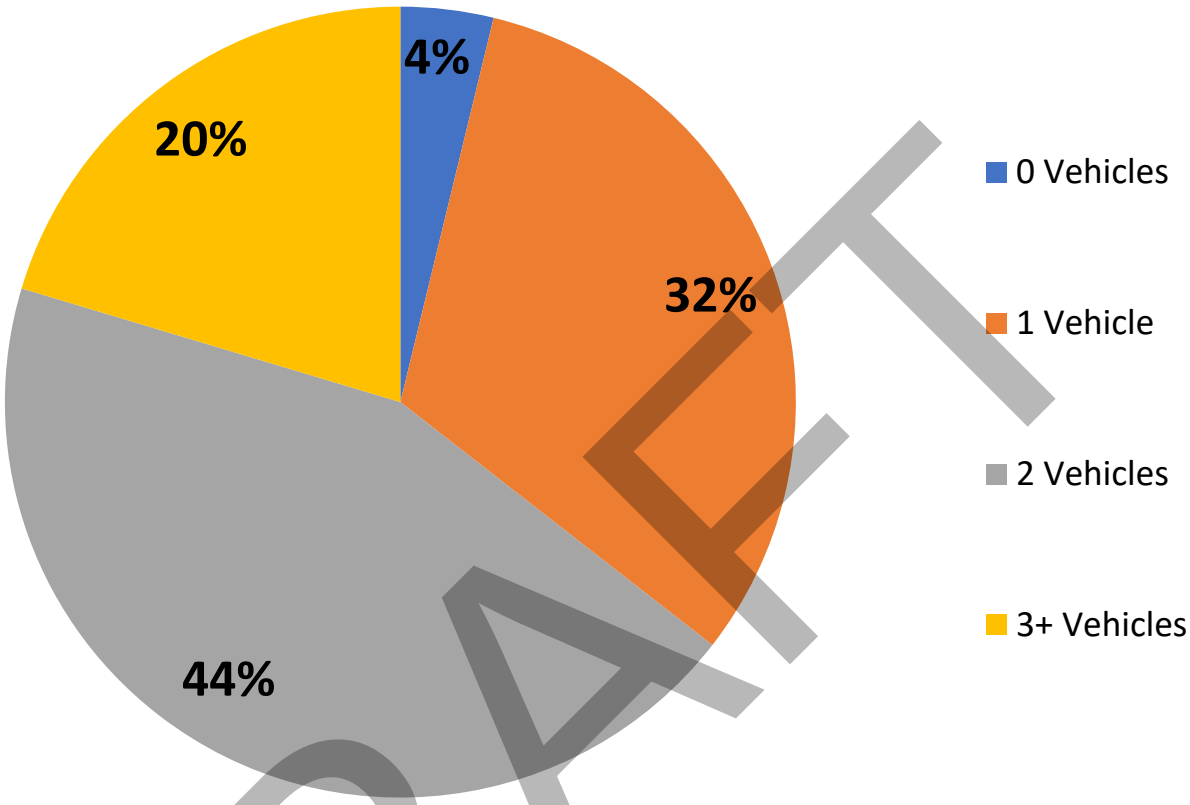
Figure A8: City of Lawrence Census Information for Comparison to the Survey Distribution - Income



Source: 2019 ACS 5-yr Estimates (S1901)

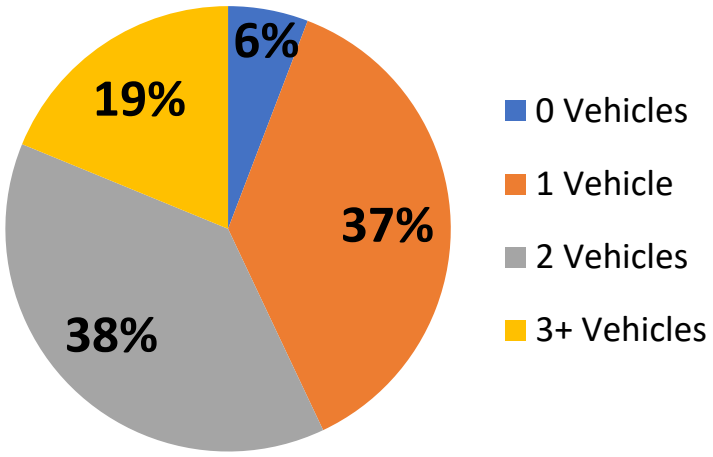
When asked: "How many vehicles are in your household, including motorcycles and electric vehicles?" respondents indicated:

Figure A9: Vehicle Ownership



Number of Responses - 501

Figure A10: City of Lawrence Census Information for Comparison to the Survey Distribution - Vehicle Ownership



Source: 2019 ACS 5-yr Estimates (B25044)

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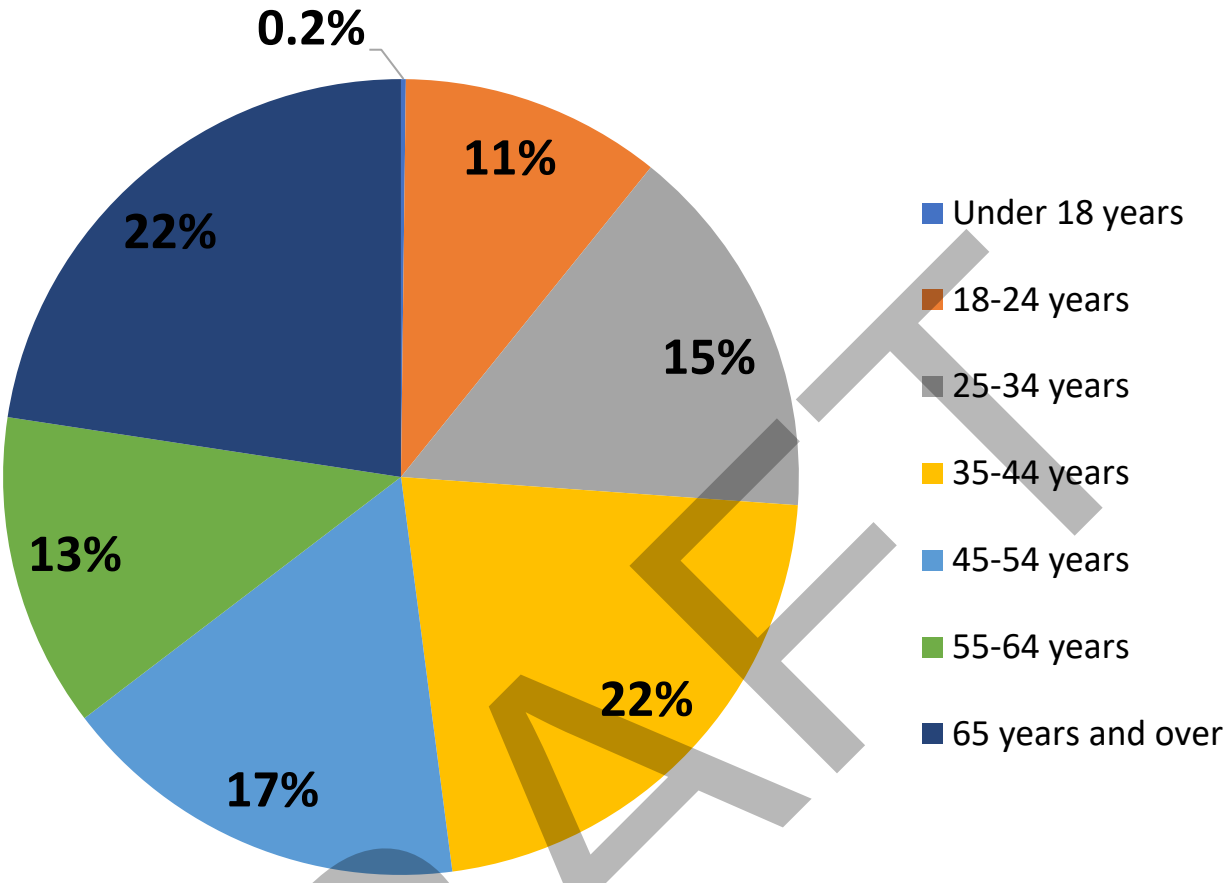
When asked: "What is your age?" respondents indicated:

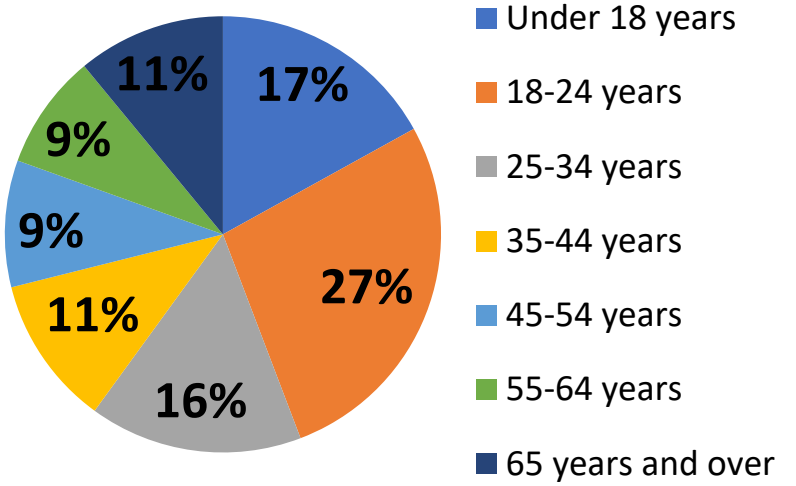
Figure A11: Age



Number of Responses - 509

DRAFT

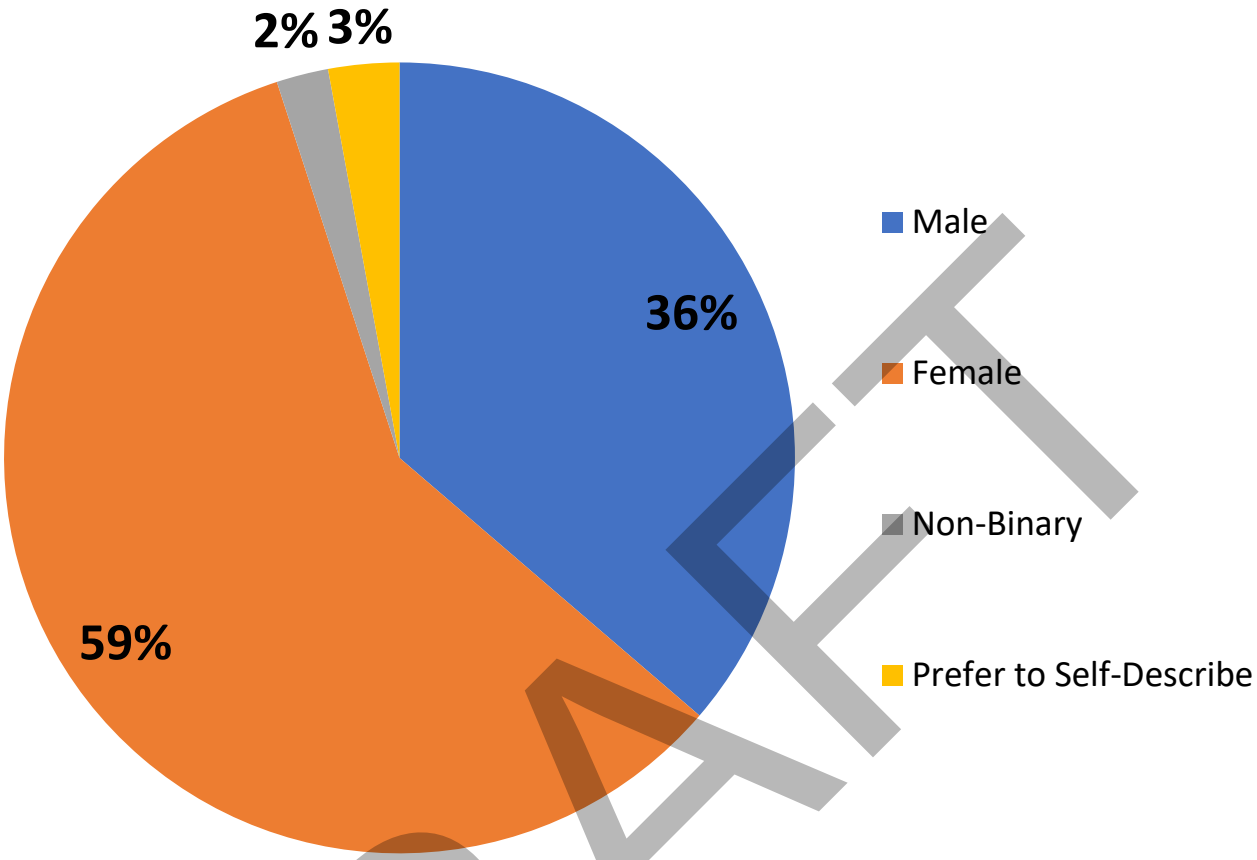
Figure A12: City of Lawrence Census Information for Comparison to the Survey Distribution - Age



Source: 2019 ACS 5-yr Estimates (S0101)

When asked: "What is your gender identity?" respondents indicated:

Figure A13: Gender Identity

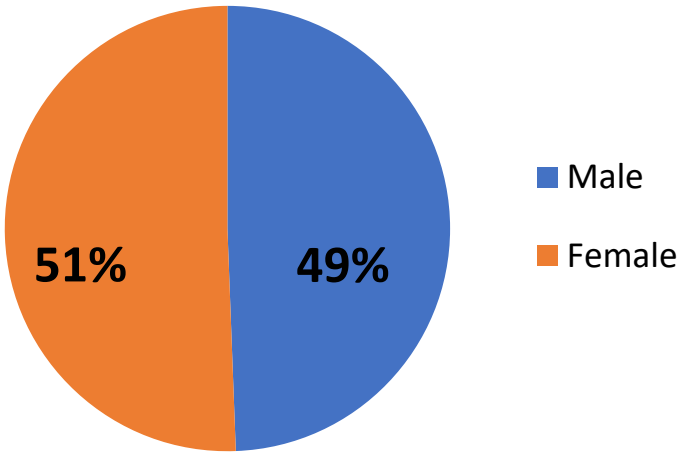


Number of Responses - 518

Prefer to Self-Describe:

- Genderqueer
- La Salle st
- male and female describe sex not gender. my gender is woman.
- Male or female
- non-conforming, leaning female
- Not relevant
- Why is there not a "prefer not to answer" for this one?
- Yes

Figure A14: City of Lawrence Census Information for Comparison to the Survey Distribution - Gender Identity



Source: 2019 ACS 5-yr Estimates (S0101)

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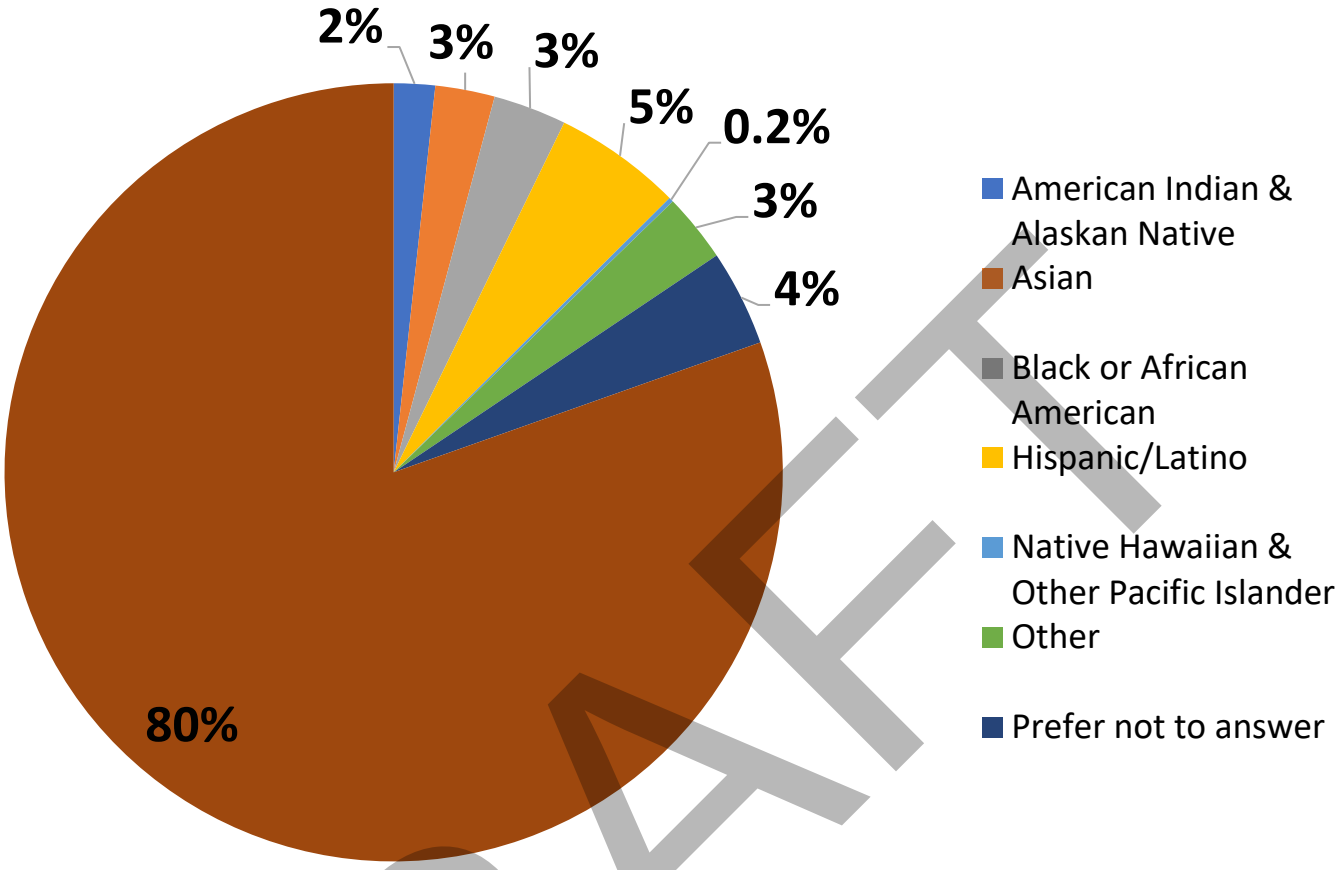
Source: 2019 ACS 5-yr Estimates (S0101)

When asked: "Which race/ethnicity best describes you? (select all that apply)" respondents indicated:

Figure A15: Race/Ethnicity



Number of Responses - 526

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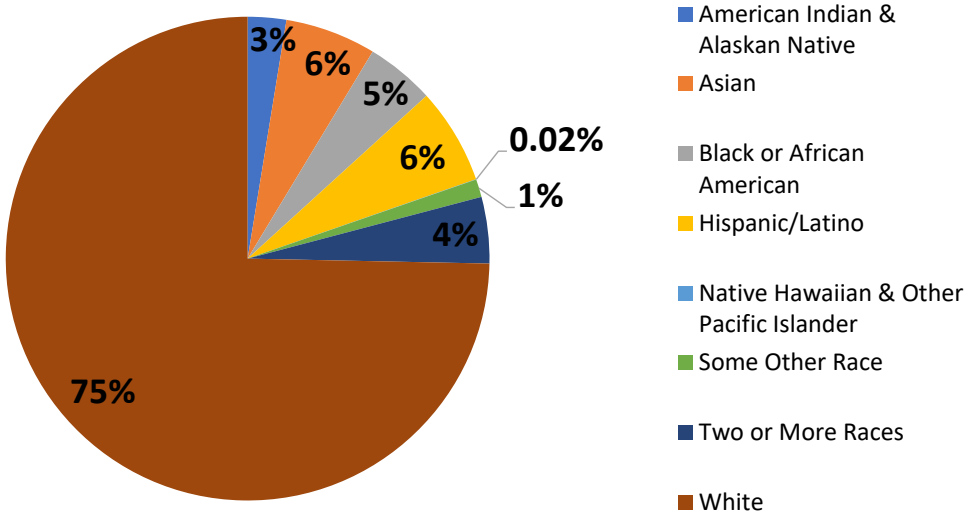
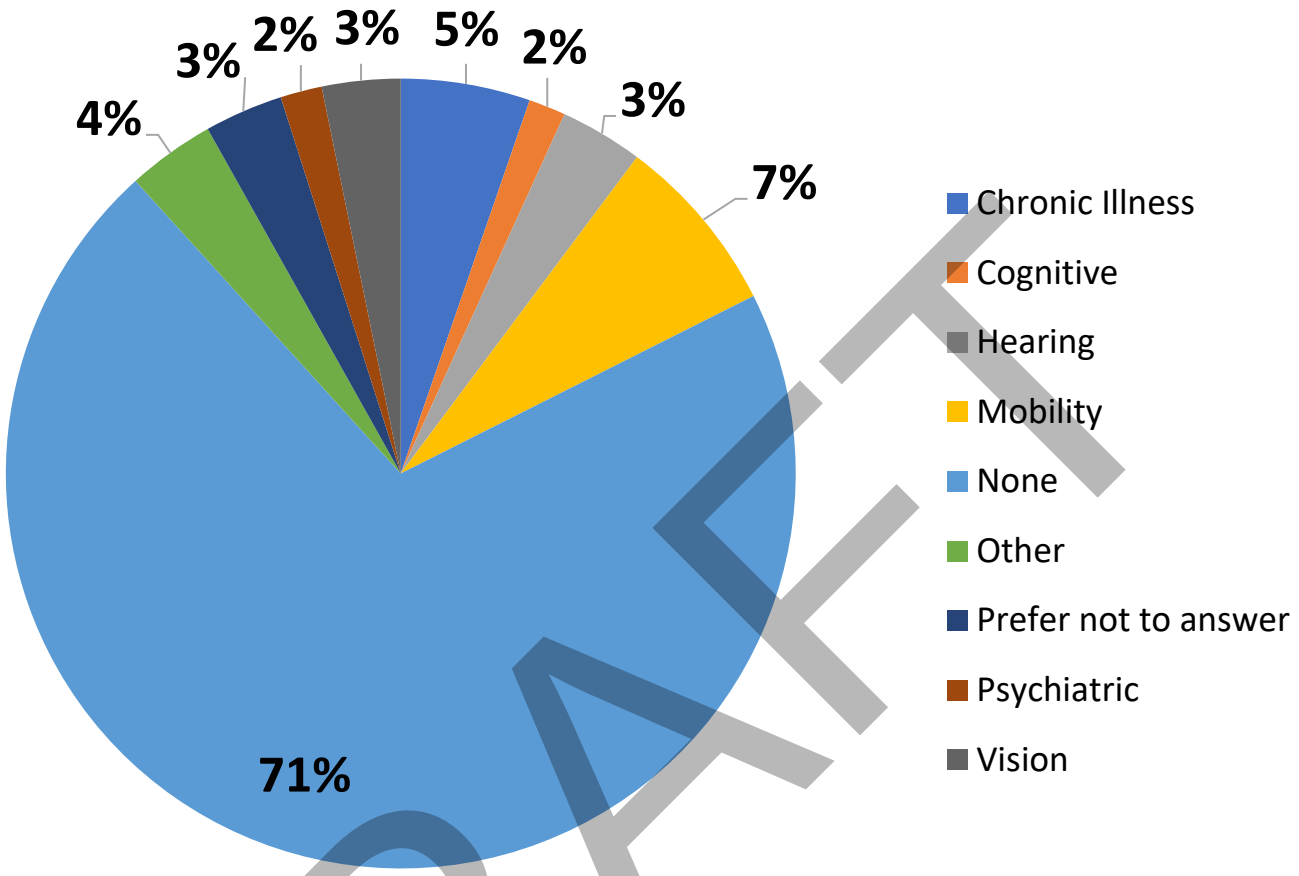
Figure A16: City of Lawrence Census Information for Comparison to the Survey Distribution - Race/Ethnicity



Source: 2019 ACS 5-yr Estimates (DP05)

When asked: "Do you experience any health conditions or limitations that affect your ability to walk in the community? (select all that apply)" respondents indicated:

Figure A17: Health Conditions/Limitations Affect Ability to Walk



Number of Responses - 529

Other:

- Age - some instability
- Asthma
- Bad Knee
- balance/vestibular
- cars speeding, and running over pedistrians
- epilepsy - impacts ability to drive
- need more places to get water and sit
- nerve damage
- Not disclosed
- Osteoarthritis
- Peripheral neuropathy (nerve damage in my feet)
- Poor balance
- Some mobility issues
- This question is not valid or necessary. I am a resident, I completed this survey. VALIDATION ENOUGH
- To unsafe due to people driving to fast & not paying attention
- use mobility devices
- Uses a cane
- work
- yes

DRAFT

When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

(Examples of existing programs include the dedicated city pedestrian/bicycle funding, Sidewalk Improvement Program, Neighborhood Traffic Management Program, Safe Routes to School Plan, right-of-way management program, signal coordination and pedestrian crossing time updates. To find out more about existing city programs view the existing conditions memo/handout at lawrenceks.org/mpo/pedplan.)

1/14

ADA/Accessibility

- I have very limited walking accessibility because there is no sidewalk on Kasold between 6th and Riverview. Please add a sidewalk on Kasold so I can access 6th St.
- I personally do not experience major issues however - I have consistently particularly in East (Lawrence) run up in areas of sidewalk that are inaccessible to disabled persons
- I think this is a good start. The other issue is that of accessible transportation - though more of an issue in rural areas - City of Lawrence may want to review that also.
- I was wondering could you change the handicap parking to accessible parking
- Lawrence the sidewalk on Main Street between 700 and 300 is in great disrepair and needs immediate attention. My friend is blind and cant navigate it. He lives in 600 block and works at Bert Nash. He should be able to walk this distance but can't due to the condition of the sidewalks.
- Many of the sidewalks near my house are in not very wheelchair accessible (especially with inclement weather) unless they are directly by the hospital. Yet, it is a very residential area and I know of several neighbors that rely on motorized chairs and the like to get around.
- smoothness for wheelchair use is different than what is needed for walkability. taking wheelchair users into greater account would be a good idea.
- Submitted via phone: I feel the entry/exit points from the sidewalk to the street are very dangerous, especially for wheelchair users. 31st/Haskell is the best design I have seen. The sloping curbs are a preferable design.
- Can you all fix all sidewalk on 25th. the cross work to a make the signal longer so people in wheelchair people get better and faster
- Going any distance in a power or manual chair is hardly worth the effort due to terrible sidewalks.

Bicycle Riders

- Downtown needs more bike racks and there should be bike lanes on all major roads.
- I am used to Massachusetts street and its new lanes but I wonder how it is working.
- 9th street going up the hill past Oldfathers is a death trap for bikes. The lane abruptly ends. 9th Street is a bad bike street. The bike plan should be moved away from collector streets to residential streets. E.g. I use 10th or 8th instead of 9th.
- I began ebiking this summer putting over 1000 miles on my bike so far and there is a lot of good biking infrastructure but there are a lot of gaps that need to be filled in. Also please have someone inspect the condition of the asphalt or cement in the bike lanes particularly where the curb and road meet and around drains and manholes. Send street cleaner to clean bike lanes more often. Relatively small cracks or debris are much more dangerous in the bike lane.
- I have biked 21st St since the "improvements" were made, and I almost crashed into barriers several times. I'm not sure why the city thought spending all that money on barriers made more sense than a simple bike lane designation, but it was confusing and, I feel, unnecessary.
- I like bike paths
- I took this survey to gauge how infrastructure was being tended in 2021. I see the concerns in improving existing roads to accommodate more sidewalks on major roads. I wish I saw more plans to install segregated bike lanes throughout the city. I fear yield lanes and roads only cause more stress and potential for harm. I believe if safer bike lanes were installed, then we would be welcoming more people to use bicycles. The same applies to sidewalks and pedestrians. Wider sidewalks on both sides of any road would be a terrific start.
- Lawrence Ave bike lane could use more signage. Many people drive in the bike lane as though it is a lane, particularly near the Dillons entrance in Lawrence (n 6th and Lawrence)
- More bike racks at businesses would be great so people could bike and get places further from where they live. Thank you for doing this!
- More paved bicycle paths separated from traffic along major travel corridors for daily commuting use
- My focus is primarily on the existing bike infrastructure of the east side. 13th street from Mass to Harper should be a

DRAFT

major BIKE and walking avenue as it also connects to the creek trail.

- or scooters! Bikes that are pay to ride!
- The intersection of Lawrence Avenue and 6th needs to be looked at. The northbound Lawrence Ave. on the north side of 6th appears to have a large bike lane delineated out but the paint has faded so much that a lot of people use it as a turn lane into Dillons.
- We recently took up bicycling, and discovered that poorly maintained brick streets make for an uncomfortable ride.
- While we do walk in the streets in our neighborhood, the crumbled streets are not considered a safe passage issue for pedestrians. However, it is considered a safe passage issue for cyclists. (See street maintenance plan.) In general, I think cycling needs are encroaching on the basic needs of pedestrians."
- There are many modifications to city streets for cyclists, yet I seldom see anyone using the bike lanes. I'm also often confused about who/when can use parts of streets divided into different kinds of lanes. Better signage or on-going public tutorials might be helpful. Both as a pedestrian and as a driver, I believe that the timing of traffic lights, (most) wait times, and control of intersections with traffic lights should be counted as a success.

Design/Land Use

- Need light posts at all bus stops!!! Need benches at all bus stops!!! Need sidewalks to connect curb to main sidewalk at all bus stops!!!!
- One way to make pedestrian travel more attractive is to expand public trash can and drinking fountain amenities. I can have a bunch of trash sitting in my car or a case of water but those are difficult to carry around. This is especially true waking my dog and picking up dog poop.
- Painted crossings even at nonstop light crossings would be awesome
- In areas where visitors might be signage to indicate direction and distance to landmarks.
- drivers not watching for or yield to people crossing streets or driveways; lack of shade or conditions that are slippery when wet; landscaping brush, dirt, debris, signposts, light posts, parked vehicles, etc.; poor lighting; the blue leds will cause lawsuits, just wait!
- Benches and shelters because of weather, signal across Walk lights and or signs indicate pedestrian's :children_crossing: crossings. Bicycle Lanes marking or caution signs.
- Businesses run out of residential areas. Specifically at the corner of Delaware and 12th Street. Long trailers block roadways. Cars/Trucks parked on lawn. Welding, hammering and electrical tools used at all hours; day/night. High foot traffic in alley behind Delaware - require camera monitoring. Neighbors are forced to leave lights on for safety.
- City staff, police, sanitation, etc. are epic. Stop cutting funding to these amazing Lawrence public servants. Let's spruce up East Lawrence and make it safer. You are encouraging the sprawl. And for God's sake stop the development by Baker wetlands. Leave it alone, make it a national treasure and fill in the existing empty spaces in north Lawrence and old borders. Also what is with the intersection by the Merc? Are you kidding me? Who can survive crossing there? Also let's hold the people that own the shopping center at 19th and Haskell responsible to fix up that place and make it a hub for East Lawrence. "
- emergency phones on all intersections not just on college campus but all of Douglas county and emergency safety for people of disability or health concerns
- I feel like there is an over reliance on traffic lights at intersections as a pedestrian support. While they're helpful I hope you're looking at other solutions like wider medians between busy streets and sidewalks. Thanks for the survey!
- I love the progress the city has made toward biking/walking paths around the city and look forward to prioritizing safe walking/bike routes within the city such as the safe routes to schools plan. I would like to see viable utilitarian pedestrian paths within and from neighborhoods to all schools, food shops, parks, etc.
- I resent how the city is trying to make it difficult or impossible or at least prohibitively expensive to go anywhere by any method other than walking or bicycling.
- I think having enough trees to provide shade on sidewalks would make for more pleasant walks.
- I think the city should start is own program following city "complete street program". Already adopted. Dot Nary would be a good leader. PS some use bike "friendly" and that is mostly "miles" and not necessarily "people friendly" like complete streets.

DRAFT

When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

3/14

- I'm an runner that would love more safe places to run outdoors without creeps. Bigger sidewalks and safer trails.
- It is important to keep commercial development *out* of neighborhoods (meaning off thoroughfares) , especially if those neighborhoods are housing schools. If such commercial zones are adjacent to neighborhoods, it is safer to install curb cuts on main roads than bringing additional traffic into walkable neighborhoods. It is better to slow main roads/ inconvenience drivers than to endanger walkers, many of whom are children.
- It's a disaster primarily because people just don't care about others. If you want to make it real safe, you need, at minimum, sidewalks on both sides of the street. Ideally, you'd consider a Copenhagen strategy with a raised biking lane on the shoulder and a raised sidewalk outside that for the main streets.
- Lots of residential areas with trees or bushes blocking vision of crossing streets
- Other: Down 17th and Haskell curve needs more widening, cars drive too fast between 17th and 15th always not enough room for traffic
- Parked vehicles on 10th and Alabama, 11th and Ill., 11th and Indiana make it difficult to walk or wheel in Lawrence.
- Someone needs to do something about the traffic lights. Ever since they had a consultant change then it is absolutely terrible. Long waits at lights no syncing on major streets. Horrible planning and waste of money.
- Something that may help with encouraging people to walk would be to decrease the distance between businesses. One way to do that would be to shrink parking lots. With more people walking anyway there won't be a need for as much parking space. Another thing that may help with walking would be making super busy roads (like Iowa or 31st) more accessible to people crossing. Maybe with tunnels or pedestrian bridges. I'm going to link a video that talks a bit more about city planning and walking. I know you guys probably already have this information but I'm going to provide it just in case. https://youtu.be/uxykI30fS54
- Outside of most of downtown, being a cyclist or pedestrian still feels incredibly unsafe/rare. I would love to see our community really embrace these mobility options, not just through traffic choices, but greater density on our major corridors and more thoughtful transit options. KC's streetcar is a great inspiration!
- An advisory shoulder road is an interesting idea but problematic when cars are added to the mix.
- We need to nurture (foster) a culture change from driving to riding bikes/walking. Mostly slowed speed limits and connecting trails and sidewalks. And always include planting native trees with construction and pedestrian "roadways"
- I live in the Barker neighborhood. It is an especially busy pedestrian community of all ages. There are a lot of children and young families here. Many residents refer to Barker St. as the Barker Speedway at least between 15th and 19th. There are a couple of center islands, but to no seeming tangible effect in terms of slowing traffic. Learnard is worse because there are not sidewalks. While that is visually appealing, drivers go WAY too fast. Many folks walk their dogs along the street. I used to, but because of car speeds, I stopped. Whenever a car came, I would step into the grassy area to be safe which is tricky depending on where the drain is installed. It's especially bad at night as there is little light. As Barker has some calming devices and there is no busy street paralleling the other side of Learnard it seems eligible for traffic calming devices. While Barker and Learnard are bigger thruway streets, they are also fully residential streets. Slowing both to 25 mph with enforcement would be a start. I've asked LPD for enforcement, but rarely see it. As a retired person I'm around to notice. This has been a problem for the 16 years I've lived in this neighborhood and it seems to be getting worse.
- I am very happy to see the designated pedestrian walkways and bike pathways that do not allow motorized vehicles. It seems there are more every day!
- Mainly, driving is easier because of the distance between destinations and between my home and destinations. Lawrence is designed for cars.
- Need to work with neighborhoods to accommodate street parking and traffic calming needs in new and existing neighborhood streets (sidewalk desired on one side and both sides of the street)"
- Wheeling and Walking experiences should NOT interfere with safe, normal motor vehicle traffic
- Related to the 3a and 3b proposals and have objections to streets like 21st is currently marked. It almost makes the street useless to cars and it never see bicycles using them (21st street, example)
- The costs of the North American transportation system are too high and not just in money, but in time, safety, and quality of life. No one should have to live in a community where transportation gets worse while costing more. Its unwise, and unfair, to be wasting precious time and resources on something this bad.

DRAFT

When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

4/14

- The priority of 6th street should be pedestrians. PERIOD.
- Put option for leave unchanged.
- old neighborhoods MUST retain original character
- We need more dig parks.

Design/Land Use - Downtown

- Pedestrian walk-way down Mass St could improve tourism downtown and make it easier for more outdoor seating at restaurants.
- Remove the "tower" at river front it blocks visibility and serves no purpose. The turn on the north end of the river bridge is unsafe turn right then left to cross elm and dangerous with traffic.
- Similar to before, I am a big advocate for walking areas, especially mass. The concept in the Denver, CO area is what we need.
- Mass. St should be a pedestrian mall.
- dedicated. pedestrian. walkway. down. mass. St.!
- I do think a dedicated pedestrian block or two in Mass would be perfect.
- I feel that Downtown would be more welcoming and safe if we made it into a walking plaza like Boulder, CO.
- I hope to convert the downtown area on Mass Street to a walkable plaza with no vehicles. I would like to see similar goals and ambitions from city politicians.
- I believe that pedestrianizing Massachusetts St from 6th to 10th would great improve the overall downtown experience and the walking experience specifically. The addition of outdoor eating spots in stalls has been great, but the removal of those parking spaces overall would not only increase the space provided for pedestrians, but allow for new business opportunities (stalls in the old roadway, increased attraction drawing money to businesses, easier concerts that don't require street closures, etc.) Either expanding existing parking garages or adding one more could offset the lost parking spaces easily.
- Accessible parking downtown is a joke. The parking garage isn't an option as it is too difficult to get from there to Mass St. the sidewalks in our neighborhood is so bad that my daughter can't walk on it with her walker, it is so unsafe. There need to be speed bumps in more neighborhoods. I would like to see the city repair driveways (like my own) that the city vehicles/city contracted vehicles have destroyed when doing snow removal.

Design/Land Use - Lighting

- I think it is a good idea to take care of pedestrians and the community with more security, light posts, street lights, street signs. Most importantly Lighting, lighting, and more lighting in dark streets. This is a humble comment from an illegal in the US.
- as a woman lighting for safety is key I've been followed several times at night and think more light would deter it (hopefully)
- free Wi-Fi around walking areas when you are taking along walk, would be nice to have to save date. At night- on trails by Hobbs park leading to 19th and Haskell: reflectors/ path lighting
- I prefer to walk downtown and cannot walk home at night due to poor lighting.
- Many streets / in tight knit or old neighborhoods have little lighting and driving speed is too fast. Also motorists do not watch for bicycles well.
- safety issues lights walkways etc.
- Sidewalks are in bad shape but they've been marked for repair. Poor lighting in neighborhood. tree's need trimmed for street lights.
- More street lights for walking

Lawrence Loop

- There are a lot of very very risky intersections for pedestrians in town and yes, drop all the speed limits to 25. I see kiddos walking to school every morning next to super fast cars with no egress between themselves and the street. Also, the answer to homelessness in the community is not to let people live in unsafe conditions for themselves and

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the community by the river trail and along the south end of the Burroughs creek trail. There is a huge encampment down at the end of the trail by Haskell. This absolutely must change for people to feel comfortable enjoying Lawrence trails and not good for anyone involved. Also please let's just finish the loop? It's minimal investment and then let's pay for it by attracting races and other events to use it! We could position ourselves like so many towns as a bike hub, this will pay for itself. But people really do need to feel safe. This means women are able to feel like they aren't going to be accosted along our paths. Please relocate the encampments in the woods. Provide proper lighting and also clear crossings. This is more important than ridiculous expensive arts projects. Never pay for art projects by any non local artists when we have amazing artists in our community.

- Not yet a major impact, but there should not be retail building on Iowa south of the SLT without ped/bike connection. None now, and Michigan is a substantial distance. I think if the SLT bridge had been been 5 years later, KDOT would have taken that into consideration. Pedestrian/bike from Prairie Park neighborhood to Billy Mills and 27th corridor would be a dream (far side of the SLT is way too far on foot), but a near-impossible negotiation with Haskell.
- Complete the loop
- I enjoy walking around my neighborhoods and almost always feel safe. I love the Conrad and Viola nature preserve the most. I have used parts of the Lawrence Loop too
- I love the Lawrence Loop and can't wait for its completion, but I would like a little more input on the actual map.
- I would also like for the city to complete the Lawrence Loop. It's past time to step up the process.
- I would put in a temporary connection for the Lawrence Loop downtown. I would take the center turn lane of 7th out and put in a separated 2 way bike lane on the north side of the street. (Move parking to the other side of this facility) Then turn north on Vermont with this and link it through Constant park. This could be done with flex posts, which I heard the city has thousands already purchased and paint. Along with labor this could be done for very little cost and remove few parking spaces while bringing so many people downtown on this facility.
- Love the Lawrence Loop!
- Love the Lawrence Loop. Would love more bike lanes. Sync up all of the lights and crossing signals so they count down, they react the same throughout town. Mass & 6th Intersection: West on 6th, turning north on mass- add a right turn signal please.
- Thanks for working towards finishing the Lawrence Loop.

Operations/Maintenance

- Not enough for the kids or programs for or neighborhoods with outlets only onto busy streets should have walking/bicycling paths that at through to adjacent neighborhoods without going onto the busy street.Other things that make it difficult or unpleasant for walking/wheeling in lawrence: - snow not being clear from sidewalks - vegetation closing sidewalks - cars pushed across sidewalks
- Please consider more funding to improve our road conditions to fix pot holes etc. and include more bike lanes to make it safe to bicycle in town. We have such a lovely town but our roads are an embarrassment.
- The bike path at 31st and Louisiana that is underwater after it rains is the dumbest thing I've ever seen. I don't care who owns or paid for it I think it is absolutely irresponsible to maintain it in its current condition.
- The recent sidewalk improvements have caused many beautiful trees to be cut down. Please replace them. Walking in the summer months is miserable without the shade of trees.
- The traffic circles in University Place neighborhood can be hazardous for walkers since there's no clear path for crossing and greenery in center can block sightlines
- There are sidewalk areas with water running over them which causes moss to form and a major hazard. My mother-in-law slipped and fell. One such a sidewalk is the north sidewalk east of 6th St on Branchwood drive - across from the apartments
- Walking in Lawrence is typically a pleasant experience. One issue that wasn't listed in the list of problems was that landscaping (primarily trees) grow over the sidewalk and block pedestrians. The trees in the right-of-way are city trees and should be trimmed by the City but I don't think they know where branches are overhanging the sidewalks.
- While its heartening to see so much enthusiasm for the plight of the pedestrian, I think we lack focus.The definition of the word "pedestrian" means basic, plain, or ordinary. It follows that a pedestrian person is basically walking. The

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context has expanded to running, hiking, and sharing. By today's standards, we should be looking at two pedestrian categories - plain walking for transportation and walking/running for exercise. As a person who has always preferred walking as a mode of transportation, I don't need or want a shared use path to a grocery store or a bus stop. I also think it's not practical to lay sidewalks all over the city. My neighborhood. for example, is an ideal multimodal environment with no sidewalks. Other neighborhoods have different characteristics and strengths. Neighborhoods should not be standardized. I'd like to suggest that the overall goal is to provide public and private physical access and safe passage for basic walking/rolling. (On a side note, children and unsteady mobile device users should probably use the sidewalk.)

- 10th street going east- tree over growth poses threat to vehicle passing by and visibility. 11th street has issues with flooding and the intersection of 11th and Haskell has problems with flooding emery and 7th street is another concern
- Hate the purple street lights, they are not bright enough to feel safe walking alone. Maybe put them in neighborhoods where crime is not so high
- I am a pedestrian mostly. I would like to just restate the importance of sidewalk shoveling vs, letting the sidewalk have ice packed snow on it. When I have to walk to Dillon's on Mass on the New Hampshire side I have often had to wear ice cleats. I have fallen several times on ice in that area.
- I think we need better enforcement when sidewalks are blocked by vehicles.
- One other thing, near campus sidewalks are frequently blocked by cars in driveways. I've not seen enforcement of that either.
- To reiterate, I have seen vehicular obstruction of sidewalks all over town, and find the problem acute in the Oread Neighborhood.
- I have fallen into street from pothole at curb. Hit twice walking.

Operations/Maintenance -Brick

- I know the city is addressing sidewalk conditions. I would like to note that while I love the character/appearance of brick sidewalks, they are uneven, slippery when wet and hard for property owners to adequately clear ice and snow. I also note at times that wheel chair users in East Lawrence take to the street rather than deal with the varied sidewalk types and irregularities. This looks very unsafe to me.
- The text above notes that brick sidewalks are being considered separately. While I realize they are historical and many love them for that, they are highly impractical for most walkers, even those who do not have mobility or vision issues as I do. They are slippery when wet and uneven always (tripping hazard). Even though I live in a neighborhood that seems to take pride in its brick sidewalks and streets, they are a safety hazard for many and terribly impractical for the homeowner to keep open and free from vegetation in the growing season (especially without using chemicals) and snow/ice in the winter. I hope they can be replaced by a less problematic surface over time and that barriers to replacing brick with a safer surface can be removed.
- We always have a stroller, which makes OWL sidewalks pretty much impossible! We always have to walk in the streets. This issue often involves brick sidewalks, which I understand is not covered in this project, but the lack of consistent sidewalks in general is an enormous difficulty for those of us with small children in Old West Lawrence.
- We recently discovered that not all sidewalks are equally stroller friendly. Even well-maintained brick sidewalks pose challenges for strollers.
- I love walking around Lawrence, especially the older neighborhoods around KU and downtown -- this is such a beautiful place! However, the lovely brick sidewalks are REALLY hazardous (especially when it's raining/snowing or they are covered with leaves) and the very fast traffic zooming down Kentucky and Tennessee is pretty scary. Also, the lack of sidewalks on both sides of some historic streets makes it hazardous to walk down them, especially when homeowners or the city don't maintain the one side of sidewalks that ARE there.

Sidewalk Gaps/Crossings

- I've been almost hit like 5 times on 23rd and Mass by people turning east (or left towards 23rd)
- 9th and Maine, n to s not enough time to cross with signal
- Inverness flasher around 17th needs work. Change to flashing yellow or red and have signs alerting cars to the flasher.

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When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

Call if you need further info.

- The four-way stop intersection at Wakarusa Dr and Overland Dr is very dangerous. I frequently pass that area while on a run and have almost been hit multiple times. I do not know what a proper solution would be, but drivers frequently do not stop at the stop signs. I think the area is heavily travelled, so that contributes to it, but it is a very dangerous intersections for pedestrians and other cars.
- It is very dangerous for me to cross from St. John's Catholic Church to the parking lot across Kentucky.
- we moved out of the old alvamar area due to lack of sidewalks and lighting. nothing available near proximity to area
- North Lawrence needs more sidewalks that are better maintained and drivers need to slow down and be more considerate of others.
- There have been very minimal sidewalk improvements in North Lawrence. We feel completely ignored here.
- Sure would be nice to have walking paths/ sidewalks in No Lawrence
- Naismith Blvd. needs sidewalks on *both sides* of the road! It hasn't happened because of A) a distinct lack of will by *city staff* to mitigate poor setbacks at 21st and the 'hillblock' between 20th and 19th Terrace, and B) a distinct lack of will by *city staff* to build porous sidewalks around mature trees in the right-of-way. Ignoring the deterioration of the old narrow sidewalk along the entire west side of that street, and dismissing the physical hazards along the entire length of the east side of Naismith for the last twelve years, hasn't made it any safer or easier to walk for the dozens of daily pedestrians who stumble over broken cement along one side, or walk or wait for a bus in the mud and dirt along the other! After advocating for Twelve Years to Fix. This., when will city staff take action? We have had numerous auto/pedestrian/bicycle accidents and even death on this street, yet nothing changes to make it safer for pedestrians. Wouldn't *you* be frustrated by now, too?
- I love the Lawrence Loop, Burrough Creek Trails, being able to walk to the Arboretum.
- I think there should be a sidewalk in the block south of the Amtrak station (in front of Kennedy glass). Why isn't there a sidewalk there!!!?
- A sidewalk is definitely needed on the east side of Naismith Drive between 19th St. and 23rd St. A street as busy as this one really should have a sidewalk on BOTH sides. One, but not the only reason, is that there is a bus stop on the east side of Naismith at 21st St., which should be accessible by means of a sidewalk, not a sometimes muddy footpath. Finally, a simple ramp set back on 20th Street would solve the stark elevation issue on Naismith Blvd., between 20th and 19th Streets, and provide safety for people walking along that side of the street
- Barker ave sidewalks are a mess and only on one side. Learnard has no sidewalks
- Don't slow down traffic. Add sidewalks.
- I don't prefer that Lawrence over spends on unnecessary sidewalks on both sides of the street where it's not needed.
- It seems there is a major lack of street connectivity in Lawrence that should attempt to be addressed.
- It would be better to have sidewalks on one side of the street that are well maintained then to have more sidewalks that are not maintained. I walk at least 4-5 days a week and choose to walk in the street rather than on the sidewalks in my neighborhood because the sidewalks are a tripping hazard.
- Kasold north of 6th has two long stretches without a sidewalk. It would be nice to add a sidewalk to at least one side of the road. Thanks!
- Lack of sidewalks in neighborhoods creates such a safety issue for children!
- Please finish sidewalk on 19th Ter at Naismith. The sidewalk crosses a parking lot. Use the easement and finish the sidewalk. There are cars parked where the sidewalk would be when it is needed most (think basketball games).
- Please, please add sidewalks before removing car lanes. Fix the sidewalks first. And cool it with the speed bumps.
- Pushing a stroller around the neighborhood is difficult and at times unsafe. Please consider adding and/or repairing the sidewalks in east Lawrence.
- Sidewalks in neighborhoods
- Sidewalk connectivity and appropriate crosswalks are the most important. Too much money is spent on expensive controlled crosswalks with lights when we need more basic crosswalk striping and repairs to existing sidewalks.
- Sidewalks in residential areas
- sidewalks towards downtown, near univ. issues near university vegetation encroaching walking paths and preferred routes for schools - could

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When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

8/14

- Submitted via email: Why is there no side walk planned on city property on the west side of Folks/East 1100 north of Trail? This property was developed by Doug Compton over ten years ago. This is city property where he and others (Bill Self) live. The property also borders the city nature park to the north. (So, how did Doug Compton avoid having to put sidewalks on city platted lots and property?) Also, wouldn't it be nice if the folks visiting the city nature park could walk or bike there without being targets on Folks Road. Would you please consider adding this sidewalk addition to the someone's radar/plan?
- The Lawrence Loop is awesome! Truly. Having that many miles away from traffic is such a plus to living in Lawrence. Please put as much funding as possible into finishing it.
- There needs to be a crosswalk and ramp between Raintree and the bike path. We need more places for peds to safely cross 23rd and 6th.
- Trail Road from Kasold to Law Ave has a sidewalk on one side. With the speeding traffic on this road (speed bumps have not slowed down speeders-they use the cut channels to avoid slowing down and city has not lowered speed limit) having sidewalks on both sides is imperative. Lots of walkers, bikers, joggers use Trail Road and are in danger when crossing street or moving onto Trail to avoid other people on sidewalks, especially since Covid. There is a partial sidewalk on the north side of Trail from Rockfence extending east past 3 houses. The sidewalk in front of the 4th house on the eastern edge was torn out by the owner (Greg Robinson) a few years ago. More kids walking and biking to school are in danger every day. Weve seen many close calls that are preventable if sidewalks are present on both sides of this very busy street through a densely populated area.
- Learnard doesn't have a sidewalk, and it should. Drivers use it as a cut through like Barker, and it is not very safe. It has improved a bit with the speed limit reduction, but police need to step up enforcement of that.

Sidewalk Improvement Program

- The entire sidewalk on Johnson between Barker and Learnard is a tripping hazard. There are places where there's missing concrete. When I walk down to a neighbor's house I move limbs/debris to the side as there are wonderful big trees that drop limbs.
- As new Lawrencians, we were shocked that homeowners are responsible for sidewalk and driveway curb repair. Have moved several times in our lives and have never experienced this.
- Because I live in rural Douglas County, most of my daily walking is town and on many different sidewalks and streets. In fact, I walked all the streets in Lawrence, KS, in 2020. While I don't have mobility issues, the sidewalks in poor condition or where there are gaps make it quite easy to trip, especially if it's dark if it's dark which is the case during a good part of the year. In addition, sidewalks not being well lit or not being cleared of ice and snow in the winter also causes problems. We sometimes have to walk in the streets because they are in better condition, better lit, or not slippery.
- Beware the check lists. I was walking on Louisiana Street after the city completed sidewalk repairs. Ramps were done. Cracked squares were replaced. The sidewalk is not walkable, because it dips significantly at every driveway. I almost lost my walker to Louisiana Street. This sidewalk should not be marked complete. It's a hazard, and probably a liability.
- Everyone should contribute to the repair and upkeep of sidewalks. We have many residents who live on streets or sections of street that have no sidewalks. But they use and benefit from the sidewalks that exist elsewhere. Also, homeowners should not be allowed to let grass cover parts of sidewalks. That is one thing that lessens the width so walking space and also contributes to the erosions of the sidewalk.
- I have a "tricycle". It is very hard to maneuver on sidewalks, which are sloping and in various stages of disrepair. So, I have to use the street and do not feel very safe. I realize the sidewalks are being repaired; it's a slow process, though.
- I have lived here 5 years and I have not seen any improvement in the sidewalks in my neighborhood. Lot of talk no do
- I realize the brick sidewalks are going in a different process, but just want to chime in here that they're so awful. We had to buy a jogging stroller when we moved here because a regular one didn't cut it in East Lawrence.
- I would like to see the city take responsibility for sidewalks, an essential part of city infrastructure, rather than placing this burden on individual homeowners.
- In an ideal world wed have sidewalks on both sides of streets. In real world, esp. with neighborhoods, I'd have one

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When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

9/14

good, well maintained sidewalk on one side of street than two badly ones one on each side. In my neighborhood, w. Lawrence, e. Lawrence and Oread, people w mobility issues, as well as those using strollers walk in streets a lot because sidewalks are so bad. It would be nice if city would acknowledge its significant contrib and responsibility for the bad sidewalks and respond appropriately. Meanwhile I appreciate sidewalk improvement plans intention to give greater weight to most heavily used sidewalks"

- In general walkability is good. I am a new resident and have little issues. However I can see those with limited ability would struggle with the level of disrepair of sidewalks, which homeowners are and should be responsible for! This misguided belief that the govt should do everything for those who own property is ridiculous. If the govt wants to take that over after sidewalks are fixed then that's fine, but we need to move forward with sidewalk repairs soon.
- Lots of sidewalks and streets are in not great shape, a lot of uneven sidewalks with big cracks. This makes it hard to bike/skate. Most sidewalks end after a block or two a lot street lights don't have crosswalk button and the ones that do are broken - (Harvard and Kasold). sidewalks should be wider for people with electric scooters/strollers/wheel chairs/ etc.
- Many sidewalks in the Centennial neighborhood are very difficult to navigate with a stroller. It is hard to find safe routes for walks with young children.
- My sidewalk could use repair - But I'd prefer the city contract it out and bill me. It'd be nice if there was an opt-in for the sidewalk repair without waiting on the improvement program to get to my neighborhood
- not fair to make homeowners pay for sidewalk repair. never heard of this in other towns
- Our neighborhood was the first to have required sidewalk repairs. Yet there are still many tripping hazards. Some were never repaired. Others have developed since that time. In one area the sidewalk has disintegrated to gravel. Another area has a high ledge between sidewalk pieces. This one has been marked for years but never repaired. Another area is always covered with mud or ice and was never marked. Several older people with disabilities try to maneuver these sidewalks with walkers and canes. Not good.
- poor conditions of city streets
- Really want sidewalks repaired and tripping hazards eliminated (4700 block of West 26th St).
- Sidewalk repair should be funded by the city, not homeowners.
- Sidewalk repairs need more oversight or supervision by the City, because they are being completed in a questionable manner. Some panels are removed while one directly down the street are not. Some are being removed that simply don't need to be when a worse panel appears to be left alone right next to it.
- The city keeps building sidewalks and expects homeowners to pay for their upkeep. Homeowners in wealthier neighborhoods can afford the upkeep but homeowners and landlords in less affluent neighborhoods can't. This means our city sidewalks are not equitably maintained. This disenfranchises whole swaths of our citizenry. The city of Lawrence should define ALL sidewalks as infrastructure and pay for their maintenance and upkeep.
- The city needs to be entirely responsible for the upgrading, restoration, & maintenance of walkways to ensure consistency & walkability throughout the city.
- The city needs to pay for Sidewalk Repair !!!
- The City should adopt a sidewalk insurance program in which homeowners pay a modest premium in order to cover the cost of sidewalk repairs.
- The City should pay for sidewalk repair. They are public walkways and should be maintained as such. Thank you for the opportunity to provide feedback, through this survey.
- There are so many sidewalks in disrepair.
- While I'm at it, safer bridge for pedestrians over the river. Use city funds to fix sidewalk and hey let the triumvirate of Compton etc. foot the bill for the rest.
- While unable to think of any place in particular off the top of my head, I hope that we take measures to make existing sidewalks more wheelchair accessible. With particular interest in the south and east sides of town. The sidewalks are in a lot of disrepair and its nearly impossible to traverse over most of them. While this was mentioned in the survey to add emphasis.

Safe Routes to School

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When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

10/14

- Don't forget the Kennedy neighborhood. The school isn't used the same, but kids will still be walking in those areas, some even further now.
- I like the safe routes to school initiative.
- Fees should be imposed on families within walking distance to/from home and school who chose to drive students. The traffic congestion around arrival/dismissal is unhealthy in so many ways for so many people in the school areas. A fee might discourage driving and encourage walking. "
- Question #3 does not take into account the need of children! Answers for which streets I would comfortable walking/ wheeling are very different than the streets I feel comfortable letting my elementary/middle school students use, especially as they become increasingly independent.
- Safe routes to school plan there is a crossing guard at crestline and Harvard - there is also a 4 way stop there. There is no crossing guard at crestline and yale road where many more students cross and there are no stop signs on Crestline - does not seem best use of a crossing guard at the 4 way stop with less kids when no one block away is a crossing with no stops and a larger amount of kids crossing.
- As a former LPS employee (at Cordley) I'd encourage a careful review of all the intersections for 2-3 blocks surrounding all schools for well-marked crosswalks and clear visibility in terms of foliage and anything else. Not all kids will use the crossing guard so some consideration should be made for that. Cordley drop off and pick up is dangerously congested at the corner of 19th and Vermont. It's been a big longterm controversy with the neighbors on that block. About 5 years ago the city made the southbound Vermont lane right turn only, but cars line up in that southbound lane and those not getting children get impatient and go around the lined up cars. Meanwhile cars turn northbound onto Vermont from 9th to pick up kids. If the kids aren't there right away, the car waits thus causing gridlock and hazards for other kids crossing in that congestions as well as the southbound cars now getting stuck with nowhere to go. Due to the congestion and lack of road space, cars going northbound from 19th have a history of sideswiping cars parked there (primarily teacher's cars). Every year parents are advised not to pick up their children going northbound on Vermont, but to no avail. Not sure what the solution is. Maybe Vermont be one-way southbound during drop off and pick up times???? Between parked cars, and southbound lane as a pick up lane there is barely space for a car to go in either direction in between, but they do it and often meet head on depending on how impatient / inconsiderate they are. There are a lot of staff out there during these times to monitor for safety.

Support/Thanks

- We enjoy the walking trails such as DeVictor Park and Burrows Creek. We appreciate the upkeep of all of the trails.
- In recent years our community has asked for and our City Commission has budgeted and funded improvements to our pedestrian infrastructure. I believe we are headed in the right direction, and support all of the programs listed below, especially the Safe Routes to School Plan. We must continue to increase funding to all of these programs, so that we may more quickly mitigate years of neglect and improve walkability/rideability for all who live and visit here.
- we need increased walkability as a community
- Happy that this is being worked on. Makes me want to stay in this neighborhood.
- Thank you for authentic public outreach!
- The Green Tree neighborhood with its trails and sidewalks is one of the most pedestrian/bicycle friendly places in Lawrence. It is well maintained by the City and a great place to live. Changing April Rain Rd. to one-side only parking is a great move.
- The walking trails are awesome!!!
- Thank you for your concern!
- greatly appreciated!
- I appreciate all the efforts made to encourage pedestrian and bike traffic - thank you. "
- Thank for doing this. Let's walk!
- Thank you
- thanks for asking (:
- Thanks for working on city improve.
- Thanks for your work!

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When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

11/14

Sustainability/Reducing Vehicle Miles Traveled

- Anything that gets people of individual vehicles is to be encouraged. Go no-carbon transportation!
- I am very passionate about this issue. I think Lawrence is the most walkable city in Kansas but it still has far to go. I truly believe a city with walkable resources and amenities creates healthier, happier, and more connected individuals. There are many urban planning studies that invite the same conclusion! (Green spaces also have similar results.) Thank you for dedicating time and resources to a city with a lower carbon footprint.
- This is likely outside of the purview of this survey (though perhaps not!), but I wonder if walking and/or wheeling could be incentivized by the City in some fashion, to reduce car pressure downtown and on busy streets and to encourage healthier, more sustainable habits. Does the City already offer small incentive packages to schools and other organizations like this? (https://www.seattle.gov/transportation/projects-and-programs/safety-first/safe-routes-to-school/incentives) Has the City (or Sustainability committee) ever worked with area employers on commuter benefits? (https://www.bikeleague.org/content/bicycle-commuter-benefit) Thank you for requesting input in this survey - I think attractive and well-laid sidewalks & bike paths also incentivize walking & wheeling behaviors!

Transit

- Too few bus shelters and even those stops with them, lack of safety measures- good lighting and safe sidewalks (no tripping hazards or no sidewalks).
- Bus drivers NEED to lower the bus for each pickup/drop off and open both doors to deboard... It's humiliating and illegal to have to disclose our disability each time riding bus as to why we need to use the front door and have it lowered. per ADA we don't need to disclose. You should be doing these things automatically if you truly are a city that doesn't discriminate.
- Also the drivers really need to stop talking shit on passengers to other passengers and stop talking shit on the company when they drive... It makes me not want to ride the bus because what if when I get off they talk shit on me? Since when do you allow the drivers to talk shit on passengers?
- Also YOU NEED TO TELL THEM TO SLOW THE F DOWN ON ROUNDABOUTS!!!!!"
- I think that due to the bussing routes being cut for schools, the first thing that needs to be addressed by the city are safe walking routes to and from school for students of all demographics.
- I think the bus system is amazing though I rarely need to use it. Great routes throughout the city.
- Sidewalk behind strip mall has battery plus and pizza that new Rohan ridge Apts on 6th st that would connect Rohan to Dillons
- The T-Lift need's to take down their mask sign for T.D.D. and more x noneih people also they need solwd

University

- KU campus building entries and stairs/elevators need addressing in terms of accessibility, but I don't believe that's something the city has power over.
- Great town to walk in, buses are a plus, all freshman KU students need a driving orientation!
- Encourage KU to have a freshman "no car" rule as do many other universities across the U.S.

User Behavior/Enforcement

- The ability to cross Barker Ave. safely is limited between 19th and 15th. Biking on Barker is unsafe with no bike lanes. If 25 MPH is the safe speed, 20 MPH needs to be posted because drivers always drive 5 MPH faster than posted speed limit.
- The "we stop for" signs are distracting. Encourage more enforcement of existing traffic laws; I see people speeding daily. I see people flying through red lights, not stopping at stop signs frequently. Encourage the state legislature to fund extended driver's education in the state-the young drivers have ONLY 2 week courses on driving-the results of which are evident when new KU students arrive in Lawrence.
- There needs to be 25 MPH signs on Yale Rd. and make people slow down! I AM disabled and they go 50 on Iowa down Yale Rd by Dental Clinic

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When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

12/14

- Traffic calming devices should be a standard in residential neighborhoods. The roundabouts on Wakarusa are poorly designed as they do not slow traffic on Wakarusa. The traffic on Wakarusa enters the roundabout at speeds much higher then posted. Traffic should be slowed entering the roundabout. Rarely does traffic stop at the posted roundabout cross walks. They city should instruct landscaping companies and businesses to kit install sprinkler that intentionally spray across or onto the sidewalk.
- My view isn't consistent to policy (I think) but I am not a fan of mixed use shared use paths. Cyclists and pedestrians don't travel well together; I've had multiple close calls as ped despite signal knowledge of cyclists practice - i.e. ""on your left"" is called out far too late for ped (due to speed differences).
- As near as I can tell there is no enforcement of red-light running cars, especially in downtown. It's a common and dangerous practice
- Bikes do not stop at intersections. Problem with bikers not observing traffic lanes.
- Cars driving too fast. I think the slow down signs by the city need to be larger.
- CARS seem to not respect the pedestrian at turnabouts
- Downtown drivers do not stop for x-walk, whether they have a red light or stop sign: stop with bumpers on wheels in x-walk or even in intersection.
- Even the trails need to be kept safe from drivers not paying attention and driving extremely fast. The DeVictor Park train in particular.
- I live in North Lawrence and walk to work at the 11th block of Massachusetts Street. I tend to go to work much earlier than needed to avoid as much car traffic as possible because the traffic behavior across the bridge and on Mass St. is obnoxious - the speeding, aggressive driving, honking, motor revving, etc. Also, crossing streets when I have the right of way is dangerous as I am almost hit every day from inattentive drivers trying to get through a yellow/red light or turning on a red light and not seeing me.
- I live on a truck route. The traffic on Locust is way too fast for the sidewalks that we have. Truck routes should have good sidewalks on both sides of the streets for the safety of the residents, especially the children who play and walk to school in North Lawrence.
- I love walking and riding my bike in our town. The times I feel least safe is when cars are driving too fast and don't leave enough space between us.
- I love walking around Sandra Shaw but it feels dangerous and myself and other unit staff members don't walk alone around there
- I often see people riding bikes, skateboards and motorized skateboards on the sidewalks, sometimes at high speed, with little regard for pedestrians. The worst is when the approach from behind with no warning. If you don't move out of the way or move in the wrong direction, you could be seriously hurt.
- I think neighborhood traffic management is also a joke. Probably shouldn't waste money on it.
- I think the city should consider decriminalizing jaywalking - Kansas City has done this, and myriad of other cities are considering doing the same. This law is not applied consistently, and often it is used to unfairly police black or indigenous people of color. It should simply not be illegal to cross the street - this dated law prioritizes the folks who are the most protected, in their increasingly larger vehicles.
- I walk daily and have to cross at lights and roundabouts. Every day I am confronted with a vehicle which refuses to yield to a pedestrian who had the right of way. Cleary I am alive so I have learned to navigate this situation but I should not have to and somehow these drivers need to be held accountable for their lack of respect to a fellow being not to mention breaking the law and putting life at risk.
- I wish the city would treat walking as a legitimate way to travel. The city should treat sidewalks as infrastructure by maintaining them. Using enforcement is expensive and doesn't seem to work. Intersections often feel unsafe. I think that's because driving gets the priority. I see lots of intersections with curved curbs where it seems to encourage drivers to roll quickly through intersections. Walking or biking along Clinton Parkway is scary because of the intersections.
- In over 20 years of walking in Lawrence, both day and night, I have been hit by cyclists on the sidewalk over a dozen times. I have seen it happen many times to other people. I understand that many cyclists don't feel safe in the bike lanes. Sidewalks in disrepair are my primary hazard; sidewalk cyclists are the second.
- It's not only sidewalks. There are some terribly narrow roads, which could be made one-way streets for safety. Its more

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irritating that people come to North Lawrence and drive like idiots. They don't watch where they are going, they drive way too fast, or they don't pay attention. The roads are narrow, and those of us who live there can navigate with some work - but people who aren't familiar just blow through signs. Also, some people just park right in the middle of the dang street. RIGHT. IN. THE. MIDDLE. Oh, and one more thing - ok, two. Maple and 7th is a PROBLEM. I have multiple times witnessed people driving through the RR cross bars that are DOWN. I also see people not stop at Maple. They literally blow through that stop sign. It's so dangerous. I used to walk every day, but it's become more dangerous. Between the traffic issues, and the homeless on the levee; I'm running out of places to feel safe and walk.

- I've often wondered why people walk along the edge of the street when there is a sidewalk 3ft away. (: I think it's dangerous for them run etc. as well as drivers
- Lawrence police do not seem to enforce speed limits very much.
- People are not obeying the 25 mph speed limit in Centennial neighborhood, bike boulevard. Bike travelers are still low in volume. That could be why. I walk daily, and the biggest issue I have is drivers not yielding to pedestrian when the pedestrian has the white signal and audio sound to cross the street.
- Promote bike lanes and bike/scooter rentals
- Submitted via phone: I feel the using the Harvard and Wakarusa roundabout as a pedestrian requires taking your life into your hands. Vehicles don't stop for people in the crosswalk. I don't use that roundabout anymore. It may be this roundabout in particular is the worst, but it is possible others are dangerous for pedestrians as well. Crossing at lights are dangerous, but the Harvard and Wakarusa roundabout is the worst. Saying all that, Kudos to what Lawrence has done. We have become a mecca for people who bike, walk, or run.
- The lack of sidewalks plus unenforced speed limits is very dangerous. There's a two house gap from my yard to a sidewalk, and it's enough that I can't trust my kids to walk to a friend's house until they are fairly old.
- The signals for crossings work well and are appropriate. I also want to point out that many drivers are very cognizant in this town of walkers and yield to them, which is very different from my previous city.
- Trying to cross 6th Street between Tennessee and Alabama Streets is taking your life in your hands.
- walking/biking on main road is an uncomfortable because cars pass by to avidly and too loudly causing the experience to be unpleasant specifically on main roads such as Clinton pkwy and 31st St
- Well my neighbor is blind and has difficulty getting around, much could be improved for him that would help us all. The traffic noise is very high and could be reduced with lower vehicle speeds and designing a safe street for everyone. As Old West Lawrence is getting traffic calming I am really excited to see what is done on Kentucky and Tennessee.
- When running I often worry crossing streets that have stop signs where the driver should be stopping for me, I often feel like they don't see me. Often drivers also don't yield to pedestrians at crosswalks when there is a yield sign. Sometimes I think it's an issue because at some spots the yield sign is in front of the crosswalk rather than behind it, making it seem as though drivers don't also have to yield to pedestrians. The intersection at Vermont and N Second - there are spots here where vehicles making a right turn just have a yield sign but there is also a crosswalk. Very often vehicles making a right turn totally ignore the crosswalk and blow right through once they see there aren't any oncoming cars to yield to. Several times I've had the right of way here and the person in the car doesn't even look at me and I think wow, if I hadn't stayed back they would have just killed me.
- When we lived in University Place Neighborhood near 18th and Mississippi and walked our children to Cordley Elementary, many streets had no sidewalks. It did not feel safe. Also, drivers sped down 19th Street, which made it scary.
- East Lawrence residential streets do not have speed limit signs. There have been multiple pedestrians hit between Haskell Ave. and Harper St. People need to slow down!
- Have cops get out of the parking lots, give people tickets for driving too fast, and road rage. The driving and car accidents are high in Lawernce. The local police fault, for not enforcing the and state local laws
- I am a bicyclist and I feel that it's fairly easy to get around town and the bike paths are nice to have. Motorists who drive dangerously will continue to ignore speed limit signs so I don't think the 25mph limits are helping much. It's the risk I always take when I'm out riding.
- Putting up new speed limit signs isn't going to make a difference. We need police to enforce the new speed limits, or SPEED BUMPS (preferred).

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When asked: "Is there anything not included in the survey you would like to tell us about your walking or wheeling experience or existing city programs or projects?" respondents indicated:

14/14

- Speeds have not been reduced on streets only speed limits have been reduced. No enforcement.
- We constantly experience people cutting through or neighborhood (Park Hill) and going too fast. We would like to see traffic calming devices utilized in neighborhoods that use alternative energy to signal to people that they are going too fast in residential neighborhoods (i.e. blinking solar speed limit lights mounted to existing street signs).
- Concerned that cars would travel at higher speeds than allowed and all vehicles would not be going at the ""same"" slow speed. There are always going to be complications when cars are in the mix.
- Crossing at 6th and Kentucky with drivers turning right on red is hazardous. About 1/2 time driver turning right does not yield to pedestrian going north across 6th.
- There is a tremendous lack of speed control in Lawrence
- I live fairly close to campus, and I'm concerned about how often I hear that pedestrians (or people walking to parking cars) have been assaulted or threatened in my neighborhood.

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Appendix B. Existing Conditions Memo

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Introduction

The Lawrence-Douglas County Metropolitan Planning Organization (MPO) is collaborating with the City of Lawrence to update the Lawrence Pedestrian Plan. This Existing Conditions Report is the first step in the planning process.

The first pedestrian plan for the City of Lawrence was completed as part of the MPO's Regional Pedestrian Plan completed in October 2016. It is important to document progress since 2016, review the 2020 City accessibility survey results, and pedestrian crashes between 2016 and 2020.

Existing Plan Recommendations and Progress since 2016

- Regional Pedestrian Plan completed in October 2016
- Pedestrian-Bicycle Issues Task Force report completed in February 2016

Regional Pedestrian Plan – October 2016

The Regional Pedestrian Plan has policy/program and infrastructure recommendations.[1] Progress has been made on the various recommendations. Table B1 displays the recommendations and their status.

Table B1: Regional Pedestrian Plan Recommendations and Status

Recommendation	Status
Coordinate with university staffs on pedestrian policy and infrastructure plans When the Multi-Modal Transportation Commission was originally developed in 2017 it had a University of Kansas position. In the fall of 2019, the Multi-Modal Transportation Commission was reorganized and removed specific membership positions. This removed the designated positions for a local business, bicyclist, pedestrian, Public Transit Advisory Committee, Lawrence-Douglas County Public Health, person with a background in planning or engineering, one person with knowledge of multi-modal transportation planning and engineering, USD 497 representative, and University of Kansas student representative.	Past
Encourage pedestrian trips through wayfinding signage and an open streets event	
Reduce block length standards in subdivision design regulations	
Target resources to high-demand transit corridors The Non-Motorized Projects Prioritization Program utilized by the Multi-Modal Transportation Commission to distribute dedicated bicycle and pedestrian funding adds weighted points for projects that are near transit stops.[2]	Ongoing

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1 https://assets.lawrenceks.org/mpo/pedplan/RPP-CompleteVersion.pdf
2 https://lawrenceks.org/wp-content/uploads/2019/10/NonMotorizedPolicy.pdf

Recommendation	Status
Use traffic calming devices to improve pedestrian safety and comfort Two examples have occurred since 2016. The development of the 21st Street Bike Boulevard used traffic calming to optimize 21st Street to make it more comfortable for biking and walking.[3] The Neighborhood Traffic Management Program, is a comprehensive initiative that aims to maintain or improve existing neighborhood environments through the application of the 5 Es; Education, Encouragement, Enforcement, Evaluation and Engineering. The program reduced speed limits on neighborhood streets and will use temporary engineering solutions.[4]	Ongoing
Implement a traffic safety campaign (education and enforcement) The Neighborhood Traffic Management Program is a comprehensive initiative that aims to maintain or improve existing neighborhood environments through the application of the 5 Es; Education, Encouragement, Enforcement, Evaluation and Engineering. The program reduced speed limits on neighborhood streets and will use temporary engineering solutions.[4]	Began 2020, ongoing
Establish dedicated funding source for pedestrian improvements In 2016, the first set aside funding for standalone bicycle and pedestrian projects in Lawrence was established. Furthermore, a sales tax referendum passed in November 2017 allocated a portion of the funding towards non-motorized projects for the 10-year life of the sales tax (sunsetting in April 2029). The sales tax referendum will need to be renewed by voters, so this isn't a permanent funding stream.	Completed
Form or assign responsibilities to an advisory committee The Multi-Modal Transportation Commission was established in January 2017 via resolution 7172. It was re-established in October 2019 to change the name from Transportation Commission to Multi-Modal Transportation Commission and change representation of positions.[5]	Completed
Enforce current sidewalk repair policy or establish new sidewalk repair program In 2019, the City developed a multi-year plan for the Sidewalk Improvement Program, focusing on one area for sidewalk defect and hazard mitigation each year, to assist property owners with sidewalk repair to eliminate sidewalk trip hazards. This program was developed to assist property owners in meeting their legal requirements (Kansas Statute – KSA 12-1801 and 12-1808 – and City Code – Chapter 16, Article 105) by helping identify and repair these hazards, as well as providing technical and financial assistance (where applicable).[6]	Ongoing
Implement the Safe Routes to School program During 2019-2020 a citywide Safe Routes to School Plan was developed for all public elementary and middle schools.[7]	Ongoing

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3 https://lawrenceks.org/bike-blvds
4 https://cdn.lawrenceks.org/wp-content/uploads/2019/10/Resolution-7272.pdf
5 https://lawrenceks.civicweb.net/portal/members.aspx?id=38, https://lawrenceks.civicweb.net/document/24263/Ord9722.pdf https://lawrenceks-my.sharepoint.com/:b:/g/personal/webmaster_lawrenceks_org/EST2LMikre9Lt3TKkVa-Jd8BXh_aTx8O-EtO_jX9BZIvcQ,
6 https://lawrenceks.org/sidewalk-improvement

Recommendation	Status
Target resources to non-existing and non-compliant ADA ramps Prior to 2020, ADA ramp funding was grouped with the dedicated pedestrian and bicycle funding which was established in 2016. However, starting in 2020 dedicated funding was budgeted for ADA ramp improvements. 2020's budget was $250,000 and currently $325,000 is budgeted yearly until 2029.	Ongoing
Target resources to the priority network The Non-Motorized Projects Prioritization Program provides points to projects which improve connectivity along priority networks recognized in adopted plans are accorded the highest weight. This criterion follows the Regional Pedestrian Plan Priority network: Safe Routes to School Routes without sidewalks on either side followed by Arterial and Collector Streets without sidewalks on either side followed by Arterial Streets, Collector Streets with sidewalk on one side and SRTS routes with sidewalk on one side and finally Local streets without sidewalk on either side and Local streets with sidewalk on one side. The maximum number of points for pedestrian projects in the Non-Motorized Projects Prioritization Program is 21. The three points categories are priority network, pedestrian access to priority destinations, and safety (roadway volume and crossings). The Multi-Modal Transportation Commission then uses the scores as a factor for deciding which projects to fund with the dedicated bicycle and pedestrian funding. Other non-exclusive factors include: equity in project distribution (environmental justice areas), opportunities for parallel routes, grant funding opportunities, economies of scale, cost sharing opportunities, available funding, other relevant factors such as cultural, and social and economic benefit.	Ongoing
Track and measure progress of Lawrence's pedestrian network, amenities, and programming	Ongoing
Apply for Walk Friendly Community status In April 2017, the city received a "Silver" designation from the national Walk Friendly Communities program. Scores range from Bronze (lowest), Silver, Gold, to Platinum (highest). The Walk Friendly designation is based on community efforts to expand opportunities for walking and to improve pedestrian safety across a wide range of programs and activities, from planning and design to outreach and law enforcement. As part of their assessment the Walk Friendly Communities program provided a report card, which provided reviews of the status of walking, planning, education/encouragement, engineering, enforcement, and evaluation.[8] This application needs to be resubmitted in December 2021.	Silver designation

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7 https://lawrenceks.org/safe-routes
8 https://assets.lawrenceks.org/mpo/pedplan/WFCReportCard-Lawrence.pdf

Pedestrian-Bicycle Issues Task Force Report – February 2016

The Pedestrian-Bicycle Issues Task Force, which was created by the City Commission, completed a report in January 2016 with visions, recommendations, and priorities.[9] Many of the recommendations and priorities have been completed or are ongoing. Table B2 displays the relevant pedestrian recommendations and priorities and their status.

Table B2: Pedestrian-Bicycle Issues Task Force Recommendation/Priority and Status

Recommendation	Status
Create a consolidated transportation commission. The Multi-Modal Transportation Commission was established in January 2017 via resolution 7172. It was re-established in October 2019 to change the name from Transportation Commission to Multi-Modal Transportation Commission and change representation of positions.[10]	Completed
Earmark 0.05% in the renewal of the infrastructure sales tax to fund standalone bicycle and pedestrian projects. A sales tax referendum passed in November 2017 allocated a portion of the funding towards non-motorized projects for the 10-year life of the sales tax (sunsetting in April 2029). The sales tax referendum will need to be renewed by voters, so this isn't a permanent funding stream.	Completed
Include funding in the Capital Improvement Plan for improving pedestrian facilities since the sidewalk improvement program was not enforced. In 2016, the first set aside funding for standalone bicycle and pedestrian projects in Lawrence was established. A portion of the 10-year sales tax referendum which passed in November 2017 allocated a portion of the funding towards non-motorized projects. Further, beginning in 2019, the City developed a multi-year plan for the Sidewalk Improvement Program, focusing on one area for sidewalk defect and hazard mitigation each year, to assist property owners with sidewalk repair to eliminate sidewalk trip hazards. This program was developed to assist property owners in meeting their legal requirements (Kansas Statute – KSA 12-1801 and 12-1808 – and City Code – Chapter 16, Article 105) by helping identify and repair these hazards, as well as providing technical and financial assistance (where applicable).[11]	Completed
Provide funding for standalone projects not connected to new road construction or reconstruction. As a result of Pedestrian-Bicycle Issues Task Force report, the first set aside funding for standalone bicycle and pedestrian projects was established in 2016. Additionally, a portion of the 10-year sales tax referendum which passed in November 2017 allocated a portion of the funding towards non-motorized projects.	Completed

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9 https://assets.lawrenceks.org/assets/boards/pedestrian-bicycle/PBITF_Final_Report_2.29.16.pdf

10 https://lawrenceks.civicweb.net/portal/members.aspx?id=38, https://lawrenceks.civicweb.net/document/24263/Ord9722.pdf , https://lawrenceks-my.sharepoint.com/:b:/g/personal/webmaster_lawrenceks.org/EST2LMikre9Lt3TKkVa-Jd8BXh_aTx8O-EtO_jX9BZIvcQ,

11 https://lawrenceks.org/sidewalk-improvement

Recommendation	Status
Achieve pedestrian facilities on at least one side of every street (both sides for arterial streets). These gaps are included as projects in the Non-Motorized Projects Prioritization Program utilized by the Multi-Modal Transportation Commission to distribute dedicated bicycle and pedestrian funding.[12] The Policy provides points to projects which improve connectivity along priority networks recognized in adopted plans are accorded the highest weight. This criterion follows the Regional Pedestrian Plan Priority network: Safe Routes to School Routes without sidewalks on either side followed by Arterial and Collector Streets without sidewalks on either side followed by Arterial Streets, Collector Streets with sidewalk on one side and SRTS routes with sidewalk on one side and finally Local streets without sidewalk on either side and Local streets with sidewalk on one side.	Ongoing
Assign and develop staff and invest in tools needed to provide a coordinated approach to planning, engineering, community education, encouragement, enforcement, and evaluation.	Ongoing
Connect residents to neighborhood destinations by filling gaps in the arterial and collector street sidewalk network. These gaps are included as projects in the Non-Motorized Projects Prioritization Program utilized by the Multi-Modal Transportation Commission to distribute dedicated bicycle and pedestrian funding.[12] The Policy provides points to projects which improve connectivity along priority networks recognized in adopted plans are accorded the highest weight. This criterion follows the Regional Pedestrian Plan Priority network: Safe Routes to School Routes without sidewalks on either side followed by Arterial and Collector Streets without sidewalks on either side followed by Arterial Streets, Collector Streets with sidewalk on one side and SRTS routes with sidewalk on one side and finally Local streets without sidewalk on either side and Local streets with sidewalk on one side.	Ongoing
Include high quality pedestrian and bicycle facilities when new road construction and existing road reconstruction projects are completed. As road projects are in design the bikeway network is reviewed to determine the size of the sidewalk – a regular sidewalk or a wider shared use path. Examples of large road projects completed/in construction now with pedestrian facilities include E. 19th Street and E. 23rd Street.	Ongoing
Invest in facilities that provide safer conditions and access for seniors and people with disabilities.	Ongoing
Provide safe routes to schools (SRTS) by filling gaps, repairing, and maintaining sidewalks within the designated SRTS network. This has been ongoing by the city obtaining three safe routes to school infrastructure grants (2016, 2017, and 2020). Once all construction is completed almost 3 miles of sidewalk will be installed.[13]	Ongoing

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12 https://lawrenceks.org/wp-content/uploads/2019/10/NonMotorizedPolicy.pdf
13 https://lawrenceks.org/safe-routes

Recommendation	Status
Actively pursue nationally accepted Walk-Friendly designations as roadmaps to progress and points of pride. In April 2017, the city received a "Silver" designation from the national Walk Friendly Communities program. Scores range from Bronze (lowest), Silver, Gold, to Platinum (highest). The Walk Friendly designation is based on community efforts to expand opportunities for walking and to improve pedestrian safety across a wide range of programs and activities, from planning and design to outreach and law enforcement. As part of their assessment the Walk Friendly Communities program provided a report card, which provided reviews of the status of walking, planning, education/encouragement, engineering, enforcement, and evaluation.[14] This application needs to be resubmitted in December 2021.	Silver designation

Infrastructure

Installation of several years' worth of Kansas Department of Transportation (KDOT) funded Transportation Alternatives (TA) sidewalk and bike projects including the tunnel under Iowa/19th Streets and 9.75 miles of new sidewalk.

- Safe Routes to School projects
    - 2016 – 0.4 mile
    - 2017 – 1.68 miles
    - 2020 – 0.90 miles
- The Lawrence Loop has several committed projects funded by TA grants as shown in Figure B1.
    - 2021 Construction – E. 29th Street from the Haskell Rail Trail to Haskell Lane and from E. 11th Street to E. 9th Street along Delaware Street and northeast of Hobbs Park – .50 miles
    - 2021-2022 Construction – Michigan Street to Peterson Road (including tunnel under McDonald Road) – .64 miles
    - 2023 Construction – Michigan Street to Sandra Shaw Park .53 miles
- Sidewalks as part of larger road projects
    - Kasold Dr. (6th St. to Bob Billings) – completed in 2017 – 1 mile
    - Kasold Dr. (Clinton Pkwy to Hyvee) – completed in 2018 – 0.2 mile
    - 19th St. (O'Connell Rd. to Harper St.) – under construction 2020/2021 – 0.54 mile
    - Queens Rd. (6th St. to North City Limits) – planned 2021 – 0.75 miles
    - 23rd St. (Haskell Ave to East City Limits) – planned 2021/2022 – 2.01 miles
- The enforcement of the Sidewalk Improvement Program which led to 83 miles of sidewalk being repaired in year 1 and 2. Year 3 of the program is in progress in 2021.[15]
- It is a City policy for residential streets to have streetlights at intersections and in each cul-de-sac. Streets with the most traffic generally have more lights than residential streets. On average, the city has about 11.5 streetlights for each mile of street. The City pays a per light fee. An internal city audit was conducted in 2009 which provided additional information about the street lighting program.[16]

14 https://assets.lawrenceks.org/mpo/pedplan/WFCReportCard-Lawrence.pdf
15 https://lawrenceks.org/sidewalk-improvement
16 https://assets.lawrenceks.org/assets/lks/files/street-light-report_0.pdf

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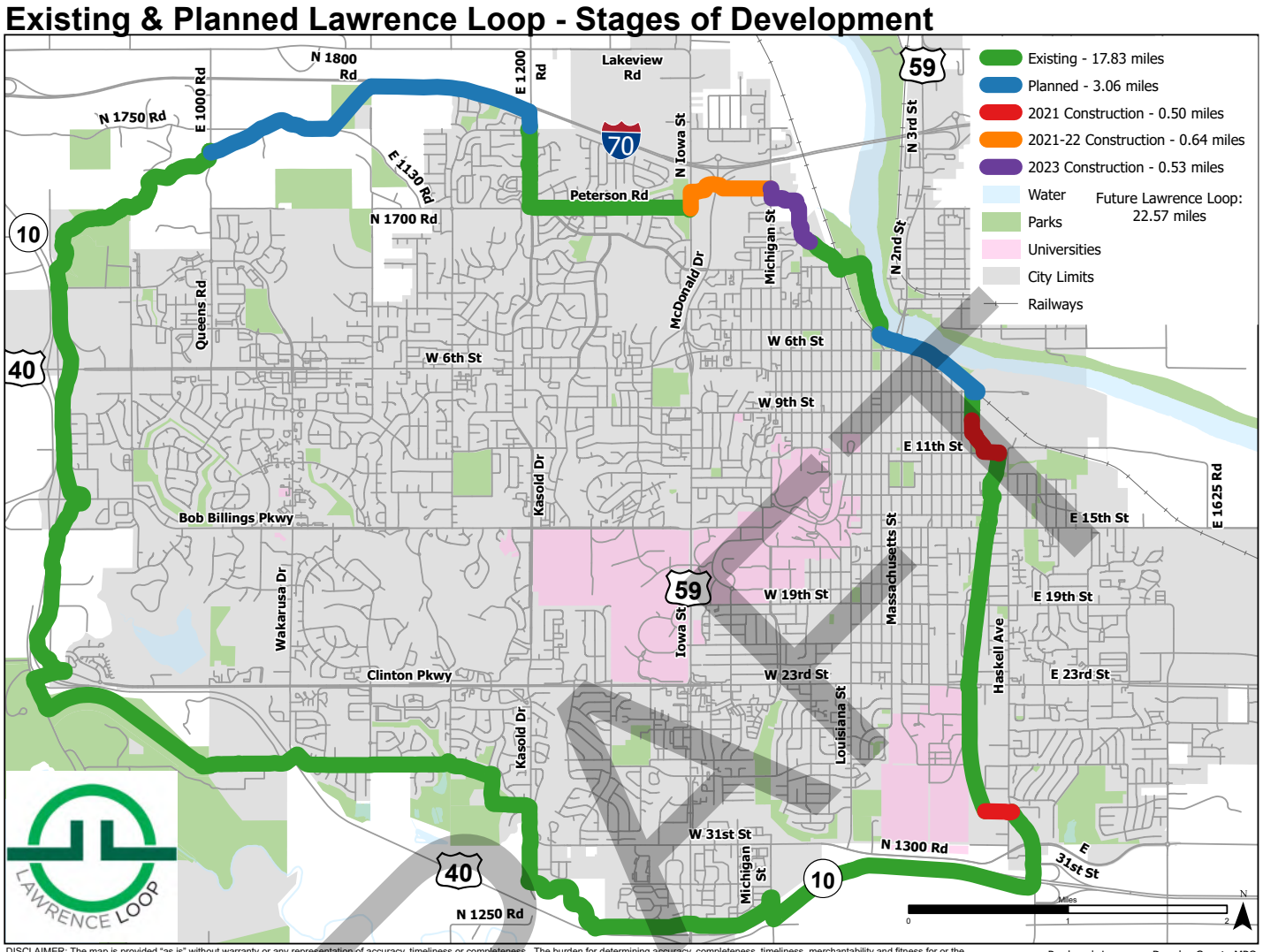
Figure B1: Existing and Planned Lawrence Loop - Stages of Development



Recognition

- In April 2017, the city received a "Silver" designation from the national Walk Friendly Communities program. Scores range from Bronze (lowest), Silver, Gold, to Platinum (highest). The Walk Friendly designation is based on community efforts to expand opportunities for walking and to improve pedestrian safety across a wide range of programs and activities, from planning and design to outreach and law enforcement. As part of their assessment the Walk Friendly Communities program provided a report card, which provided reviews of the status of walking, planning, education/encouragement, engineering, enforcement, and evaluation.15 The lowest category was evaluation and suggested expanding to automated pedestrian counts and conducting more road safety assessments (building off the 2015 road safety assessment of 19th Street from Barker Avenue to Iowa Street) or more informal walk audits.[17]

17 https://assets.lawrenceks.org/mpo/corridor/19thStRSA.pdf

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Advisory Structure

- The Multi-Modal Transportation Commission (MMTC) was established in January 2017 via resolution 7172. This was a direct outcome of the Pedestrian-Bicycle Issues Task Force report and the Regional Pedestrian Plan. It was re-established in October 2019 to change the name from Transportation Commission to Multi-Modal Transportation Commission and change representation of positions.[18]
- The MMTC works to advance the health, safety, and welfare of all residents of the City of Lawrence through strong multi-modal transportation planning. Multi-modal transportation planning facilitates access to transportation for all residents of the community and has been shown to be an effective tool in reducing energy dependency and traffic congestion.
- The MMTC's 2021 workplan and 7 goals can be viewed at https://lawrenceks.civicweb.net/document/73860/MMTC_Calendar_8_2_2021.pdf?handle=61106305F6C74F8B80B9550E23A666AB.
- The MMTC allocates the dedicated pedestrian/bicycle funding using the Non-Motorized Projects Prioritization Program.
- The MMTC reviews transportation projects and provides recommendations to the City Commission.

Programs

- Dedicated city pedestrian/bicycle funding,
- Enforcement of the Sidewalk Improvement Program,
- Establishment and implementation of the Neighborhood Traffic Management Program,
- Development and implementation of the Lawrence Safe Routes to School Plan,
- Improvement of the right-of-way management program,
- Signal coordination and pedestrian crossing time updates.

Dedicated city pedestrian/bicycle funding

Prior to 2016, bicycle and pedestrian projects, including sidewalks, were only included in larger Capital Improvement Program (CIP) projects, or funded through grant programs. In 2016, the first set aside funding for standalone bicycle and pedestrian projects in Lawrence was established. Furthermore, after the sales tax referendum passed in November 2017, the city allocated a portion of the funding towards non-motorized projects for the 10-year life of the sales tax (sunsetting in April 2029). The sales tax referendum will need to be renewed by voters. This budgeting reflects a recommendation from the Pedestrian-Bicycle Issues Task Force. Further, the line item in the city budget is not a permanent source of funding. Beginning in 2020, there is dedicated ADA ramp funding. Prior to 2020, the ADA ramp funding was part of the overall pedestrian and bicycle funding.

Municipal Services and Operations (MSO) anticipates receiving $300,000 of Community Development Block Grant (CDBG) per year beginning in 2021 and will use a portion of these funds to complete sidewalk gaps and reconstruct ramps to meet ADA requirements. Additionally, as Lawrence Transit implements bus stop improvements, sidewalk adjacent to bus stops are improved to meet ADA standards. In the current city budget $100,000 is programmed for Sidewalk Hazard Urgent Repair in 2021 and 2022.

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18 https://lawrenceks.civicweb.net/portal/members.aspx?id=38, Ordinance No. 9722 https://lawrenceks.civicweb.net/document/24263/Ord9722.pdf, Resolution No. 7172 - https://lawrenceks-my.sharepoint.com/:b:/g/personal/webmaster_lawrenceks_org/EST2LMikre9Lt3TKkVa-Jd8BXh_aTx8O-EtO_jX9BZIvcQ, and Bylaws - https://lawrenceks.civicweb.net/document/24261/MMTC_Bylaws_9_17_2019.pdf

Table B3 displays the anticipated funding available for bicycle and pedestrian projections including set aside sales tax funding, funded sidewalk hazard urgent repair, anticipated Community Development Block Grant (CDBG) funding per year, and awarded Kansas Department of Transportation (KDOT) grants for bicycle and pedestrian projects. Since the first set aside bicycle and pedestrian projects in 2016, it is projected there will be over to $20.3 million available for bicycle and pedestrian related projects by the end of 2029.

Table B3:Anticipated Bicycle and Pedestrian Funding

	2016	2017	2018	2019	2020	2021	2022
Dedicated Pedestrian and Bicycle Funding	$ 200,000	$ 450,000	$ 200,000	$ 600,000	$ 500,000	$ 675,000	$ 675,000
Dedicated ADA Ramp Funding		Included in pedestrian/bicycle funding			$ 250,000	$ 325,000	$ 325,000
Sidewalk Hazard Urgent Repair	-	-	-	-	-	$ 100,000	$ 100,000
Community Development Block Grant (CDBG) Sidewalk	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 300,000	$ 300,000
KDOT Administered Grants*	-	-	$ 2,057,000	$ 394,000	-	$ 2,276,000	-
Total	$ 300,000	$ 550,000	$ 2,357,000	$ 1,094,000	$ 850,000	$ 3,676,000	$ 1,400,000

	2023	2024	2025	2026	2027	2028	2029
Dedicated Pedestrian and Bicycle Funding	$ 675,000	$ 675,000	$ 702,000	$ 730,080	$ 759,283	$ 789,655	$ 821,241
Dedicated ADA Ramp Funding	$ 325,000	$ 325,000	$ 325,000	$ 325,000	$ 325,000	$ 325,000	$ 325,000
Sidewalk Hazard Urgent Repair	-	-	-	-	-	-	-
Community Development Block Grant (CDBG) Sidewalk	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000
KDOT Administered Grants*	$ 564,000	-	-	-	-	-	-
Total	$ 1,864,000	$ 1,300,000	$ 1,327,000	$ 1,355,080	$ 1,384,283	$ 1,414,655	$ 1,446,241
						Grand Total	$ 20,318,258

*Safe Routes to School infrastructure, 19th/Iowa tunnel, Lawrence Loop segments (8th St - 11st St, 29th St, Peterson Rd to Michigan St, Michigan St to Sandra Shaw Trail), and the Naismith Drive Mobility Enhancement projects. Only awarded grants as of 8.30.21 are included in this table.
**As Lawrence Transit implements bus stop improvements, sidewalk adjacent to bus stops are improved to meet ADA standards.
***Additional City and private roadway and other capital projects may also have replaced or completed sidewalk gaps, since these sections were part of larger projects, they are not tracked separately.

The Multi-Modal Transportation Commission allocates the yearly funding towards pedestrian and bicycle facilities utilizing the Non-Motorized Projects Prioritization Program to determine which projects the dedicated bicycle and pedestrian infrastructure funding will prioritize.[19] The Program assigns points to projects based on priority networks, pedestrian access to priority destinations, safety, adopted plan priorities, and bicycle demand model. Safe Routes to School routes receive points based on the type of road and sidewalk presence (none on either side or only on one side). This policy was used to select projects for the dedicated bicycle and pedestrian funding in 2018 and 2019. Beginning in 2020, the policy was used to annually develop a five-year plan for non-motorized projects.

Enforcement of the Sidewalk Improvement Program

Lawrence contains 486+ miles of sidewalks, and many of those miles of sidewalks are in poor condition. In 2019, the City developed a multi-year plan for the Sidewalk Improvement Program, focusing on one area for sidewalk defect and hazard mitigation each year, to assist property owners with sidewalk repair to eliminate sidewalk trip hazards (Figure B2). This program was developed to assist property owners in meeting their legal requirements (Kansas Statute – KSA 12-1801 and 12-1808 – and City Code – Chapter 16, Article 105) by helping identify and repair these hazards, as well as providing technical and financial assistance (where applicable).[20] Additionally, as part of the program, the City is improving ADA sidewalk ramps along the target routes.

Financial Assistance is available for qualifying property owners who utilize the city's contractor and submit the appropriate assistance documents. Find more information about income-based assistance, cost-sharing or out-of-zone assistance at https://lawrenceks.org/sidewalk-improvement/#FinancialAid.

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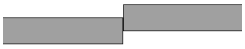
19 https://lawrenceks.org/wp-content/uploads/2019/10/NonMotorizedPolicy.pdf
20 https://www.ksrevisor.org/statutes/chapters/ch12/012_018_0001.html, https://www.ksrevisor.org/statutes/chapters/ch12/012_018_0008.html, https://assets.lawrenceks.org/city-code/chapter16.pdf

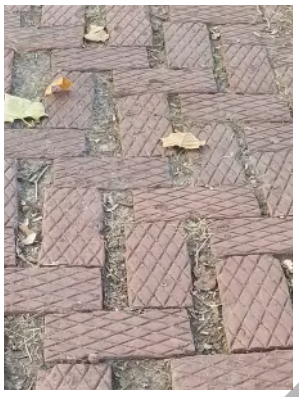
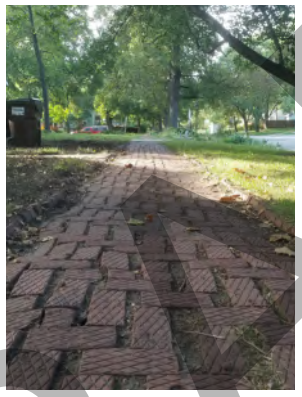
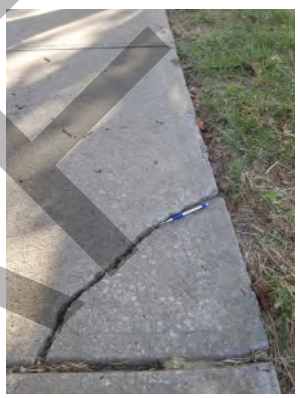
Figure B2: Seven Sidewalk Hazards Categories

1. Vertical Separation - Part (or all) of one piece of sidewalk that is one-half inch or higher than the piece next to it.



2. Horizontal Separation – A gap or opening of one-half inch or greater between concrete panels or bricks, or between a cracked concrete panel.


3. Deterioration – Spalling, scaling, cracking or delamination of sidewalk causing deterioration that may catch the foot.

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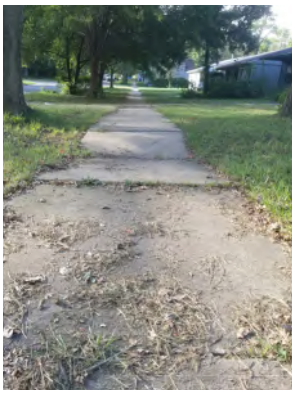
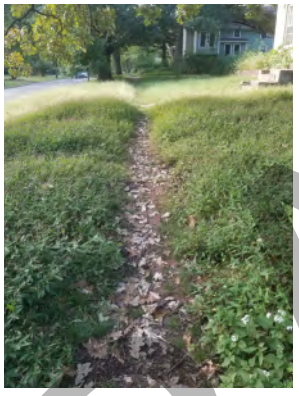
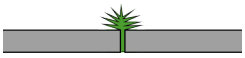
4. Peaking and/or Dipping – Area in the sidewalk where adjacent concrete panels peak or dip more than three inches in relation to the established sidewalk grade.

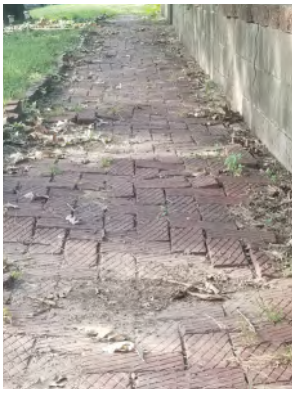

5. Vegetative Obstruction – Overgrown trees (including tree roots), plants, shrubs, grass or any other vegetation that hinders or prevents the use of the sidewalk. If it is determined that a street tree root (or any other City infrastructure) is the cause of the hazard, the city will be responsible for repairing the hazard.





6. Loose & Depressed Bricks– Sidewalks that have broken, missing, loose, raised or depressed bricks will be marked as a hazard for repair.





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7. Non-Level Brick Cross Slope– Sidewalks made of brick that are not level from side-to-side will be marked as a hazard for repair.

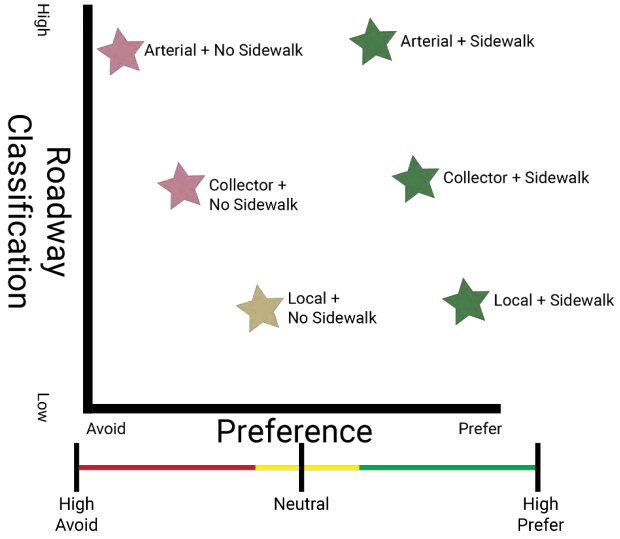
Through the Sidewalk Improvement Program, the City provides extensive technical help as well as financial assistance for qualifying property owners. Financial assistance includes income-based assistance, cost-sharing grant, and out-of-zone financial assistance.[21]

To begin the enforcement of the Sidewalk Improvement Program, the city was divided into eight zones. Year 1 inspected the northwest section of the city bounded by Bob Billings Parkway, Wakarusa Drive, and the Bauer Farm development north of 6th Street and Folks Road. Year 1 repaired 432 hazards. Year 2 of the program was bounded on the north by West 23rd Street, on the west by Iowa Street. The southern boundary was the South Lawrence Trafficway/K-10 to Michigan Street and 31st Street to Louisiana Street. The zone was bounded on the east by Barker Avenue, Vermont Street, Montana Street and Louisiana Street. Year 2 repaired 1,036 hazards. 83 miles of sidewalk in year 1 and 2 combined.

The 3rd year of the Sidewalk Improvement Program began in 2021 using a different data-driven process than the previous two phases incorporating public feedback about the program. Staff utilized a shortest path analysis in GIS, which analyzes routes that take the shortest path between identified origins and destinations. The model generates route paths from pedestrian origins to destinations, while adding value for:

- Route preference (Ex: local road with sidewalk vs. arterial with no sidewalk)
- Destination type and distance (Ex: schools weighted over retail)
- Transportation Disadvantaged Populations (Block groups with higher than average: minorities, single-parent households, zero vehicle households, less than a high school diploma, Ages under 18 and over 65, low-moderate income)

Figure B3: Route Preference



These values were calculated within the model to produce a prioritized list of routes. Figure B3 shows the higher preference for routes with sidewalks, especially local roads with sidewalks.

21 https://lawrenceks.org/sidewalk-improvement

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The destinations utilized in the weighting process are shown in Table B4.

Table B4: Destination Weighting

Facility Category	Within 1/8 mile	Within 1/4 mile	Within 1/2 mile
Schools K-12	12 (720)	8 (480)	4 (240)
Park Entry Points, Public Attraction, Public Transit Stops	6	4	2
Public Government Institution, Health, Daycare, Higher Education, Non Profit, Retail	3	2	1

Transportation Disadvantaged Population data was evaluated and weighted 25%. The Transportation Disadvantaged Population characteristics includes households with a person who has a disability, people who have less than a high school education, minorities, single parent households, zero vehicle households, population under 18 and over 65, and low-moderate income households. The City average was found for each topic except for income (Table B5). One point was assigned if the block group was equal to or 20 percent higher than the Lawrence average. Two points were attributed if the block group was 20 percent to 40 percent of the Lawrence average. Three points were assigned if the block group was greater than 40 percent higher than the Lawrence average. Low-moderate income data is the Community Development Block Grant (CDBG) identified low-moderate income areas. A block group is low-moderate income if the low-moderate income percentage for the block group is 51.0%. The 27 block groups that are considered low-moderate income were stratified into 3 groups of 9 and the highest percentage of low-moderate income were assigned three points, then two points, and lastly one point. Transportation Disadvantaged Population scores which are higher reflect areas of additional priority to provide improved multi-modal trip making for areas with transportation disadvantages.

Table B5: Transportation Disadvantaged Population Scoring

Topic	Lawrence Average	1 Point	2 Points	3 Points
Low-moderate CDBG income		51.0% to 62.4%	62.5% to 78.9%	Greater than 79.0%
Minority	14.7%	14.7% to 34.6%	34.7% to 54.6%	Greater than 54.7%
Households with an individual with a mobility disability	19.7%	19.7% to 39.6%	39.7% to 59.6%	Greater than 59.7%
Less than high school diploma	4.6%	4.6% to 24.5%	24.6% to 44.5%	Greater than 44.6%
Single parent household	32.0%	32.0% to 51.9%	52.0% to 71.9%	Greater than 72.0%
Households without vehicles	7.6%	7.6% to 27.5%	27.6% to 47.5%	Greater than 47.6%
Youth (under 18)	16.3%	16.3% to 36.2%	36.3% to 56.2%	Greater than 56.3%
Senior citizens (65+)	10.5%	10.5% to 30.4%	30.5% to 50.4%	Greater than 50.5%

Source: 2018 American Community Survey 5-year Estimates for all metrics except income and 2015 American Community Survey 5-year Estimates for CDBG Income. Points were assigned based on the percentage of each measure per block group. Then one point was assigned if the block group was equal to or 20 percent higher than the Lawrence average. Two points were attributed if the block group was 20 percent to 40 percent of the Lawrence average. And three points were assigned if the block group was greater than 40 percent higher than the Lawrence average. Low-moderate income data is the Community Development Block Grant (CDBG) identified low-moderate income areas. A block group is low-moderate income if the low-moderate income percentage for the block group is 51.0%. The 27 block groups that are considered low-moderate income were split into 3 groups of 9 and the highest percentage of low-moderate income were assigned three points, then two points, and lastly one point. The FFY21 TIP Transportation Disadvantaged Population was created using the county average, since the MPO is countywide. This analysis was developed for the sidewalk improvement area discussion in October 2020; therefore, it only uses the Lawrence average. Updated on 9/9/2021 to include 53 block groups.

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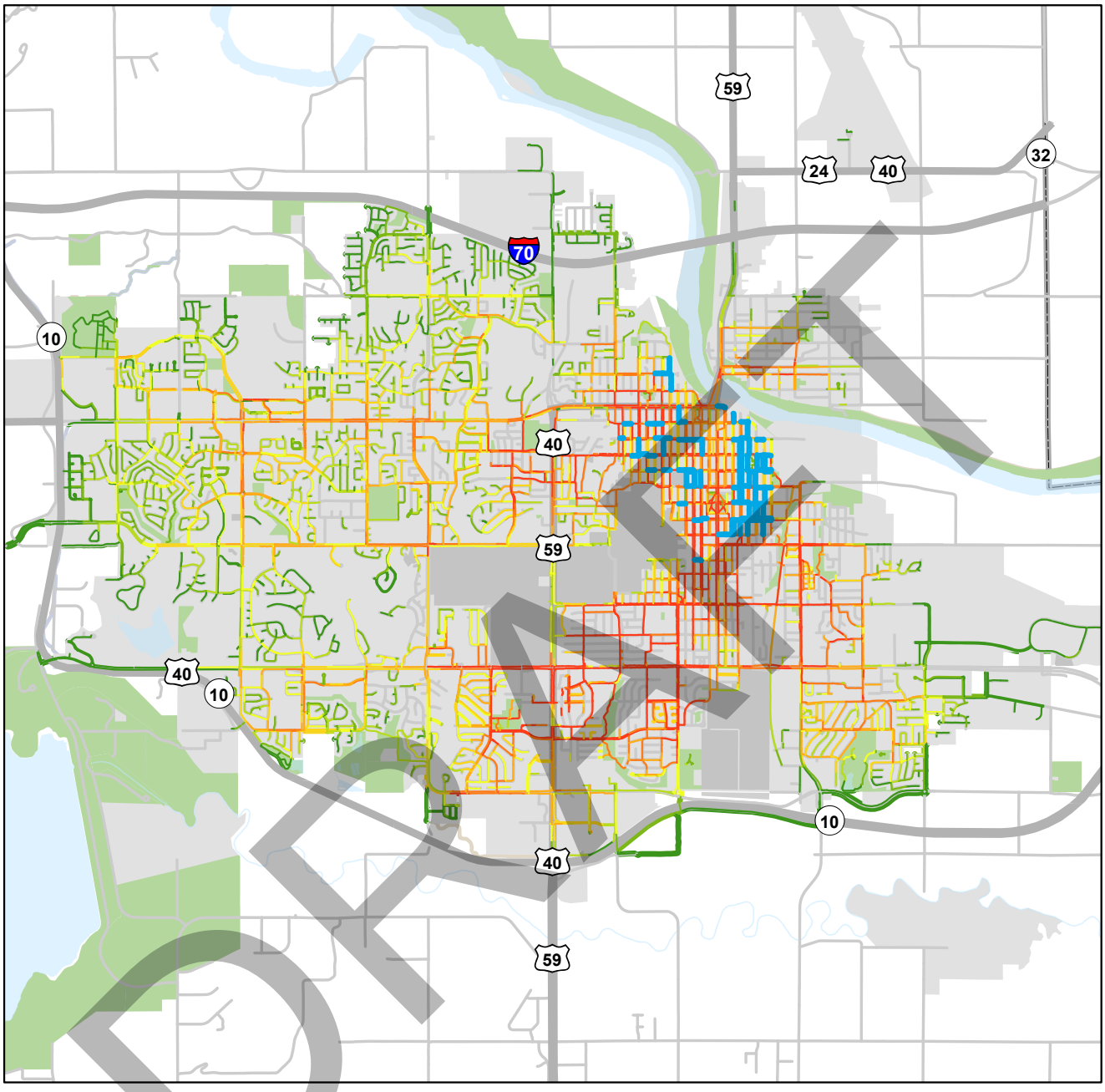
Figure B4: 2021 Sidewalk Demand Model with Transportation Disadvantaged Population Weighting 25%



Date Exported: 2/14/2022
Source: Sidewalk Improvement Program Pedestrian Demand Model
Produced: Lawrence-Douglas County MPO

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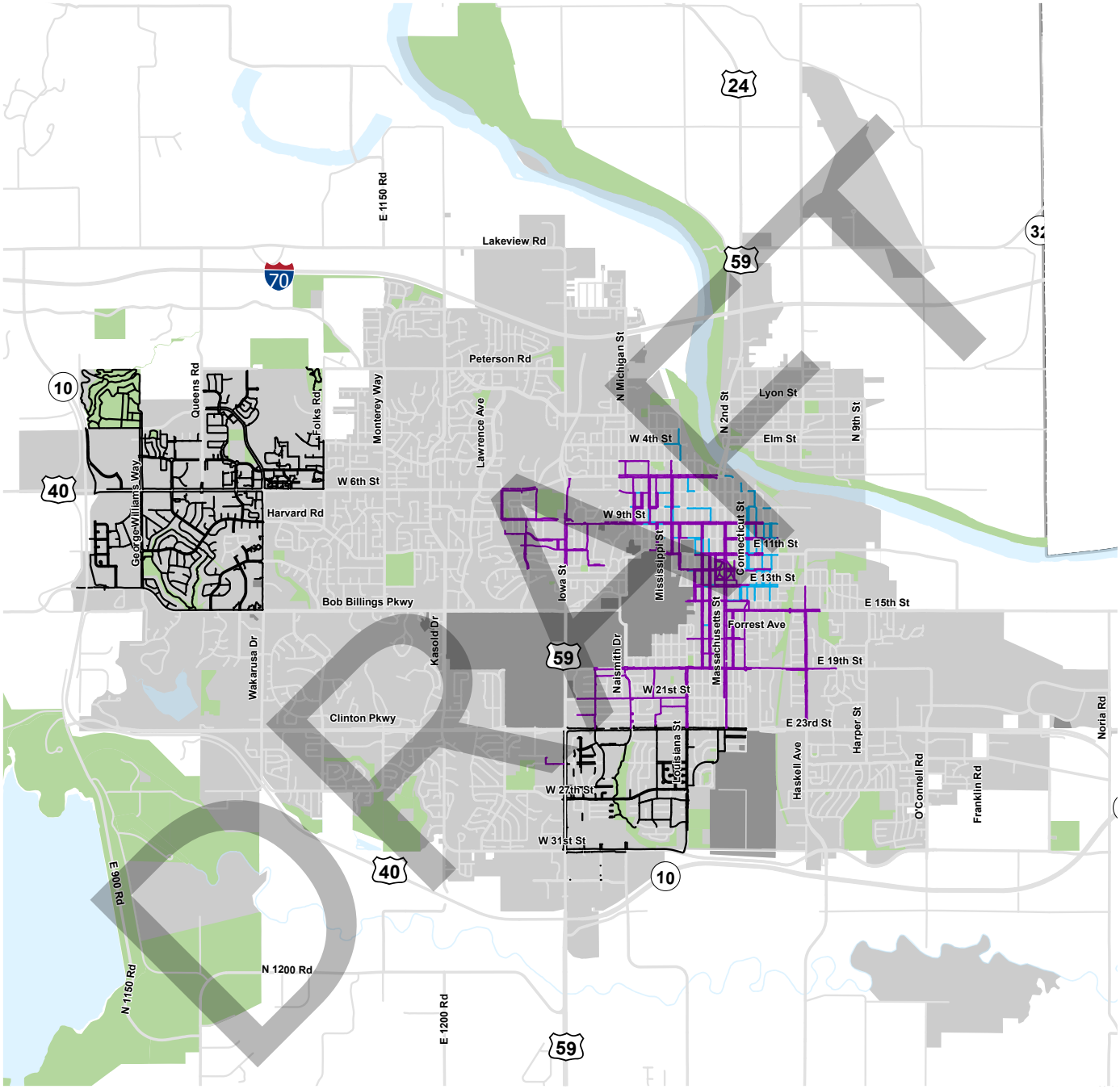
Figure B4 displays the 2021 inspection plan in purple (1/8th of the remaining uninspected sidewalks). Years 1 and 2 are shown in black. The blue lines represent brick sidewalks which were not part of the inspection process. A community stakeholder group is working on brick sidewalks and street standards.

Figure B5: 2021 Sidewalk Improvement Program



Date Exported: 12/18/2020
Source: Sidewalk Improvement Model
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

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Following City Commission approval of the data-driven approach on January 5, 2021, staff began the inspection process.[22] The inspections revealed conditions were worse than expected. Many segments of sidewalk (block-end to block-end) may need to be reconstructed and not spot-repaired. This discovery led to a two-project approach to fixing the sidewalks.

The first project will be a continuation of the Sidewalk Improvement Program repair project which addresses the sidewalk segments where spot-repairs are warranted. These repair projects will be constructed in the fall of 2021.

The second project will be a new project to design and reconstruct sidewalk segments where spot-repairs are not feasible. While the sidewalk data is still being analyzed to determine the scope of the project, approximately 90 blocks (single side) are on the list to be reconstructed. There is no budget for this project and the total cost for reconstruction of these blocks is estimated between $6-$13 million. Reconstruction of these blocks would likely require a resolution from the City Commission. Although these priority routes were known to be in poor condition, the magnitude of the problem was not foreseen, and the implications of full design and reconstruction were not contemplated. Nonetheless, future inspection phases will utilize the data-driven process.

Establishment and implementation of the Neighborhood Traffic Management Program

The City of Lawrence's Neighborhood Traffic Management Program, which was established via Resolution 7272, is a comprehensive initiative that aims to maintain or improve existing neighborhood environments through the application of the 5 Es; Education, Encouragement, Enforcement, Evaluation and Engineering.[23]

Program Efforts

- The Neighborhood Traffic Management Program uses a comprehensive approach to address unsafe driving on the City's neighborhood streets:
- Speed limit reductions on many neighborhood streets
- Community outreach and media campaign
- Traffic law enforcement and education
- Temporary engineering solutions
- Evaluation with each approach

Neighborhood Traffic Management Pilot Program

Lawrence is taking a fresh approach to addressing traffic-related concerns within residential areas throughout the city. This pilot program aims to improve the quality of life by reducing speeding and cut-through traffic on local and collector streets. Other concerns related to traffic safety involving pedestrians, bicyclists and motorists may also be addressed with this program.

Managing local traffic to enhance safety can be accomplished through a wide range of strategies including enforcement, education, or physical infrastructure changes. Tools to implement these strategies include automated speed radar signs, curb extensions/neckdowns, chicanes, speed cushions, traffic circles or mini roundabouts, raised pedestrian crosswalks, signage, and more. Each of these strategies and tools are evaluated on a case-by-case basis and will consider type of street, surrounding land use, and existing traffic volumes of all modes.

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22 https://lawrenceks.civicweb.net/Portal/MeetingInformation.aspx?Org=Cal&Id=652
23 https://cdn.lawrenceks.org/wp-content/uploads/2019/10/Resolution-7272.pdf

Safer Neighborhood Speeds Campaign

The City of Lawrence launched the Safer Neighborhood Speeds education campaign in January 2021. With fewer students on university campuses due to the pandemic, the launch of the campaign emphasized neighborhood and K-12 school engagement with some university outreach. The Fall 2021 effort will focus on reaching university students. The campaign's overarching goal is to improve safety on neighborhood streets in Lawrence and focuses on reminding people driving to slow down, look out for others, and stop for people wanting to cross the street. Figure B5 displays the Safer Speed designs used on yard signs and stickers.

Figure B6: Safer Speed Yard Signs and Stickers

The program included a pre-campaign and post-campaign survey. Of the 240 post-campaign survey respondents (not the student specific post-campaign survey), 88% had seen the Safer Neighborhood Speeds campaign and 85% were aware of the speed limit reduction prior to taking the survey. Two out of three respondents who were familiar with the campaign reported first seeing it on yard signs. Since seeing the campaign, respondents reported their driving behavior has changed in the following ways:

- 40% say they drive more slowly.
- 40% say they set aside or ignore distractions more often.
- 49% say they stop more often for people who want to cross the street.

When asked about the impact of the campaign, survey respondents who expressed an opinion stated the following:

- 10% agreed or strongly agreed that people are driving more slowly since before the campaign, whereas 26% were unsure.
- 32% perceive the campaign to be somewhat or very successful. Of the 43% who thought it was unsuccessful, respondents overwhelmingly asked for stronger police enforcement of speed limits. The remaining 25% of respondents were unsure.
- 50% would like the City to continue or expand traffic safety outreach and education efforts, whereas 19% are unsure.

The campaign was refreshed in August 2021 to specifically reach university students as they return to town for in-person classes. The campaign will conclude with a short survey targeted specifically at university students. The final Neighborhood Traffic Management report can be found online at: https://lawrenceks.civicweb.net/document/83898/Receive%20Final%20Report%20on%20the%20Neighborhood%20Traffi.pdf?handle=B347C005242D4C06888B8C2DB8FE1022

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Neighborhood Streets Speed Limit Reduction

In February 2020, the City posted an online survey asking residents "which speed limit would you prefer as the standard for residential streets in Lawrence?" More than half of the 551 responses indicated a preference the speed limit be lowered from the existing 30 mph. In March 2020, the Multi-modal Transportation Commission voted unanimously to forward a recommendation to City Commission to change the local speed limit to 25 mph. In October 2020, the City Commission approved Ordinance No. 9812 to lower the speed limit.[24]

The City installed 25 mph speed limit signs on all neighborhood streets in Lawrence that are not already posted at 25 mph or less. Any Lawrence neighborhood street that is classified as a "local" street with a current speed limit of 30 mph is included in this project.[25] See Figure B6 to view the locations.

The Lawrence Police Department enforced the updated speed limit as part of the Neighborhood Traffic Management Program. The enforcement approach was data-driven with speed data collected throughout the city. Enforcement was completed in a phased approach, with Lawrence Police Department first focusing on education and informing drivers about the new speed limits. Lawrence Police Department officers had discretion on the issuance of citations during all phases.

According to the 240 post Safer Neighborhood Speeds Campaign survey respondents, since the 25 mph speed limit signs were installed:

- 46% of respondents report driving slower always or very often, with an additional 26% sometimes doing so.
- 5% report noticing others drive slower always or more often, and 31% sometimes doing so, with 64% reporting others never or rarely drive slower.

Many respondents requested police enforcement of speed limits, while a few community members voiced concern over increased enforcement. Three-quarters of respondents reported not yet noticing the speed limit enforcement efforts in their neighborhoods, although the survey launched within one-month of speed enforcement starting.

The Neighborhood Traffic Management Program is a continuous program which will evaluate on an ongoing basis the impacts of speed reductions and traffic calming. Residents can submit traffic safety concerns at https://lawrenceks.org/traffic-safety.

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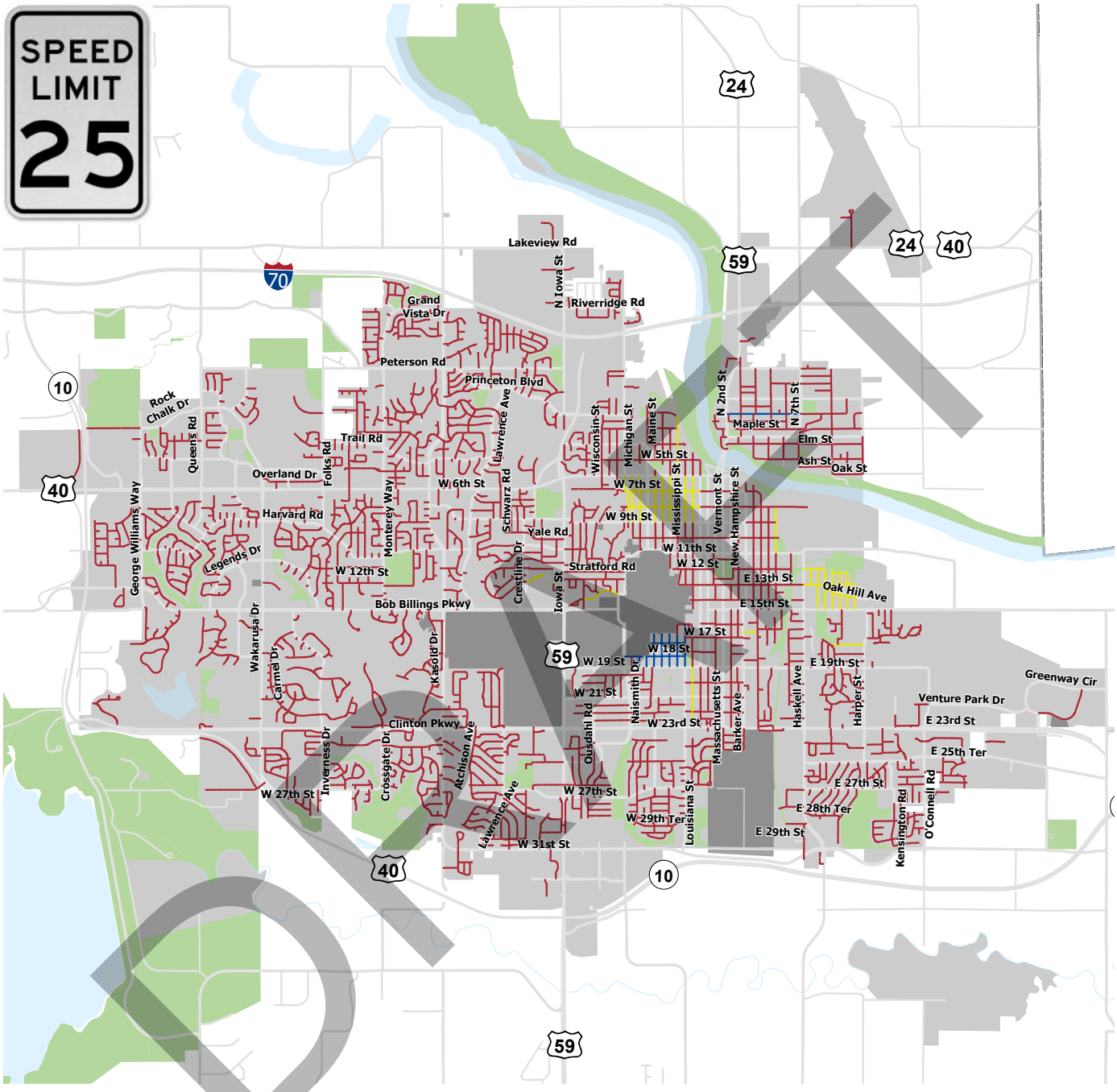
24 https://lawrenceks-my.sharepoint.com/:b:/g/personal/webmaster_lawrenceks_org/EUdrieuAELRAiePAvxeZWQ8BZnCSvxry_25GYad6cBHveFrQ

25 https://lawrenceks.org/mso/safer-speeds

Figure B7: Speed Reductions



Date Exported: 9/9/2021
Source: Neighborhood Traffic Management Program
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

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Development of the Lawrence Safe Routes to School Plan

In Lawrence, the Safe Routes to School (SRTS) program is called Be Active Safe Routes.[26] Safe Routes to School is a national program using comprehensive approaches to improving walking and biking for all kids. In addition to improving safety, Be Active Safe Routes benefits communities by reducing traffic congestion and air pollution, increasing the opportunity to be physically active and building community cohesion. The goal of the program is to develop safe routes for all and improve the health and well-being of children by encouraging them to safely walk and bicycle to school.

The Lawrence SRTS initiative began in 2014 as collaborative effort between the Lawrence-Douglas County Public Health (LDCPH), USD 497, the City of Lawrence, the Lawrence-Douglas County Metropolitan Planning Organization (MPO) and parents. This Working Group provided the framework for developing the holistic SRTS program, which includes bicycling and walking engagement, encouragement, education, equity, evaluation, and engineering. During the 2019-2020 school year the plan was developed for all USD 497 Lawrence Public School Elementary and Middle Schools. Although input was garnered from each school, this Plan is a citywide plan. Individual school plans should be developed utilizing the template found in the Plan and should identify which of the Safe Route to School strategies the individual school wants to employ to bolster the school's Safe Routes to School efforts. Though the plan was delayed due to the COVID-19 pandemic it was completed in November 2020.

Through the development of the plan the community was engaged in the Parent Survey and a specific feedback packet for each school. The school specific feedback packet asked questions about sidewalk preferences along safe routes to school routes and along streets that are not safe routes to school routes for prioritizing city funding of sidewalk gaps for the Safe Routes to School program. Figure B7 displays the results of the questions. Respondents thought sidewalk should be located on both sides of the street for all street types. For roads that are not safe routes to school routes, the results indicated a strong desire (74%) to have sidewalks on both sides of major streets regardless of route status. A majority of respondents (54%) felt sidewalk should be on both sides of collector streets. Conversely, many respondents (54%) felt sidewalk should be installed only on one side of local streets. It is perceived respondents indicated city funded sidewalk should only be installed on one side of local streets due to the immense need for sidewalk across the city. Additionally, local streets have lower posted speeds and lower traffic volume which are more comfortable, thus city resources should be distributed across the city.

Figure B8 shows the Safe Routes to School Routes and Figure B9 shows the Safe Routes to School maps established in the plan.

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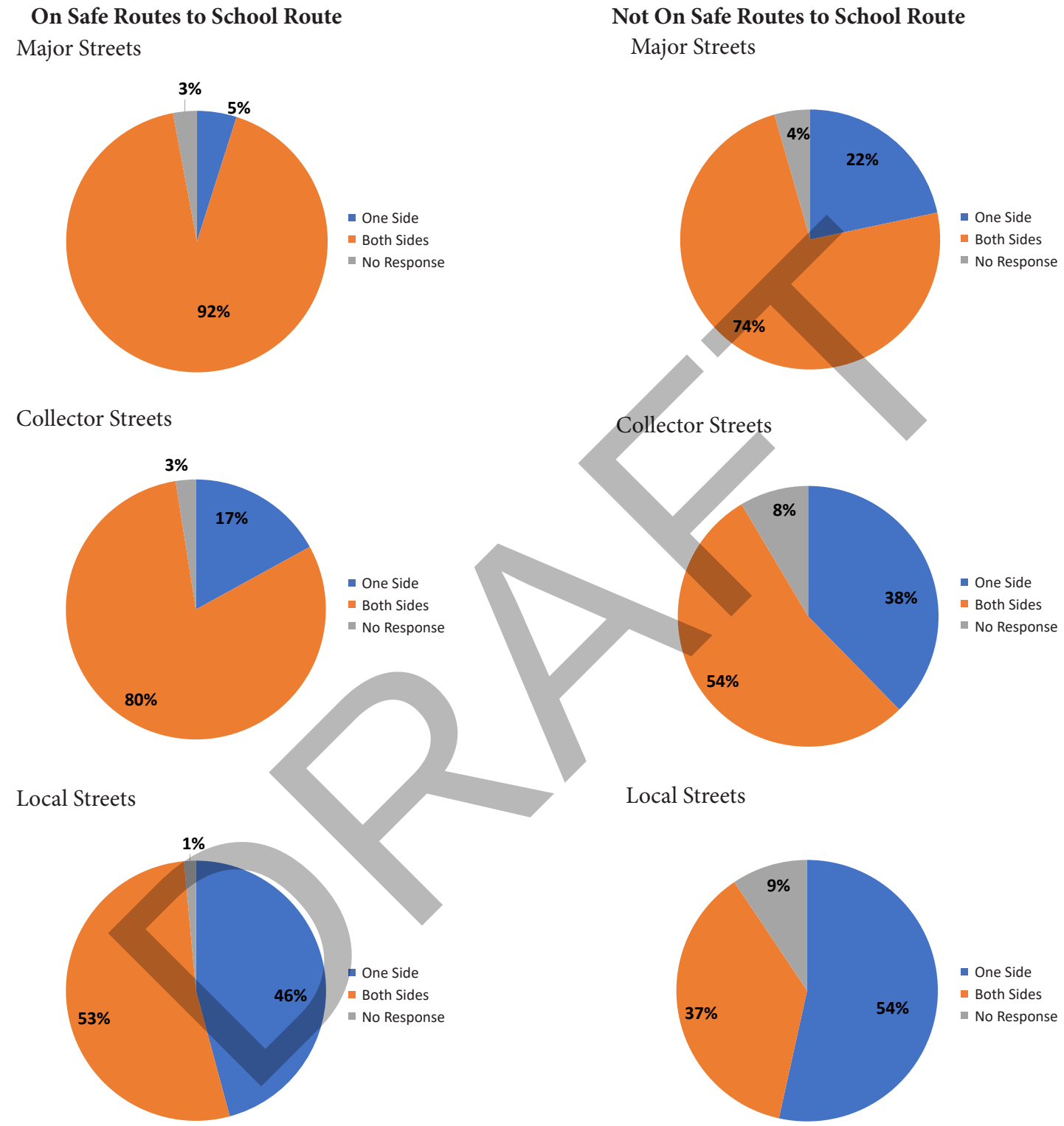
26 https://lawrenceks.org/safe-routes

Figure B8: Public Feedback on Priorities for City Funding Sidewalk Gaps from Safe Routes to School Community Engagement



*These questions were asked regarding dedicated city funding to fill gaps. The City of Lawrence Land Development Code requires sidewalk on both sides of the street for new development.

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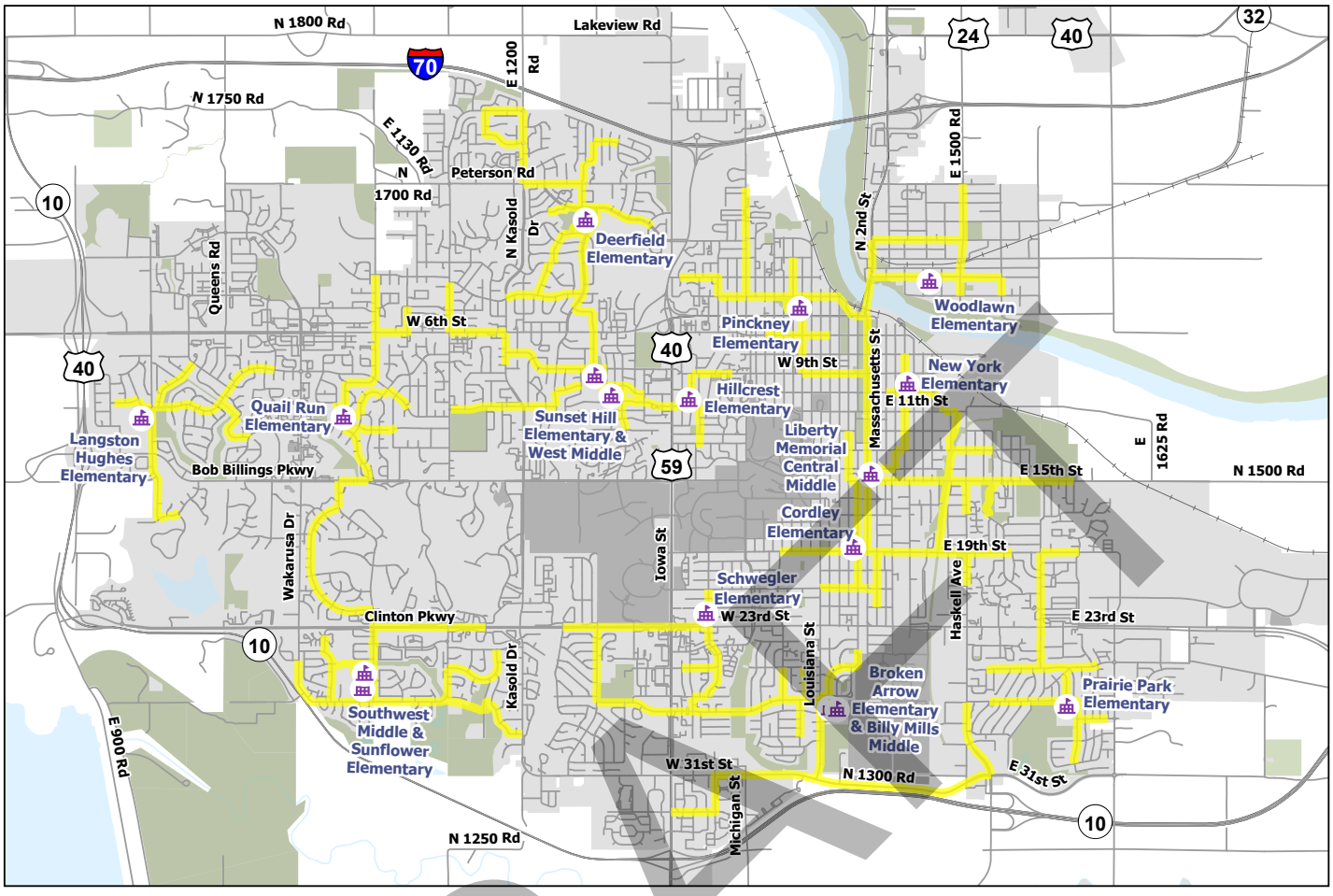
Figure B9: Safe Routes to School Routes (as of August 2021)



Safe Routes to School Routes | Schools | Railways | Parks | University | Water | City Limits

N

0 0.25 0.5 Miles

Date Exported: 8/12/2021

Produced: Lawrence-Douglas County MPO

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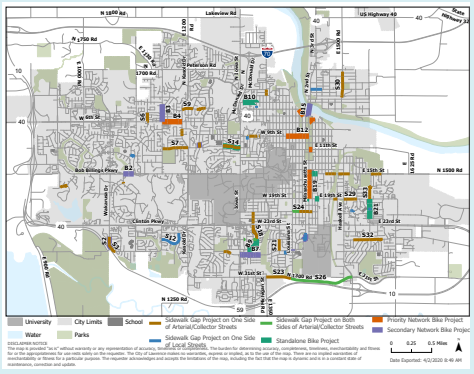
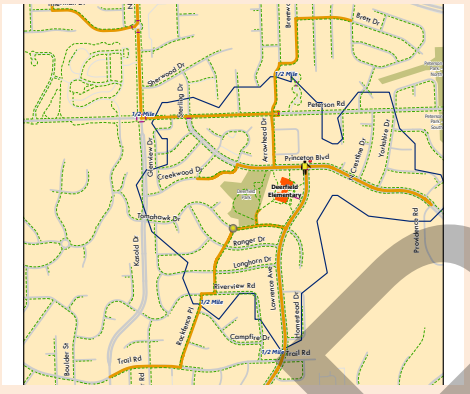
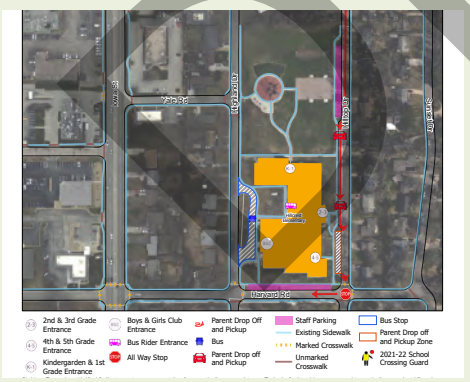
Through the development of the plan, it became obvious more than one type of map was needed. Figure B9 displays the elements, uses, developer, and updates for each of the maps. Infrastructure maps are used for

Figure B10: Safe Routes to School Maps

	Elements	Use	Developer	Updates
Infrastructure  Located: lawrenceks.org/safe-routes	• Establishes routes • Existing crossing guards • Streets • Existing sidewalks • Designated school zones • Posted speed limits • Existing bike facilities • Project listings - separate from the map	City infrastructure planning – determine sidewalk/bike gap projects	SRTS Working Group with USD 497 input	Routes planning & evaluation every 5 years except as necessary due to school boundary change or request from USD 497. The map may be updated to reflect the actual environment (built projects, crossing improvements, etc.) in the intervening years.
Encouragement*  Located: beactivesaferoutes.com	• Simple walking/ biking route map for students and parents • Shows existing infrastructure (sidewalk, crossings, etc) • Includes safety user information, student bus pass info, nearest bus stop on middle school maps	Schools and parents walking and biking to/from school	SRTS Working Group	As necessary, based on known changes to the built environment or items shown on the map.
Traffic Circulation  Located: beactivesaferoutes.com & USD 497 student handbooks and/or websites	• Entrances to school • Drop off/pick up • No parking zones • ADA entrances • Bus pick up/drop off • Crosswalks • Bike racks • Written traffic procedure if applicable	Schools and parents for drop off/ pick up procedures	USD 497 with City's technical guidance upon request	As necessary, based on known changes to the built environment or items shown on the map.

*Eventually the SRTS Encouragement map will have the same routes as the infrastructure map once sidewalk/bike gap projects are constructed.

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planning the infrastructure – where sidewalk needs to be installed, etc. Encouragement maps show the route students should utilize to walk or bike to school. Encouragement maps only show routes which have sidewalk. As projects are completed as identified on the infrastructure map the Infrastructure map and Encouragement maps will display the same information. The last map is a Traffic Circulation map. Prior to the development of this map the procedures for drop off and pick up were communicated individually by each school and were not consistent. The Encouragement and Traffic Circulation maps are located on the Lawrence-Douglas County Public Health's Be Active Safe Routes webpage – beactivesaferoutes.com. The Infrastructure maps are located in Appendix G in the plan on the City's website – Lawrenceks.org/safe-routes.

The plan also called for revisions to the School Area Traffic Control Policy which was last updated in July 2008 (Res. 6777).[27] Resolution 7390 passed on August 17, 2021, updated the School Area Traffic Control Policy (SATCP) to include:

- Addition of middle schools.
- Addition of new traffic control devices: Pedestrian Hybrid Beacons and Rectangular Rapid Flashing Beacons.
- Evaluation criteria for Adult Crossing Guards uses the same technical criteria to establish guards but adds criteria to install crossing guards in "potential locations" and allows existing crossing guard locations that meet 80% of the criteria to have an additional year for evaluations. The policy also prioritizes guards on established safe routes and establishes evaluation schedule to adapt to changes in the built-environment and school boundaries. Re-evaluate criteria for guards that meet 80% warrants, prior to removal.
- New criteria to install crossing guards in potential locations.
- Addition of Safe Routes to School Maps for Encouraging kids to walk and wheel, Planning for Infrastructure improvements and Traffic and Parking Circulation on the school site.
- Establishes processes to request elements and to allow evaluation by the SRTS Working Group, which includes the City of Lawrence, USD 497, Lawrence – Douglas County Metropolitan Planning Organization and Lawrence – Douglas County Public Health).[28]

The School Area Traffic Control Policy can be found at: https://assets.lawrenceks.org/mso/Lawrence_School_Area_Traffic_Control_Policy.pdf.

Another outcome of the Safe Routes to School Plan is the development of a Memorandum of Understanding (MOU) with USD 497. This MOU creates a formalized Safe Routes to School Working group between the City and USD 497 to operationalize Safe Routes to School work. The MOU was approved by the City Commission on August 17, 2021, and by USD 497 on July 12, 2021.[29]

The SRTS Working Group will be the point of contact for Safe Routes to School questions from parents, promoting walking and biking to school days, communicating with Schools, and assist in developing the SRTS Circulation and Encouragement Maps. Members of the SRTS Working Group have varying responsibilities in this process coordinated by the Working Group, which will be formed and staffed by the city.

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27 https://lawrenceks-my.sharepoint.com/:b:/g/personal/webmaster_lawrenceks_org/ERnTKWdY8MpBoGvxGfelbF8BFH5E58sTapcJ5R_8MWb6fA

28 Resolution No. 7390 - https://lawrenceks-my.sharepoint.com/:b:/g/personal/webmaster_lawrenceks_org/EQqymabIKUBFqs-OVJsVzNwB0gxi6GtgMPD6K5uQGX7ydQ

29 https://lawrenceks.civicweb.net/document/75353#page=128&zoom=100,0,0 and http://go.boarddocs.com/ks/usd497/Board.nsf/goto?open&id=C4UJN84D88B6

Improvement of the Right-of-Way Management Program

In June 2019, the City established a new right-of-way permit process for the temporary use of the public right-of-way.[30] The public right-of-way includes the entire street, which typically includes the sidewalk. The regulation applies to all temporary users of the right-of-way, including organizations with an agreement (including franchise agreements – typically utility companies) with the City, use the right-of-way on a temporary basis to place barricades, construct, reconstruct, relocate, or maintain facilities permanently located within the right-of-way. A component of the administrative regulations includes temporary traffic control requirements and permits for placement of barricades, cones or equipment that may impact pedestrian, bicycle, or vehicular traffic. If pedestrian accommodations are not correctly followed the temporary traffic control permit will be revoked and the use of the right-of-way must stop. This is monumental because the previous policy did not require a temporary traffic control permit only that temporary traffic control must be used; therefore, when pedestrian accommodations were done incorrectly there was no recourse when signage was not installed correctly as shown in Figure B10.

Figure B11: Incorrect Pedestrian Accommodations in Work Zones

The Temporary Traffic Control Plan must at a minimum have a detour route, including a pedestrian detour route, if appropriate. In work zones where there is sidewalk on the opposite side of the work area, signage is required to be placed prior to the work stating the need to cross the street early. At the site of the sidewalk obstruction a specific type of sign which extends the entire width of the pathway is required. Figure B11 provides examples of appropriate signage in work zones.

Figure B12: Appropriate Signage in Work Zones

Pedestrian barricade placed across the entire pathway at location of closure

Early warning sign placed to the side of the sidewalk (where it is safe to cross) to allow access to local businesses

If the work zone does not have sidewalk on the opposite side of the road and therefore people can't be routed to the other side of the street, there are additional requirements. Pedestrian detour routes should not be much longer than the original route and should be preserved in the urban and commercial area. A safe, convenient, and accessible travel path which replicates, as nearly as practical, the most desirable characteristics of the existing sidewalk. A smooth, continuous, hard surface should be provided through the entire length of the pedestrian

30 https://lawrenceks.org/mso/row-management and https://lawrenceks.org/wp-content/uploads/2021/03/Right-of-Way-Regulations.pdf

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facility. There should be no curbs or abrupt changes in grade or terrain. The width of the existing pedestrian facility should be provided if practical. 60" path is preferable but if not feasible then a minimum of a 48" path with 60"x60" passing zones every 200'. When pedestrian and vehicle paths are rerouted to a closer proximity to each other, consideration should be given to separating them by a temporary traffic barricade. Figure B12 displays examples of an accessible travel path which replicates the existing condition sidewalk and a temporary traffic barricade to separate pedestrian and vehicle paths.

Figure B13: Appropriate Pedestrian Detours When No Opposite Sidewalk Option

Signal coordination and pedestrian crossing time updates

In 2020-2021, changes were implemented to traffic signal timing on 6th Street (Massachusetts Street to George Williams Drive), Iowa Street (6th Street to 34th Street), and 23rd/Clinton Parkway (Harper Street to Inverness Drive). A consultant studied user data, vehicle travel times and intersection geometrics to improve operations, safety, and minimize vehicle delay along the principal arterial streets (ex. 6th Street and George Williams Way – 6th street has the prioritization). As part of this study the most recent standards from the Institute of Transportation Engineers, Federal Highways Administration, and Manual on Uniform Traffic Control Devices were reviewed for vehicle and pedestrian clearance timings. Based on this review, the vehicle "Yellow" and "Red" and pedestrian "Walk" and flashing "Don't Walk" clearance times were modified, often resulting in increased clearance times for users. Additionally, updated traffic signal coordination plans were developed, and a new schedule deployed throughout the study corridors. As part of the evaluation, the overnight "flash" operations of many signals were changed to more typical operating conditions relying on vehicle and pedestrian detection devices to activate the signal. The removal of "flash" operations provides safety benefits, particularly for pedestrian users who can use the signals to cross major streets safely.

The following corridors will have work completed on them in 2021-2022: N 2nd Street (6th Street to I-70), 19th Street (Iowa Street to Haskell Avenue), 9th Street (Iowa Street to Kentucky Street), Bob Billings (Iowa Street to K-10). Figure B13 displays the signal coordination phases and the remaining signals to be coordinated.

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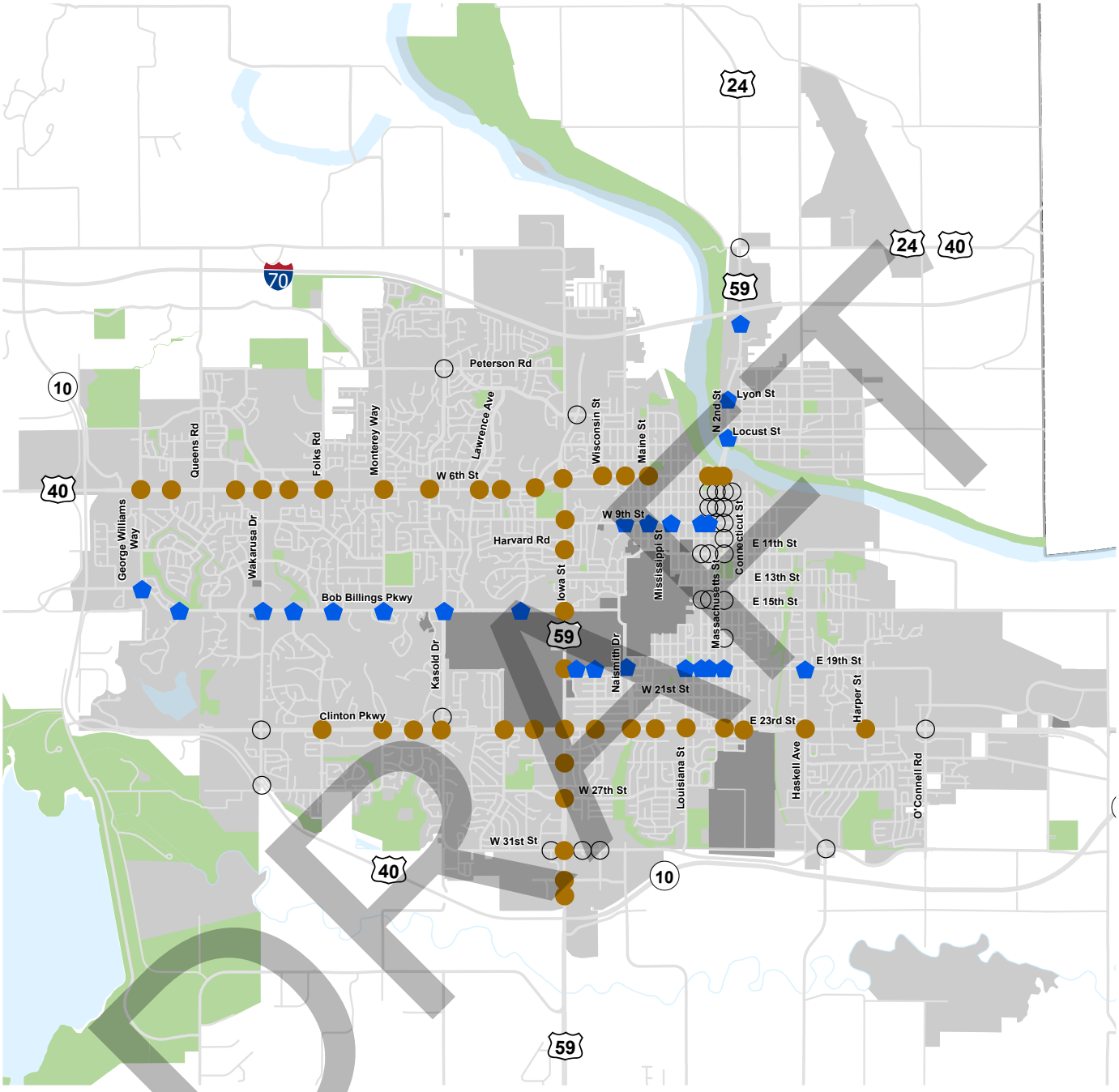
Figure B14: Traffic Lights - Coordinated and Remaining



Date Exported: 10/15/2021
Source: City of Lawrence Traffic Signal Coordination Project
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

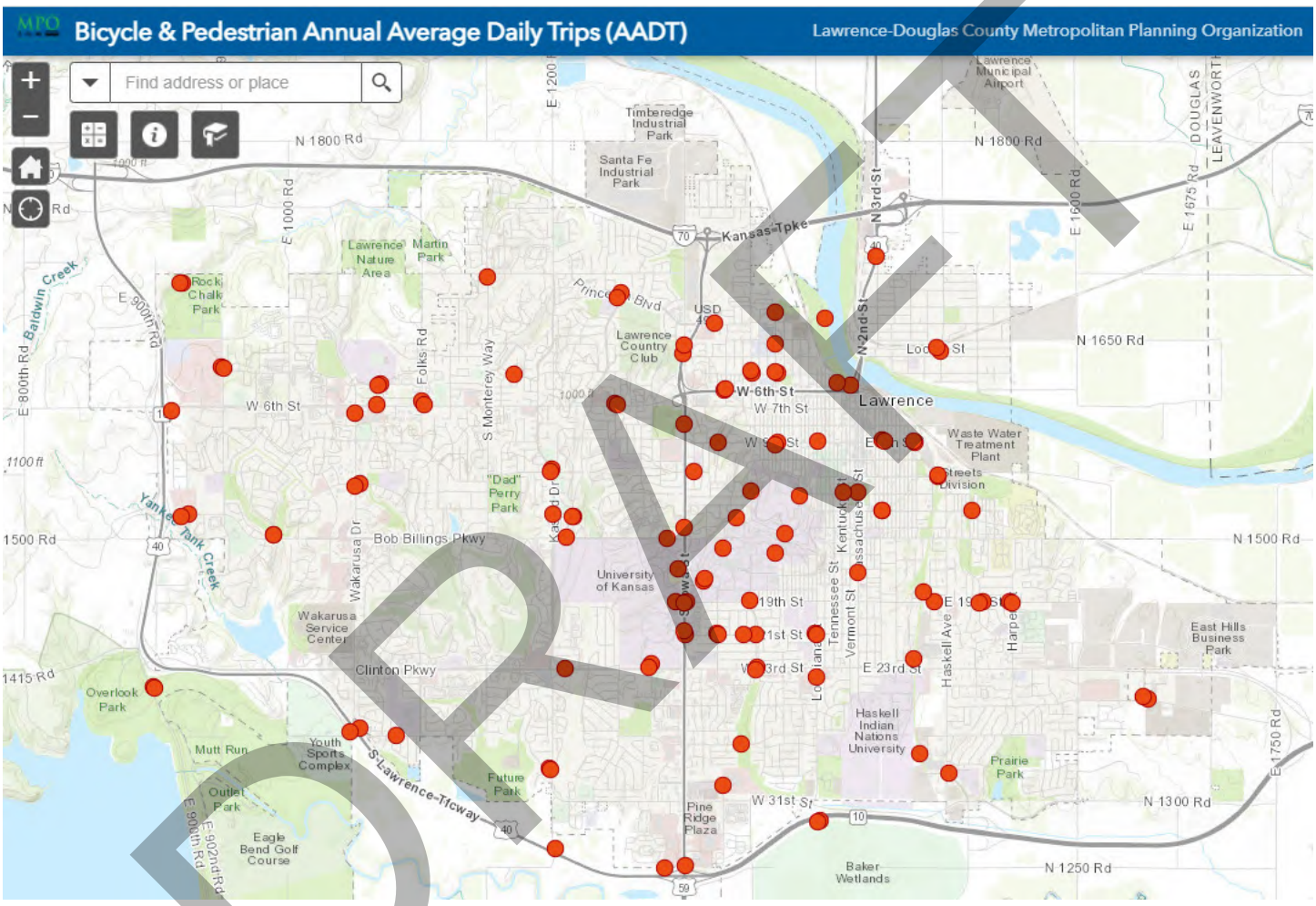
N

DISCLAIMER NOTICE
The map is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. The City of Lawrence makes no warranties, express or implied, as to the use of the map. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the map, including the fact that the map is dynamic and is in a constant state of maintenance, correction and update.

Counts

The Lawrence-Douglas County MPO conducts volunteer collected bicycle and pedestrian counts every September (except for 2020 and 2021 due to COVID-19) since 2009. These counts require three two-hour counts per location (10 am – Noon and 5 pm – 7 pm on a Tuesday through Thursday and one count from Noon to 2 pm on Saturday). In 2020-2021 the MPO conducted a pilot with Municipal Services and Operations (MSO) and Parks and Recreation to test using automated and video counting technology. Mixed results were obtained. These results have not been incorporated into the online interactive map. Figure B14 displays the interactive map which can be accessed at https://lawrenceks.org/mpo/bikepedcount.

Figure B15: Bicycle and Pedestrian Count Map



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2020 City Accessibility Survey Results

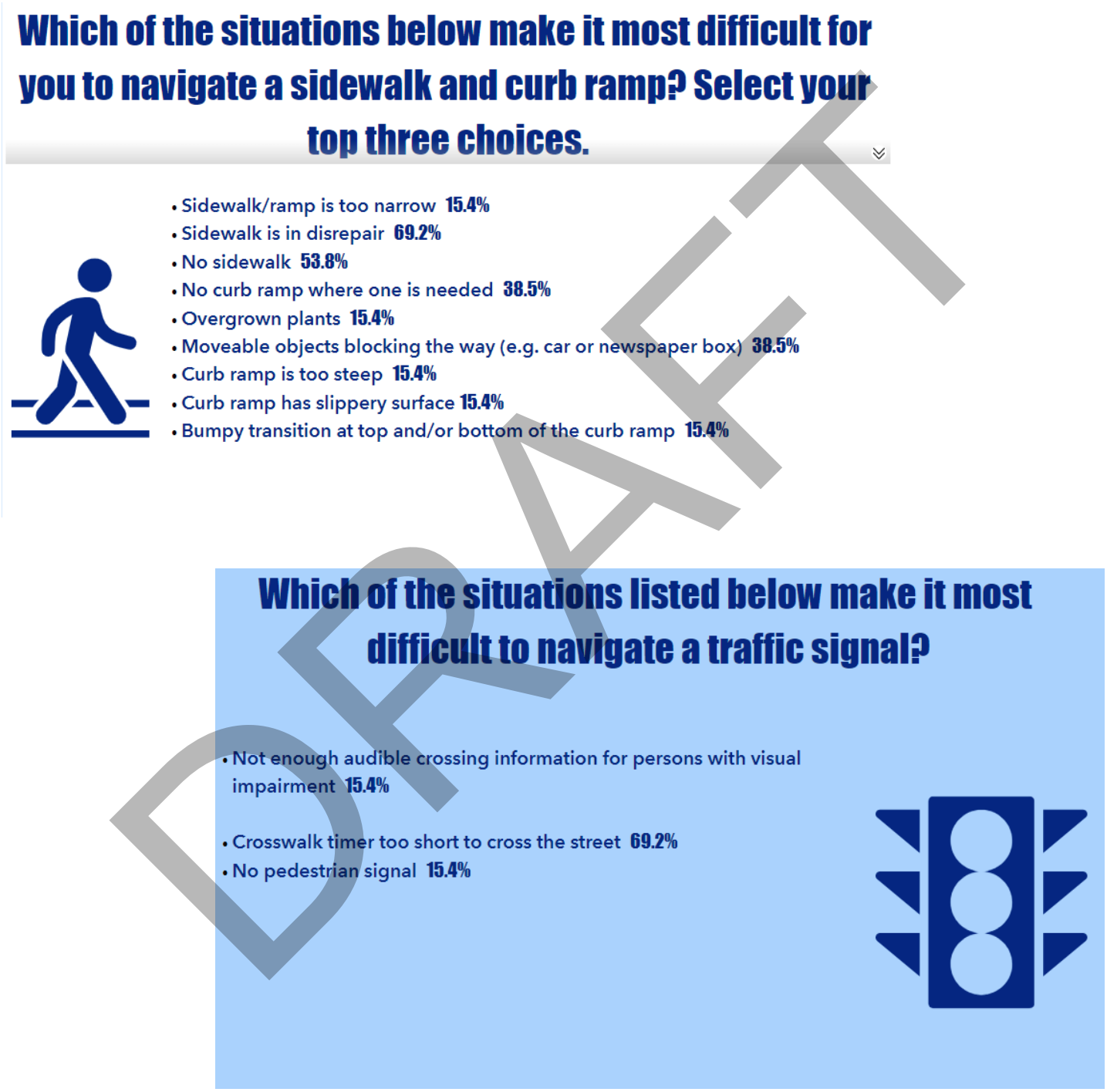
Each year, the City of Lawrence receives Community Development Block Grant (CDBG) funds from the US Department of Housing and Urban Development (HUD) to assist low and moderate-income residents. The City has historically earmarked these funds for housing improvements, social service agency capital projects, public infrastructure, and public services.

In preparation for the 2021 program year (August 2021-July 2022) the City gathered public input on Public Service needs and activities. The results aided staff beyond funding allocations and will help guide prioritization in the City's upcoming ADA Transition Plan.[31]

31 https://lawrenceks.org/wp-content/uploads/2020/07/ADA-Transition-Plan-Scope-of-Work.pdf

The survey many questions including if participants have a disability, what barriers people have encountered to accessing any city owned facility or building, what destinations are most important to fix for increased accessibility, and others.[32] Two questions are pertinent to the pedestrian plan: "which of the situations below make it most difficult for you to navigate a sidewalk and curb ramp" and "which of the situations listed below make it most difficult to navigate a traffic signal" (shown in Figure B15).

Figure B16: 2020 Accessibility Survey Results Extract



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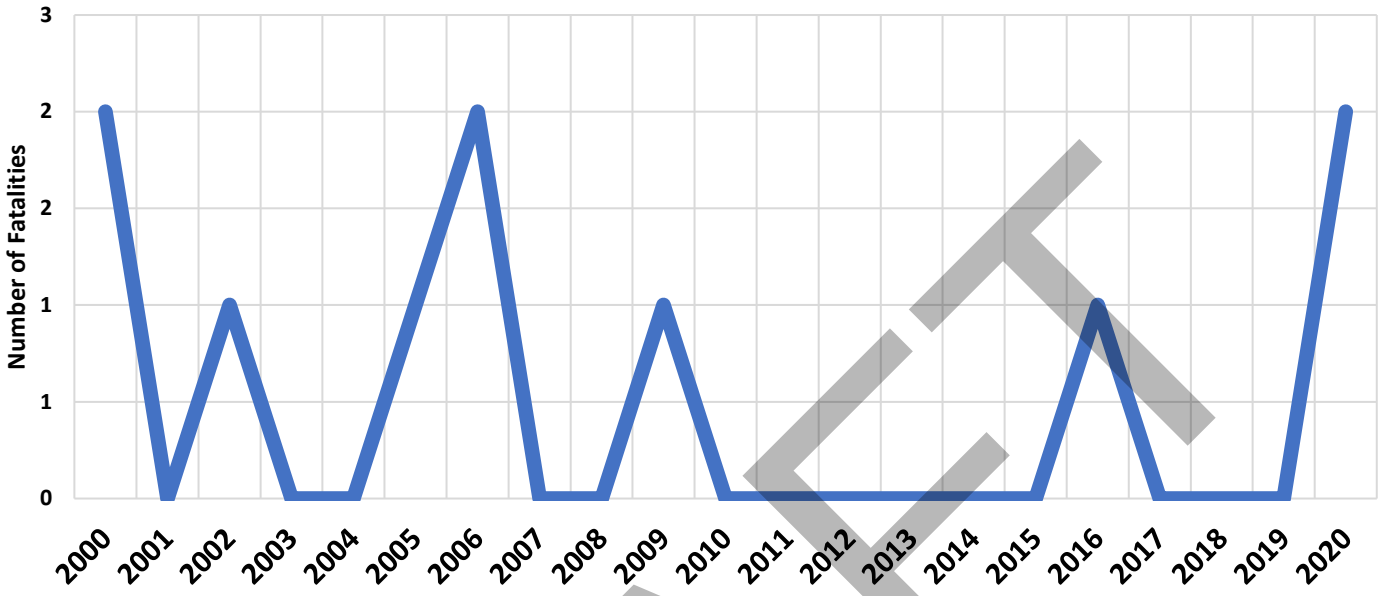
32 The full survey results can be found at: https://experience.arcgis.com/experience/733b7e53885e4da9ad23bebd5c6ddc48/

Crash History

Crash data was provided within Lawrence from the Kansas Department of Transportation. As shown in Figure B16, zero to two pedestrian fatalities have occurred each year since 2000.

Figure B17: Historic Lawrence Pedestrian Fatalities (2000-2020)



Source: Kansas Department of Transportation (2021)

Pedestrian crashes between 2016 and 2020 were evaluated in detail below. One fatality pedestrian fatality occurred in 2016 and two occurred in 2020. A comparison of the crash severity of pedestrian and motor vehicle crashes in Lawrence notes some striking differences. Table B6, shows that pedestrian crashes had a significantly higher proportion of serious injuries at 13.7% while 0.5% of motor vehicle crashes involved a serious injury. This is also true for injuries that are not considered serious, 82.2% of pedestrian crashes resulted in other injuries where only 14.1% of motor vehicles crashes resulted in other injuries. Most motor vehicle crashes, 82.2%, were property damage only incidents. The percentage of crashes with fatalities for both pedestrian and motor vehicle crashes were 2.1%, and 0.1%, respectively. This indicates pedestrian crashes are more likely to result in a death than motor vehicle crashes.

Table B6: Lawrence Pedestrian/Motor Vehicle Crash Severity (2016-2020)

	Total	5-Year Average	5-Year Average %
Property Damage Only - Pedestrian	3	0.6	2.1%
Other Injury - Pedestrian	120	24.0	82.2%
Serious Injury - Pedestrian	20	4.0	13.7%
Fatality - Pedestrian	3	1	2.1%
Total	**146**	**29**	
Property Damanage Only - Motor Vehicle	8,466	1,693.2	85.3%
Other Injury - Motor Vehicle	1,404	280.8	14.1%
Serious Injury - Motor Vehicle	48	9.6	0.5%
Fatality - Motor Vehicle	9	2	0.1%
Total	**9,927**	**1,985.4**	

Source: Kansas Department of Transportation

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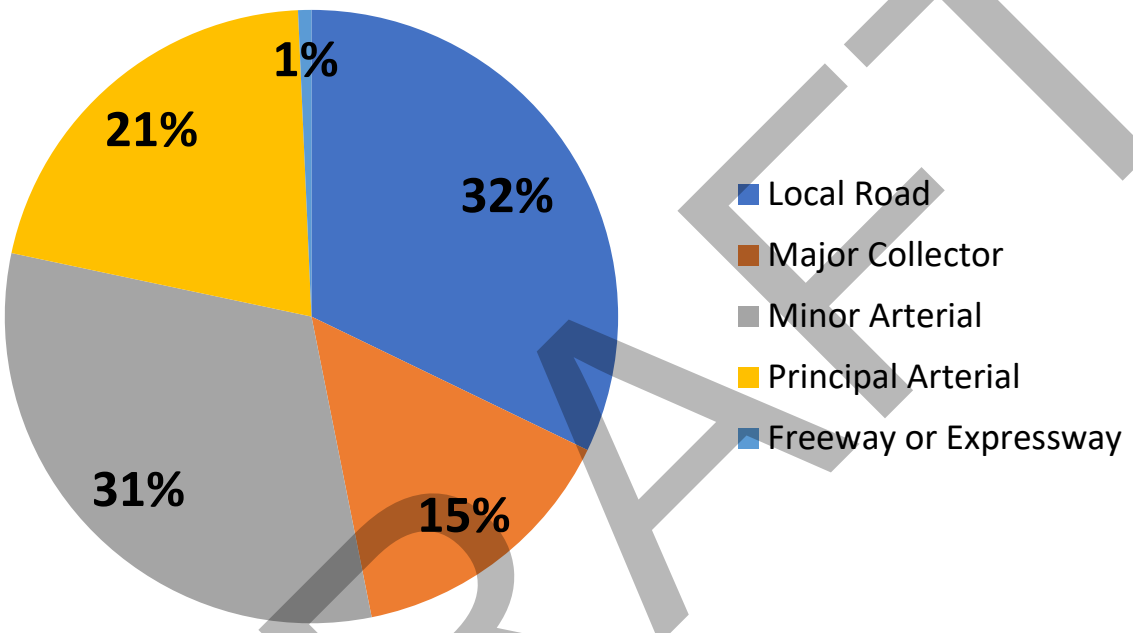
Road Classification

Figure B17 displays the types of road classifications pedestrian crashes occurred on. Crashes occurred 68% of the time on higher classified roads (Freeway or Expressway, Principal Arterial, Minor Arterial, and Major Collector). These higher classified roads have higher speeds and more vehicles than local roads.

As shown in Figure B18, the speed of a roadway limits the driver's field of vision. The field of vision is the amount of space a person can view while driving down the road. The faster you drive the less you can view. Thus, faster speeds lead to more crashes as drivers are not able to view pedestrians soon enough to avoid a crash. According to the AAA Foundation for Traffic Safety the average risk for death of a pedestrian increases as the speed of the vehicle increases (Table B7).

Figure B18: Road Classification by Pedestrian Incident (2016-2020)



Source: Kansas Department of Transportation (2021)

Figure B19: Field of Vision Based on Speed of Driver[1]

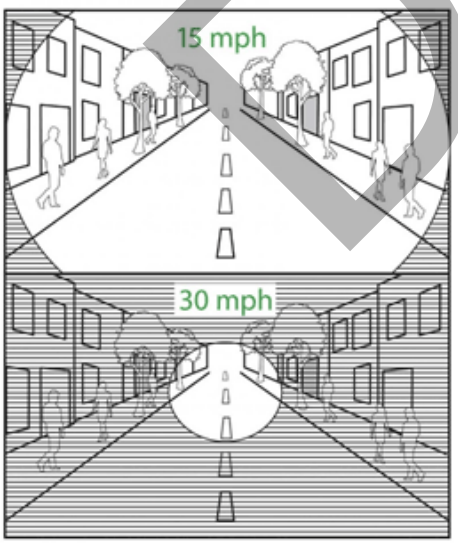


Table B7: Average Risk of Pedestrian Severe Injury or Death Based on Vehicle Miles per Hour Speed[2]

	Severe Injury	Death
10.0%	16 mph	23 mph
25.0%	23 mph	32 mph
50.0%	31 mph	42 mph
75.0%	39 mph	50 mph
90.0%	46 mph	58 mph

33 Speed as a Safety Problem. Institute of Transportation Engineers. Accessed on December 20, 2021 from https://www.ite.org/technical-resources/topics/speed-management-for-safety/speed-as-a-safety-problem/

34 Impact Speed and a Pedestrian's Risk of Severe Injury or Death. AAA Foundation for Traffic Safety. 2011. Accessed on December 20, 2021 from https://aaafoundation.org/impact-speed-pedestrians-risk-severe-injury-death/

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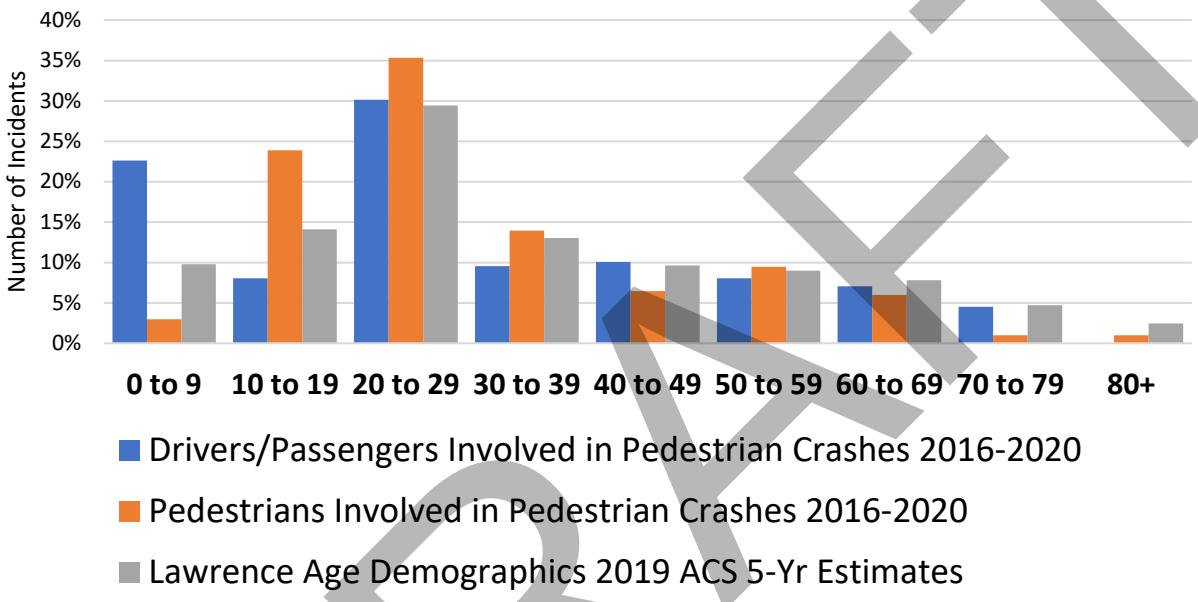
Age of Pedestrians and Drivers

Data in Figure B19 shows the age group highest at risk for pedestrian crashes both as a pedestrian and a driver is the age group 20-29. In Lawrence, a large percentage of the overall population is within this age group. To understand if these proportions of incidents were notably higher than we would expect, we compared Lawrence's demographics with the number of pedestrian incidents in each age group. While the age group 20-29 accounts for 29% of the population, the age group is involved in a higher percentage of pedestrian incidents, both as the pedestrian and as the driver. This suggests education targeted at this age group may be appropriate. Although the 20-29 age group accounts for the majority of pedestrian crashes the three pedestrian fatalities were 29 years old, 58 years old, and 61 years old. This suggests the pedestrian environment needs to be evaluated to be comfortable for all age groups especially as people are aging.

Figure B20: Age of Pedestrians and Drivers Involved in Pedestrian Incidents Compared to Lawrence Demographics (2016-2020)



Source: Kansas Department of Transportation (2021) & US Census American Community Survey 2019 5-Yr Estimates (S0101)
Note: The vehicle information includes all people in the vehicle when it is in a crash, which is why there are non-driving age people included.

"Crash" versus "Accident"

The word "crash" may be new to some people to describe the event in which a bicycle rider or pedestrian collides with a motor vehicle, in a way that can result in bodily harm and/or property damage. Historically, these events were called accidents. The term accident implies heavy doses of chance, unknown causes, and the connotation that nothing can be done to prevent them. Crashes are preventable. Bicycle rider and pedestrian crashes are not random events. They fall into a pattern of recurring crash types and occur because the parties involved make mistakes. The mistakes can be identified and counteracted through a combination of education, skill development, engineering, and enforcement measures that can substantially reduce crash occurrences. There is a continuing need to establish the mindset that bicycle riders and pedestrians are worthy and viable users of our transportation system.

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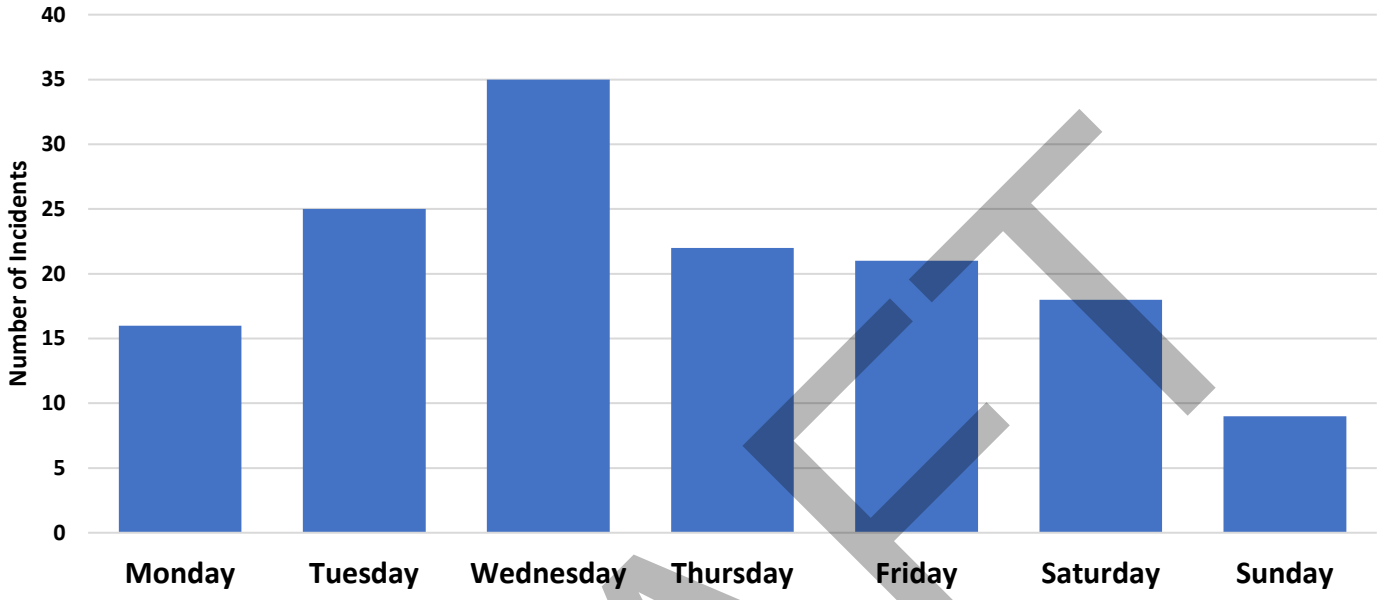
Time, Day, Month of Crash

Figure B20 shows Sunday and Monday have the fewest number of incidents while Wednesday has a highest number of pedestrian incidents.

Figure B21: Pedestrian Incidents by Day of the Week (2016-2020)



Source: Kansas Department of Transportation (2021)

Figure B21 demonstrates the months of April and November had the highest number of pedestrian incidents. Overall, summer months June and July had the lowest numbers of incidents than other months. The low attendance of universities during the summer months is likely to account for this dramatic decrease in pedestrian incidents for June and July. The data demonstrated in Figure 15 about the age of pedestrians and drivers, coupled with this data, suggests targeted education at the university-level at the beginning of each semester may improve pedestrian safety, given that many young drivers come to town during that time. However, the data may also suggest a higher number of crashes happen simply because there are more people in town. A comparison with monthly weather conditions (temperature, precipitation, snowfall) is inconclusive due to various factors in the cause of pedestrian incidents.

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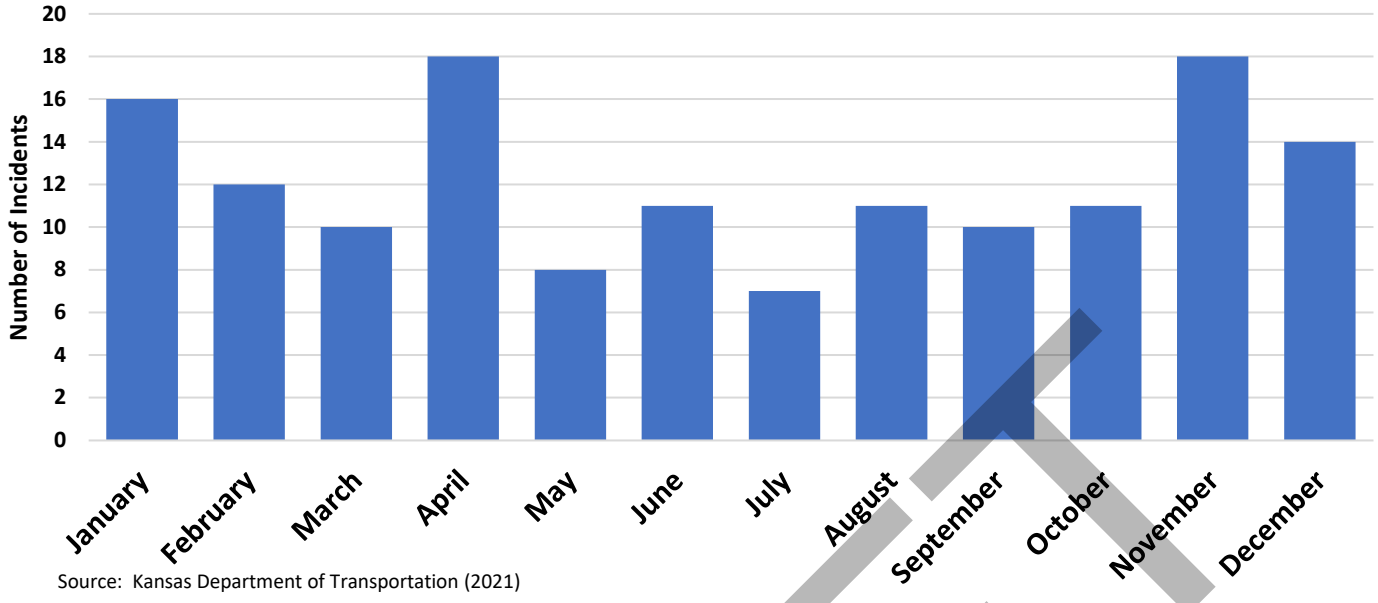
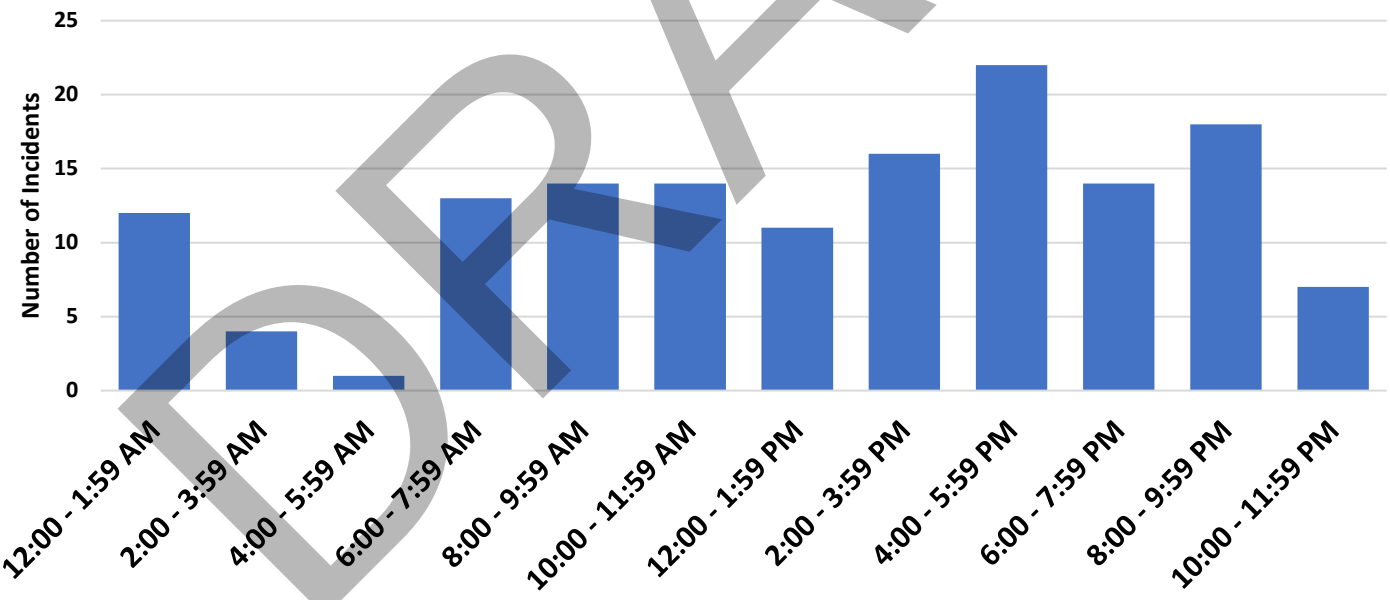
Figure B22: Pedestrian Incidents by Month of the Year (2016-2020)



Source: Kansas Department of Transportation (2021)

Figure B22 shows the peak travel times between 4:00 – 5:59 PM accounted for the largest proportion of pedestrian crashes and should be the focus of enforcement and other activities. This trend demonstrates an increase in crashes during hours that coincide with the end of a typical school day and the afternoon commute.

Figure B23: Individuals involved in Pedestrian Crashes by Time of Day (2016-2020)



Source: Kansas Department of Transportation (2021)

Light, Weather, and Surface Condition

Shown in Figure B23, many pedestrian incidents occurred in Daylight, 58.9%, followed by "Dark: Street Lights On" at 30.1%. Only 6.2% of incidents occurred in "Dark: No Street Lights" and the Dawn and Dusk categories together accounted for 4.8% of all incidents.

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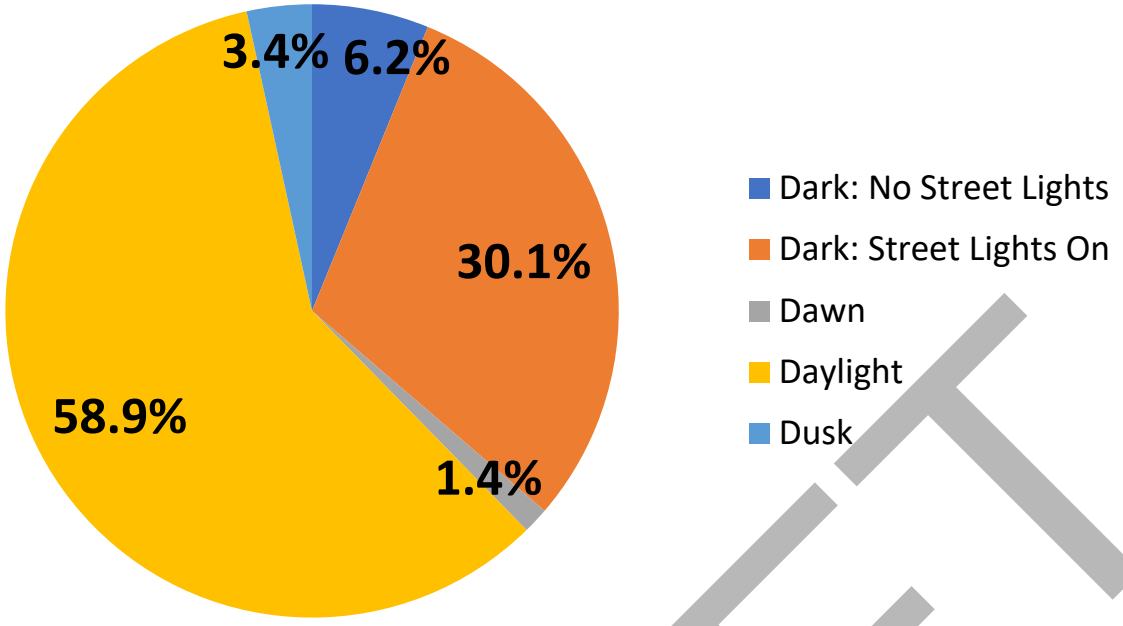
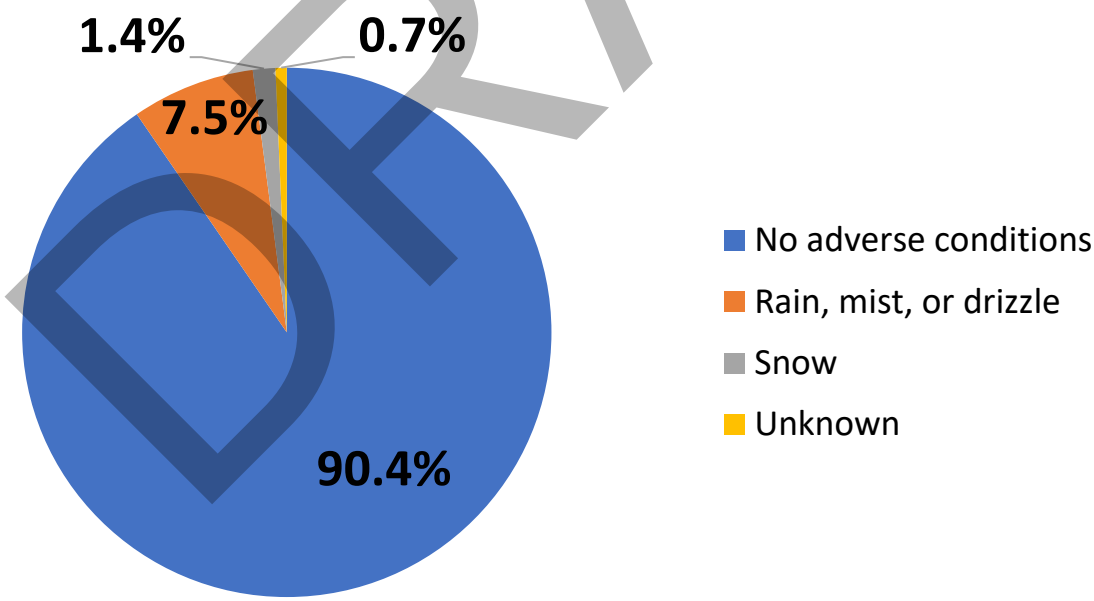
Figure B24: Number of Pedestrian Incidents by Light Conditions (2016-2020)



Source: Kansas Department of Transportation (2021)

Figure B24 demonstrates, the majority, 90.4%, of pedestrian crash incidents occurred in clear conditions. Rain was the next significant category, with an occurrence in 7.5% of pedestrian crash incidents. The remaining categories combined for slightly over 2% of all incidents. Since most pedestrian crash incidents occurred in clear weather conditions, this suggests inclement weather had very little effect on the likelihood of a pedestrian crash.

Figure B25: Number of Pedestrian Incidents by Weather Conditions (2016-2020)



Source: Kansas Department of Transportation (2021)

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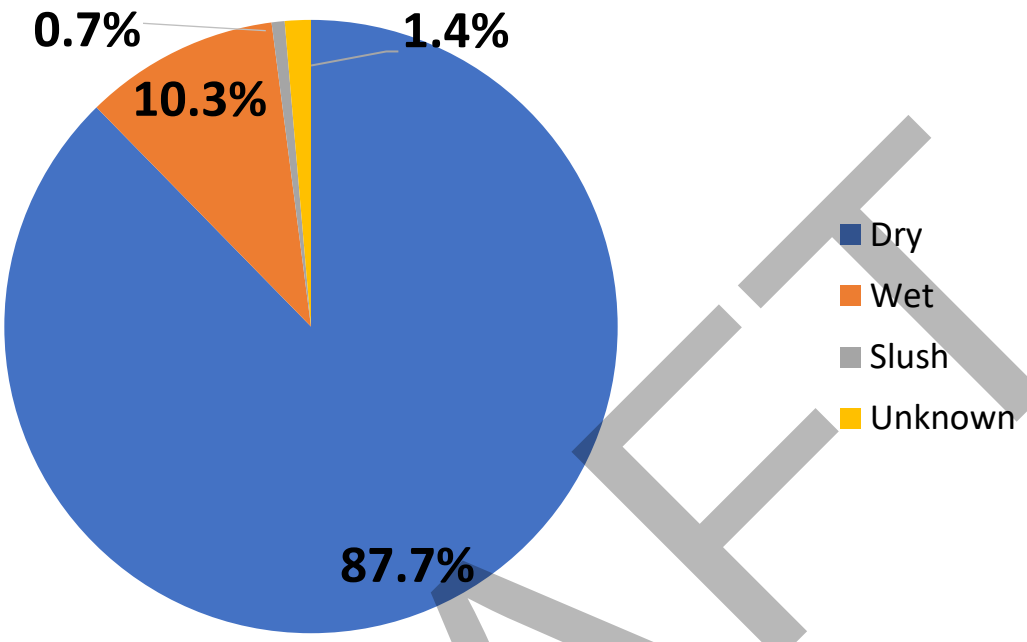
Figure B25 indicates 87.7% of pedestrian crash incidents occurred under dry surface conditions, followed by wet conditions at 10.3%. The rest of the categories combined accounted for slightly more than 2% of all incidents. Since the number of pedestrian crash incidents is substantially higher in dry conditions, this suggests inclement weather discouraged pedestrians from walking, or encouraged more caution from drivers and pedestrians alike.

Figure B26: Pedestrian Incident Surface Conditions (2016-2020)



Source: Kansas Department of Transportation (2021)

Location of First Harmful Event and Pedestrian Action

First harmful event is the first injury or damage-producing event that characterizes the crash type. The location of the first harmful event as it relates to its position within or outside the trafficway. Figure B26 demonstrates the majority of pedestrian crash incidents by location of first harmful event occurred "in crosswalk or bikeway" – 48%. The next highest locations were "not in roadway" – 15.4% and "not in intersection – in area without crosswalk or bikeway" – 13.8%. "Not in crosswalk or bikeway" was 9.8%. Interestingly, the "in intersection without crosswalk or bikeway" and "not in intersection- in available crosswalk or bikeway" were both 5.7%. This data is important because almost half of all pedestrian incidents occur when a pedestrian is using a marked crosswalk/bikeway. When pedestrians are using a marked crosswalk there is the expectation that the crossing is

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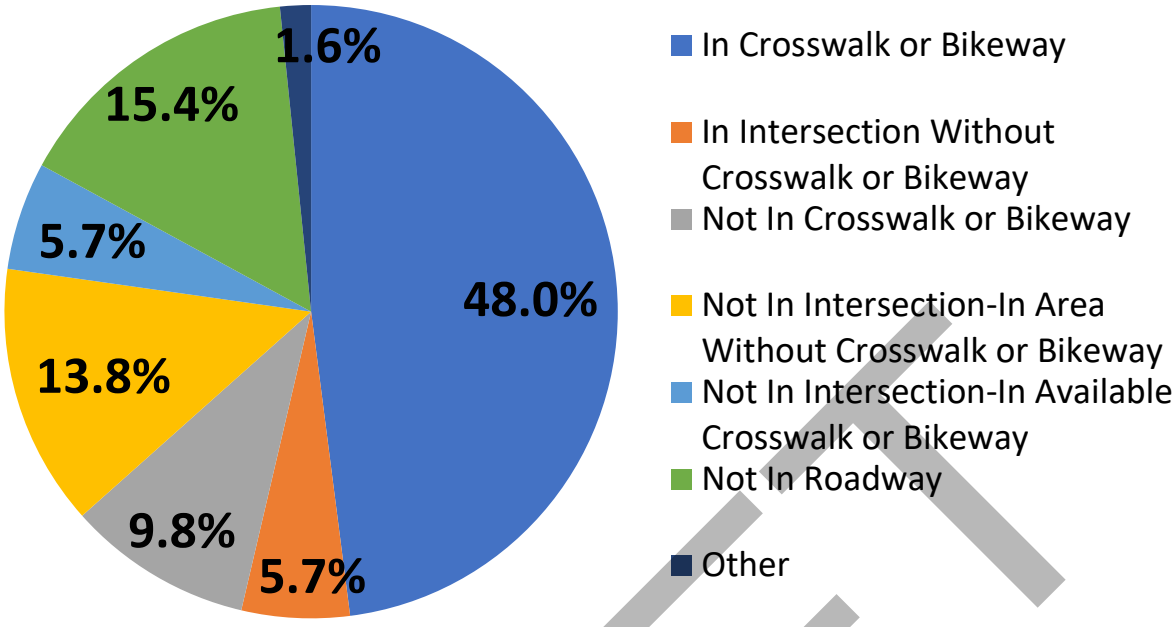
Figure B27: Location of First Harmful Event in Pedestrian Crashes (2016-2020)

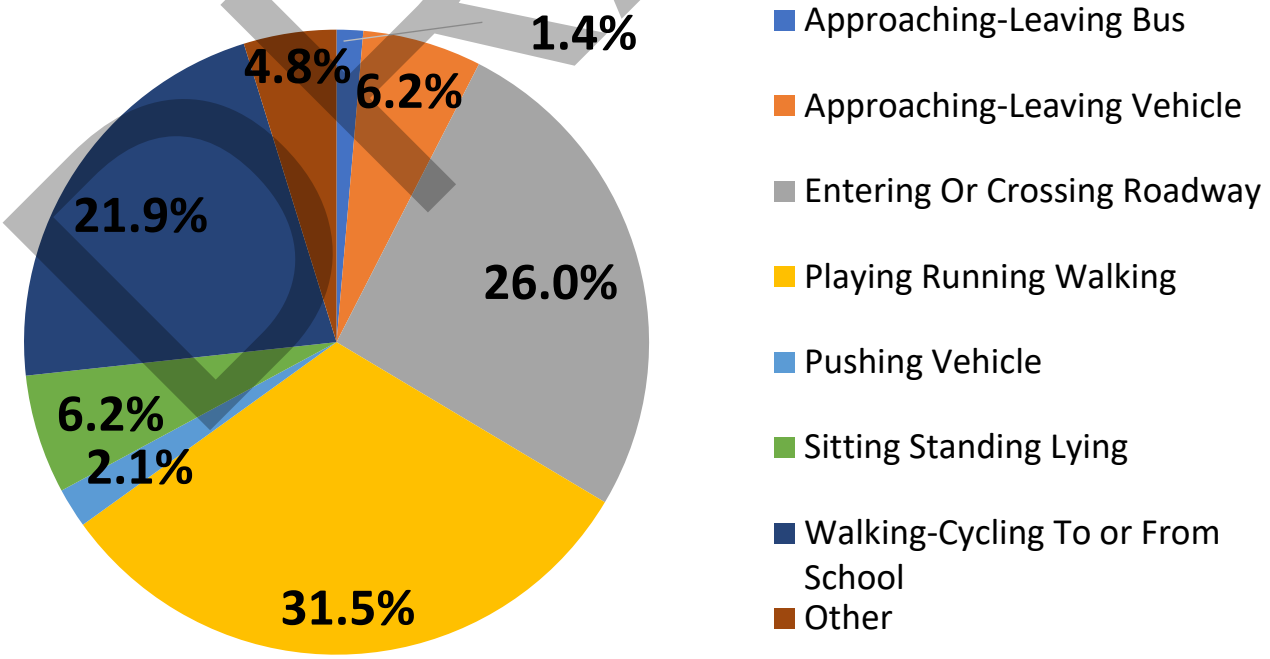


Source: Kansas Department of Transportation (2021)

safe; however, this is not always the case. Driver education/enforcement may need to be conducted to educate on the importance of crosswalks.

Figure B27 shows the greatest number of pedestrian-related contributing circumstances for pedestrian crashes were "playing, running, or walking" – 31.5%, and "entering or crossing roadway" – 26% of all incidents. A smaller proportion of pedestrian related actions include "walking-cycling to and from school" – 21.9%.

Figure B28: Pedestrian Incidents by Pedestrian Action (2016-2020)



Source: Kansas Department of Transportation (2021)

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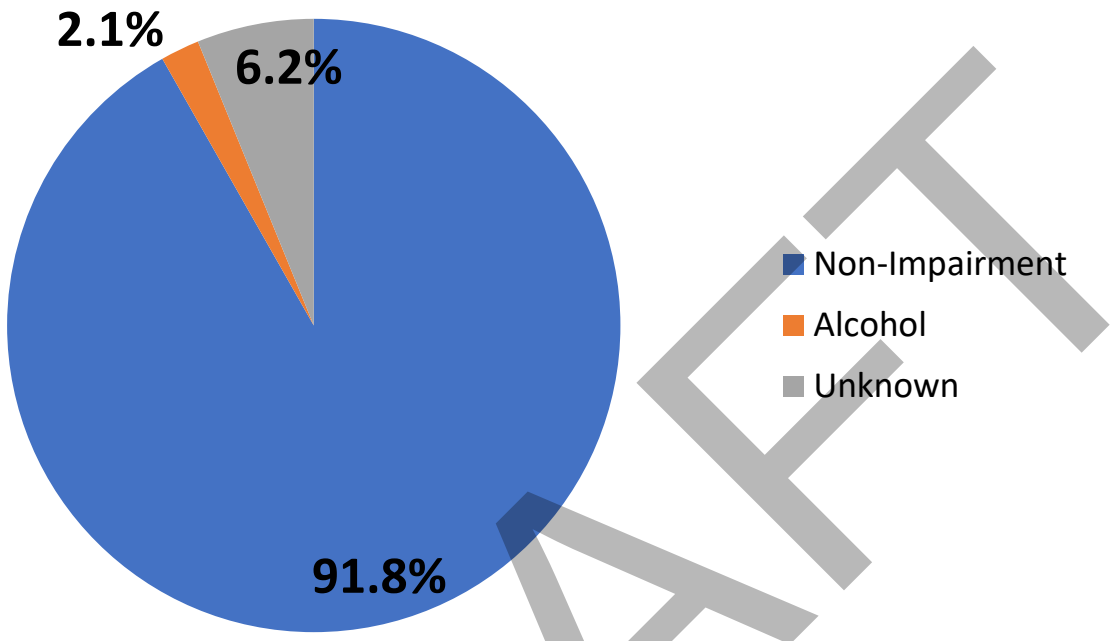
Driver and Pedestrian Impairment

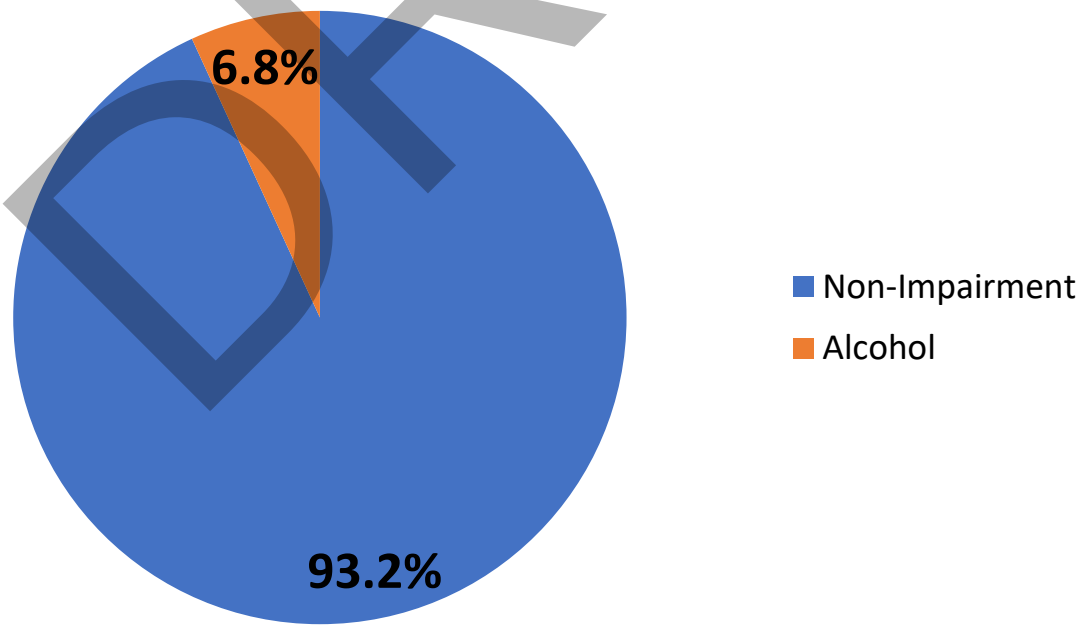
Figure B29 shows over 91% of pedestrian incidents by drivers were unimpaired. Only 2.1% of pedestrian incidents involved drivers impaired by alcohol. Figure B28 demonstrates over 93% of pedestrian incidents involved pedestrians who were unimpaired while the remaining 6.8% occurred when alcohol was involved.

Figure B30: Driver Impairment - Pedestrian Incidents (2016-2020)



Source: Kansas Department of Transportation (2021)

Figure B29: Pedestrian Impairment - Pedestrian Incidents (2016-2020)



Source: Kansas Department of Transportation (2021)

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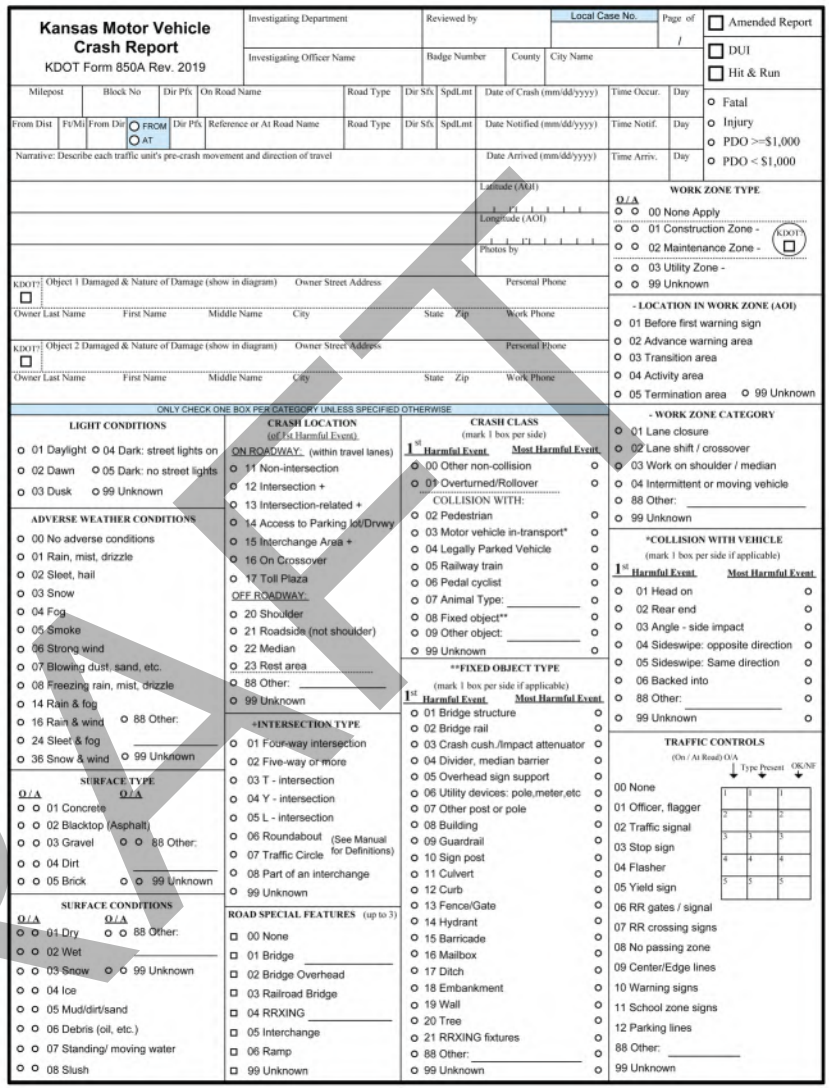
Strengths and Limitations of the Pedestrian Crash Data

The data that is currently collected and was made available to the MPO staff during this study process contains valuable information about the demographics of individuals involved in the crash, specific locations of crashes occurring at an intersection or midblock, and weather conditions. Figure B30 shows the information collected through a Kansas Motor Vehicle Accident Report Form.[35] However, missing, or incomplete motor vehicle accident report forms limit the ability of the MPO to accurately analyze and plan for improvements to the pedestrian network.

State crash reports are only filed if the crash includes a motor vehicle. There is a local Lawrence ordinance that requires any injury accident over $50 to be reported to the Lawrence Police Department. However, the ordinance doesn't have a standard for how that is documented. Some officers take the verbal report and thank the caller; others at their discretion file an information report. Information reports are unable to be easily queried for bicycle/pedestrian related information.

KU collects crash data when reported to KU Public Safety using the state crash reporting form. Crashes which occur in KU parking lots do not confirm to the state crash reporting form so for the last few years they have been doing driver exchanges instead of using the form to report parking lot crashes.

Figure B31: 2019 KDOT Crash Report Form



Kansas Motor Vehicle Crash Report
KDOT Form 850A Rev. 2019

Investigating Department | Reviewed by | Local Case No. | Page of 1 | Amended Report | DUI | Hit & Run
Investigating Officer Name | Badge Number | County | City Name

Milepost | Block No | Dir Pfx | On Road Name | Road Type | Dir Sfx | SpdLmt | Date of Crash (mm/dd/yyyy) | Time Occur. | Day | Fatal | Injury | PDO >=$1,000 | PDO < $1,000
From Dist | Ft/Mi | From Dir | FROM / AT | Dir Pfx | Reference or At Road Name | Road Type | Dir Sfx | SpdLmt | Date Notified (mm/dd/yyyy) | Time Notif. | Day
Narrative: Describe each traffic unit's pre-crash movement and direction of travel | Date Arrived (mm/dd/yyyy) | Time Arriv. | Day
Latitude (AOI) | Longitude (AOI) | Photos by

KDOT? | Object 1 Damaged & Nature of Damage (show in diagram) | Owner Street Address | Personal Phone
Owner Last Name | First Name | Middle Name | City | State | Zip | Work Phone
KDOT? | Object 2 Damaged & Nature of Damage (show in diagram) | Owner Street Address | Personal Phone
Owner Last Name | First Name | Middle Name | City | State | Zip | Work Phone

ONLY CHECK ONE BOX PER CATEGORY UNLESS SPECIFIED OTHERWISE

LIGHT CONDITIONS
01 Daylight; 02 Dawn; 03 Dusk; 04 Dark: street lights on; 05 Dark: no street lights; 99 Unknown

ADVERSE WEATHER CONDITIONS
00 No adverse conditions; 01 Rain, mist, drizzle; 02 Sleet, hail; 03 Snow; 04 Fog; 05 Smoke; 06 Strong wind; 07 Blowing dust, sand, etc.; 08 Freezing rain, mist, drizzle; 14 Rain & fog; 16 Rain & wind; 24 Sleet & fog; 36 Snow & wind; 88 Other:; 99 Unknown

SURFACE TYPE (O / A)
01 Concrete; 02 Blacktop (Asphalt); 03 Gravel; 04 Dirt; 05 Brick; 88 Other:; 99 Unknown

SURFACE CONDITIONS (O / A)
01 Dry; 02 Wet; 03 Snow; 04 Ice; 05 Mud/dirt/sand; 06 Debris (oil, etc.); 07 Standing/ moving water; 08 Slush; 88 Other:; 99 Unknown

CRASH LOCATION (of 1st Harmful Event)
ON ROADWAY: (within travel lanes)
11 Non-intersection; 12 Intersection +; 13 Intersection-related +; 14 Access to Parking lot/Drwy; 15 Interchange Area +; 16 On Crossover; 17 Toll Plaza
OFF ROADWAY:
20 Shoulder; 21 Roadside (not shoulder); 22 Median; 23 Rest area; 88 Other:; 99 Unknown

+INTERSECTION TYPE
01 Four-way intersection; 02 Five-way or more; 03 T - intersection; 04 Y - intersection; 05 L - intersection; 06 Roundabout (See Manual for Definitions); 07 Traffic Circle; 08 Part of an interchange; 99 Unknown

ROAD SPECIAL FEATURES (up to 3)
00 None; 01 Bridge; 02 Bridge Overhead; 03 Railroad Bridge; 04 RRXING; 05 Interchange; 06 Ramp; 99 Unknown

CRASH CLASS (mark 1 box per side)
1st Harmful Event | Most Harmful Event
00 Other non-collision; 01 Overturned/Rollover
COLLISION WITH:
02 Pedestrian; 03 Motor vehicle in-transport*; 04 Legally Parked Vehicle; 05 Railway train; 06 Pedal cyclist; 07 Animal Type:; 08 Fixed object**; 09 Other object:; 99 Unknown

****FIXED OBJECT TYPE** (mark 1 box per side if applicable)
1st Harmful Event | Most Harmful Event
01 Bridge structure; 02 Bridge rail; 03 Crash cush./Impact attenuator; 04 Divider, median barrier; 05 Overhead sign support; 06 Utility devices: pole,meter,etc; 07 Other post or pole; 08 Building; 09 Guardrail; 10 Sign post; 11 Culvert; 12 Curb; 13 Fence/Gate; 14 Hydrant; 15 Barricade; 16 Mailbox; 17 Ditch; 18 Embankment; 19 Wall; 20 Tree; 21 RRXING fixtures; 88 Other:; 99 Unknown

WORK ZONE TYPE (O / A)
00 None Apply; 01 Construction Zone - (KDOT?); 02 Maintenance Zone - (KDOT?); 03 Utility Zone -; 99 Unknown

- LOCATION IN WORK ZONE (AOI)
01 Before first warning sign; 02 Advance warning area; 03 Transition area; 04 Activity area; 05 Termination area; 99 Unknown

- WORK ZONE CATEGORY
01 Lane closure; 02 Lane shift / crossover; 03 Work on shoulder / median; 04 Intermittent or moving vehicle; 88 Other:; 99 Unknown

***COLLISION WITH VEHICLE** (mark 1 box per side if applicable)
1st Harmful Event | Most Harmful Event
01 Head on; 02 Rear end; 03 Angle - side impact; 04 Sideswipe: opposite direction; 05 Sideswipe: Same direction; 06 Backed into; 88 Other:; 99 Unknown

TRAFFIC CONTROLS (On / At Road) O/A — Type Present — OK/NF
00 None; 01 Officer, flagger; 02 Traffic signal; 03 Stop sign; 04 Flasher; 05 Yield sign; 06 RR gates / signal; 07 RR crossing signs; 08 No passing zone; 09 Center/Edge lines; 10 Warning signs; 11 School zone signs; 12 Parking lines; 88 Other:; 99 Unknown

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35 https://www.ksdot.org/burtransplan/prodinfo/lawinfo.asp

Crash Data Conclusion

The preceding crash data shows certain demographics and locations within Lawrence should be targeted to reduce the number of pedestrian injuries and deaths. Pedestrians in the age group of 20-29 are involved in a larger percentage of incidents than one would expect when compared with Lawrence's demographics. This data reveals the need to target this age demographic for safety education. Almost half of crashes occurred in marked crosswalks/bikeways and 26% of crashes occurred when pedestrians were either entering or crossing the roadway. This indicates driver education may be needed to educate on the importance of pedestrians in crosswalks especially on higher speed roads. Additionally, the comparison of injury and fatalities between pedestrian and automobile accidents suggests more could be done to educate drivers and pedestrians alike of the serious risks of injury that pedestrians face when involved in a crash.

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Appendix C. Technical Analysis

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Introduction

This plan was developed by the Lawrence-Douglas County Metropolitan Planning Organization (MPO) and the City of Lawrence. The planning process occurred during the fall/winter of 2021-2022.

The planning process used several technical analysis: Calculation of Missing Miles, Calculation of Project Costs, Pedestrian Demand and Sidewalk Block Group Analysis.

Calculation of Missing Miles

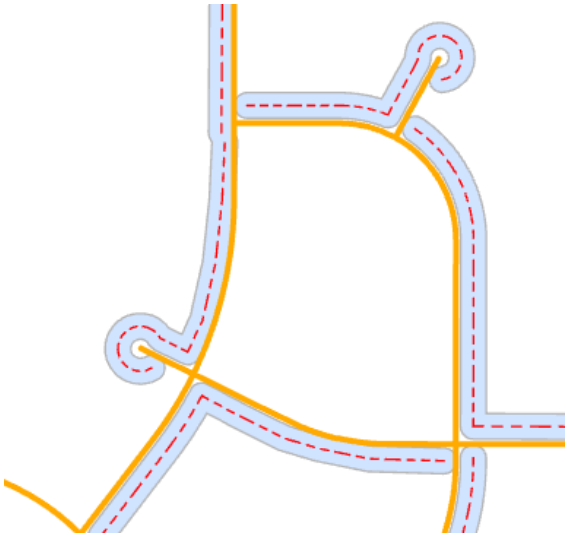
To calculate the missing miles of sidewalks the roads, the different road classifications were separated based on the long-term pedestrian vision which consisted of different goals based on the road classification. No private, frontage, turnaround, ally, freeway or ramp classifications were used. The arterial roads included the principal arterials and minor arterials classifications. The collectors included major collectors, minor collectors, and collectors classifications. Local roads were the street classification.

Figure C1: Road Centerline Shown in Orange

Once the three classifications were delineated (arterials, collectors, and locals), the process to calculate the miles of sidewalk along each road classification was started. Roads are displayed based on their road centerline in the ArcGIS system. This means one line is shown down the middle of the road rather than showing a line for each travel lane (Figure C1). Sidewalk can be calculated along each side of the road or by the road centerline. The road centerline is essentially half of the total amount of sidewalk due to a single line going down the middle of the road rather than on both sides of the road. As staff was concerned about sidewalk on specific road classifications the road centerlines were used because the road classification was not applied to the sidewalk information consistently.

The following process was used to calculate the missing miles of sidewalk.

Figure C2: Buffer on Missing Sidewalks



1. Clipped the road centerline information to the City of Lawrence City Limits.

2. Calculated the feet, which are converted into miles, for the three road classifications - Arterial, collector, local. *This equaled the total centerline mile of each road type.*

3. Created forty feet buffers around the existing sidewalks.

4. Applied a definition query to the road centerlines to only display the road classification for the specific calculation (arterials, collectors, locals).

5. The existing sidewalk buffers were used to select the road centerline for each sidewalk. The road centerlines which were selected had sidewalk on either side.

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6. The road centerline selection was then inversed to select the road centerlines which did not have any sidewalk on either side because they were not in a buffer. *This equaled the total road centerline miles without sidewalk on either side.*

7. Created twenty-two feet buffers around missing sidewalks. These buffers were used to select the road centerlines which did not have sidewalk. *This equaled the total road centerline miles without sidewalk.*

8. Subtracted the missing sidewalk on both sides from the total mileage without sidewalk to obtain the one side missing sidewalk number. *This equaled the total road centerline miles of sidewalk without sidewalk on one side.*

9. To check the calculations, the total missing sidewalk centerline mileage for each road classification were subtracted from the total mileage for each road classification. Table C1 shows the final information.

10. The sidewalk width is based on the road classification. Arterials have six feet sidewalks. Collectors and local roads have five feet sidewalks. The feet for each classification and side of the street (one or both) were multiplied by the appropriate sidewalk width. This lead to the square feet.

11. The square feet were then multiplied by the low and high cost per square foot Municipal Services and Operations staff provided - $19-$44.

12. Then the total cost was divided by half of the annual dedicated bicycle and pedestrian funding since the funding is for both bicycle and pedestrian projects. The annual amount is $675,000, so half is $337,500. The resulting numbers showed the years it would take to achieve the sidewalk goal based on the current level of funding. This estimate is a high level planning estimate. The cost for design/inspection (estimated at 25% of the construction cost) and inflation were not included in the analysis. Table C2 shows the results of these calculations.

13. An additional analysis was conducted to determine the level of funding necessary to achieve the goals of sidewalk on all sides of all streets (70 miles) or sidewalk on all sides of arterials/collectors and one side of locals (42 miles). The high estimate for the total funding amount was divided by 5, 10, and 20 years. Table C3 shows the advanced funding scenarios to build a complete sidewalk network. (This table is shown in the Pedestrian Plan.)

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Table C1: Missing Miles per Road Classification

Within city limits	Feet	Miles	%
USE NO PRIVATE OR TURNAROUND			
Roads with sidewalk on at least one side - no private or turnaround	1,575,146.7	298.3	81%
Roads no sidewalk (not in buffer) - no private or turnaround	366,873.0	69.5	19%
Total road centerline - no private or turnaround	1,942,201.0	367.8	100%
Arterial Roads	**Feet**	**Miles**	**%**
Arterials without sidewalk - TOTAL	35,138.4	6.7	10%
Arterials with sidewalk (on both sides)	311,047.3	58.9	90%
Arterials missing sidewalk ONE side	3,726.3	0.7	1%
Arterials missing sidewalk BOTH sides	31,412.1	5.9	9%
Total arterials	346,185.8	65.6	100%
with sidewalk, missing 1, missing 2	346,185.7		
total minus without = total with	311,047.4		
Collector Roads	**Feet**	**Miles**	**%**
Collectors without sidewalk - TOTAL	30,475.3	5.8	8%
Collectors with sidewalk (on both sides)	332,301.2	62.9	92%
Collectors missing sidewalk ONE side	11,296.7	2.1	3%
Collectors missing sidewalk BOTH sides	19,178.6	3.6	5%
Total collectors	362,776.5	68.7	100%
with sidewalk, missing 1, missing 2	362,776.5		
total minus without = total with	332,301.2		
Local Roads	**Feet**	**Miles**	**%**
Locals without sidewalk - TOTAL	303,900.9	57.6	25%
Locals with sidewalk (on both sides)	929,337.8	176.0	75%
Locals missing sidewalk ONE side - subtracted from total without and both sides	9,051.8	1.7	1%
Local missing sidewalk BOTH sides - buffer inversion	294,849.1	55.8	24%
Total locals	1,233,238.8	233.6	100%
with sidewalk, missing 1, missing 2	1,233,238.7		
total minus without = total with	929,337.9		
Note: Frontage roads, ramps, and freeways were excluded prior to starting the analysis.			

Table C2: Cost to Achieve Sidewalk

	Miles	Feet	Width	Square Feet	Range of cost per square foot $ 19	$ 44	Range of years Low	High
Arterial roads missing sidewalk on one side of street	0.71	3,726	6	22,358	$ 424,798	$ 983,743	2	3
Collector roads missing sidewalk on one side of the street	2.14	11,297	5	56,484	$ 1,073,187	$ 2,485,274	4	8
Local roads missing sidewalk on one side of the street	1.71	9,052	5	45,259	$ 859,921	$ 1,991,396	3	6
TOTAL missing sidewalk on one side of the street	**4.56**	**24,075**	**-**	**124,100**	**$ 2,357,906**	**$ 5,460,413**	**9**	**17**
Arterial roads missing sidewalk on both sides of the street	5.95	31,412	6	188,473	$ 3,580,979	$ 8,292,794	11	25
Collector roads missing sidewalk on both sides of the street	3.63	19,179	5	95,893	$ 1,821,967	$ 4,219,292	6	13
Local roads missing sidewalk on both sides of the street	55.84	294,849	5	1,474,246	$ 28,010,665	$ 64,866,802	83	193
TOTAL missing sidewalk on both sides of the street	**65.42**	**345,440**	**-**	**1,758,611**	**$ 33,413,611**	**$ 77,378,888**	**100**	**231**
TOTAL missing sidewalk to have sidewalk on all streets	**69.98**	**369,515**	**-**	**1,882,711**	**$ 35,771,517**	**$ 82,839,302**	**109**	**248**
Sidewalk on both sides of arterial/collector and 1 side of local	**40.35**	**213,038**	**25**	**1,100,330**	**$ 20,906,263**	**$ 48,414,505**	**62**	**143**
Sidewalk on at least one side of every road					**$ 16,706,805**	**$ 38,689,444**	**50**	**116**

Note: This high level planning estimate has caveats. The cost for design is not factored into this calculation. The dedicated pedestrian funding is also used for crossing improvements meaning there is less funding for sidewalks, an unknown quantity of sidewalk will be built through private developers, and grant funding will continually be sought to install sidewalk so not all the miles of missing sidewalk would need to be funded through the dedicated pedestrian funding. The calculation for determining the number of years uses the price per square foot based on sidewalk width per road type and uses $337,500 per year (half of annual pedestrian and bicycle funding). Private roads are not included in this calculation because they include apartment complexes and commercial development. Additional analysis is needed to determine which private roads need additional sidewalk.

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Table C3: Advanced Funding Scenarios to Build a Complete Sidewalk Network

Sidewalk Goal	Years to Complete	Per Year Funding
Sidewalk on all sides of all streets (70 miles)	248 Years - Current Funding	$ 337,500
	20 Years	$ 4,141,965
	10 Years	$ 8,283,930
	5 Years	$ 16,567,860
Sidewalk on all sides of arterials/collectors & one side of locals (42 miles)	143 Years - Current Funding	$ 337,500
	20 Years	$ 2,420,725
	10 Years	$ 4,841,450
	5 Years	$ 9,682,901

Note: This high level planning estimate has caveats. The cost for design is not factored into this calculation. The dedicated pedestrian funding is also used for crossing improvements meaning there is less funding for sidewalks, an unknown quantity of sidewalk will be built through private developers, and grant funding will continually be sought to install sidewalk so not all the miles of missing sidewalk would need to be funded through the dedicated pedestrian funding. The calculation for determining the number of years uses the price per square foot based on sidewalk width per road type. The costs are in today's dollars and do not include inflation. Private roads are not included in this calculation because they include apartment complexes and commercial development. Additional analysis is needed to determine which private roads need additional sidewalk. Further, this analysis uses centerline miles.

Data Improvements Needed

Through this analysis it was discovered there a few data issues which could be improved for future analysis.

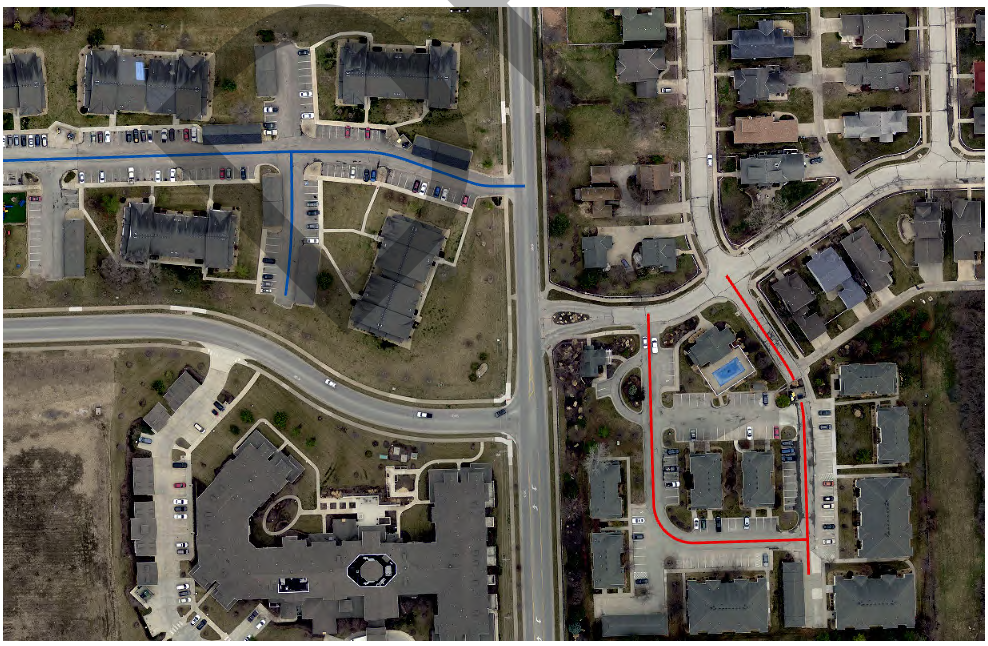
1. The sidewalk data has columns for the owner and maintainer of the data. Unfortunately not all of the data is filled out, so it was impossible to only select the public sidewalks.

2. Not all sidewalk segments have the road classification associated with it.

3. There are missing road segments. Figure C1 shows the road down the middle of the image does not have a road centerline through the apartment complex to the southwest.

4. The data is not consistently organized. Some roads through apartment complexes are labeled as private roads and others are named private parking. Figure C1 also shows the area with a parking designation to the northwest (in blue) and a private road designation to the southeast (in red), which is odd because they are serving the same function.

Figure C3: Private Road v Private Parking GIS Issues



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Calculation of Project Costs

The project costs were calculated based on the length of the project in feet and the type of road the project is along. Arterial roads have six feet sidewalk, while collectors and locals have five feet. Some projects were identified as shared use path projects which are at least ten feet. Once the length and the width of the projects were calculated the square footage was multiple by the low and high estimates ($19-$44) to determine the high level planning cost for the project. The calculations do not include design/inspections (which is estimated at 25% of the construction cost) and inflation.

Pedestrian Demand

To identify pedestrian project gaps, a pedestrian demand model was created in ArcGIS Pro using household locations and the predicted trips each person would take along existing and missing sidewalk. Figure C4 shows an extract of the model. Pedestrian demand maps were created for three destination types: access to transit, access to healthy food destinations, and access to parks.

Then the locations which had missing sidewalks and were higher pedestrian demand were evaluated for inclusion on the non-motorized prioritization pedestrian project list and are listed in Appendix D.

Figure C4: Model Extract

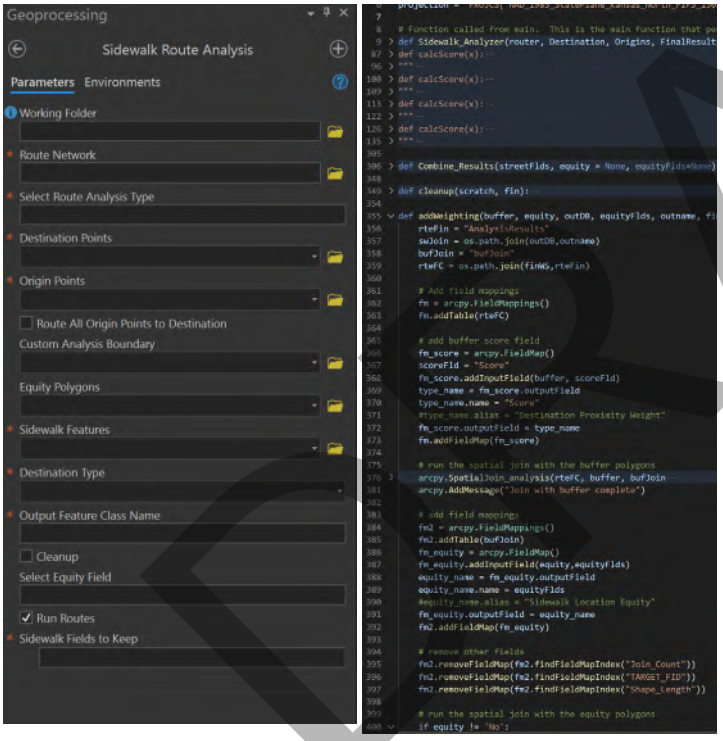

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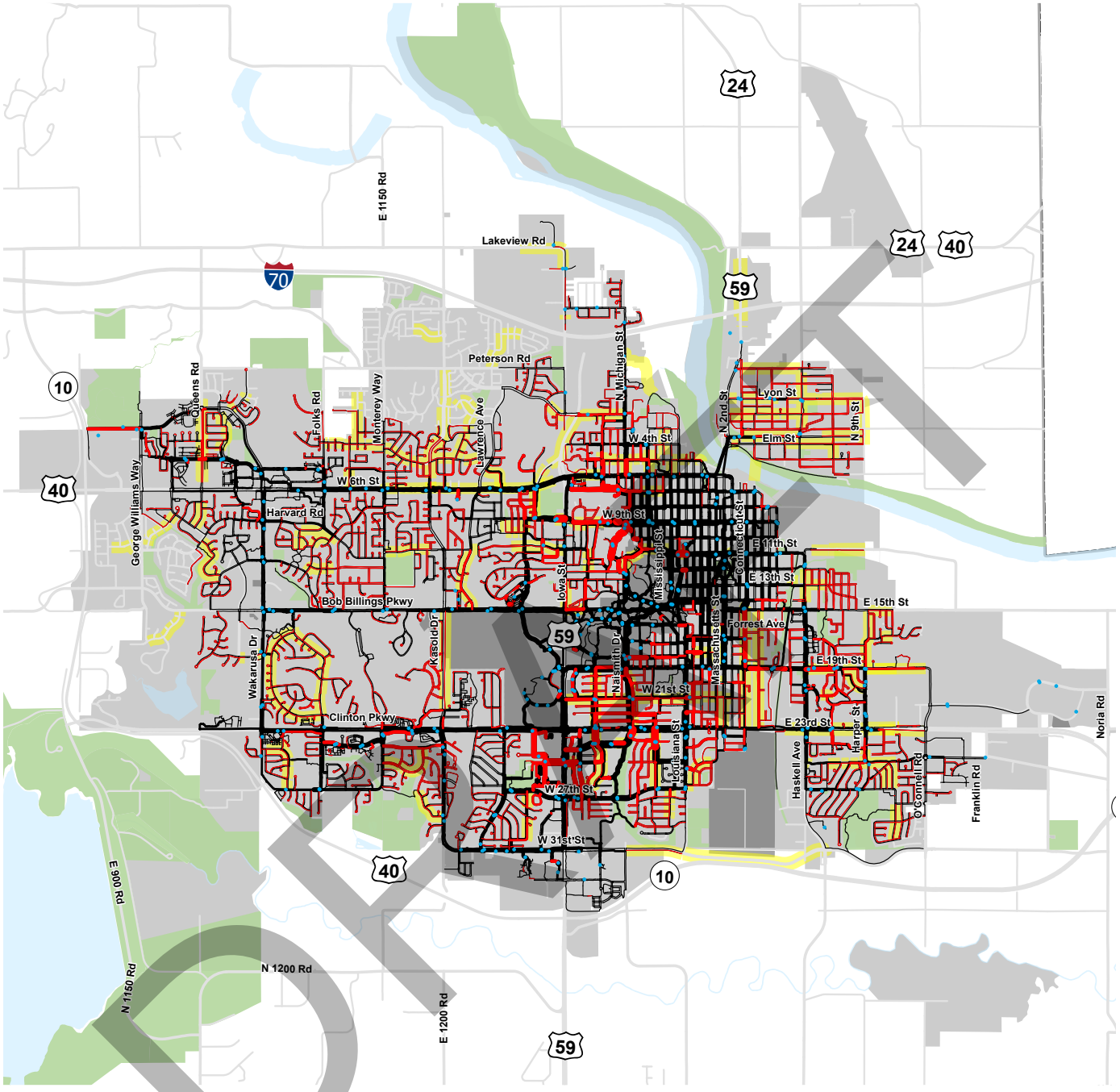
Figure C5: Transit Access Demand



Date Exported: 11/17/2021
Source: MSO Sidewalk Demand Model
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

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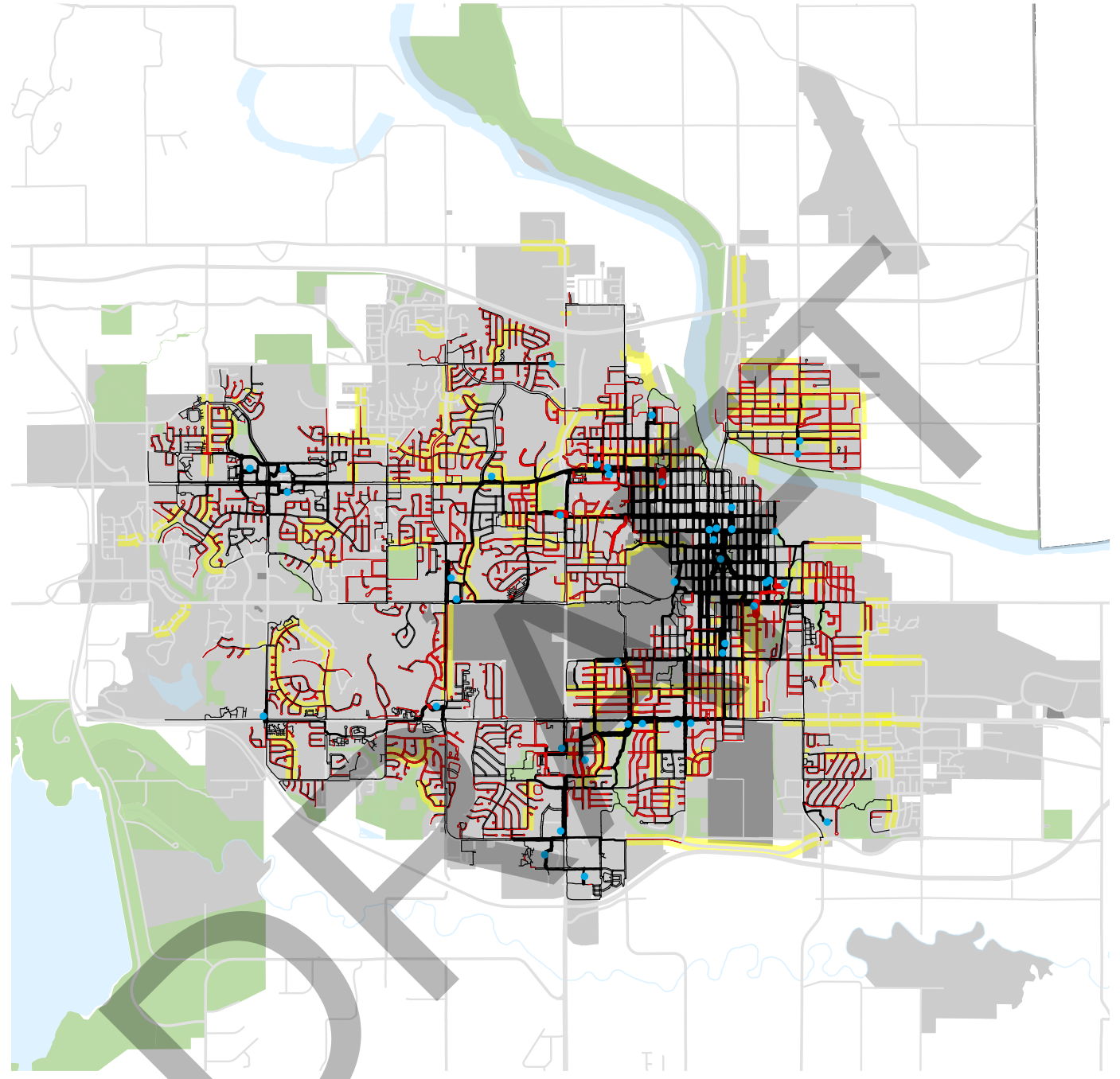
Figure C6: Healthy Food Access Demand



Date Exported: 11/17/2021
Source: MSO Sidewalk Demand Model
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

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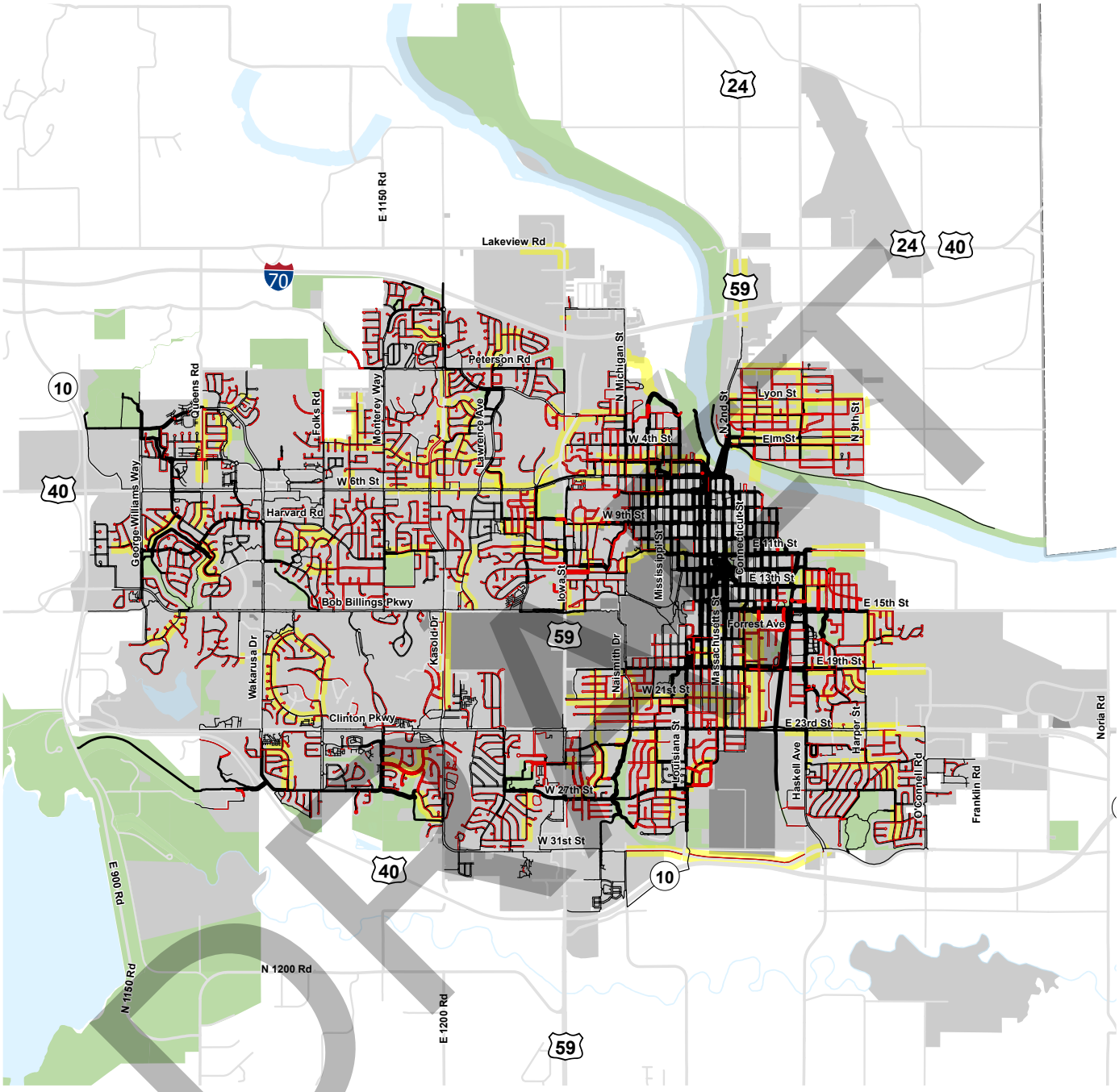
Figure C7: Park Access Demand



Date Exported: 11/17/2021
Source: MSO Sidewalk Demand Model
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

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Sidewalk Block Group Analysis

In an effort to understand how the sidewalk network impacts people across our community, the existing sidewalk network was evaluated to understand how sidewalk connectivity/availability impacts transportation disadvantaged and minority populations. To understand where disparity exists within access across geographic areas demographic data was analyzed in several ways. The City of Lawrence Strategic Plan has intentionally prioritized race to elevate the fair and impartial delivery of services, so no group is disadvantaged or burdened. Minority data was one way that sidewalk data was analyzed. Additionally, the MPO researched population characteristics that are typically associated with more transportation vulnerable communities including households with a person who has a disability, people who have less than a high school education, minorities, single parent households, zero vehicle households, population under 18 and over 65, and low-moderate income households. These data sets were examined based on the Lawrence average. A total score from the 8 categories was derived.

The Lawrence geography is broken up by the US Census into block groups. A total number of public and private roads and sidewalks were calculated for each block group. Block groups are a U.S. Census designation, which refers to statistical devisions of census tracts, which generally contain 600 to 30,000 people.[1]

The miles of public and private roadway and sidewalk centerline miles were calculated for each block group. This was done by using a "spatial join" feature to add the block group's GEOID to each segment of roadway and sidewalk. Then a "frequency" analysis was conducted on the GEOIDs to obtain the miles of public and private sidewalk and roadways for each block group. In this case, private roads are owned by either "private" or "KU" in the GIS data. Private sidewalks includes KU, HINU, USD 497, Private, and Other. Private roads includes KU and private parking because there were times when things are marked as private parking in GIS when they are actually roads (as shown in Figure C3). The sidewalk and roadway data have columns for owner and maintainer. It was determined to use the owner column.

The final analysis used all mileage - public and private - for the roadway and sidewalk calculations because it does not matter if a sidewalk is technically a private sidewalk. If it is along a road right-of-way people are going to walk on it. The same for roadways. Only if the roadway is blocked off will people not drive on it.

Then the ratio of sidewalk to roads was developed. The resulting map displays the development pattern of the City as the City Code evolved over time. In the historical portion of the City (around downtown), streets were developed with sidewalk on both sides of the road. As opinions changed regarding the significance of sidewalk on both sides of the street, the code changed to only require it on one side of the street as shown in the block groups between 19th and 23rd Streets. Additionally, as opinion swayed back to developing sidewalk on both sides of the street, the curvilinear style development in west Lawrence reflected this.

Figure C4 displays the sidewalk to road percentage with the minority block groups shown in black crosshatches. Figure C5 shows the sidewalk to road percentage with the Transportation Disadvantaged Population score indicated in blue numbers.

Following minority and Transportation Disadvantaged Population maps are individual maps zoomed in for each block group. These maps show the existing sidewalk to road percentage and what the calculation would be if all projects identified on the map are constructed.

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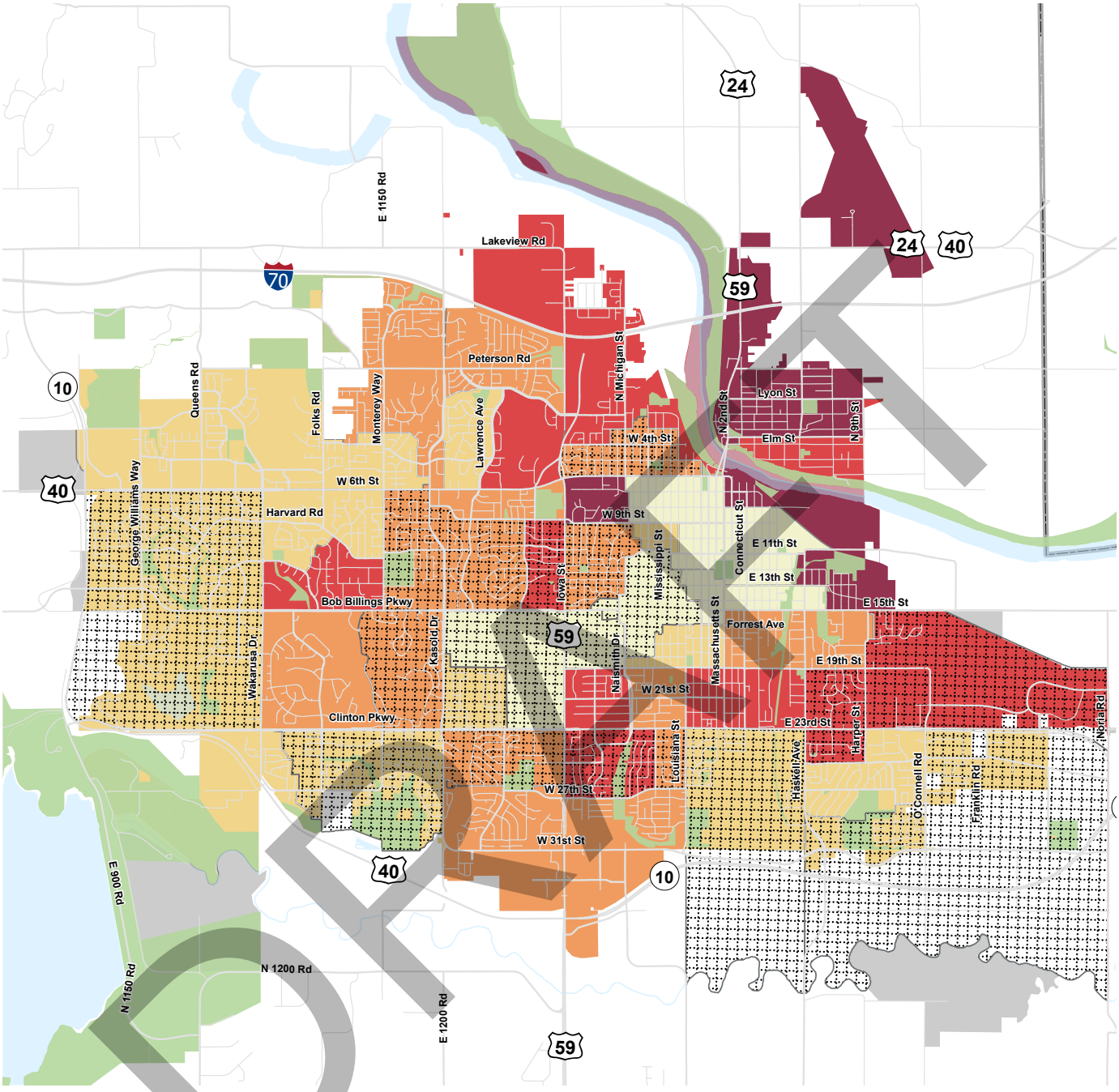
1 https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_4

Figure C8: Sidewalk to Road % and Minority Block Groups



Date Exported: 1/25/2022

Source: Sidewalk to Road % + Minority 2018 ACS 5yr 2021 TIP

Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles

N

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Figure C9: Sidewalk to Road % and Transportation Disadvantaged Population Block Groups

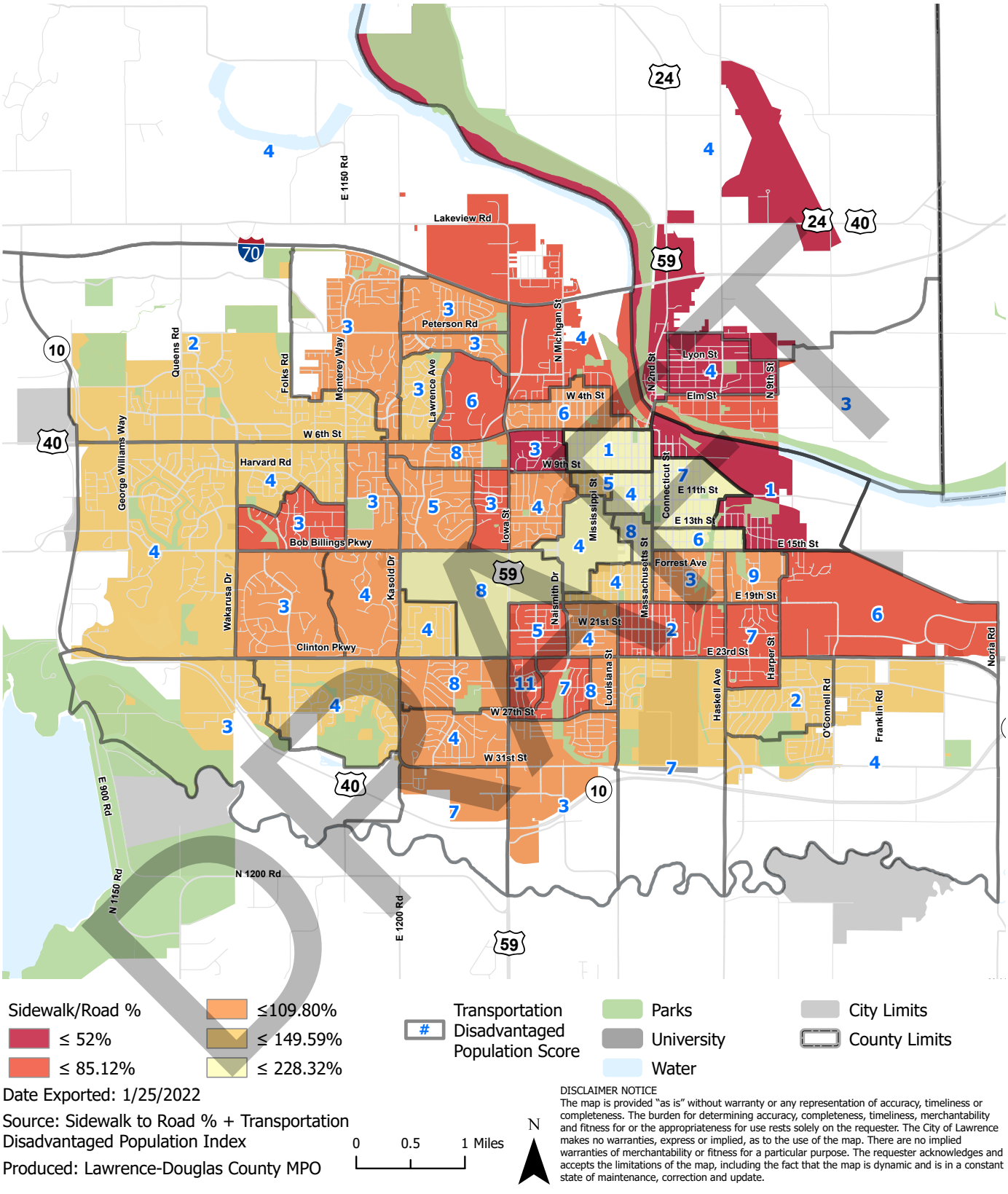

Table C4: Regional Pedestrian Plan Recommendations and Status

Block Group Number	Block Group Description	Sidewalk Miles TOTAL	Road Miles TOTAL	TOTAL % Sidewalk to TOTAL Road	Sidewalk Existing + New Plan Projects (Miles)	TOTAL Existing + New Plan to TOTAL Road	Minority Block Group	Transportation Disadvanted Score
200450002001	Kansas River to the North, E 13th St. and E 15th St. to the South, E 1625 Rd to the East, Massachusetts St. to the NW, BNSF and Borroughs Creek Trail to the West, Oregon St. to the SW	4.13	13.52	30.57%	5.30	39.20%	No	1
200450005023	Iowa/US-59 to the North, W 9th St. to the South, Massachusetts St. to the East, Michigan St. to the West	12.65	7.35	172.14%	12.82	174.43%	No	1
200450010011	E 19th St. to the North, E 23rd St. to the South, Haskell Ave to the East, Louisiana St. to the West	7.65	9.34	81.92%	9.38	100.48%	No	2
200450010023	E 25 Ter and E 23rd St. to the North, E 28th Ter and E 28th St. to the South, S 1600 Rd to the East, Harper St. to the NW, Haskell Ave to the SW	11.54	9.85	117.23%	13.43	136.40%	No	2
200450006031	I-170 to the North, W 6th St. to the South, E 1100 rd to the East, Boulder St. and Kasold Dr to the SE, K-10 to the West	39.13	33.74	115.97%	43.16	127.91%	No	2
200450005021	W 6th St. to the North, W 9th St. to the South, Michigan St. to the East, Iowa St. to the West	1.95	4.36	44.70%	2.21	50.62%	No	3
200450007023	W 9th St. to the North, Bob Billings Pkwy to the South, Iowa/US-59 to the East, Crestline Dr. to the West	4.05	5.54	73.04%	4.48	80.85%	Yes	3
200450006043	Peterson Rd to the North, Creekwood Dr and Princeton Blvd to the South, Iowa St. to the East, N Kasold Dr to the West	4.77	4.87	97.99%	4.99	102.46%	No	3
200450001003	Locust St. and E 1675 Rd to the North, Kansas River to the South, E 1700 Rd to the East, Kansas River Bridge to the West	4.39	5.71	76.93%	5.42	94.81%	No	3
200450016001	Inverness Dr and Harverd Rd to the North, Bob Billing Pkwy to the South, Monterey Way to the East, Wakarusa Dr to the West	5.81	8.45	68.75%	6.09	72.01%	No	3
200450002004	E 15th St. to the North, E 19th St. to the South, Haskell Ave to the East, Massachusettes St. to the West	5.77	6.21	92.91%	6.71	108.13%	No	3
200450006041	70 Highway to the North, Peterson Rd to the South, Iowa St. to the East, N Kasold Dr to the West	6.23	6.26	99.46%	6.79	108.34%	No	3
200450007024	W 6th St. to the North, Bob Billings Pkwy to the South, Kasold Dr to the East, Monterey Way to the West	6.76	7.38	91.62%	7.10	96.18%	Yes	3
200450006044	Creekwood Dr and Princeton Blvd to the North, W 6th St. to the South, Lawrence Ave to the East, Kasold Dr to the NW, Frontier Rd to	7.34	5.95	123.43%	8.53	143.33%	No	3
200450008011	Clinton Pkwy to the North, Wakarusa River and N 1250 Rd to the South, Kasold Dr to the SE, Yankee Tank Creek to the East, Bluestem Dr. + Ranch St. to the NE E 900th Rd and E 902nd Rd to the West	9.23	7.53	122.52%	9.97	132.36%	No	3
200450007973	Bob Billing Pkwy to the North, Clinton Pkwy to the South, Birdie way to the NE, Crossgate Dr to the SE, Wakarusa Dr to the West	12.72	12.09	105.27%	14.61	120.85%	No	3
200450009021	W 27th St. to the North, Wakarusa River to the South, Naismith Channel to the East, Iowa/US-59 and Louisiana to the West	15.41	15.70	98.16%	16.18	103.00%	No	3
200450006032	I-70 to the North, Trail Rd + Stetson Dr + W 6th St. to the South, Frontier Rd to the SE, N Kasold Dr to the East, Folks/E 1100 Rd to the West	19.18	17.96	106.79%	22.08	122.88%	No	3
200450001001	Buck Creek and 1st St/N 2100 Rd. to the North, Elm St. + North St. + Hickory St. + Lyon St. + Bismarck Grove + N 1700 Rd + E 1675 Rd to the South, E 1700 Rd to the East, Kansas River to the West	3.15	6.02	52.28%	5.16	85.65%	No	4
200450015001	Kansas River to the North, I-170 to the South, Kansas River to the East, toward Lecompton E 600th Rd to the West	4.63	5.44	85.13%	5.26	96.75%	No	4
200450009011	W 19th St. to the North, W 23rd St. to the South, Louisiana St. to the East, Naismith Dr to the West	4.72	4.37	107.97%	5.57	127.50%	No	4
200450007972	KU property to the North, Clinton Pkwy to the South,Ku property to the East, Kasold Dr to the West	5.62	4.93	114.01%	6.14	124.51%	Yes	4
200450001002	North St. and Hickory St. to the North, Locust St. to the South, E 1550 Rd and N 8th St. to the East, N 3rd St. to the West	3.17	9.39	33.78%	6.87	73.24%	No	4
200450003001	W 9th St. to the North, W 12th St. to the South , Massachusetts St. to the East, Indiana St. to the West	6.99	3.86	181.24%	7.05	182.63%	No	4
200450007971	Bob Billings Pkwy to the North, Clinton Pkwy to the South, Kasold Dr to the East, Birdie Way to the NW, Crossgate Dr to the SW	7.60	7.80	97.45%	7.60	97.45%	Yes	4
200450003004	W 18th St. and Sunnyside Ave to the North, W 19th St. to the South, Massachusetts St. to the East, Alabama St. to the West and Naismith Dr to the SW	7.35	5.21	141.13%	7.81	150.06%	No	4
200450005022	W 9th St. to the North, W 15th St. to the SW, Crescent Rd to the SE, Arkansas St+ W 11th St. + West Campus Rd to the East, and North Iowa St. to the West	8.01	8.22	97.45%	8.73	106.29%	Yes	4
200450005011	I-70 to the North, W 4th St. + W 3rd St. + W 5th St. + 6th St. to the South, Massachusettes to the SE, Kansas River to the East, North Iowa St. to the West	6.82	8.73	78.12%	9.04	103.51%	No	4
200450008021	Glacier Dr + W 26th St. + W27th St. to the North, W 31st St. to the South, Iowa/US-59 to the East, Kasold Dr to the West	9.93	9.44	105.27%	10.25	108.63%	No	4
200450016003	W 6th St. to the North, Inverness Dr and Harvard Rd to the South, Monterey Way to the East, Wakarusa Dr to the West	12.24	10.55	116.00%	12.74	120.68%	No	4
200450010022	E 28th Ter + E 28th St. + E 23rd St. + to the North, Wakarusa River to the South, Noria Rd./E 1750 Rd. to the East, Haskell Ave to the West and O'Connell Rd to the NW	12.62	11.02	114.45%	13.30	120.70%	Yes	4
200450004001	KU North District: W 11th St. and Fabmrough Dr to the North, W 18th St. and Sunnyside Ave to the South, Tennessee St. + Louisiana St. + Oread Ave + Mississippi St. to the East, Naismith Dr + Burdick Dr + West Campus Rd to theWest	17.93	7.85	228.32%	18.06	230.02%	Yes	4
200450008012	Clinton Pkwy to the North, Yankee tank creek to the South, Kasold Dr to the East, Ranch St. and Bluestrem Dr to the West	19.41	15.03	129.12%	20.75	138.08%	Yes	4
[illegible]	W 6th St. to the North, Clinton Pkwy to the South, Wakarusa Dr to the East, Iowa/US-59 to the West	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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Block Group Number	Block Group Description	Sidewalk Miles TOTAL	Road Miles TOTAL	TOTAL % Sidewalk to TOTAL Road	Sidewalk Existing + New Plan Projects (Miles)	TOTAL Existing + New Plan to TOTAL Road	Minority Block Group	Transportation Disadvanted Score
200450007022	W 8th St. to the NE, W 9th St. to the NW, Bob Billings Pkwy to the South, Crestline Dr to the East, and Kasold Dr to the West	11.42	11.01	103.69%	12.45	113.01%	Yes	5
200450006042	Princeton Blvd to the North, W 6th St. to the South, North Iowa St. to the East, and W Lawrence Ave to the West	3.37	4.83	69.78%	4.29	88.72%	No	6
200450002003	E 13th St. to the North, E 15th St. to the South, Brook St. to the East, Massachusetts St. to the West	5.24	3.29	159.07%	5.43	164.74%	No	6
200450005012	W 4th St. + W 3rd St. to the North, W 6th St. to the South, Indiana St. to the NE, Tennessee St. to the SE, McDonald Dr to the South	8.00	8.91	89.79%	9.33	104.68%	Yes	6
200450002006	E 15th St. to the North, E 23rd St. to the South, Noria Rd to the East, and Harper St. to the West	9.09	13.75	66.10%	10.40	75.64%	Yes	6
200450009014	W 23rd St. to the North, W 27th St. to the South, Alabama St. to the East, Ousdahl Rd and Iowa/US-59 to the West	3.70	5.67	65.35%	4.67	82.38%	Yes	7
200450008022	W 31st St. to the North, Wakarusa River to the South, Iowa/US-59, Kasold Dr to the NW and E 1200 Rd to the SW	5.80	5.28	109.80%	5.80	109.80%	No	7
200450010021	E 19th St. to the North, E 25th Ter, Harper St. to the East, Haskell Ave to the West	6.20	7.95	78.00%	6.98	87.79%	Yes	7
200450002002	E 8th St. to the North, E 13th St. to the South, Haskell Ave. + 11th St. + BNSF to the East, Massachusetts to the West	14.89	8.05	184.92%	14.99	186.13%	No	7
200450010012	E 23rd St. to the North, Wakarusa River to the South, Haskell Ln to the East, Louisiana St. to the West	12.74	9.58	132.98%	15.12	157.81%	Yes	7
200450009013	W 23rd St. to the North, W 27th St. to the South, Louisiana St. to the East, Alabama St. to the West	3.23	3.26	99.12%	3.23	99.12%	Yes	8
200450007021	W 6th St. to the North, W 9th St. to the South, Iowa/US-59 to the East, and Kasold Dr to the West	4.66	4.32	107.88%	4.97	115.04%	No	8
200450003003	W 12th St. to the North, W 16th St. to the South, Massachusetts St. and Vermont St. to the East, Tennessee St. + Louisiana St. + Oread Ave to the NW	5.10	2.69	189.60%	5.13	190.48%	No	8
200450008023	Clinton Pkwy to the North, Glacier Dr + W 26th St. + W 27th St. to the South, Iowa/US-59 to the East, Kasold Dr to the West	9.36	8.95	104.68%	9.68	108.18%	Yes	8
200450004002	KU West and Central Districts: Bob Billings Pkwy to the North, Clinton Pkwy and W 19th to the South, Iowa/US-59 + Naismith Dr + Burdick Dr to the East, Kasold Dr to the West	16.67	7.90	210.93%	17.51	221.61%	Yes	8
200450002005	E 15th St. to the North, E 19th St. to the South, Power St. and Harper St. to the East, Haskell Ave to the West	4.18	3.93	106.33%	4.44	112.90%	No	9
200450009015	W 23rd St. to the North, W 26th St. to the South, Ousdahl Rd to the East, S Iowa to the West	2.38	3.61	66.07%	3.53	98.02%	Yes	11

Minority Block Group data is from the FFY21 Transportation Improvement Program Environmental Justice Analysis and it is the 99% Confident Interval developed in July 2020.

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Buck Creek and 1st St/N 2100 Rd. to the North, Elm St. + North St. + Hickory St. + Lyon St. + Bismarck Grove + N 1700 Rd + E 1675 Rd to the South, E 1700 Rd to the East, Kansas River to the West

Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 52.3%

Projected Sidewalk/Road (Priority Gaps Filled): 85.7%

Date Exported: 2/11/2022 Block Group: 200450001001
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

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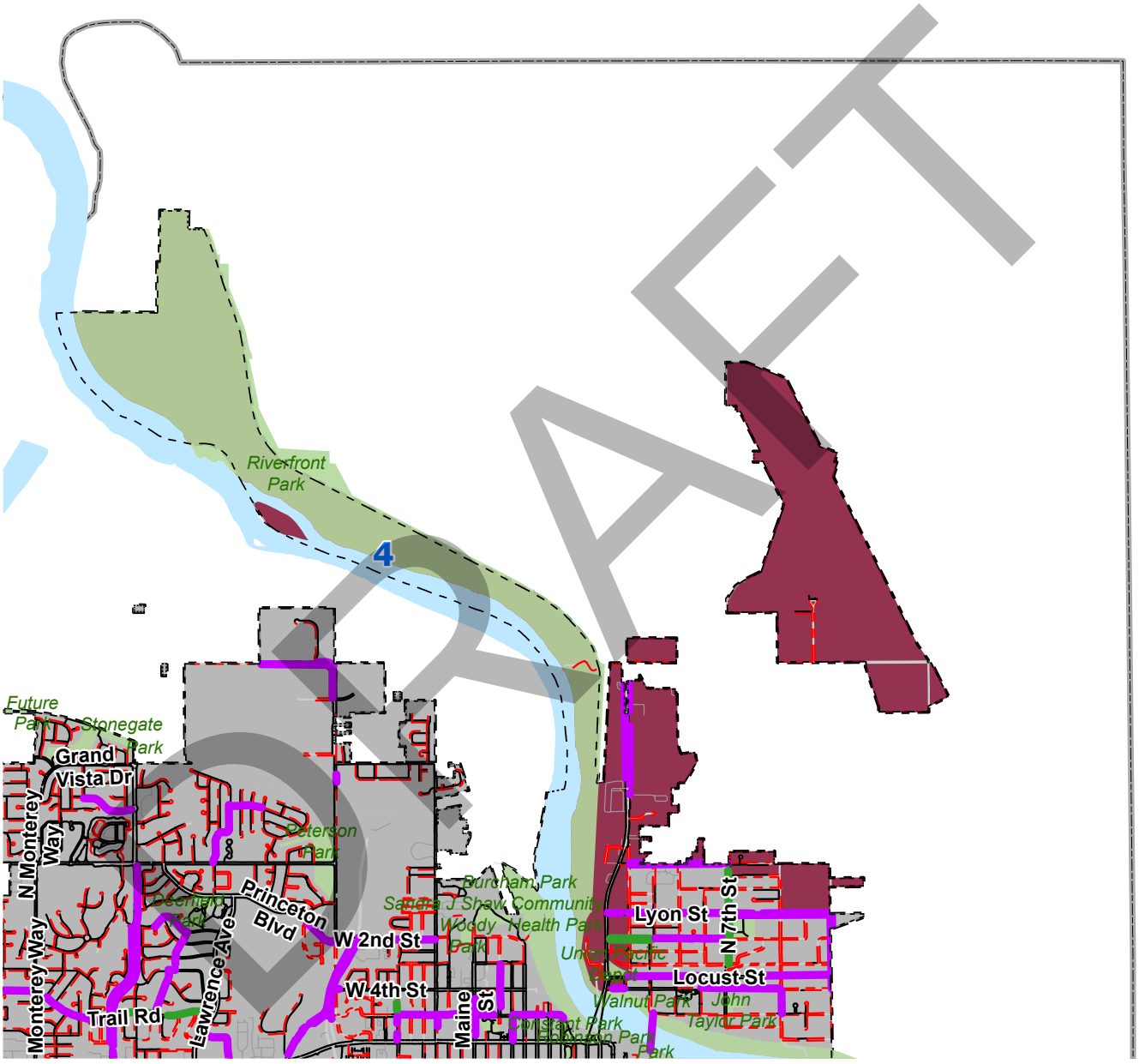

- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
- ≤ 52%
- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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North St. and Hickory St. to the North, Locust St. to the South, E 1550 Rd and N 8th St. to the East, N 3rd St. to the West

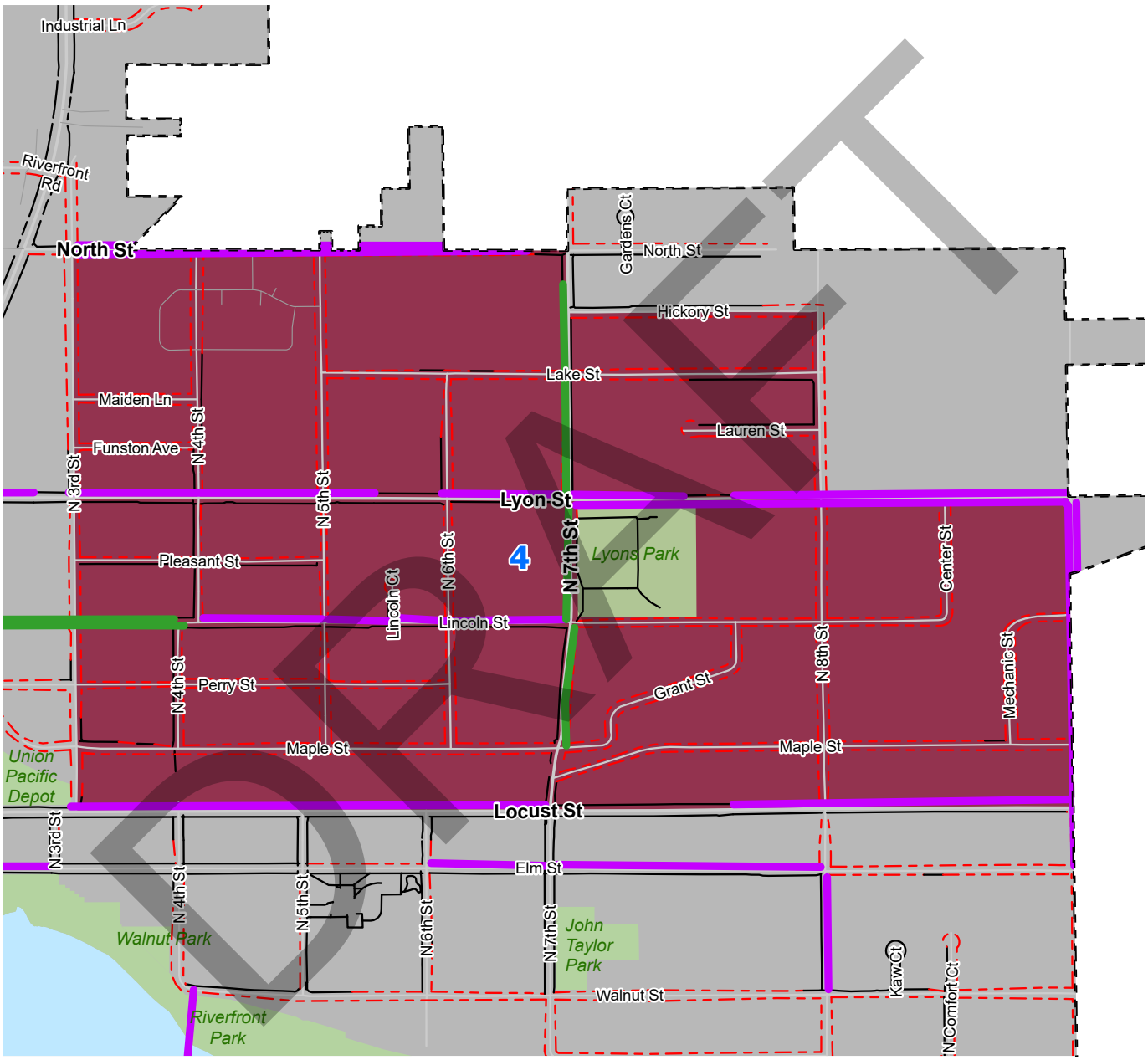
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 33.8%

Projected Sidewalk/Road (Priority Gaps Filled): 73.2%

Date Exported: 2/11/2022 Block Group: 200450001002
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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Locust St. and E 1675 Rd to the North, Kansas River to the South, E 1700 Rd to the East, Kansas River Bridge to the West

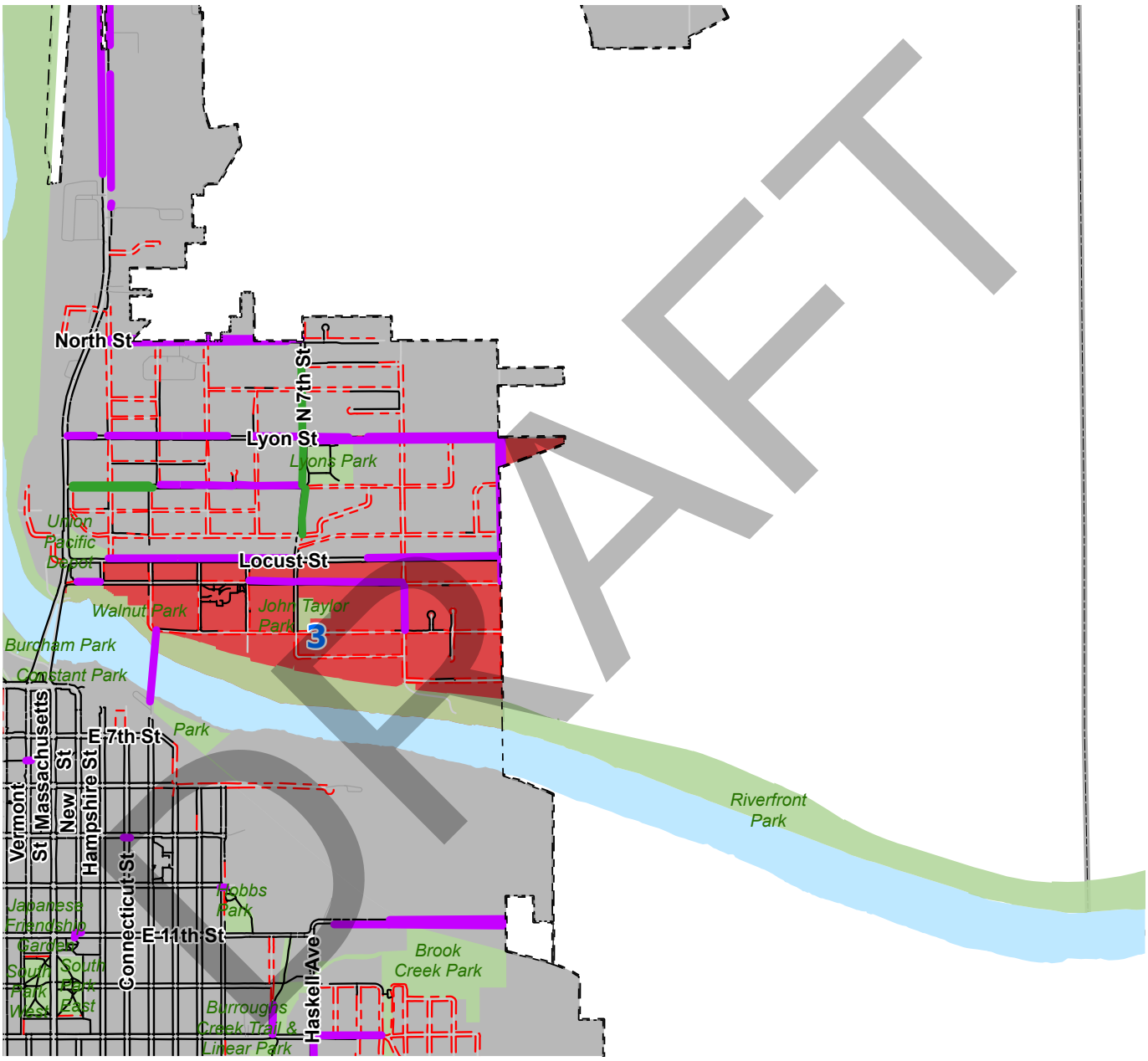
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 76.9%

Projected Sidewalk/Road (Priority Gaps Filled): 94.8%

Date Exported: 2/11/2022 Block Group: 200450001003
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

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Kansas River to the North, E 13th St. and E 15th St. to the South, E 1625 Rd to the East, Massachusetts St. to the NW, BNSF and Borroughs Creek Trail to the West, Oregon St. to the SW

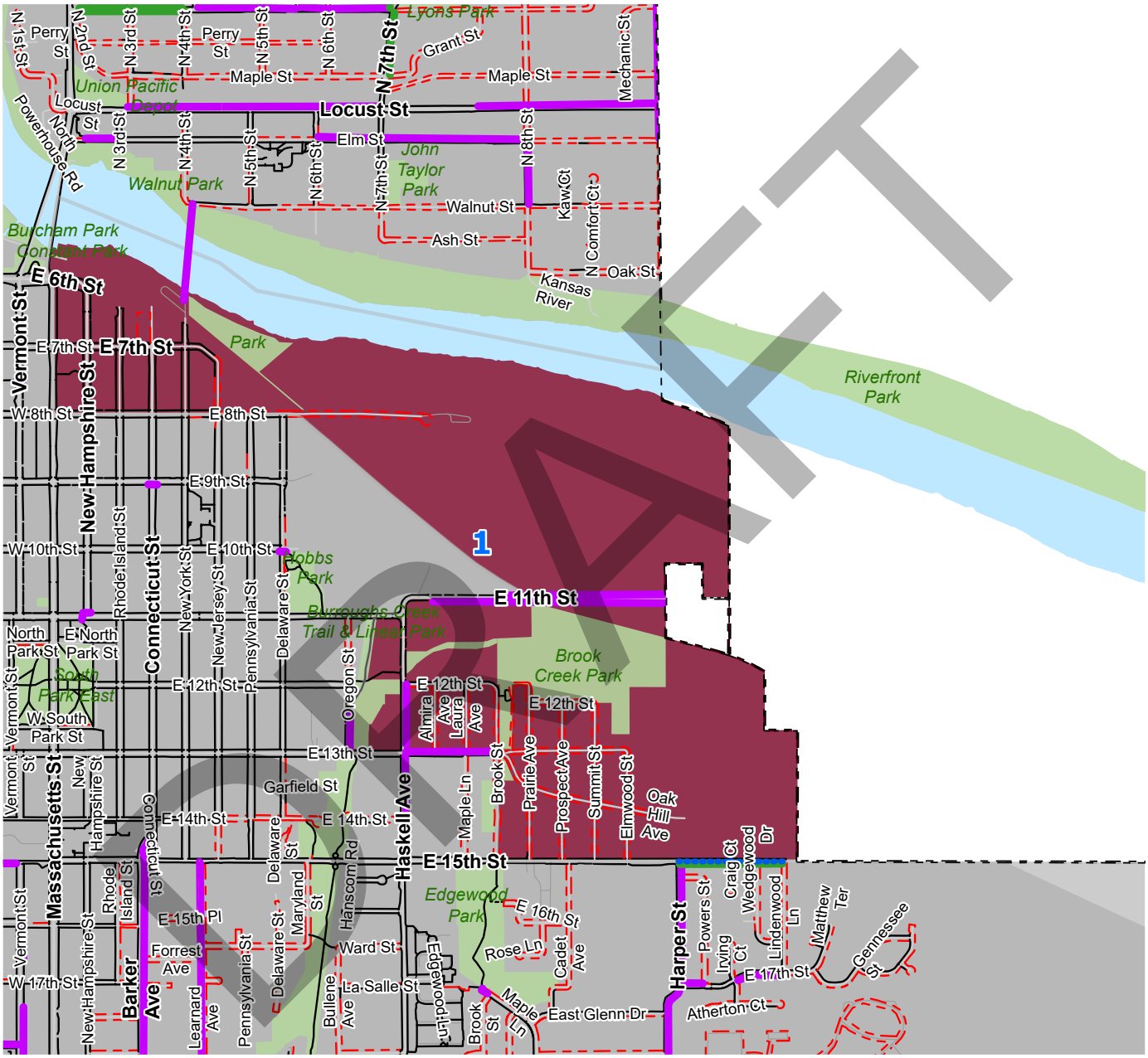
Transportation Disadvantaged Population Score: 1

Existing Condition Sidewalk/Road: 30.6%

Projected Sidewalk/Road (Priority Gaps Filled): 39.2%

Date Exported: 2/11/2022 Block Group: 200450002001
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.42 0.85 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
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- Parks
- Water
- City Limits
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N

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E 8th St. to the North, E 13th St. to the South, Haskell Ave. + 11th St. + BNSF to the East, Massachusetts to the West

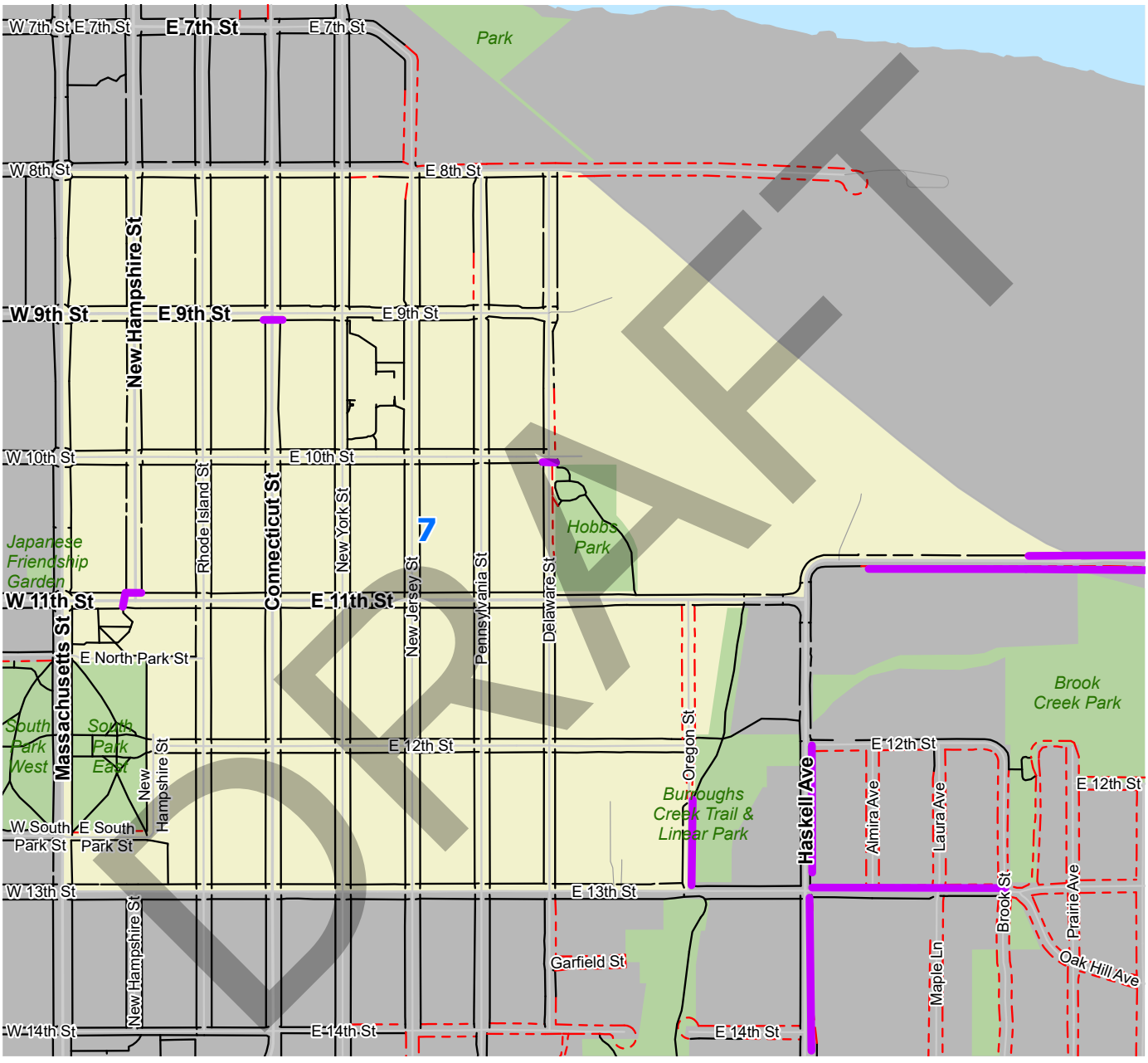
Transportation Disadvantaged Population Score: 7

Existing Condition Sidewalk/Road: 184.9%

Projected Sidewalk/Road (Priority Gaps Filled): 186.1%

Date Exported: 2/11/2022 Block Group: 200450002002
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.2 0.4 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
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- Parks
- Water
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- County Limits

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E 13th St. to the North, E 15th St. to the South, Brook St. to the East, Massachusetts St. to the West

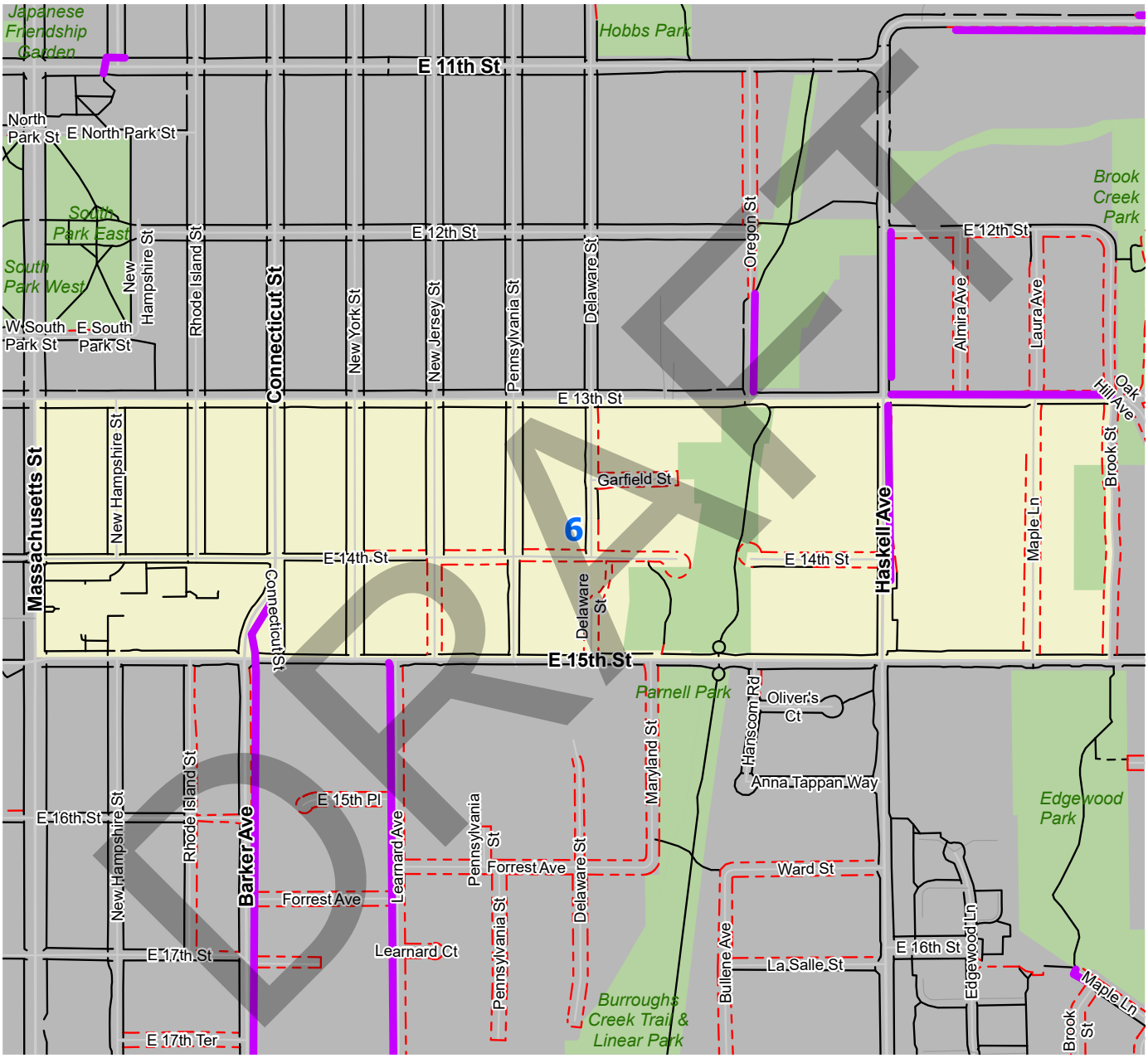
Transportation Disadvantaged Population Score: 6

Existing Condition Sidewalk/Road: 159.1%

Projected Sidewalk/Road (Priority Gaps Filled): 164.7%

Date Exported: 2/11/2022 Block Group: 200450002003
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.17 0.35 Miles



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- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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E 15th St. to the North, E 19th St. to the South, Haskell Ave to the East, Massachusettes St. to the West

Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 92.9%

Projected Sidewalk/Road (Priority Gaps Filled): 108.1%

Date Exported: 2/11/2022 Block Group: 200450002004
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.15 0.3 Miles

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- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
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- # Transportation Disadvantaged Population Score

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E 15th St. to the North, E 19th St. to the South, Power St. and Harper St. to the East, Haskell Ave to the West

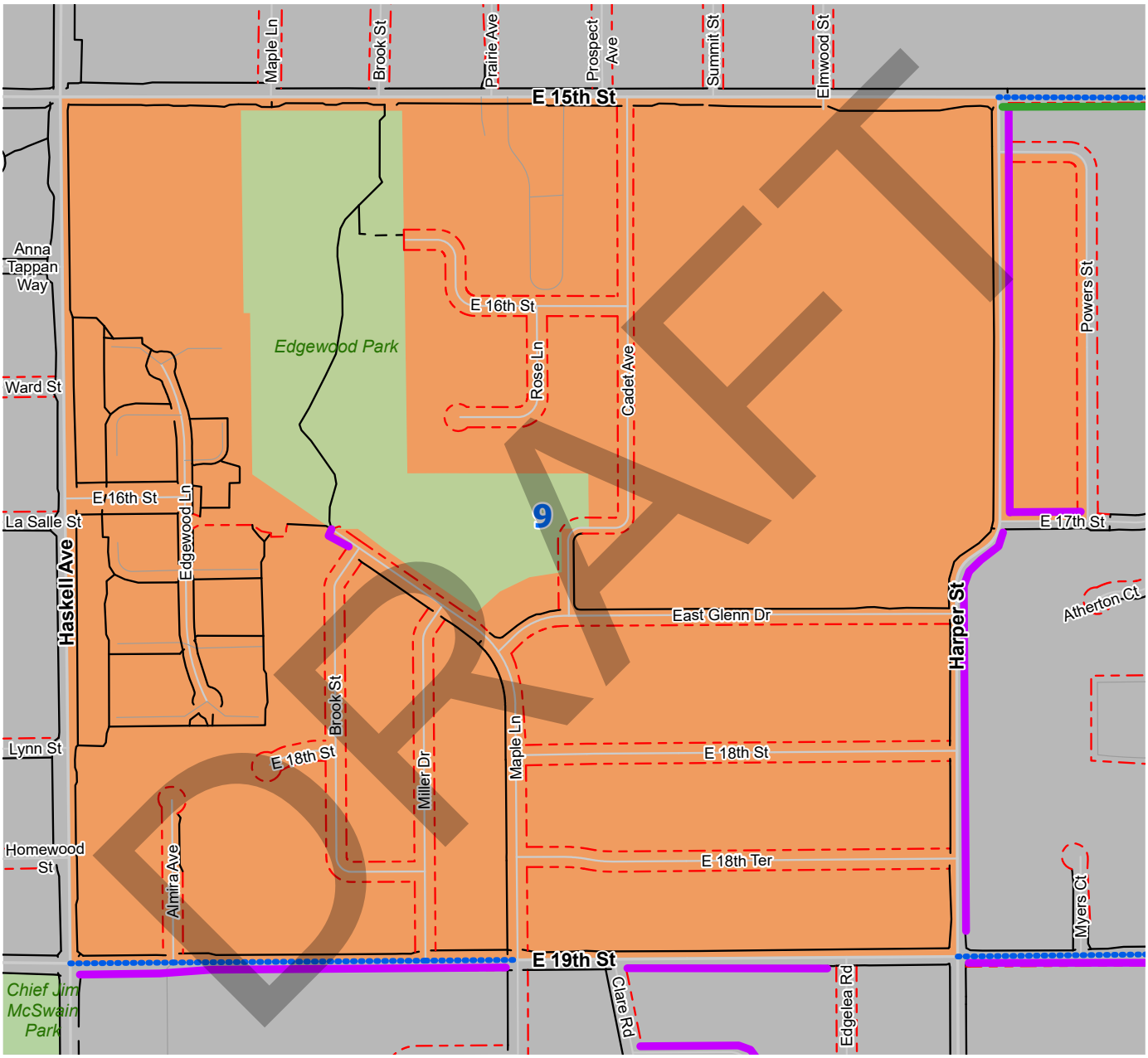
Transportation Disadvantaged Population Score: 9

Existing Condition Sidewalk/Road: 106.3%

Projected Sidewalk/Road (Priority Gaps Filled): 112.9%

Date Exported: 2/11/2022 Block Group: 200450002005
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.13 0.25 Miles



- Sidewalk Project Pending Construction
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E 15th St. to the North, E 23rd St. to the South, Noria Rd to the East, and Harper St. to the West

Transportation Disadvantaged Population Score: 6

Existing Condition Sidewalk/Road: 66.1%

Projected Sidewalk/Road (Priority Gaps Filled): 75.6%

Date Exported: 2/11/2022 Block Group: 200450002006
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

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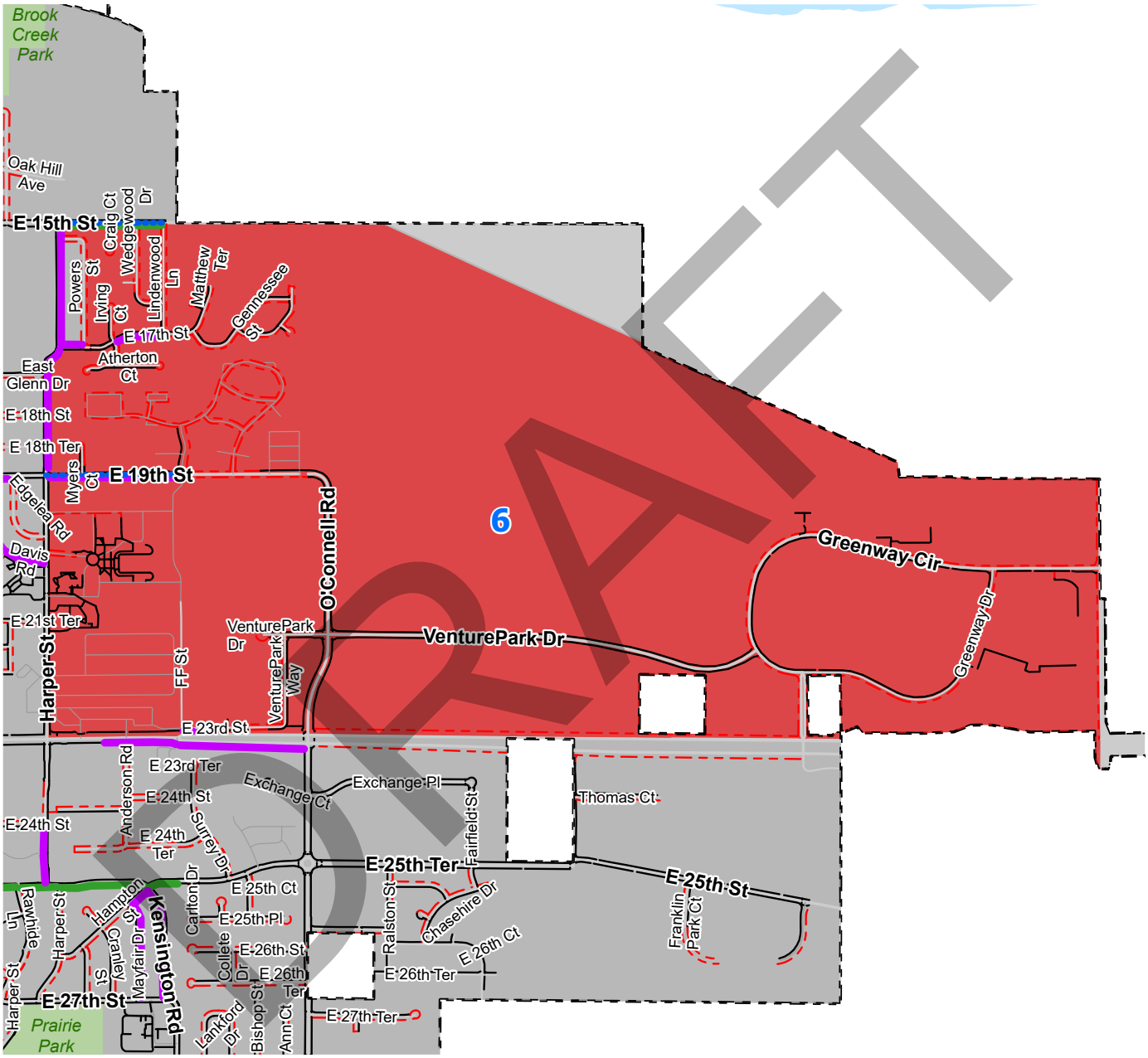

- Sidewalk Project Pending Construction
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W 9th St. to the North, W 12th St. to the South , Massachusetts St. to the East, Indiana St. to the West

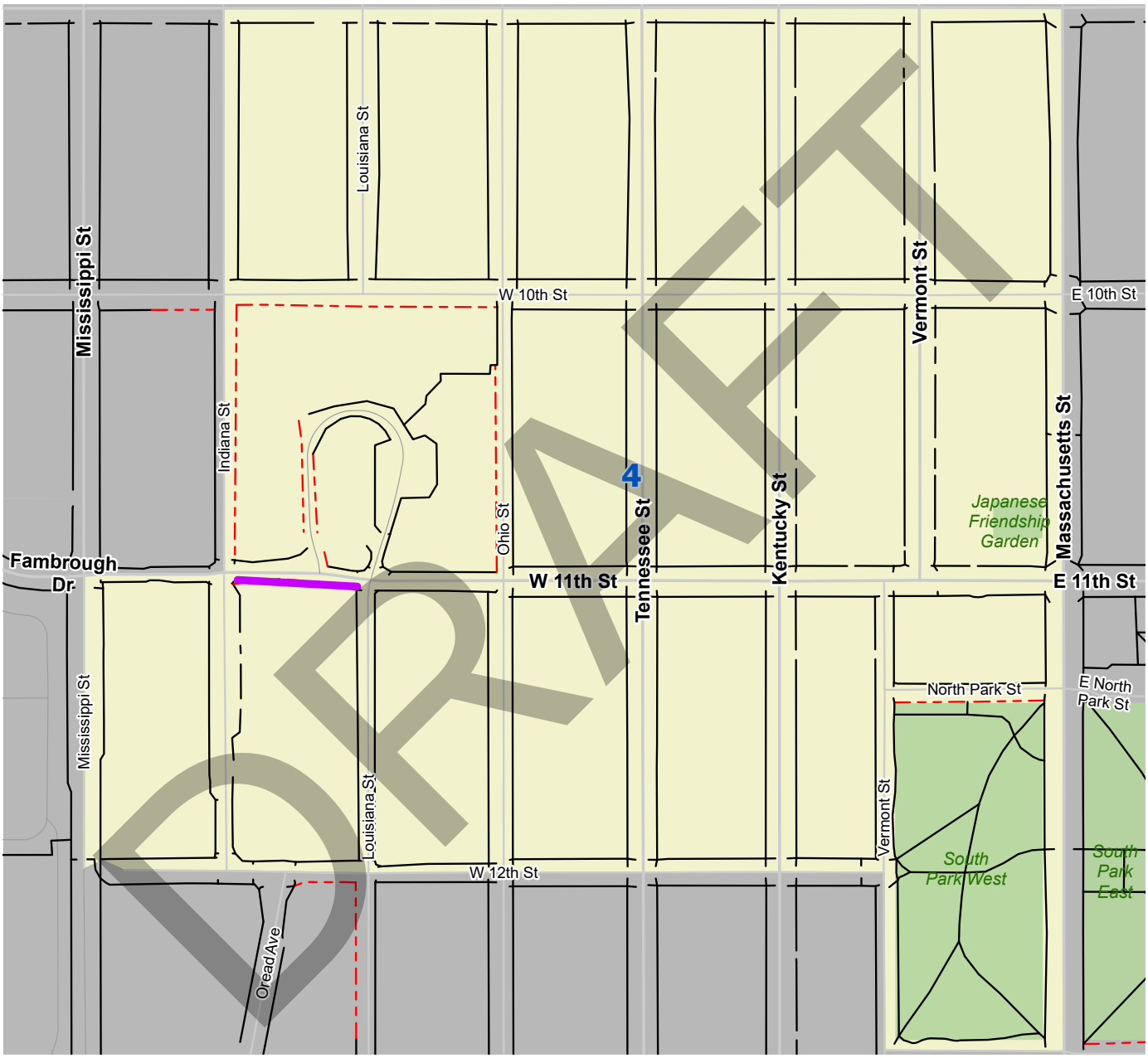
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 181.2%

Projected Sidewalk/Road (Priority Gaps Filled): 182.6%

Date Exported: 2/11/2022 Block Group: 200450003001
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.1 0.2 Miles



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W 9th St. to the North, Fambrough Dr to the South, Indiana St. to the East, Arkansas St. to the West

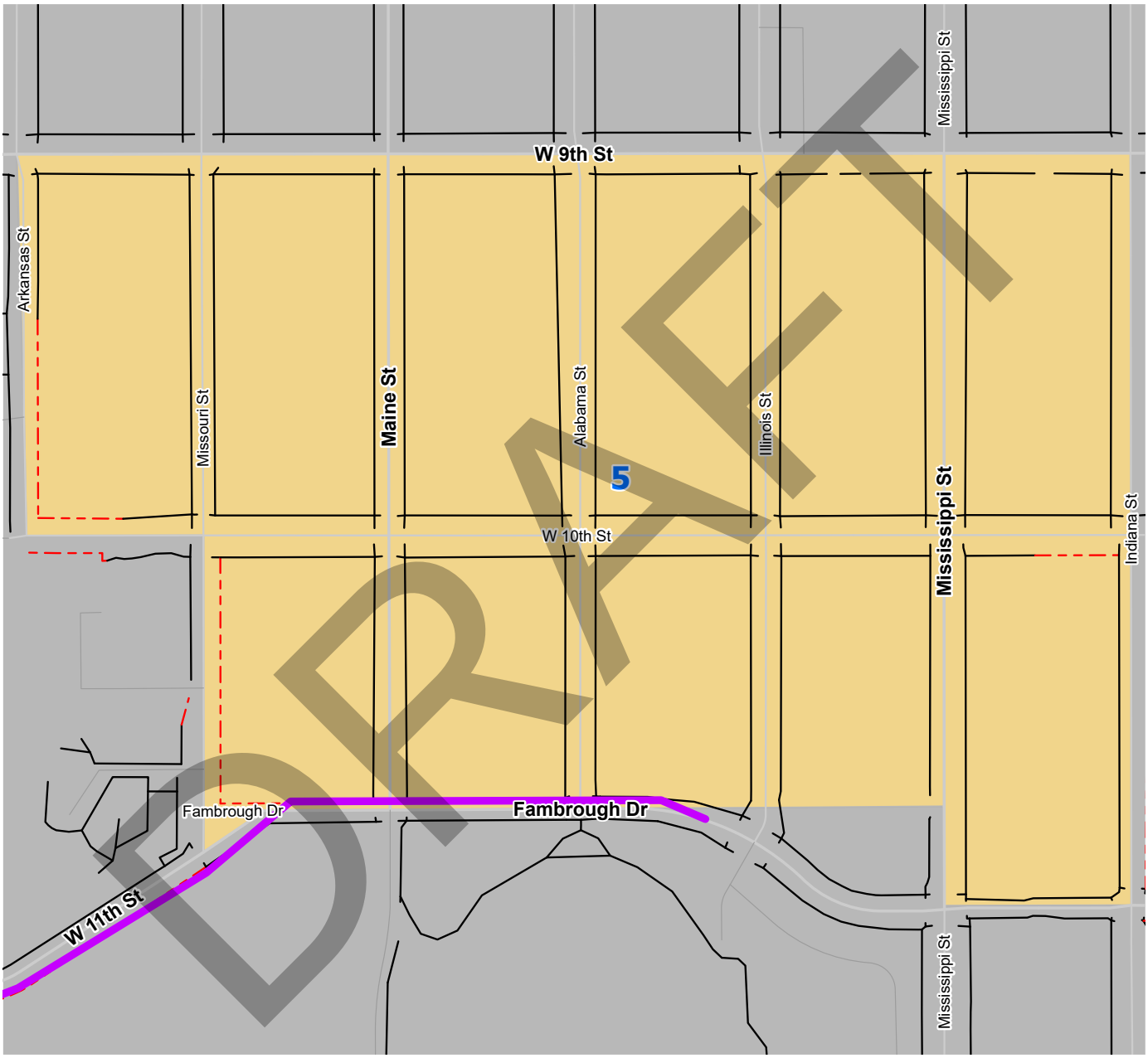
Transportation Disadvantaged Population Score: 5

Existing Condition Sidewalk/Road: 149.6%

Projected Sidewalk/Road (Priority Gaps Filled): 160.7%

Date Exported: 2/11/2022 Block Group: 200450003002
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.07 0.15 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
- ≤ 52%
- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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W 12th St. to the North, W 16th St. to the South, Massachusetts St. and Vermont St. to the East, Tennessee St. + Louisiana St. + Oread Ave to the NW

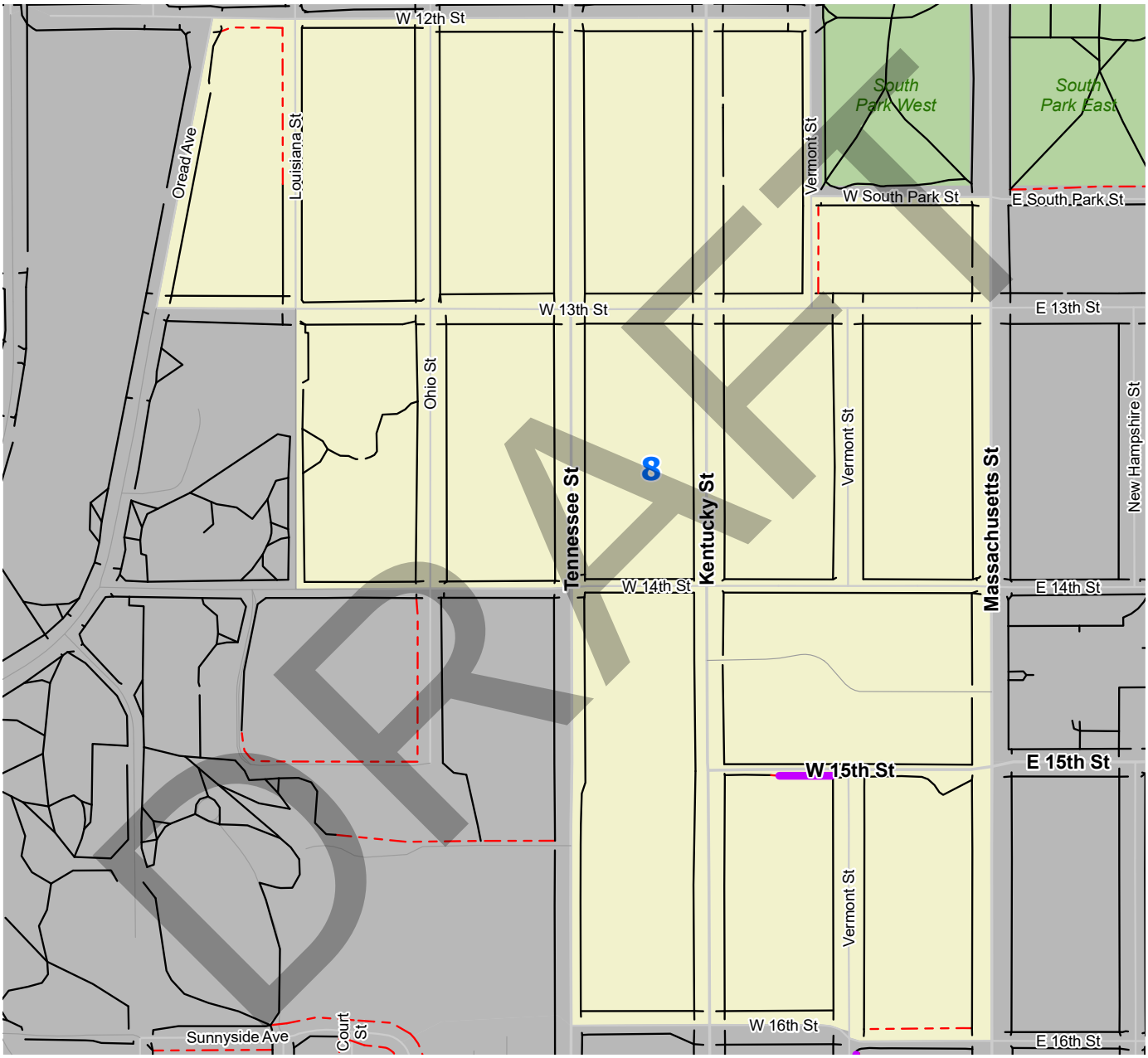
Transportation Disadvantaged Population Score: 8

Existing Condition Sidewalk/Road: 189.6%

Projected Sidewalk/Road (Priority Gaps Filled): 190.5%

Date Exported: 2/11/2022 Block Group: 200450003003
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.1 0.2 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
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- ≤ 85.12%
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- ≤ 149.59%
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- Parks
- Water
- City Limits
- County Limits

N

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W 18th St. and Sunnyside Ave to the North, W 19th St. to the South, Massachusetts St. to the East, Alabama St. to the West and Naismith Dr to the SW

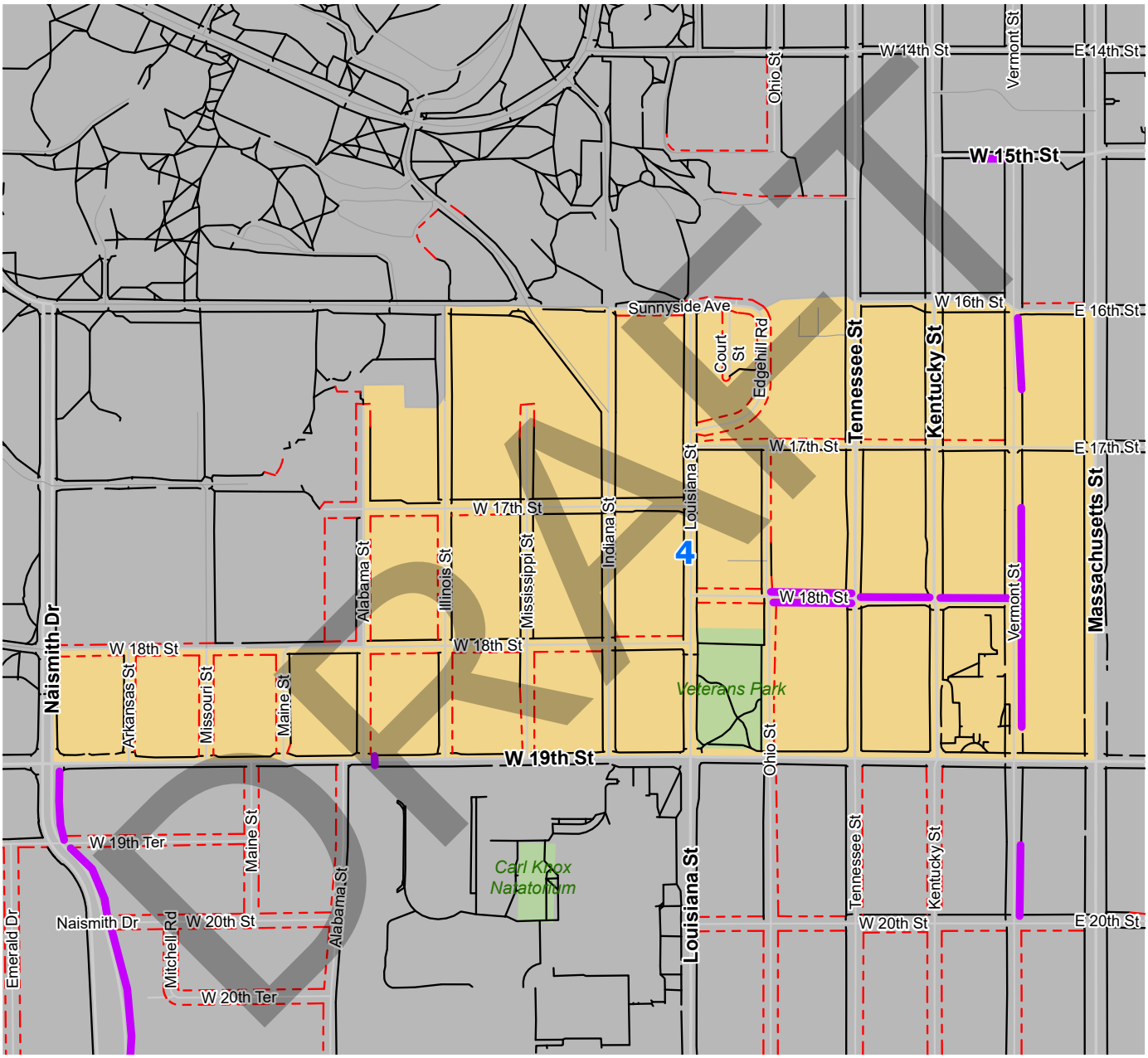
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 141.1%

Projected Sidewalk/Road (Priority Gaps Filled): 150.1%

Date Exported: 2/11/2022 Block Group: 200450003004
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.17 0.35 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

- ≤ 52%
- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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KU North District: W 11th St. and Fabmrough Dr to the North, W 18th St. and Sunnyside Ave to the South, Tennessee St. + Louisiana St. + Oread Ave + Mississippi St. to the East, Naismith Dr + Burdick Dr + West Campus Rd to

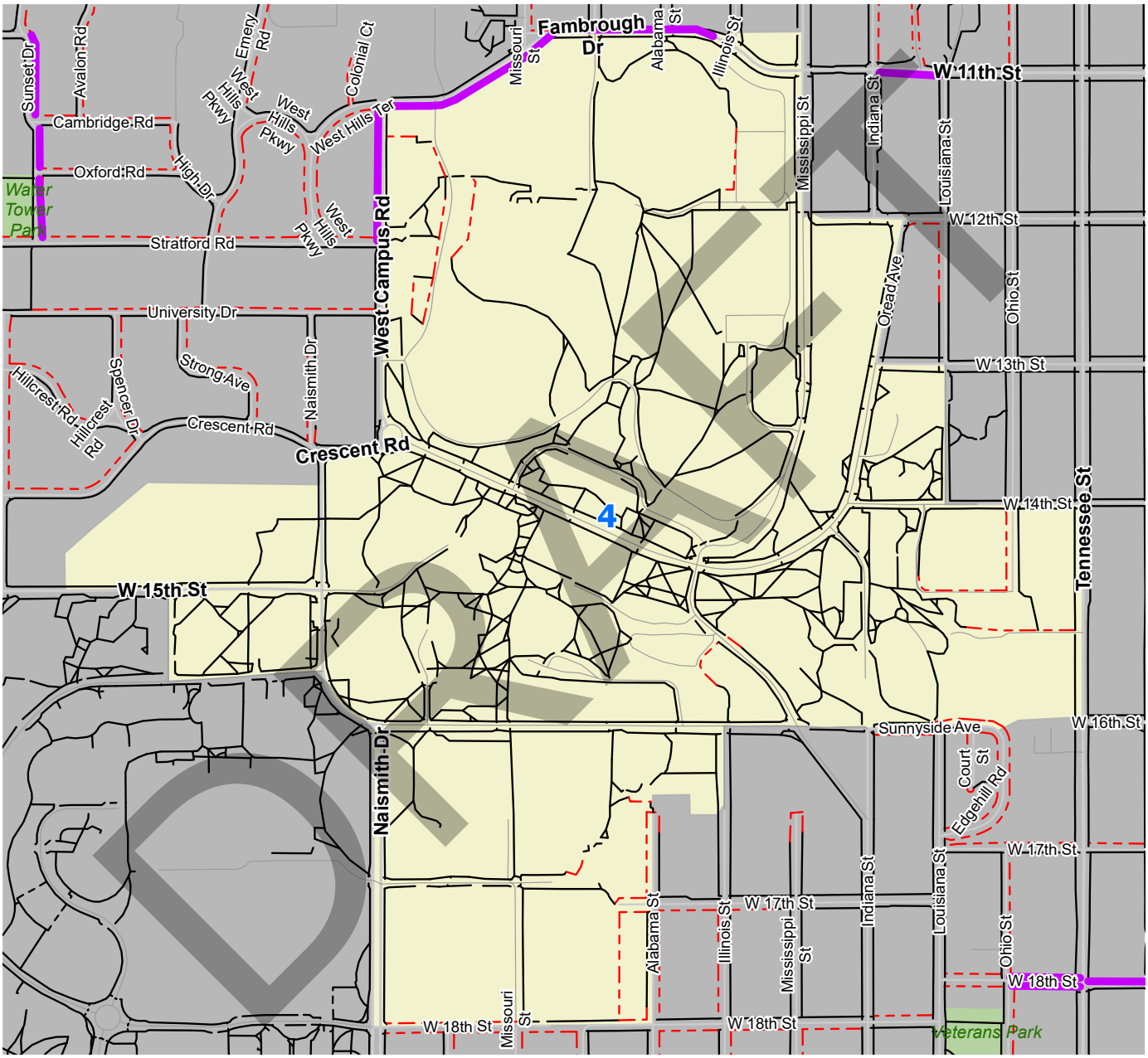
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 228.3%

Projected Sidewalk/Road (Priority Gaps Filled): 230.0%

Date Exported: 2/11/2022 Block Group: 200450004001
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.2 0.4 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
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- Parks
- Water
- City Limits
- County Limits

N

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KU West and Central Districts: Bob Billings Pkwy to the North, Clinton Pkwy and W 19th to the South, Iowa/US-59 + Naismith Dr + Burdick Dr to the East, Kasold Dr to the West

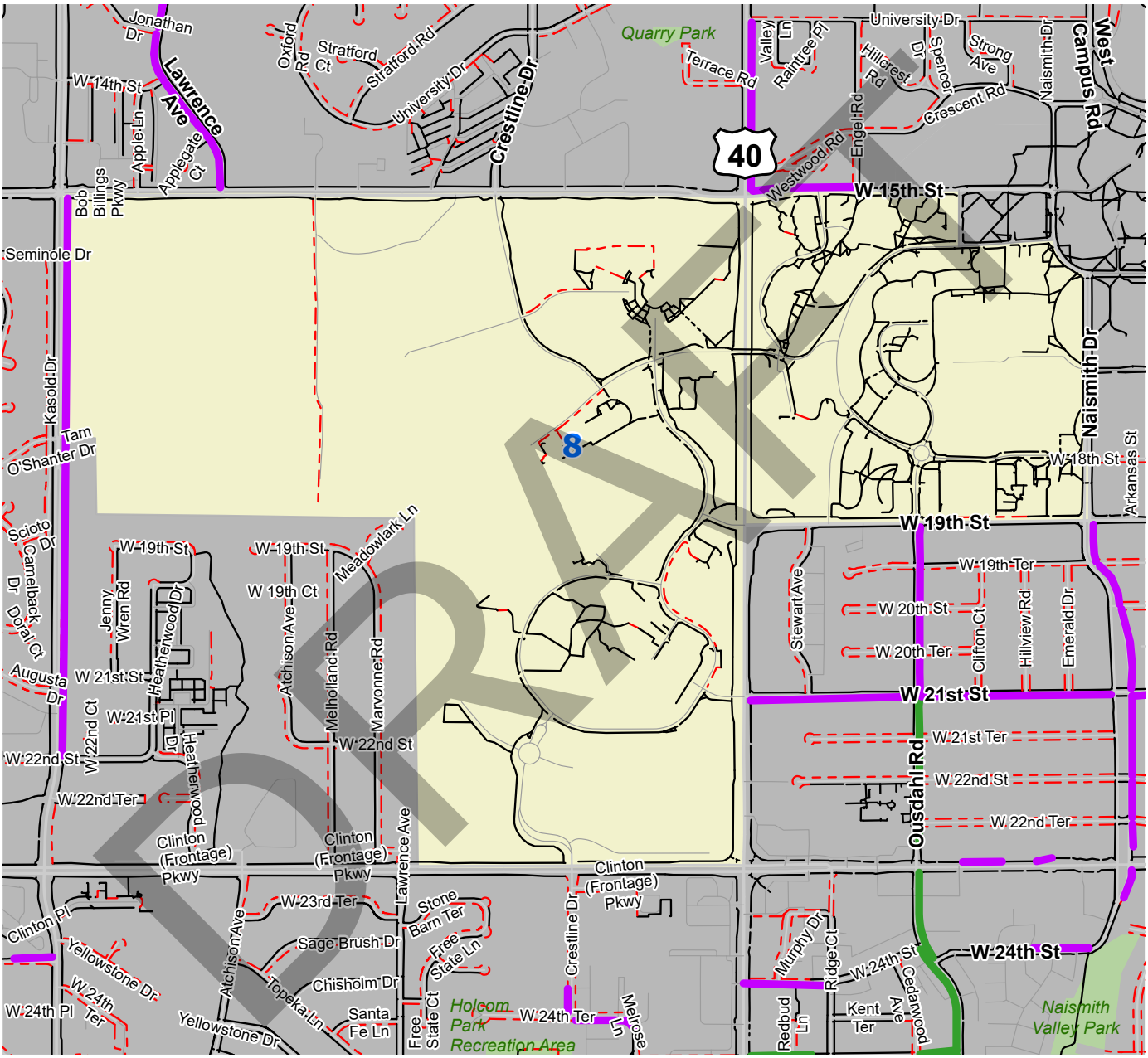
Transportation Disadvantaged Population Score: 8

Existing Condition Sidewalk/Road: 210.9%

Projected Sidewalk/Road (Priority Gaps Filled): 221.6%

Date Exported: 2/11/2022 Block Group: 200450004002
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.33 0.65 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
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- Parks
- Water
- City Limits
- County Limits

N

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I-70 to the North, W 4th St. + W 3rd St. + W 5th St. + 6th St. to the South, Massachusettes to the SE, Kansas River to the East, North Iowa St. to the West

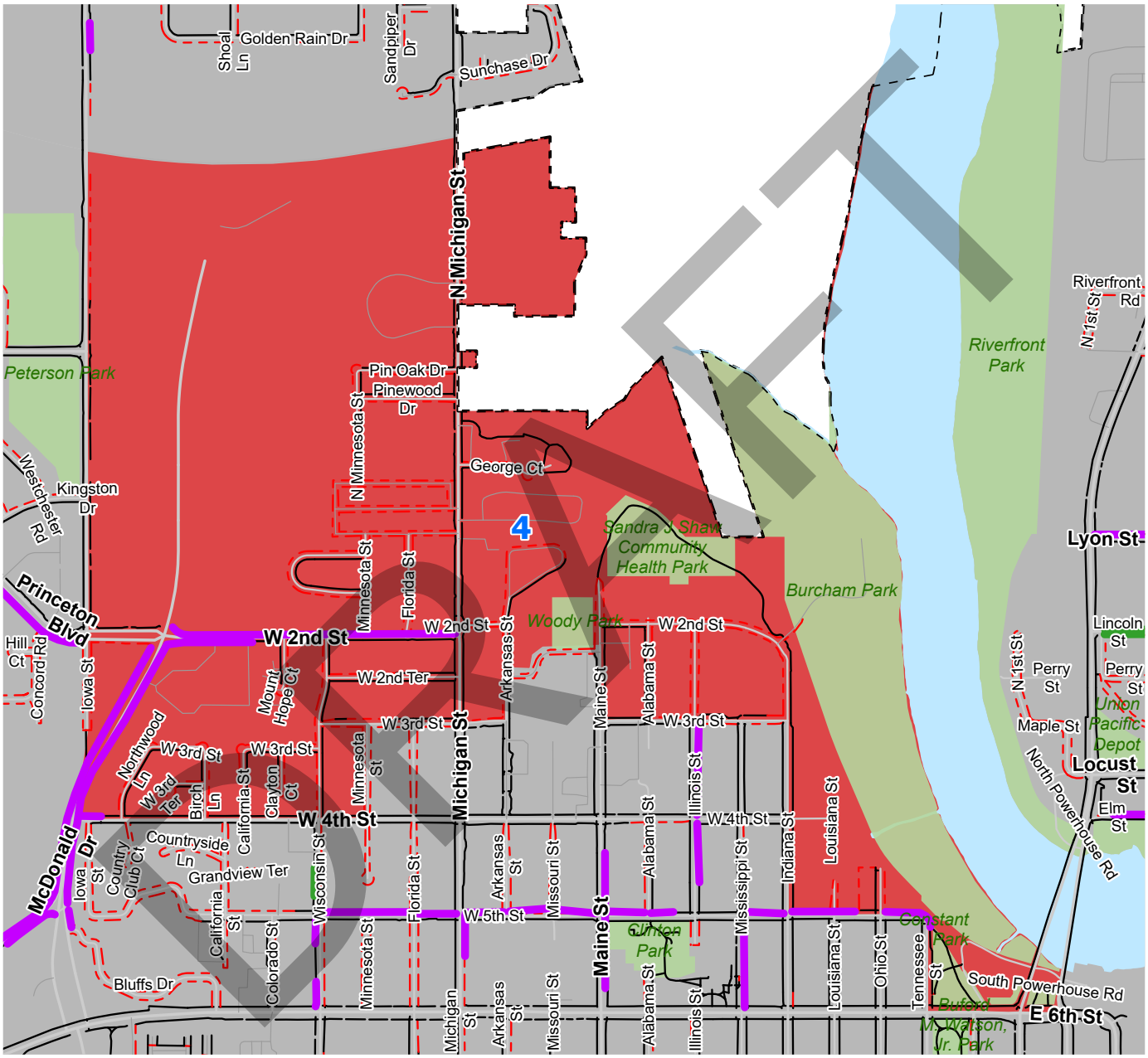
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 78.1%

Projected Sidewalk/Road (Priority Gaps Filled): 103.5%

Date Exported: 2/11/2022 Block Group: 200450005011
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.3 0.6 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

- ≤ 52%
- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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W 4th St. + W 3rd St. to the North, W 6th St. to the South, Indiana St. to the NE, Tennessee St. to the SE, McDonald Dr to the South

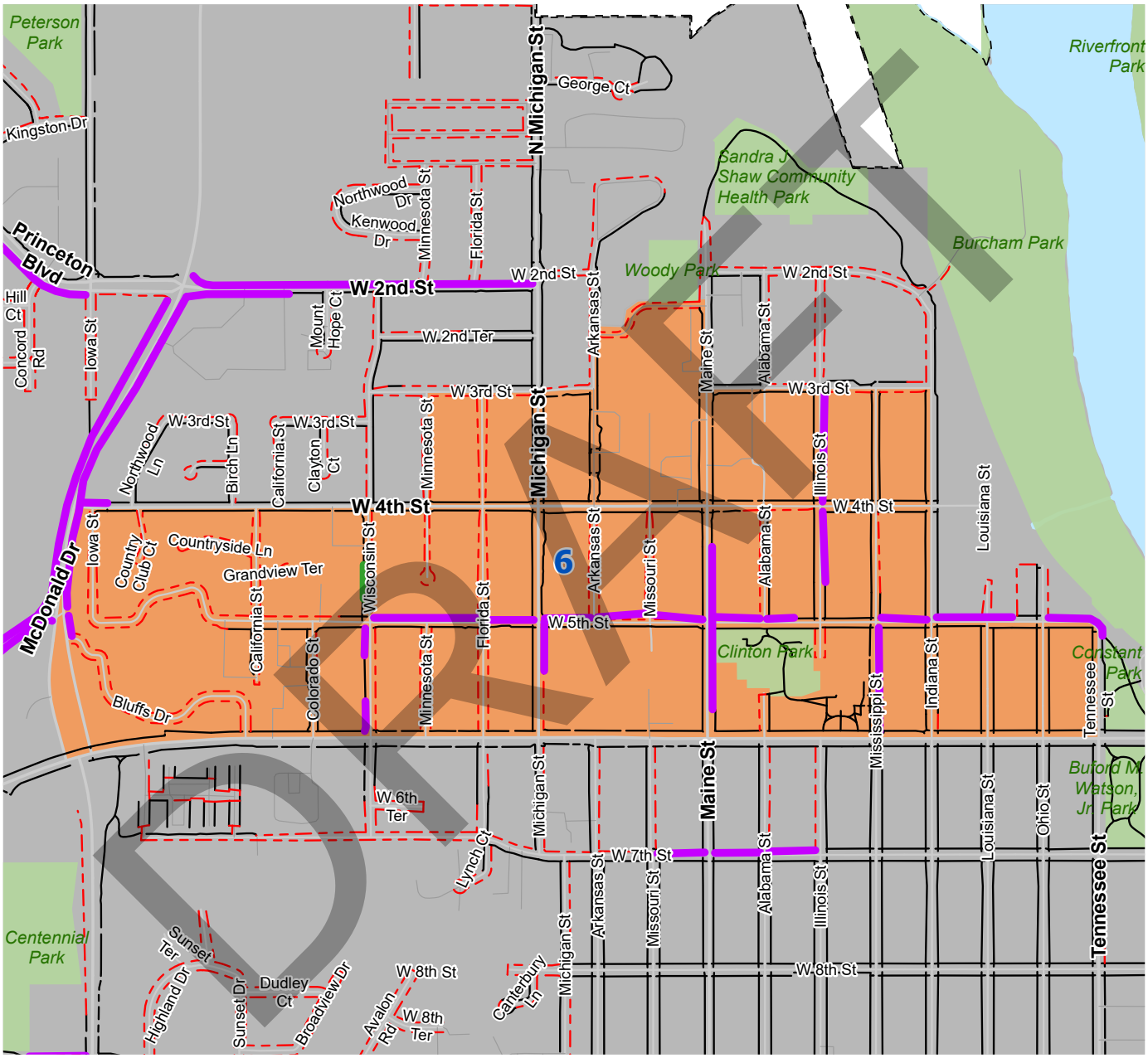
Transportation Disadvantaged Population Score: 6

Existing Condition Sidewalk/Road: 89.8%

Projected Sidewalk/Road (Priority Gaps Filled): 104.7%

Date Exported: 2/11/2022 Block Group: 200450005012
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.25 0.5 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

- ≤ 52%
- ≤ 85.12%
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- Parks
- Water
- City Limits
- County Limits

N

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W 6th St. to the North, W 9th St. to the South, Michigan St. to the East, Iowa St. to the West

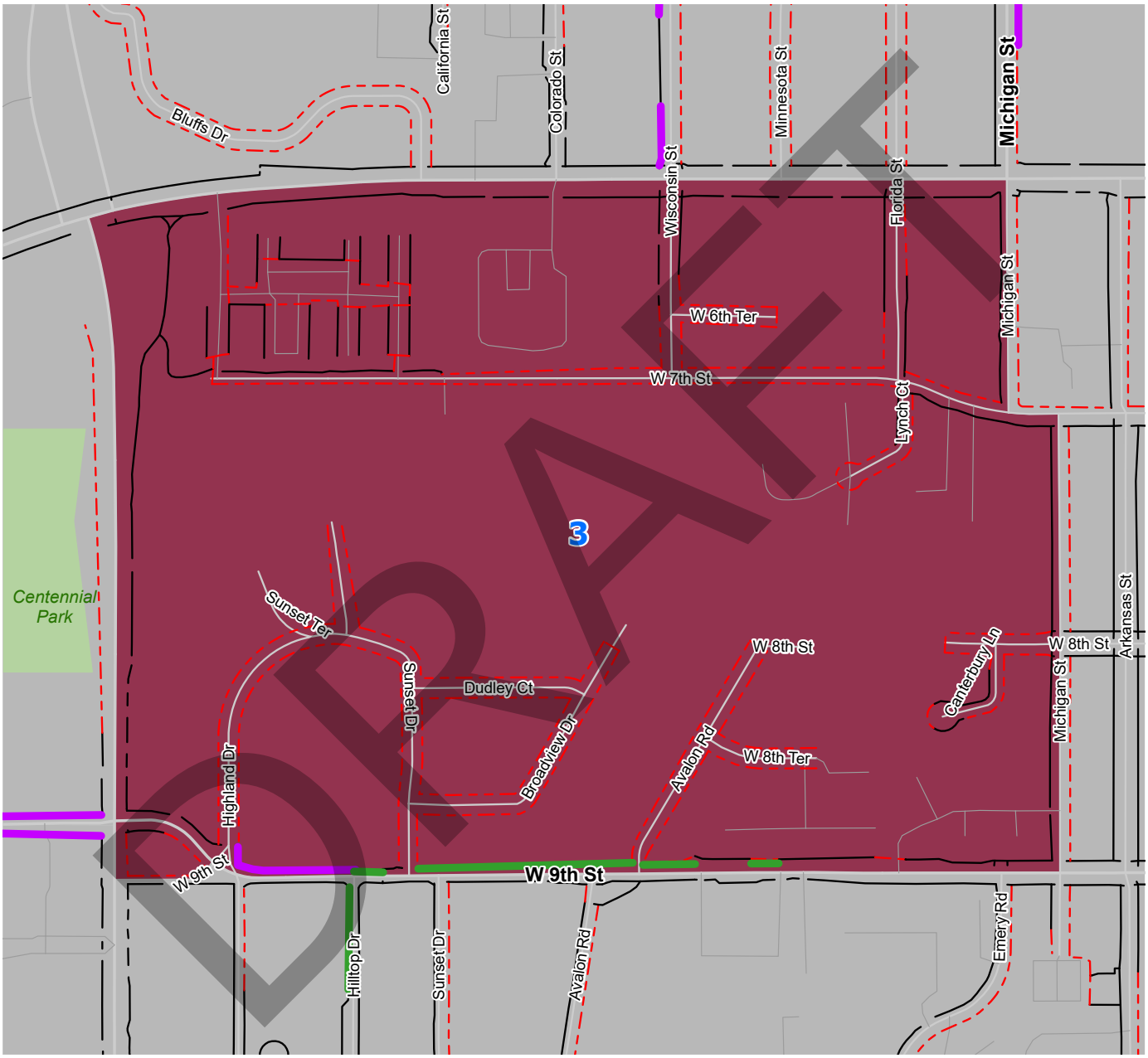
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 44.7%

Projected Sidewalk/Road (Priority Gaps Filled): 50.6%

Date Exported: 2/11/2022 Block Group: 200450005021
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.13 0.25 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
- ≤ 52%
- ≤ 85.12%
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- Parks
- Water
- City Limits
- County Limits

N

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W 9th St. to the North, W 15th St. to the SW, Crescent Rd to the SE, Arkansas St+ W 11th St. + West Campus Rd to the East, and North Iowa St. to the West

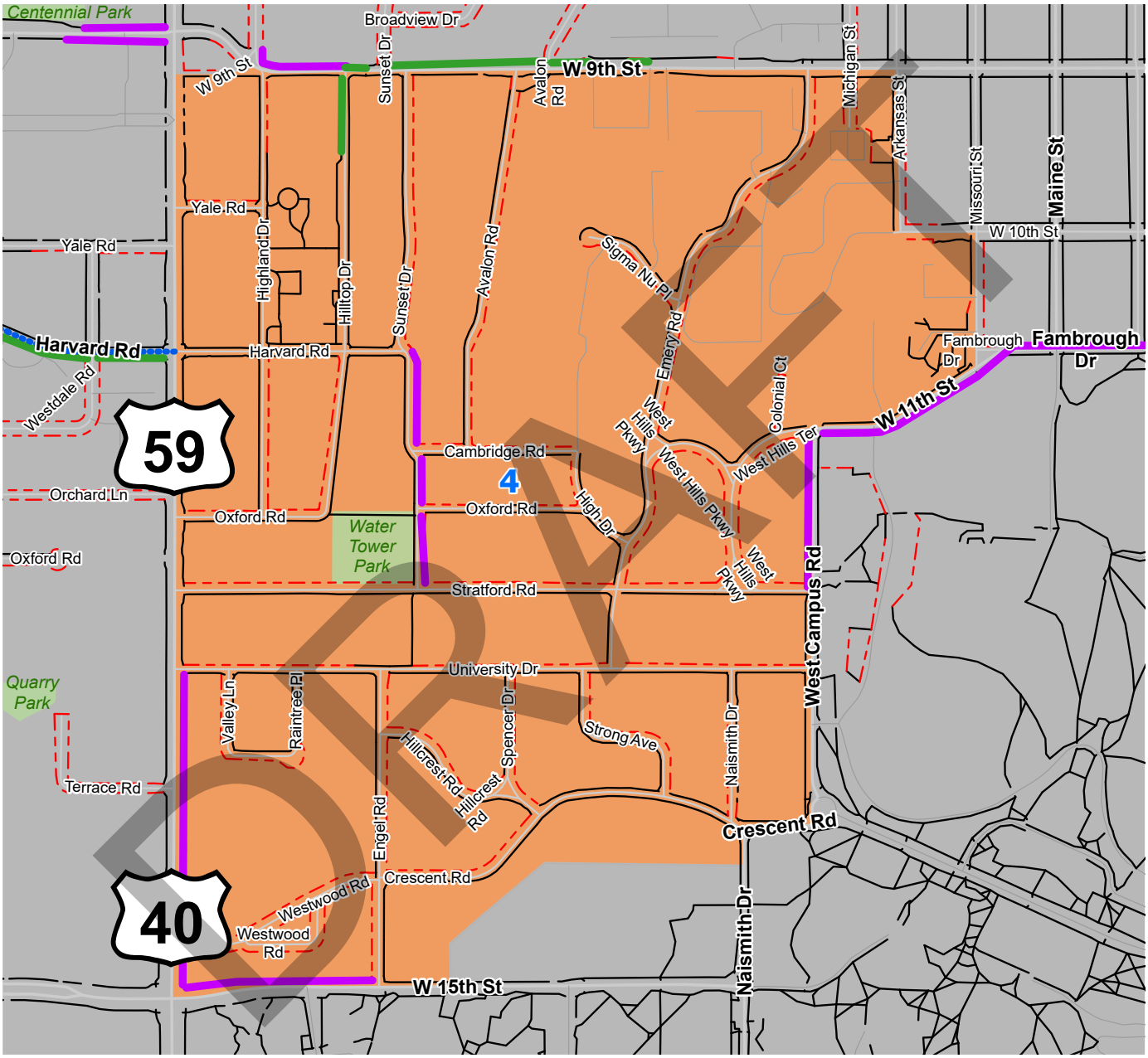
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 97.5%

Projected Sidewalk/Road (Priority Gaps Filled): 106.3%

Date Exported: 2/11/2022 Block Group: 200450005022
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.17 0.35 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

- ≤ 52%
- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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Iowa/US-59 to the North, W 9th St. to the South, Massachusetts St. to the East, Michigan St. to the West

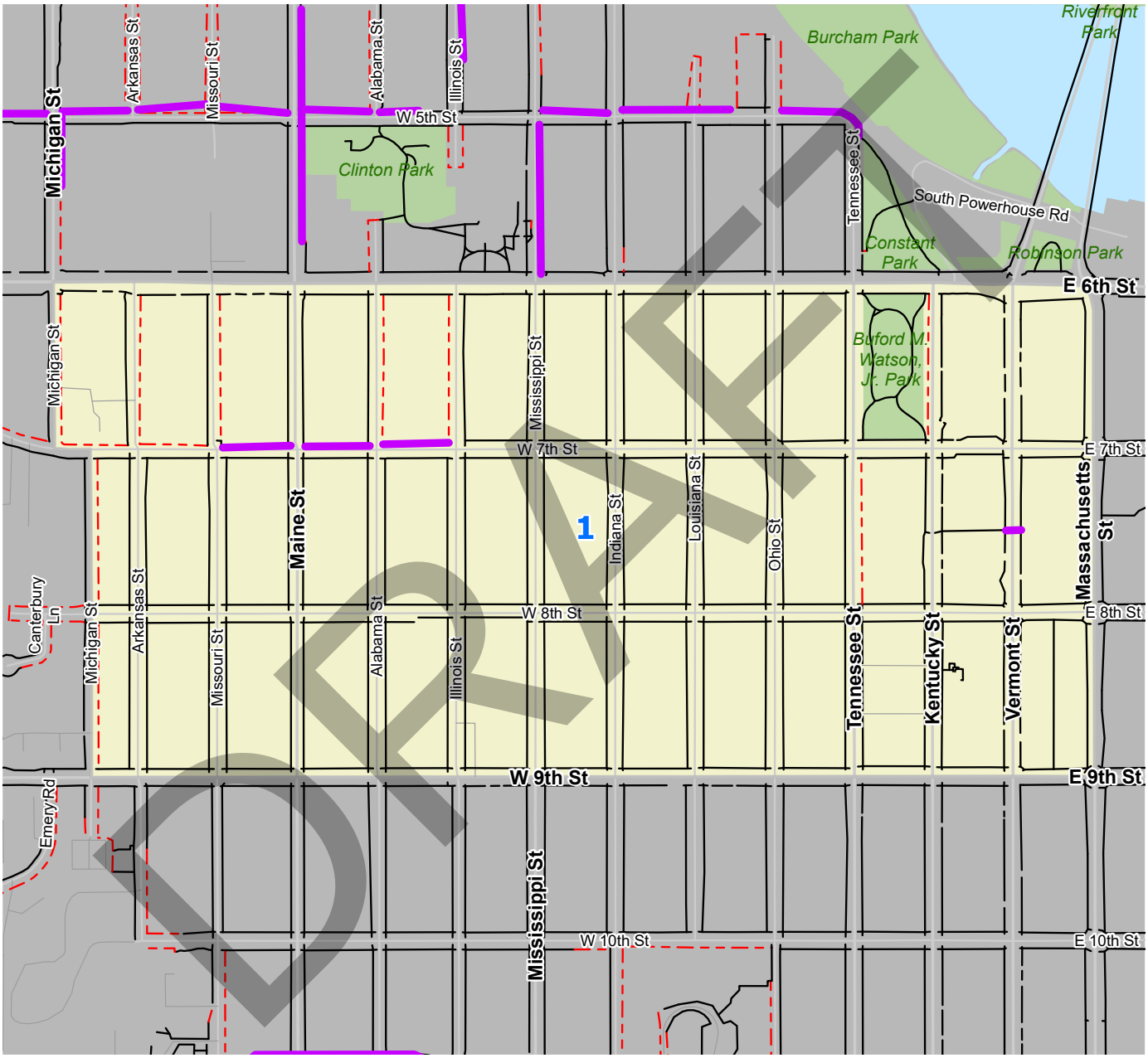
Transportation Disadvantaged Population Score: 1

Existing Condition Sidewalk/Road: 172.1%

Projected Sidewalk/Road (Priority Gaps Filled): 174.4%

Date Exported: 2/11/2022 Block Group: 200450005023
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.17 0.35 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
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- Parks
- Water
- City Limits
- County Limits

N

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I-170 to the North, W 6th St. to the South, E 1100 rd to the East, Boulder St. and Kasold Dr to the SE, K-10 to the West

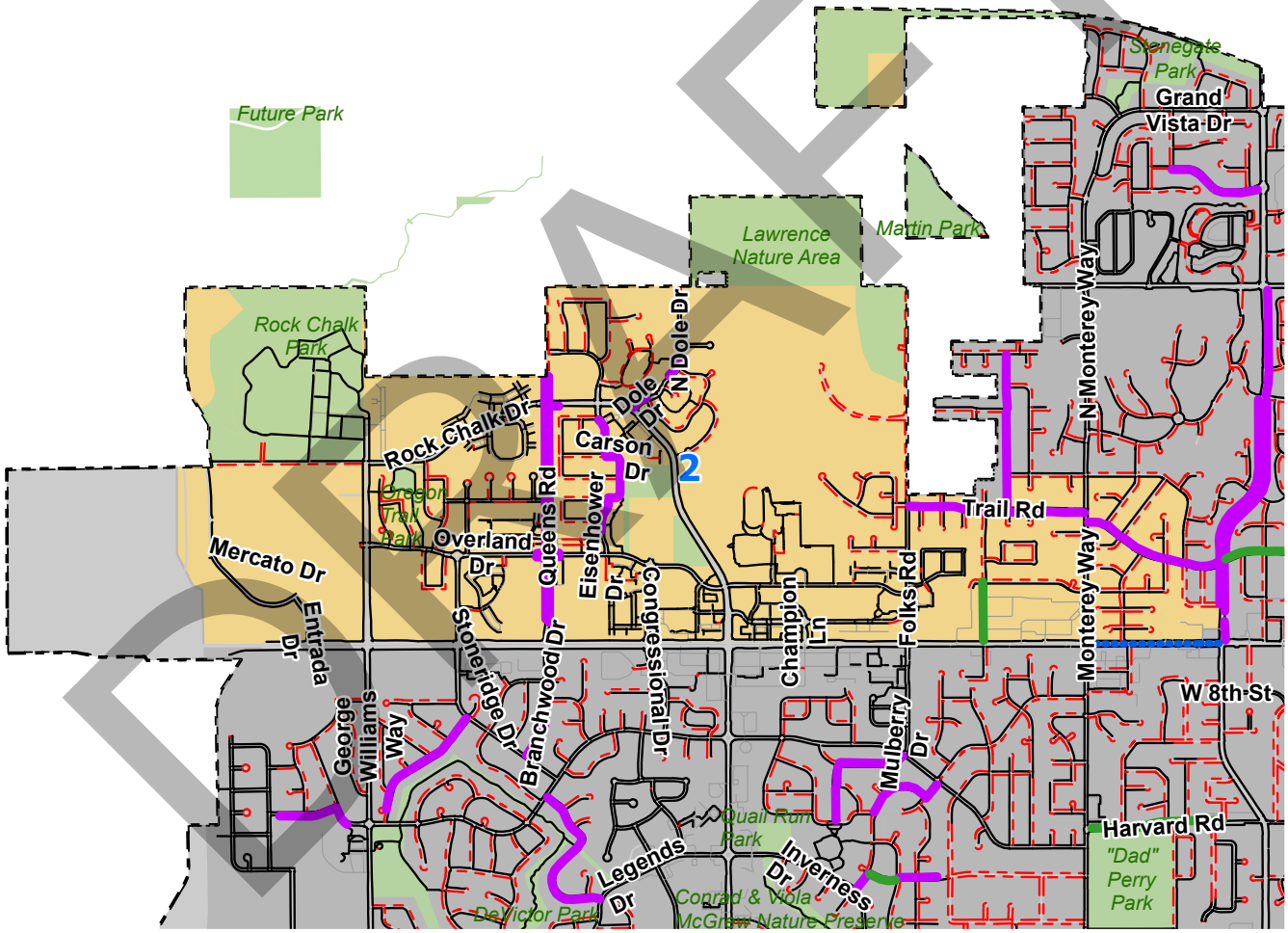
Transportation Disadvantaged Population Score: 2

Existing Condition Sidewalk/Road: 116.0%

Projected Sidewalk/Road (Priority Gaps Filled): 127.9%

Date Exported: 2/11/2022 Block Group: 200450006031
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
- ≤ 52%
- ≤ 85.12%
- ≤109.80%
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- Parks
- Water
- City Limits
- County Limits

N

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I-70 to the North, Trail Rd + Stetson Dr + W 6th St. to the South, Frontier Rd to the SE, N Kasold Dr to the East, Folks/E 1100 Rd to the West

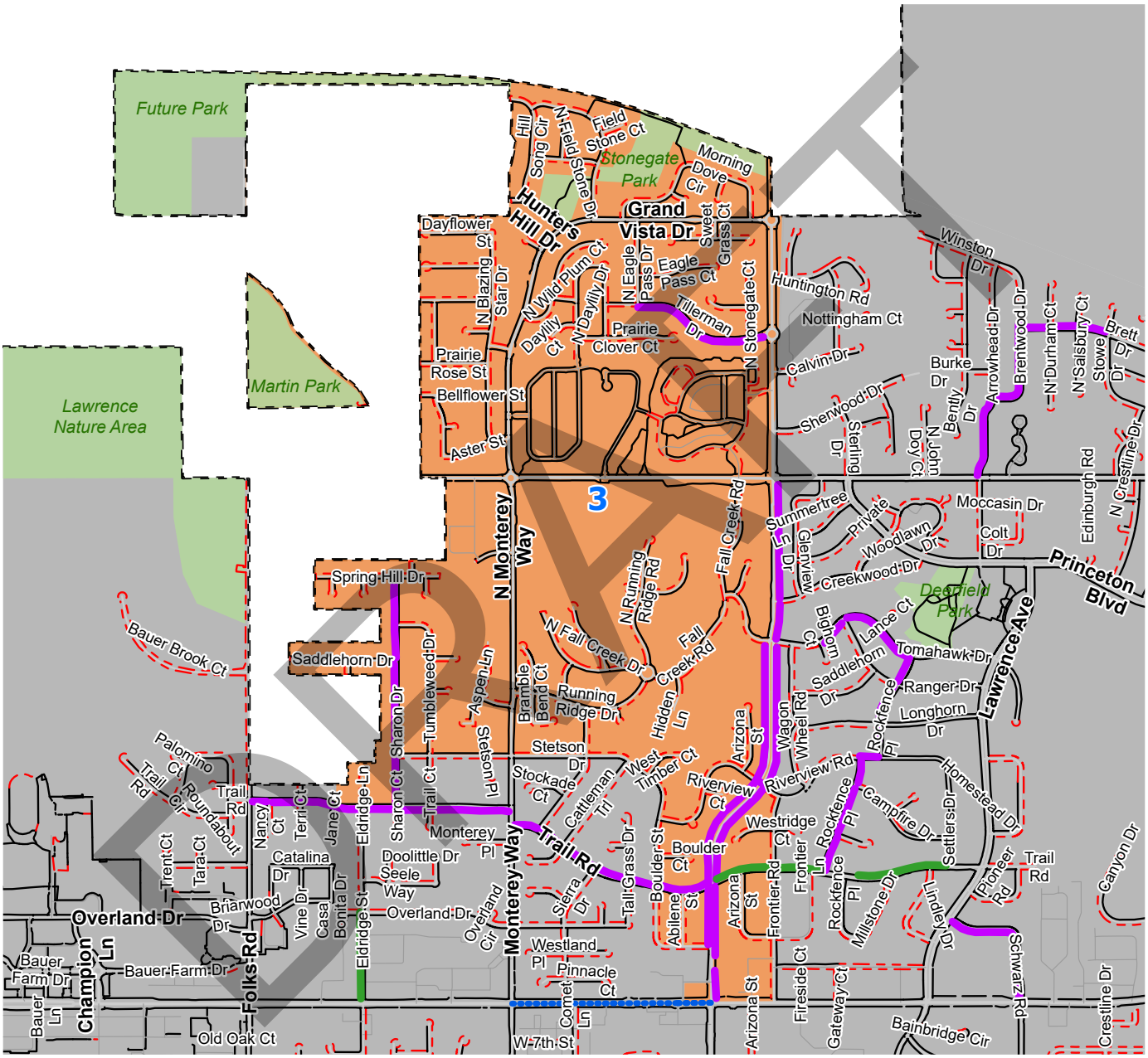
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 106.8%

Projected Sidewalk/Road (Priority Gaps Filled): 122.9%

Date Exported: 2/11/2022 Block Group: 200450006032
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.42 0.85 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
- ≤ 52%
- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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70 Highway to the North, Peterson Rd to the South, Iowa St. to the East, N Kasold Dr to the West

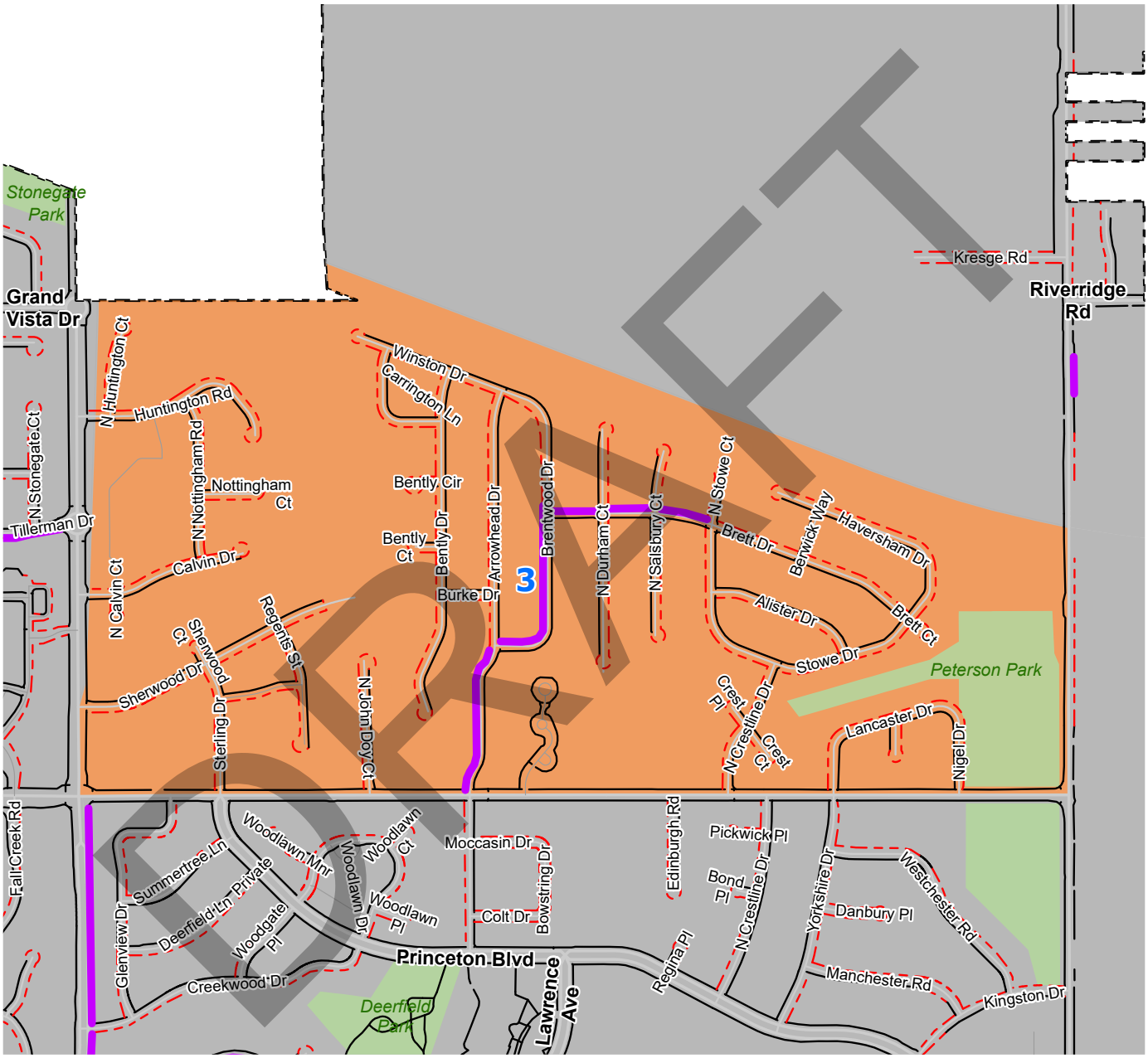
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 99.5%

Projected Sidewalk/Road (Priority Gaps Filled): 108.3%

Date Exported: 2/11/2022 Block Group: 200450006041
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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- Parks
- Water
- City Limits
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DRAFT

Princeton Blvd to the North, W 6th St. to the South, North Iowa St. to the East, and W Lawrence Ave to the West

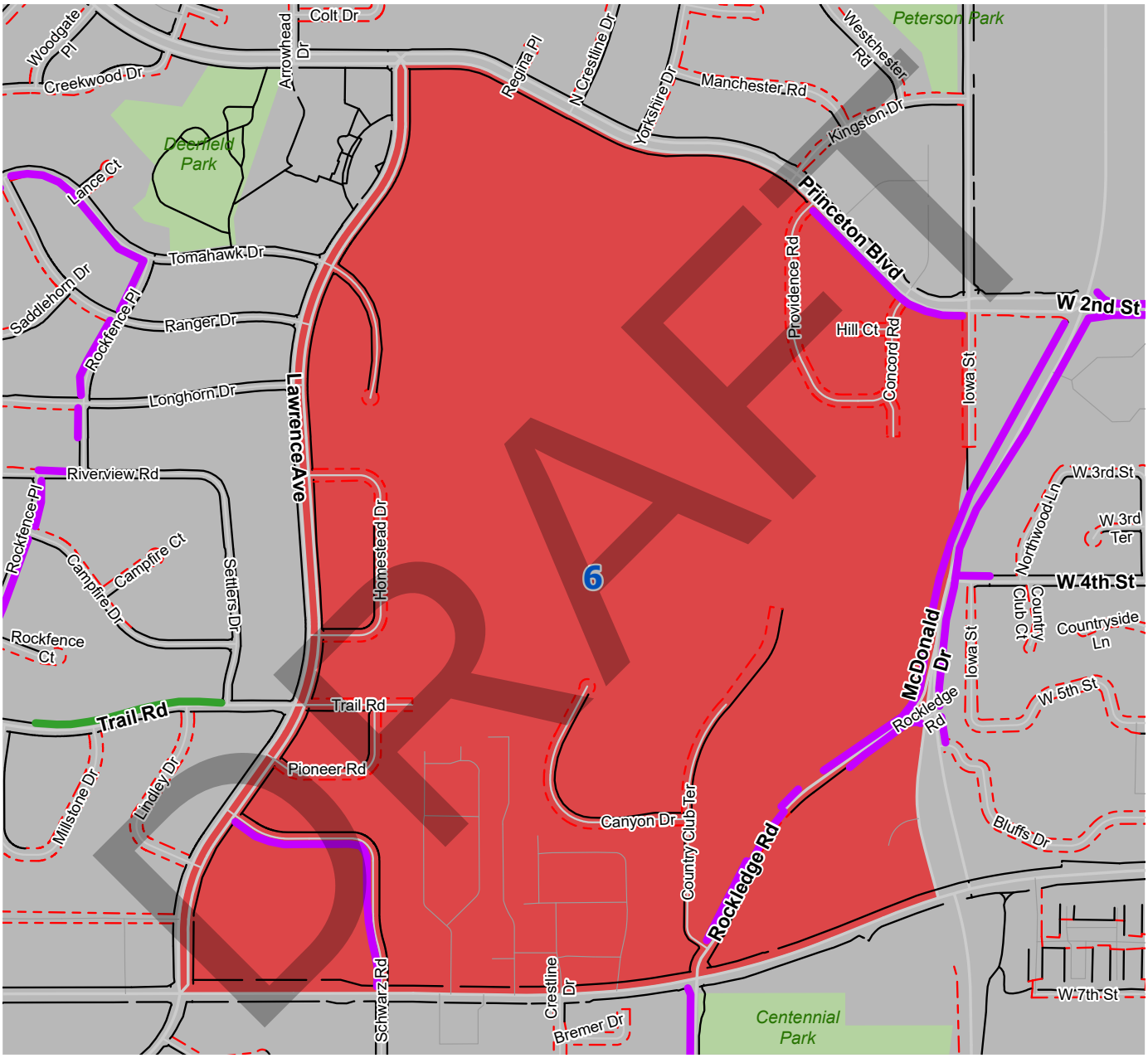
Transportation Disadvantaged Population Score: 6

Existing Condition Sidewalk/Road: 69.8%

Projected Sidewalk/Road (Priority Gaps Filled): 88.7%

Date Exported: 2/11/2022 Block Group: 200450006042
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.2 0.4 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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- Water
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Peterson Rd to the North, Creekwood Dr and Princeton Blvd to the South, Iowa St. to the East, N Kasold Dr to the West

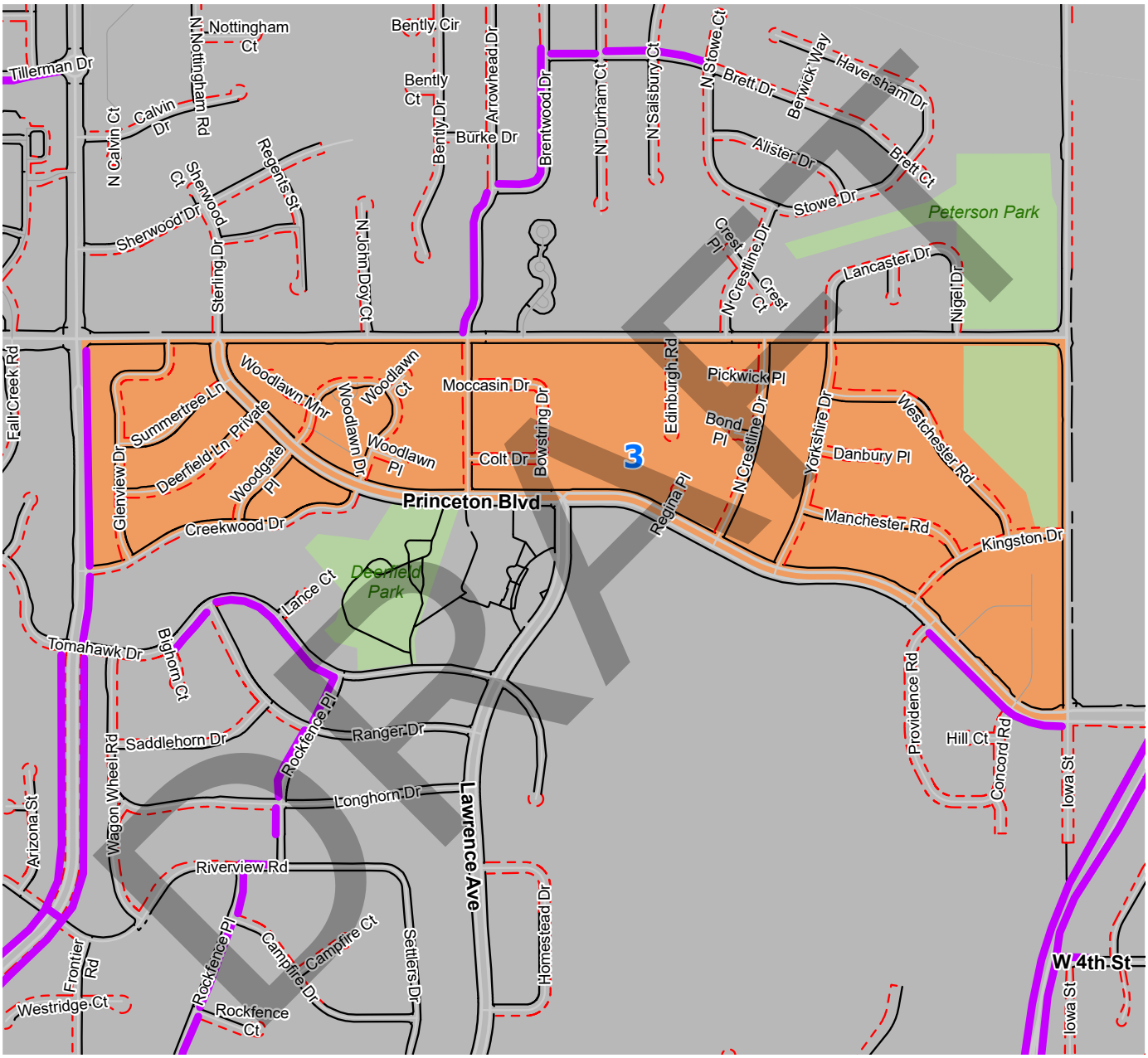
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 98.0%

Projected Sidewalk/Road (Priority Gaps Filled): 102.5%

Date Exported: 2/11/2022 Block Group: 200450006043
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
- ≤ 52%
- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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Creekwood Dr and Princeton Blvd to the North, W 6th St. to the South, Lawrence Ave to the East, Kasold Dr to the NW, Frontier Rd to the SW

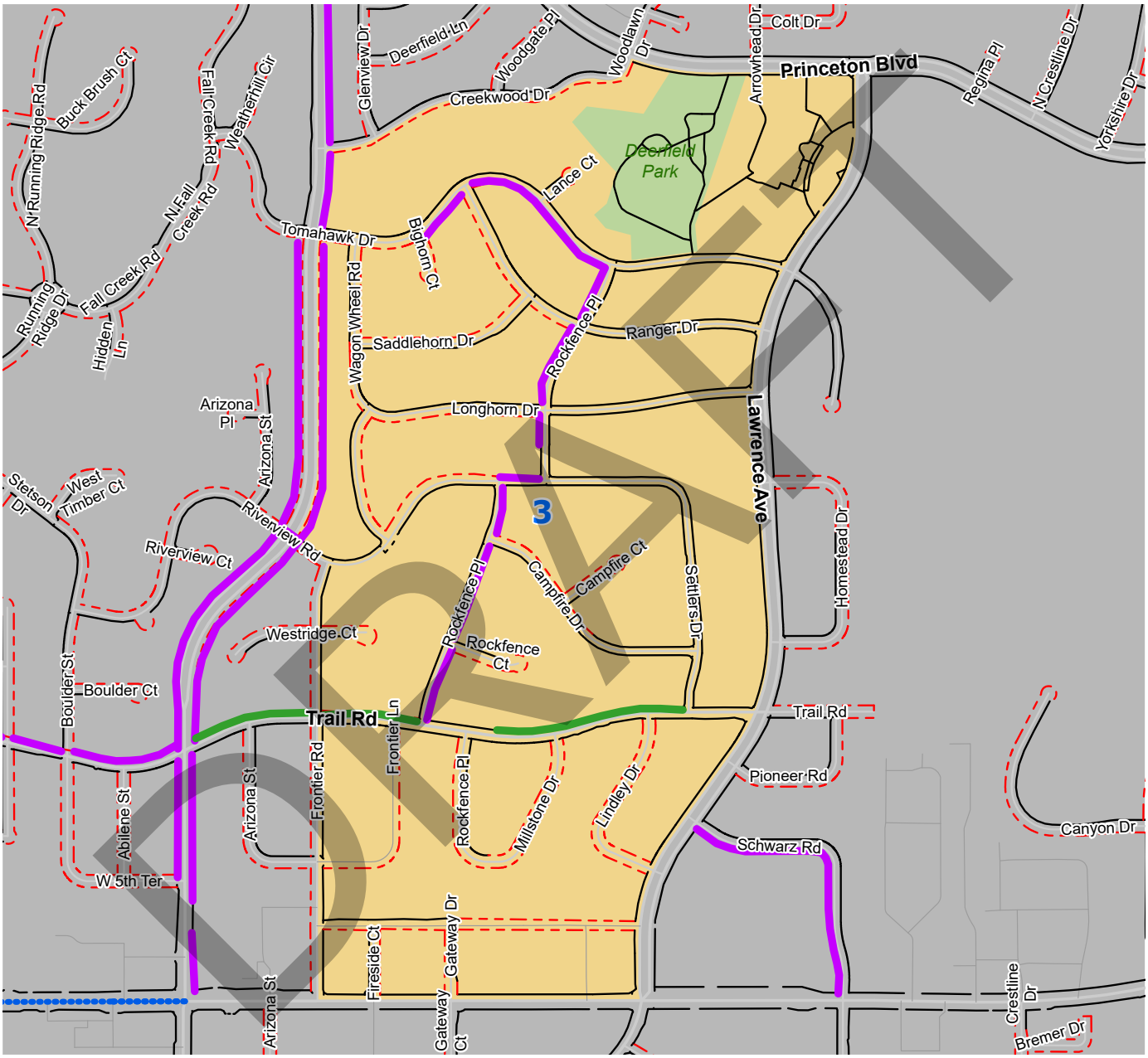
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 123.4%

Projected Sidewalk/Road (Priority Gaps Filled): 143.3%

Date Exported: 2/11/2022 Block Group: 200450006044
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.2 0.4 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
- ≤ 52%
- ≤ 85.12%
- ≤109.80%
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- Parks
- Water
- City Limits
- County Limits

N

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W 6th St. to the North, W 9th St. to the South, Iowa/US-59 to the East, and Kasold Dr to the West

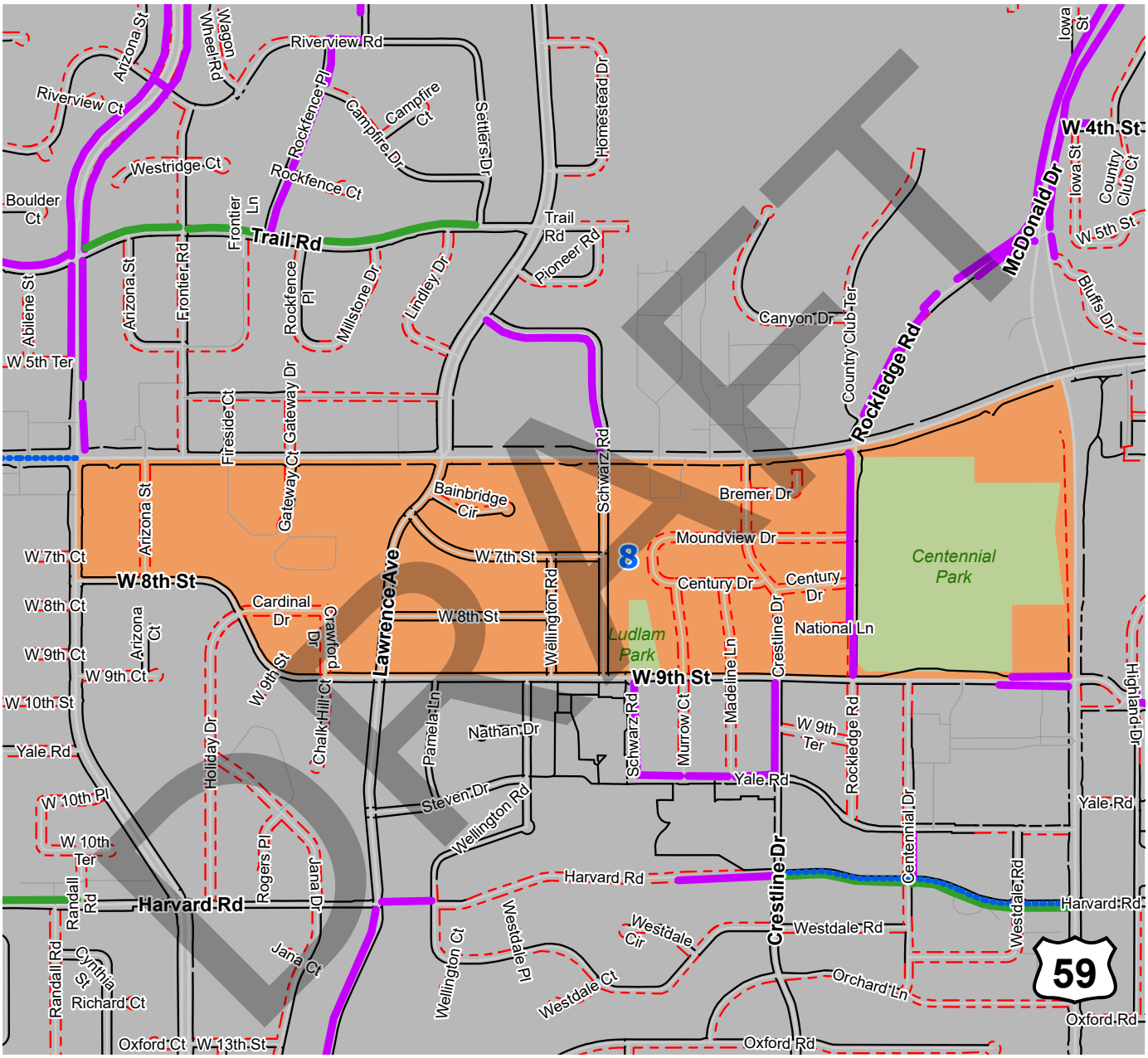
Transportation Disadvantaged Population Score: 8

Existing Condition Sidewalk/Road: 107.9%

Projected Sidewalk/Road (Priority Gaps Filled): 115.0%

Date Exported: 2/11/2022 Block Group: 200450007021
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.25 0.5 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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W 8th St. to the NE, W 9th St. to the NW, Bob Billings Pkwy to the South, Crestline Dr to the East, and Kasold Dr to the West

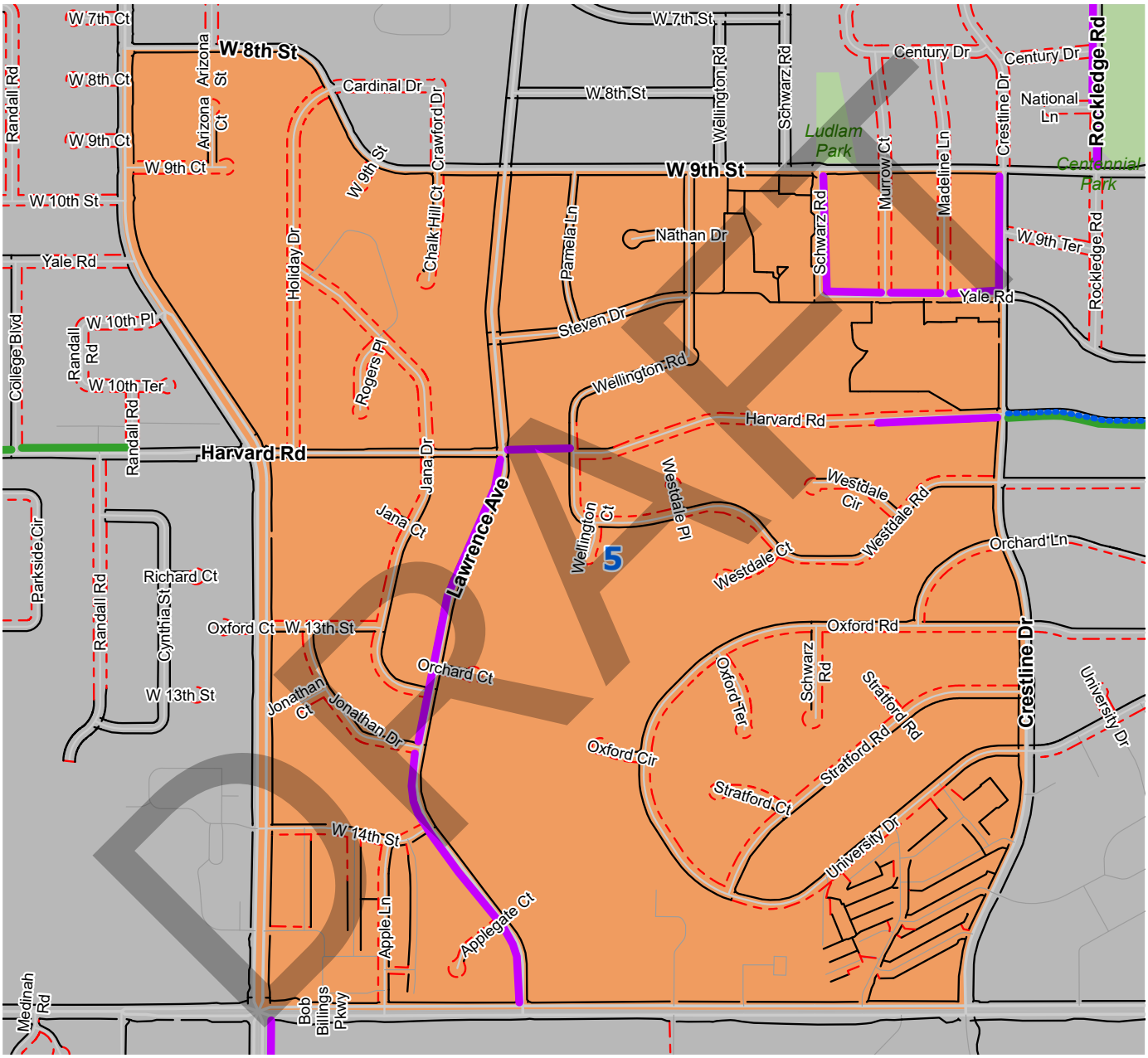
Transportation Disadvantaged Population Score: 5

Existing Condition Sidewalk/Road: 103.7%

Projected Sidewalk/Road (Priority Gaps Filled): 113.0%

Date Exported: 2/11/2022 Block Group: 200450007022
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.2 0.4 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
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- Parks
- Water
- City Limits
- County Limits

N

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W 9th St. to the North, Bob Billings Pkwy to the South, Iowa/US-59 to the East, Crestline Dr. to the West

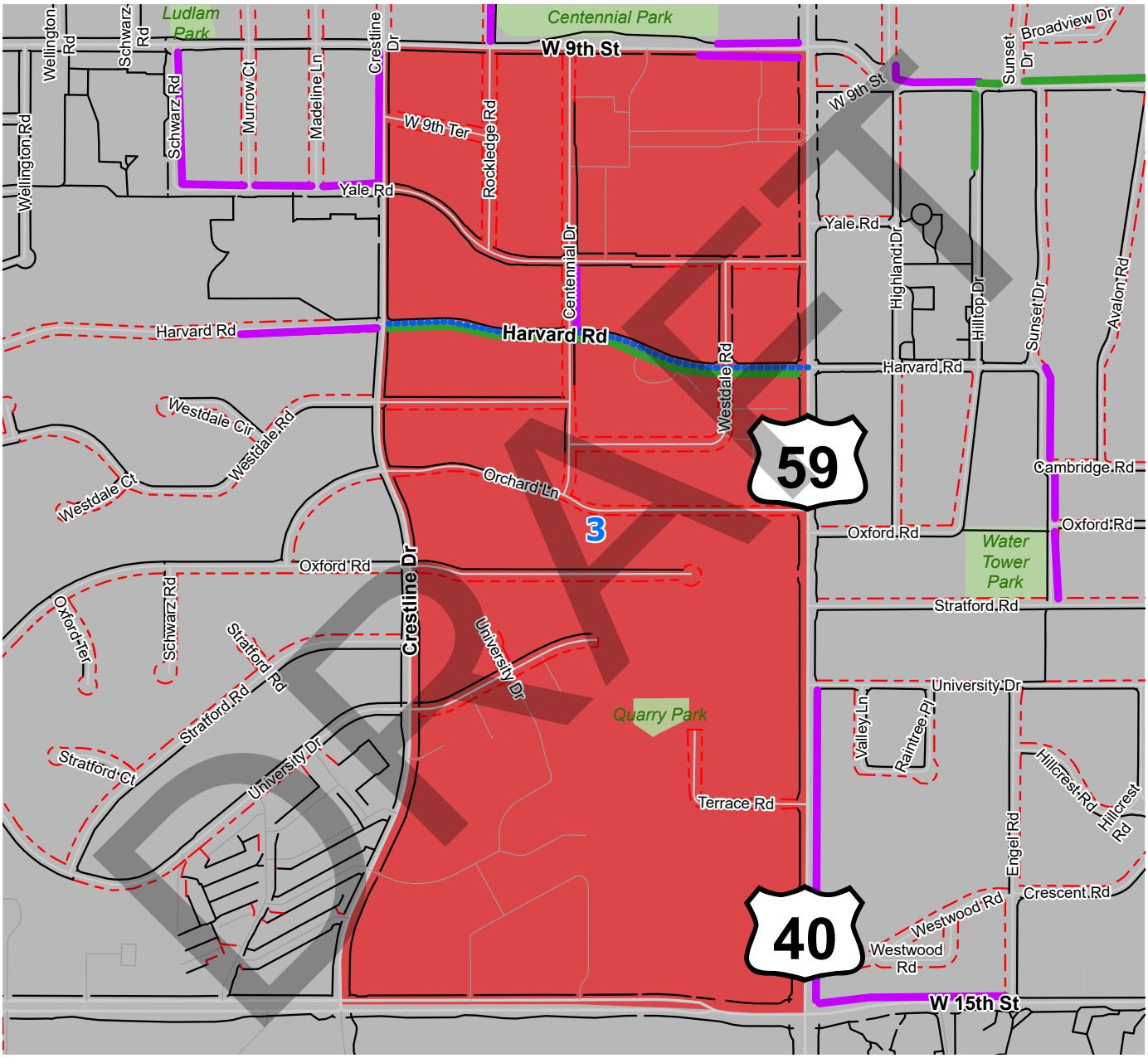
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 73.0%

Projected Sidewalk/Road (Priority Gaps Filled): 80.8%

Date Exported: 2/11/2022 Block Group: 200450007023
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.17 0.35 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

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- Water
- City Limits
- County Limits

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W 6th St. to the North, Bob Billings Pkwy to the South, Kasold Dr to the East, Monterey Way to the West

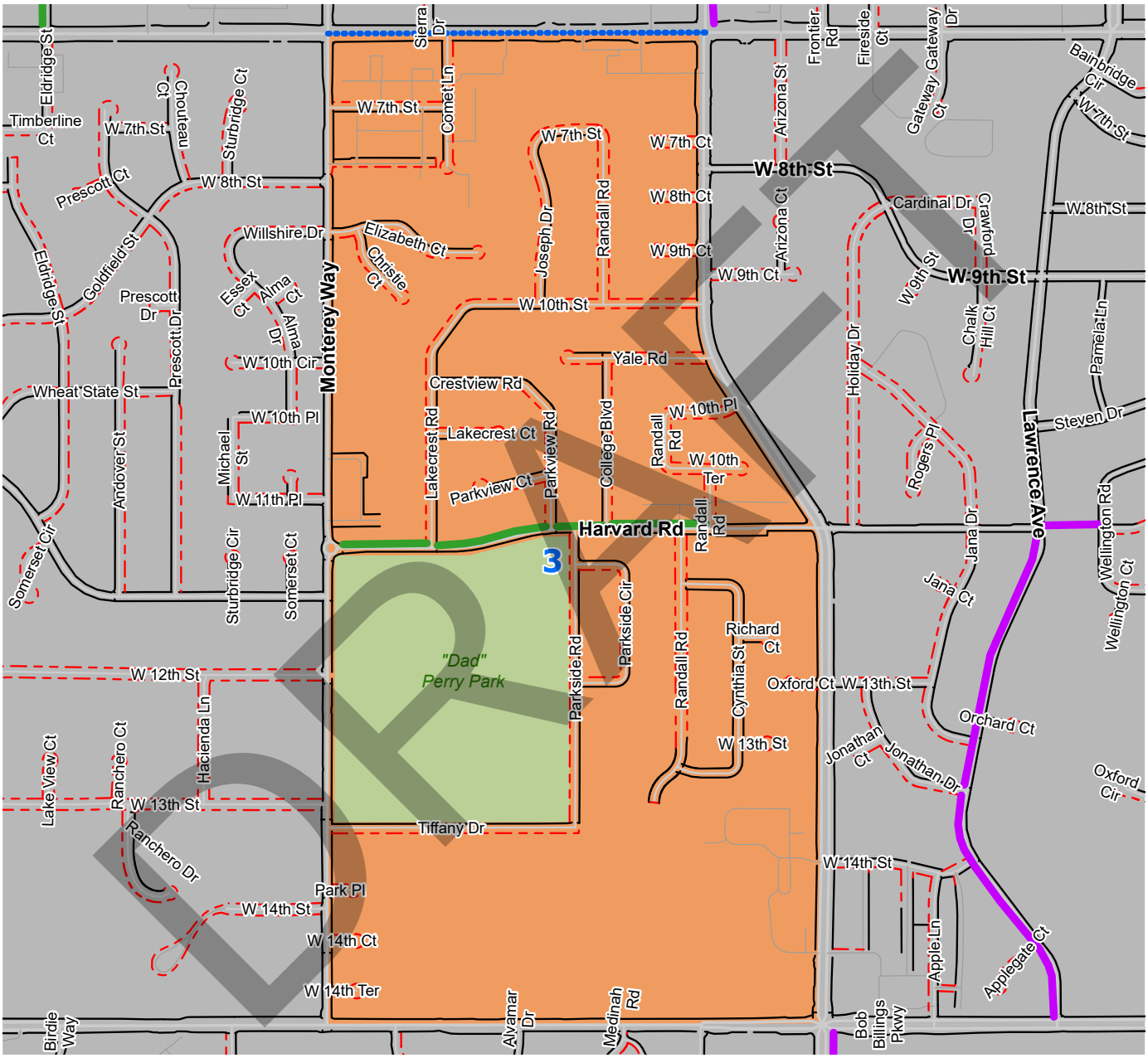
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 91.6%

Projected Sidewalk/Road (Priority Gaps Filled): 96.2%

Date Exported: 2/11/2022 Block Group: 200450007024
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
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- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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- Parks
- Water
- City Limits
- County Limits

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Bob Billings Pkwy to the North, Clinton Pkwy to the South, Kasold Dr to the East, Birdie Way to the NW, Crossgate Dr to the SW

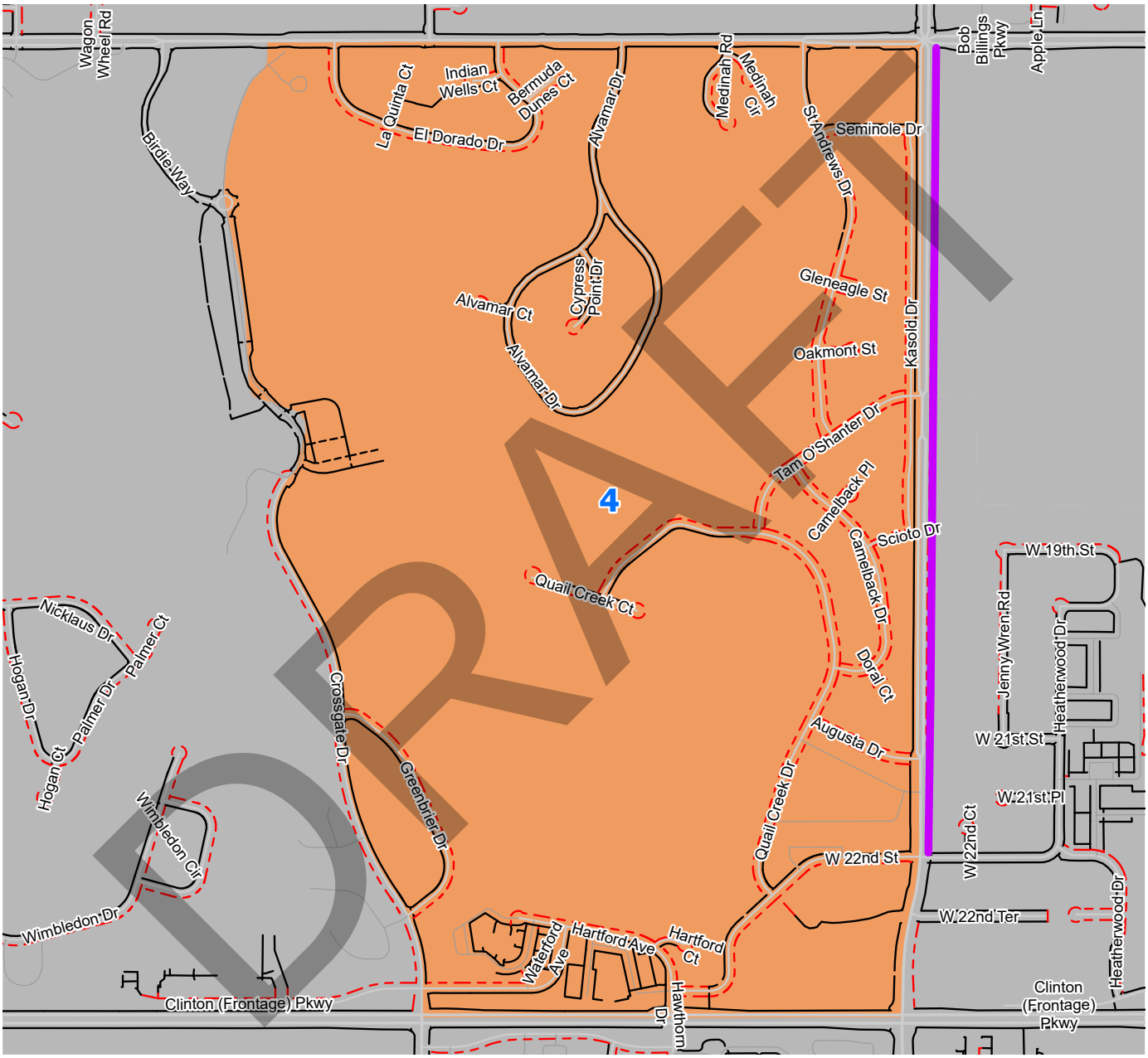
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 97.4%

Projected Sidewalk/Road (Priority Gaps Filled): 97.4%

Date Exported: 2/11/2022 Block Group: 200450007971
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



DRAFT

- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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- Parks
- Water
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KU property to the North, Clinton Pkwy to the South,Ku property to the East, Kasold Dr to the West

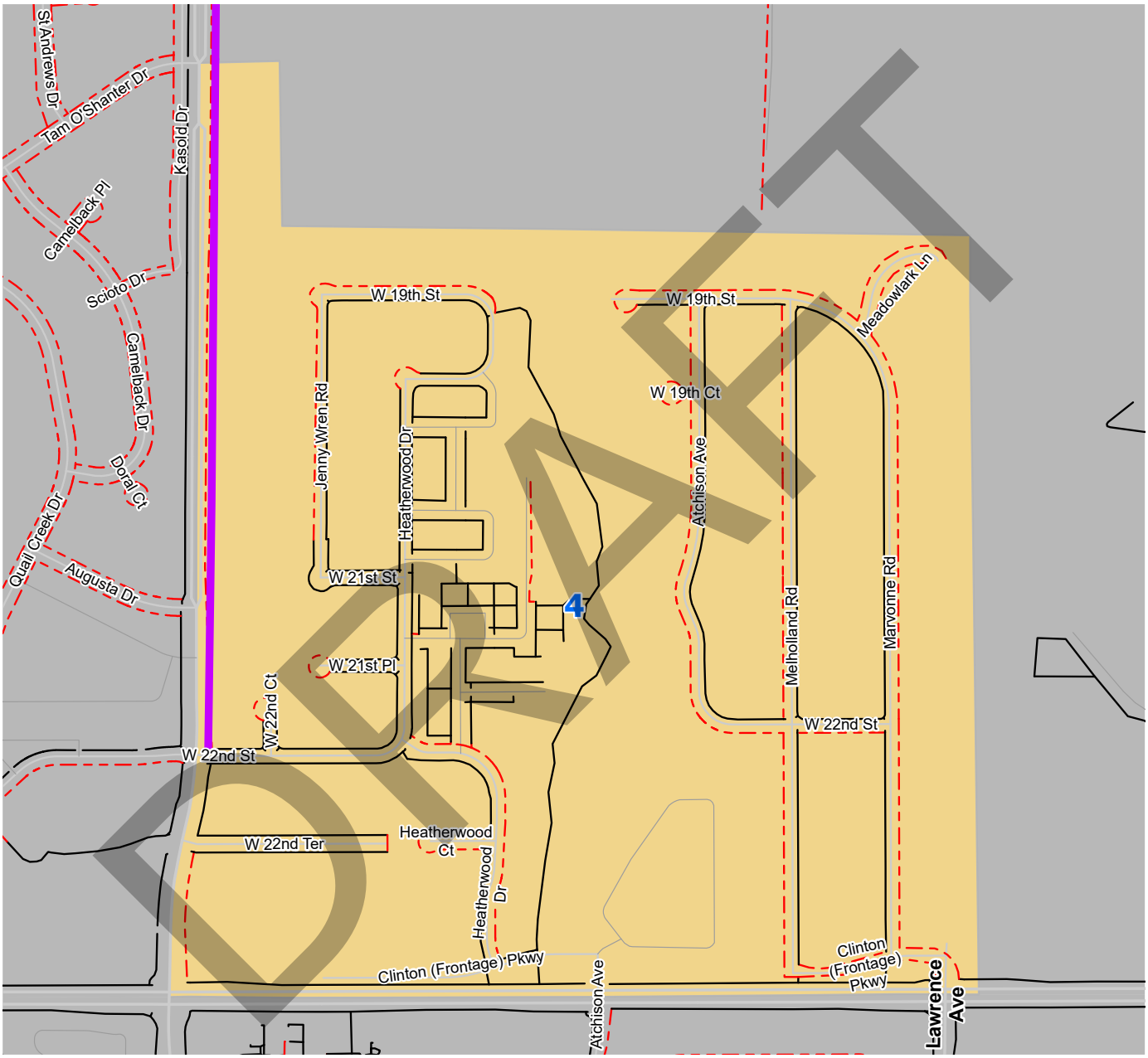
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 114.0%

Projected Sidewalk/Road (Priority Gaps Filled): 124.5%

Date Exported: 2/11/2022 Block Group: 200450007972
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.15 0.3 Miles



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- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
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- Missing Sidewalk
- # Transportation Disadvantaged Population Score

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- Water
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Bob Billing Pkwy to the North, Clinton Pkwy to the South, Birdie way to the NE, Crossgate Dr to the SE, Wakarusa Dr to the West

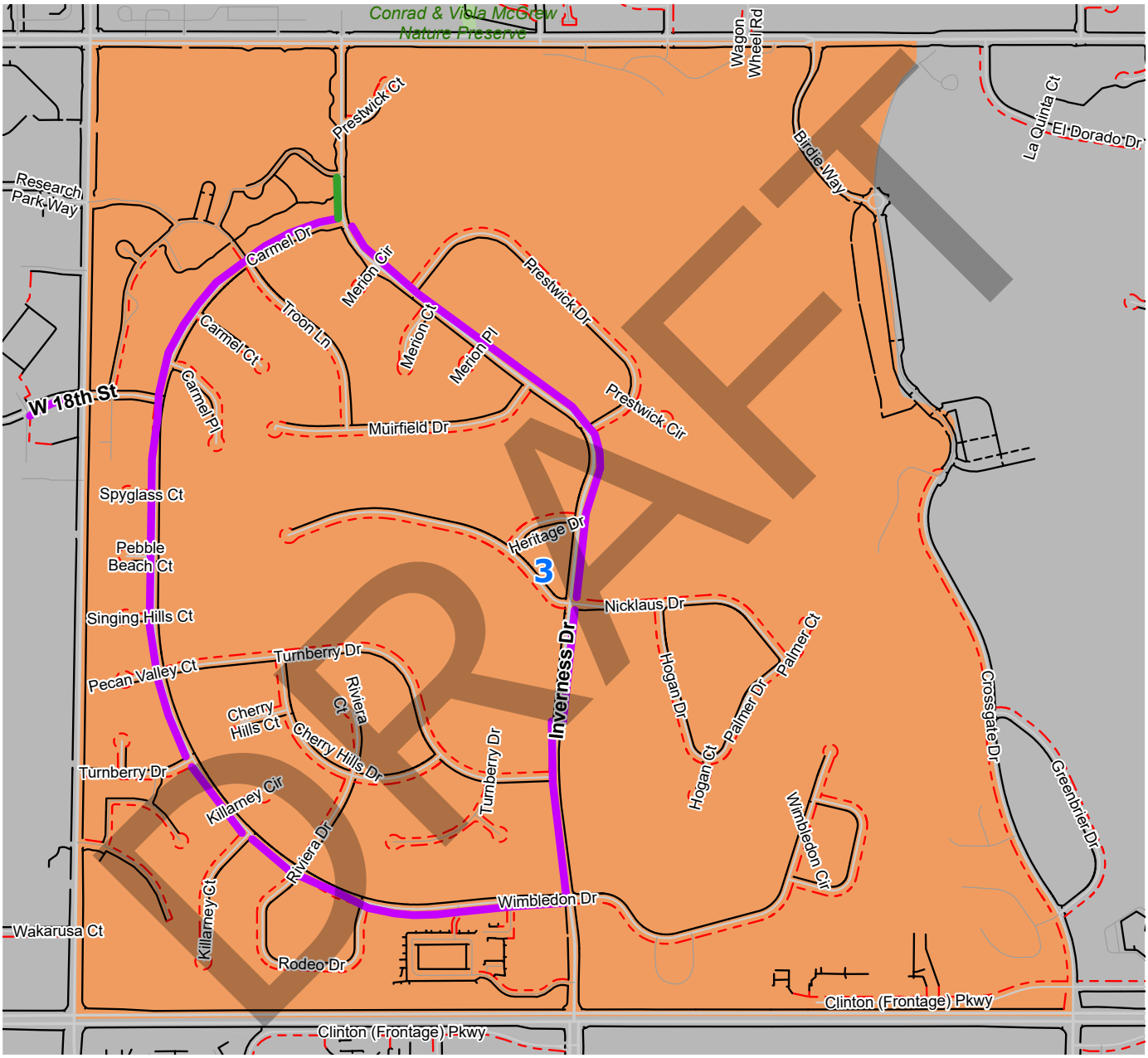
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 105.3%

Projected Sidewalk/Road (Priority Gaps Filled): 120.8%

Date Exported: 2/11/2022 Block Group: 200450007973
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

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- Parks
- Water
- City Limits
- County Limits

N

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Clinton Pkwy to the North, Wakarusa River and N 1250 Rd to the South, Kasold Dr to the SE, Yankee Tank Creek to the East, Bluestem Dr. + Ranch St. to the NE E 900th Rd and E 902nd Rd to the West

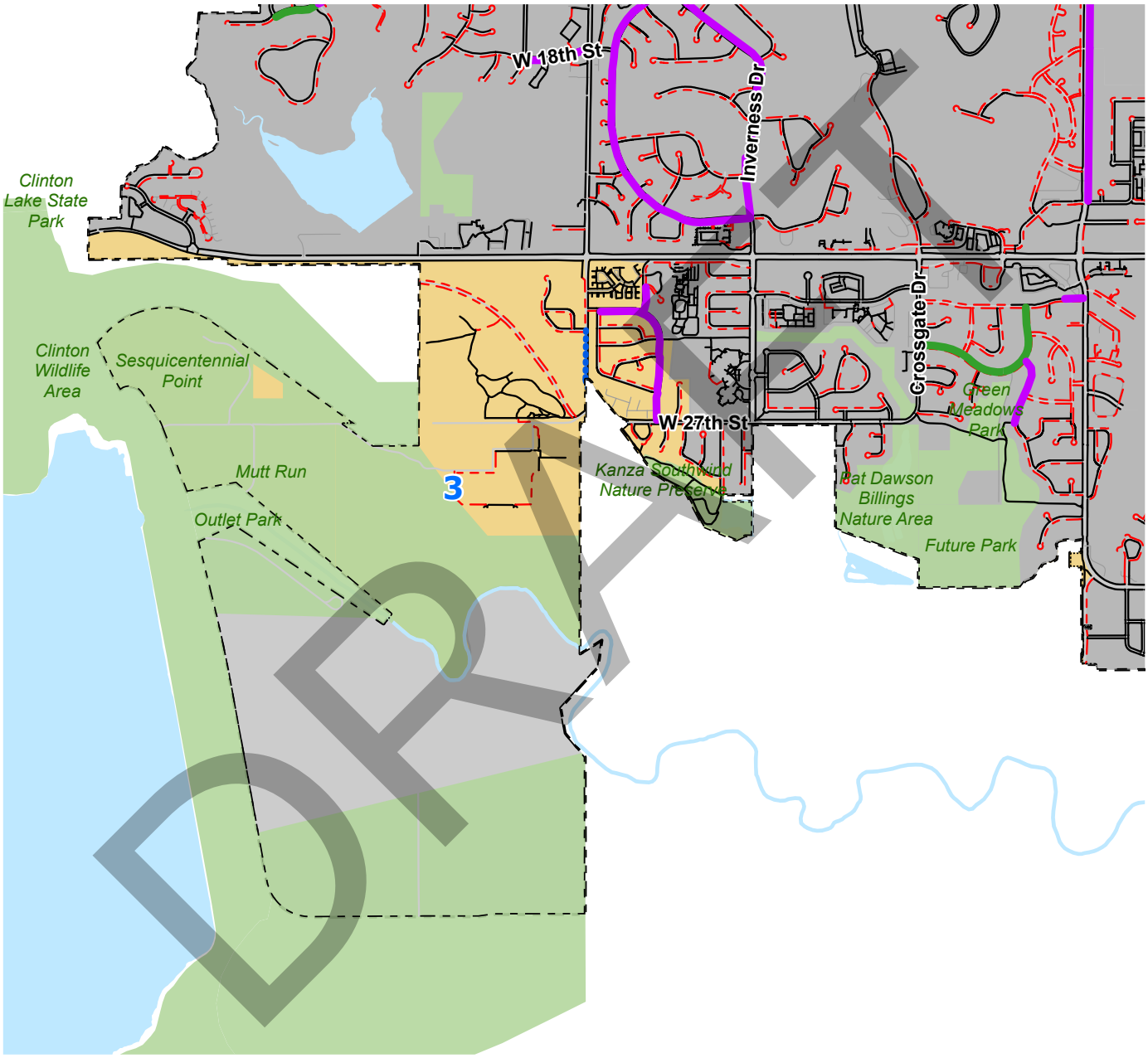
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 122.5%

Projected Sidewalk/Road (Priority Gaps Filled): 132.4%

Date Exported: 2/11/2022 Block Group: 200450008011
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
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- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
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- Parks
- Water
- City Limits
- County Limits

N

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Clinton Pkwy to the North, Yankee tank creek to the South, Kasold Dr to the East, Ranch St. and Bluestrem Dr to the West

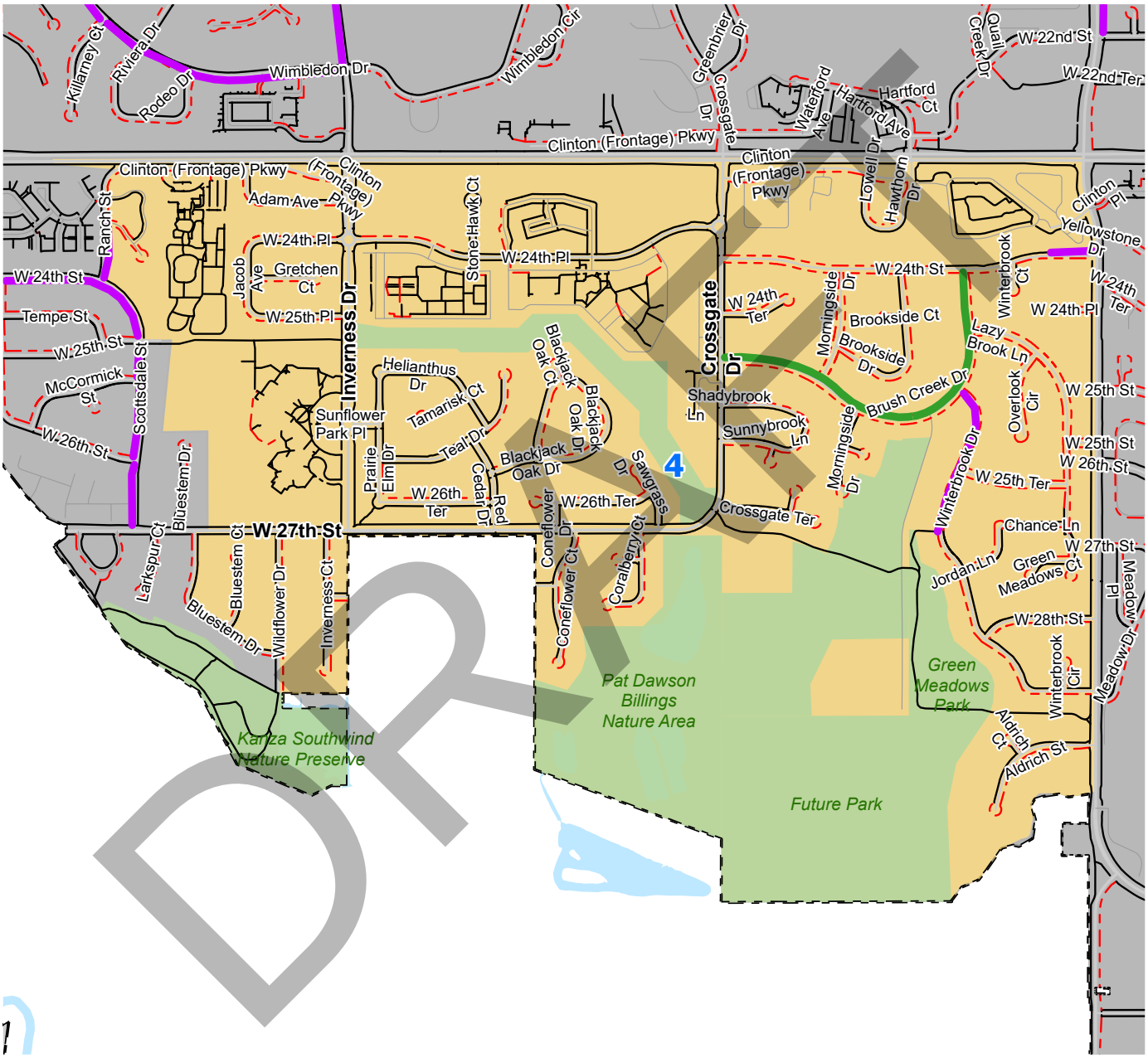
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 129.1%

Projected Sidewalk/Road (Priority Gaps Filled): 138.1%

Date Exported: 2/11/2022 Block Group: 200450008012
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.3 0.6 Miles



- Sidewalk Project Pending Construction
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- City Limits
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Glacier Dr + W 26th St. + W27th St. to the North, W 31st St. to the South, Iowa/ US-59 to the East, Kasold Dr to the West

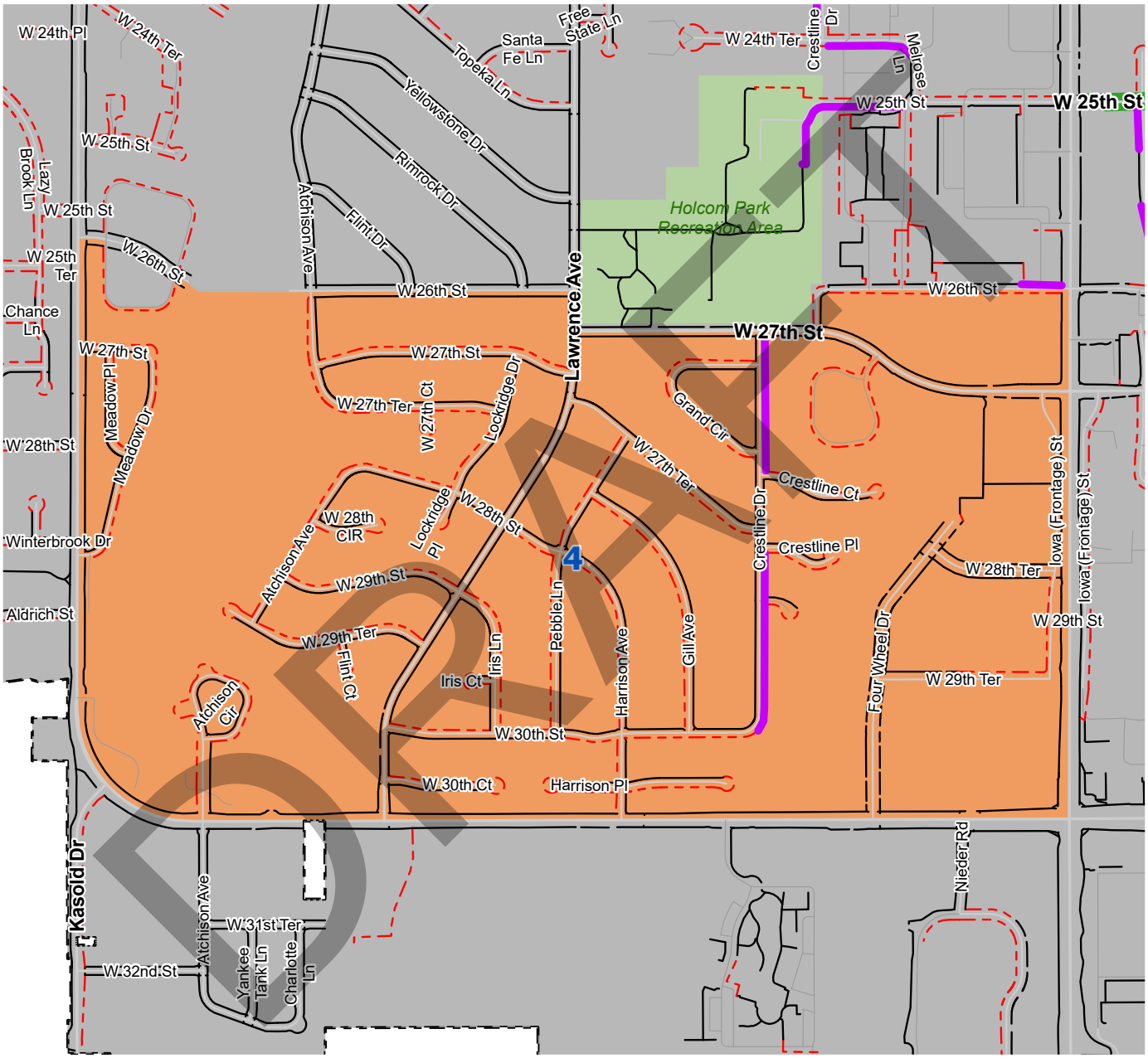
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 105.3%

Projected Sidewalk/Road (Priority Gaps Filled): 108.6%

Date Exported: 2/11/2022 Block Group: 200450008021
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



DRAFT

- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
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- # Transportation Disadvantaged Population Score

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- Parks
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- City Limits
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W 31st St. to the North, Wakarusa River to the South, Iowa/US-59, Kasold Dr to the NW and E 1200 Rd to the SW

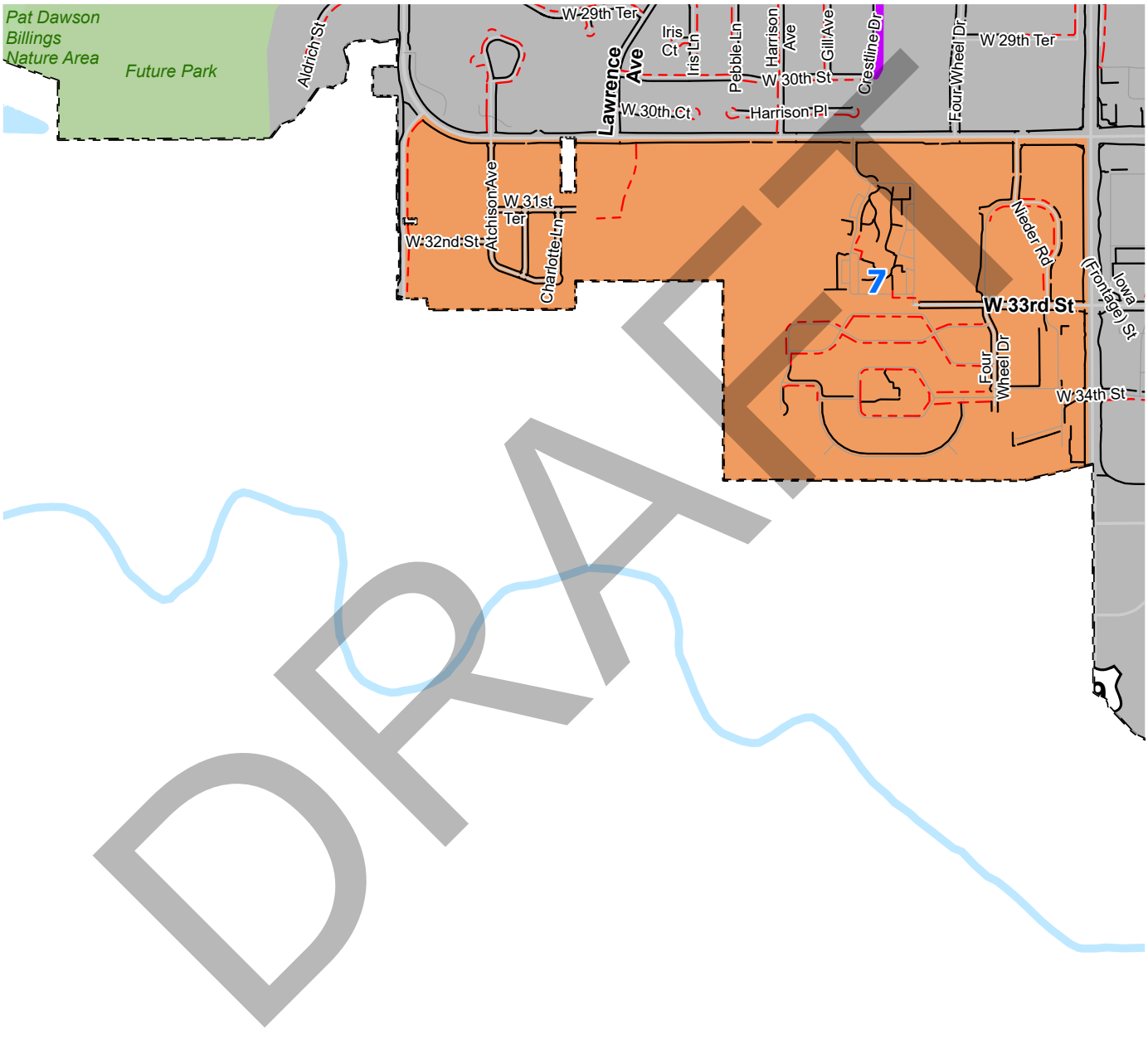
Transportation Disadvantaged Population Score: 7

Existing Condition Sidewalk/Road: 109.8%

Projected Sidewalk/Road (Priority Gaps Filled): 109.8%

Date Exported: 2/11/2022 Block Group: 200450008022
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.33 0.65 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
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- # Transportation Disadvantaged Population Score

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Clinton Pkwy to the North, Glacier Dr + W 26th St. + W 27th St. to the South, Iowa/US-59 to the East, Kasold Dr to the West

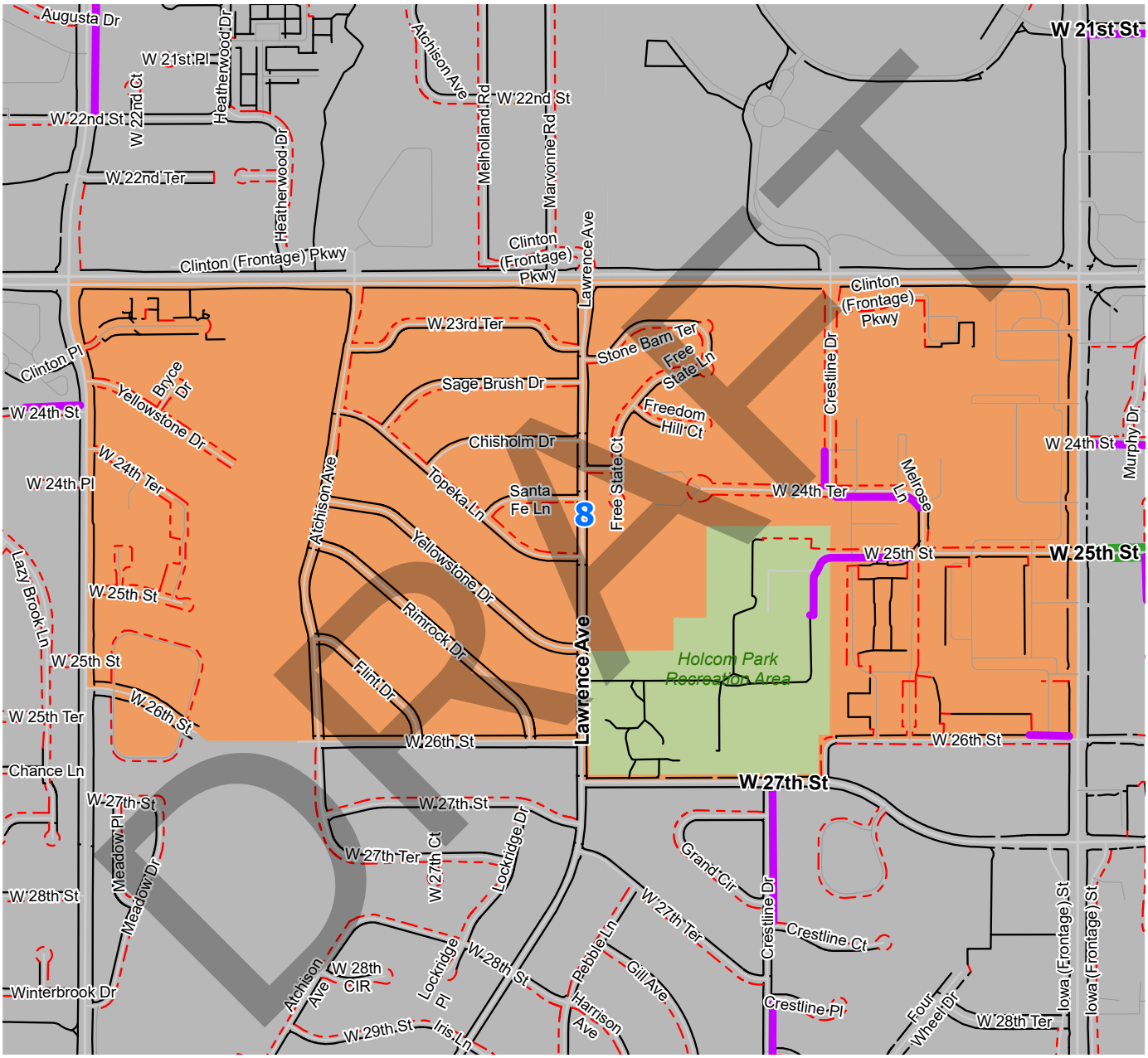
Transportation Disadvantaged Population Score: 8

Existing Condition Sidewalk/Road: 104.7%

Projected Sidewalk/Road (Priority Gaps Filled): 108.2%

Date Exported: 2/11/2022 Block Group: 200450008023
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
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W 19th St. to the North, W 23rd St. to the South, Louisiana St. to the East, Naismith Dr to the West

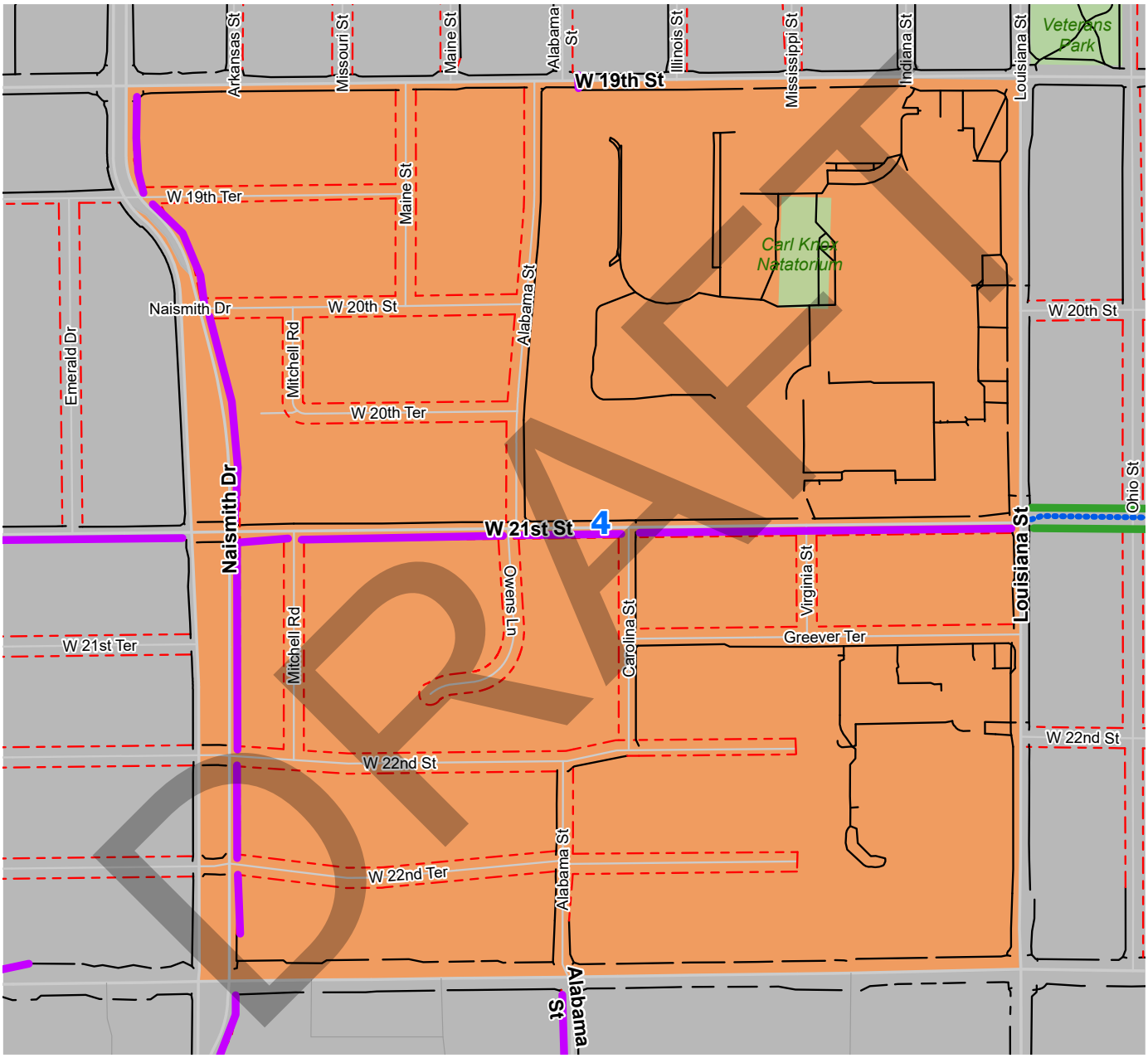
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 108.0%

Projected Sidewalk/Road (Priority Gaps Filled): 127.5%

Date Exported: 2/11/2022 Block Group: 200450009011
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.13 0.25 Miles



DRAFT

- Sidewalk Project Pending Construction
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W 19th St. to the North, W 23rd St. to the South, Naismith Dr to the East, Iowa/ US-59 to the West

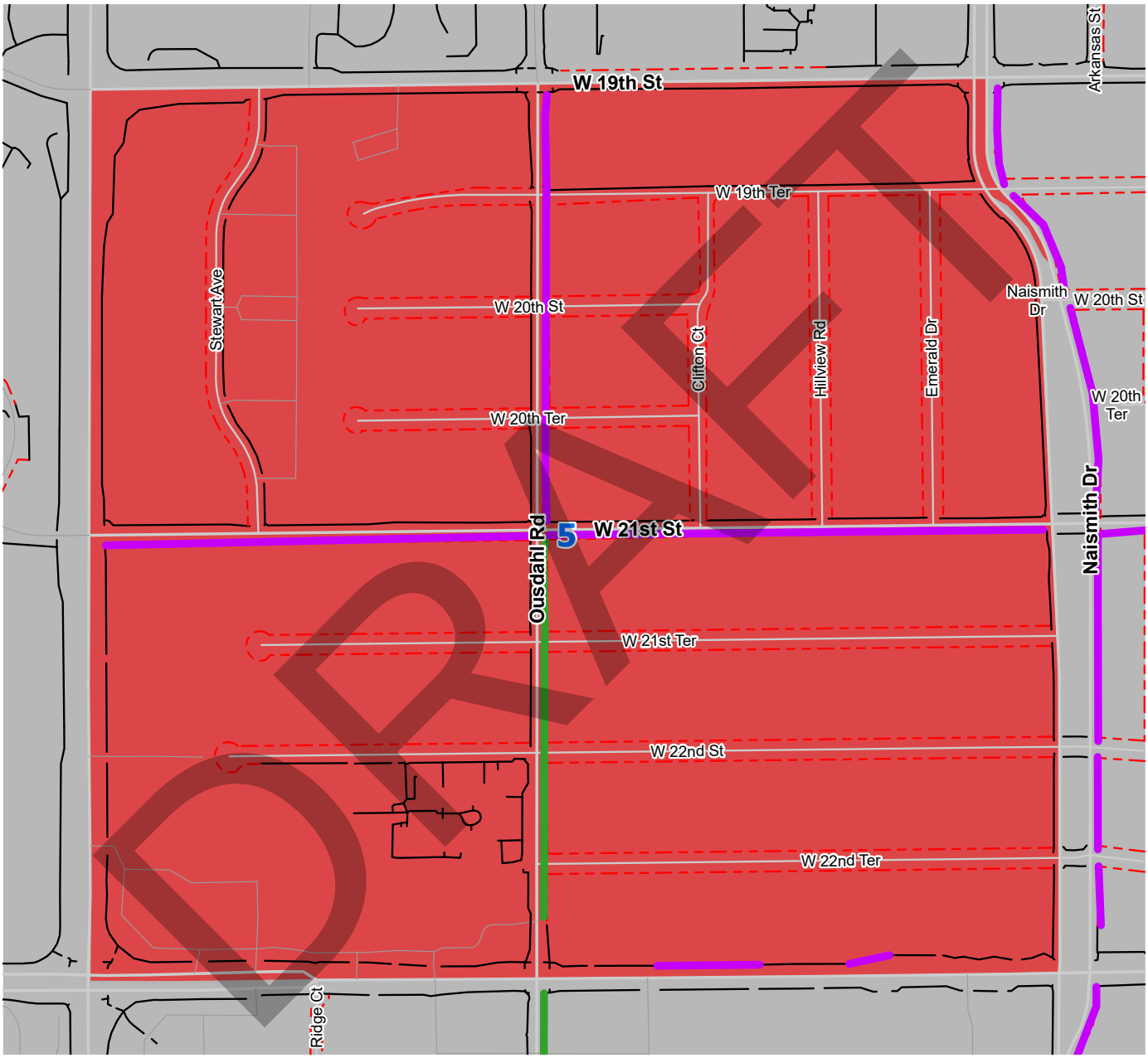
Transportation Disadvantaged Population Score: 5

Existing Condition Sidewalk/Road: 61.1%

Projected Sidewalk/Road (Priority Gaps Filled): 78.8%

Date Exported: 2/11/2022 Block Group: 200450009012
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.13 0.25 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
- ≤ 52%
- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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W 23rd St. to the North, W 27th St. to the South, Louisiana St. to the East, Alabama St. to the West

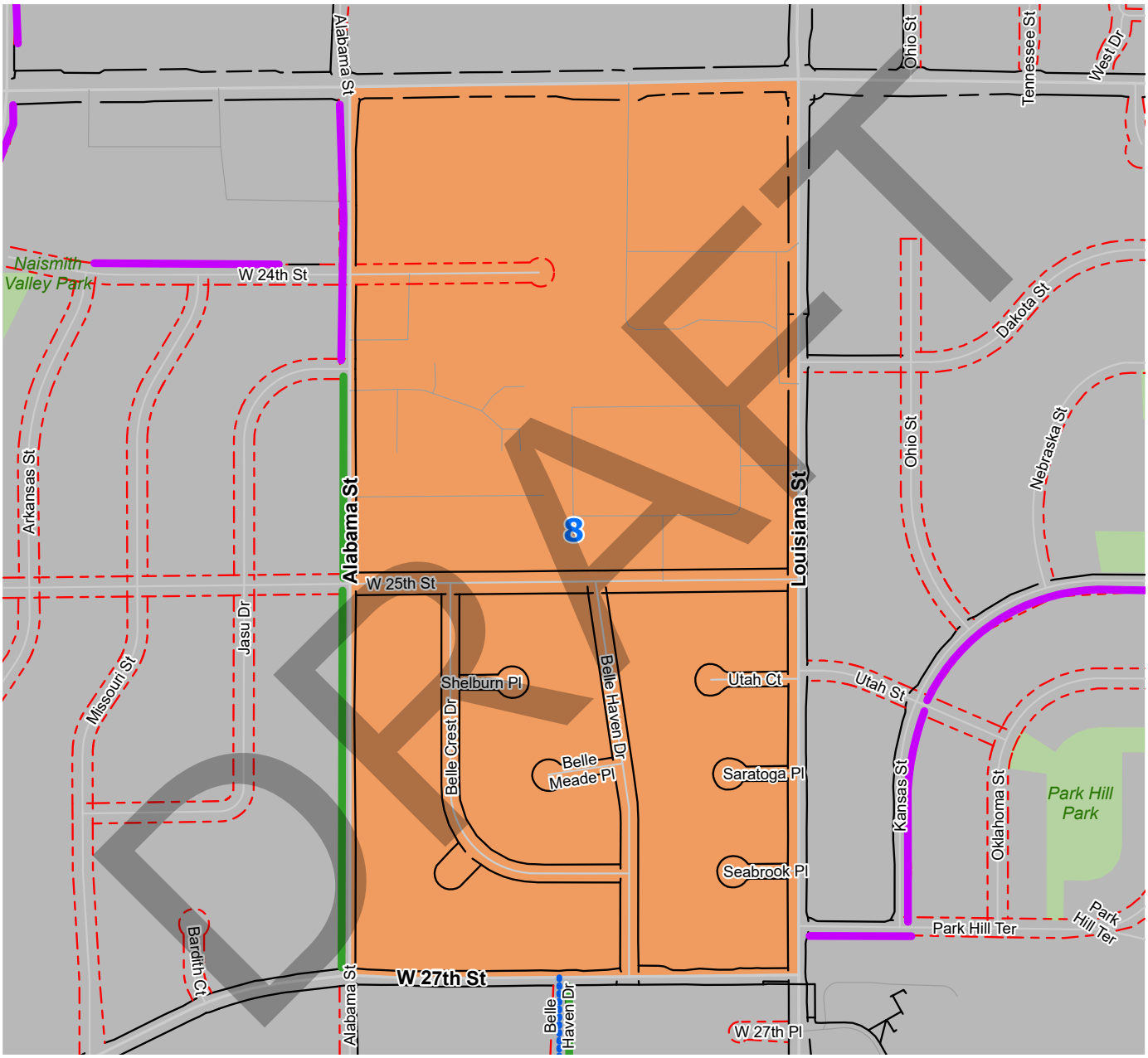
Transportation Disadvantaged Population Score: 8

Existing Condition Sidewalk/Road: 99.1%

Projected Sidewalk/Road (Priority Gaps Filled): 99.1%

Date Exported: 2/11/2022 Block Group: 200450009013
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.13 0.25 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
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- Missing Sidewalk
- # Transportation Disadvantaged Population Score

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- Water
- City Limits
- County Limits

N

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W 23rd St. to the North, W 27th St. to the South, Alabama St. to the East, Ousdahl Rd and Iowa/US-59 to the West

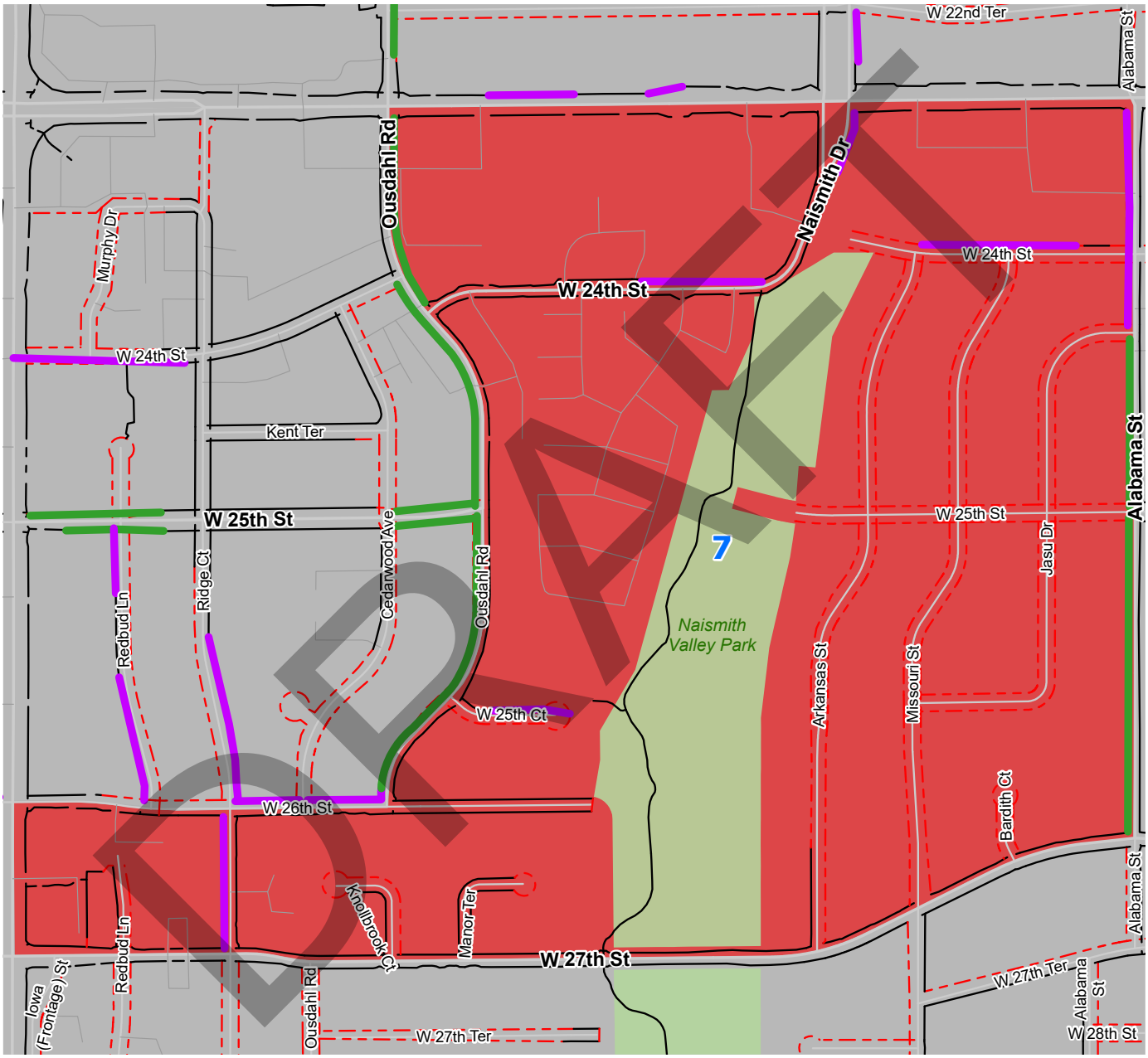
Transportation Disadvantaged Population Score: 7

Existing Condition Sidewalk/Road: 65.3%

Projected Sidewalk/Road (Priority Gaps Filled): 82.4%

Date Exported: 2/11/2022 Block Group: 200450009014
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.15 0.3 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
- ≤ 52%
- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
- ≤ 228.32%

- Parks
- Water
- City Limits
- County Limits

N

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W 23rd St. to the North, W 26th St. to the South, Ousdahl Rd to the East, S Iowa to the West

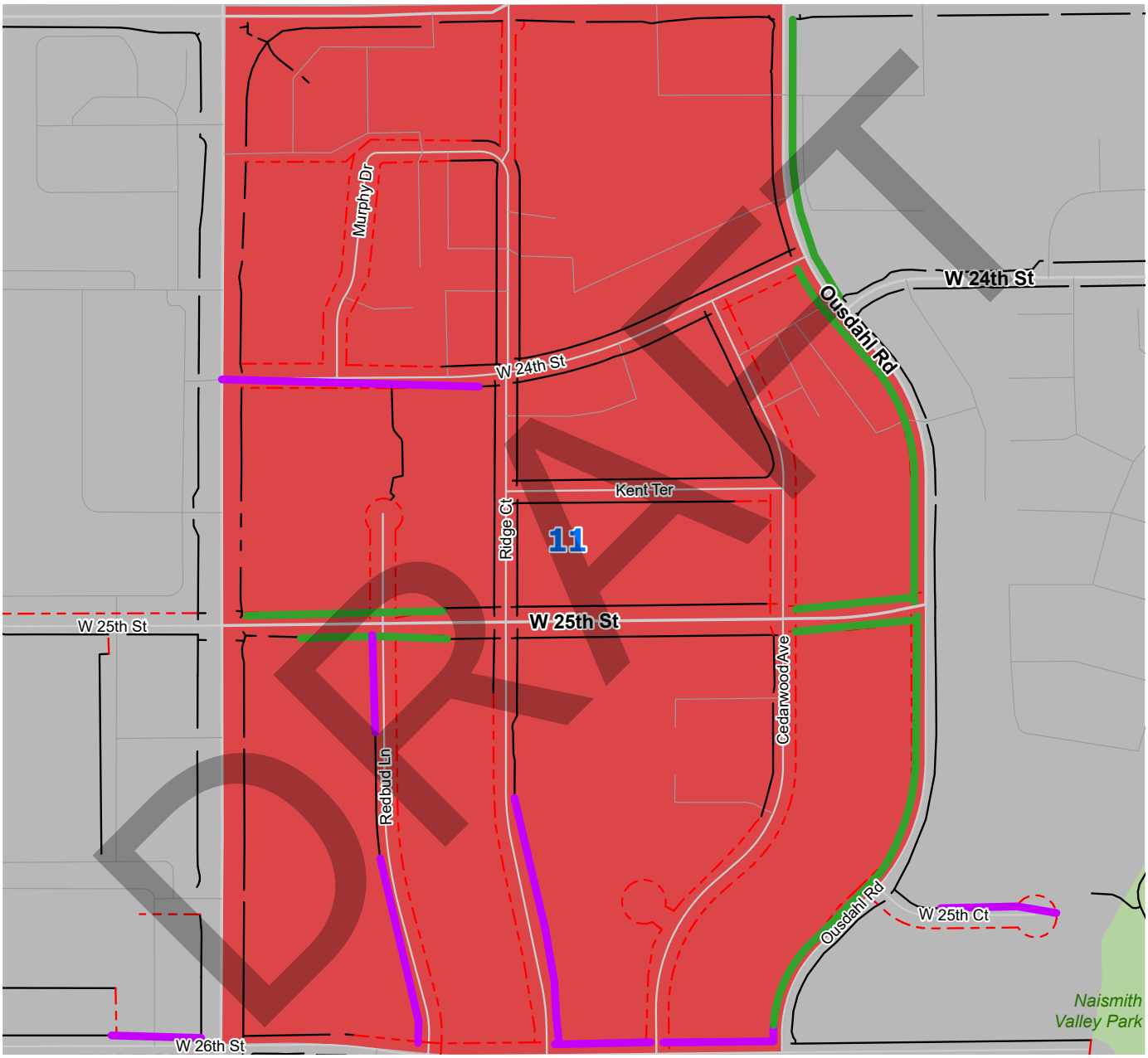
Transportation Disadvantaged Population Score: 11

Existing Condition Sidewalk/Road: 66.1%

Projected Sidewalk/Road (Priority Gaps Filled): 98.0%

Date Exported: 2/11/2022 Block Group: 200450009015
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.1 0.2 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %
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- Parks
- Water
- City Limits
- County Limits

N

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W 27th St. to the North, Wakarusa River to the South, Naismith Channel to the East, Iowa/US-59 and Louisiana to the West

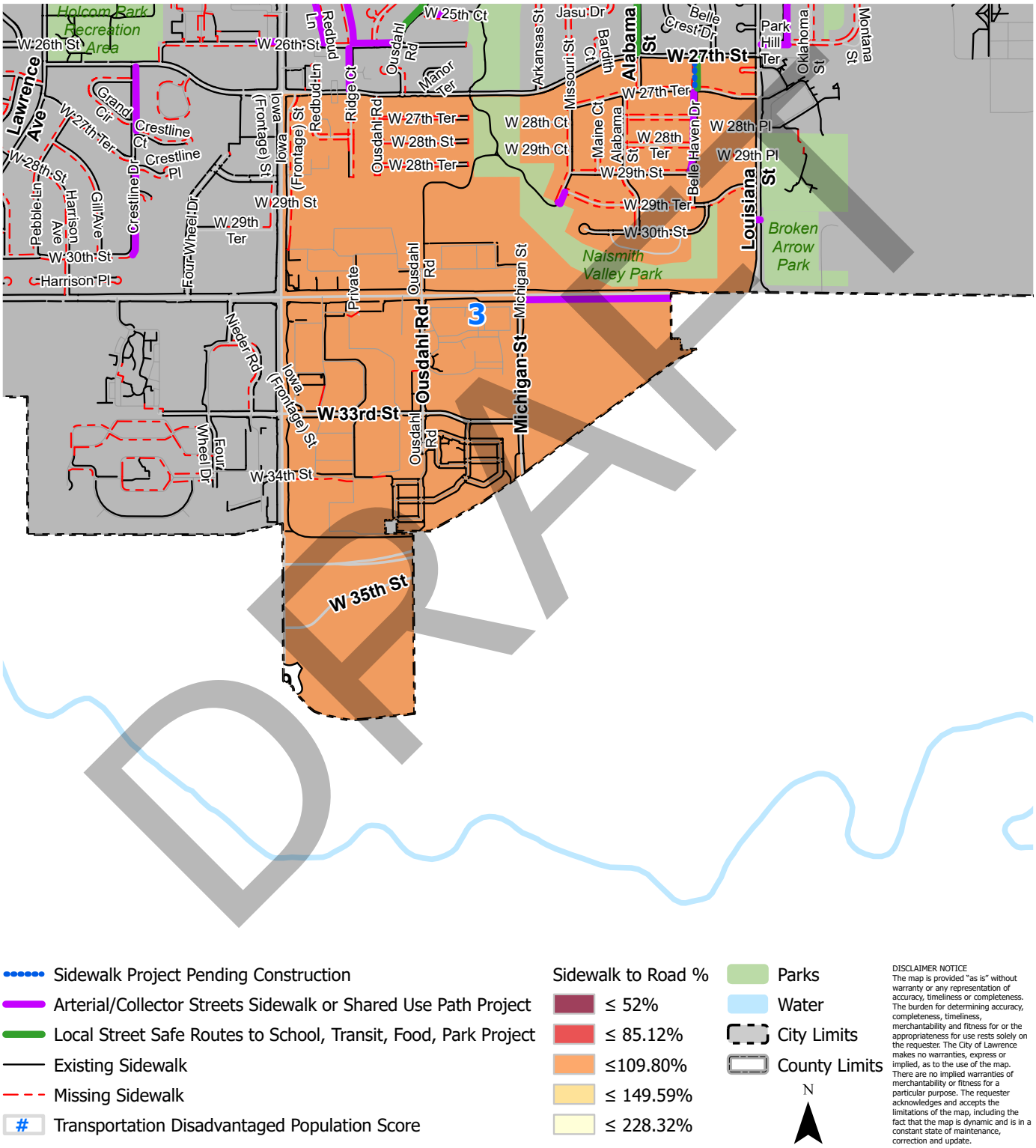
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 98.2%

Projected Sidewalk/Road (Priority Gaps Filled): 103.0%

Date Exported: 2/11/2022 Block Group: 200450009021
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.42 0.85 Miles



DRAFT

- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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- ≤ 85.12%
- ≤109.80%
- ≤ 149.59%
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- Parks
- Water
- City Limits
- County Limits

N

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E 19th St. to the North, E 23rd St. to the South, Haskell Ave to the East, Louisiana St. to the West

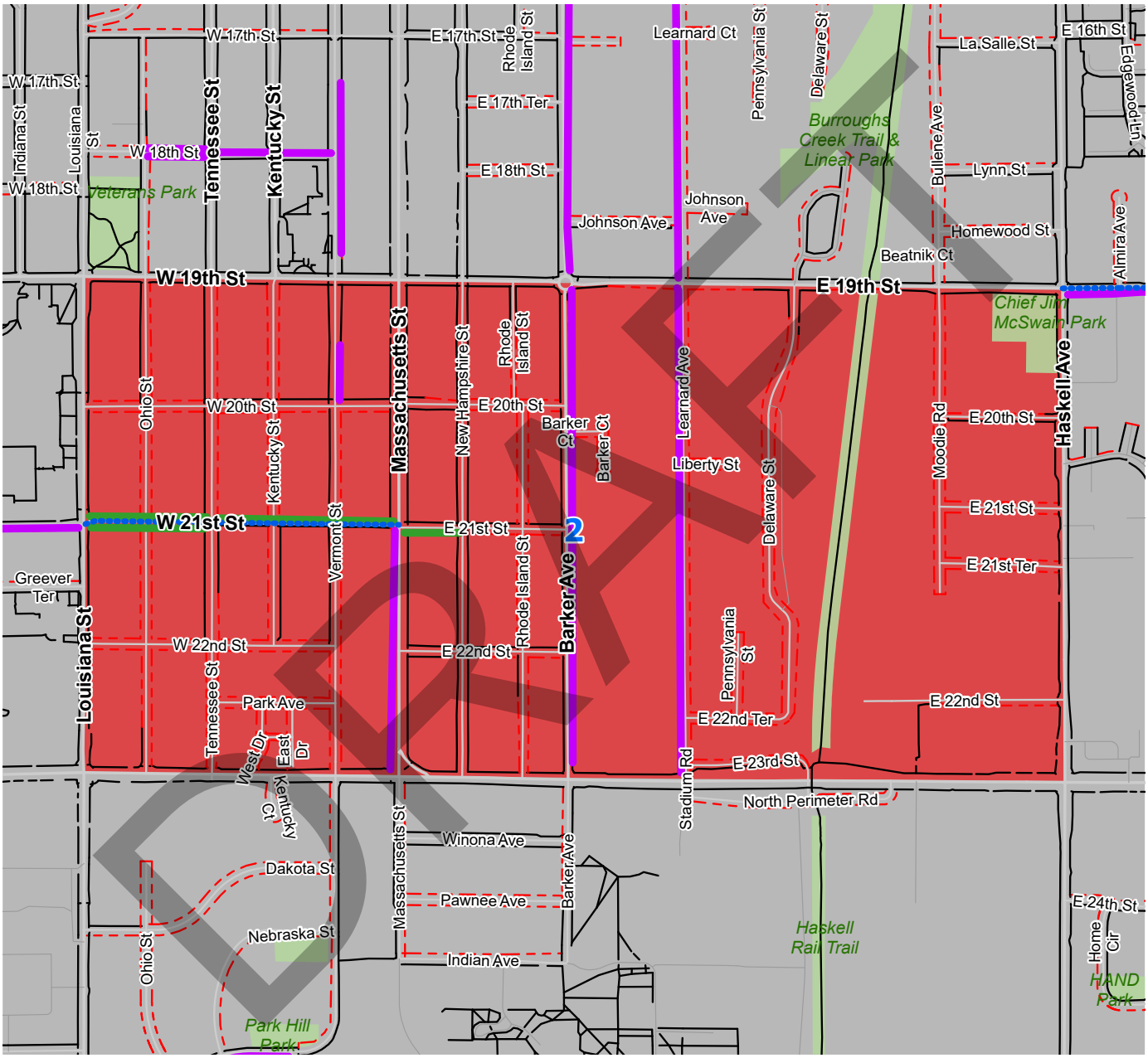
Transportation Disadvantaged Population Score: 2

Existing Condition Sidewalk/Road: 81.9%

Projected Sidewalk/Road (Priority Gaps Filled): 100.5%

Date Exported: 2/11/2022 Block Group: 200450010011
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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- Parks
- Water
- City Limits
- County Limits

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E 23rd St. to the North, Wakarusa River to the South, Haskell Ln to the East, Louisiana St. to the West

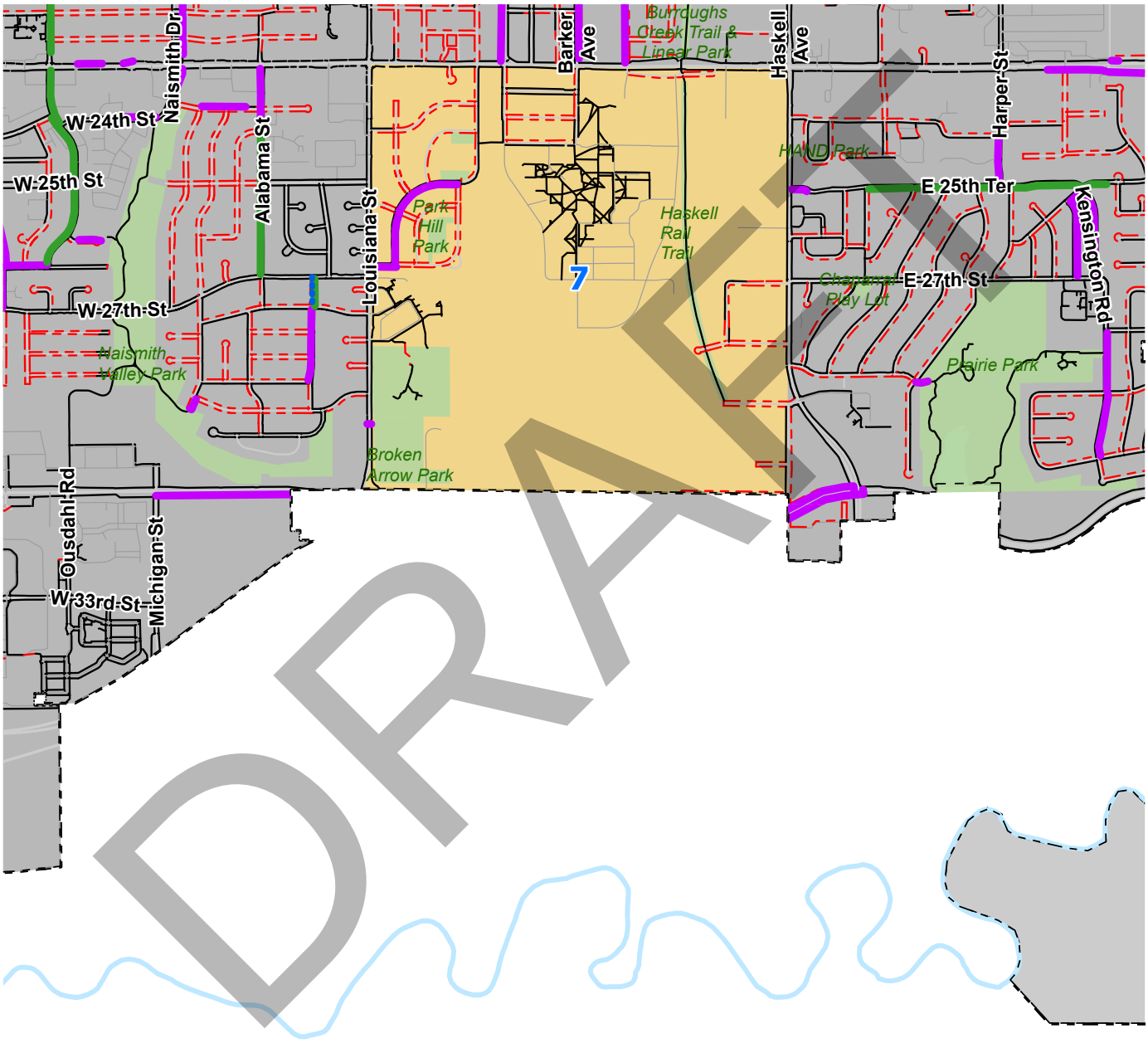
Transportation Disadvantaged Population Score: 7

Existing Condition Sidewalk/Road: 133.0%

Projected Sidewalk/Road (Priority Gaps Filled): 157.8%

Date Exported: 2/11/2022 Block Group: 200450010012
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles



DRAFT

- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

Sidewalk to Road %

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- Parks
- Water
- City Limits
- County Limits

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E 19th St. to the North, E 25th Ter, Harper St. to the East, Haskell Ave to the West

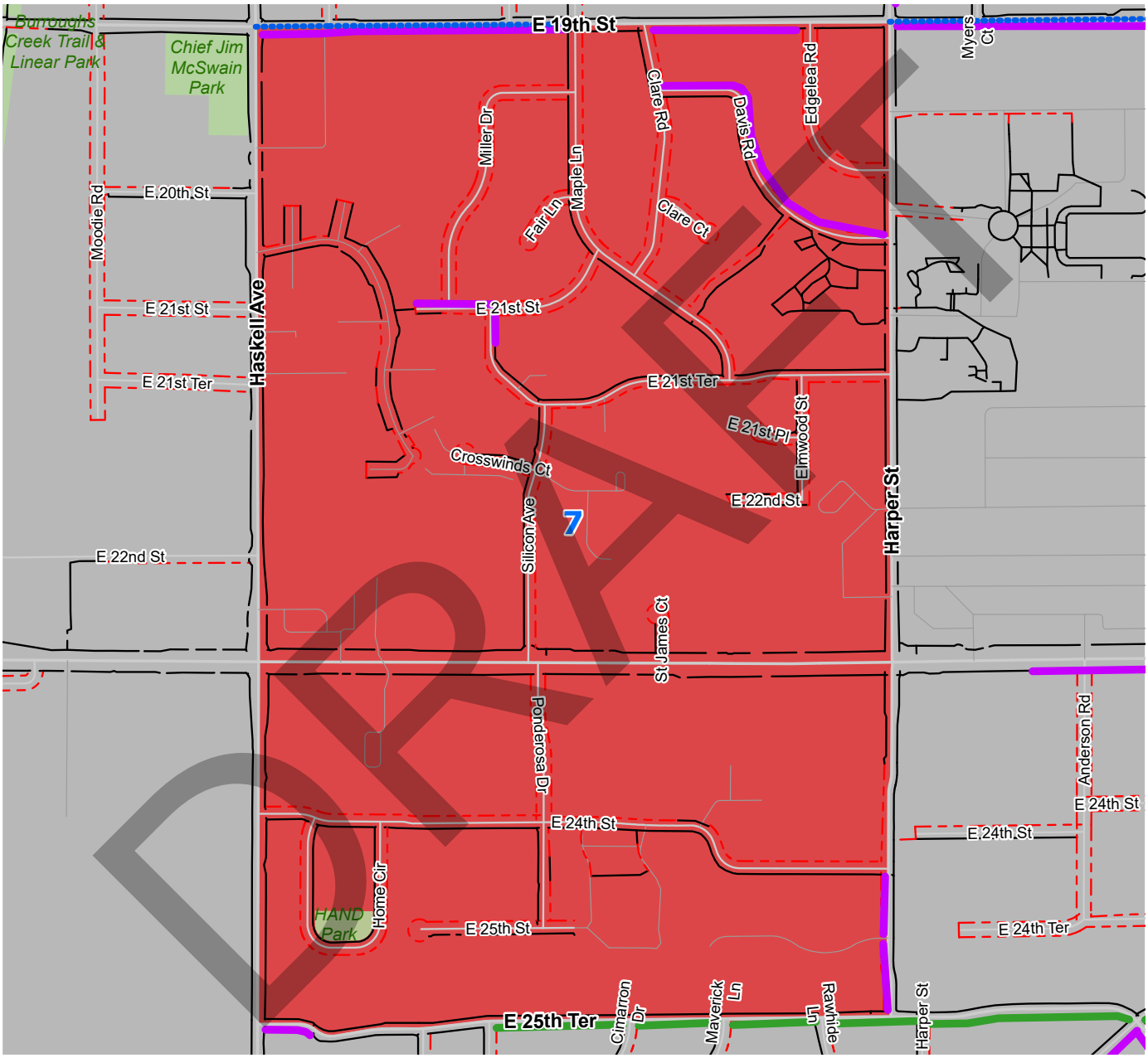
Transportation Disadvantaged Population Score: 7

Existing Condition Sidewalk/Road: 78.0%

Projected Sidewalk/Road (Priority Gaps Filled): 87.8%

Date Exported: 2/11/2022 Block Group: 200450010021
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.17 0.35 Miles



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- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

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- Parks
- Water
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E 28th Ter + E 28th St. + E 23rd St. + to the North, Wakarusa River to the South, Noria Rd./E 1750 Rd. to the East, Haskell Ave to the West and O'Connell Rd to the NW

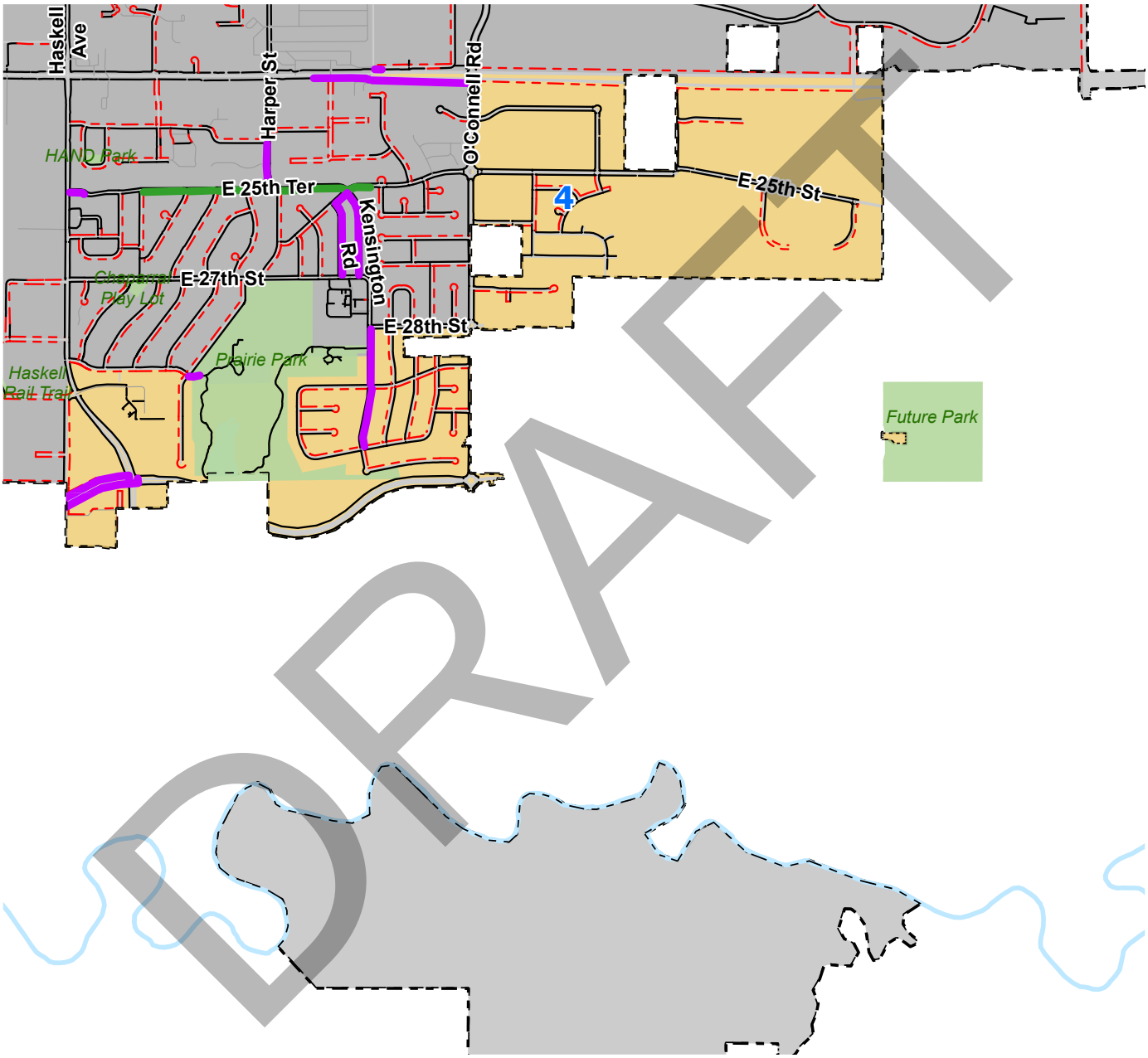
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 114.5%

Projected Sidewalk/Road (Priority Gaps Filled): 120.7%

Date Exported: 2/11/2022 Block Group: 200450010022
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.5 1 Miles



- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
- Local Street Safe Routes to School, Transit, Food, Park Project
- Existing Sidewalk
- Missing Sidewalk
- # Transportation Disadvantaged Population Score

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- ≤ 149.59%
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- Parks
- Water
- City Limits
- County Limits

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E 25 Ter and E 23rd St. to the North, E 28th Ter and E 28th St. to the South, S 1600 Rd to the East, Harper St. to the NW, Haskell Ave to the SW

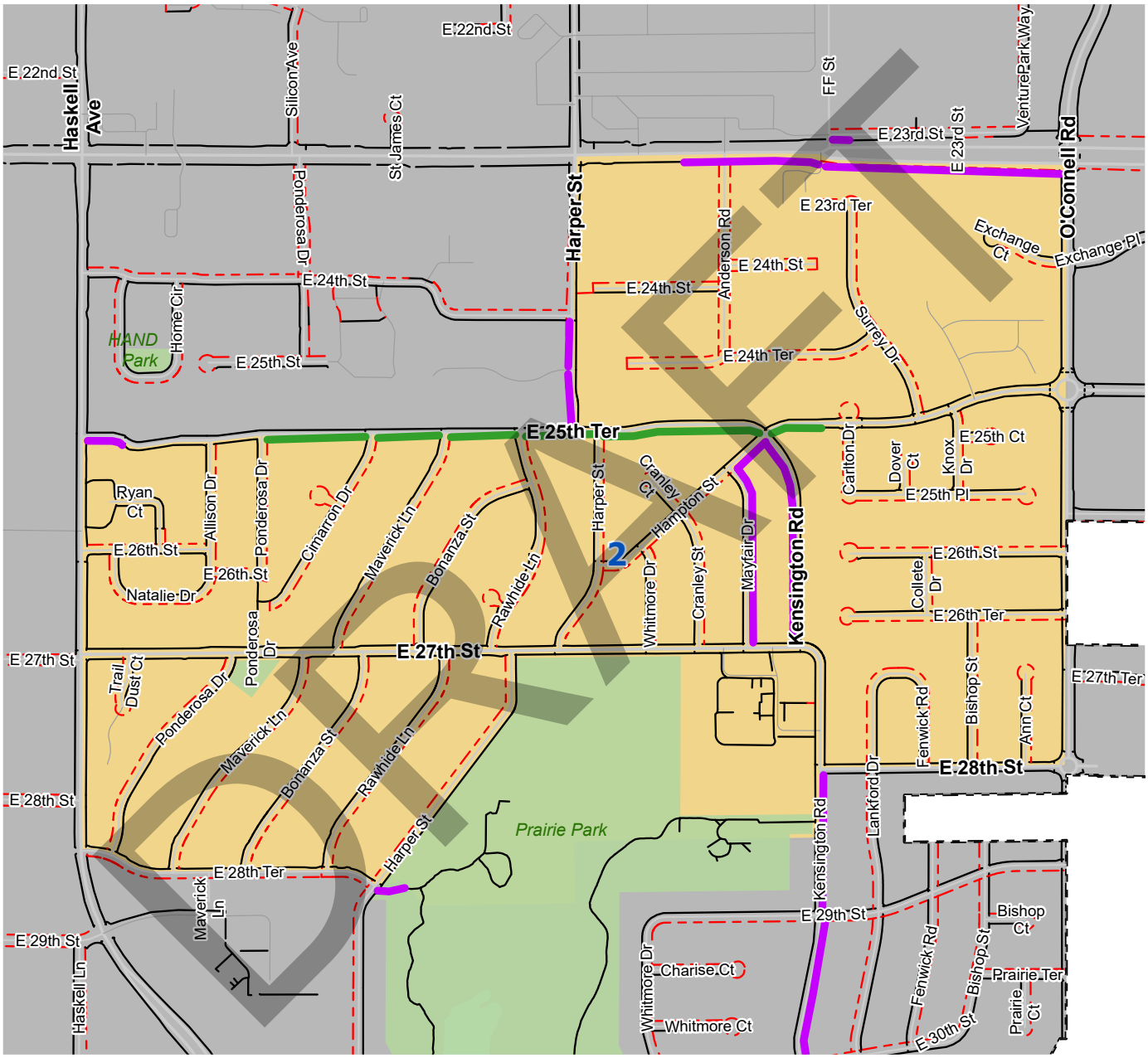
Transportation Disadvantaged Population Score: 2

Existing Condition Sidewalk/Road: 117.2%

Projected Sidewalk/Road (Priority Gaps Filled): 136.4%

Date Exported: 2/11/2022 Block Group: 200450010023
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



DRAFT

- Sidewalk Project Pending Construction
- Arterial/Collector Streets Sidewalk or Shared Use Path Project
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- Water
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Kansas River to the North, I-170 to the South, Kansas River to the East, toward Lecompton E 600th Rd to the West

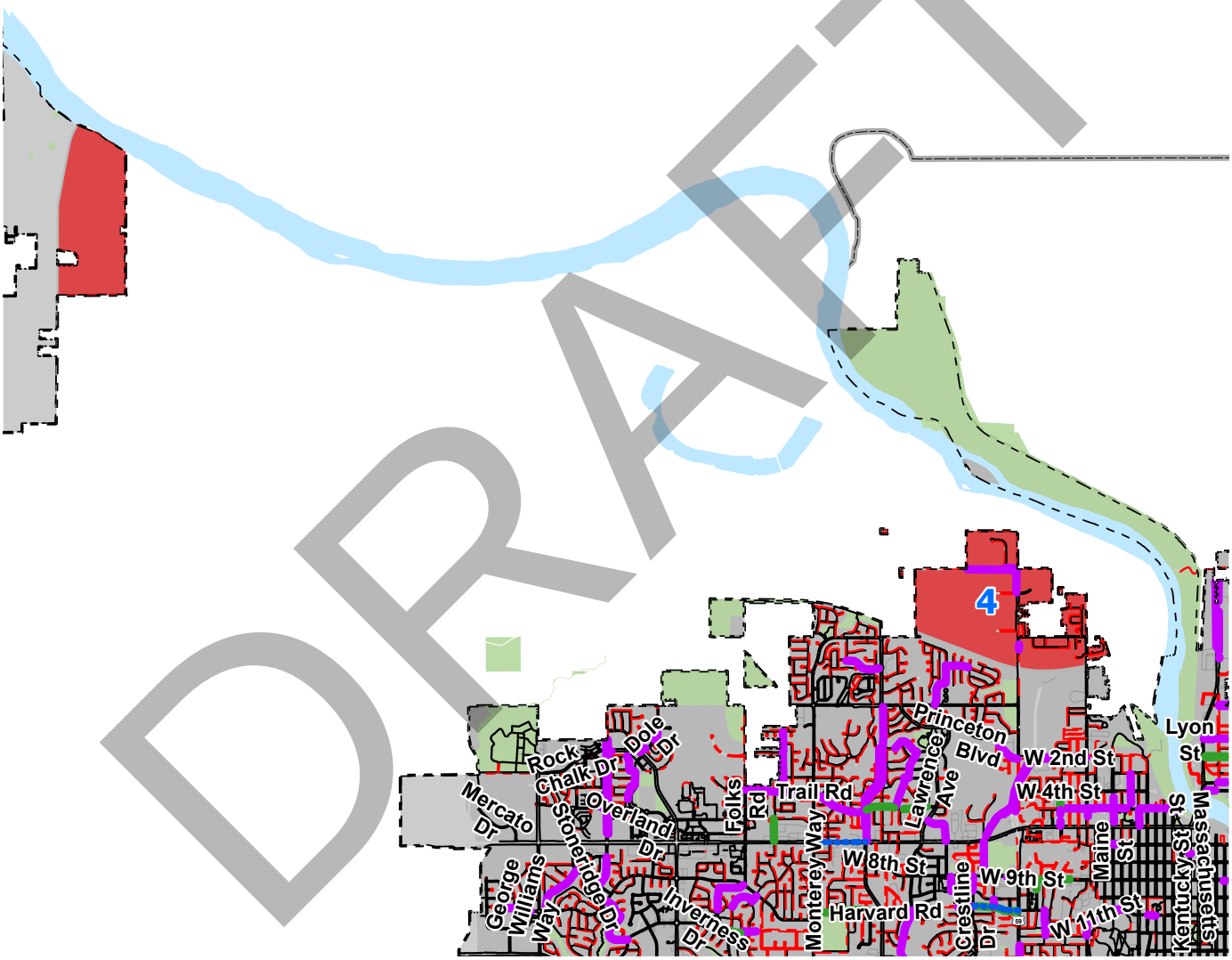
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 85.1%

Projected Sidewalk/Road (Priority Gaps Filled): 96.7%

Date Exported: 2/11/2022 Block Group: 200450015001
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 1.75 3.5 Miles



DRAFT

- Sidewalk Project Pending Construction
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Inverness Dr and Harverd Rd to the North, Bob Billing Pkwy to the South, Monterey Way to the East, Wakarusa Dr to the West

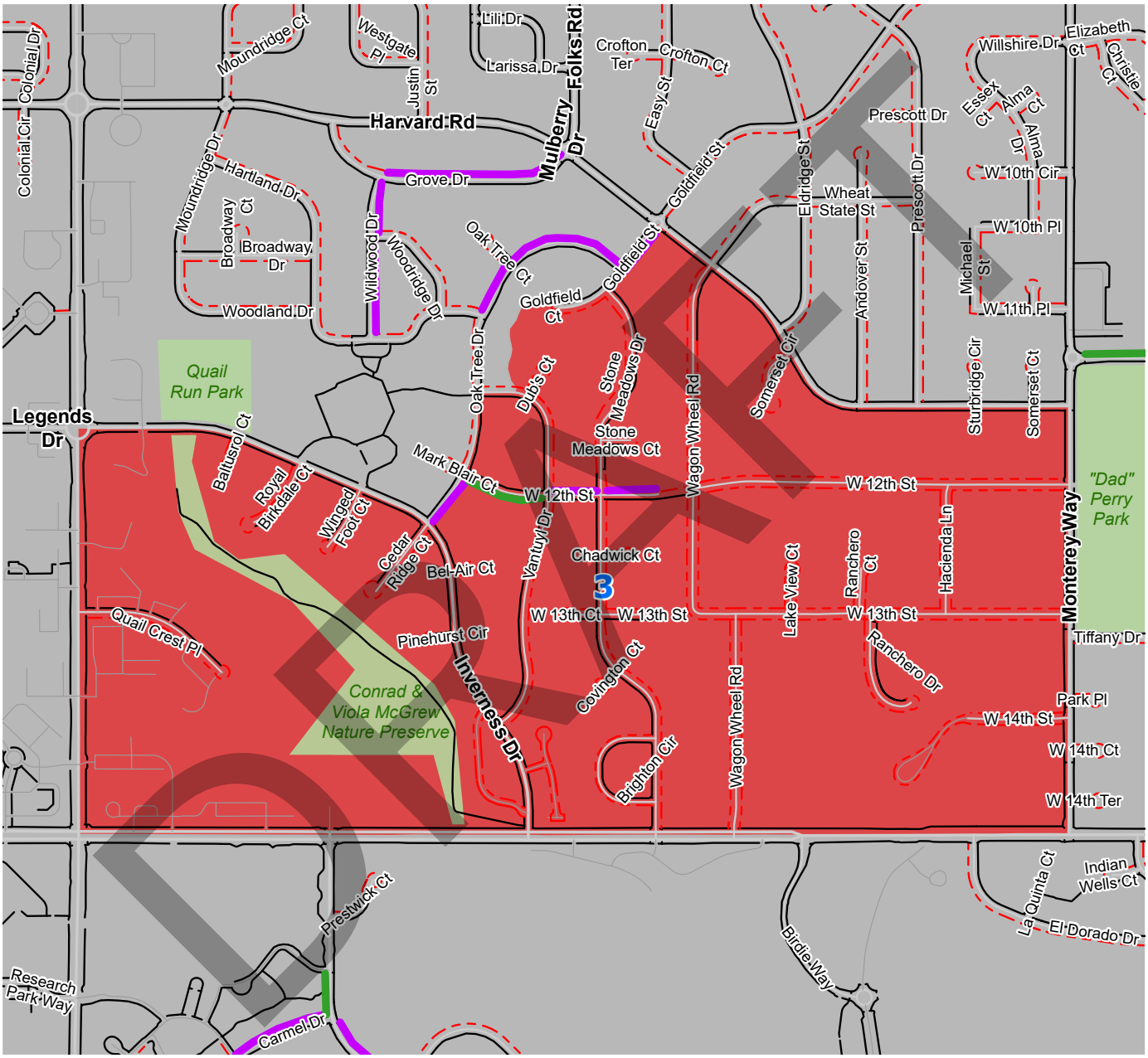
Transportation Disadvantaged Population Score: 3

Existing Condition Sidewalk/Road: 68.8%

Projected Sidewalk/Road (Priority Gaps Filled): 72.0%

Date Exported: 2/11/2022 Block Group: 200450016001
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



- Sidewalk Project Pending Construction
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W 6th St. to the North, Clinton Pkwy to the South, Wakarusa Dr to the East, Iowa/ US-59 to the West

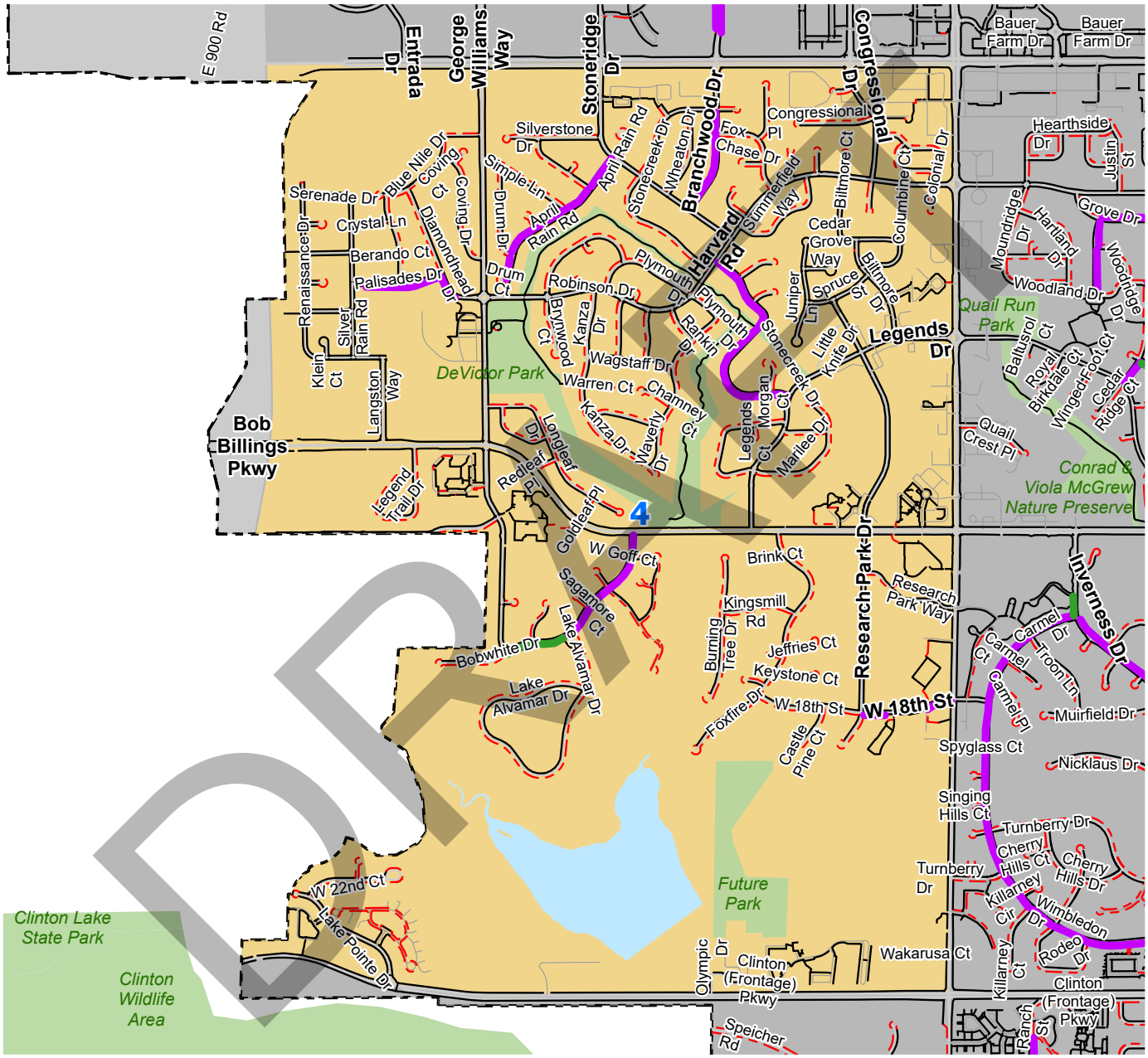
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 121.8%

Projected Sidewalk/Road (Priority Gaps Filled): 126.5%

Date Exported: 2/11/2022 Block Group: 200450016002
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.47 0.95 Miles



- Sidewalk Project Pending Construction
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W 6th St. to the North, Inverness Dr and Harvard Rd to the South, Monterey Way to the East, Wakarusa Dr to the West

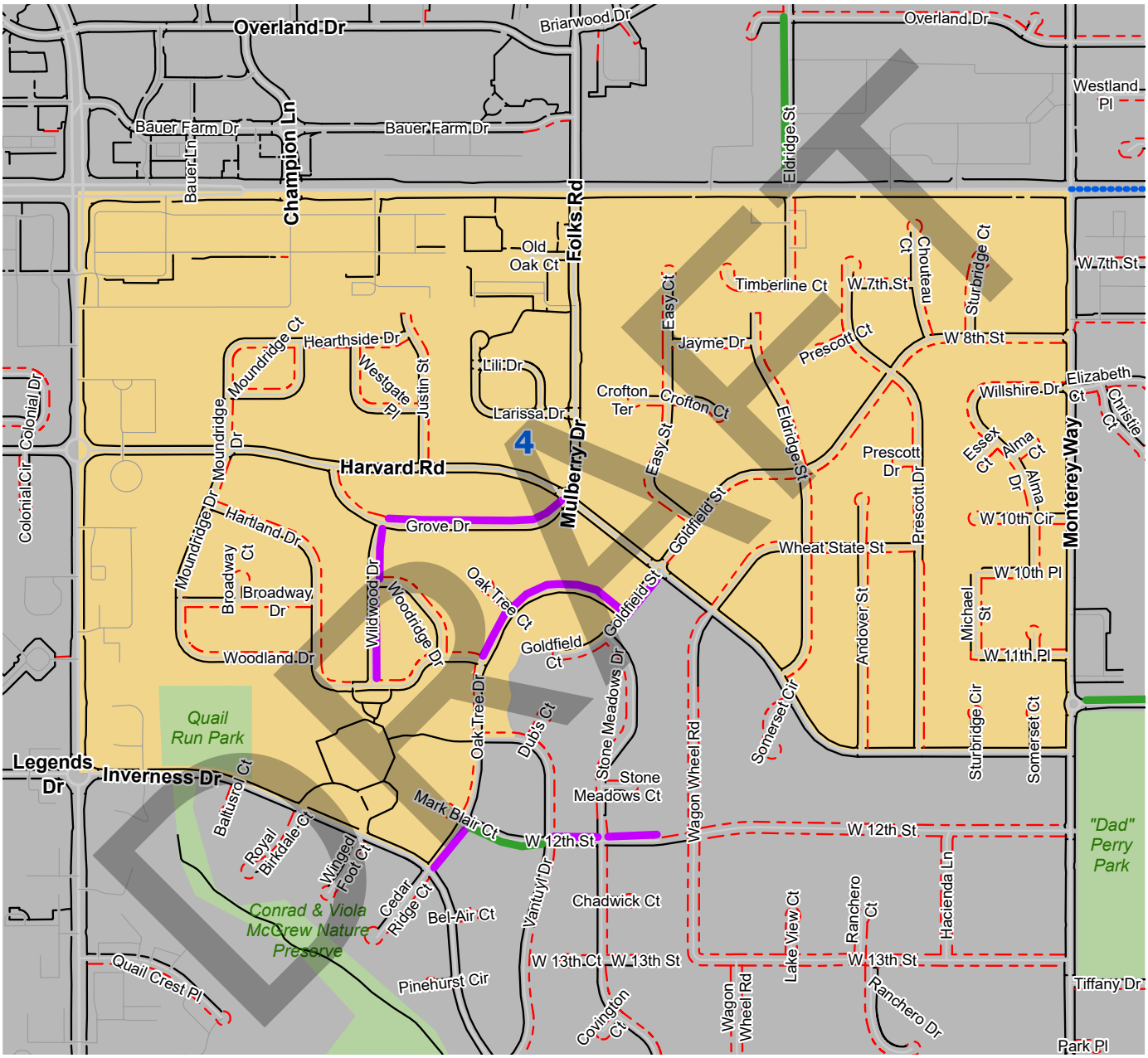
Transportation Disadvantaged Population Score: 4

Existing Condition Sidewalk/Road: 116.0%

Projected Sidewalk/Road (Priority Gaps Filled): 120.7%

Date Exported: 2/11/2022 Block Group: 200450016003
Source: City of Lawrence Sidewalk, Road Centerline, & Non-Motorized Projects Prioritization Program, & Transportation Disadvantaged Population Index
Produced: Lawrence-Douglas County MPO

0 0.23 0.45 Miles



- Sidewalk Project Pending Construction
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Appendix D. Priority Network Sidewalk Gap Projects

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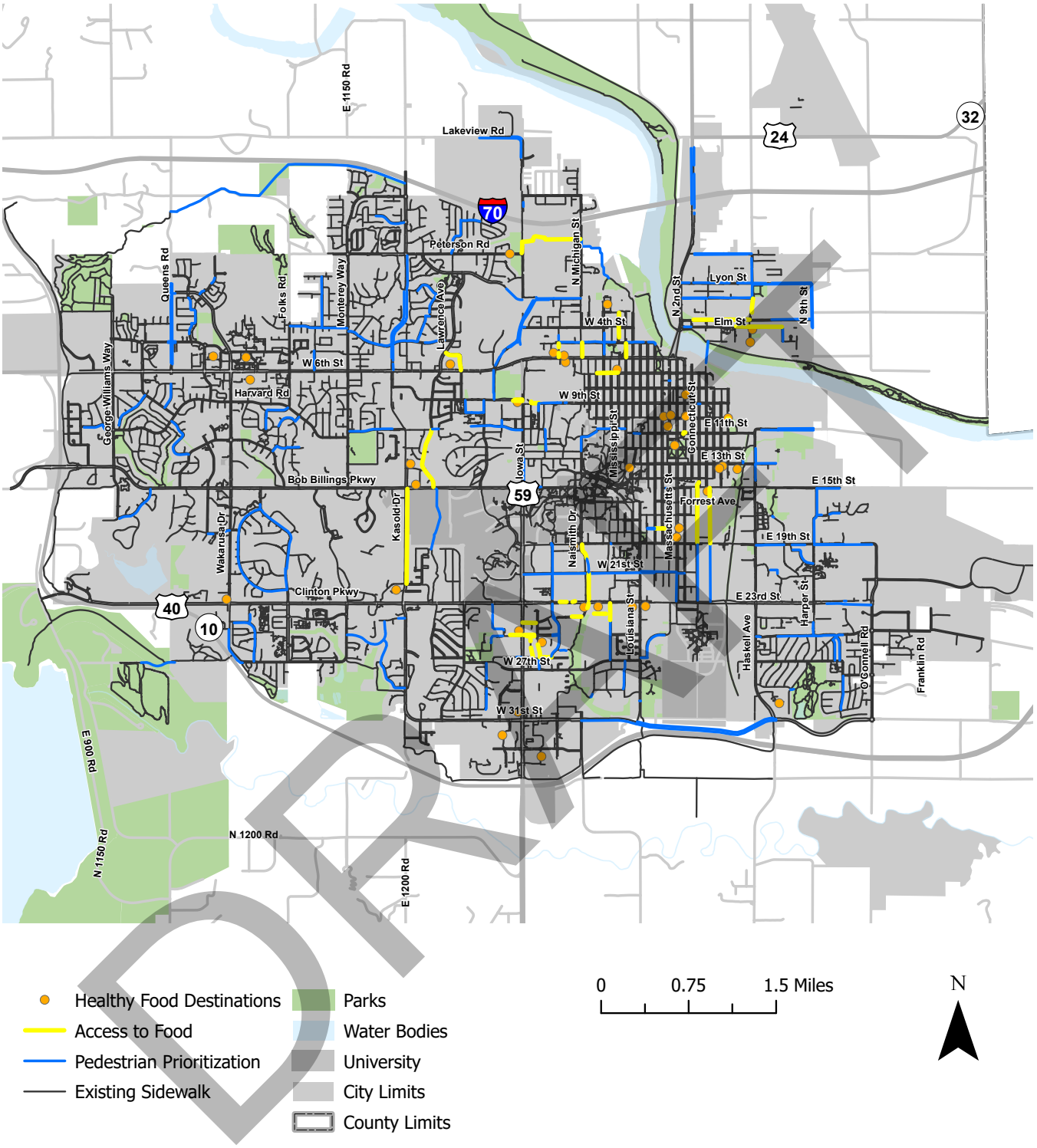
Priority Projects With Access to Food



Date Exported: 2/16/2022
Source: Lawrence Pedestrian Plan
Produced: Lawrence-Douglas County MPO

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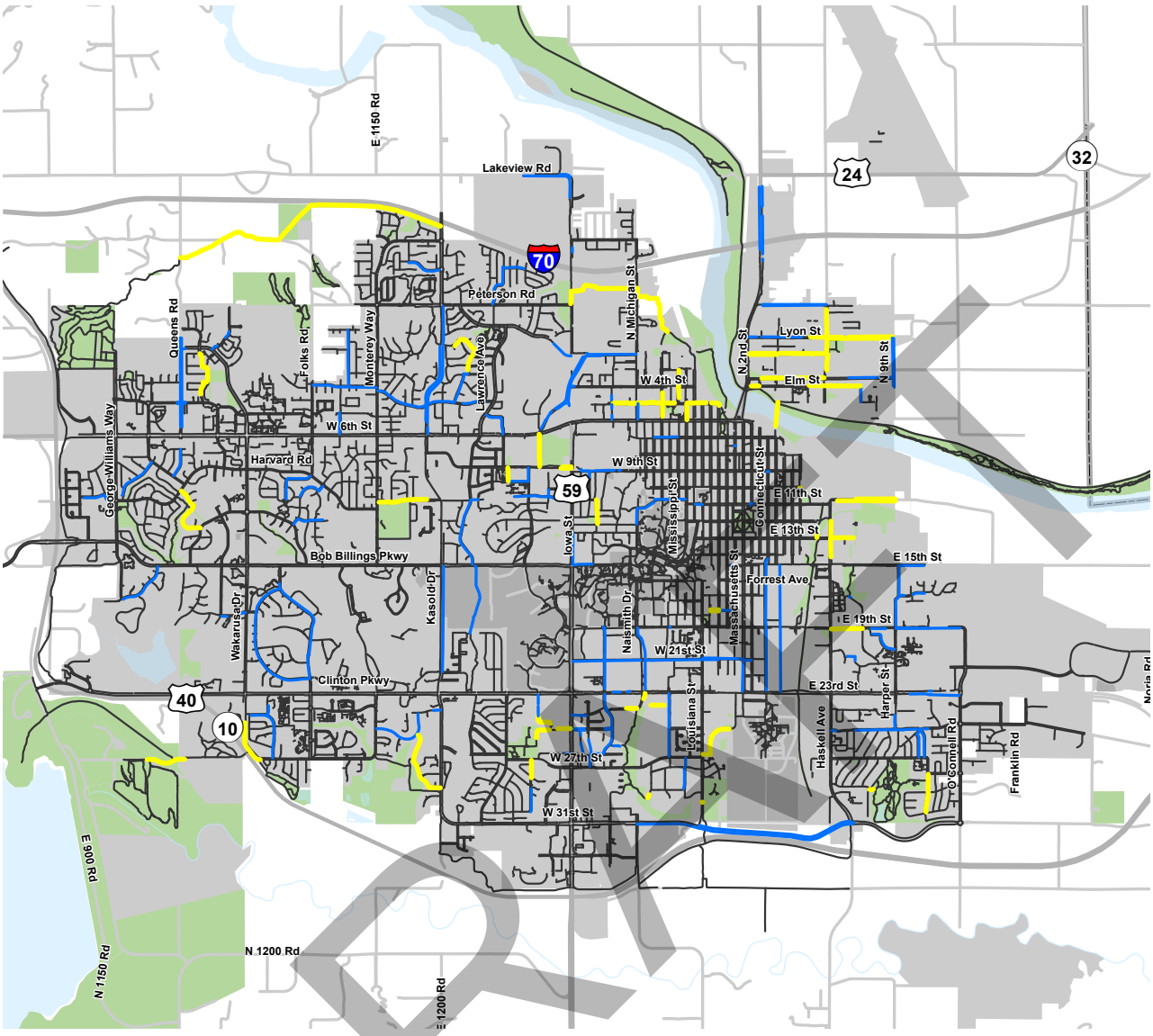
Priority Projects With Access to Parks



DRAFT

Date Exported: 2/14/2022
Source: Lawrence Pedestrian Plan
Produced: Lawrence-Douglas County MPO

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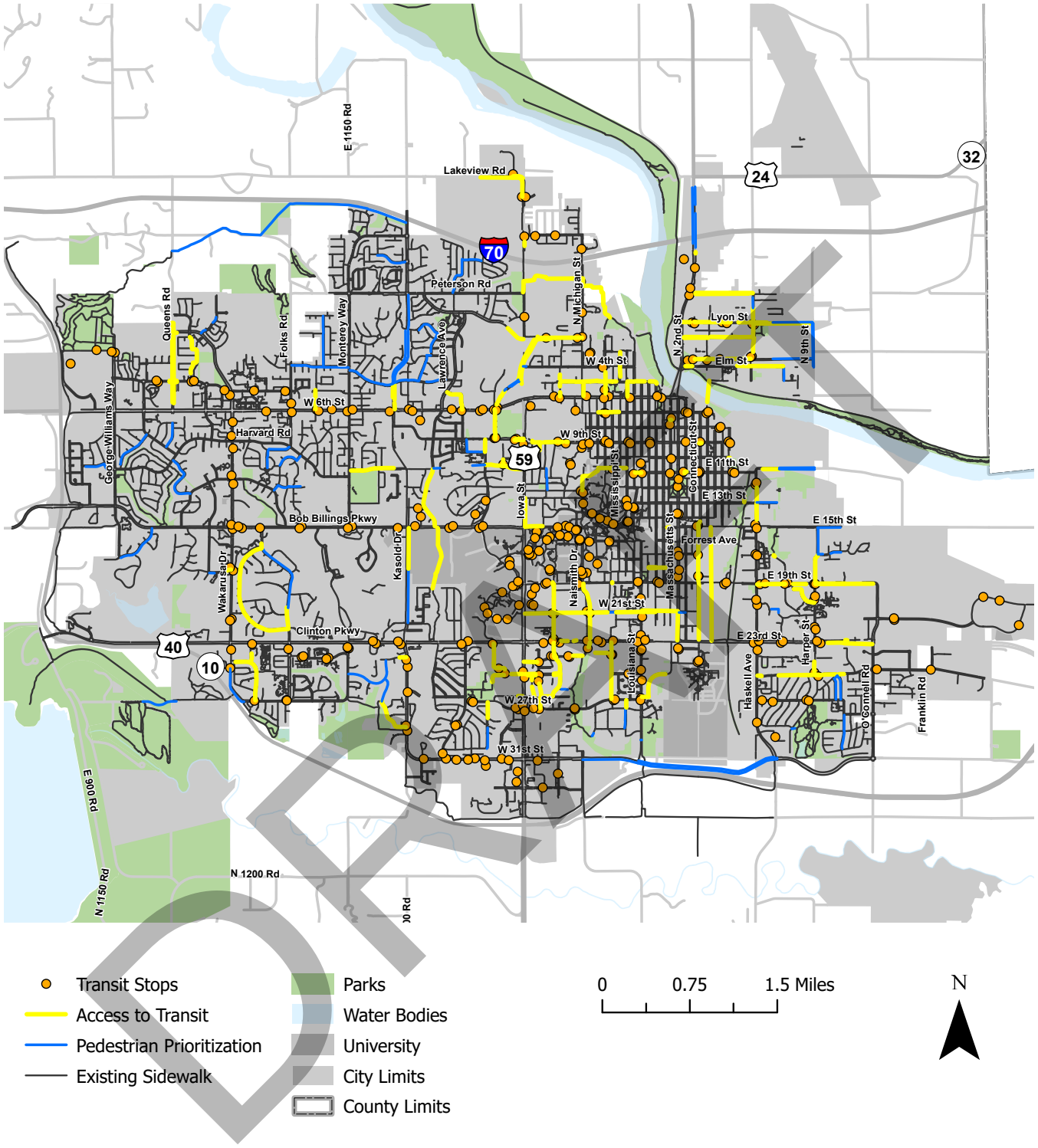
Priority Projects With Access to Transit



Date Exported: 2/16/2022
Source: Lawrence Pedestrian Plan
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Access to:								
Park	Transit	Healthy Food Destination	SRTS Route	Roadway Classification	PROJECT ID	Road	From	To
Yes	No	No	No	Collector	B010	Lawrence Loop NW Segment SUP	Kasold Dr	Queens Rd
No	Yes	No	No	Arterial	B019	Atchison Tributary SUP	W 19th St	Bob Billings Pkwy
Yes	Yes	No	No	Collector	B120	Lawrence Loop Sandra Shaw to Michigan SUP	Michigan St	Sandra Shaw Trail
Yes	Yes	Yes	No	Arterial	B121	Lawrence Loop Peterson to Michigan SUP	Michigan St	Peterson Rd
Yes	No	No	No	Street	B354	Youth Sports Complex Shared Use Path	W 27th St	W 27th St
No	Yes	No	Yes	Collector	B357	E 19th St	O'Connell Rd	Harper St
No	Yes	No	No	Arterial	B013	W 19th St	Ousdhal Rd	Ousdhal Rd
No	Yes	No	No	Arterial	P001	E 19th St	Clare Rd	Edgelea Rd
No	Yes	No	No	Arterial	P005	N Iowa St	South of Riverridge Rd	North of I-70
No	Yes	No	No	Arterial	P006	Kasold Dr	W 6th St	Westridge Dr
No	Yes	No	No	Arterial	P007	Lakeview Rd	N Iowa St	Timberledge Rd
No	Yes	No	No	Arterial	P008	E 23rd St gaps	550' E of Harper	750' east to driveway
No	Yes	No	No	Arterial	P012	Massachusetts St	21st St	23rd St
No	Yes	No	No	Arterial	P015	Iowa St	15th St/Bob Billings Pkwy	University Dr
No	No	No	No	Arterial	P016	N Kasold Dr	Creekwood Dr	Peterson Rd
No	No	No	No	Arterial	P017	N Kasold Dr	Tomahawk Dr	Creekwood Dr
No	Yes	No	Yes	Arterial	P018	E 19th St	Harper St	Brookwood Mobile Home Park
No	Yes	No	No	Arterial	P019	E 23rd St	1200' east of O'Connell	O'Connell Rd
No	Yes	Yes	No	Arterial	P025	W 9th St	Highland Dr	Hilltop Dr
No	Yes	No	No	Arterial	P026	McDonald Dr	Princeton Blvd/W 2nd St	Bluffs Dr
No	No	Yes	No	Arterial	P029	Kasold Dr	W 22nd St	Tam O'Shanter Dr
No	Yes	No	No	Arterial	P030	McDonald Dr	Princeton Blvd/W 2nd St	Bluffs Dr
No	Yes	No	No	Arterial	P031	Kasold Dr	W 5th Ter	Trail Rd
No	No	No	No	Arterial	P033	Kasold Dr	Trail Rd	Tomahawk Dr
No	No	No	No	Arterial	P034	Kasold Dr	Trail Rd	Tomahawk Dr
No	Yes	No	No	Arterial	P035	Lakeview Rd	N Iowa St	Timberledge Rd
No	No	No	No	Arterial	P037	N 3rd St	KTA Entrance Rd	City Limits
No	Yes	No	No	Arterial	P038	N 3rd St	KTA Entrance Rd	South of On Ramp
No	No	No	No	Arterial	P039	N 3rd St	KTA Entrance Rd	North of I-70
No	No	No	No	Arterial	P040	N 3rd St	KTA Entrance Rd	City Limits
Yes	Yes	No	No	Arterial	P043	Haskell Ave	E 12th St	E 13th St
Yes	Yes	No	No	Arterial	P044	Haskell Ave	E 13th St	E 14th St
No	Yes	Yes	No	Arterial	P045	Kasold Dr	Tam O'Shanter Dr	Bob Billings Pkwy
No	Yes	No	No	Arterial	P046	N Iowa St	Packer Rd	Lakeview Rd
Yes	Yes	No	Yes	Street	P050	Lincoln St	N 2nd St	N 4th St
No	Yes	No	Yes	Street	P051	Ridge Ct	W 26th St	W 27th St
Yes	Yes	No	Yes	Street	P053	Lincoln St	N 4th St	N 7th St
Yes	Yes	No	Yes	Collector	P054	N 7th St	Lincoln St	Lyon St
No	No	No	Yes	Street	P055	N 8th St	Elm St	Walnut St
Yes	Yes	Yes	Yes	Street	P056	Elm St	N 6th St	N 8th St
Yes	Yes	No	Yes	Street	P057	Elm St	200 LF East of N 2nd St	N 3rd St
Yes	Yes	No	Yes	Street	P058	Oregon St	E 13th St	260 LF South of E 12th St
Yes	No	No	Yes	Street	P059	E 13th St	Haskell Ave	Brook St
No	Yes	No	Yes	Collector	P060	Harper St	E 19th St	E 17th St
No	Yes	No	Yes	Street	P061	Davis Rd	Clare Rd	Harper St
No	Yes	No	Yes	Collector	P064	E 25th Ter	Ponderosa Dr	150 LF West of Carlton Dr
No	No	No	Yes	Street	P065	Hampton St	Kensington Rd	Mayfair Dr
No	No	No	Yes	Street	P066	Mayfair Dr	Hampton St	E 27th St
Yes	No	No	Yes	Street	P067	Kensington Rd	E 28th St	E 30th St
No	Yes	Yes	Yes	Street	P069	Vermont St	150 LF North of W 19th St	250 LF South of W 17th St
No	Yes	Yes	Yes	Street	P072	Vermont St	W 20th St	340 LF South of W 19th St
No	Yes	Yes	Yes	Street	P073	W 18th St	Tennessee St	Vermont St
No	Yes	No	Yes	Street	P074	Vermont St	250 LF North of W 17th St	W 16th St
No	Yes	No	Yes	Street	P075	W 15th St	150 LF East of Kentucky St	Vermont St
Yes	Yes	No	Yes	Street	P077	W 5th St	Mississippi St	Tennessee St
Yes	Yes	Yes	Yes	Street	P078	Illinois St	W 5th St	W 3rd St
Yes	Yes	No	Yes	Street	P079	W 5th St	Wisconsin St	180 LF West of Alabama St
No	Yes	Yes	Yes	Street	P080	W 7th St	Missouri St	Illinois St
Yes	Yes	Yes	Yes	Street	P081	Mississippi St	W 5th St	W 6th St

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Access to:									
Park	Transit	Healthy Food Destination	SRTS Route	Roadway Classification	PROJECT ID	Road	From	To
No	Yes	No	Yes	Street	P084	Hilltop Dr	Harvard Rd	W 9th St
No	Yes	No	Yes	Arterial	P085	W 9th St	Hilltop Dr	400' east of Avalon Rd
No	Yes	No	Yes	Collector	P086	Ousdahl Rd	W 23rd St	W 24th St
Yes	Yes	No	No	Street	P087	Crestline Dr	Crestline Ct	W 27th St
No	No	No	Yes	Street	P089	Belle Haven Dr	W 27th Ter	W 29th St
No	Yes	No	Yes	Street	P090	Belle Haven Drive	W 27th St	W 27th Ter
No	Yes	No	Yes	Collector	P091	Alabama St	Jasu Dr	W 27th St
No	Yes	No	Yes	Collector	P092	Ousdahl Rd	W 19th	W 22nd Ter
No	No	No	No	Street	P093	Crestline Dr	W 30th St	Crestline Pl
Yes	Yes	No	Yes	Street	P094	Winterbrook Dr	450 LF South of W 25th Ter	Kasold Dr
No	Yes	No	Yes	Street	P095	Scottsdale St	W 25th St	W 27th St
No	Yes	No	Yes	Street	P096	W 24th St	Via Linda Dr	W 25th St
No	Yes	No	Yes	Street	P097	Ranch St	W 24th St	Ranch Way (Private)
No	Yes	No	Yes	Street	P099	Wimbledon Dr	Killarney Ct	Inverness Dr
No	Yes	No	Yes	Street	P100	Carmel Dr	Inverness Dr	Killarney Ct
No	No	No	Yes	Street	P101	W 12th St	Vantuyl Dr	Wagon Wheel Rd
No	No	No	Yes	Street	P102	Goldfield St	Oak Tree Dr	Harvard Rd
No	No	No	Yes	Street	P103	Oak Tree Dr	Woodland Dr	Goldfield St
No	No	No	Yes	Street	P104	Wildwood Dr	Woodland Dr	Grove Dr
No	No	No	Yes	Street	P105	Grove Dr	Wildwood Dr	Harvard Rd
Yes	No	No	Yes	Street	P106	Stonecreek Dr	DeVictor trail	Legends Dr
No	No	No	Yes	Street	P107	April Rain Rd	Harvard Rd	Stoneridge Dr
No	No	No	Yes	Street	P108	Palisades Dr	Silver Rain Rd	George Williams Way
Yes	Yes	No	Yes	Collector	P109	Harvard Rd	Monterey Way	Randall Rd
No	No	No	No	Collector	P110	Trail Rd	Folks Rd	Monterey Way
No	No	No	No	Street	P111	Sharon Dr	Springhill Dr	Trail Rd
No	No	No	No	Collector	P112	Trail Rd	Monterey Way	Kasold Dr
No	No	No	Yes	Street	P113	Tillerman Dr	Eagle Pass Dr	N Kasold Dr
No	No	No	Yes	Street	P114	Brett Dr	Brentwood Dr	Stowe Ct
Yes	No	No	Yes	Street	P116	Rockfence Pl	Riverview Rd	Tomahawk Dr
No	No	No	Yes	Street	P117	Rockfence Pl	Trail Rd	Riverview Rd
No	No	No	Yes	Collector	P118	Trail Rd	Kasold Dr	Rockfence Pl
No	No	No	Yes	Collector	P119	Trail Rd	290 LF West of Millstone Dr	Settlers Dr
No	Yes	Yes	Yes	Street	P120	Schwarz Rd	Lawrence Ave	W 6th St
No	No	No	Yes	Street	P122	Yale Rd	Schwarz Rd	Crestline Dr
Yes	No	No	Yes	Street	P123	Schwarz Rd	W 9th St	Yale Rd
Yes	No	No	Yes	Street	P124	Sunset Dr	Harvard Rd	Stratford Rd
Yes	No	No	No	Street	P125	Tomahawk Dr	Rockfence Pl	Bighorn Ct
No	No	No	Yes	Street	P126	Riverview Rd	Rockfence Pl	Rockfence Pl
No	No	No	Yes	Collector	P127	Bobwhite Dr	George Williams Way	Lake Alvamar Dr
No	Yes	Yes	Yes	Street	P129	W 26th St	Ousdahl	Ridge Ct
Yes	Yes	No	Yes	Street	P130	Park Hill Ter	Louisiana Street	Kansas St
Yes	Yes	No	Yes	Street	P131	Kansas St	Park Hill Ter	Montana St
No	No	No	Yes	Street	P132	E 17th St	Harper St	Powers St
No	No	No	Yes	Street	P133	E 17th St	Irving Dr	Lindenwood Ln
No	No	No	Yes	Street	P134	E 21st Street	Miller Dr	E 21st Ter
No	No	No	Yes	Street	P135	E 21st Ter	E 21st St	120 LF South of E 21st St
No	No	No	Yes	Street	P136	Oak Tree Dr	Inverness Dr	W 12th St
No	No	No	Yes	Street	P139	Arrowhead Dr	Peterson Rd	Brett Dr
No	No	No	Yes	Street	P140	Brentwood Drive	Brett Dr	Arrowhead Dr
No	Yes	No	Yes	Collector	P142	Harvard Rd	Crestline Dr	Iowa St
No	No	No	Yes	Street	P143	Harvard Rd	570 LF West of Crestline Dr	Crestline Dr
No	Yes	No	Yes	Collector	P144	Ousdahl Rd	W 24th St	W 26th St
Yes	Yes	No	Yes	Street	P145	W 18th St	Ohio St	Tennessee St
Yes	Yes	No	No	Collector	P148	Rockledge Rd	W 9th St	National Ln
Yes	Yes	No	No	Collector	P149	Lyon St	N 7th St	600 LF East of N 7th St
No	Yes	No	No	Collector	P151	W 2nd St	McDonald Dr	Mount Hope Ct
No	No	No	No	Collector	P152	Rockledge Rd	East of Country Club Ter	McDonald Dr
No	No	No	No	Collector	P153	Rockledge Rd	East of Country Club Ter	McDonald Dr
No	Yes	Yes	No	Collector	P155	Naismith Dr	W 22nd Ter	W 23rd St
No	Yes	No	No	Collector	P156	W 21st St	Naismith Dr	Mitchell Rd
No	No	No	No	Collector	P157	W 21st St	Owens Ln	Carolina St
No	Yes	Yes	No	Collector	P158	Naismith Dr	W 22nd St	W 22nd Ter
No	Yes	Yes	No	Collector	P159	Naismith Dr	W 21st St	W 22nd St
No	Yes	Yes	No	Collector	P160	Naismith Dr	W 19th St	W 19th Ter
No	Yes	Yes	No	Collector	P161	Naismith Dr	W 19th Ter	W 20th St

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Access to:									
Park	Transit	Healthy Food Destination	SRTS Route	Roadway Classification	PROJECT ID	Road	From	To
No	Yes	No	No	Collector	P162	Naismith Dr	W 20th St	W 21st St
No	Yes	No	No	Collector	P163	W 21st St	Mitchell Rd	Owens Ln
No	Yes	No	No	Collector	P164	Harper St	E 24th St	E 25th Ter
No	Yes	No	No	Collector	P165	E 25th Ter	East of Haskell Ave	West of Allison Dr
No	Yes	No	No	Collector	P169	W 18th St	Wakarusa Dr	Corporate Centre Dr
No	No	No	No	Collector	P170	W 18th St	East of Research Park Dr	West of Wakarusa Dr
No	No	No	No	Collector	P171	Bobwhite Dr	Lake Alvamar Dr	Bob Billings Pkwy
No	Yes	No	No	Collector	P172	Lyon St	N 2nd St	N 3rd St
No	Yes	No	No	Collector	P173	Lyon St	N 3rd St	N 5th St
Yes	Yes	No	No	Collector	P174	Lyon St	N 6th St	N 7th St
Yes	Yes	Yes	Yes	Collector	P175	N 7th St	Lincoln St	Maple St
Yes	Yes	Yes	No	Collector	P176	Locust St	N 3rd St	N 7th St
No	No	No	No	Collector	P177	Locust St	N 8th St	N 9th St
No	Yes	No	Yes	Collector	P178	W 21st St	Tennessee St	Massachusetts St
No	Yes	No	No	Collector	P179	W 21st St	Carolina St	Louisiana St
No	Yes	No	No	Collector	P180	W 21st St	Iowa St	Ousdahl Rd
No	Yes	No	No	Collector	P181	W 21st St	Ousdahl	Naismith Dr
Yes	Yes	Yes	No	Collector	P182	Naismith Dr	Dillon's driveway	W 23rd St
Yes	Yes	Yes	No	Collector	P183	W 24th St	Eddingham Dr	Naismith Dr
No	Yes	No	No	Collector	P185	Crestline Dr	W 9th St	Yale Rd
No	Yes	No	No	Collector	P186	Rockledge Rd	East of Country Club Ter	North of 6th St
No	No	No	No	Collector	P187	Rockledge Rd	East of Country Club Ter	North of 6th St
No	Yes	No	No	Collector	P188	Rockledge Rd	East of Country Club Ter	North of 6th St
Yes	Yes	No	No	Collector	P189	Rockledge Rd	W 6th St	National Ln
No	Yes	Yes	No	Collector	P190	Lawrence Ave	Harvard Rd	Bob Billings Pkwl
No	No	No	No	Collector	P191	Branchwood Dr	Stoneridge Dr	Stonecreek Dr
No	No	No	No	Collector	P192	Kensington Rd	Hampton St	E 27th St
No	Yes	No	No	Collector	P193	W 15th St	Engel Rd	Iowa St
No	Yes	No	No	Collector	P194	Fambrough Dr, W 11th St, West Campus Rd	Mississippi St	Stratford
No	Yes	No	No	Collector	P195	W 2nd St	Mount Hope Ct	Michigan St
No	No	No	No	Collector	P196	W 4th St	McDonald Dr	Northwood Ln
Yes	Yes	No	No	Collector	P197	Maine St	W 6th St	W 4th St
No	Yes	No	No	Collector	P198	W 11th St	Indiana St	Louisiana St
Yes	Yes	No	No	Collector	P199	Eisenhower Dr	Eisenhower Ter	Campbell Pl
No	No	No	No	Collector	P200	Dole Dr	Wakarusa Dr	Earhart Cir
No	No	No	No	Collector	P201	Dole Dr	North of Earhart Cir	South of Earhart Cir
Yes	Yes	No	No	Collector	P202	E 11th St	Haskell Ave	750 LF West of Haskell
No	Yes	Yes	Yes	Collector	P203	W 25th St	Iowa St	Ridge Ct
No	Yes	Yes	Yes	Collector	P204	W 25th St	Iowa St	Ridge Ct
No	Yes	No	No	Collector	P205	North St	N 3rd St	N 7th St
No	Yes	No	No	Collector	P206	North St	N 3rd St	N 7th St
Yes	Yes	No	No	Collector	P207	Lyon St	N 7th St	N 9th St
Yes	No	No	No	Collector	P208	Lyon St	450 LF West of N 8th St	N 9th St
No	No	No	No	Collector	P209	N 9th St	Lyon St	Elm St
No	No	No	No	Collector	P210	N 9th St	Lyon St	Elm St
No	Yes	No	Yes	Collector	P215	W 25th St	Ousdahl Rd	Cedarwood Ave
Yes	Yes	Yes	No	Collector	P216	W 9th St	West of Iowa St	East of Centennial Dr
No	Yes	No	No	Collector	P219	Princeton Blvd	Providence Rd	Iowa St
No	Yes	No	No	Collector	P220	Queens Rd	W 6th St	North City Limits
Yes	No	No	No	Collector	P222	E 11th St	E 11th St	East City Limits
Yes	No	No	No	Collector	P223	E 11th St	E 11th St	East City Limits
No	No	No	No	Collector	P225	Harper St	E 15th St	E 17th St
No	Yes	Yes	No	Collector	P226	Michigan St	W 6th St	W 5th St
No	Yes	Yes	No	Collector	P227	Alabama St	W 23rd St	Jasu Dr
No	Yes	Yes	No	Collector	P229	Barker Ave	E 15th St	E 19th St
No	Yes	No	No	Collector	P230	Barker Ave	W 19th St	E 23rd St
No	Yes	No	No	Collector	P231	W 2nd St	McDonald Dr	Mount Hope Ct
No	Yes	No	No	Collector	P232	Inverness Dr	Wimbledon Dr	2012 Inverness Dr
No	No	No	No	Collector	P233	Inverness Dr	Carmel Dr	2012 Inverness Dr
No	No	No	No	Arterial	P235	Kasold Drive Crossing	Riverview Rd	Riverview Rd
No	Yes	No	Yes	Arterial	P236	W 19th Street Crossing	Alabama St	Alabama St
No	Yes	No	No	Collector	P237	Vermont St Crossing	East of Parking Garage	East of Parking Garage
Yes	Yes	No	Yes	Arterial	P240	E 19th St	Haskell Ave	Maple Ln
No	No	No	Yes	Street	P246	W 12th St	Oak Tree Dr	Vantuyl Dr
No	No	No	No	Street	P247	Harvard (ROW)	Lawrence Ave	Wellington Rd
No	Yes	Yes	No	Arterial	P248	11th and NH Crossing	E 11th St	E 11th St

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Access to:								
Park	Transit	Healthy Food Destination	SRTS Route	Roadway Classification	PROJECT ID	Road	From	To
Yes	No	No	Yes	Arterial	P250	Louisiana St - Crossing at Broken Arrow Park	Broken Arrow Park	Broken Arrow Park
Yes	Yes	No	No	Street	P251	Kansas River Ped Bridge	New York St	Walnut St
No	Yes	No	No	Street	P252	Learnard Ave	E 19th St	E 23rd St
No	Yes	Yes	No	Street	P253	Learnard Ave	E 15th St	E 23rd St
No	Yes	No	No	Collector	P254	9th & Connecticut St Crossing	E 9th St	E 9th St
Yes	Yes	Yes	Yes	Street	P255	10th & Delaware St Crossing	E 10th St	E 10th St
No	Yes	No	Yes	Street	P256	Eldridge St	Overland Dr	W 6th St
No	No	No	Yes	Street	P257	Brush Creek Dr	Crossgate Dr	Morningside Dr
No	No	No	Yes	Street	P258	Brush Creek Dr	Morningside Dr	Lazy Brook Dr
No	No	No	Yes	Street	P259	Brush Creek Dr	W 24th St	Lazy Brook Ln
No	Yes	No	Yes	Collector	P260	Inverness Dr	Balmoral Dr	Carmel Dr
No	Yes	No	Yes	Collector	P263	W 21st St	Tennessee St	Louisiana St
No	Yes	No	Yes	Collector	P211	W 21st St	Tennessee St	Louisiana St
No	No	No	Yes	Street	P265	E 21st St	Massachusetts St	New Hampshire St
No	No	No	Yes	Arterial	P266	E 15th St	Harper St	Lindenwood Ln
No	No	No	Yes	Arterial	P267	31st St	Louisiana St	Haskell Ave
No	No	No	Yes	Arterial	P268	31st St	Louisiana St	Haskell Ave
No	No	No	Yes	Arterial	P269	W 31st St	Ousdahl Rd	Louisiana St
No	Yes	No	Yes	Street	P270	Wisconsin St	South of W 4th St	North of W 5th St
Yes	Yes	No	Yes	Collector	P271	N 7th St	Lake St	Lyont St
Yes	No	No	Yes	Collector	P272	N 7th St	Hickory St	Lake St
Yes	No	No	No	Street	P273	Stonecreek Dr	Harvard Rd	DeVictor trail
No	Yes	No	No	Collector	P092	Ousdahl Rd	W 19th St	W 21st St
No	Yes	Yes	No	Collector	P275	Barker Ave	E 14th St	E 15th St
Yes	No	No	No	Street	P279	Missouri	W 29th Ter	Naismith Valley Park
Yes	No	No	No	Street	P280	E 28th St Ter	Harper St	Prairie Park
Yes	Yes	No	No	Street	P281	W 25th St	Park 25 Apartments	Holcom Park
No	No	No	No	Street	P282	W 25th St Ct	South of Ousdahl Rd	Naismith Valley Park
No	Yes	Yes	No	Street	P283	Ridge Ct	W 26th St	South of W 25th St
No	Yes	No	No	Street	P284	W 26th St	Iowa St	South Pointe Apartments Vls
No	Yes	Yes	No	Street	P285	Redbud Ln	W 25th St	North of W 26th St
No	Yes	Yes	No	Street	P286	Redbund Ln	W 26th St	South of W 25th St
Yes	Yes	No	No	Street	P287	W 24th Ter	Melrose Ln	East of Crestline Dr
No	Yes	Yes	No	Principal Ar	P288	W 23rd St	East of Ousdahl Rd	West of Naismith Dr
Yes	Yes	Yes	No	Street	P289	W 24th St	Arkansas St	West of Alabama St
No	Yes	Yes	No	Street	P290	Wisconsin St	W 6th St	W 5th St
No	Yes	No	No	Street	P291	Centennial Dr	Yale Rd	Harvard Rd
No	Yes	No	Yes	Street	P292	Maple Ln	Brook St	Edgewood Park
No	Yes	No	No	Street	P293	W 24th St	Kasold Dr	West of Kasold Dr
Yes	No	No	No	Street	P294	Winterbrook Dr	Brush Creek Dr	450 LF South of W 25th St
No	Yes	Yes	No	Street	P295	W 24th St	Iowa St	Ridge Ct
Yes	Yes	No	No	Street	P296	Crestline Dr	W 24th Ter	Park 25 Apartments
Yes	Yes	No	Yes	Principal Ar	P297	Wakarusa Dr/27th St	Stoneback Dr	West of Larkspur Circ
Yes	Yes	Yes	No	Street	P298	W 25th St	Iowa St	Future West QuickTrip Entrance
No	Yes	No	No	Street	P299	Crestline Dr	Clinton Pkwy	North of W 24th Ter

*Attributes related to access are a point in time assessment. They should not be consider exclusive. Changing conditions should be considered.

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Appendix E. Sidewalk Code History

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Introduction

The code requirements for sidewalks have changed over time. These changes were not documented anywhere. As part of the Pedestrian Planning process the code changes were gathered.

History

Prior to 1972, it is unclear what the code requirements were for sidewalks. The Lawrence City Code and Subdivision Regulations were established/adjusted three times.

1972

The first edition was adopted in 1972 (Ordinance No. 4337 / Resolution No. 72-25).[1] It required, "Public sidewalks shall be installed on both sides of all streets, except that no sidewalk shall be required on the outer side of any frontage road. Such sidewalks shall be constructed within the dedicated street right- of-way and with the inside edge located one (1) foot from the property line where feasible" (Section 21-704(A)(1)). This version required that sidewalks be constructed with the paving of the adjacent streets and that no petitions for street improvements shall be considered by the governing body unless such petitions are accompanied by valid petitions for the construction of sidewalks or pedestrian-ways. (Sections 21-704(A)(4))

1981

In 1981, the second edition of the Subdivision Regulations was adopted (Ordinance No. 5257 / Resolution No. 81-11), which altered that requirement.[2] That edition required, "Public sidewalks shall be installed on one side of all local residential streets and on both sides of all other streets unless such installation is specifically waived by the governing body, except that no sidewalk shall be required on the outer side (that side nearest arterial or collector street) of any frontage road. If frontage roads are contemplated, sidewalks will not be required on the adjacent paralleling arterial or collector street. Sidewalks will be installed on the side of the frontage road away from the adjacent paralleling arterial or collector street when the frontage road is constructed" (Section 21-704(a)(1)). This code also provided that the City Commission could waive the installation of those required improvements. Section 21-704(5) noted, "No petitions for street improvements shall be considered by the governing body unless such petitions are accompanied by valid petitions for the construction of sidewalks or pedestrian ways, except where the governing body has specifically waived the installation as provided in paragraph 1 above."

2006

The third and current edition was adopted in 2006 (Ordinance No. 8064 / Resolution No. 06-41).[3] It requires that public sidewalks shall be installed on both sides of all streets, and requires sidewalk dimensions based on the street type (Local Street – 5 foot / Minimum width of 4 feet allowed in the Original Townsite Area; Collector – 5 foot; Arterial – 6 foot / A designated 10' Bicycle/Recreation Path on one side of the Street and a 6' Sidewalk on the other side) (Section 20-811(c)(1)). This version also changed from a City Commission waiver to a variance considered by the Planning Commission.

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1 https://lawrenceks-my.sharepoint.com/:b:/r/personal/webmaster_lawrenceks_org/Documents/website/Ordinances%20and%20Resolutions/Ordinances/Ordinances-4300s/Ord4337.pdf?csf=1&web=1&e=0KXkq4

2 https://lawrenceks-my.sharepoint.com/:b:/r/personal/webmaster_lawrenceks_org/Documents/website/Ordinances%20and%20Resolutions/Ordinances/Ordinances-5200s/Ord5257.pdf?csf=1&web=1&e=MFO1we

3 https://lawrenceks-my.sharepoint.com/:b:/r/personal/webmaster_lawrenceks_org/Documents/website/Ordinances%20and%20Resolutions/Ordinances/Ordinances-8000s/Ord8064.pdf?csf=1&web=1&e=hNbl0s