

## **ITEM 10 – Information**

April 15, 2020

### Safety Study Phase 1 Analysis

**Background:**

Staff will share the results of the regional roadway crash data analysis (emphasizing fatal and serious injury crashes) undertaken as part of the TPB's regional safety study. The study is currently conducting an in-depth analysis of crashes involving pedestrians, crashes at or near intersections, and crashes along principal arterials as well as compiling a set of actions with the potential to improve roadway safety outcomes in the region. The board will be briefed on these in the coming months.





## MEMORANDUM

**TO:** Transportation Planning Board  
**FROM:** Jon Schermann, TPB Systems Performance Analysis Manager  
**SUBJECT:** Regional Safety Study Update  
**DATE:** April 9, 2020

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This memo updates the information provided in last month's Director's Report and provides a high-level overview of the objectives of the Analysis of Regional Roadway Safety Outcomes study. It outlines the new scope items included in the recent contract extension and describes when future safety agenda items may come before the Technical Committee and the Transportation Planning Board. Information that is added or different from what was provided in the March Director's Report memo are noted in **bold** below.

### ANALYSIS OF REGIONAL ROADWAY SAFETY OUTCOMES

Cambridge Systematics is conducting the Analysis of Regional Roadway Safety Outcomes study (hereafter referred to as the Regional Safety Study) under the guidance of a Technical Advisory Panel (TAP) comprised of TPB staff as well as safety officials from DDOT, MDOT, and VDOT. The project began with a kickoff meeting held on June 26, 2019. A summary of the study is provided below.

### STUDY OBJECTIVES

The objectives of the study are:

- to understand the factors contributing to fatal and serious injury crashes in the National Capital Region;
- to determine where crashes on the roadway transportation network are over-represented;
- to identify and recommend proven effective solutions (policy, programmatic, project);
- to provide the TPB and member jurisdictions specific suggestions to improve safety; and
- to inform future Transportation Safety Subcommittee and StreetSmart efforts.

### CURRENT STATUS

**In January the consultant presented the Phase 1 Safety Analysis to the Technical Committee. TPB members will be briefed on the Phase 1 Analysis at this month's board meeting. In February the Technical Committee reviewed the Phase 2 "Deeper Dive" Safety Analysis (focusing on pedestrian, intersection, and major arterial crashes). The board will be briefed on the "Deeper Dive" findings at a future meeting.**

### REGIONAL SAFETY STUDY – CONTRACT EXTENSION

The contract with Cambridge Systematics has been extended from February 28, 2020 to November 30, 2020. This will ensure that TPB staff will have consultant support through the roll out process and will enable additional crash data analysis. **TPB staff in consultation with the Technical Advisory Panel, have identified crashes involving young drivers (<25) as being the next, and final, deep dive analysis to be conducted within the scope of this contract. Findings from this analysis will be shared with the Technical Committee and the TPB at future meetings.**

## ADDITIONAL SCOPE ITEMS

The following items were added to the scope as part of the contract extension:

- Meeting Support: this covers the development of additional PowerPoint slide decks (with speaking notes) and staff support for the several Safety Subcommittee, Technical Committee, Citizen’s Advisory Committee and Transportation Planning Board meetings during the extended period of performance.
- Emphasis Area Analysis: this covers one more “deep dive” analysis (**young drivers**) in addition to the three already conducted (pedestrians, intersections, and major arterials).
- Safety Events: this covers planning support and facilitation for two safety events.
- Data Update and Training: this enables the consultant to update our new regional crash database with crash data for 2018. It also covers training TPB staff on how to input crash data for future years and how to generate analysis results.

## SCHEDULE OF SAFETY BRIEFINGS TO THE TECHNICAL COMMITTEE AND THE TRANSPORTATION PLANNING BOARD

Table 1 shows the current schedule for how the safety study results as well as other safety-related agenda items (such as the next round of annual regional highway safety targets) will be addressed by the TPB and the Technical Committee. **Please note that due to the current COVID-19 precautions, the timing of safety-related presentations is less certain than it was prior to the precautions and therefore this table is subject to change.**

Table 1: Tentative CY 2020 Safety Agenda Items\*

Month	Technical Committee	Transportation Planning Board
April 2020	Washington Regional Alcohol Program (WRAP) update/recommendations Safety Study Update Deeper Dive Analysis	<b>Safety Study Phase 1 Analysis</b>
May 2020	Safety Study Update - preliminary findings and recommendations	
June 2020	Safety Study Update - findings and recommendations	Safety Study Update - findings and recommendations
September 2020	Safety Study Update Methodology for PBPP Highway Safety Targets State DOT Safety Target Updates	Safety Study Update
October 2020	State DOT Safety Target Updates Staff Proposed Regional Safety Targets	
November 2020	Staff Recommended Regional Safety Targets	Staff Recommended Regional Safety Targets
December 2020		Adopt Regional Safety Targets

\* Note: The Police Chiefs Committee will be offered the opportunity to provide highway safety recommendations for inclusion in the overall package of recommendations to the TPB. If they do this, they will be added to the Technical Committee and TPB agendas as appropriate. **Kurt Erickson, President and CEO of the Washington Regional Alcohol Program will present recommendations about reducing drunk driving to the TPB at some point in the next several months. It is anticipated that the Phase 2 Deeper Dive Analysis findings will be presented to the TPB at a future meeting.**

The proposed schedule outlined above is also subject to change based on feedback from the Technical Committee and TPB members.

# SAFETY STUDY PHASE 1 ANALYSIS

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Jon Schermann  
TPB Systems Performance Analysis Manager

Transportation Planning Board  
April 15, 2020



# Study Overview

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- Objectives

- to understand the factors contributing to fatal and serious injury crashes in the National Capital Region (NCR);
- to determine where crashes on the roadway transportation network are over-represented;
- to identify and recommend proven effective solutions (policy, programmatic, project);
- to provide the TPB and member jurisdictions specific suggestions to improve safety; and
- to inform future Transportation Safety Subcommittee and StreetSmart efforts.

- Progress to Date

- Kickoff meeting – June 26, 2019
- Benchmark Peer Evaluation - complete
- Collection and Processing of Safety Data – complete
- Analysis of Safety Data – in process

- Project Timeline

- Original contract through February 2020 – extended through November 2020



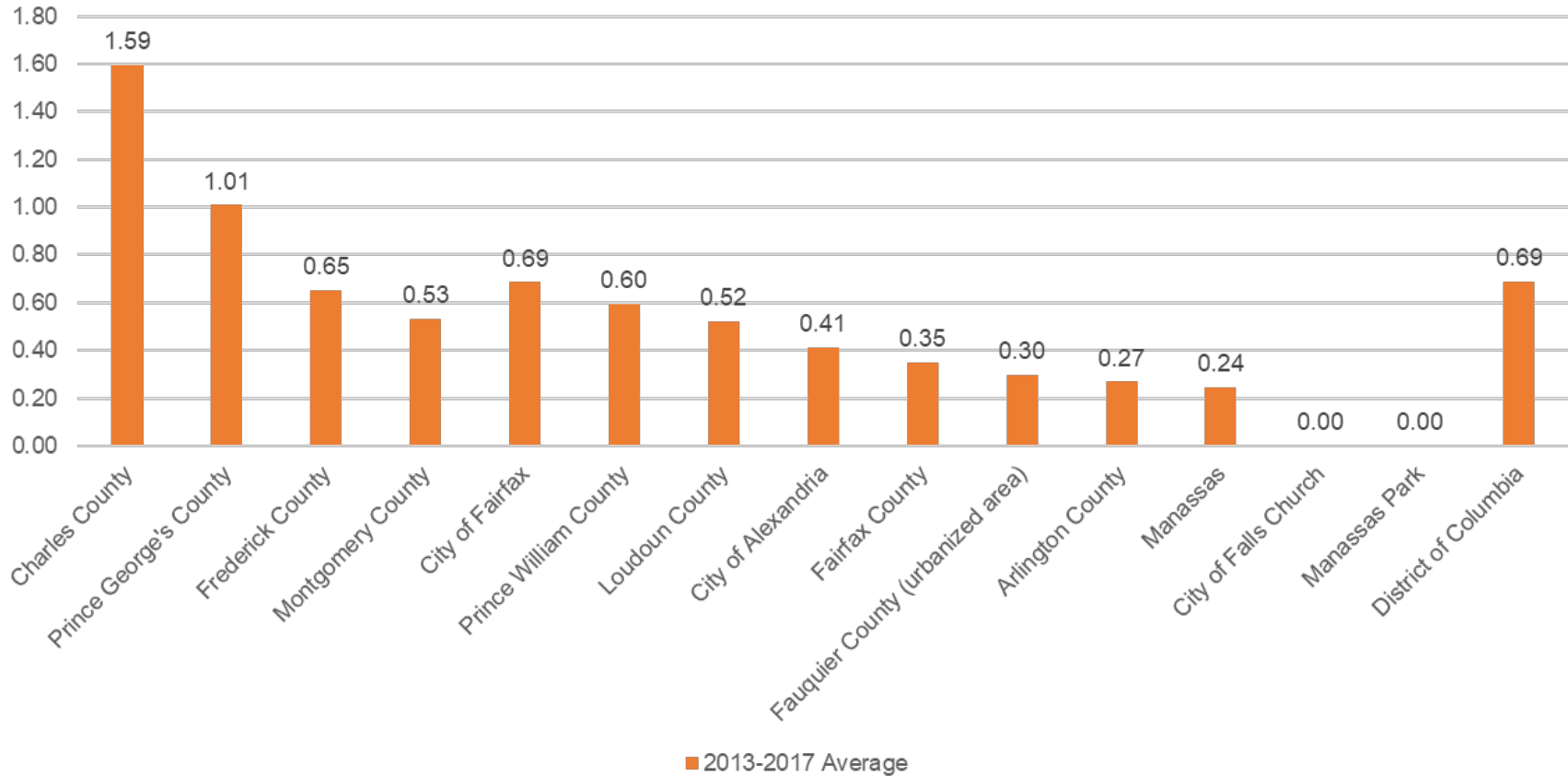
# Crashes by Jurisdiction (2013-2017)

Crash Severity by Jurisdiction			
Jurisdiction	Fatalities	Serious Injuries	Total Crashes
District of Columbia	124	1,765	118,166
Charles County, MD	103	955	13,391
Frederick County, MD	101	475	16,207
Montgomery County, MD	200	1,998	64,598
Prince George's County, MD	455	2,363	76,381
Arlington County, VA	21	303	12,592
Fairfax County, VA	172	3,423	68,645
Fauquier County, VA (urbanized area)	3	78	1,706
Loudoun County, VA	69	899	23,195
Prince William County, VA	104	1,117	28,306
Alexandria, VA	15	220	8,701
Fairfax City, VA	6	108	2,967
Falls Church, VA	0	79	681
Manassas, VA	2	324	2,933
Manassas Park, VA	0	7	382
<b>Urban Core</b>	160	2,288	139,459
<b>Inner Suburbs</b>	833	7,971	213,272
<b>Outer Suburbs</b>	382	3,855	86,120
<b>Total</b>	<b>1,375</b>	<b>14,114</b>	<b>438,851</b>



# Fatality Rate by Jurisdiction

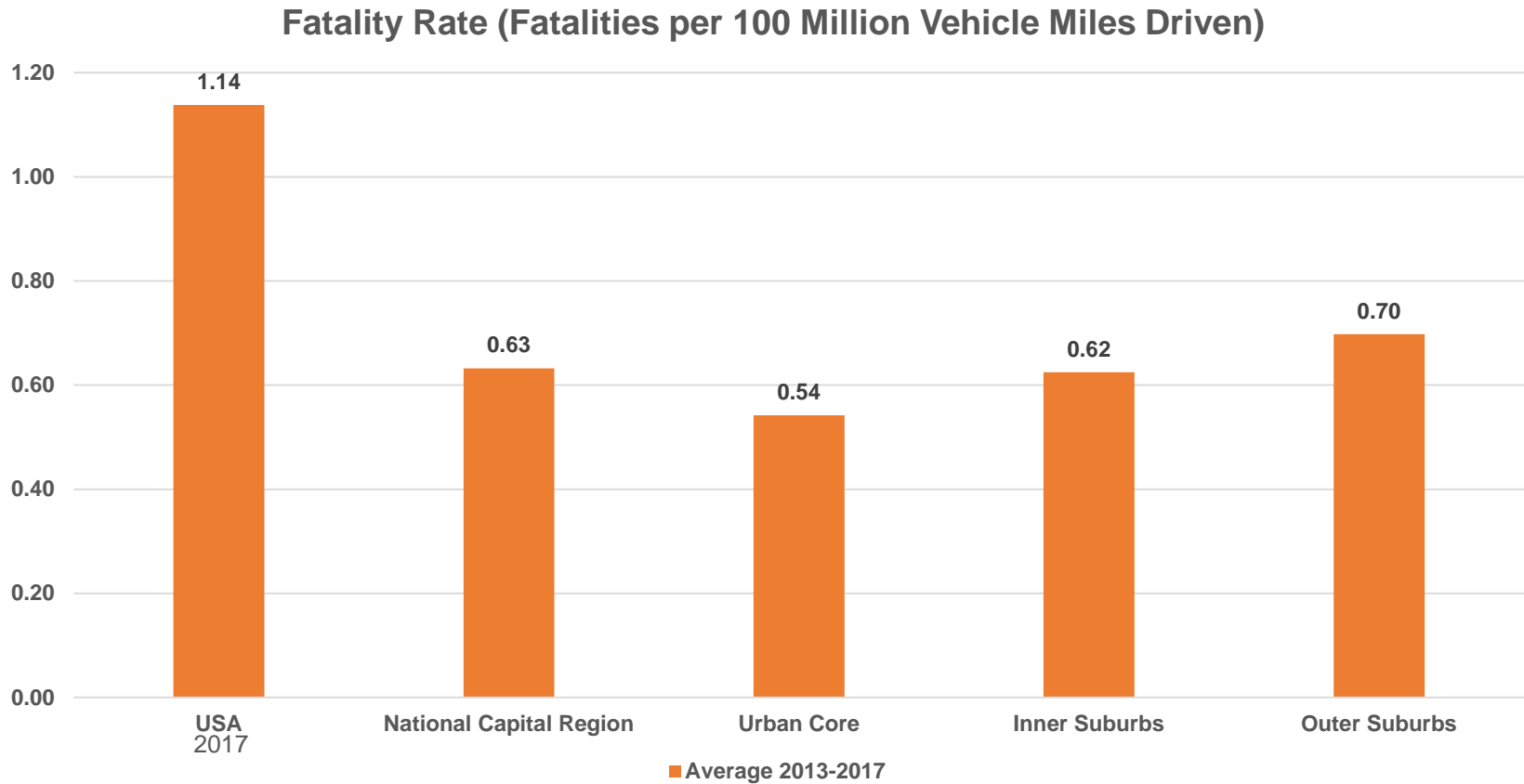
(per 100 million vehicle miles traveled)





# Fatality Rate by Sub-regional Area

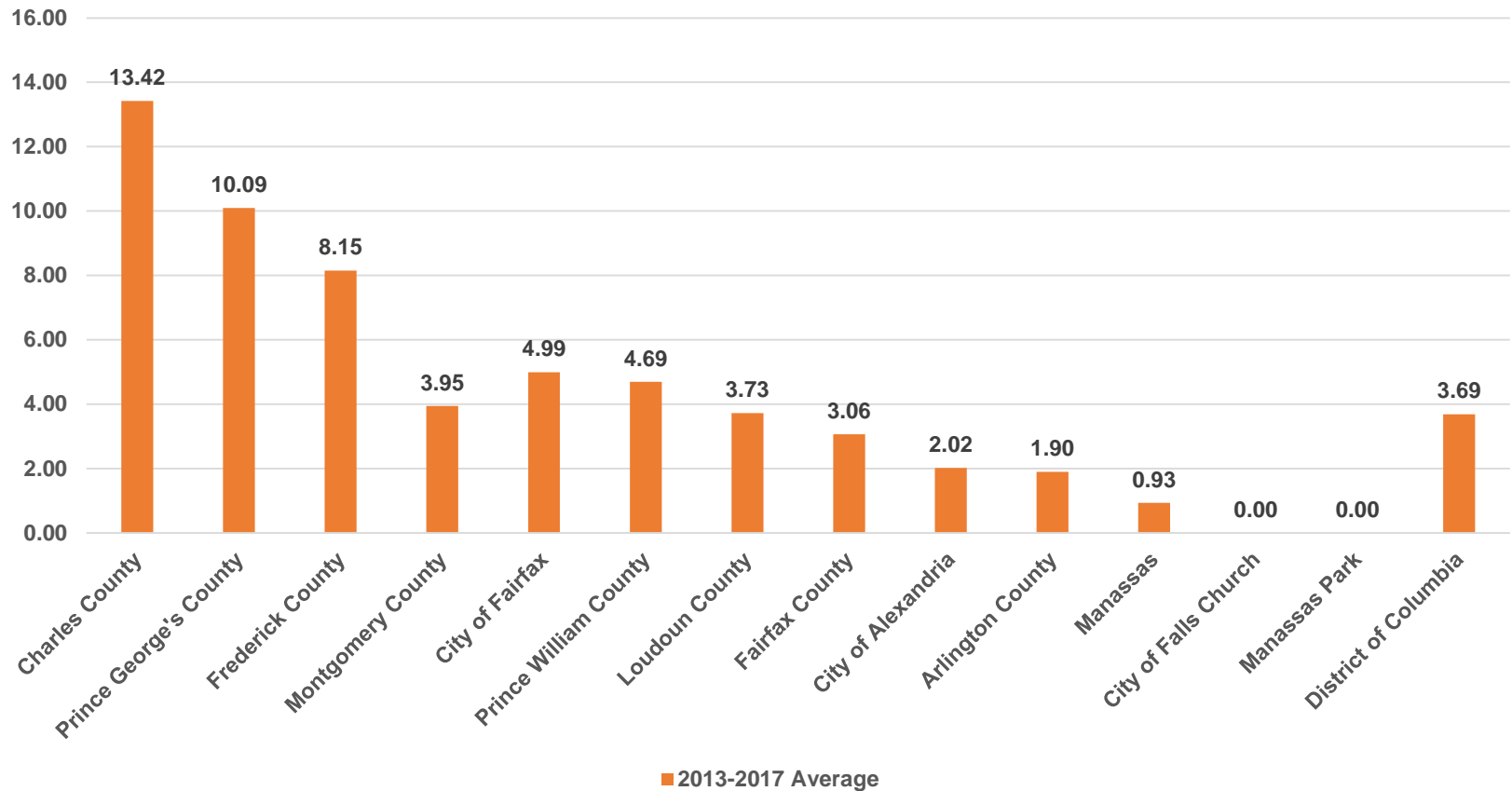
*(per 100 million vehicle miles traveled)*



# Fatality Rate by Jurisdiction

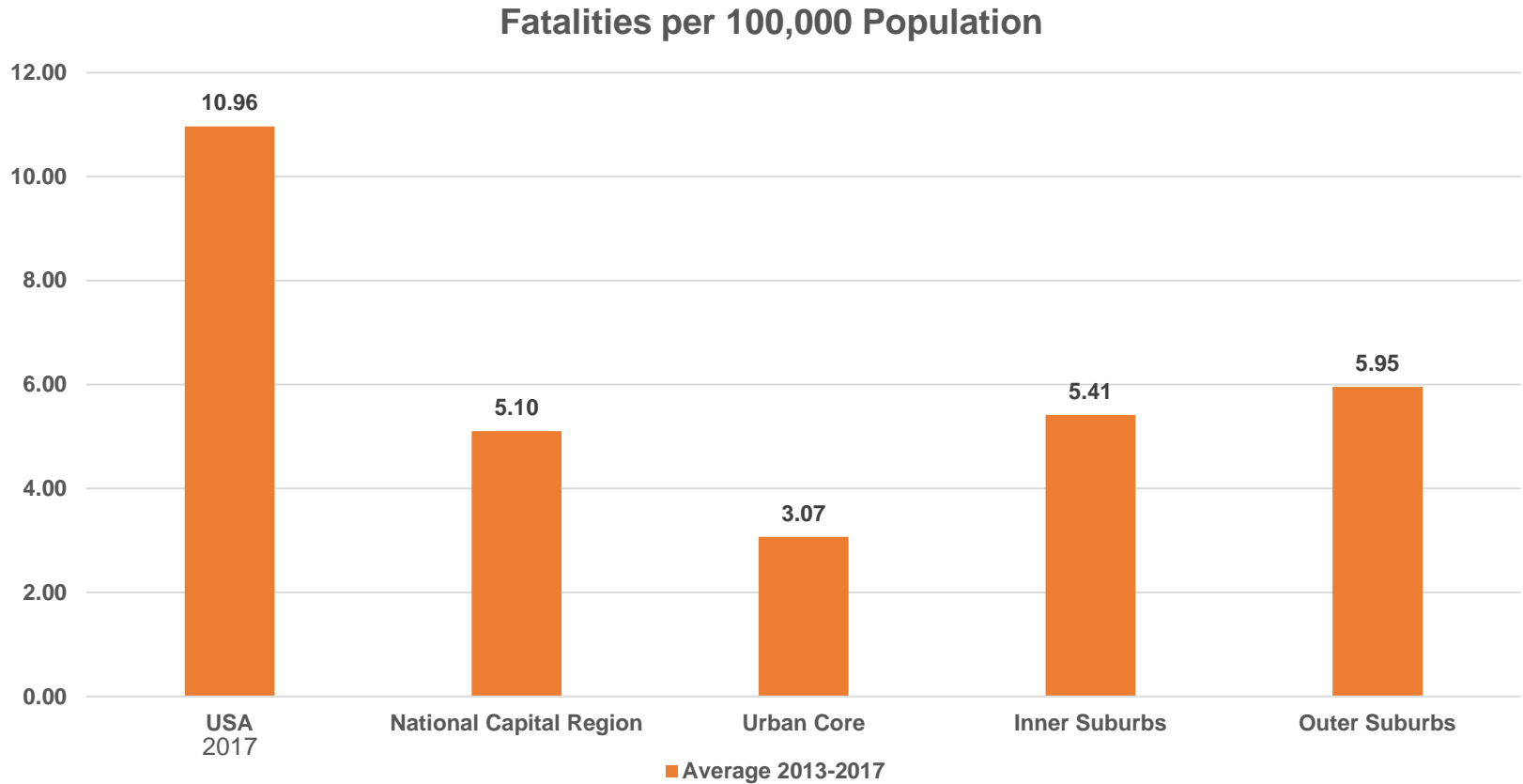
(per 100,000 people)

Fatalities per 100,000 Population



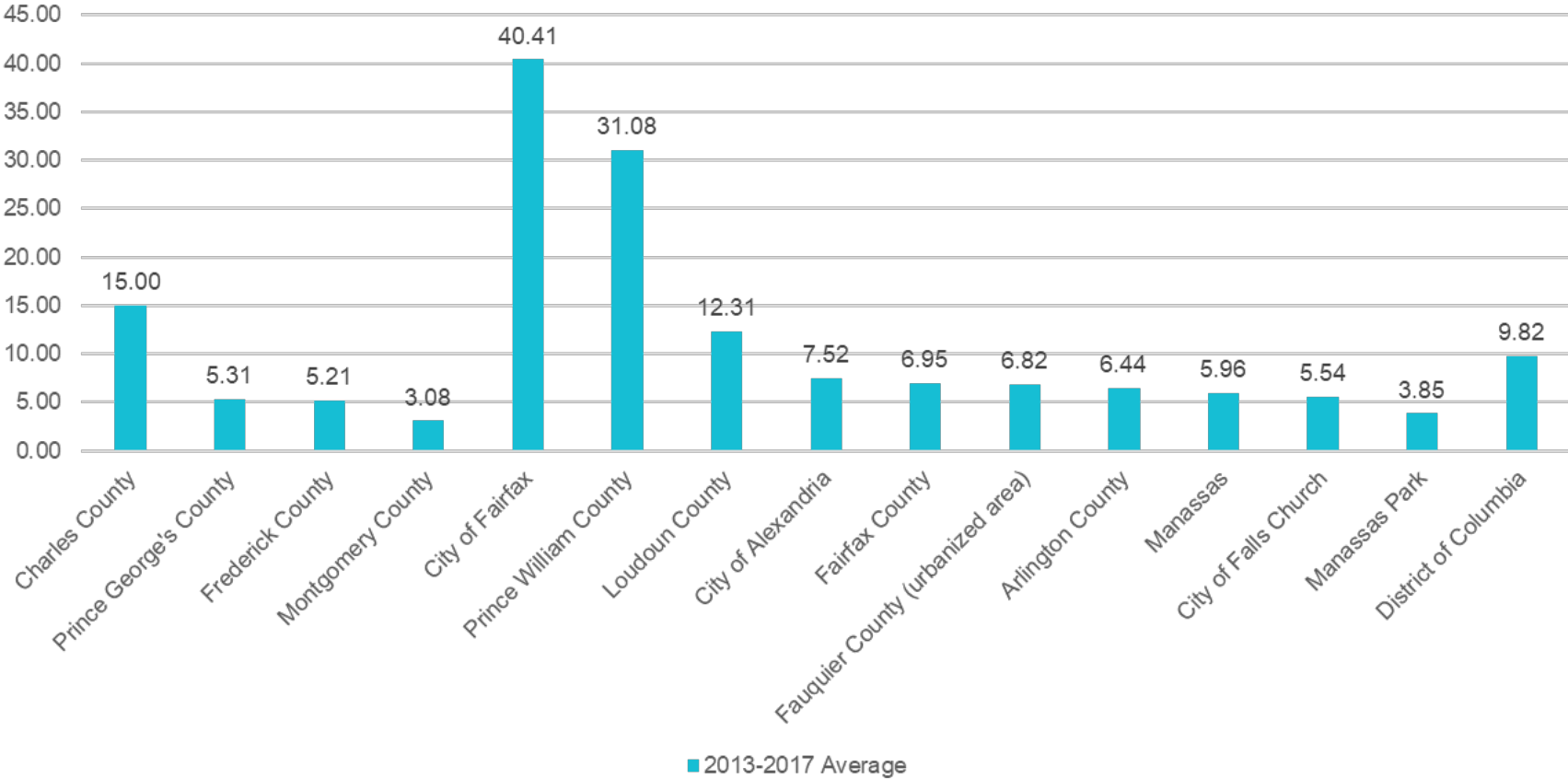
# Fatality Rate by Sub-regional Area

(per 100,000 people)



# Serious Injury Rate by Jurisdiction

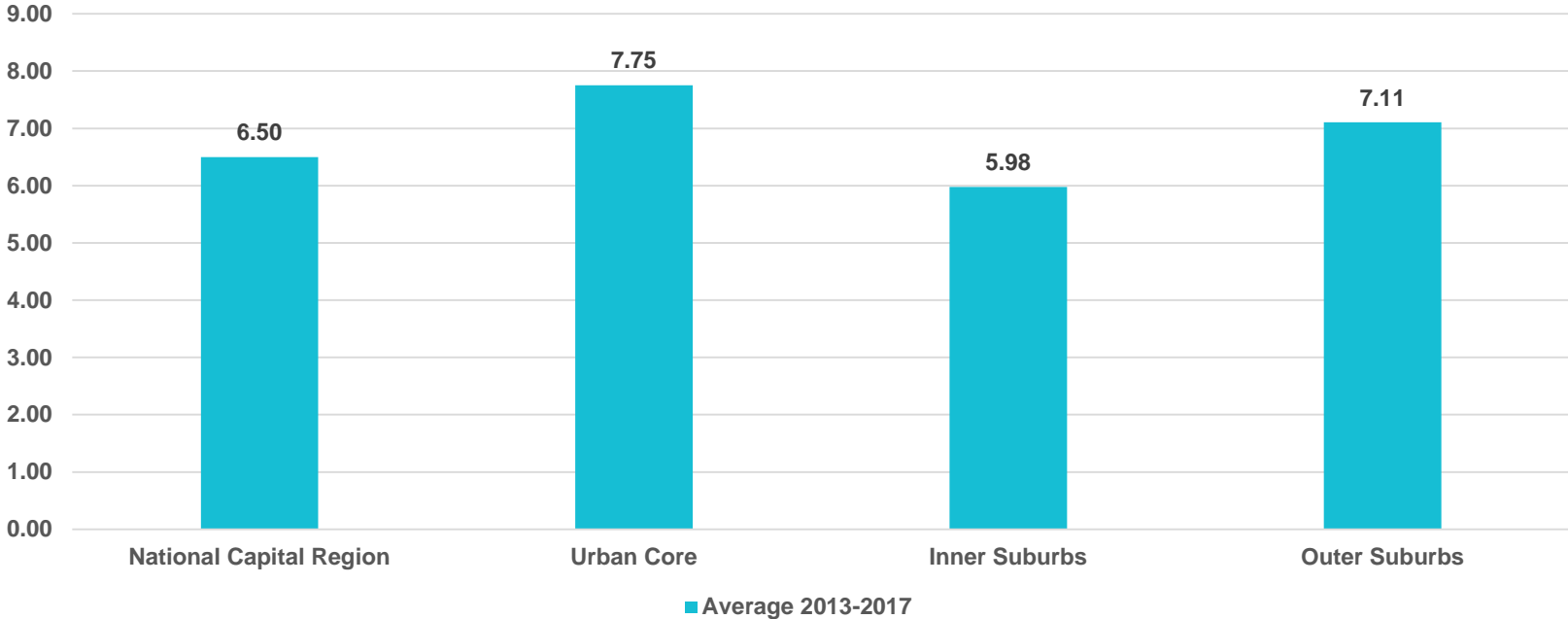
(per 100 million vehicle miles traveled)



# Serious Injury Rate by Sub-regional Area

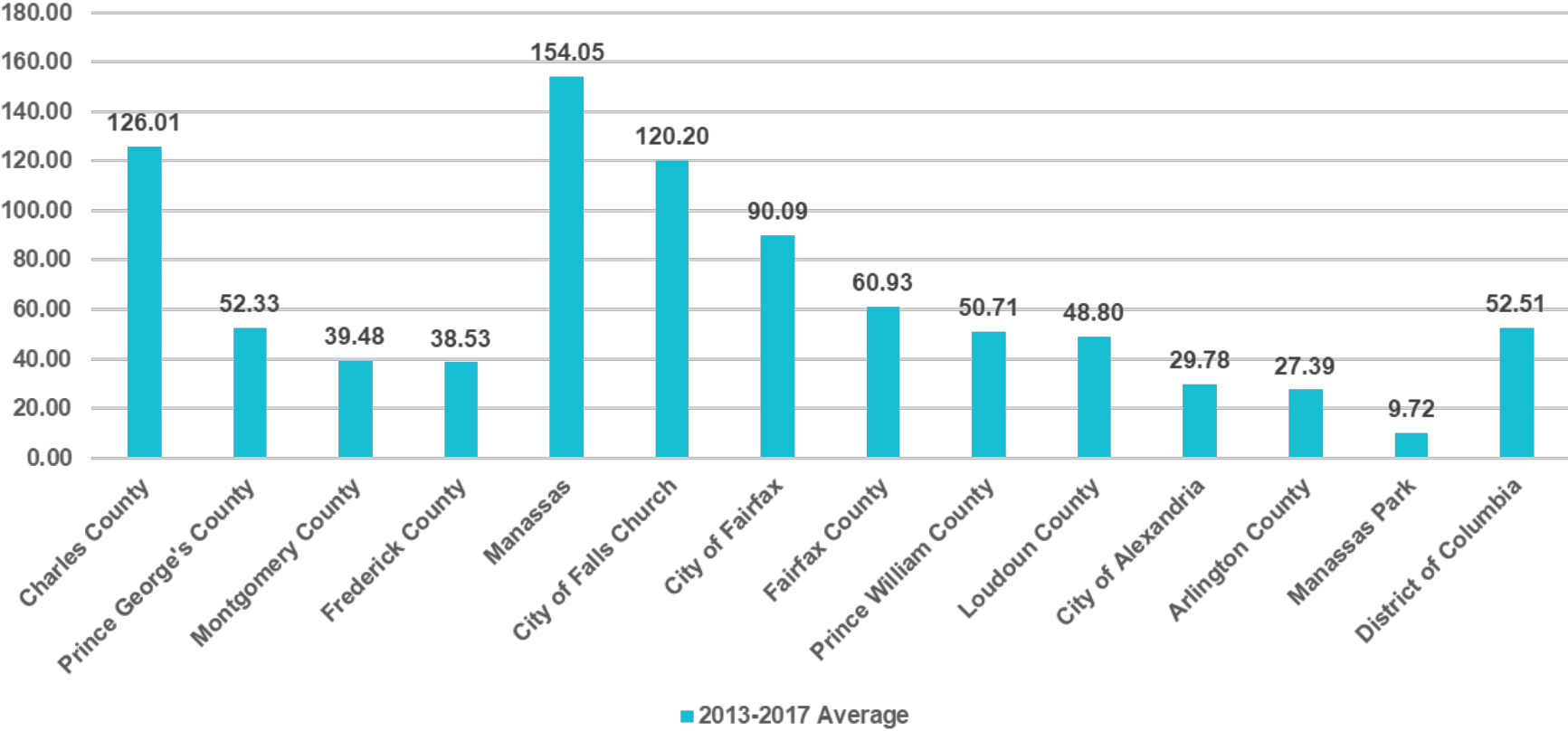
(per 100 million vehicle miles traveled)

Serious Injury Rate (Serious Injuries per 100 Million Vehicle Miles Driven)



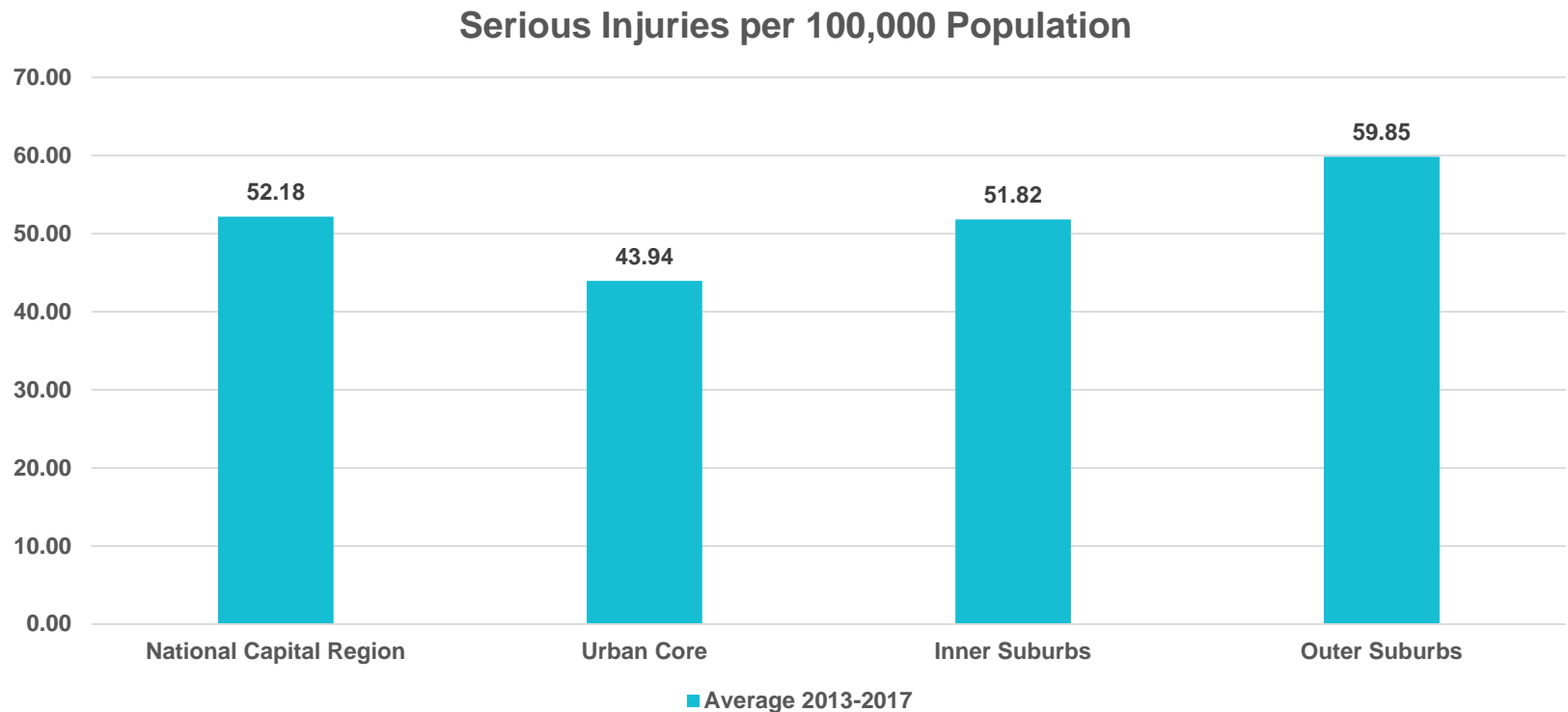
# Serious Injury Rate by Jurisdiction

(per 100,000 people)

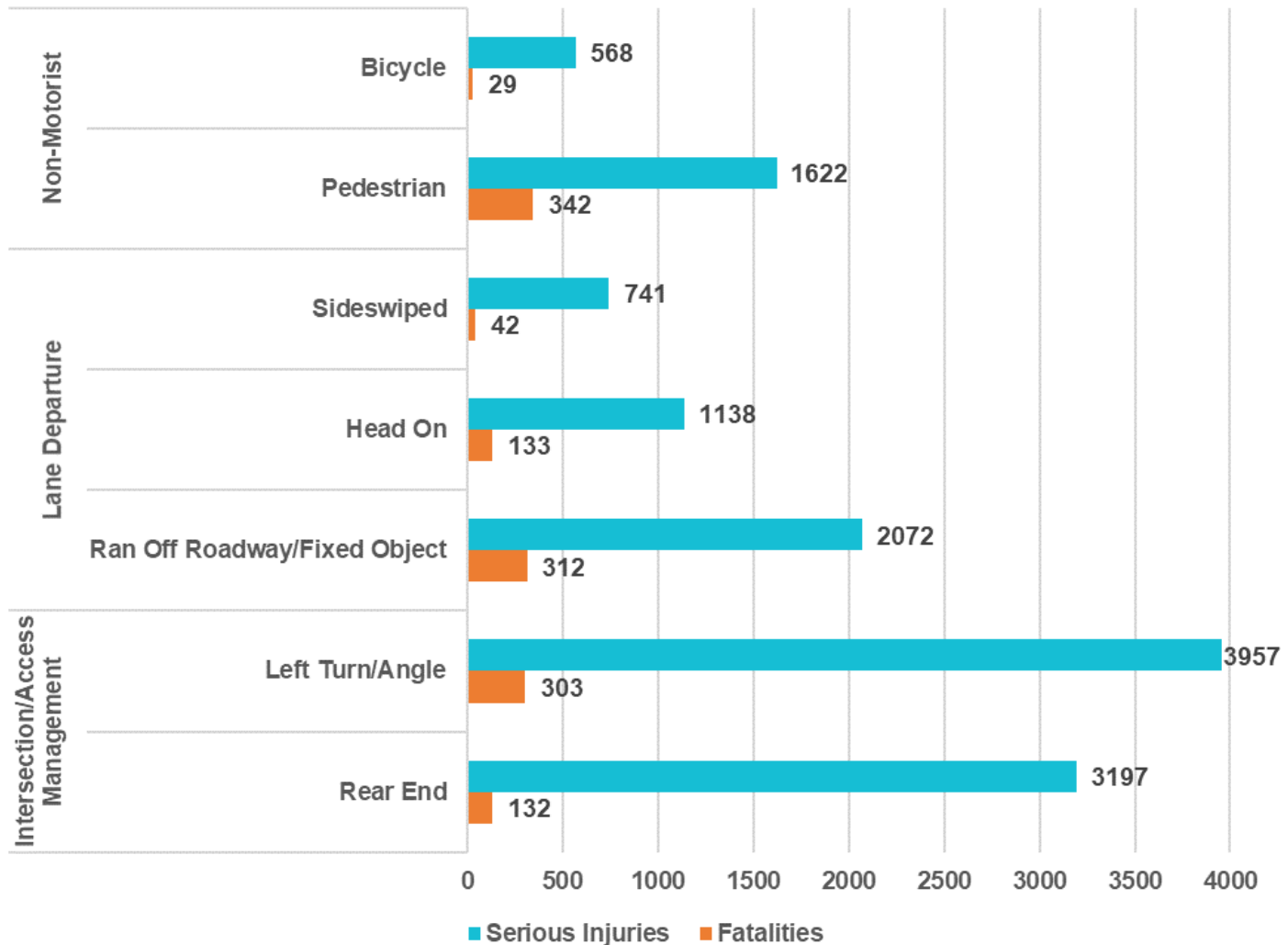


# Serious Injury Rate by Sub-regional Area

(per 100,000 people)

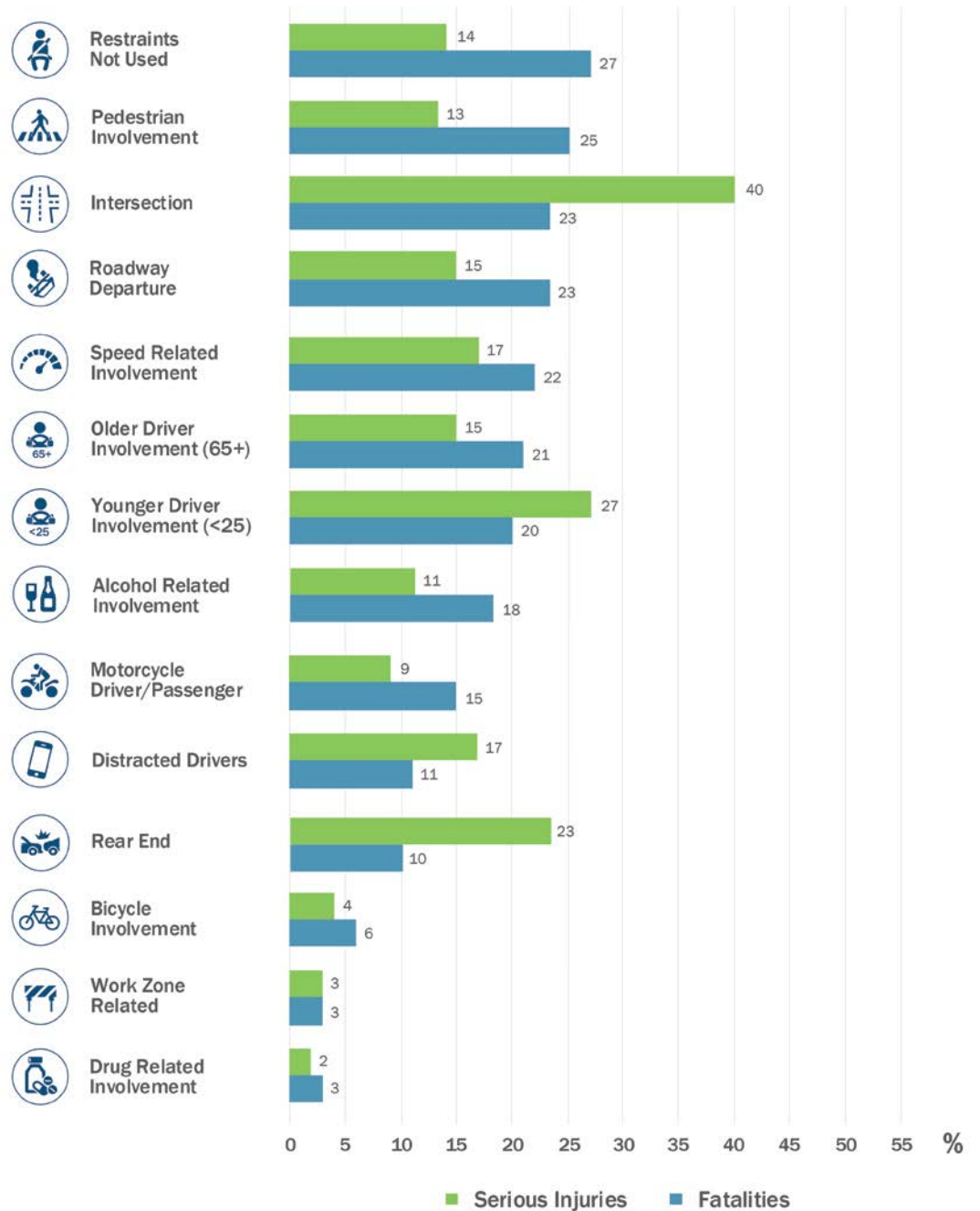


# Crash Types (2013-2017)

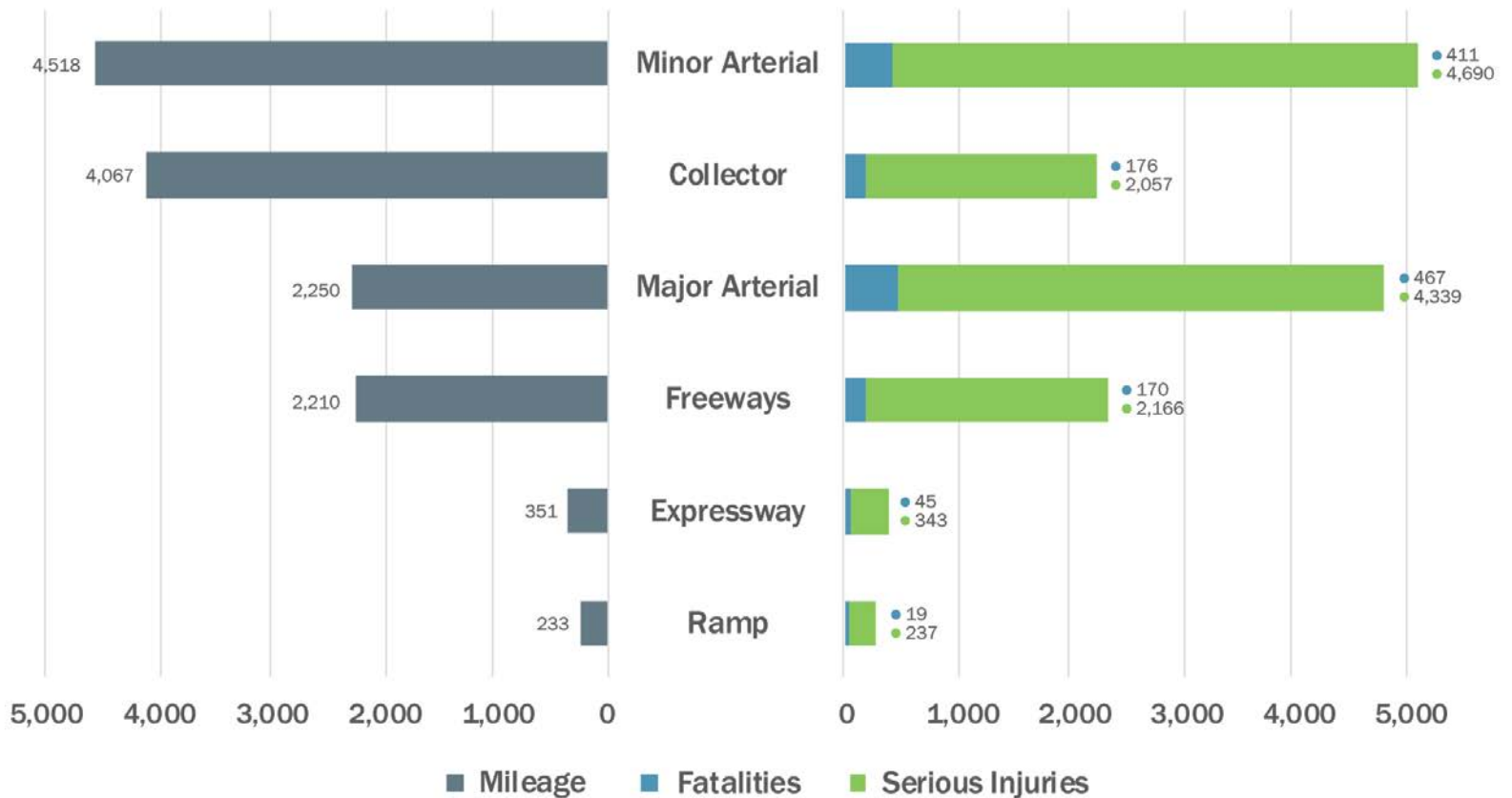




# Crash Contributing Factors (2013-2017)



# Functional Class (2013-2017)



# Deeper Dives

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- Pedestrians
- Intersections
- Arterials



# Consultant Study Next Steps

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- Share Deeper Dive Findings
  - Pedestrians
  - Intersections
  - Arterials
- Conduct Additional Deeper Dive into Crashes Involving Young Drivers
- Identify intersections and roadway segments that the data suggest may be priorities for safety improvements
- Develop recommendations
  - Policy/Institutional
  - Countermeasures
  - Locations



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