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Diana Smith , Recorder of Deeds

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Recorder of Deeds

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KANSAS CITY MISSOURI	**CITY OF KANSAS CITY, MISSOURI** **CERTIFICATE OF THE CITY CLERK** **DOCUMENT TO BE RECORDED** **JACKSON COUNTY**

DATE OF DOCUMENT: April 23, 2026

DOCUMENT TITLE: Ordinance 260341 with Attachments

Grantor(s):
Name &
Address: City of Kansas City, Missouri

Grantee(s)
Name &
Address: City of Kansas City, Missouri
414 E 12th Street
Kansas City, Missouri 64106

LEGAL DESCRIPTION:
See Page(s) _____ of Exhibit A of the subject document.

The above appears in records and is on file in the Office of the City Clerk, 25th Floor, City Hall, and Kansas City, Missouri. I hereby, certify that this is a true and correct copy of the above ordinance.

IN TESTIMONY WHEREOF, I have set my hand affixed the seal of the City on the 8th day of May, 2026

Marilyn Sanders
City Clerk

By Marilyn Sanders City Clerk

SEAL OF KANSAS CITY INCORPORATED 1850 MISSOURI

Return all Recorded Originals To:
OFFICE OF THE CITY CLERK, 414 E. 12th Street, 25th Floor, Kansas City, Missouri 64106

Kansas City

414 E. 12th Street
Kansas City, MO
64106

Legislation Text

File #: TMP-6669 240341

ORDINANCE NO. TMP-6669

Adopting an updated Major Street Plan, Streets Design Guide, and an updated Kansas City Vision Zero Action Plan to include supplemental planning documents required by the Safe Roads and Streets for All grant agreement between the City of Kansas City and the U.S. Department of Transportation; and directing the City Clerk to file certain documents with the appropriate offices. (CD-CPC-2025-00151)

WHEREAS, a Major Street Plan for Kansas City was adopted by Ordinance No. 110249, passed October 23, 2011; and

WHEREAS, further changes were recommended and approved by Ordinance No. 141059, passed December 18, 2014; Ordinance No. 160336, passed June 23, 2016; Ordinance No. 160865, passed December 1, 2016; Ordinance No. 210837, passed September 23, 2021; Ordinance No. 220661, passed on August 25, 2022; Ordinance No. 220884, passed October 6, 2022; Ordinance No. 230217, passed June 8, 2023; Ordinance No. 230499, passed June 15, 2023; Committee Substitute Ordinance No. 240343, passed June 27, 2024; Ordinance No. 240653, passed September 12, 2024; and

WHEREAS, the City adopted a complete streets policy with the adoption of Committee Substitute for Ordinance No. 170949 which specified that the City shall incorporate complete street elements and principles into public strategic plans, capital improvement plans, design standards, manuals, rules, regulations, and programs; and

WHEREAS, the City adopted a Vision Zero goal in 2020 per Committee Substitute for Resolution No. 200019; and

WHEREAS, a Vision Zero Action Plan was adopted in 2022 per Committee Substitute for Resolution No. 220660 specifying a need for updated engineering design guidance and standards; and

WHEREAS, the City received a Safe Roads and Streets for All grant from the U.S. Department of Transportation for supplemental planning activities to conduct a speed limit study, update the Major Street Plan, and create a Streets Design Guide with a Vision Zero Focus; and

WHEREAS, revenue in the amount of $880,000.00 was appropriated to the Citywide Safe Roads and Streets for All – Planning Study Project and the Director of Public Works was authorized to expend $220,000.00 of appropriated funds to satisfy the City's local match

requirement for the Safe Roads and Streets for All grant from the U.S. Department of Transportation per Ordinance No. 230841; and

WHEREAS, further review and revisions have been initiated by the Directors of City Planning and Development, Parks and Recreation, and Public Works Departments to update the Major Street Plan and develop a Streets Design Guide; and

WHEREAS, the Public Works Department conducted stakeholder engagement and public meetings via a community survey, meetings and open houses for inputs to the proposed update to the Major Street Plan and Streets Design Guide; and

WHEREAS, the Major Street Plan identifies streets which are designated as parkways and boulevards that are maintained by the Parks and Recreation Department, and the Parks and Recreation Board of Commissioners passed Resolution No. 33121 on February 10, 2026, recommending approval of the updated Major Streets Plan and Street Design Guide; and

WHEREAS, the City Plan Commission reviewed the proposed Major Street Plan and, pursuant to public notice and hearing, did on February 18, 2026, recommend approval of the updated Major Street Plan and Streets Design Guide; NOW, THEREFORE,

BE IT ORDAINED BY THE COUNCIL OF KANSAS CITY:

Section 1. That the Major Street Plan of Kansas City is hereby repealed and an updated Major Street Plan and Streets Design Guide, attached as Exhibit A and incorporated by reference, are hereby adopted.

Section 2. That the Kansas City Vision Zero Action Plan is updated and adopted to include the supplemental living planning documents, including the KCMO Safe Streets and Roads for All Comprehensive Speed Limit Review, updated Major Street Plan, and Streets Design Guide.

Section 3. That the City Clerk is hereby directed to file such documents in the offices of the Recorder of Deeds for Cass County, Missouri; Clay County, Missouri; Jackson County, Missouri; and Platte County, Missouri.

Section 4. That the Council hereby finds and declares that before taking any action on the proposed updated Major Street Plan, all public notices and hearings required by law have been given and had.

File #: TMP-6669 260341

I hereby certify that as required by Chapter 89, Revised Statutes of Missouri, the foregoing Major Street Plan was duly advertised and public hearings were held.

Sara Copeland, FAICP
Secretary, City Plan Commission

Approved as to form:

Sarah Baxter
Senior Associate City Attorney

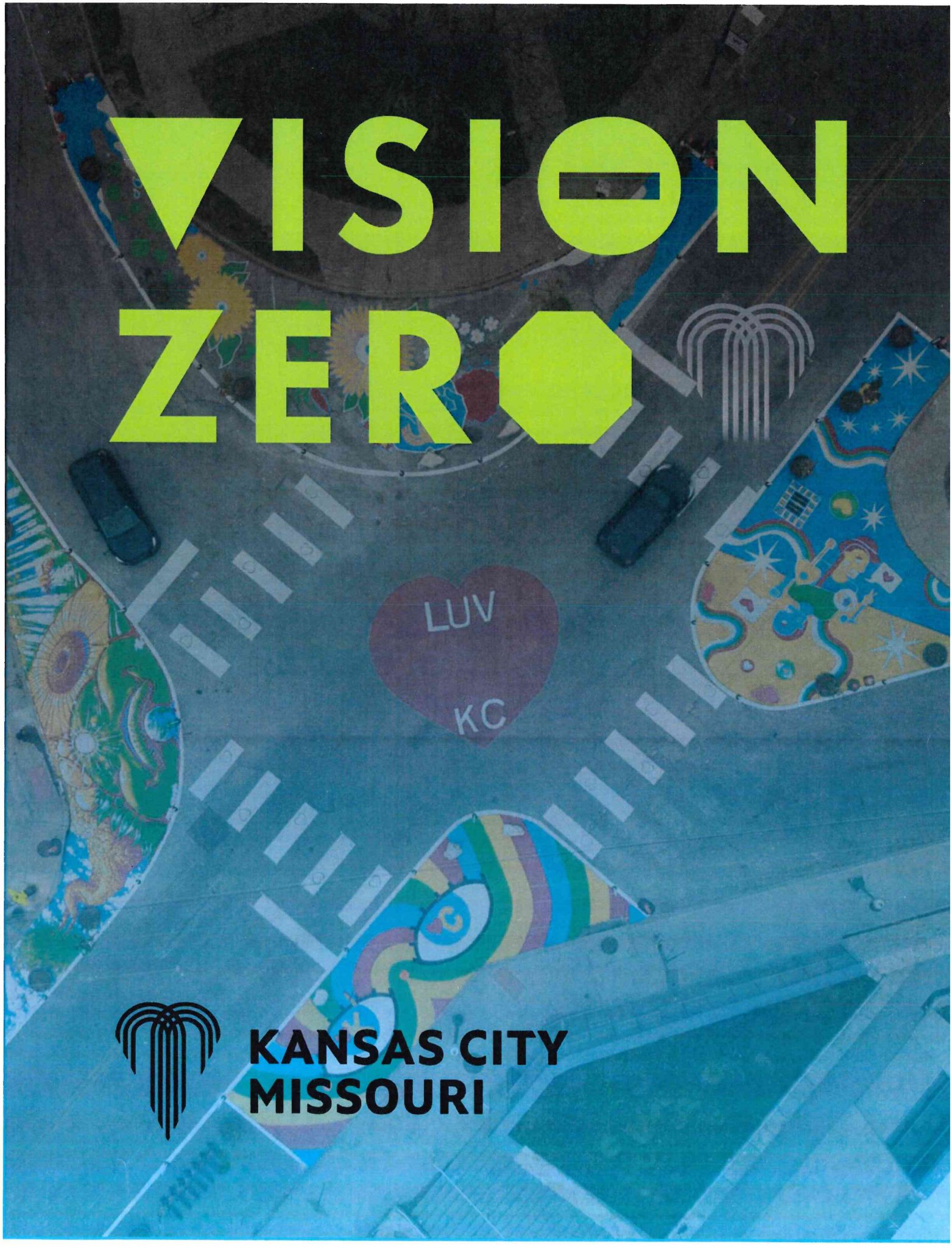
Authenticated as Passed

Quinton Lucas, Mayor

Marilyn Sanders, City Clerk

APR 23 2026

Date Passed


VISION ZERO
LUV
KC
KANSAS CITY
MISSOURI

Kansas City Vision Zero Action Plan

FINAL

August 2022

Prepared for:

KANSAS CITY MISSOURI

The City of Kansas City, Missouri

414 E. 12th Street

Kansas City, MO 64106

Prepared by:

WSP

300 Wyandotte, Suite 200

Kansas City, Missouri 64105

Cover page image: Westport Road & Wyandotte Street Bloomberg Asphalt Art Project (Image Source: Street Smarts Design + Build)

LETTER FROM THE MAYOR

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ACKNOWLEDGEMENTS

Mayor

The Honorable Quinton Lucas

City Council

Heather Hall, 1st District

Kevin O'Neill, 1st District-at-Large

Dan Fowler, 2nd District

Teresa Loar, 2nd District at-Large

Melissa Robinson, 3rd District

Brandon Ellington, 3rd District At-Large

Eric Bunch, 4th District

Katheryn Shields, 4th District at-large

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Lee Barnes, Jr., 5th District at-Large

Kevin McManus, Mayor Pro Tem, 6th District

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EXECUTIVE SUMMARY

Integrating a Vision Zero mindset into traffic safety activities requires a long-term commitment from a range of stakeholders. Kansas City has made this commitment. In May 2020, City Council passed the Vision Zero resolution to eliminate traffic fatalities and serious injuries on our streets by 2030, while increasing safe, healthy, equitable mobility for everyone. The statistics below of Kansas City crashes from 2010 - 2020 illustrate the grave issue this represents.

783 LIVES LOST

3,879 PEOPLE SERIOUSLY INJURED

37% OF THESE CRASHES WERE YOUNG PEOPLE

37% INCREASE SINCE 2010

$36.53 BILLION IN ECONOMIC LOSSES

BLACK USERS ARE TWICE AS LIKELY TO BE KILLED AS WHITE USERS

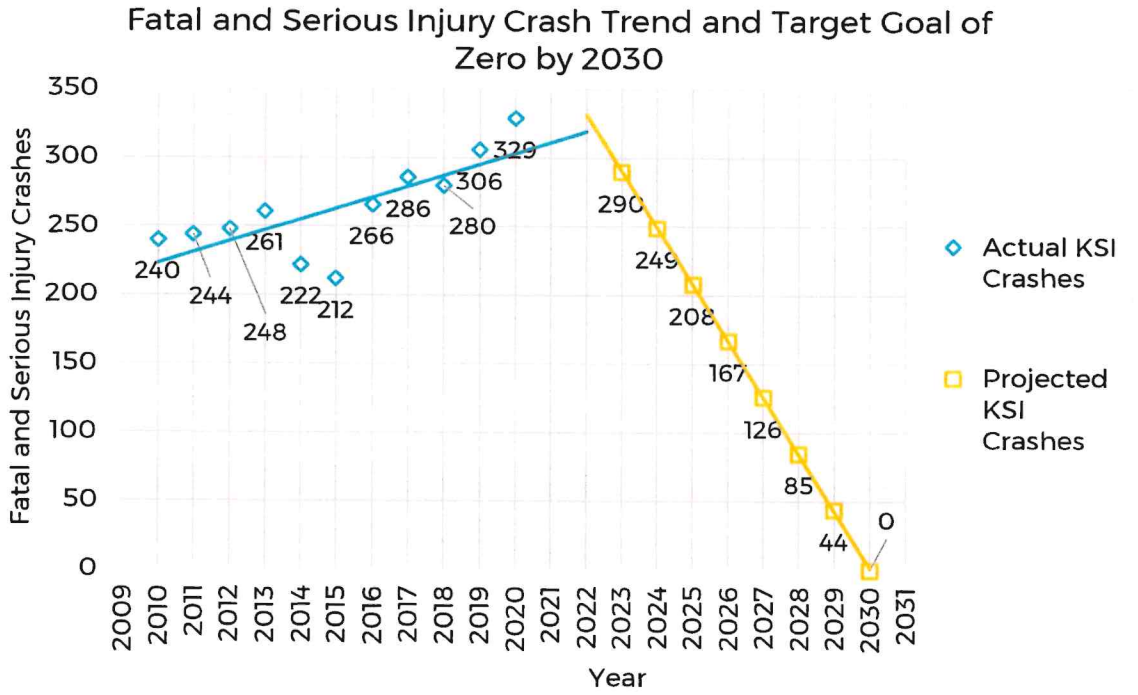

Figure 1: Actual fatal and serious injury (KSI) crashes in Kansas City 2010 - 2020 and targeted KSI crashes to achieve 2030 goal of Zero

Eliminating traffic deaths and serious injuries will require everyone involved in the transportation system to focus all our efforts on achieving this goal. This means elected officials, planners, engineers, emergency responders, and drivers, walkers, and bicyclists on our roads all have a critical role to play. If any of these groups fail to act, achieving Vision Zero is not possible. To achieve our Vision Zero goals, we must focus on the specific factors that relate to the most extreme safety issues and have a higher proportion of fatal and serious injury crashes:

Equity - 89% of the city's highest risk roads are in transportation disadvantaged areas. We must focus safety funding in disadvantaged areas of the city.

Speed and Aggressive Driving - 29% of all fatal and serious crashes in the city involve an aggressive driver. We must focus on reducing speeds and speeding by reducing speed limits and incrementally implementing design changes that reduce tendencies to speed.

High Crash Locations - 68% of the fatal and serious injury crashes happen on just 12% of Kansas City roads. This is highlighted in the High Injury Network (HIN) map. We must include our HIN in prioritizing all infrastructure spending.

High Risk Locations - Certain Road characteristics lead to elevated risk like roads with 4- and 6-lane, 30mph and 35mph speed limits, excess capacity, and signalized intersections. We must enact policy and standards to prohibit design with high risk characteristics.

People Walking and Biking - 15% of fatal and serious crashes involve pedestrians and bicyclists although walking and biking account for less than 5% of the overall mode share. We must improve visibility and increase designated space for pedestrians and bicyclists.

Angle Crashes - Angle crashes—commonly called "t-bone" crashes—are the #1 type of crash leading to fatal and serious injuries in the city. These crashes most often happen at traffic signals. We must systematically address signalized intersections.

Fixed Object Crashes - Fixed object crashes, when a vehicle hits something in or adjacent to a road, are the second most common fatal and serious injury crash type in the city. We must focus on eliminating infrastructure that contributes to these crashes, like signalized intersections, as well as address aggressive driving behavior.

Male Drivers - Males make up a disproportionate amount of roadway deaths—73.1% of all crashes on local access streets. We must target education, design, and enforcement toward male roadway users.

Reckless Drivers - Within Kansas City, aggressive driving is the top behavior contributing to fatal and serious injury crashes, accounting for 29% of crashes. We must focus behavior change efforts towards reckless driving behavior, especially aggressive driving.

Young Drivers - Young drivers are involved in 28% of all fatal and serious injury crashes. The top age ranges were people between 20 - 34 years old. To achieve Vision Zero in Kansas City, we must focus behavior change efforts towards younger drivers and provide drivers education programs.

HOW WILL WE ACHIEVE VISION ZERO?

To achieve Vision Zero, Kansas City has pledged to take steps to implement these Eight Core Safety Principles:

1. Prioritized Safety - We will prioritize safety and equity in all plans, designs, funding allocations, and operations.
2. Safe Speeds - We will lower speed limits, reconstruct roads to discourage speeding, vigorously enforce speed limits, and educate drivers on the dangers of speeding to slow vehicle speeds everywhere in the city.
3. Safe Streets - We will construct new streets and retrofit existing streets with the safest configurations possible.
4. Safe Intersections - We will construct new intersections and retrofit existing intersections with the safest configurations possible.
5. Complete Streets - We will construct new streets and retrofit existing streets to provide a safe and convenient network of protected bike lanes, sidewalks, and trails and support expanded transit service.
6. Safe Users - We will provide educational opportunities for drivers on the dangers of speeding and driving while intoxicated.
7. Safe and Equitable Law Enforcement - We will enforce traffic laws based on a data-driven, performance based, and equitable program to support traffic safety.
8. Accurate Data and Reporting - We will improve data collection efforts and report progress in a transparent and accessible manner.

VISION ZERO INTRODUCTION

Vision Zero is a concept that embraces a transformative mindset and approach to making all roads safe for all users. A Vision Zero approach refuses to accept that fatalities and serious injuries are inevitable consequences of mobility on our roads. Vision Zero aims to create a transportation system where no one is killed or seriously injured on our streets.

Integrating a Vision Zero mindset into traffic safety activities requires a long-term commitment from a range of stakeholders. Kansas City has made this commitment. In May 2020, City Council passed the Vision Zero resolution to eliminate traffic fatalities and serious injuries on our streets by 2030, while increasing safe, healthy, equitable mobility for everyone.

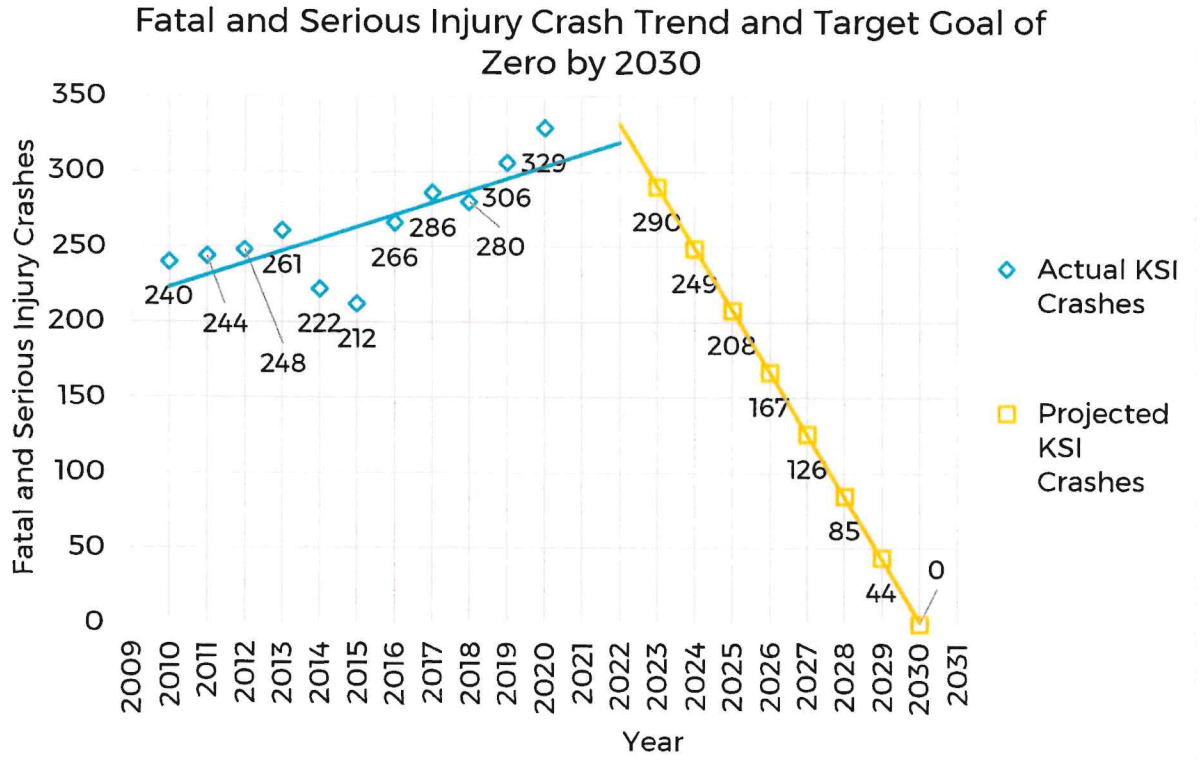

Figure 2: Actual fatal and serious injury (KSI) crashes in Kansas City 2010 - 2020 and targeted KSI crashes to achieve 2030 goal of Zero

Eliminating traffic deaths and serious injuries is not an easy task. It will require everyone involved in the transportation system to focus all our efforts on achieving this goal. This means elected officials, planners, engineers, emergency responders, and drivers, walkers, and bicyclists on our roads all have a critical role to play. If any of these groups fail to act, achieving Vision Zero is not possible. This Action Plan outlines the steps to achieve Vision Zero.

WHY VISION ZERO

Kansas City is at a critical moment for traffic safety. Significant improvements in traffic safety have been realized since the 1950s. But since 2010, the number of crashes where someone was killed or seriously injured in the city has been steadily increasing. The statistics below illustrate how grave this issue has become in Kansas City since 2010.

783 LIVES LOST

3,879 PEOPLE SERIOUSLY INJURED

37% OF THESE CRASHES WERE YOUNG PEOPLE

37% INCREASE SINCE 2010

$36.53 BILLION IN ECONOMIC LOSSES

BLACK USERS ARE TWICE AS LIKELY TO BE KILLED AS WHITE USERS

Kansas City's worsening traffic safety record since 2010 tracks with National trends. However, Kansas City ranks among the worst cities in the nation for traffic deaths and serious injuries. The figure below compares Kansas City's fatal crash rate to a list of peer cities. Of these, Kansas City is the 4th worst city for fatal traffic crashes.

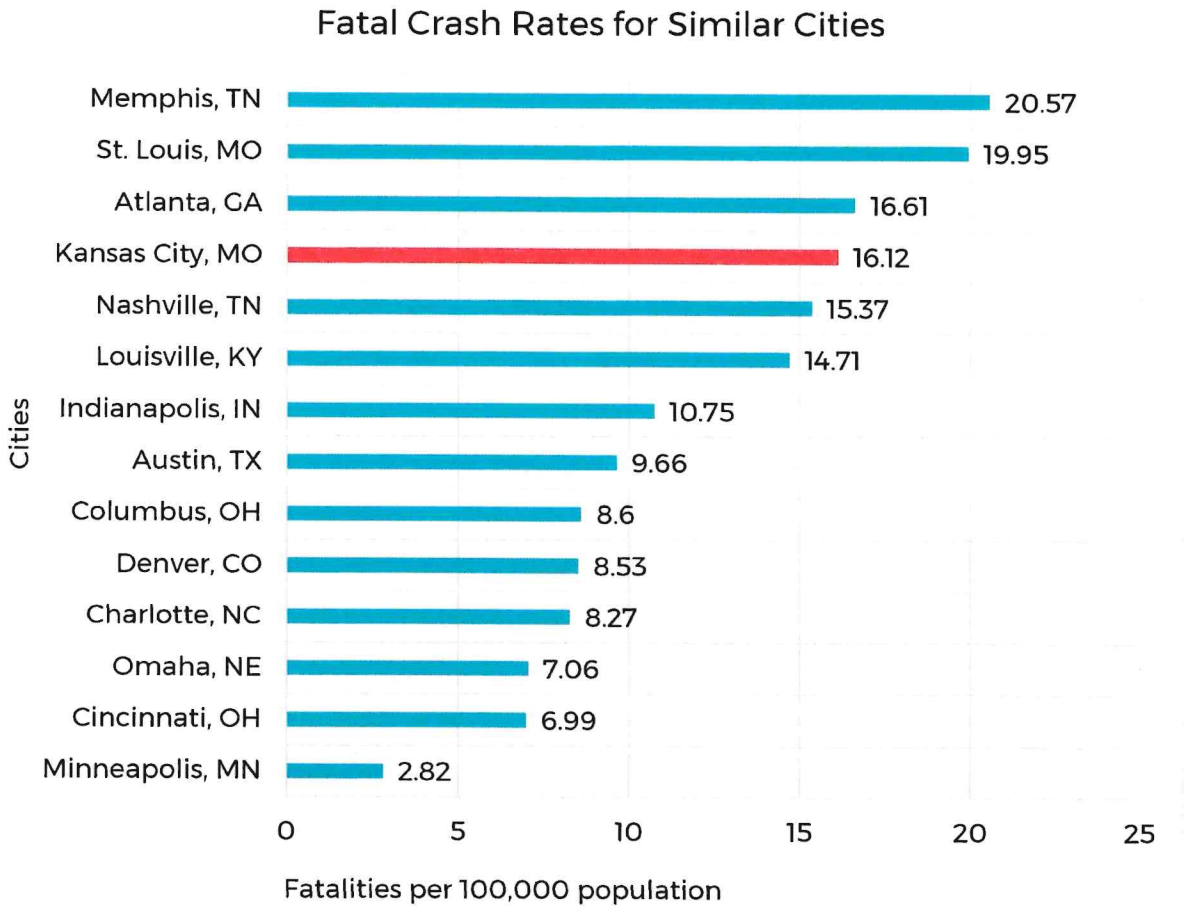

Figure 3: Fatal Crash Rates for Peer Cities (Data Source: NHTSA FARS and US Census Bureau ACS 5-Year Estimate)

VISION ZERO APPROACH

Kansas City has committed to Vision Zero as a new approach to traffic safety. It is a paradigm shift in the way we understand traffic safety and how safety principles are implemented to eliminate fatal and serious injury crashes. The table below compares the prevailing traffic safety approach to Vision Zero.

Table 1: Fundamental Guiding Principles of Vision Zero

	Traditional/Prevailing Traffic Safety Approach	Vision Zero Traffic Safety Approach
Premise	Deaths are inevitable	Deaths are preventable
Goal	Preventing all crashes	Preventing fatalities and serious injuries
Focus	Perfecting human behavior	Designing a road system that accounts for human error
Responsibility	Individual users: drivers, pedestrians, and bicyclists	Shared responsibility: all system designers, operators, and users

In addition to these fundamental principles, Vision Zero is:

- Data Driven - Detailed analysis of crash data –specifically the analysis of fatal and serious injury crashes–is the foundation of addressing traffic safety issues in Kansas City. See the Data Analysis section of this report for an outline of the data-driven analysis for Kansas City.
- Actionable - The elimination of deaths and serious injuries on our streets is a complex and difficult task. Without specific actionable steps, it can be difficult to identify what should be done and by whom to achieve the goals of Vision Zero. This plan identifies specific action steps to achieve Vision Zero. See the Action Plan section of this report with actionable steps the City can take to eliminate fatal and serious injury crashes.
- Accountable - Without a mechanism in place to track and report on the actionable steps from this plan, it will be difficult to continue progress towards achieving Vision Zero. Key Performance Indicators (KPIs) of success are identified with desired targets to be tracked and used to improve accountability. See the Monitoring section of this report for an outline of how we will keep accountable.

VISION ZERO ACCOMPLISHMENTS IN KANSAS CITY

While this action plan represents the first Vision Zero Action Plan in Kansas City, the City has already begun implementing several Vision Zero projects. Following the Vision Zero Resolution in 2020, the City started engagement around Vision Zero and pursuing quick build traffic safety implementation projects. Starting in 2021, Kansas City has already constructed a variety of vision zero projects and continuing too today. Six intersections have been redesigned with a focus on pedestrian safety. Fifty locations were selected for neighborhood level traffic calming. Fifty other signalized intersections have received a leading pedestrian interval in their timing. Nineteen miles of protected bicycle facilities are also being constructed. Kansas City is already moving toward a safer transportation system.

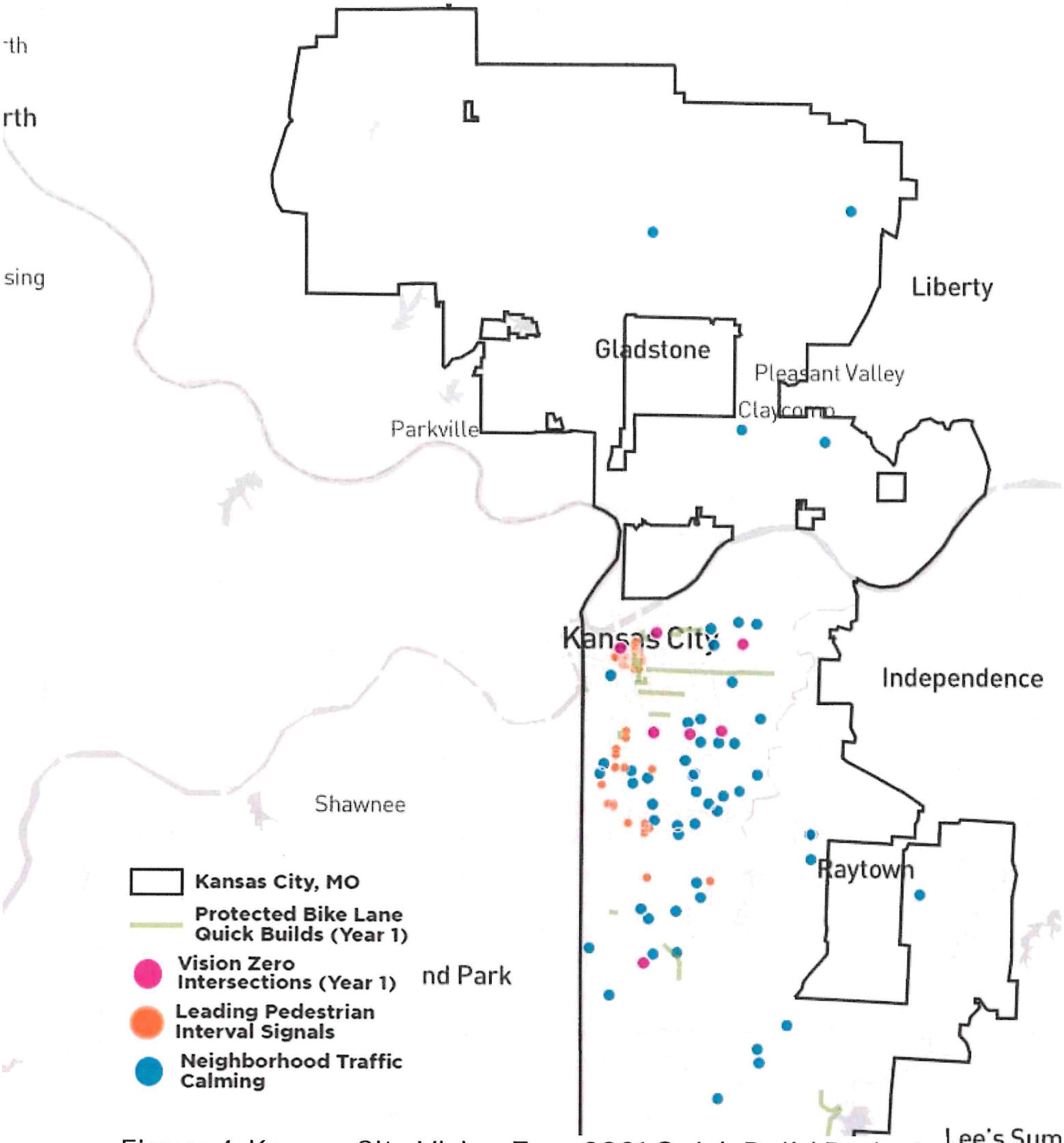

Figure 4: Kansas City Vision Zero 2021 Quick Build Projects

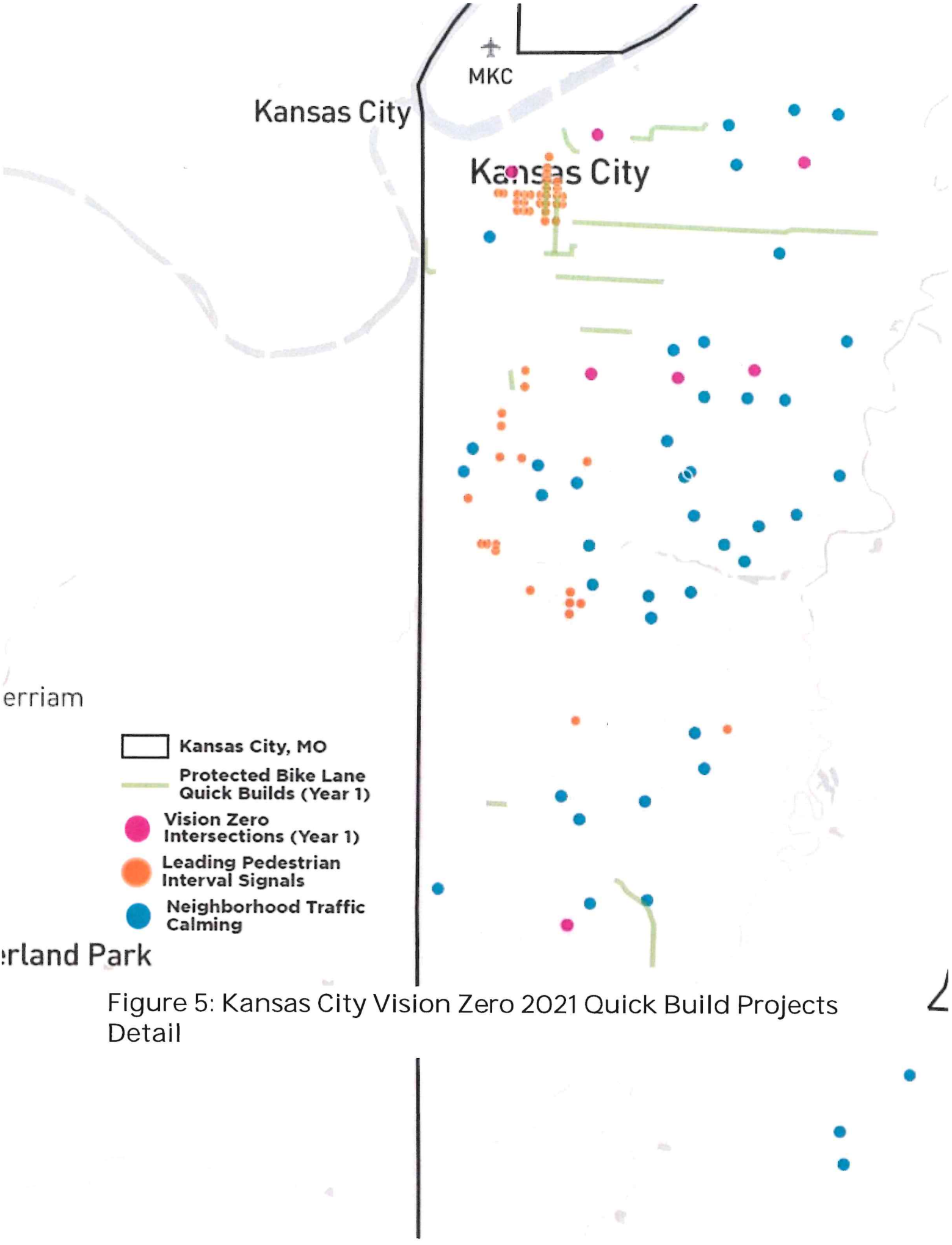

Figure 5: Kansas City Vision Zero 2021 Quick Build Projects Detail

Vision Zero Task Force

The Vision Zero resolution directed the city manager to convene a Vision Zero Task Force for the purpose of creating and implementing an action plan "to reduce traffic fatalities and serious injuries to zero by 2030" through various means. The task force was created in the summer of 2020 and is made up of staff from multiple departments including Public Works, City Planning and Development, the City Manager's Office, the Kansas City Fire and Police Departments and city councilmembers, as well as external partners from a variety of community organizations and neighborhood associations such as The Whole Person, LISC Kansas City, Mid-America Regional Council, the Kansas City Area Transit Authority/RideKC, BikeWalkKC, the Northeast Chamber of Commerce and Ivanhoe Neighborhood Council. The task force meets regularly throughout the year and plays an integral role in informing various aspects of the Vision Zero program and action plan. These are the Task Force's obligations and accomplishments to date:

1. Obligations
    a. Develop and implement the Vision Zero Action Plan
    b. Ensure roadway projects comply with best practices in roadway safety design as consistent with the Complete Streets Ordinance No. 170949; coordinating with DataKC and the Kansas City Police Department to collect and visualize traffic crash data to identify high-injury corridors and intersections through the open data portal; and
    c. Begin implementation of five semi-permanent Vision Zero projects no later than December 1, 2021
2. Accomplishments to date
    a. Creation of the Vision Zero Action Plan
    b. Traffic Calming Quick Builds and 31st Street design
    c. 50 neighborhood traffic calming locations
    d. 6 Intersections being calmed and reconstructed
    e. 10 Leading Pedestrian Interval locations implemented
    f. 19 Miles of protected bicycle facilities

Planning and Policy

Over the past years, Kansas City has focused on the initial steps to achieving Vision Zero in Kansas City by incorporating positive activities into the policies and processes of the City.

Decriminalizing Walking and Biking

In May 2021, the City Council voted to repeal several sections of the Municipal Code of Ordinances related to walking and biking.[1] The three laws were related to:

[1] Ordinance 210100 Text (PDF)

- Jaywalking (Code of Ordinances 70-783)
- Operating a "dirty" bicycle (Code of Ordinances 70-258)
- Allowing police to stop to inspect a bicycle "at any time" upon reasonable cause (reasonable cause not defined) (Code of Ordinances 70-706)

The city council unanimously voted to repeal all three sections of the code of ordinances with the declaration that these ordinances did not contribute to the safety of walking, biking, or driving in the city.

Project Prioritization
In addition to implementing quick build projects, the Kansas City Public Works department has already implemented Vision Zero as a key ranking factor in rating Capital Improvement Plan (CIP) projects. If a project is located on the High Injury Network as included in this plan, the projects receive a higher score for implementation. Additionally, if the project greatly adds safety countermeasures as outlined by Vision Zero principles in this plan, it scores even higher. This project prioritization is now a permanent part of CIP planning in Kansas City.

Vision Zero Planning Coordination
The Vision Zero action plan is strategically aligned with the creation of Kansas City's Comprehensive Plan update titled the Kansas City Spirit Playbook. This planning process began in 2020 and is slated to be complete in 2022. The vision statement for the plan, and many of the goals, mirror the aims of Vision Zero including: improving equity, multimodal mobility, linking transportation and land use planning, and eliminating fatal and serious injury crashes. One of the Objectives of the KC Spirit Playbook is "Vision Zero." The engagement related to that planning process was heavily utilized in the creation of this plan, with extensive discussions surrounding the topic of Vision Zero and related transportation, land use, and livability concepts.

Another way vision zero has been incorporated into city policy is in the decision matrix for protected bicycle facilities. Roads that have been identified as both potential road diet corridors as well as potential bicycle facility corridors are prioritized for receiving protected bicycle lane facilities.

Public Engagement Efforts to Date

City staff initiated community engagement as a foundational element of the Vision Zero program. The early public engagement strategy included both outreach on the Vision Zero program in general, as well as project-specific outreach on Year One Vision Zero projects.

Figure 6: Michael Kelley. Policy Director of Advocacy Group BikeWalkKC, Speaks on Vision Zero Efforts with Mayor Quinton Lucas and City Manager Brian Platt

When the initiative launched in May 2020, an online engagement survey and interactive map were deployed on the City's website (https://kcmo.gov/visionzero) to provide a Covid-19 safe way to gauge public priorities and collect detailed traffic safety information to supplement crash records and ultimately be a factor in informing future Vision Zero project locations.

As of July 2022, the online Vision Zero Engagement Map had nearly 1,000 entries (941) documenting various issues all over the city ranging from pedestrian hazards to unsafe driving behavior to visibility concerns.

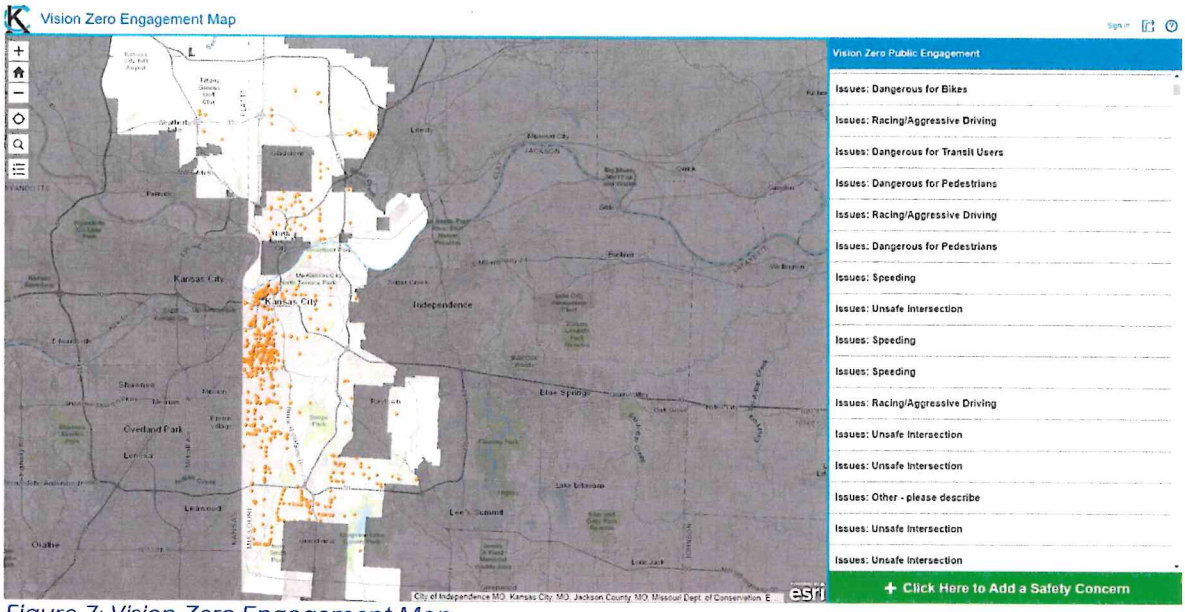

Figure 7: Vision Zero Engagement Map

Table 2: Community-Reported Safety Issue Summary

Issue Type	Issues Reported
Dangerous for Pedestrians	250
Unsafe Intersection	224
Dangerous for Bicyclists	194
Racing or Aggressive Driving	107
Speeding	84
Other	33
Idea	20
Visibility/Lighting	18
Transit Rider Danger	9
Railroad Crossing	1

The Task Force also leveraged work being done on other projects dealing with roadway safety – such as the update to the City's Comprehensive Plan and the GO KC Sidewalk Program – to inform the direction of the program. City staff used over a dozen existing council district, neighborhood association, and other capital project and community engagement meetings to inform residents about the Vision Zero program and gather feedback about safety issues in their neighborhoods.

The KC Spirit Playbook Comprehensive Plan engagement sessions were not only an effective project coordination opportunity, but also a key source of community feedback during the City's Comprehensive Plan update process pertaining to Vision Zero and traffic safety. An engagement summary and recordings of videos for Mobility Strategy Sessions can be found at https://playbook.kcmo.gov/mobility-strategy-team. Over 300 members of the public attended the five public Strategy Sessions related to

the mobility topic area. Vision Zero and traffic safety was the key component to these sessions and led to Vision Zero becoming one of the key objectives to be included in the KC Spirit Playbook.

Project-Specific Outreach
The rapid implementation intersection projects and neighborhood traffic calming projects also engaged the community using a standardized public notification process including in-person and online public meetings, informational mailers, and meetings with neighborhood associations, schools, and councilmembers.

City staff also hosted an online public meeting to present and gather feedback on the draft Vision Zero Action Plan in July 2022.

Program-wide Outreach
Public engagement will be an ongoing and key component of the Vision Zero program as the City seeks to gather public input to inform future projects and notify the community about upcoming Vision Zero work. More information about the Initiative's long-term community engagement strategy can be found in the engagement section later in this report.

DATA ANALYSIS

Kansas City staff conducted a comprehensive data analysis to support the Vision Zero efforts. A data-driven approach is an essential element to any Vision Zero effort. The data helps identify specific crash issues related to equity, roadway user types, roadway features, and locations in the city. Combining this data analysis with public engagement and input from the Vision Zero Task Force, we can create meaningful focus areas for improvements, identify effective countermeasures, and create an Action Plan that will drive Kansas City towards zero deaths and serious injuries on our roads.

This data analysis, which focuses exclusively on traffic crashes where someone was killed or seriously injured (KSI crashes), contains three primary parts:

- Crash Summary statistics focusing on trends, users, and contributing crash circumstances
- Systemic Risk Analysis focusing on crash risk factors related to neighborhood context, equity factors, and physical roadway configuration
- Crash Maps including the creation of:
    - High Injury Network (HIN) and intersections based on existing crash concentrations along roadway segments
    - High Risk Network (HRN) building on the risk factors identified in the Systemic Analysis
    - Crash Rate Maps focusing on crashes in neighborhood areas

Unless otherwise noted, all data analyses are restricted to local access streets in Kansas City. This means that all Interstates and other access-controlled freeways are excluded from the analysis. Please note, that the analysis does include roads that provide local full access but are controlled by MoDOT as part of state jurisdiction. Many of these roads, such as MO-1 Highway (NE Antioch Road), provide critical local links in the city, have a dramatic impact on the safety and mobility in their neighborhoods, and are regularly patrolled by Kansas City Police Department. Many Kansas Citians likely don't realize they're driving on a Missouri state highway on these streets, so it is important to maintain these roads in the analysis. Grade separated highways, such as I-70 and I-35 have less direct impact on neighborhood safety (aside from the barriers they pose to users), and the City has less ability to influence decision making on these roads. For these reasons, the analysis excluded these roads.

CRASH SUMMARY

Staff obtained crash records from the crash database maintained by the Mid-America Regional Council (MARC) for all of Kansas City from years 2010 through 2020. MARC

sources and rectifies this data from the Missouri Statewide Traffic Accident Records System (STARS) maintained by the Missouri State Highway Patrol. The STARS system maintains crash records from all police agencies in the state and serves as a central repository of authoritative crash record data. Where the STARS data was lacking in certain aspects, the analysis utilized data from the Fatality Analysis Reporting System (FARS) maintained by the National Highway Traffic Safety Administration (NHTSA). This data included equity, age, and curve data. We used this data to identify crash trends in Kansas City and identify crash issues related to demographics, user behavior, and environmental factors.

Trends (Complete)

Staff conducted a data analysis focusing on the trends and the impact of crashes over time. The intention of the following initial crash analysis for a 10-year period data, from 2010 to 2020, was to provide a baseline trend analysis. In 2020, there were approximately 61 fatal and 268 severe injury vehicles crashes. Between 2010 and 2020, KSI crashes of Kansas City increased by 37% overall, with fatal crashes increased by 74%, and serious injury crashes increased by 28%.

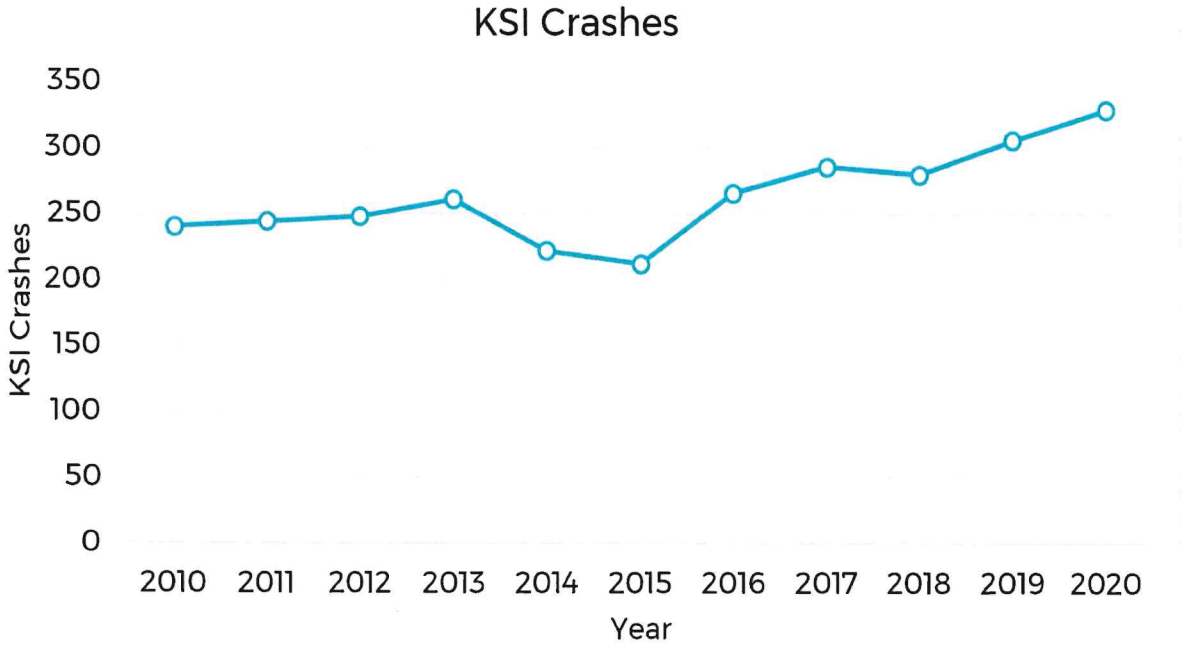

Figure 8: Fatal and Serious Injury Crash Trend 2010-2020

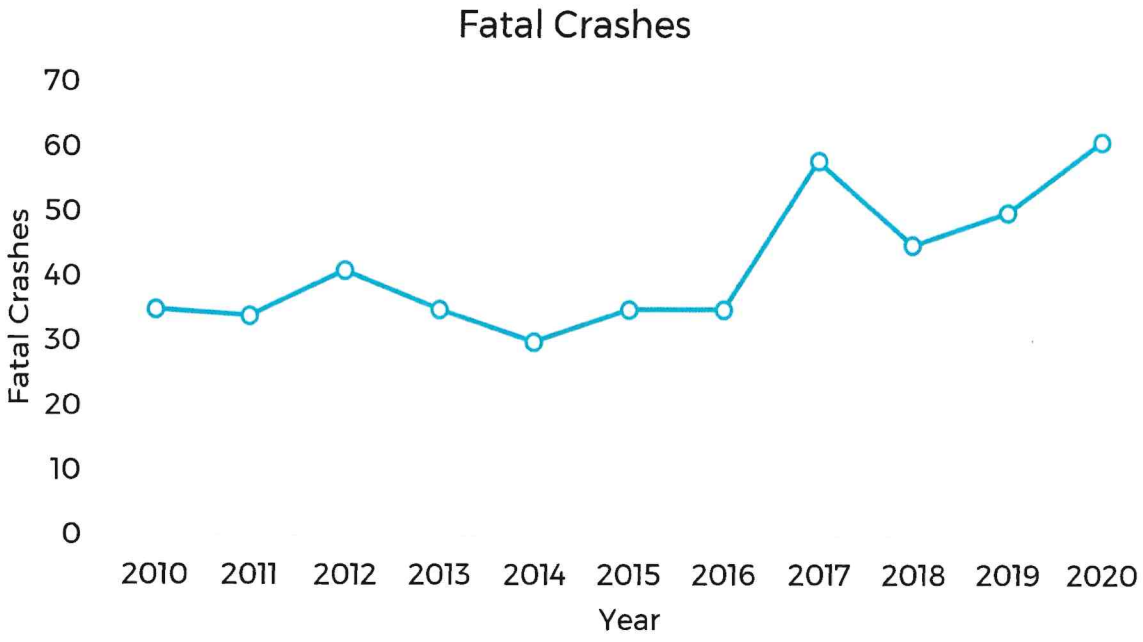

Figure 9: Fatal Crash Trend 2010-2020

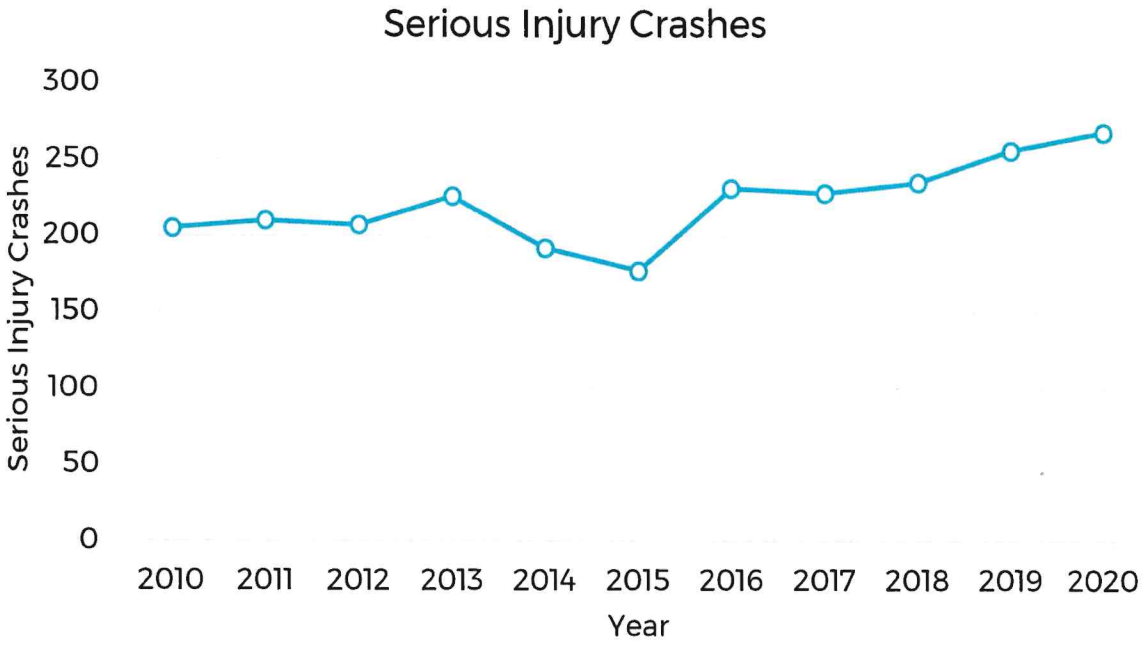

Figure 10: Serious Injury Crash Trend 2010-2020

The following figures provide a detailed look at crash summary trends based on the mode of transportation. Though biking and walking represent a smaller share of overall KSI crashes on local access streets, the relative risk is much higher than for driving due to the relatively low mode share of walking and biking. This signifies that to achieve Vision Zero, all transportation modes must be considered including driving, walking, and biking.

Since 2010, vehicle KSI crashes have increased 43% between 2010 and 2020. Pedestrian KSI crashes have increased 37% and bicycle crashes have increased 2.8% over the years between 2010 and 2020.

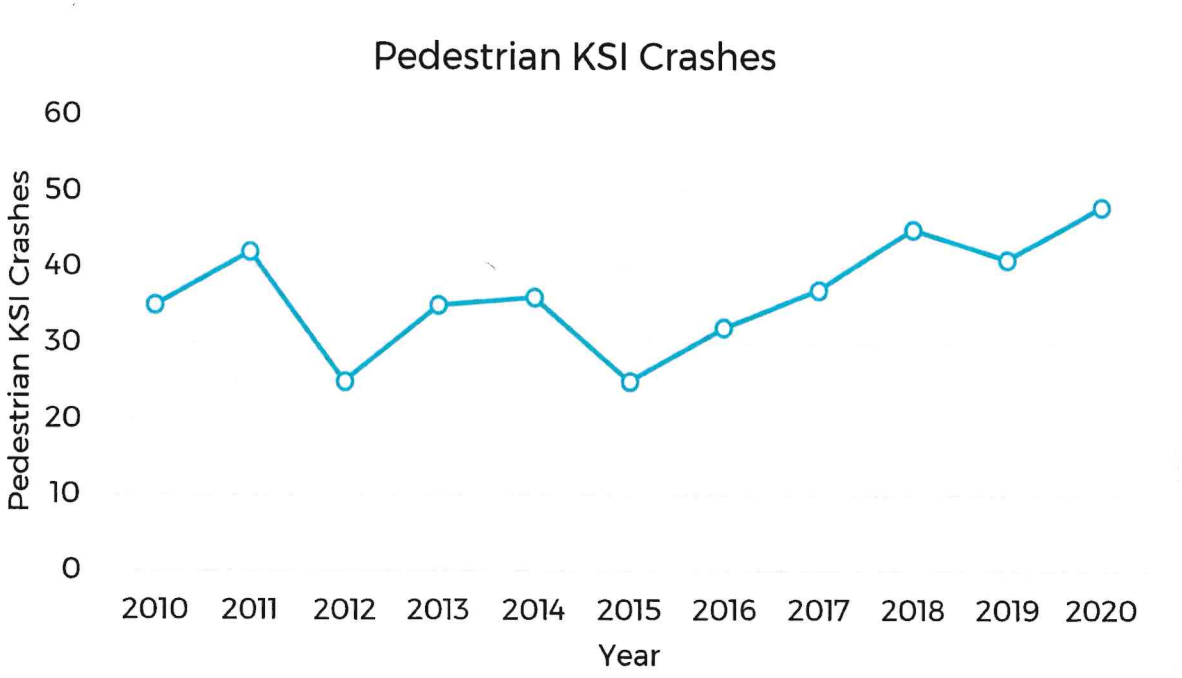

Figure 11: Pedestrian Fatal and Serious Injury Crash Trend 2010-2020

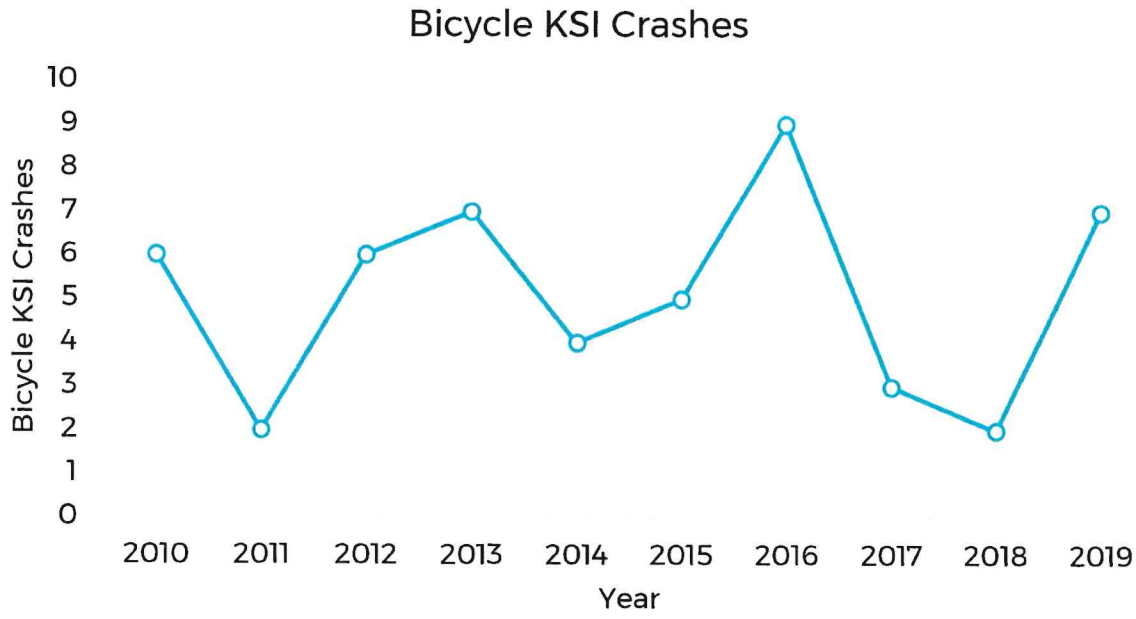

Figure 12: Bicycle Fatal and Serious Injury Crash Trend 2010-2020

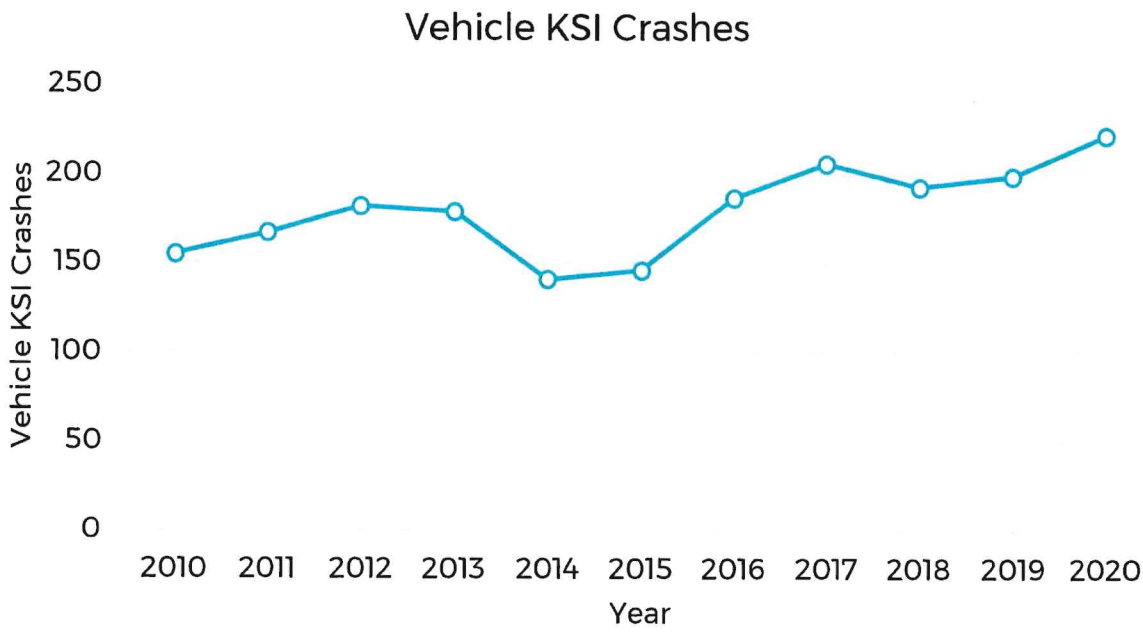

Figure 13: Vehicle Fatal and Serious Injury Crash Trend 2010-2020

Crash Cost to Society

Between 2010 and 2020 (11 years), there were a total of 53,598 fatal, serious, and non-incapacitating injury crashes in the city. The estimated cost to society resulting from crashes during this period adds up to $36.5 billion, which equates to approximately $3.3 billion per year. This data is shown in Table 3.

Table 3: Estimated Crash Cost to Society of Fatal and Injury Crashes within the Boundaries of Kansas City, Missouri on all Streets (2010-2020)

Severity	Crashes	Cost per Crash Severity	Cost to Society*	Average Cost per Year
Fatal	734	$11,600,00	$8,514,400,000	$774,036,364
Disabling Injury	3,260	$554,800	$492,586,000	$44,780,545
Non-Disabling Injury	49,604	$151,100	$27,520,299,200	$2,501,845,382
Total	53,598		$36,527,285,200	**$3,320,662,291**

*Crash costs are an estimation of the monetary impact of a crash based on the FHWA 2022 estimated crash cost. This includes direct costs such as medical bills, lost wages, repairs, etc as well as intangible consequences such as reduced quality of life.

Roadway Users

Local access streets provide mobility for all modes of transportation, primarily driving, walking, and biking. The majority (85%) of KSI crashes on surface streets are vehicle crashes that do not involve pedestrians or cyclists. However, a substantial share of the crashes do involve pedestrians (13.6%) and cyclists (1.5%).

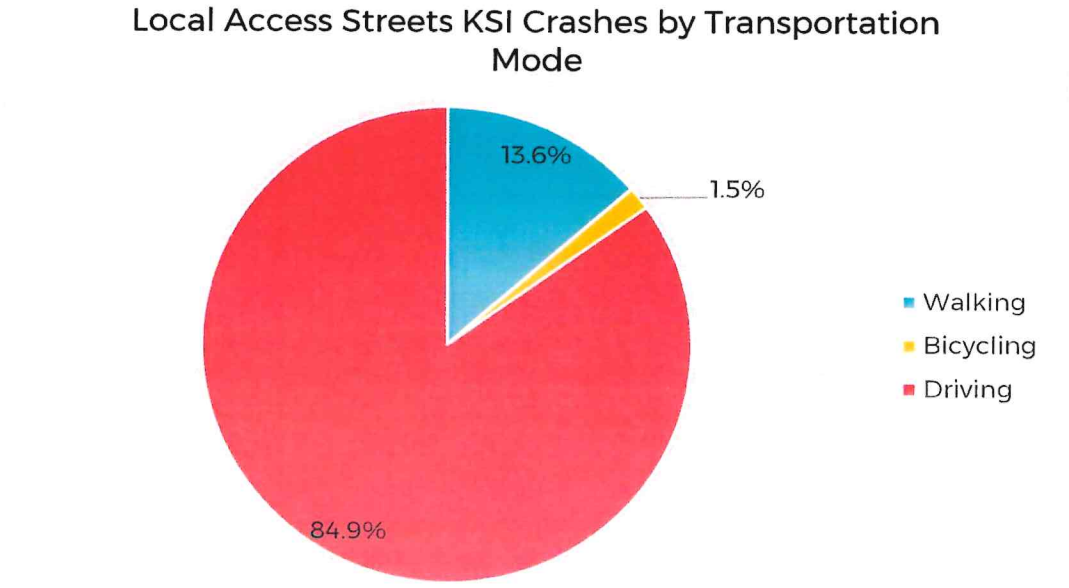

Figure 14: Local Access Streets Fatal and Serious Crashes by Transportation Mode 2016-2020

Equity

Crashes on local access streets do not occur evenly by race. The following data provides an insight on the users and equity aspect of the crashes happening in the past five years. When normalized by population, it becomes apparent that black users (non-Hispanic) bear a much greater burden of KSI crashes. 46% of crashes involved black users (non-Hispanic), but only 27% of Kansas Citians identify as black (non-Hispanic). This means that these users are 1.7 times more likely to be killed or seriously injured in traffic crashes than average. All other demographic groups are under-represented in KSI crashes compared to average.

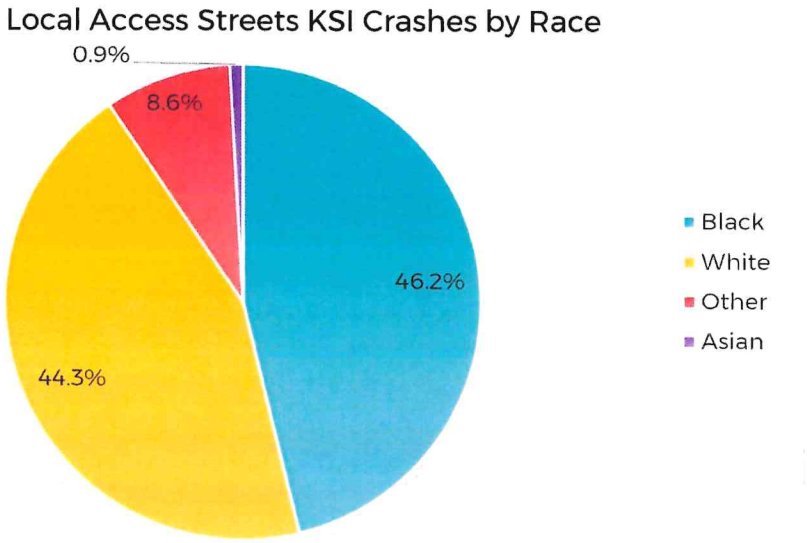

Figure 15: Local Access Streets Fatal and Serious Crashes by Race 2015-2019

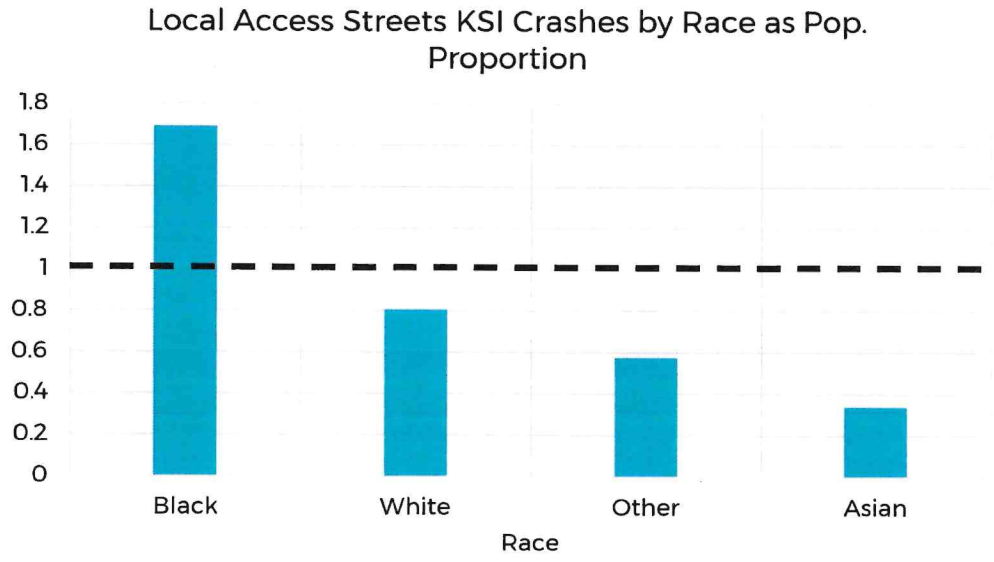

Figure 16: Local Access Streets Fatal and Serious Crashes by Race as a Representation of Population (>1.0

= Over-Representation) 2015-2019

Age and Sex

Crashes on local access streets do not occur evenly across age groups. The groups that account for the largest number of crashes is those in their late 20s and early 30s, with those aged 25-29 accounting for 125 KSI crashes and 30-34 for 121 KSI crashes. Normalizing for population, users in their late 20s not only are involved in a high frequency of KSI crashes, but these users are also highly over-represented. Users in the age group of 25-29 are 1.8 times more likely to be involved in a KSI crash than average. There is no substantial over-representation in crashes by older users.

Males make up a disproportionate amount of roadway deaths. Male users currently account for 73% of crashes and are nearly 1.5 times as likely to be involved in a KSI crash compared to women on local access streets. Males drive more vehicle miles than females and are more likely to participate in risky driving behaviors, including driving under the influence of alcohol, lack of seat belt use, and driving aggressively. Normalizing the data by sex to the Kansas City population, males are approximately three times as likely to be involved in roadway crash compared to females.

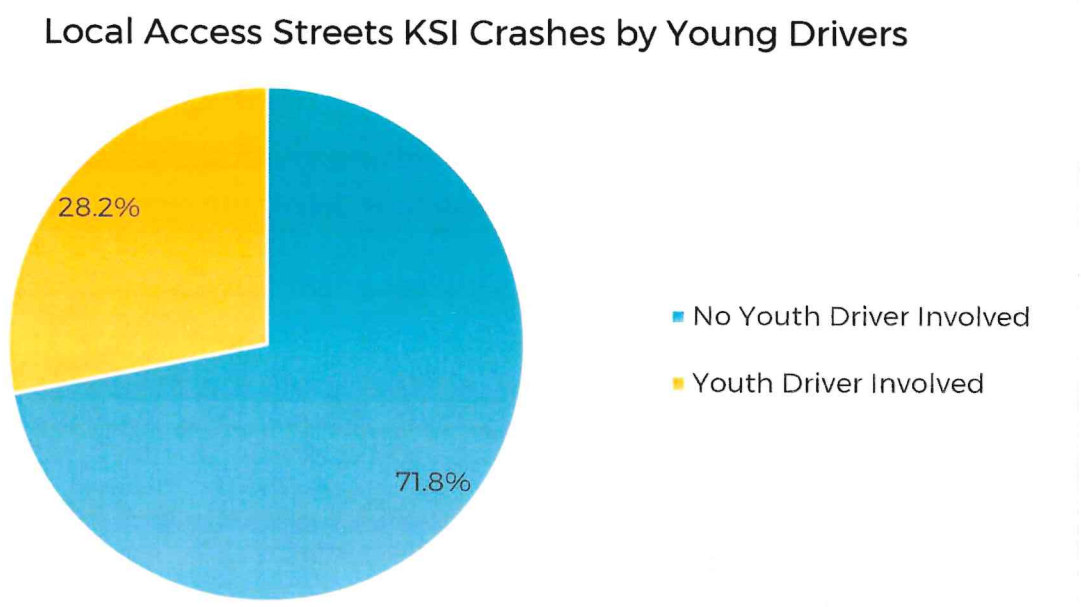

Figure 17: Local Access Streets KSI Crashes by Young Drivers 2016-2020

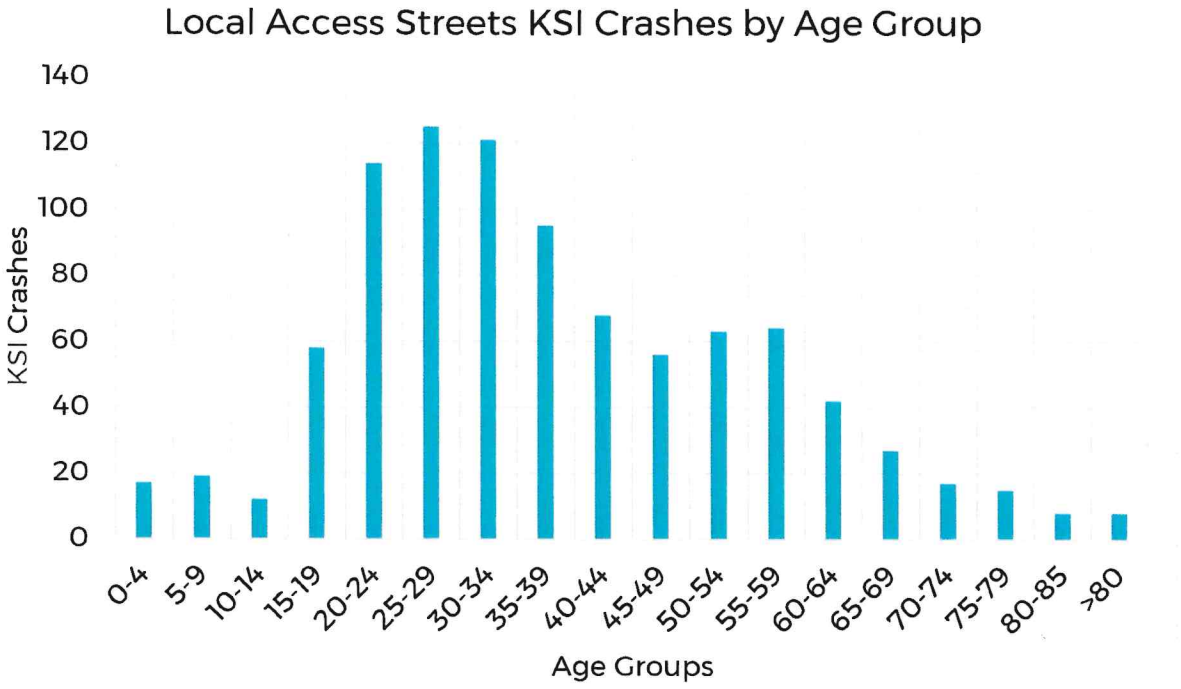

Figure 18: Local Access Streets Fatal and Serious Crashes by Age Group 2016-2020

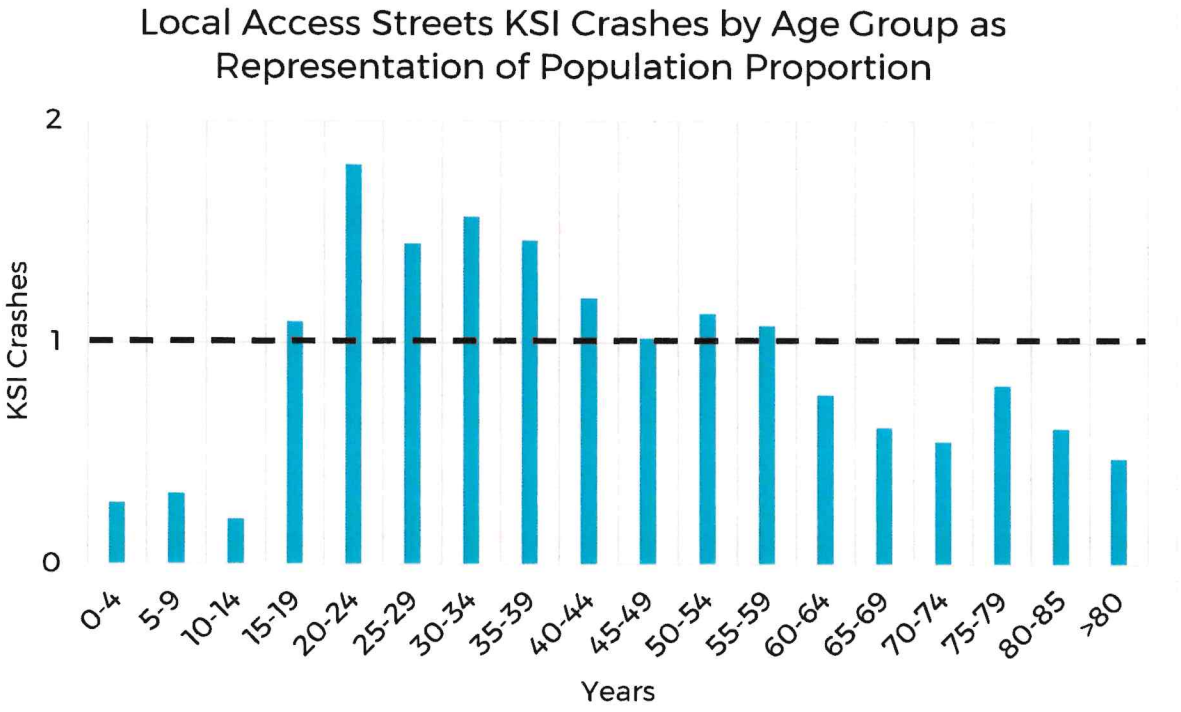

Figure 19: Local Access Streets Fatal and Serious Crashes by Age Group as a Representation of Population (>1.0 = Over-Representation) 2016-2020

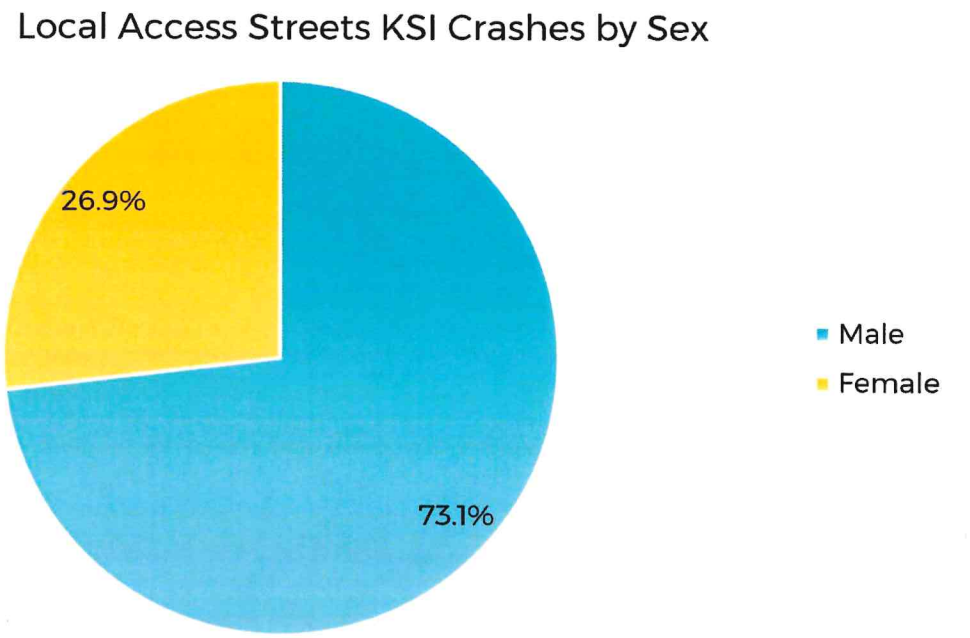

Figure 20: Local Access Streets Fatal and Serious Crashes by Sex 2016-2020

Crash Types and Locations

The most prevalent KSI crash type in the city is angle crash. These are commonly referred to as "T-bone" crashes, where one vehicle hits the side of another vehicle. These crashes often result in serious injuries and deaths, especially at higher speeds. These crashes happen most often at intersections, especially those with traffic signals. The second most common crash type is "fixed object" where a car strikes something on the side of the road or in the road such as a utility pole, a tree, wall, or building. These most often happen in mid-block locations and not at intersections. The third most common KSI crash type is those involving a pedestrian. This is particularly concerning, considering the share of people walking in the city compared to driving is relatively low.

User behaviors have a more significant effect on fixed object crashes than other crash types. More than half (51%) of fixed object KSI crashes were attributed to aggressive drivers. This is 1.75 times higher than the average rate of KSI crashes related to aggressive drivers. Intoxication had a higher contribution to these crashes with 15% of fixed object KSI crashes involved intoxication compared to only 7% of all KSI crashes involving intoxication. This means that twice as many fixed object KSI crashes involved intoxication than average KSI crashes.

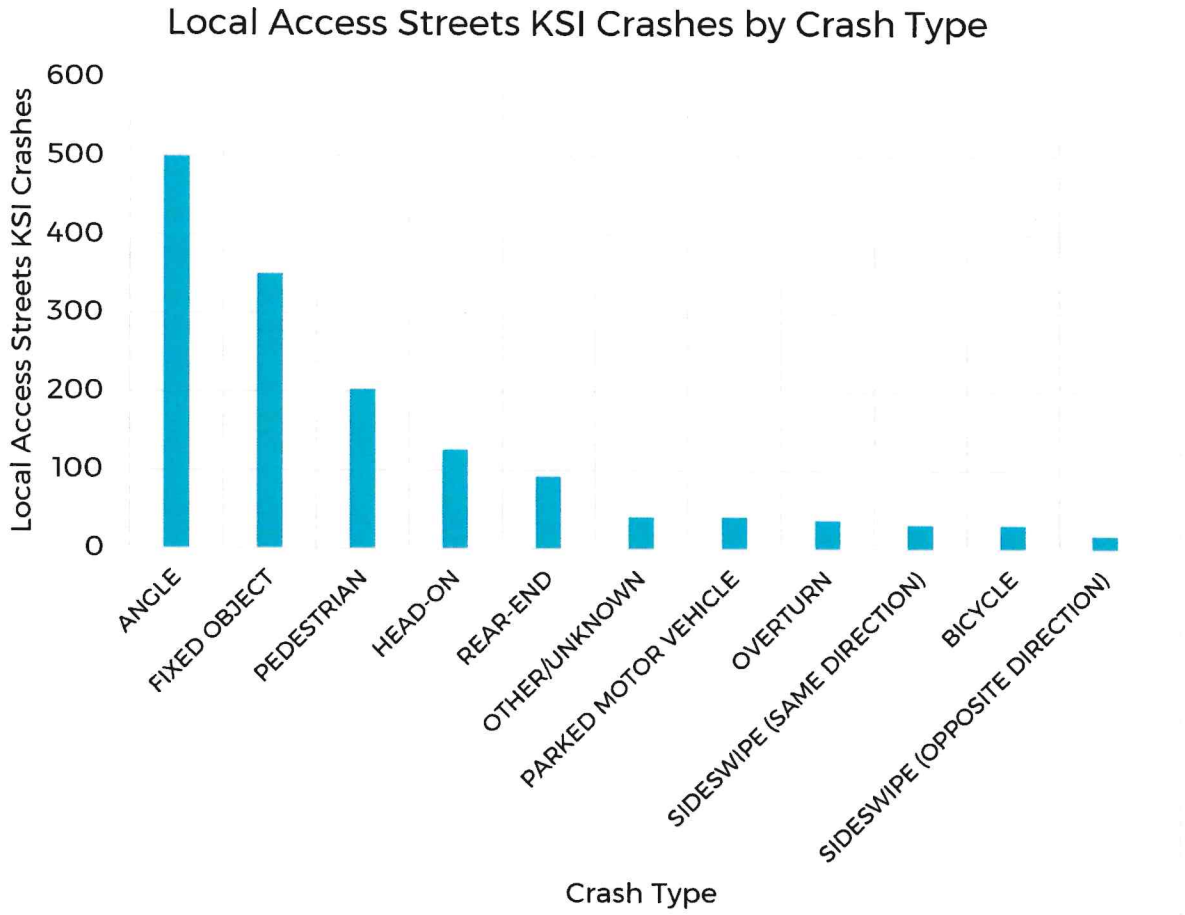

Figure 21: Local Access Streets Fatal and Serious Crashes by Crash Type 2016-2020

The majority of KSI crashes happened on Minor Arterial roads. These are streets with less traffic volume that often pass-through residential areas and serve less dense areas with schools, parks, light commercial, office, and industrial land uses. A substantial number also occurred on Principle Arterial streets. These are major streets in the city with high traffic volumes such as: Southwest Trafficway, Main Street, and North Oak Street. Principal Arterials often serve dense, urban areas and provide access to Interstate highways and other freeways. Out of all the KSI crashes, 77% of the crashes occurred on an intersection, and 67% occurred while the movement was a straight movement and not on a curved roadway.

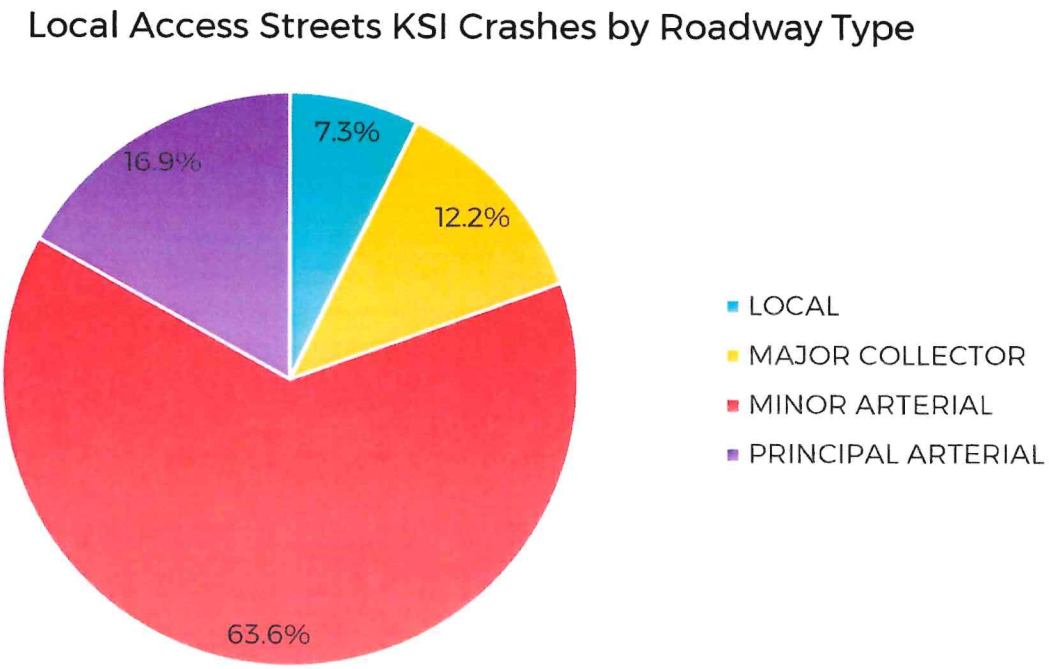

Figure 22: Local Access Streets Fatal and Serious Crashes by Roadway Type 2016-2020

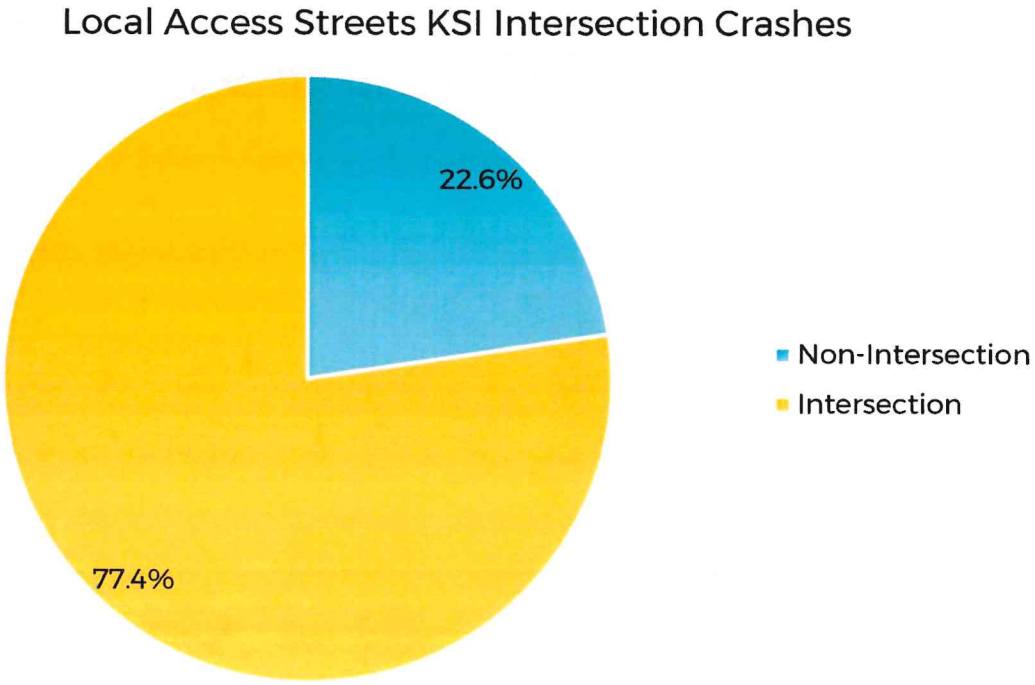

Figure 23: Local Access Streets Fatal and Serious Crashes Intersection vs Non-Intersection Crashes 2016-2020

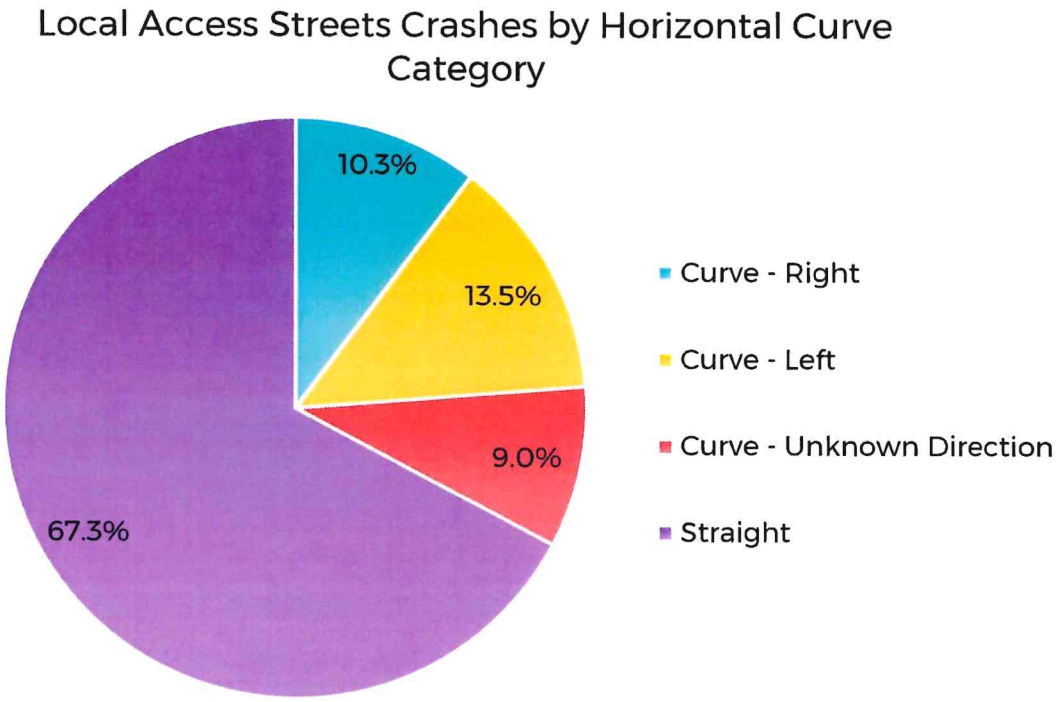

Figure 24: Local Access Streets Fatal and Serious Crash by Horizontal Curve Category 2016-2020

User Behavior

A key focus of Vision Zero is on the responsibility of all parties involved with roadway safety. In the past, the primary focus was put on user behavior and efforts involved perfecting user behavior through education and law enforcement. Vision Zero shifts this focus from perfecting human behavior to taking a Safe System approach that addresses underlying weaknesses in the system. This responsibility falls on system engineers, designers, and planners. Regardless of this, driver behavior is still an important part of understanding the safety landscape in our city and serves to inform behavioral countermeasures that can supplement the engineering and planning countermeasures that form the backbone of a Vision Zero approach.

Unlicensed Drivers

The figure below shows that the majority of the KSI crashes on local access streets do not involve unlicensed drivers. However, the fact that nearly one-third of our KSI crashes involved an unlicensed driver is troubling. The trend of KSI crashes involving unlicensed drivers has been significantly increasing during the past ten years, growing more than 350%. Anecdotal evidence points to an equity issue with driver licensing.

In 2001, Missouri implemented a graduated driver's license (GDL) program. The GDL program requires new drivers to spend a certain amount of time driving with a licensed adult. This program, and programs like it, have been shown to reduce teen driving crashes, which is a major focus in traffic safety.

Although GDLs improve safety among most teens, young people living in disadvantaged communities with high rates of poverty and minority populations have noted impediments to obtaining a driver's license. These teens may not have an adult in their life that can spend the time driving with them to obtain the necessary number of hours to get a full driver's license. As this issue compounds over the years, the teen may not have any adult in their life with a driver's license because of equity related GDL issues continuing over the past 20 years. Other teens may have physically disabled parents or guardians, such as those with low vision, who cannot legally obtain a driver's license.

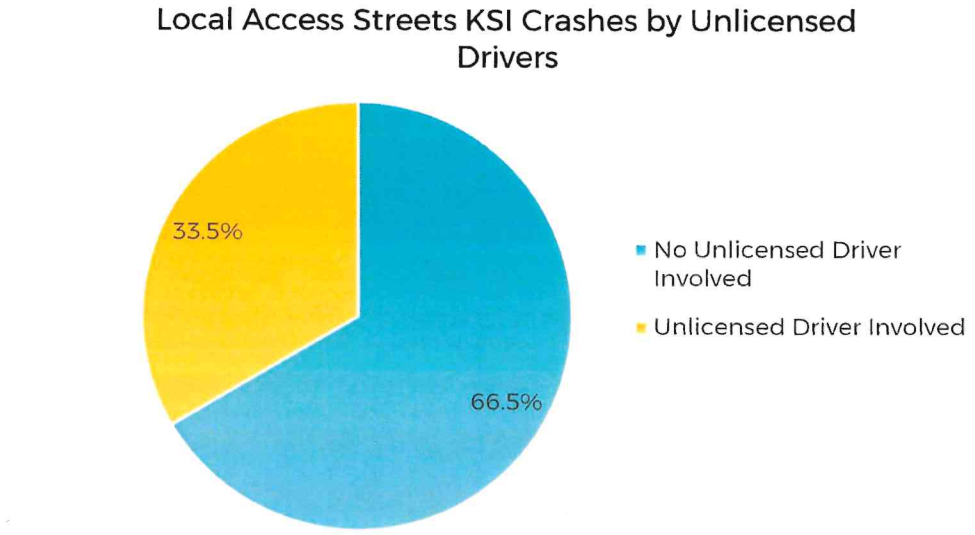

Figure 25: Local Access Streets Vehicle KSI Crashes by Unlicensed Drivers 2016-2020

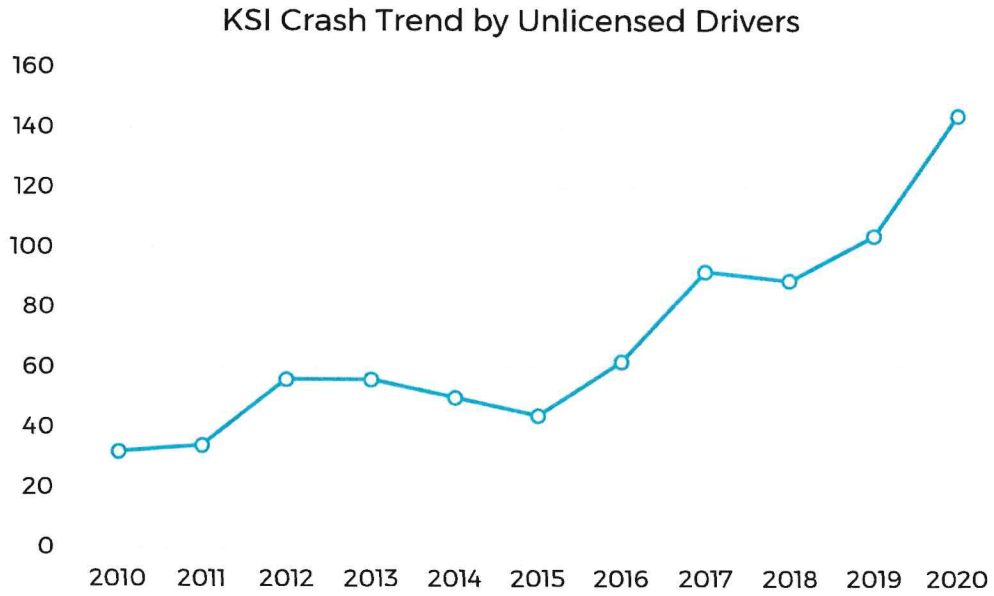

Figure 26: Local Access Streets KSI Crash Trend by Unlicensed Drivers 2010-2020

Reckless Driving Behaviors

Drivers will always make mistakes—that is the nature of being a human operating a machine in a complex environment. However, some mistakes, such as aggressive behavior, driving while intoxicated, and driving distracted can be considered worse than honest mistakes. In some cases, these behaviors may be classified as reckless or even negligent. Some of these behaviors have a much greater impact on fatal and serious injury crashes than others.

Aggressive driving is the top behavior contributing to fatal and serious injury crashes. This behavior includes speeding, driving too fast for various road conditions, tailgating, illegal passing, and weaving in traffic. Nearly one-third (29%) of the fatal and serious injury crashes in Kansas City involve aggressive driving.

Impaired and distracted driving is often cited as an important contributing circumstance for crashes in common literature. However, crash data shows only 8% of KSI crashes involve impaired drivers, and only 5% of the crashes are related to distracted driving.

Based on this data, although intoxicated and distracted driving are clearly poor driver behaviors, they are potentially less important to focus on than other factors.

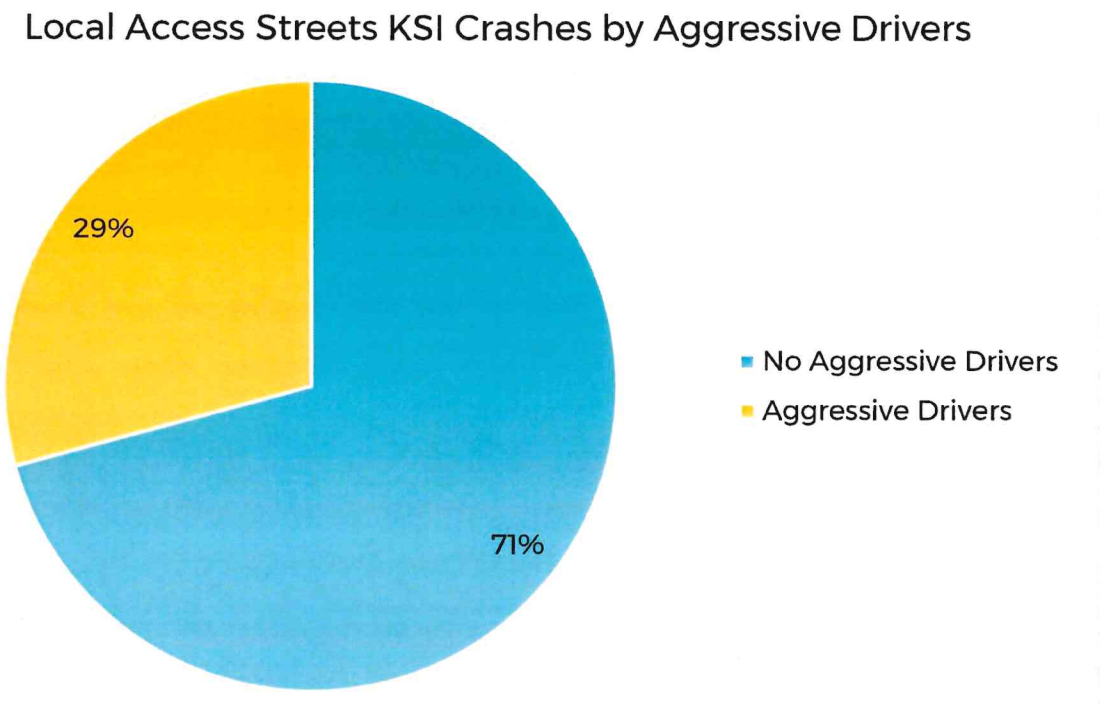

Figure 27: Local Access Streets KSI Crashes by Aggressive Drivers 2016-2020

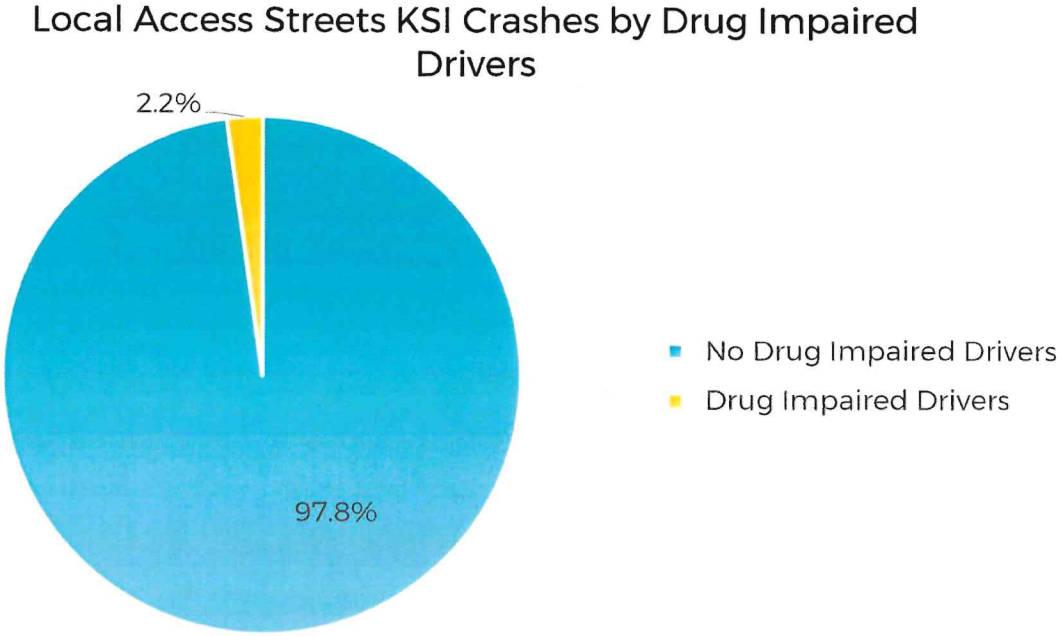

Figure 28: Local Access Streets KSI Crashes by Drug Impaired Drivers 2016-2020

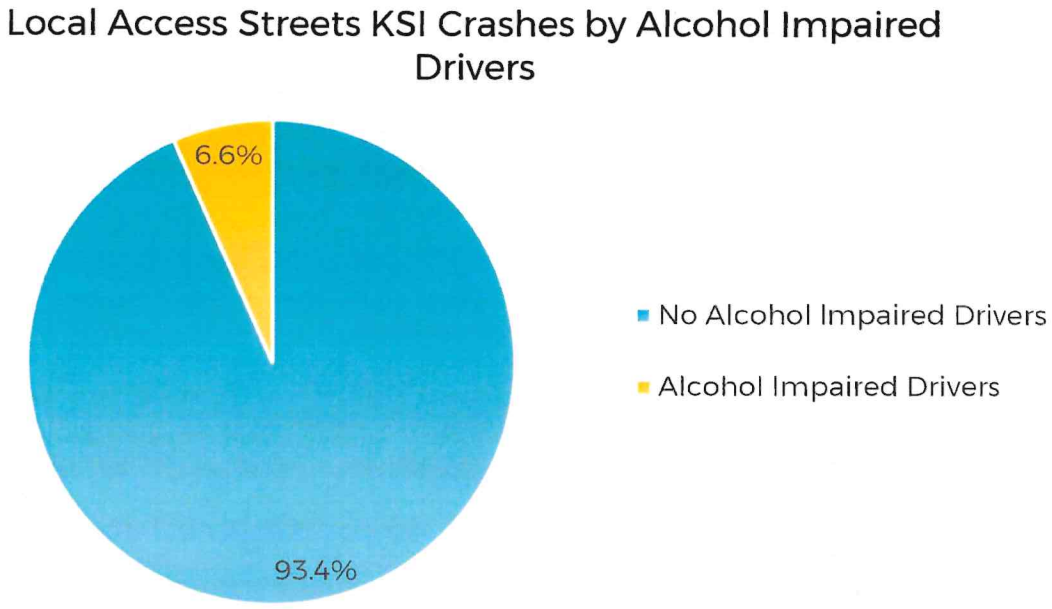

Figure 29: Local Access Streets KSI Crashes by Alcohol Impaired Drivers 2016-2020

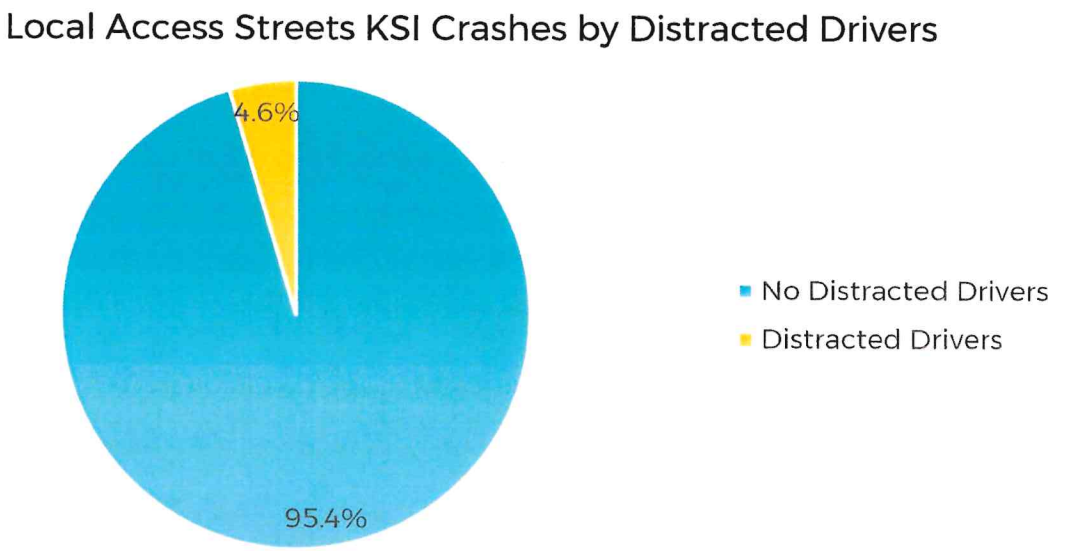

Figure 30: Local Access Streets KSI Crashes by Distracted Drivers 2016-2020

Occupant Protection

Most vehicle occupants in KSI crashes were found to have been wearing protection, seatbelts in the case of motor vehicles and helmets for cyclists and motorcyclists. The behavior of drivers and motorcyclists were also examined and found that 88.8% of the KSI crashes happened when occupants were wearing seatbelts and 99% of all motorcycle KSI crashes happened when occupants were wearing their helmets. This data clearly shows that seatbelt and helmet usage is very widespread, but that utilizing all proper occupant protection equipment in a vehicle will not necessarily stop fatal and serious injury crashes from occurring.

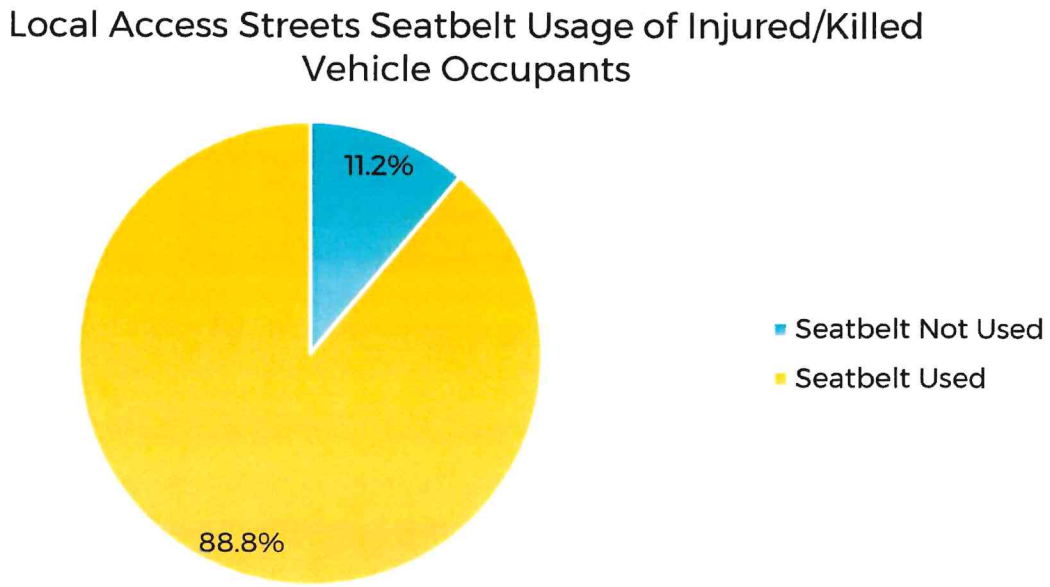

Figure 31: Local Access Streets Fatal and Serious Crash Seatbelt Usage 2016-2019

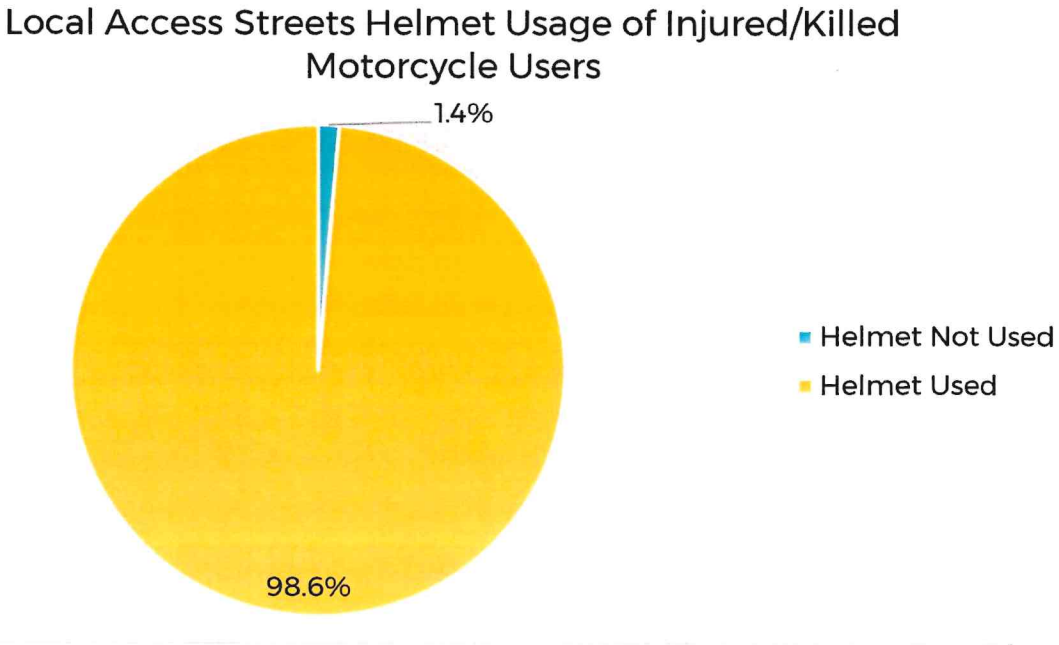

Figure 32: Local Access Street Fatal and Serious Motorcycle Crash Helmet Usage 2016-2019

Environmental Factors

Wet, icy weather often leads to large pileups on highways and a lot of concentrated crashes. This is usually reported on the nightly news broadcasts and leads to the impression that these events are a major traffic safety issue. However, the data shows that the majority of KSI crashes occurred with clear or cloudy weather and not in rain,

snow, or ice. Most crashes also occur during daylight hours, or at night on streets where streetlighting is present. Street lighting may still be a safety concern, because although streetlights present, these lights may be inoperable or placed in a suboptimal location that doesn't properly illuminate areas of conflict, especially where pedestrians may be crossing the street.

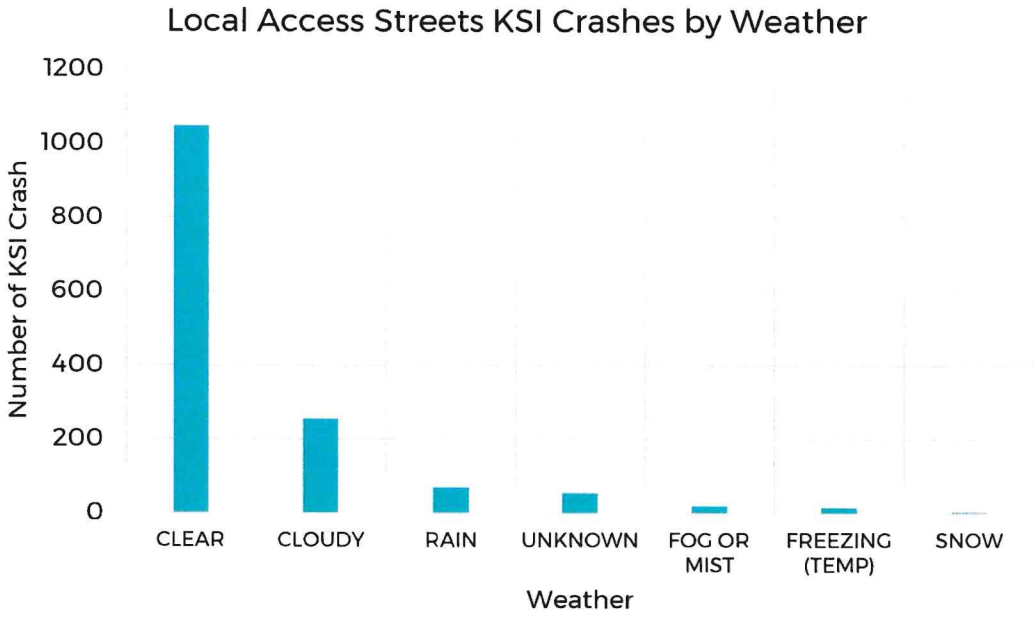

Figure 33: Local Access Streets Fatal and Serious Crash by Weather Conditions 2016-2020

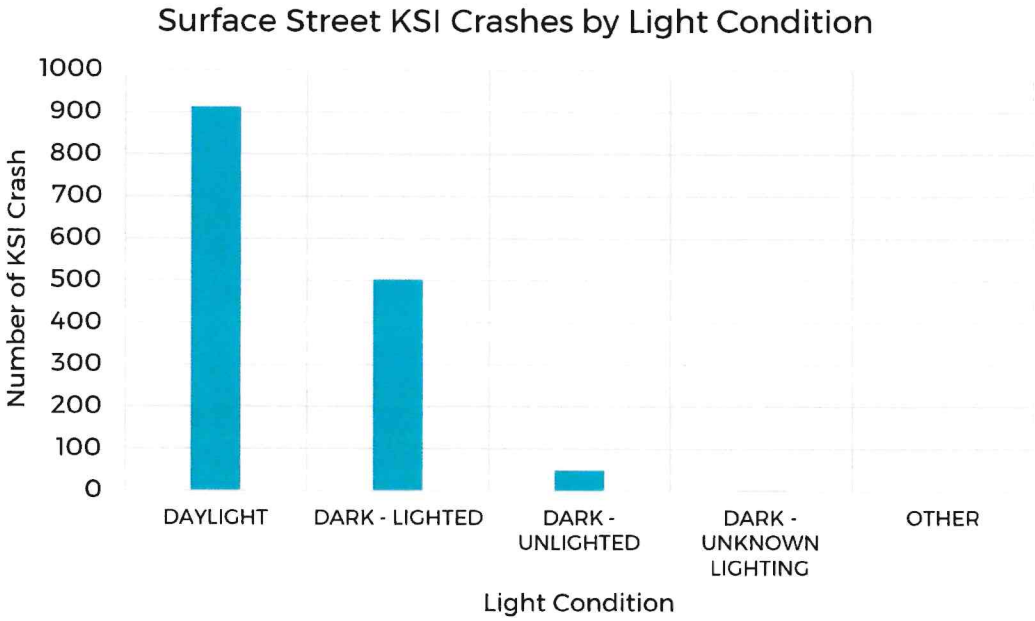

Figure 34: Local Access Streets Fatal and Serious Crash by Light Conditions 2016-2020

Crash trends by day of week and hour tend to correspond to traffic pattern trends with higher numbers of crashes happening in the afternoon peak periods of traffic, especially on Friday afternoons. Friday night into Saturday morning and Saturday night into Sunday morning are also higher than average times for KSI crashes.

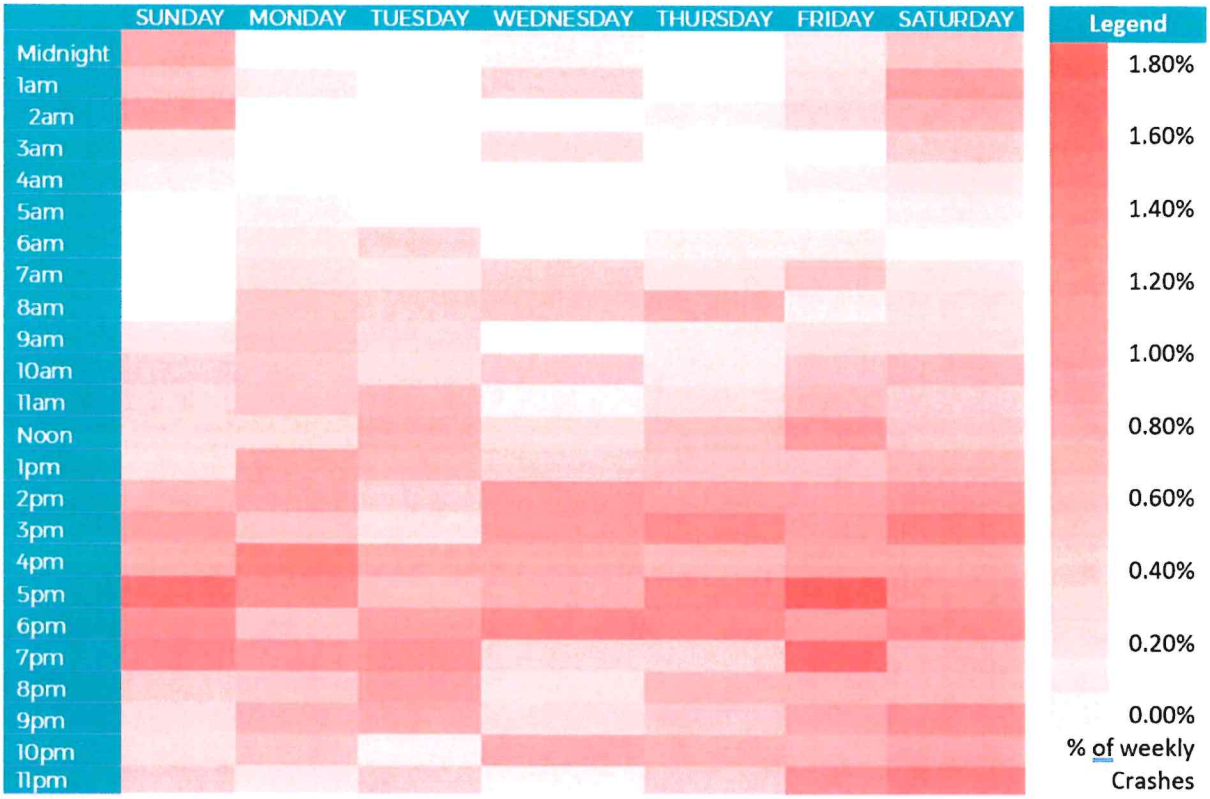

Figure 35: Local Access Streets Fatal and Serious Crashes per Hour 2016-2020

SYSTEMIC RISK ANALYSIS

Staff conducted a systemic risk analysis to assess how factors that are not typically recorded in crash data impact the relative risk of crashes. For this analysis, databases of crash data, roadway data, and demographic data were joined and analyzed together. The analysis compared the relative proportion of crashes with the relative proportion of roadways with a given feature. This was used to create a "Representation Ratio," for intersections and corridors, shown in the charts below.

For the entire city the normalized value is 1.0 (i.e., 100% of crashes happen on 100% of roads), therefore any values above 1.0 show places where crashes are over-represented. For example, 70% of the KSI crashes happened in urban areas, but only 44% of our roadway miles are in urban areas. This means the representation ratio is 1.6 and it is 1.6 times more likely for a KSI crash to happen on an urban street. This is an over-representation and equates to a roadway risk factor based on the road context. On the other hand, 26% of KSI crashes happened in suburban areas of the city, and 48% of our roadway miles are in suburban areas, resulting in a representation ratio of 0.5, which

means it's about half as likely for a KSI crash to happen on a suburban area road than average in the city. This is an under-representation and shows that there is a relatively lower risk of KSI crashes occurring in suburban areas.

Attributes explored in the systemic analysis include:

- land use context—rural, suburban, urban
- disadvantaged areas vs non-disadvantaged areas
- traffic volume—daily volume and relative congestion
- roadway configuration—one-way/two-way, number of lanes, divided or undivided
- intersection control—signal, roundabout, stop

Area types of urban, suburban, and rural are defined based on the population and employment density of various parts of Kansas City, mirroring the Kansas City Travel Demand Model. Urban areas generally include census tracts within the I-435 loop south of the Missouri River and south of Vivion Road north of the Missouri River. Suburban areas include all other parts of the city that have been developed. Rural areas include all undeveloped parts of the city on the outskirts of town. The general areas denoted as urban, suburban, and rural are shown in **Error! Reference source not found.**. Disadvantaged areas of the city were identified using the Transportation Disadvantaged Census Tracts identified by the USDOT.[2]

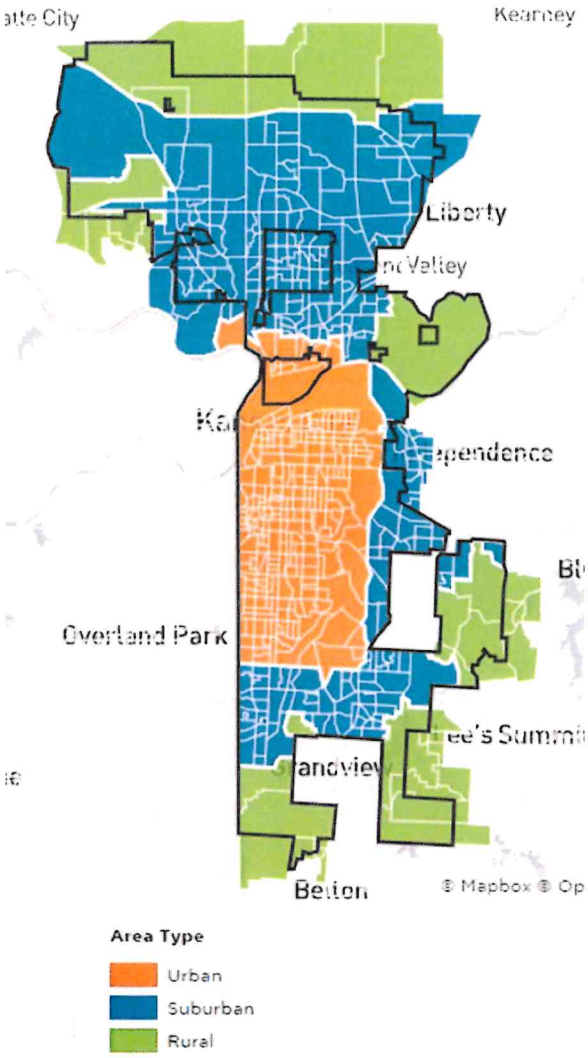

Figure 36: General Boundaries for the Urban, Suburban, and Rural Classification of Segments and Intersections

Road Segment Crash Risk

City staff analyzed roadway segments within the local access road network compared to their correlated KSI crashes.

[2] https://www.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a

Besides the area context of the roadway in question, these segments were sorted by the number of travel lanes available for the bidirectional roadways, presence of median, and speed limit. After compiling the data seen in the figures below, analysis showed that KSI crashes were 1.6 times more likely to occur on urban roadways in disadvantaged areas. In all land use contexts, disadvantaged areas were twice as likely to experience KSI crashes than non-disadvantaged parts of the city. This trend of increased crash risk for disadvantaged communities holds true no matter the land use context—a transportation disadvantaged tract in a rural, suburban, or urban area has an elevated risk over non-disadvantaged areas in rural, suburban, and urban areas.

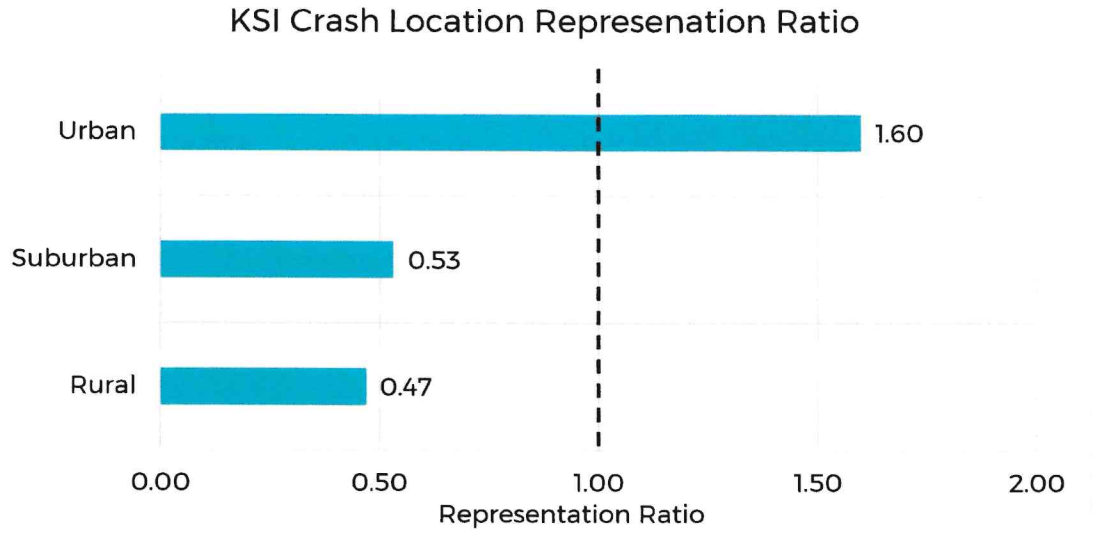

Figure 37: Roadway Location Representation Ratio of KSI Crashes

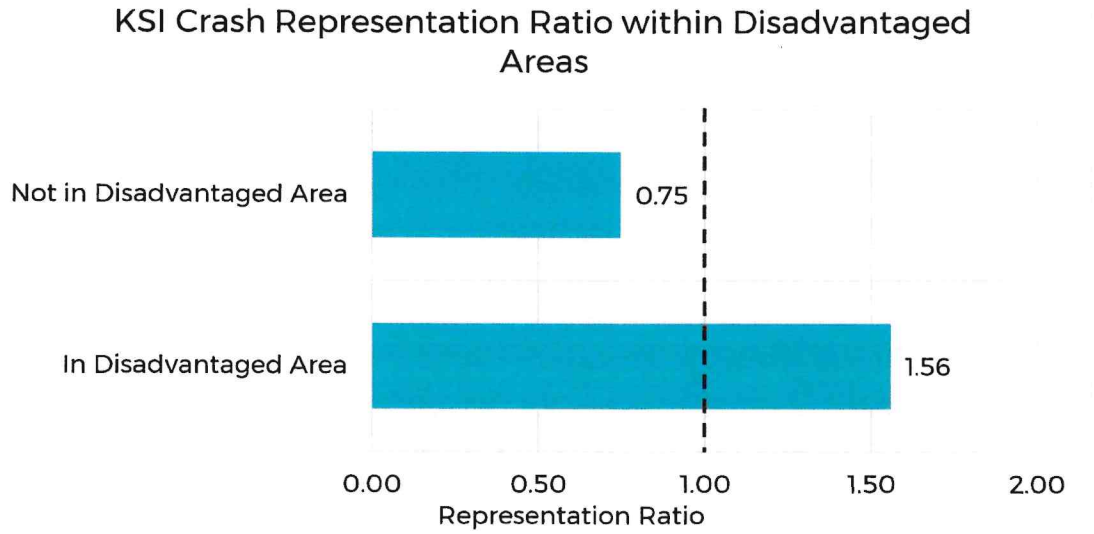

Figure 38: KSI Crash Representation Ratio within Transportation Disadvantaged Area

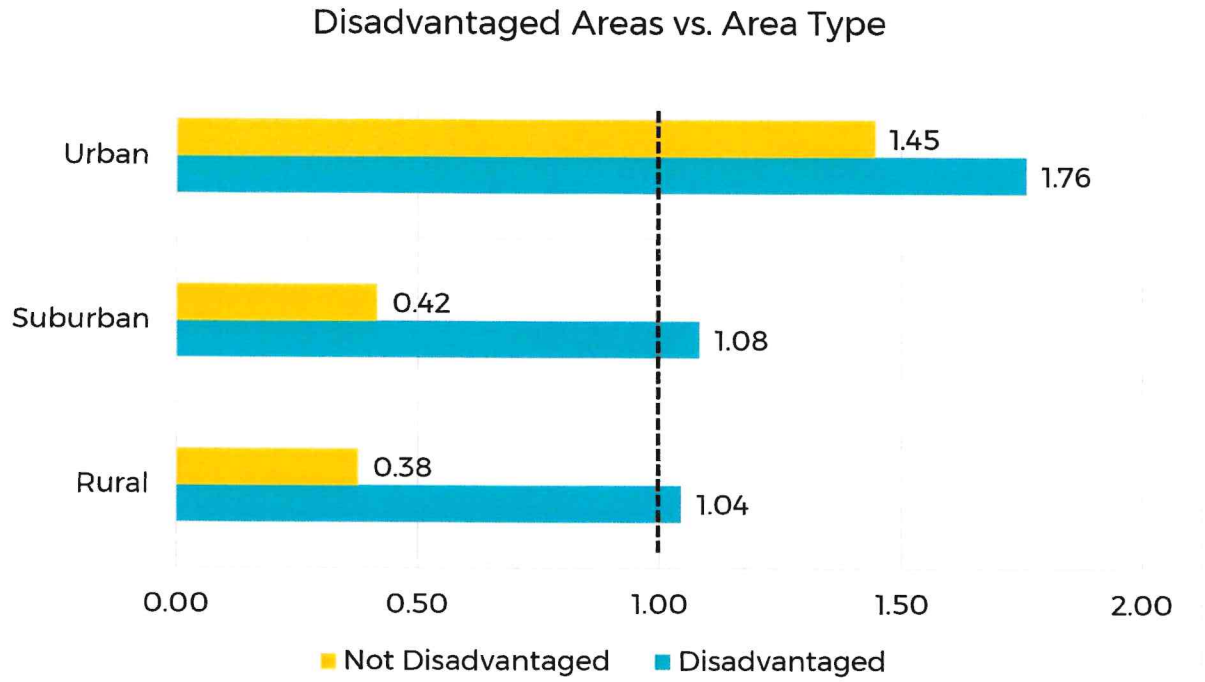

Figure 39: Location of KSI Crash Representation Ratio

Focusing on the infrastructure elements of roadways, several factors are highly correlated to increased crash risk. More fatal and serious injury crashes occurred on two-way streets with more than one lane in each direction, with a strong positive correlation between KSI crashes and an increasing number of lanes—4-lane and 6-lane roads having much higher crash risk than two lane roads. For both 4 and 6-lane roadways, undivided roadways are more likely to experience KSI crashes than roadways with either Two-Way Turn Lanes (TWLTL) or raised medians. KSI crashes are three times more likely to occur on a roadway with a posted speed limit of 35 mph; however, all speed limits above 25 mph were found to have a positive correlation with KSI crashes.

KSI crashes were also positively correlated with a lack of congestion. Using a volume to capacity ratio to judge congestion the analysis revealed that, among arterial streets, the least congested roads in the city were found to have the highest crash risk. These roads were approximately twice as likely to have a fatal or serious injury crash than the city's most congested roads.

Vehicle traffic volume also had an impact on crash risk, but the risk was not linear. Very low volume roads have the lowest crash risk, and as traffic volumes increase, this crash risk increases. However, at 10,000 vehicles per day—the typical capacity of a two-lane road—the crash risk levels off with relatively similar crash risk for roads from 10,000 vehicles per day to 40,000+ vehicles per day. Roadways with 30,000 - 40,000 vehicle per day have a significantly elevated crash risk but are an outlier due to a small sample size of these types of roads in the city.

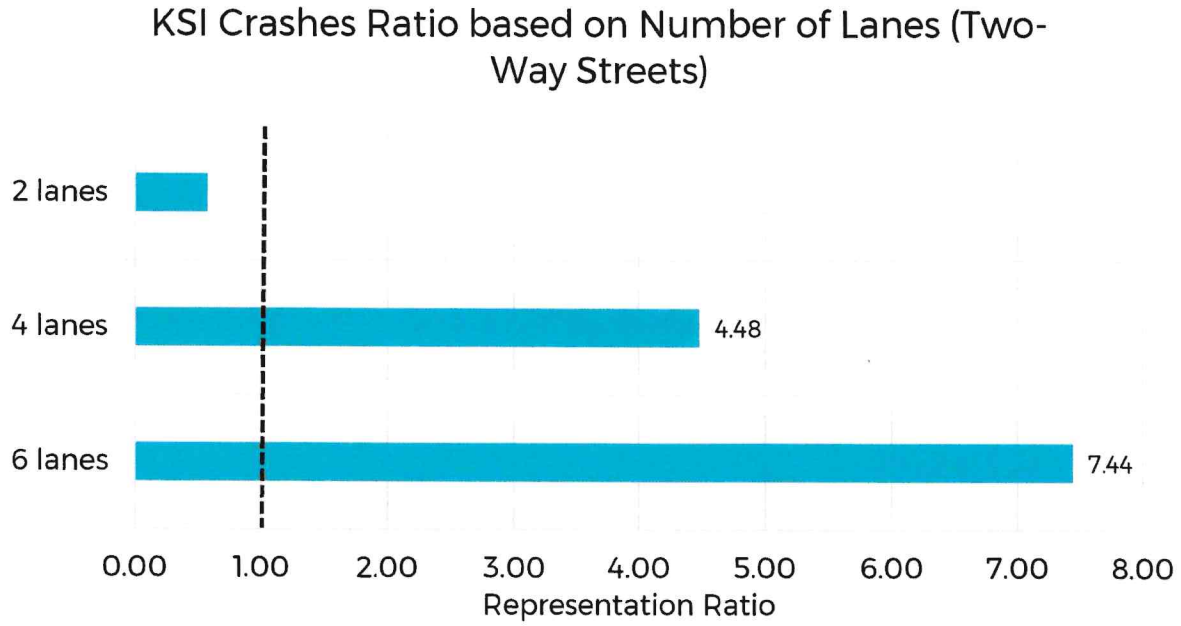

Figure 40: KSI Crash Representation Ratio for Two-Way Roads Based on Total Number of Lanes

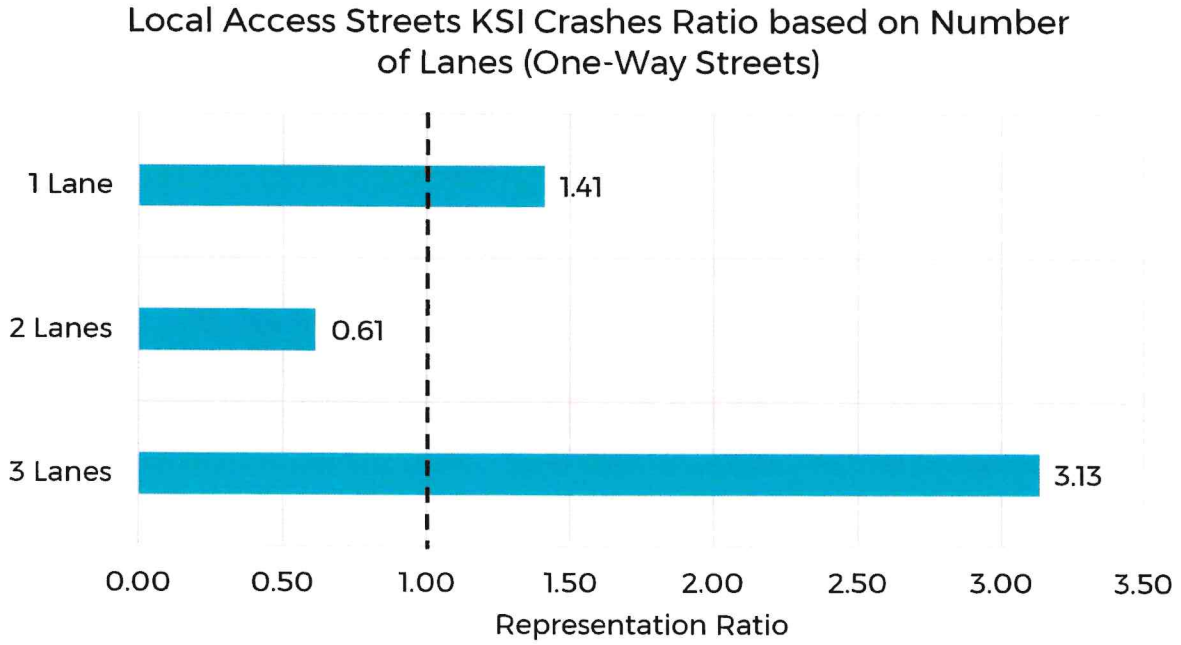

Figure 41: KSI Crash Representation Ratio for One-Way Roads Based on Total Number of Lanes

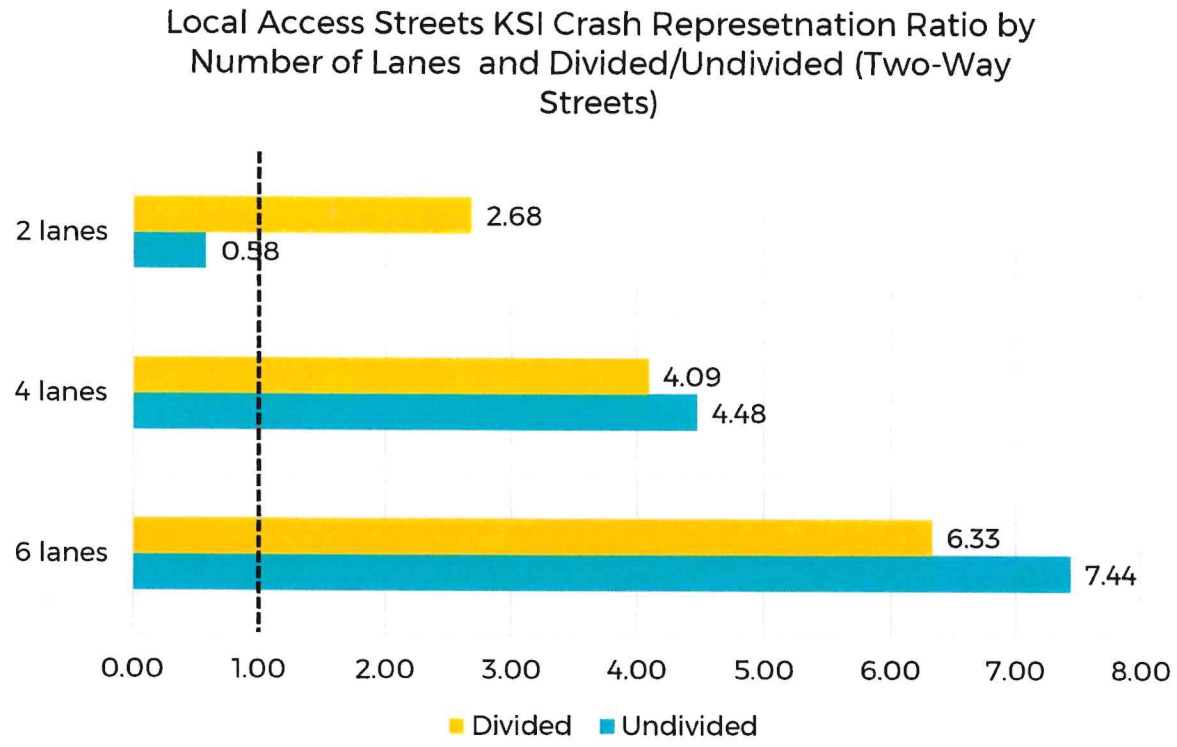

Figure 42: KSI Crash Representation Ratio for Two-Way Roads Based on Total Number of Lanes and Divided/Undivided

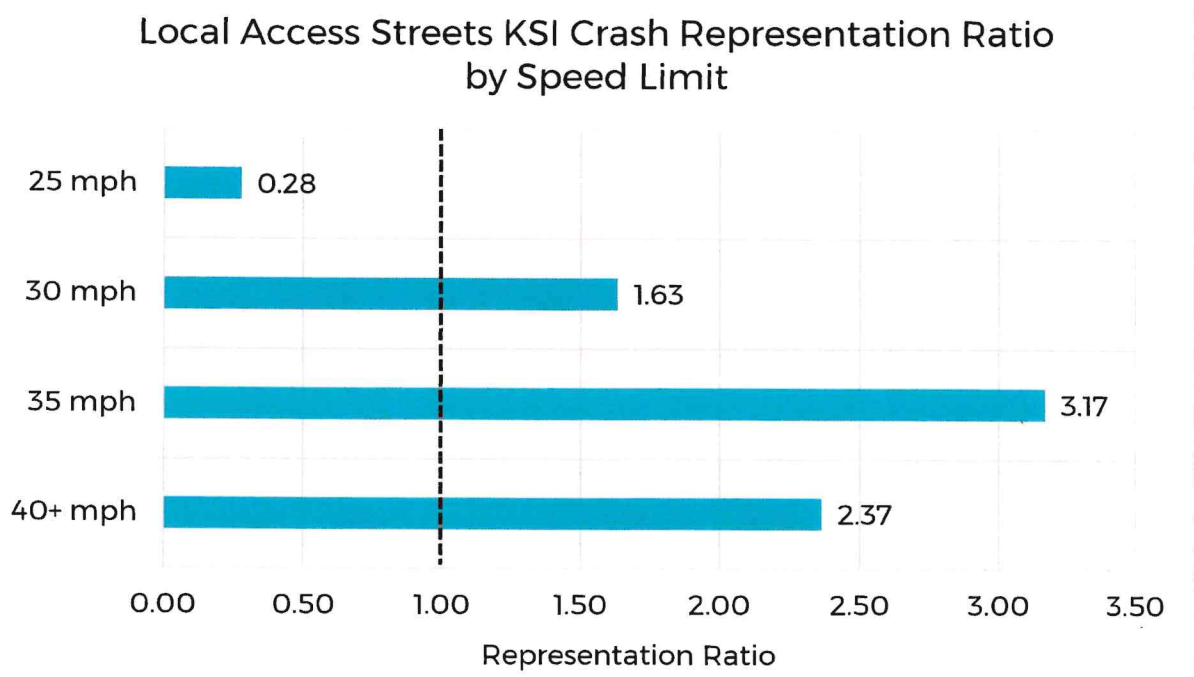

Figure 43: KSI Crash Representation Ratio Based on Speed Limits

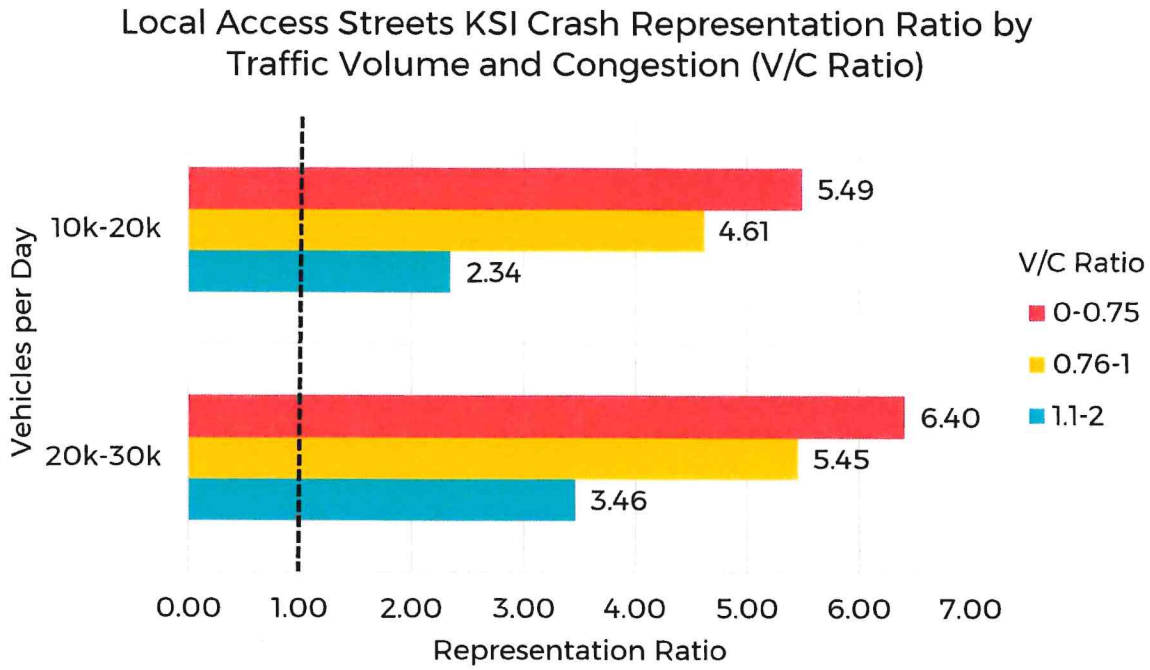

Figure 44: KSI Crash Representation Ratio Based on Traffic Volume and Congestion (V/C ratio—lower number indicates less congested road

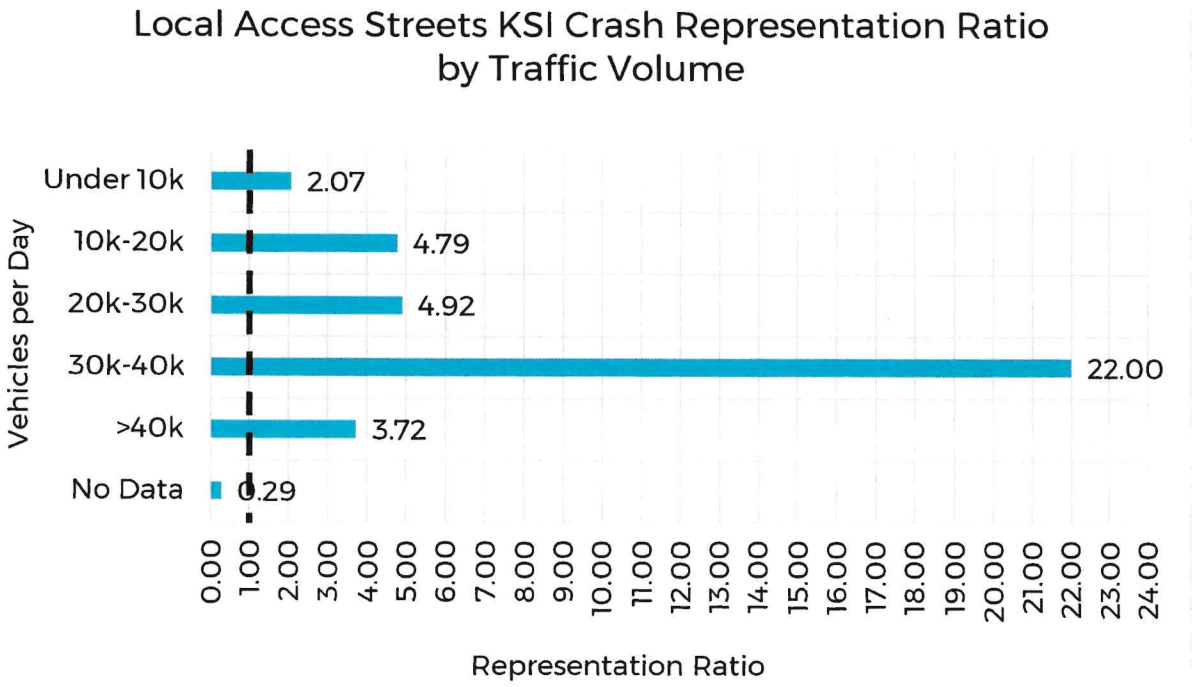

Figure 45: KSI Crash Representation Ratio Based on Traffic Volume

Intersection Crash Risk

All intersections within the local road network were analyzed alongside KSI crashes. These intersections were divided into three types: traffic signal, stop controlled, and roundabout. After compiling the data seen in the figure below, the analysis revealed that KSI crashes were 4.82 times more likely to occur at an intersection with a traffic signal. Comparatively, both stop controlled and roundabout intersections have a representation ratio less than 1.0, indicating that KSI crashes are less likely to occur at these types of intersections; roundabouts were the least likely to have a KSI crash.

Traffic volume was also analyzed against KSI crashes at the three intersection types. KSI crashes were most likely to occur at traffic signals regardless of the traffic volume. Stop controlled intersections were also above a 1.0 representation ratio at higher volume intersections, though less so than intersections with traffic signals. Roundabouts were the least represented of KSI crashes when evaluating with traffic volume, with values less than 1.0.

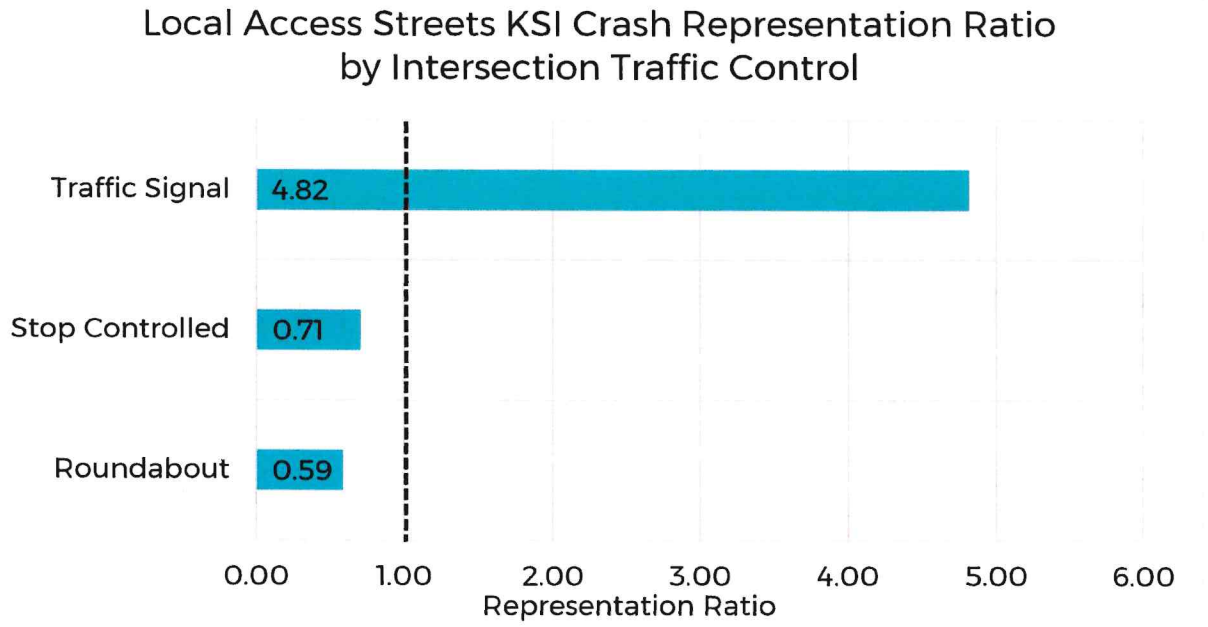

Figure 46: KSI Crash Representation Ratio Based on Intersection Traffic Control

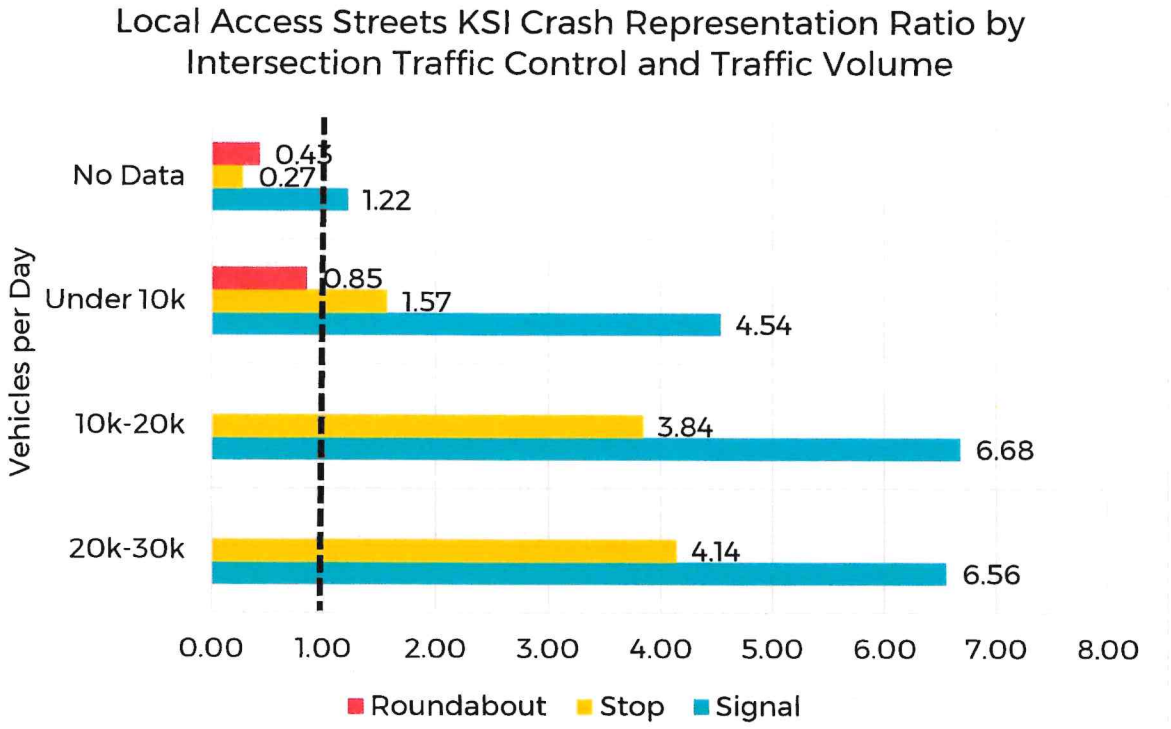

Figure 47: KSI Crash Representation Ratio Based on Intersection Traffic Control and Traffic Volume

CRASH MAPS

Mapping crash locations helps us understand the greatest areas of need for safety improvements. Three different maps were created that serve three different purposes:

- High Injury Network (HIN) and Intersection maps are based on locations that currently have the highest number of crashes in the city. These are locations where targeted improvements could greatly improve safety.
- High Risk Network and High Risk Intersection maps are based on a risk scoring system including multiple factors. These corridors and intersections may not have had recent KSI crashes, but they are locations that have a high likelihood of future KSI crashes. These are locations where the attributes of the roadway are similar to the roadways on the actual HIN, despite the recorded crash history.
- Crash Rate Maps show neighborhood areas that have a higher concentration of KSI crashes. These are neighborhoods that need funding allocated for both system-wide improvements like neighborhood traffic calming and targeted projects on HIN segments and intersections within the neighborhood.

High Injury Network (HIN) and Intersection Maps

To develop the HIN and intersections list, the fatal, serious injury, and minor injury crashes were separated by intersection or corridor related crashes. Then they were joined to the respective component of the network, with a 40-foot buffer for segments and 200-foot buffer for intersections. To aggregate the three crash severities, a weighted intensity for each intersection and segment was calculated with fatal crashes counting for twenty points, serious injuries four points, and minor injuries one point. These weights were chosen as they are approximately equal to the scale of the average crash cost to society for each severity of crashes. The weighted segments and intersections were then interlaid and compared to the roadway network to create the HIN and identify the high injury intersections.

The HIN was divided into four levels of priority. All corridors on the HIN have a high concentration of crashes and should be prioritized for investment, but some segments have much higher rates than others. Importantly, 68% of the fatal and serious injury crashes in Kansas City happened on just 13% of our streets. Looking at the highest priority corridors, 19% of fatal and serious injury crashes happened on just 2% of our streets. The KSI crash rate on a top priority corridor is 23 times higher than on a street that is not part of the HIN.

The following pages have statistics and the HIN maps. The maps can also be viewed online here: https://dashboards.mysidewalk.com/kc-spirit-mobility/traffic-safety#c-20024912

Table 4: High Injury Network Statistics

	KSI Crashes		Centerline Miles	
	Count	%	Total	%
Top Priority HIN	284	19%	55.3	2.1%
High Priority HIN	199	13%	49.6	1.9%
Medium Priority HIN	156	10%	55.8	2.2%
Moderate Priority HIN	393	26%	165.2	6.4%
Entire HIN	1032	68%	325.9	12.7%
Not on HIN	489	32%	2249.8	87.3%
Citywide	1521	100%	2575.7	100.0%

Table 5: High Injury Network Statistics by Disadvantaged Areas

	Miles not in Disadvantaged Area	Miles in Disadvantaged Area	% in Disadvantaged Area
Top Priority HIN	19.0	36.3	65.6%
High Priority HIN	24.0	25.6	51.6%
Medium Priority HIN	39.2	16.6	29.7%
Moderate Priority HIN	97.9	67.3	40.7%
Entire HIN	180.1	145.8	44.7%
Not on HIN	1595.3	654.5	29.1%
Citywide	1775.4	800.3	31.1%

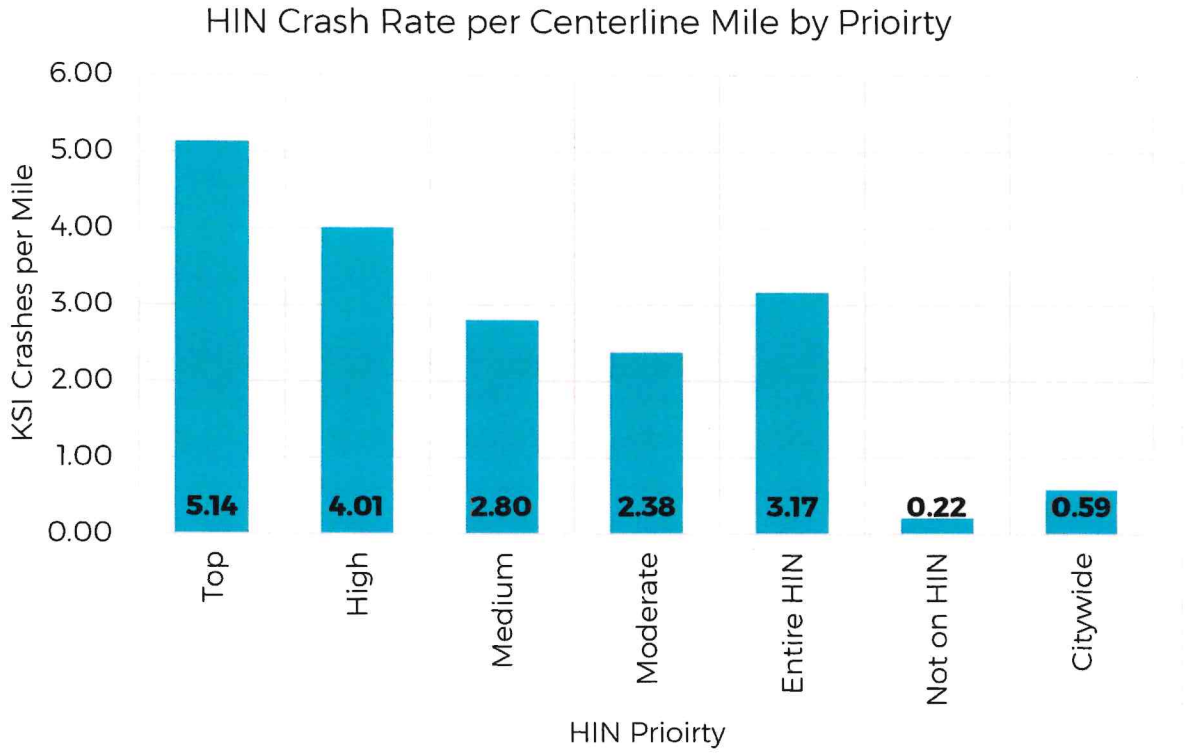

Figure 48: KSI Crashes per Centerline Mile on Local Access Roadways (2015-2019)

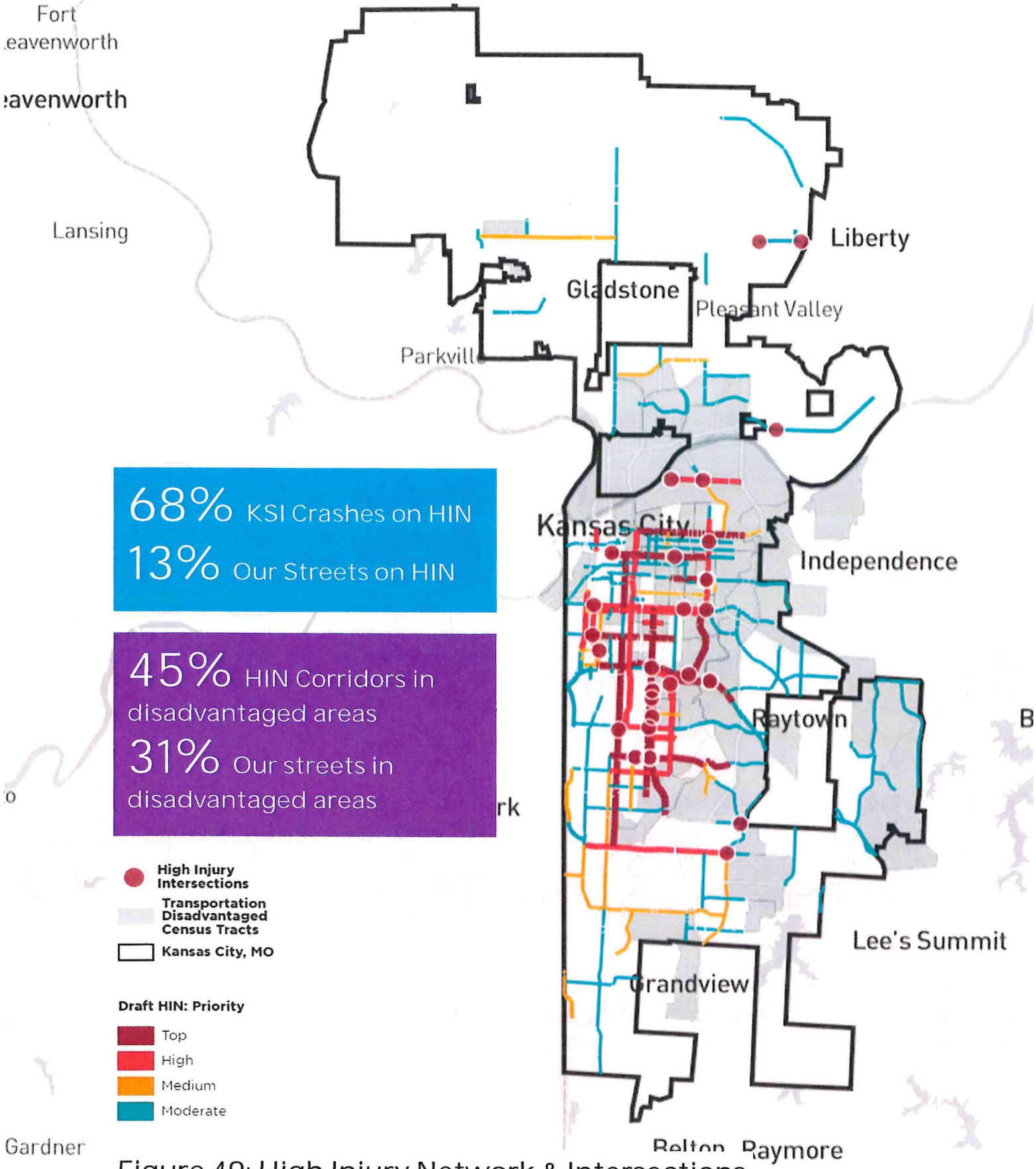

Figure 49: High Injury Network & Intersections

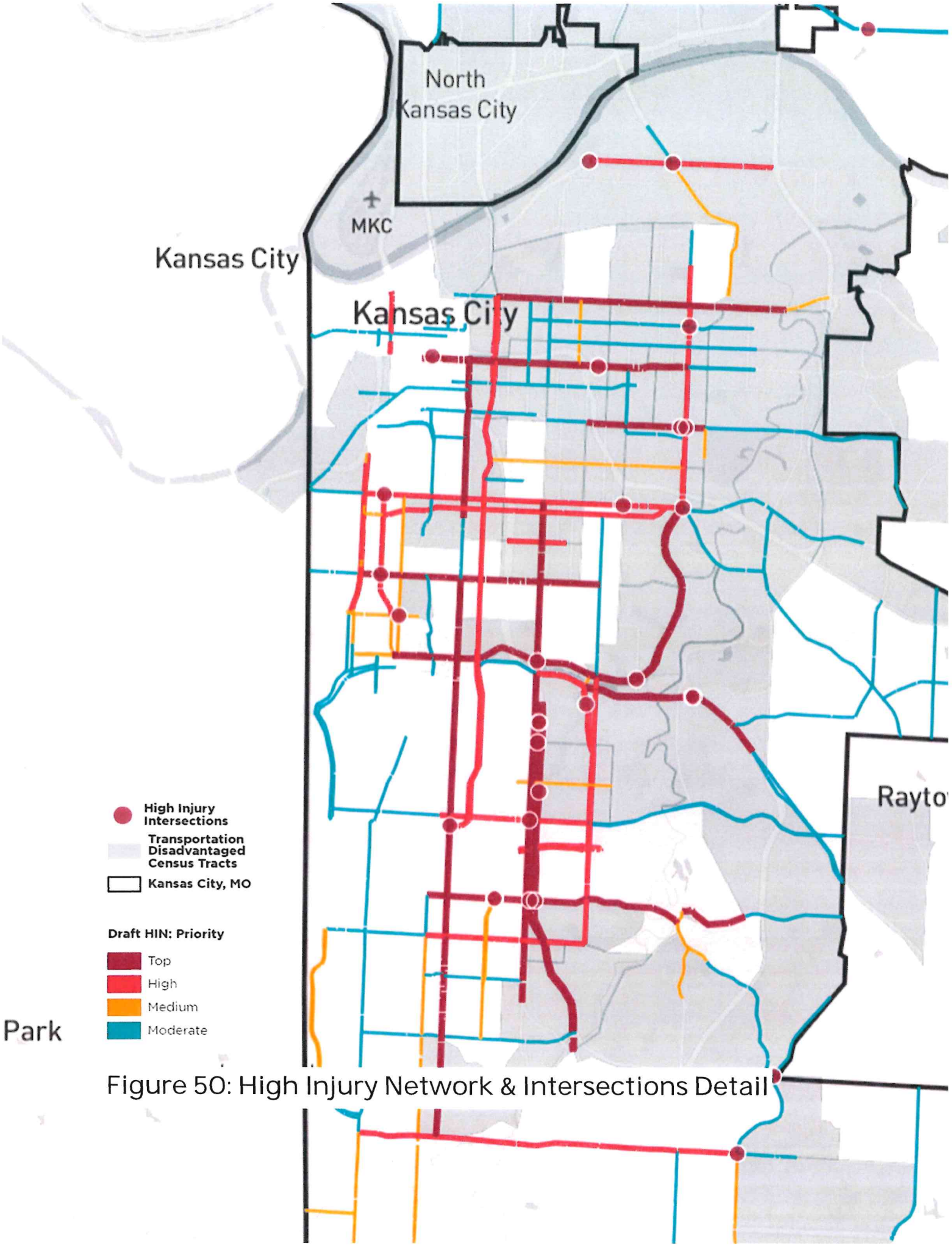

Figure 50: High Injury Network & Intersections Detail

High Risk Network Maps

After the risk factors were identified in the Systemic Analysis, staff developed a risk scoring system for Kansas City streets. Intersections and road segments were scored on a 10 point scale, with the score of 10 representing the highest risk roads and intersections, and a score of 0 representing relatively low risk roads and intersections. The scoring criteria are shown in the table below. Staff then applied the risk scores to the Kansas City roads and intersections to create the High Risk Network and High Risk Intersections maps. These maps are included in the Crash Maps section of this plan and can be viewed online here: https://dashboards.mysidewalk.com/kc-spirit-mobility/traffic-safety#c-20114969

Staff calculated statistics for the High Risk Network provided below. Notable takeaways include:

- 89% of the highest risk roads in the city scoring 8 to 10 points on the risk scoring table are in transportation disadvantaged areas.
- The highest risk roads, with scores from 8 to 10, have an average KSI crash rate 29.5 times higher than the lowest risk roads (5.9 KSI crashes per mile compared to 0.2 KSI crashes per mile).

Table 6: Risk Scoring for Segments

Risk Type		Risk Element	Risk Score
Land Use Context		Urban	1
		Suburban	0
		Rural	0
Transportation Disadvantaged Tract Status		Not in Disadvantaged Tract	0
		In Disadvantaged Tract	2
Number of Lanes	Two-Way Roads	2 Lanes	0
		4 Lanes	1
		6 Lanes	2
	One-Way Roads	1 Lane	0
		2 Lanes	0
		3 Lanes	2
Speed Limit		0 - 25 mph	0
		30 mph	1
		35 mph	2
		40+ mph	1
Traffic Volume		<10k vehicles per day	0
		10k -20k vehicles per day	1
		20k-30k vehicles per day	1
		30k+ vehicles per day	1
Congestion (Volume to Capacity Ratio)		0-.75 V/C Ratio	2
		.75-1.0 V/C Ratio	1
		1.0+ V/C Ratio	0
Total Points Possible			10

Table 7: Risk Scoring for Intersections

Risk Type	Risk Element	Risk Score
Land Use Context	Urban	2
	Suburban	0
	Rural	0
Transportation Disadvantaged Tract Status	Not in Disadvantaged Tract	0
	In Disadvantaged Tract	3
Traffic Control	Traffic Signal	3
	Stop Control or Roundabout	0
Traffic Volume	<5k vehicles per day	0
	5k -10k vehicles per day	1
	10k+ vehicles per day	2
Total Points Possible		10

Table 8: High Risk Network Statistics (2010-2020)

Risk Score	% Miles in Disadvantaged Areas	KSI Crash Rate per Mile	% of Total Miles in City	% of Total KSI Crashes in City
0-1 Minimal	0%	0.2	51%	12%
2-3 Moderate	69%	0.6	29%	17%
4-5 High	37%	2.0	10%	22%
6-7 Higher	66%	4.2	8%	34%
8-10 Highest	89%	5.9	2%	15%
Overall	31%	0.9	100%	100%

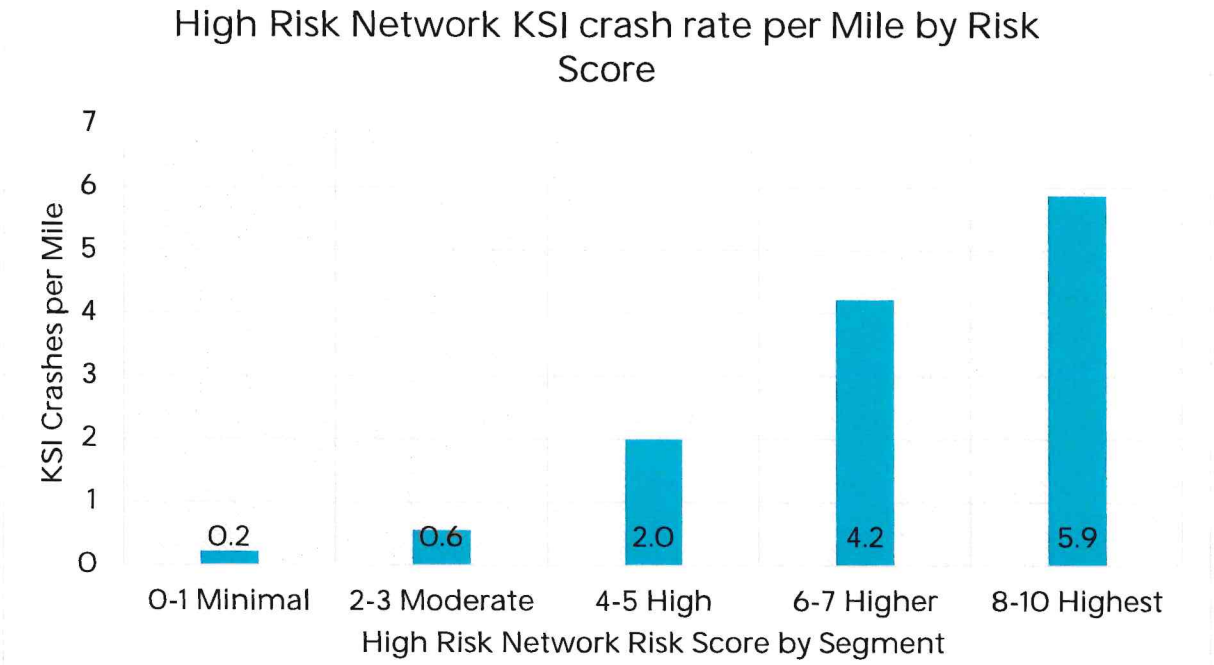

Figure 51: KSI Crash Rate per Mile by Risk Score for High Risk Network (2010-2020)

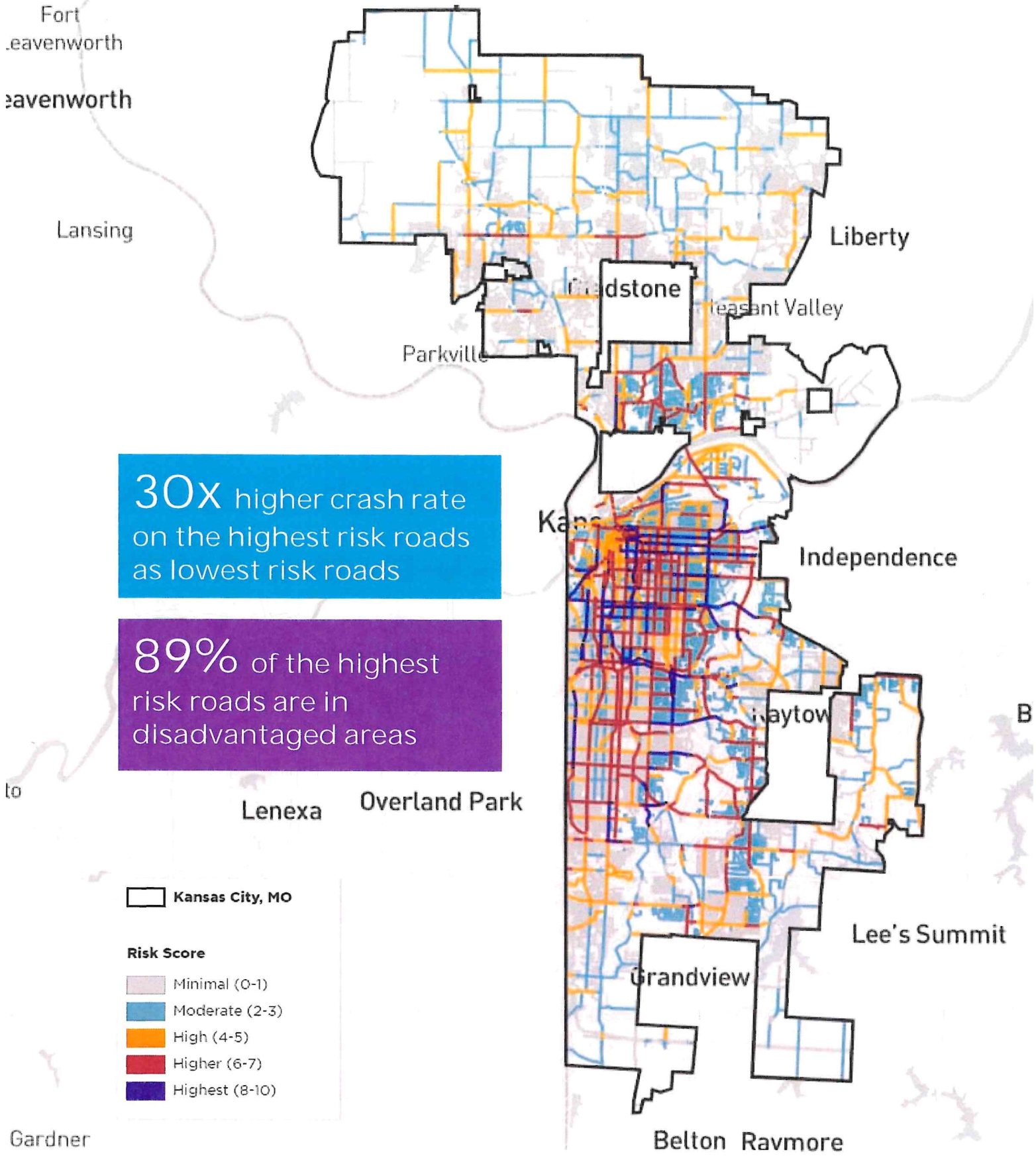

Figure 52: High Risk Segments in Kansas City, MO

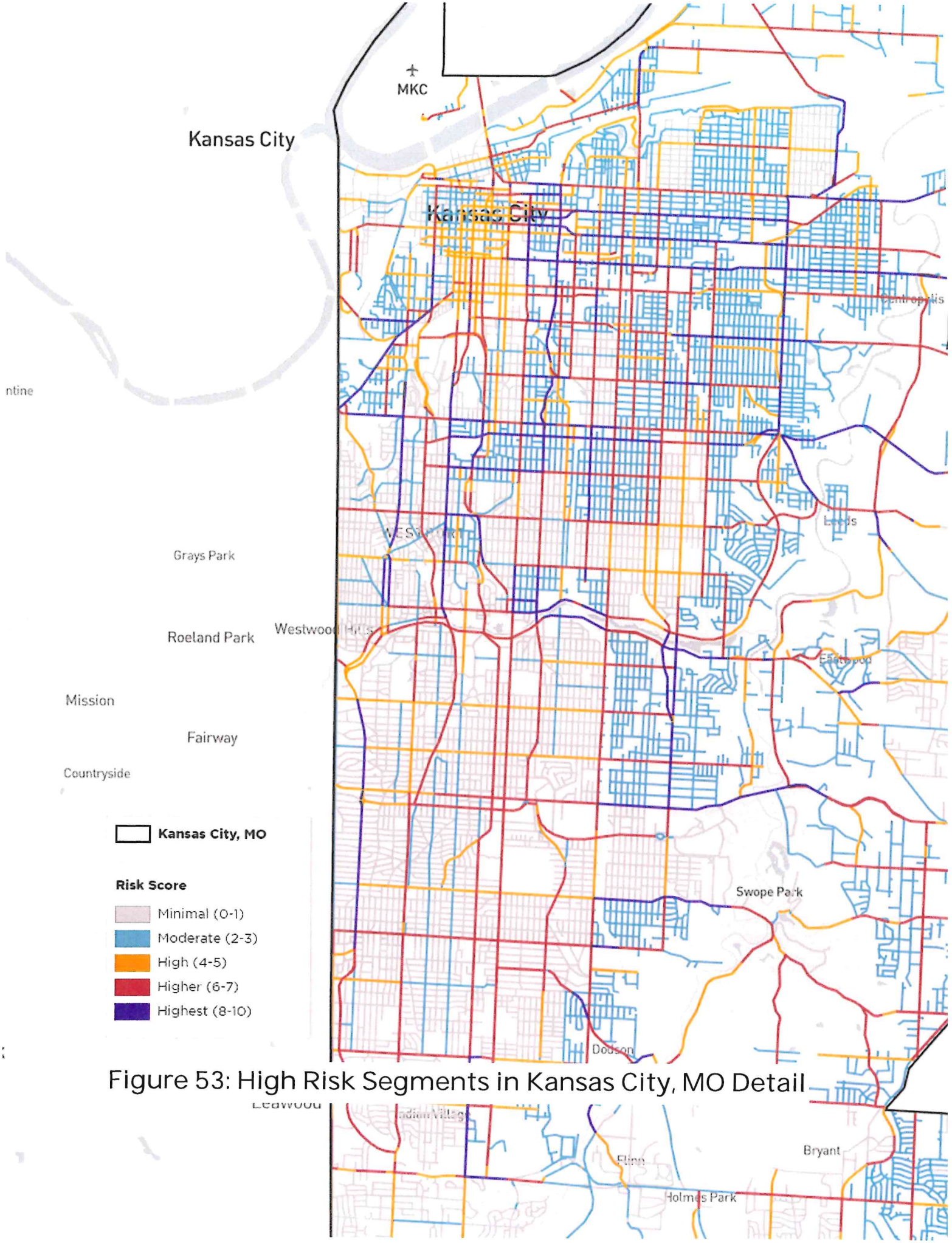

Figure 53: High Risk Segments in Kansas City, MO Detail

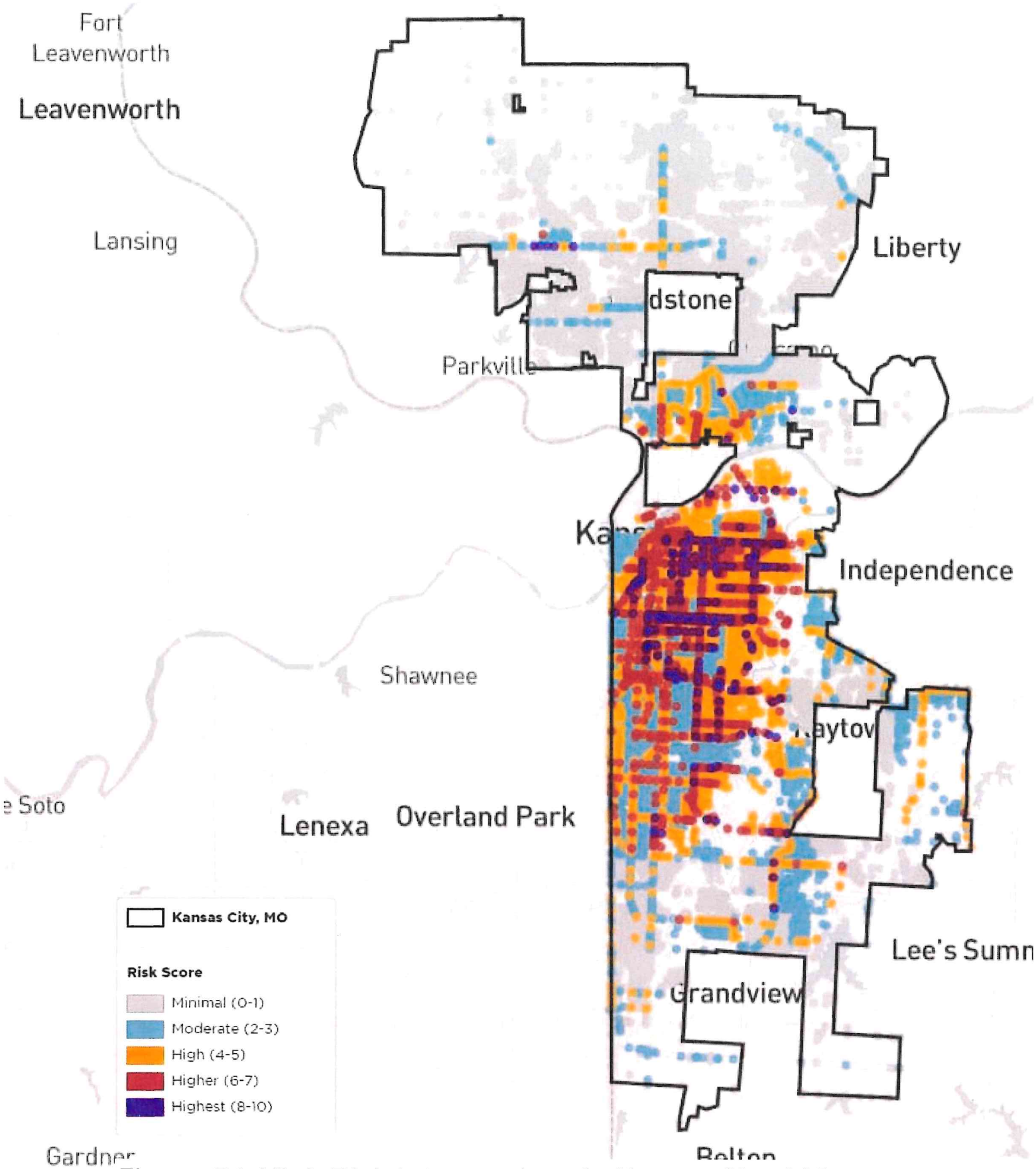

Figure 54: High Risk Intersections in Kansas City, MO

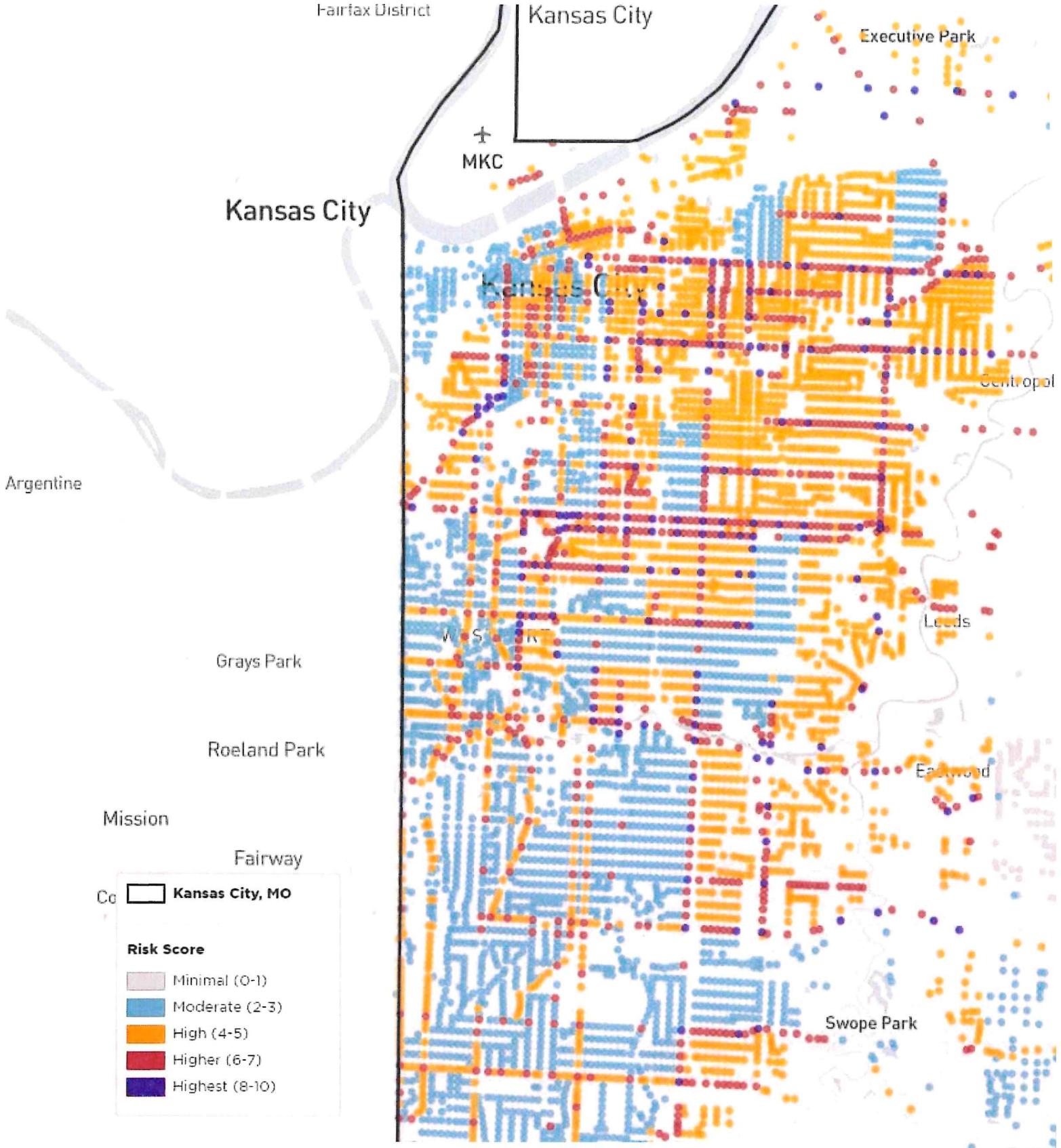

Figure 55: High Risk Intersections in Kansas City, MO Detail

Crash Rate Maps

The maps on the following pages show fatal and serious injury crash rates for both motor vehicle only and bicycle/pedestrian KSI crashes on local access streets by census tract. The maps are normalized by two different metrics:

- Crashes per Mile of Roadway
- Crashes per 100k Population

Each of these show a similar story in a slightly different way, but the common theme throughout is that KSI crashes are most highly concentrated in urban areas, especially disadvantaged urban areas. The motor vehicle crashes are most concentrated in the disadvantaged areas on the eastern portion of Midtown. For the bike and pedestrian crashes, when considering the non-normalized crash numbers, the downtown core area is the densest cluster of crashes; however, when population is accounted for, the eastern disadvantaged areas show a bit of a cluster.

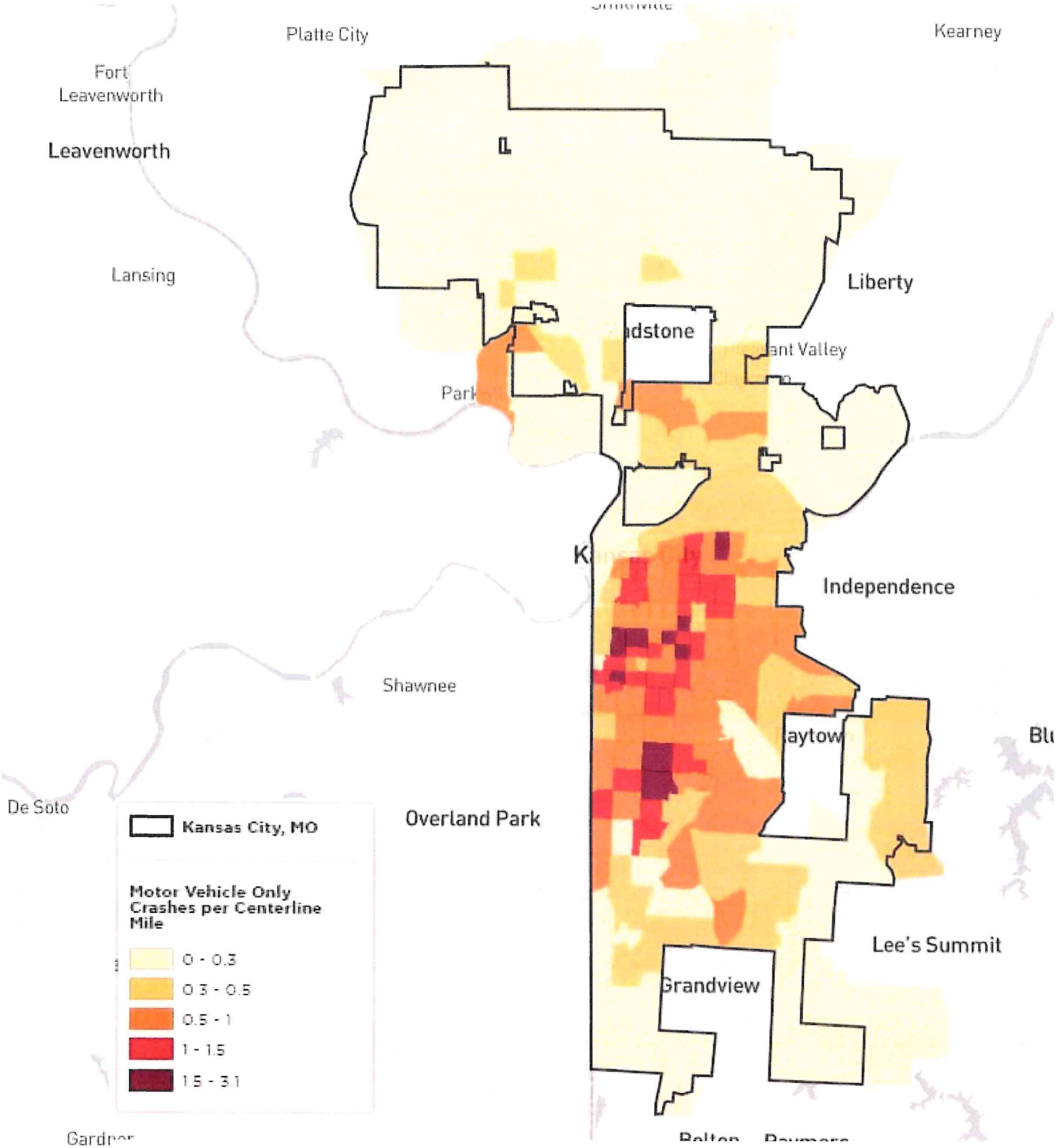

Figure 56: Fatal and Serious Motor Vehicle Only Crashes per Centerline Mile in Kansas City, MO Census Tracts

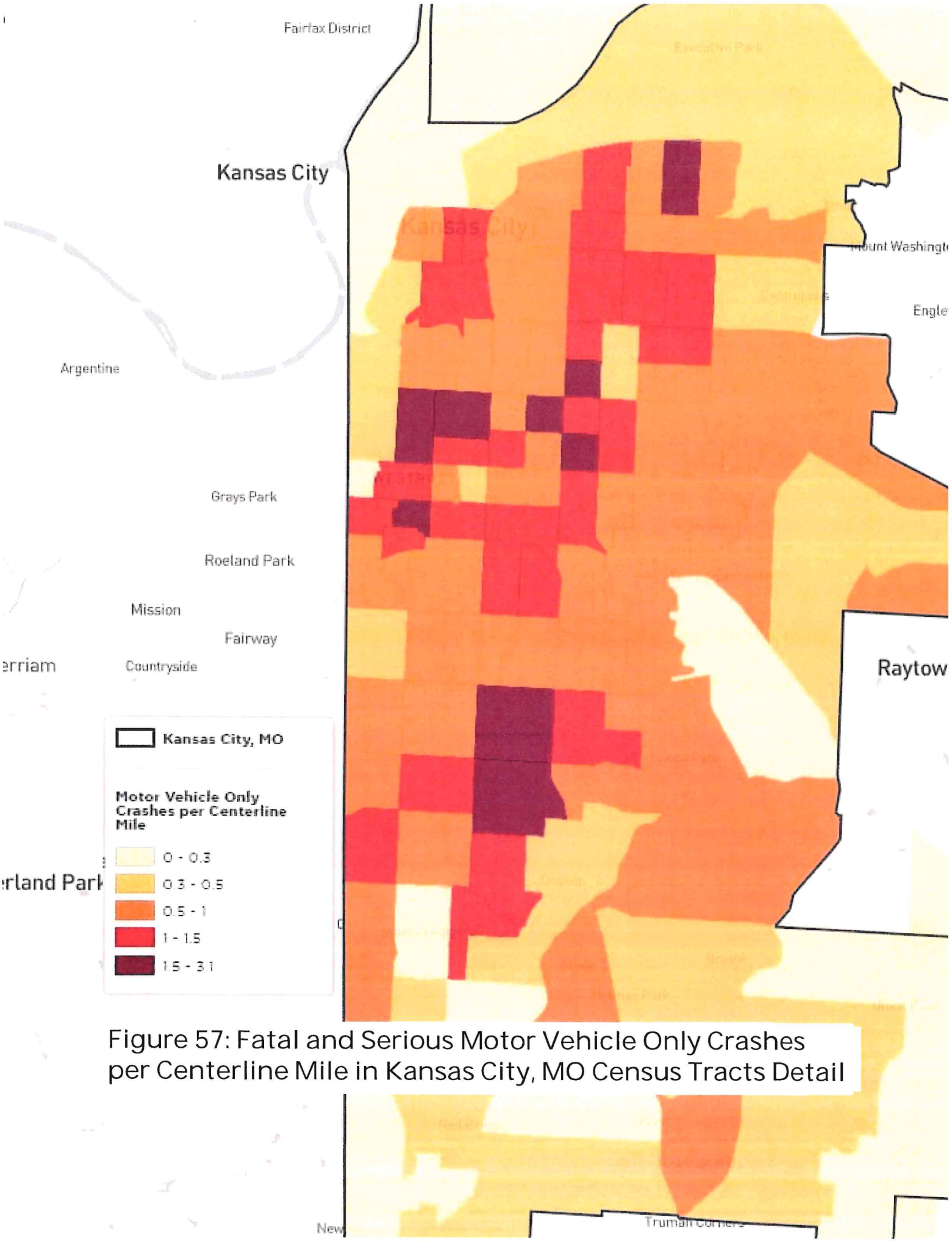

Figure 57: Fatal and Serious Motor Vehicle Only Crashes per Centerline Mile in Kansas City, MO Census Tracts Detail

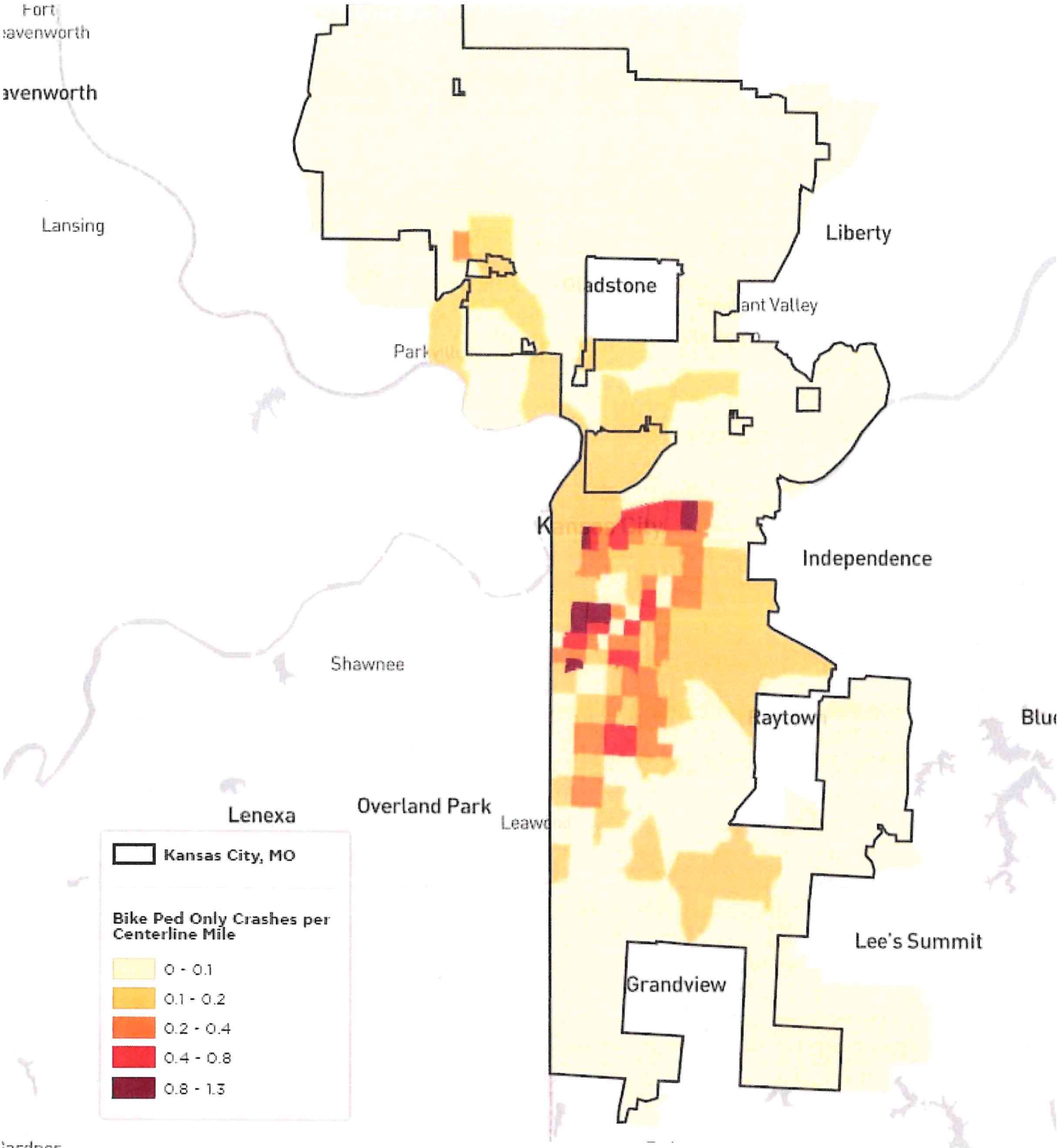

Figure 58: Fatal and Serious Bike/Pedestrian Crashes per Centerline Mile in Kansas City, MO Census Tracts

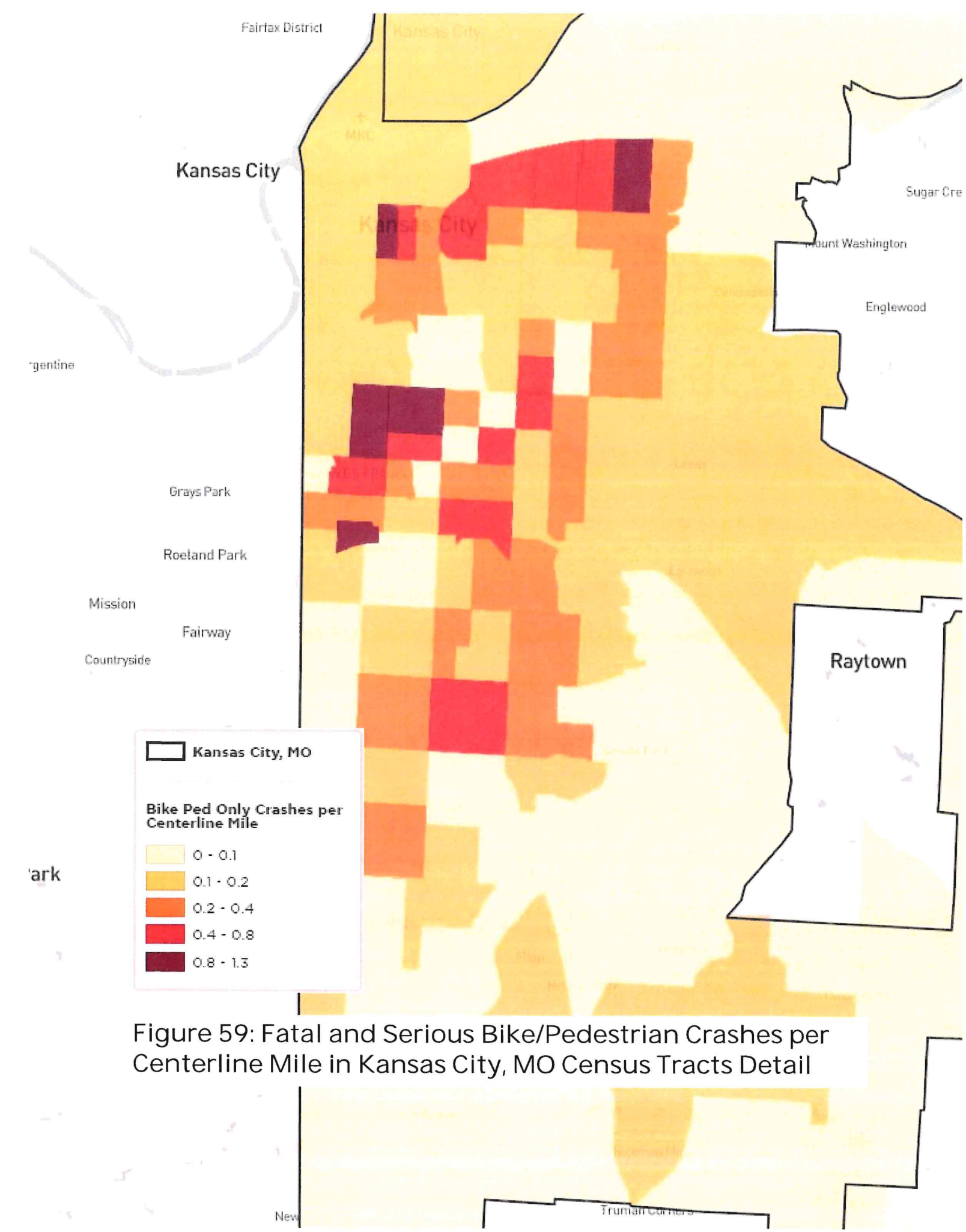

Figure 59: Fatal and Serious Bike/Pedestrian Crashes per Centerline Mile in Kansas City, MO Census Tracts Detail

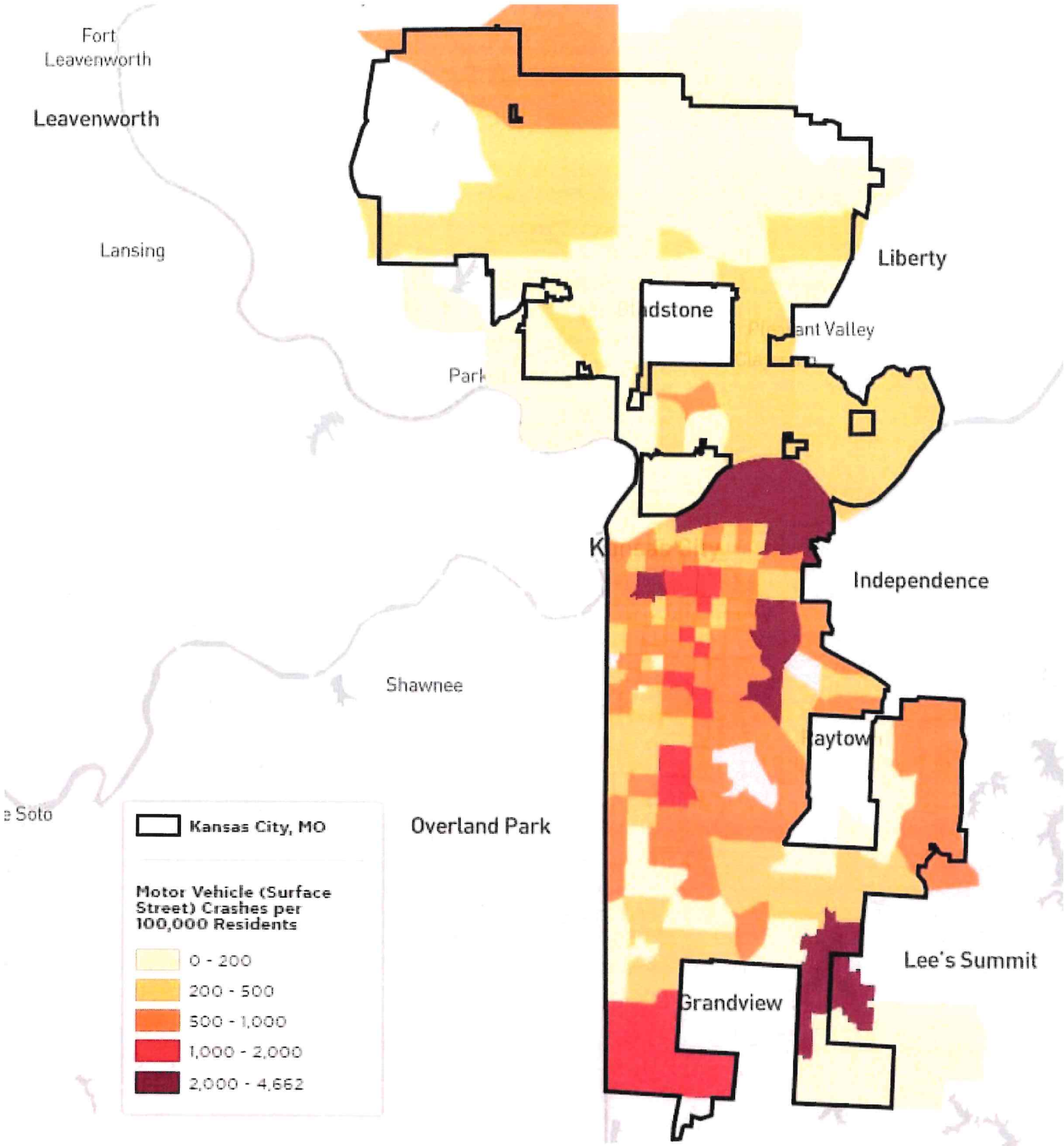

Figure 60: Fatal and Serious Motor Vehicle Only Crashes 100,000 Residents in Kansas City, MO Census Tracts

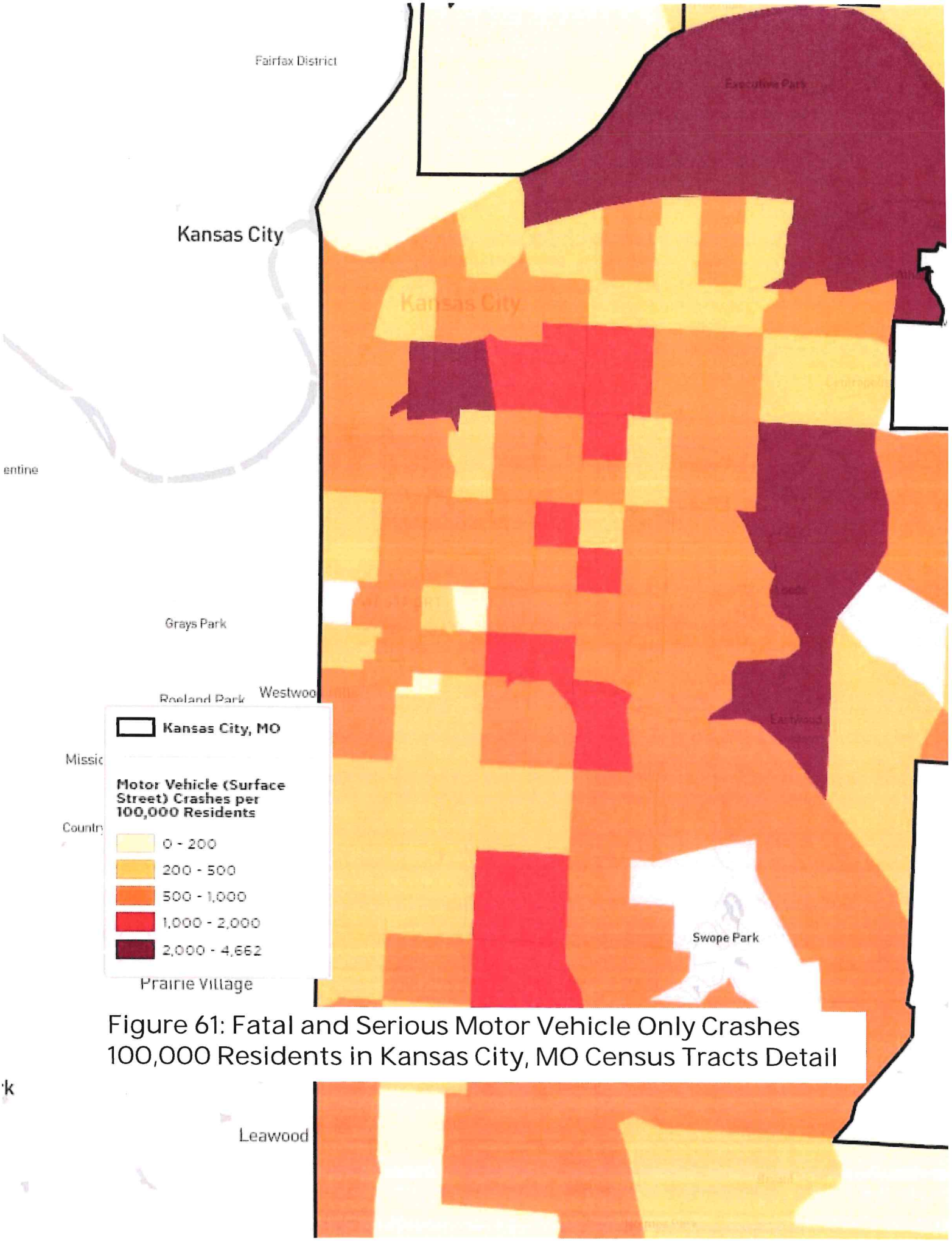

Figure 61: Fatal and Serious Motor Vehicle Only Crashes 100,000 Residents in Kansas City, MO Census Tracts Detail