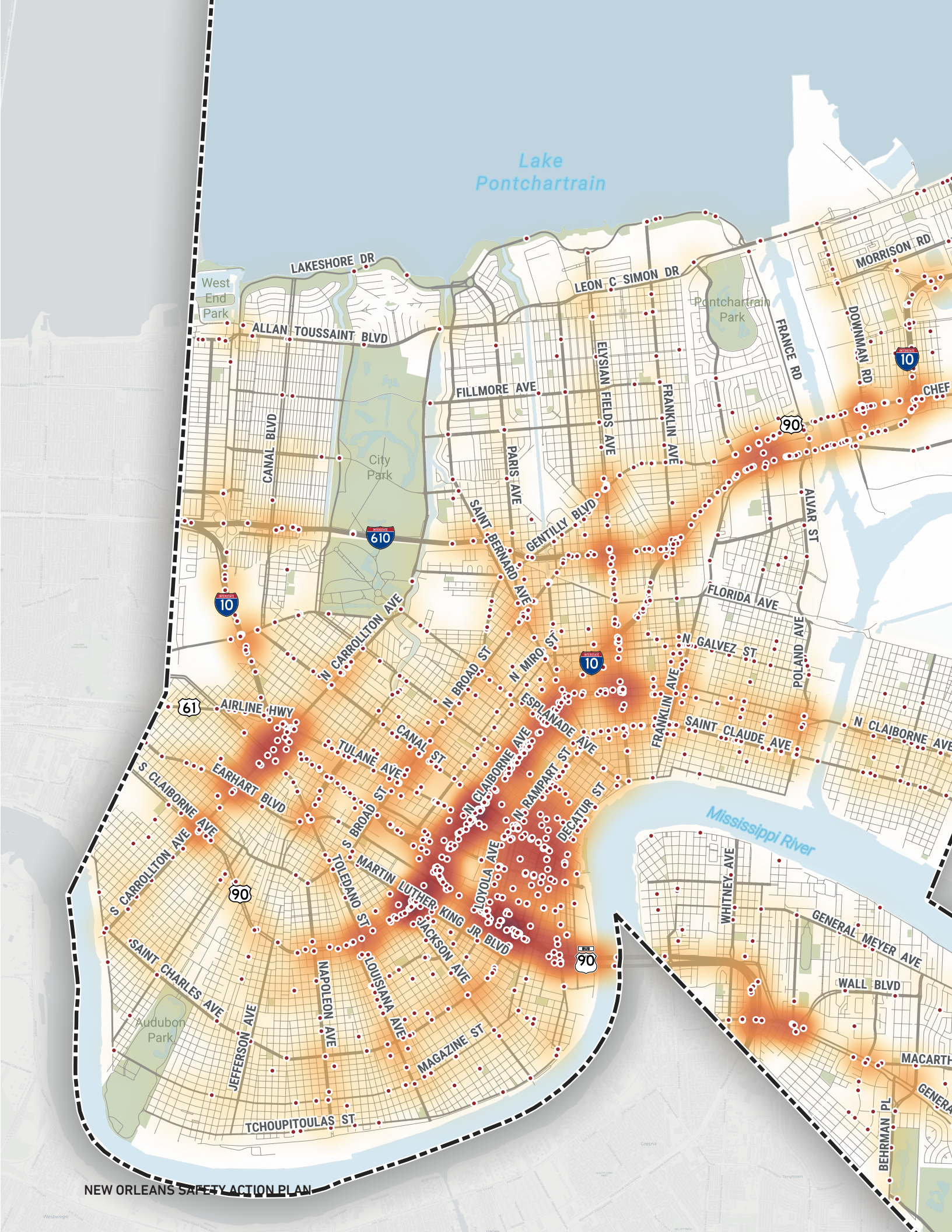
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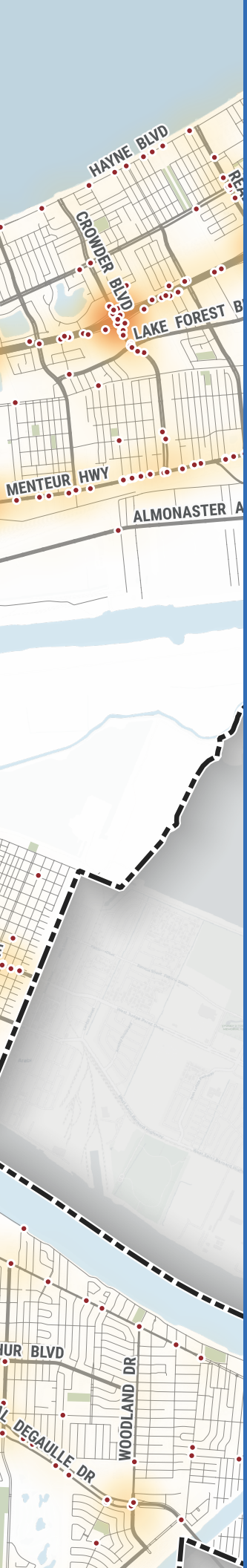


02

Roadway Safety Analysis

This document and the information contained herein, is prepared for the purpose of identifying, evaluating, and planning safety improvements on public roads, which may be implemented utilizing federal aid highway funds. This information shall not be subject to discovery or admitted into evidence in Federal or State court pursuant to 23 U.S.C. 407.

Crash Analysis Approach

The New Orleans Safety Action Plan uses a data-driven crash analysis framework to understand where and why fatal and serious injury (FSI) crashes are occurring across the City's transportation network. In addition to a review of historic crash data over a five-year period, the analysis also builds on the Safe System Approach, emphasizing proactive identification of systemic risk, rather than reacting only after crashes occur. Crash data were supplemented with information on roadway classification, traffic volume, speeds, and driver behavior to support a system-wide assessment of exposure and risk across the City's street network.

Two crash datasets were provided upon request by the Center for Analytics and Research in Transportation Safety (CARTS) at Louisiana State University (LSU). The first is a five-year historical crash inventory, including all crashes of all severities and modes between 2019 and 2023. The data included single-record-per-crash events, with a variety of attributes describing the crash severity, mode, date, context, contributing factors, and more, as well as coordinates of the crash. This was the primary crash dataset used for the development of the high injury network and all descriptive crash analytics and figures, except for demographic-focused analytics.

Maps 1 and 2 on the following pages illustrate the location of all fatal and serious injury (FSI) crashes in New Orleans between 2019 and 2023, and the relative density of those FSI crashes across the City.

The second dataset from CARTS was a supplementary five-year historical crash inventory, including person-level information for all persons involved in the crashes during the study period, such as mode, age, sex, race, ethnicity, and injury status. This dataset did not include crash report information, which could connect it to the primary dataset, personally identifiable information, or coordinates for related crash events. This secondary crash dataset was used exclusively for the development of descriptive crash analytics and figures related to demographics.

Combined, these datasets provided the foundation to determining key crash location types, environmental factors, manners of crashes, and other crash trends, as well as an overview of the user groups most impacted by crashes. These findings directly influenced the identification and development of the safety countermeasures, actions, and infrastructure recommendations included in Chapters 4 and 5.

It should be noted that in 2022, CARTS updated its crash database to reflect changes to the State's crash report form. The changes, which allow for more accurate reporting and analysis, particularly of non-motorist crashes, were applied to prior year crash data as well to match the new format. Learn more at https://carts.lsu.edu/.

Crashes (2019-2023)

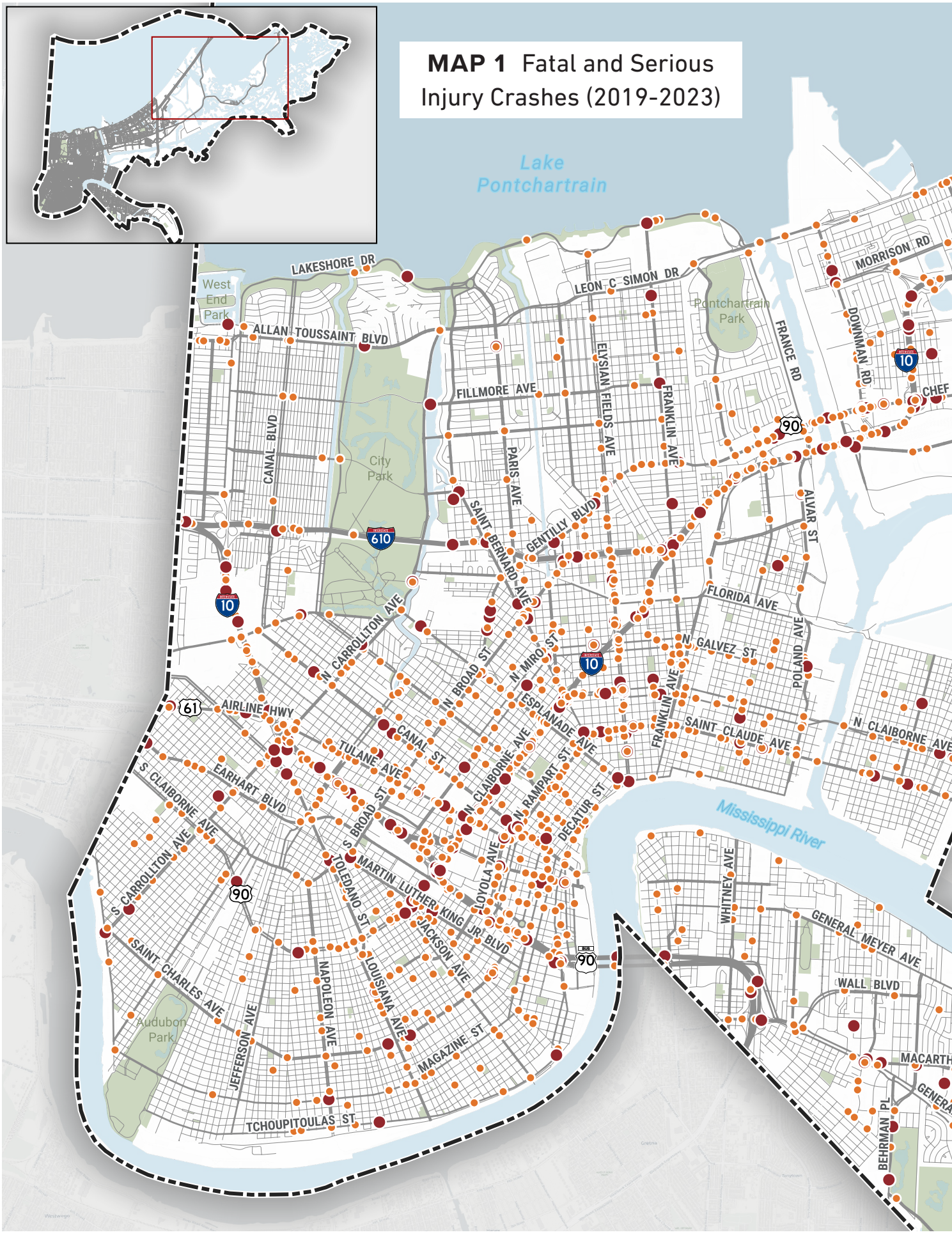
There were **84,642** crashes in New Orleans.

This includes **1,895 FSI Crashes** involving **2,161 people**. Of those people, 297 died as a result of their injuries.

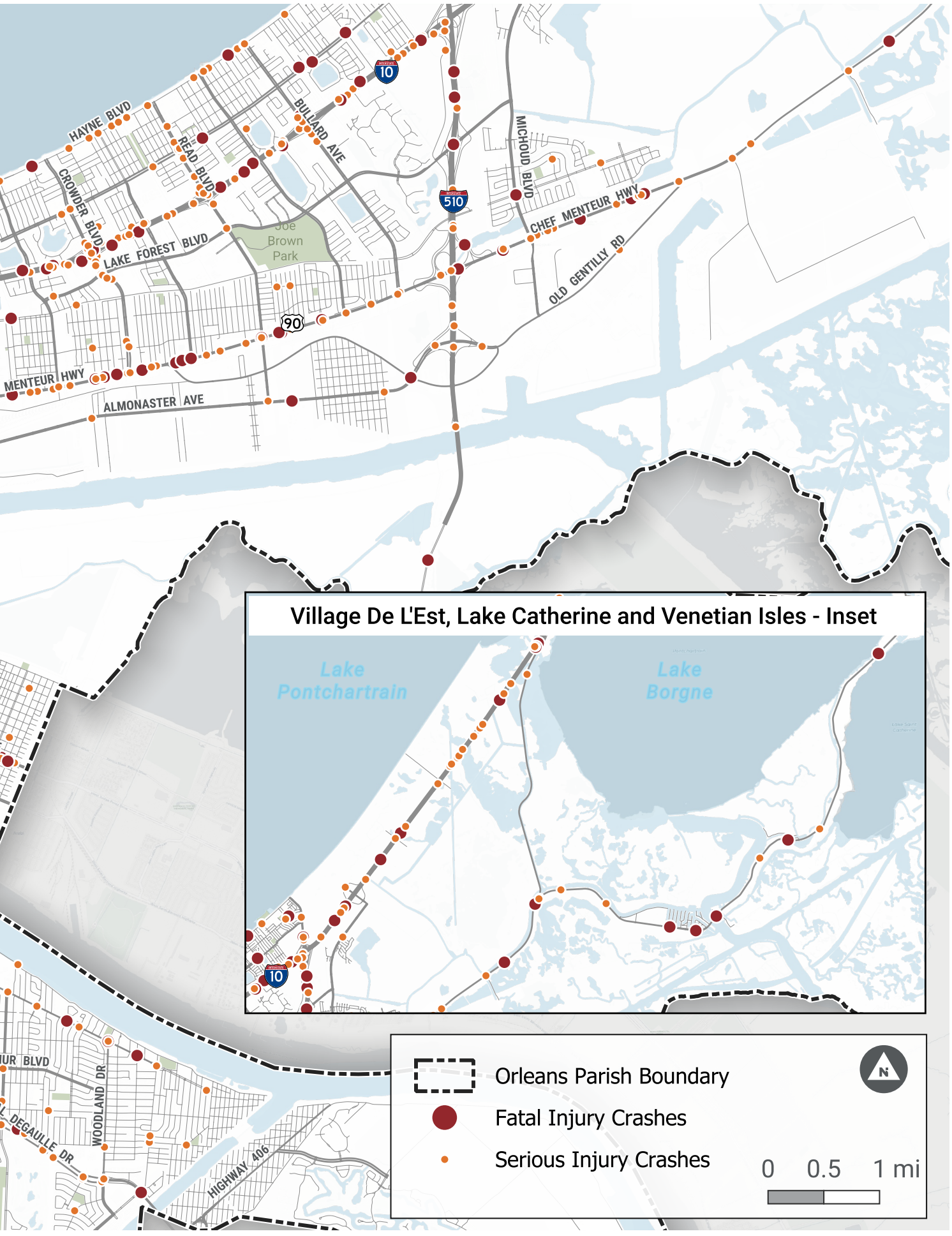
What is a Serious Injury?

A serious injury is one that is life-altering, referring to injuries involving broken or fractured bones, dislocated limbs, severe lacerations, unconsciousness, severe burns, or injuries to the skull, spinal cord, or abdomen.

New Orleans, LA



MAP 1 Fatal and Serious Injury Crashes (2019-2023)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Village De L'Est, Lake Catherine and Venetian Isles - Inset
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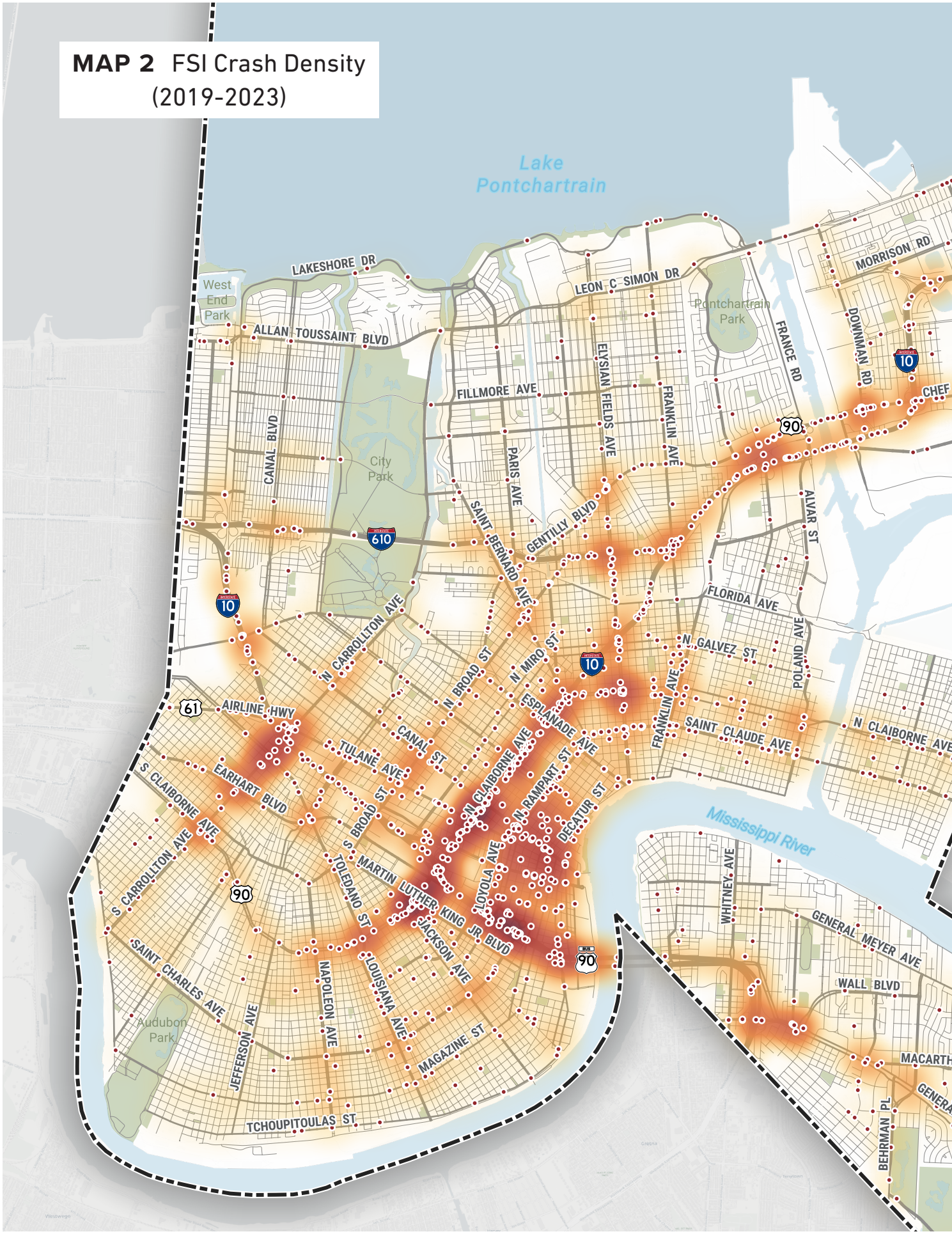
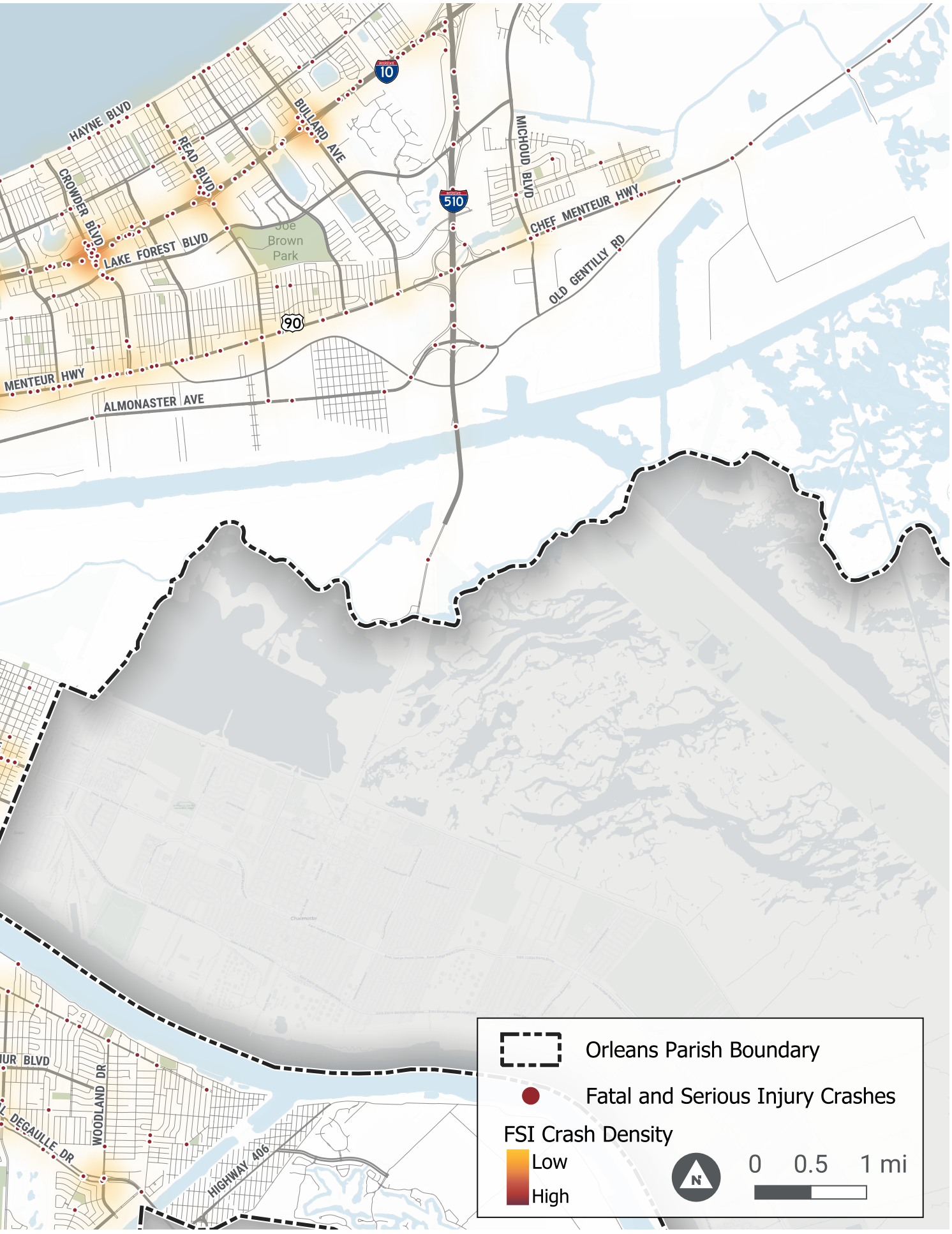


MAP 2 FSI Crash Density (2019-2023)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Joe Brown Park
MENTEUR HWY
ALMONASTER AVE
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510
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WOODLAND DR
HIGHWAY 406
Orleans Parish Boundary
Fatal and Serious Injury Crashes
FSI Crash Density
Low
High
0 0.5 1 mi

Key Crash Trends

Crash trends from 2019 through 2023 reveal that severe crashes are increasing across nearly all travel modes. **Maps 1 and 2** on the previous page show a pattern of these crashes concentrated along major streets and within the core of the City. Analyzing crashes by mode of travel under the Safe System Approach in an SS4A Safety Action Plan is essential because it reveals mode-specific risks and systemic vulnerabilities, enabling targeted, equitable countermeasures that protect all users. Because they lack the structural protection of passenger vehicles (a metal frame, airbags, and seatbelts, for example), vulnerable road users, or VRUs, are significantly more likely to experience severe or fatal injuries when involved in a crash.

The analyses in this Plan follow the definition of VRUs found in the Bipartisan Infrastructure Law (BIL), under which the SS4A program was initially created. SS4A defines VRUs as people walking, bicycling, using mobility aids (such as wheelchairs), and using micromobility devices. For VRUs, differences in mass, speed, and exposure mean that even low- to moderate-speed crashes can result in life-altering consequences.

Hit and Run

22% of FSI Crashes

Lane Departure

22% of FSI Crashes

Young Drivers (15-24)

20% of FSI Crashes

Drunk Driving

17% of FSI Crashes

No Seatbelt

16% of FSI Crashes

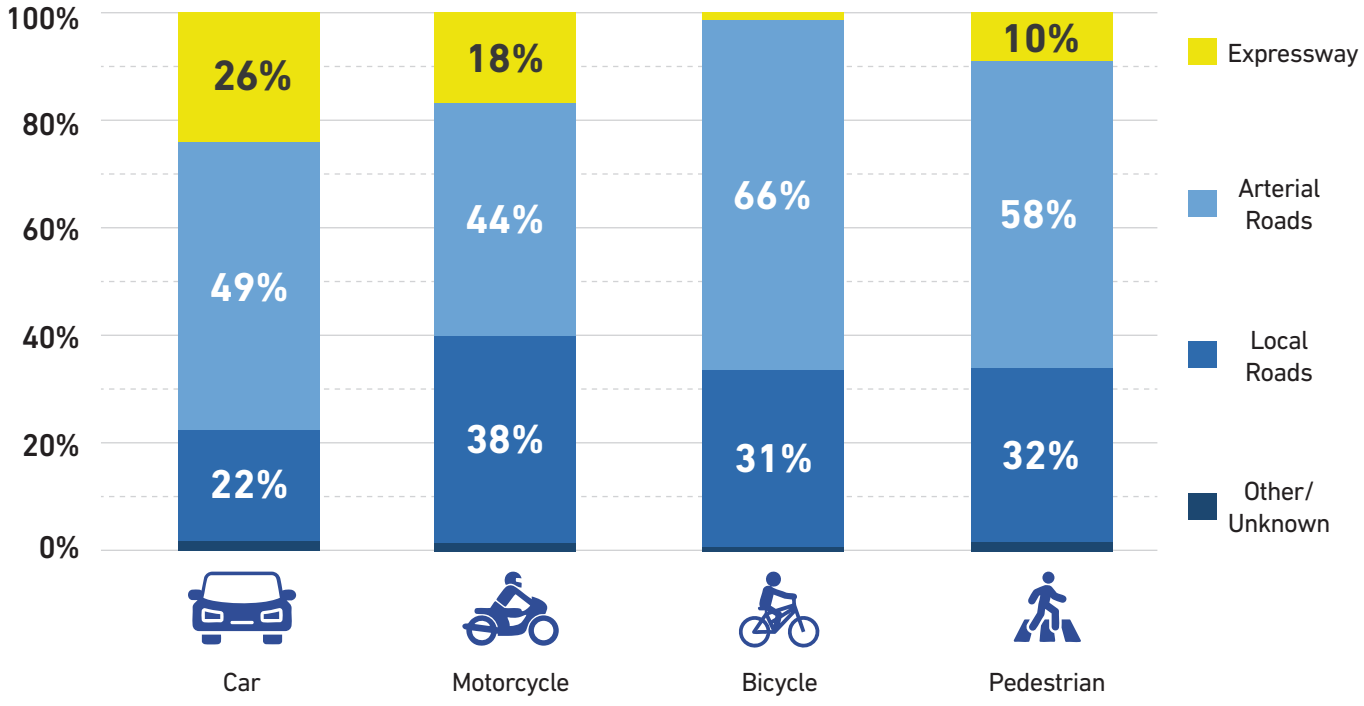


FIGURE 2 FSI crash share by road type and mode (2019-2023)

Neighborhood Commercial/Mixed Use

28% of FSI Crashes

Historic Low Density Residential

14% of FSI Crashes

Suburban Low Density Residential

12% of FSI Crashes

Central Business District

9% of FSI Crashes

Industrial

8% of FSI Crashes

Motorcyclists, which are sometimes included as VRUs under other agencies or programs, for example, the National Highway Traffic Safety Administration (NHTSA), face a comparable level of physical vulnerability on the roadway. While they are not formally categorized as VRUs in this Plan's analytical framework, motorcycles provide far less protection than passenger vehicles, and crash outcomes for riders are often severe. As a result, motorcyclists are considered separately from automobile users in this discussion of roadway vulnerability.

What factors are involved in serious crashes in Orleans Parish?

There are a variety of factors that contribute to crashes, including excessive speed, roadway conditions, equipment failure, driver inexperience, and environmental conditions such as weather and lighting. Human behaviors, like distraction and impairment, can also contribute to the number and severity of crashes that occur on City streets.

Where are crashes occurring in Orleans Parish?

Arterial roadways are a primary hotspot for FSI crashes—about 50 percent of all FSI crashes

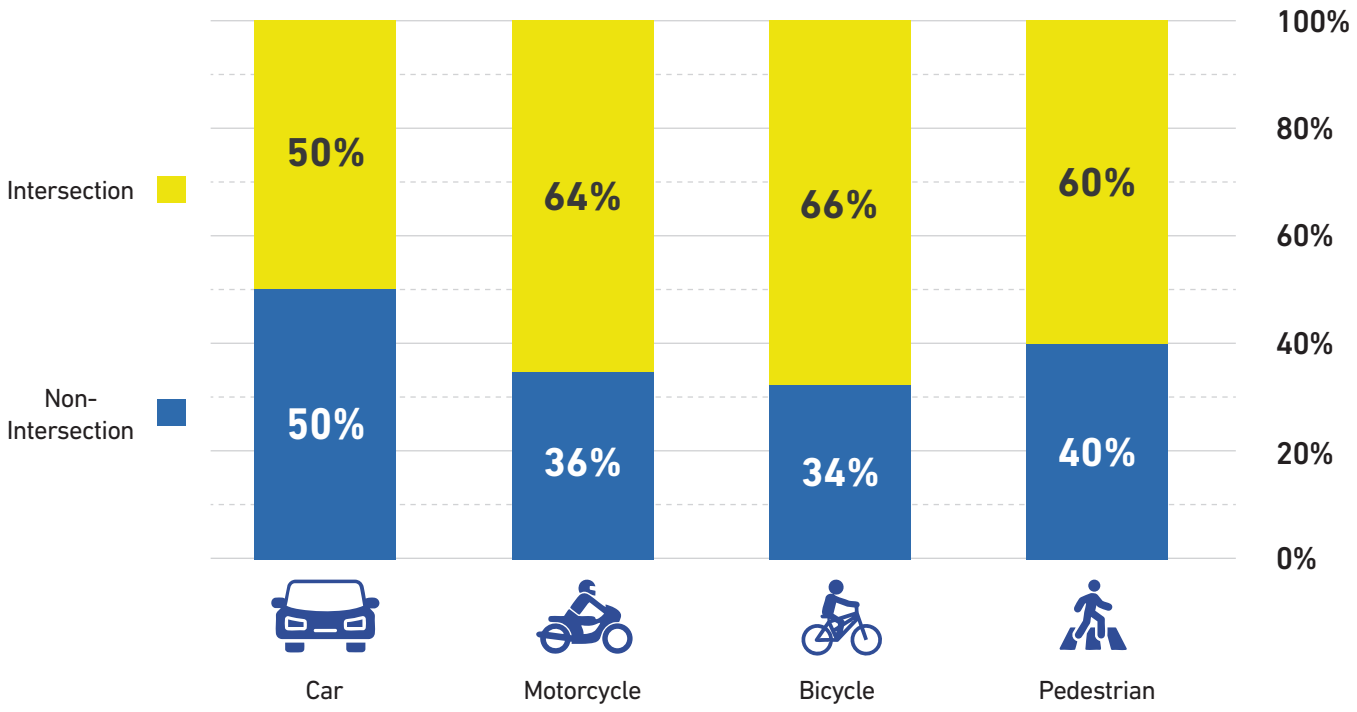


FIGURE 3 FSI crashes by location type and mode (2019-2023)

occurred on an arterial roadway, even though arterials only make up about 25 percent of all roadway miles in the City. Intersections are also hotspots for FSI crashes, particularly for VRUs. 64 percent of motorcycle crashes, 66 percent of bicycle crashes, and 60 percent of pedestrian crashes occur at intersections. **Figure 2 and 3** illustrate the location breakdown of crashes by mode.

When looking at land use and development patterns, crash analyses found that the highest percentage of FSI crashes were located in Neighborhood Commercial / Mixed Use (28 percent) and Low Density Residential areas (26 percent) as defined by New Orleans' current zoning ordinance.

Who is most affected by crashes in Orleans Parish?

In New Orleans, fatal and serious injuries are disproportionately concentrated among men and working-age adults. Although men represent 47 percent of the population, they

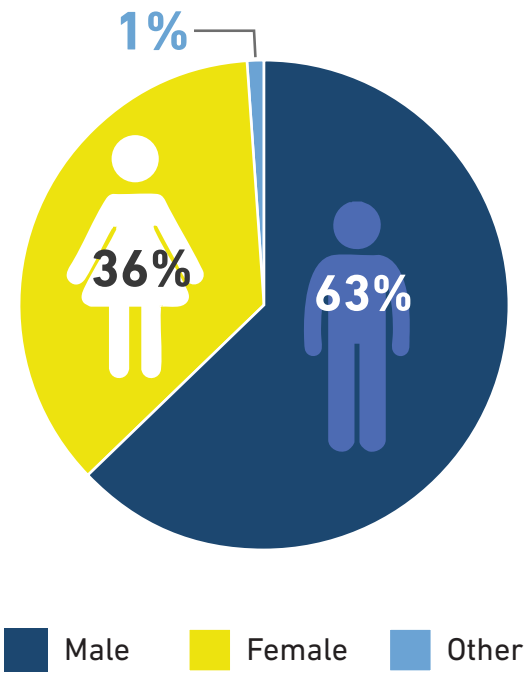


FIGURE 4 FSI injuries by gender

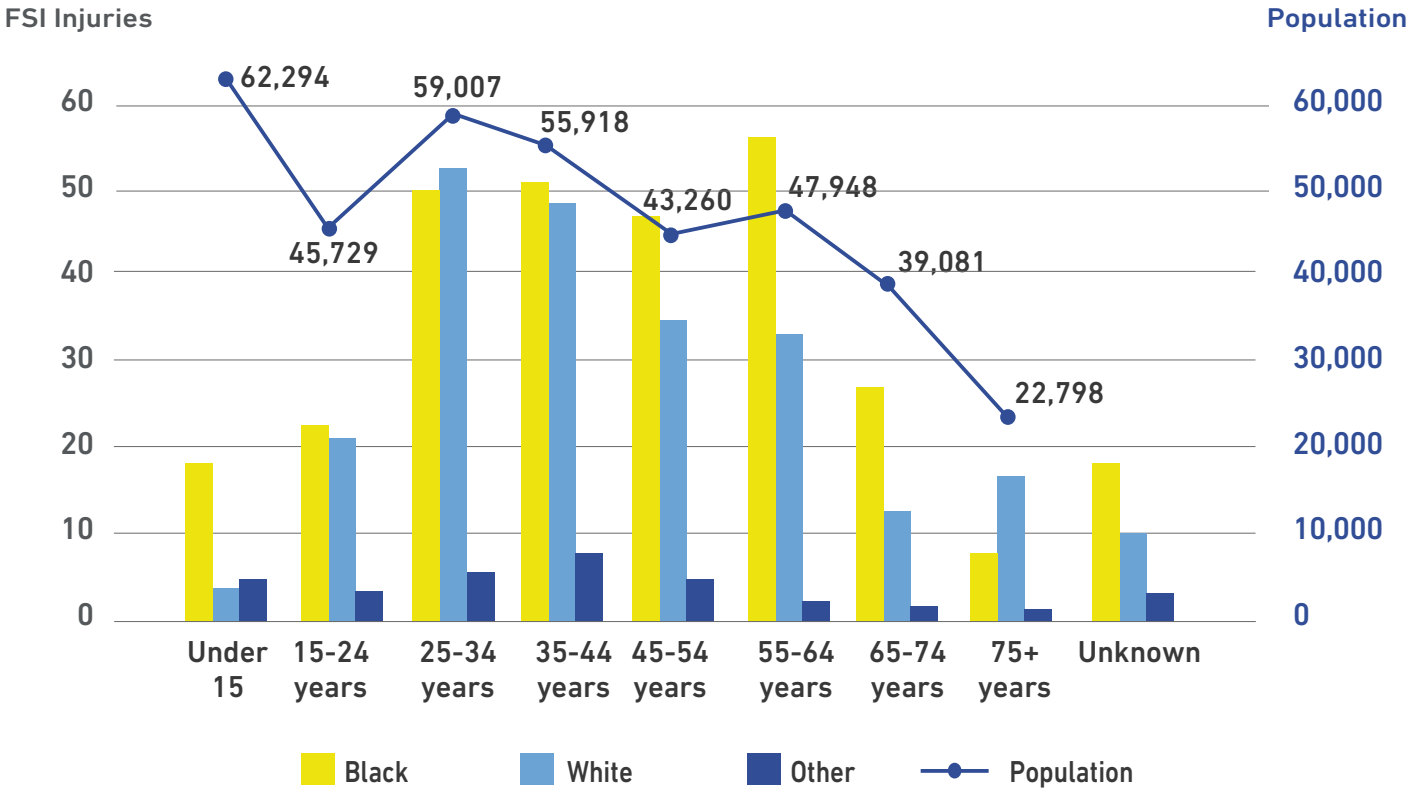


FIGURE 5 FSI injuries by age group and race (2019-2023)

account for 63 percent of FSI crash injuries, as shown in **Figure 5**. Men aged 24 to 44 are particularly overrepresented in severe crash outcomes. This holds true for both Black and white individuals when looking at all modes. **Figure 6** shows the share of FSI crashes by age group and race, with each age group's share of the total city population for reference.

When looking specifically at VRU crashes, Black people in New Orleans are overrepresented in FSI crash outcomes relative to their population. A disproportionately high share of VRU injuries involve Black individuals aged 35 to 64, specifically 55 to 64-year-olds. There is a slightly higher proportion of white individuals aged 75 and older that are involved in VRU FSI crashes relative to their population.

In New Orleans, VRUs and motorcyclists are significantly overrepresented in fatal and serious injury (FSI) crashes. People walking, bicycling, or motorcycling account for approximately 5 percent of total crashes, yet they collectively comprise 41 percent of FSI crashes, as shown in **Figure 7**. Severe pedestrian and bicycle crashes are frequently concentrated at intersections and along higher-speed arterial corridors, where turning conflicts, long crossing distances, and limited visibility increase risk. Motorcycle crashes are often associated with speed, lane departure, and impaired driving. The

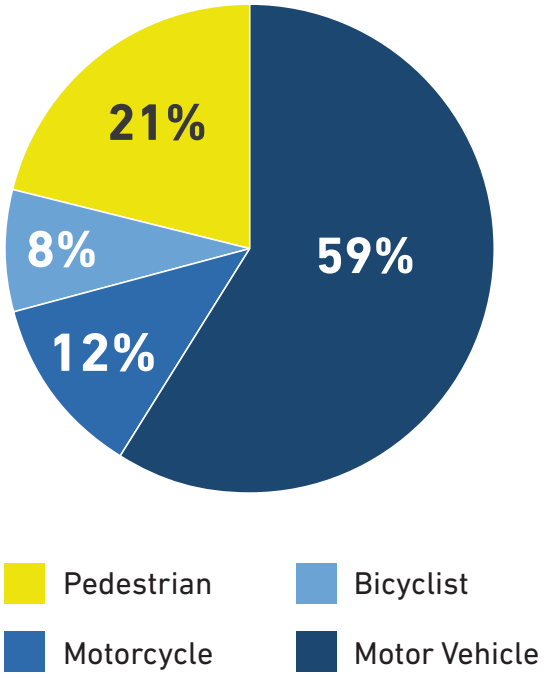


FIGURE 6 Percent of FSI crashes by mode (2019-2023)

rate of severe outcomes for VRUs and motorcyclists are similarly disproportionate. **Figure 8** illustrates that while just 1 percent of motor vehicle crashes resulted in a death or serious injury, the percentage of FSI outcomes for crashes involving other modes is substantially higher. These patterns highlight the need for safer speeds, improved intersection design, enhanced lighting and visibility, and infrastructure that reduces conflicts and exposure for those most at risk.

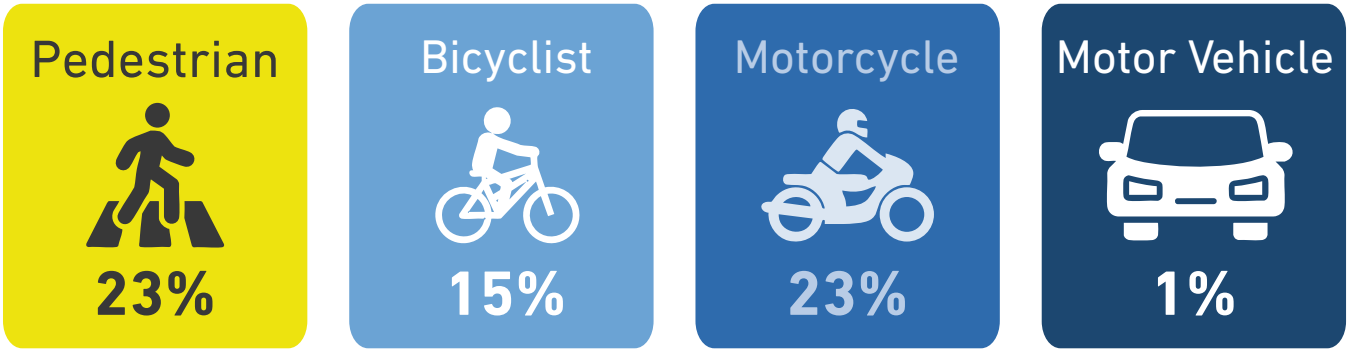


FIGURE 7 Percent of crashes resulting in death or serious injury by mode (2019-2023)

High Injury Network

The High Injury Network (HIN) map is derived from a crash density-based analytical approach designed to identify roadway segments with disproportionately high concentrations of severe crashes. The analysis responds directly to observed patterns in historic crash data and emphasizes corridors associated with fatal and serious injury outcomes. A modified sliding window technique was applied to smooth discrete crash locations across continuous roadway segments, allowing the resulting maps to clearly depict network-level safety trends rather than isolated crash points.

The analysis used crash data from the five-year study period spanning 2019 through 2023. All crashes were successfully geolocated and assigned to roadway segments. The methodology was applied separately to expressway and non-expressway facilities and was conducted for two primary crash groupings: (1) all crash modes, including motor vehicles, motorcycles, bicyclists, and pedestrians, and (2) vulnerable road user (VRU) crashes, defined as any crash involving at least one pedestrian or bicyclist. This stratified approach ensured that differences in roadway function and user risk profiles were appropriately reflected in the results.

The HIN identification process consisted of four major steps: roadway re-segmentation, crash assignment and segment scoring, percentile ranking and selection, and post-processing of minor roadways.

Roadways were first re-segmented into consistent lengths, allowing crash densities to be compared across corridors. Crashes were then assigned to all roadway segments within 50 feet of their geocoded locations to account for intersection patterns and minor location inaccuracies. To emphasize severe outcomes, crashes were scored by injury severity, with fatal and incapacitating injury crashes receiving substantially higher values than minor or possible injury crashes, while property-damage-only crashes were excluded. The analysis then smoothed these scores across adjacent segments, distributing each crash's influence over up to five connected segments to highlight continuous high-risk corridors. Finally, segments were percentile-ranked by roadway type and mode group to identify those with the highest concentrations of severe crashes.

Rather than applying a fixed numeric threshold, the cutoff for inclusion in the HIN was determined dynamically. The selected segments represent approximately 50 percent of the total crash severity scoring within each analysis category. This approach balances network coverage with analytical focus, ensuring that the HIN captures the corridors responsible for the majority of severe crashes while remaining a manageable portion of the overall roadway system.

Using this method, approximately 7.9 percent of the non-expressway roadway network was identified as part of the all-modes HIN, 19.5 percent of expressway mileage was included in the all-modes expressway HIN, and 4.6 percent of non-expressway roadways were selected for the vulnerable road user High Injury Network. The non-expressway all modes HIN is approximately 51% state-controlled roads and 49% local streets.

About **68%** of FSI crashes occurred on just 130 miles **(7%)** of the City's 1,800-mile roadway network.

Of the 130 miles that comprise the High Injury Network:

70% do not have a designated bicycle facility*

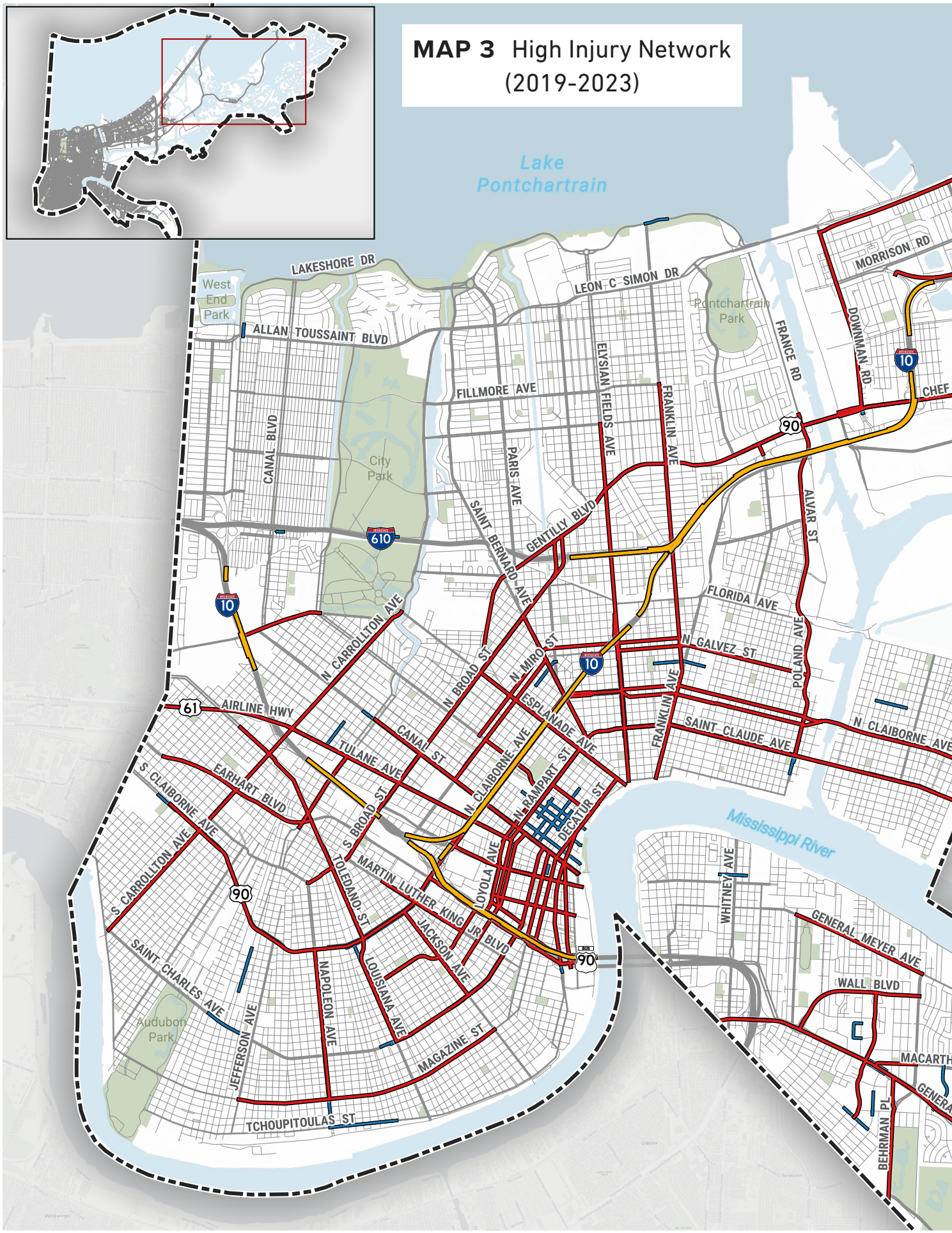
72% are city-designated truck routes*

82% are RTA transit routes*

Roadway Type	HIN%
Interstate/Expressway	**12%**
Major or Minor Arterial	**75%**
Major or Minor Collector	**10%**
Ramp/Frontage Road	**3%**

* Excluding interstates

New Orleans, LA


MAP 3 High Injury Network
(2019-2023)
Lake Pontchartrain
Mississippi River
LAKESHORE DR
West End Park
ALLAN TOUSSAINT BLVD
CANAL BLVD
City Park
FILLMORE AVE
PARIS AVE
SAINT BERNARD AVE
GENTILLY BLVD
LEON C SIMON DR
Pontchartrain Park
ELYSIAN FIELDS AVE
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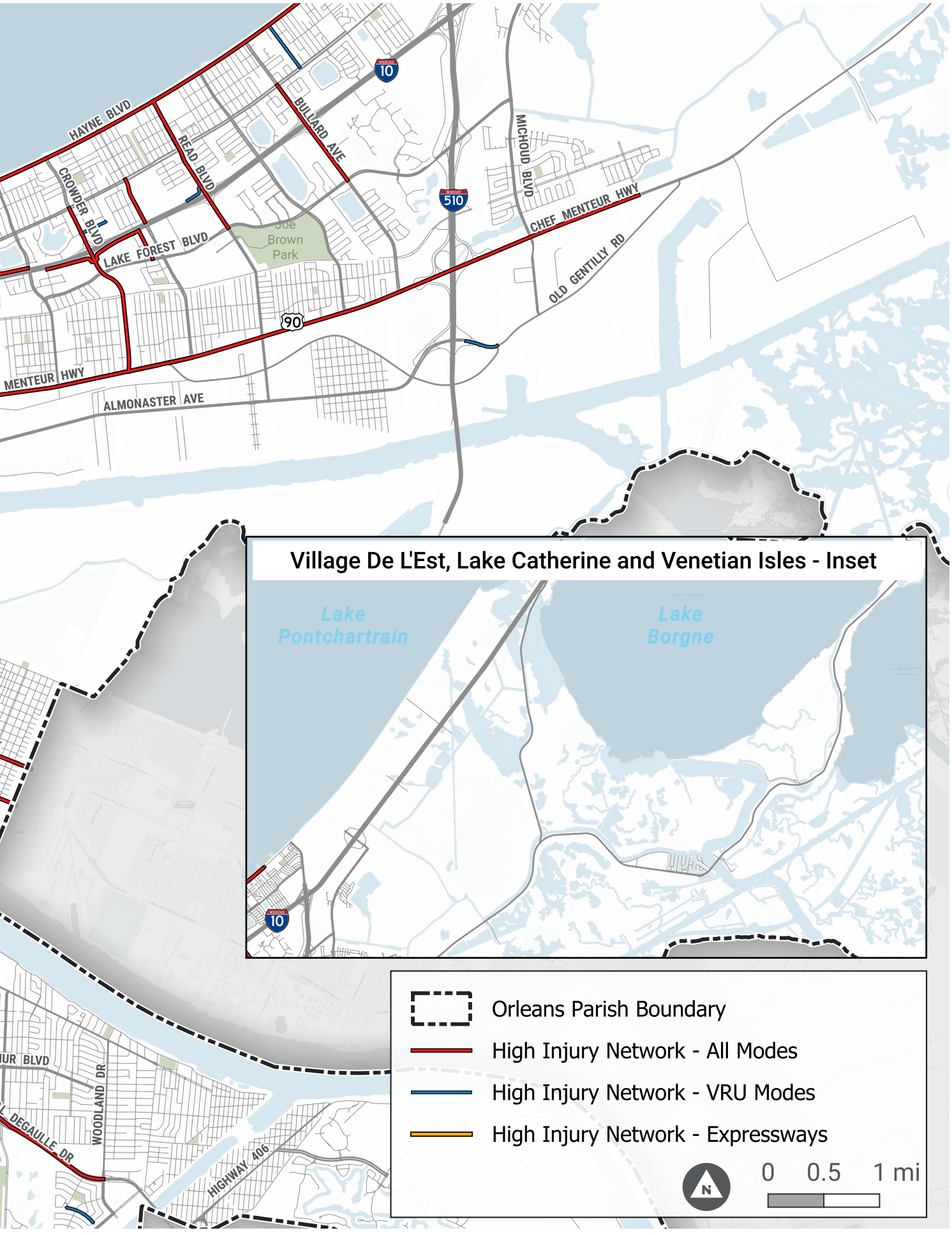
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READ BLVD
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LAKE FOREST BLVD
Joe Brown Park
MICHOUD BLVD
CHEF MENTEUR HWY
OLD GENTILLY RD
MENTEUR HWY
ALMONASTER AVE
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Village De L'Est, Lake Catherine and Venetian Isles - Inset
Lake Pontchartrain
Lake Borgne
WOODLAND DR
HIGHWAY 406
Orleans Parish Boundary
High Injury Network - All Modes
High Injury Network - VRU Modes
High Injury Network - Expressways
0 0.5 1 mi
N

High Risk Network

The risk-based analysis for this project was conducted using the Safer Streets Priority Finder's (SSPF) Safer Streets Model (SSM). The SSPF is a free and open-source resource that allows practitioners and advocates to analyze and understand the risk to vulnerable road users. It is a tool that was developed as a collaboration between the City of New Orleans and Toole Design, funded by USDOT grants. With just some minimal data prep required, the SSM uses a Bayesian statistical framework to make a robust estimation of crash risk along the road network.

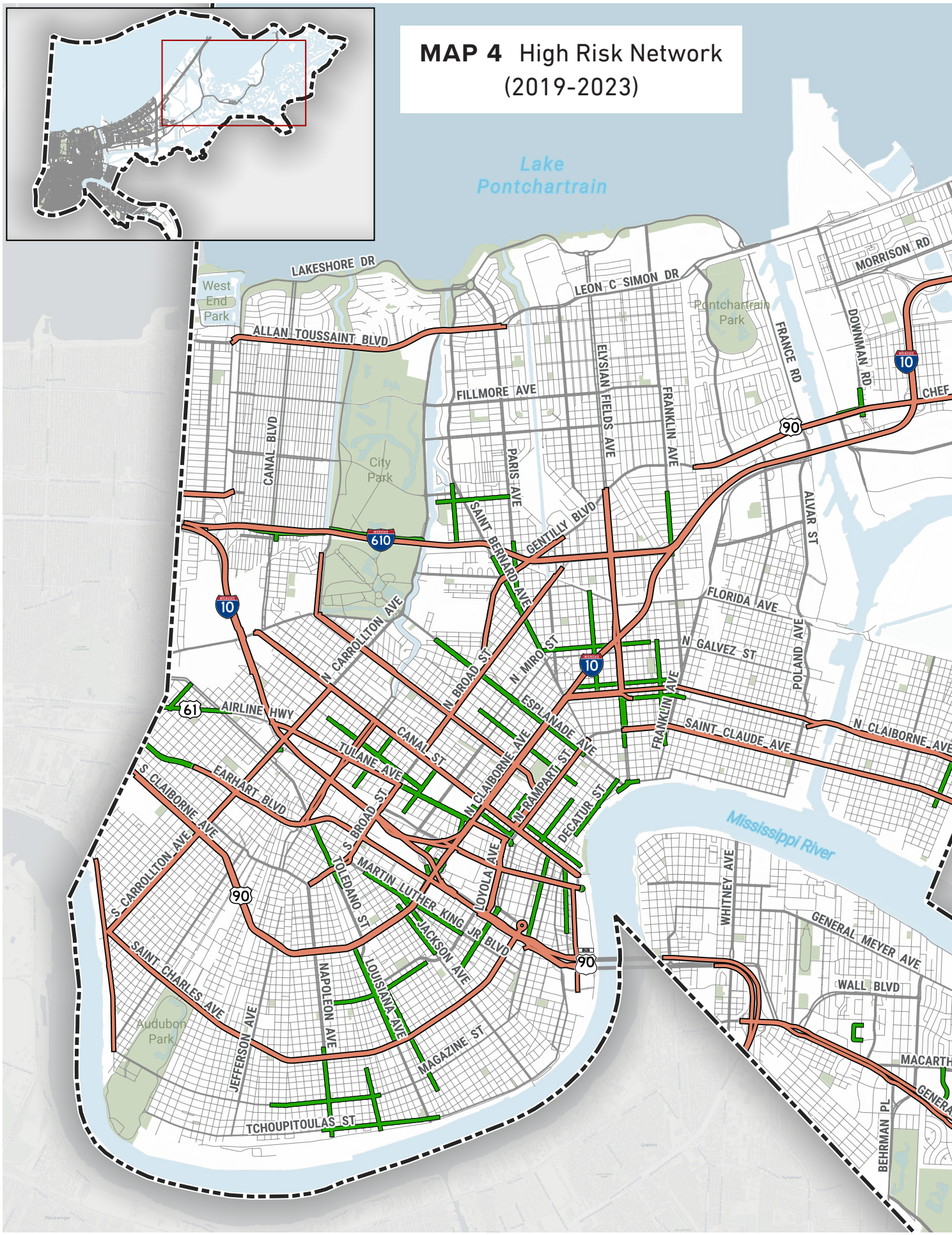
The SSM brings the segmented road network window segments into a Bayesian statistical framework to estimate crash risk throughout the system. This framework allows the tool to incorporate external information about how many crashes we might expect to see (called a Bayesian prior), alongside the observed crash history. The model estimates crash risk rates per mile for each road segment and each crash mode (pedestrian and bicyclist only at this time) and severity. These values are then converted to crash cost estimates based on the costs assigned to each crash severity by the user or from the SSPF default costs.

In order to assess risk more comprehensively across all modes, including motor vehicles, the risk-based analysis also includes risk score results generated using the City's access to Replica's Safe Streets Planner application. The Safe Streets Planner assigns a comparative risk score to roadway segments based on factors including speeding (in this case 10 mph or more above the speed limit), sudden braking and acceleration, suspected collisions, and phone handling, and normalized by the number of trips and corridor length.

Map 4 on the following page shows the High Risk Network for both All Modes and for VRUs. While there is significant overlap with the HIN, a number of additional roadways appear on the risk network. This indicates that, although the crash history during the five-year study period did not elevate these to the HIN, they share characteristics with HIN roadways that indicate a need for proactive safety improvements.

Together with stakeholder and public input described in Chapter 3, the results of the crash analysis, including the High Injury Network and High Risk Network maps provided the foundation for developing the systemic safety strategies and list of prioritized safety infrastructure projects found in Chapter 5.

New Orleans, LA


MAP 4 High Risk Network
(2019-2023)
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West End Park
LAKESHORE DR
ALLAN TOUSSAINT BLVD
CANAL BLVD
City Park
FILLMORE AVE
PARIS AVE
SAINT BERNARD AVE
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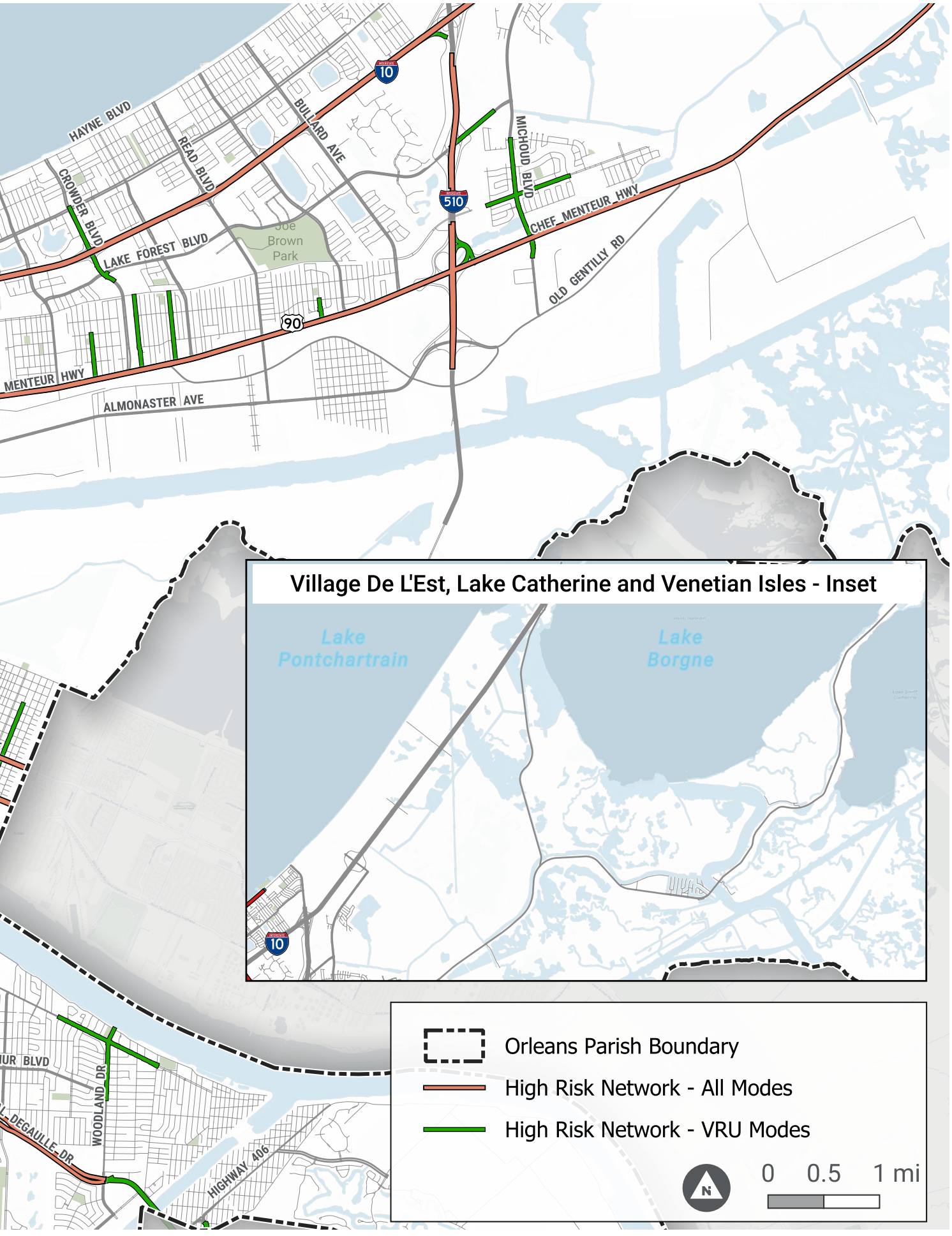
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