



**Executive Committee**

Steve Conklin, Chair  
Wynne Shaw, Vice Chair  
Jeff Baker, Secretary  
Colleen Whitlow, Treasurer  
Kevin Flynn, Immediate Past Chair  
Douglas W. Rex, Executive Director

**AGENDA**  
**REGIONAL TRANSPORTATION COMMITTEE**  
**Tuesday, November 14, 2023 8:30 a.m.**  
**1<sup>st</sup> Floor Aspen & Birch Conference Room**  
**\*In-Person Meeting with Virtual Option for Public (via Zoom)**

1. Call to Order
2. Public Comment
3. October 17, 2023 Regional Transportation Committee Meeting Summary (Attachment A)

**INFORMATIONAL BRIEFINGS**

4. Regional Transportation Committee Orientation (Attachment B) Jacob Riger, Manager, Multimodal Transportation Planning
5. 2022 Annual Report on Roadway Traffic Congestion in the Denver Region (Attachment C) Max Monk, Assistant Planner
6. 2023 Active Modes Crash Report (Attachment D) Aaron Villere, Senior Active Transportation Planner

**ADMINISTRATIVE ITEMS**

7. Member Comment/Other Matters
  - Colorado Department of Transportation Report
  - Regional Transportation District Report
  - Regional Air Quality Council Report
8. Next Meeting – December 19, 2023
9. Adjournment

Attendees can request additional aids or services, such as interpretation or assistive listening devices, by calling 303-480-6701 or emailing [ckennedy@drcog.org](mailto:ckennedy@drcog.org) Please notify DRCOG at least 48 hours in advance so we can coordinate your request.

**ATTACH A**

## ATTACHMENT A

### MEETING SUMMARY REGIONAL TRANSPORTATION COMMITTEE

Tuesday, October 17, 2023

In-Person Meeting with Virtual Option for Public (via Zoom)

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#### MEMBERS AND ALTERNATES PRESENT:

Jessica Myklebust (Alternate)	Colorado Department of Transportation
Darius Pakbaz (Alternate)	Colorado Department of Transportation
Karen Stuart	Colorado Department of Transportation
Yessica Holguin	Colorado Department of Transportation
Randy Weil	Denver Regional Council of Governments
Doug Rex	Denver Regional Council of Governments
Austin Ward	Denver Regional Council of Governments
Wynne Shaw (Vice Chair)	Denver Regional Council of Governments
Steve Conklin (Chair)	Denver Regional Council of Governments
Debra Johnson	Regional Transportation District
Brian Welch (Alternate)	Regional Transportation District
Kate Williams	Regional Transportation District
Vince Buzek	Regional Transportation District
Jeff Kullman	Michael Baker International
Mike Silverstein	Regional Air Quality Council

#### ADDITIONAL ALTERNATES (OR MEMBERS AND ALTERNATES ATTENDING VIRTUALLY) PRESENT:

Michael Guzman	Regional Transportation District
Eula Adams (Alternate)	Colorado Department of Transportation
Deborah Mulvey	Denver Regional Council of Governments
Ron Papsdorf (Alternate)	Denver Regional Council of Governments

**Public:** Miriam Aranoff, Jack Kroll, Classic Wagner, Eugene Howard

**DRCOG Staff:** Cam Kennedy, Brad Williams, Todd Cottrell, Aaron Villere, Alvan-Bidal Sanchez, Lauren Kirgis, Max Monk, Erik Braaten, Emily Lindsey, Jacob Riger, Greg MacKinnon, Steve Cook, Sang Gu Lee, Kalie Fallon, Pavlo Krokidis, Nora Kern, Ala Alnawaiseh, Josh Schwenk

#### Call to Order

Chair Steve Conklin called the meeting to order at 8:30 a.m.

#### Public Comment

There was no public comment.

#### Summary of September 19, 2023 Meeting

The summary was accepted.

### ACTION ITEMS

#### Transportation Improvement Program Policy Amendments

Josh Schwenk, Senior Planner, explained that the transportation planning process allows for Board-approved amendments to the current Transportation Improvement Program on

an as-needed basis. Typically, these amendments involve the addition or deletion of projects, or adjustments to existing projects and do not impact funding for other projects in the Transportation Improvement Program.

The amendments consolidate funding associated with the Colorado Highway 119 improvements into three Transportation Improvement Program projects:

1. Bus Rapid Transit elements within Boulder and Longmont led by the Regional Transportation District
2. Bikeway design led by Boulder County
3. Operational improvements, Bus Rapid Transit elements, and bikeway construction along the Colorado Highway 119 Diagonal Highway between Boulder and Longmont led by the Colorado Department of Transportation Region 4.

The proposed amendments to the *Fiscal Year 2024-2027 Transportation Improvement Program* have been found to conform with the State Implementation Plan for Air Quality.

Mr. Randy Weil moved to recommend the Board of Directors approve the attached project amendments to the *FY 2024-2027 Transportation Improvement Program*. The motion was seconded and passed unanimously.

#### Regional Transportation Operations and Technology Project Selection

Greg MacKinnon, Program Manager Transportation Operations, explained that the purpose of the set-aside is to fund the implementation of the *Regional Transportation Operations & Technology Strategic Plan*, which guides the region's near-term efforts to deploy technology tools and coordinated system procedures for the multimodal transportation system. In April 2023, the Denver Regional Council of Governments issued a call for letters of intent with full applications due July 7, 2023. 19 applications with a total federal request of \$19,271,778 were considered by the project review panel. The total recommended allocation is \$10,847,120 over the next three fiscal years. The unallocated funds are reserved for the next call-for-projects, which will be advanced to spring 2026 to allocate the remaining available funds.

Ms. Wynne Shaw moved to recommend the Board of Directors approve project allocations through the FY 2024-2027 Regional Transportation Operations & Technology Transportation Improvement Program Set-Aside and administratively modify the Transportation Improvement Program. The motion was seconded and passed unanimously.

#### Corridor Set Aside Selection

Nora Kern, Subarea and Project Planning Program Manager discussed that the Denver Regional Council of Governments hosted a call for letters of interest for the first two years of funding for the Corridor Planning Set Aside in July and August 2023. Four letters of interest were submitted for three different corridors. A selection committee composed of staff from the Denver Regional Council of Governments, Regional Transportation District, Colorado Department of Transportation Region 1, and Colorado Department of Transportation Region 4 reviewed and scored the four letters of interest.



Ms. Jessica Myklebust inquired about who solicits consultant support. Ms. Kern replied that the Denver Regional Council of Governments would lead procurement and consultant management, but interested stakeholders could serve on a selection committee to help select the consultant.

Ms. Myklebust also asked about the timeframe for the completion of the study. Ms. Kern replied that currently, the timeframe is flexible, potentially 12-18 months for the study.

Chair Conklin inquired as to whether the corridors work will impede local work currently being done and Ms. Kern confirmed it will not, stating that these corridors are focused on identifying gaps and building a regional vision that connects all the different jurisdictions together.

Chair Conklin asked about the equity index and what goes into it. Ms. Kern replied that it looks at equity across the region by compiling results from three different scores – mobility challenges, economic factors, race and national origin, and merges those results together to present a deeper nuanced perspective of equity across the region.

Ms. Karen Stuart moved to recommend the Board of Directors approve funding the Sheridan Boulevard Vision Zero Corridor study and the East Colfax Bus Rapid Transit Extension study through the first two years of the Corridor Planning Transportation Improvement Program Set Aside. The motion was seconded and passed unanimously.

### **INFORMATIONAL BRIEFINGS**

#### **Regional Transportation Plan Cycle Amendments**

Alvan-Bidal Sanchez, Regional Transportation Planning Program Manager, presented information about the Regional Transportation Plan Cycle Amendments process initiated in September 2023 with a call for amendments, which closed on October 3, 2023. Staff are reviewing the requested amendments and coordinating with external partners and project sponsors to discuss any further required project details. All proposed amendments must meet federal fiscal constraint requirements, meaning there must be reasonably expected funding to implement the proposed project. The 2050 RTP as amended must also meet federal air quality conformity requirements and state transportation greenhouse gas emission reduction requirements.

### **ADMINISTRATIVE ITEMS**

#### **Member Comment/Other Matters**

- Colorado Department of Transportation Report – Ms. Yessica Holguin stated that the Transportation Commission Workshop will occur tomorrow, with six new commissioners having joined the Transportation Commission. Ms. Stuart added that the Colorado Department of Transportation has received a record \$179 million dollars of federal redistribution this year which will be used to fund vital projects across the state. Ms. Stuart also discussed the ongoing safety enforcement pilot program, Blissway, to prevent violations of people weaving in and out of toll and managed lanes. Within three weeks of the program starting in September, over 40,000 violations were captured.

Ms. Stuart mentioned that regarding the train derailment in Pueblo, the area cannot be cleaned up until a determination has been made by the National Transportation Safety Board regarding what the details of and fault for the derailment. Ms. Jessica Myklebust mentioned the Federal Bus Rapid Transit project has officially begun and the first public meeting was held for the I-270 Environmental Impact Statement. Mr. Darius Pakbaz stated that the initial report of House Bill 23-1101 which relates to the TPR Boundary and Administrative Study is nearing completion and should be done next month. Once completed, it will go to the Transportation Commission for review and action in January 2024, with a legislative deadline of June 2024.

- Regional Transportation District Report – Mr. Vince Buzek stated that the third annual survey for customers and community members has been conducted. Over 70% of bus and rail customers are either “satisfied” or “very satisfied” with the service they have received, which covers everything from cleanliness to safety to arrival times. From the community perspective, almost 80% of respondents were non-users or seldom users of the Regional Transportation District’s buses and trains and over 84% of those respondents believe that the Regional Transportation District provides value to the region. Further, 87% believe that funding for the Regional Transportation District should be “somewhat greater” or “much greater” than current levels. Mr. Buzek thanked the leadership of GM/CEO Debra Johnson over the last three years and credited her as a major contributor to the positive results from the survey.

GM/CEO Johnson thanked Mr. Buzek for his statement and replied that the results are a collective effort regarding what the Regional Transportation District has been able to accomplish in the last several years. Next week the Regional Transportation District’s Legislative and Government Relations Program will go before the Regional Transportation District’s Board of Directors for action. To ensure the current transit network remains in good repair, necessary work on the rail lines is continuing so the current network can remain functional and safe.

- Regional Air Quality Council Report – Mr. Mike Silverstein stated that the Air Quality Control Commission is considering the updated Regional Air Quality Council’s ozone planning efforts. Innovative regulatory initiatives regarding lawn and gardening equipment and oil and gas operations are being put forward to the Air Quality Control Commission and the results would be substantial if put in place. An additional proposal in front of the Air Quality Control Commission is that 80% of new vehicles sold in Colorado would be fully electric by 2032.

Next Meeting – November 14, 2023

#### Adjournment

There were no additional comments from members. The meeting adjourned at 9:32 a.m.

**ATTACH B**

## ATTACHMENT B

To: Chair and Members of the Regional Transportation Committee

From: Jacob Riger, Manager, Multimodal Transportation Planning

Meeting Date	Agenda Category	Agenda Item #
November 14, 2023	Informational Briefing	4

### SUBJECT

Regional Transportation Committee Orientation

### PROPOSED ACTION/RECOMMENDATIONS

N/A

### ACTION BY OTHERS

N/A

### SUMMARY

The Regional Transportation Committee is the Denver Regional Council of Governments' Metropolitan Planning Organization committee that assists the Board of Directors by reviewing the work of the metropolitan transportation planning process and preparing regional transportation planning policy recommendations. The metropolitan planning agreement between the Denver Regional Council of Governments, Colorado Department of Transportation, and Regional Transportation District requires that the Board of Directors and Regional Transportation Committee concur on all decisions.

The Committee's membership, responsibilities, and procedures are described in the [Transportation Planning Framework](#) and documented in the [Committee Policy, Guidelines and Descriptions](#).

Staff will provide a brief orientation to the Committee about the region's metropolitan transportation process and the Committee's role in that process.

### PREVIOUS DISCUSSIONS/ACTIONS

N/A

### PROPOSED MOTION

N/A

### ATTACHMENT

Staff presentation

### ADDITIONAL INFORMATION

If you need additional information, please contact Jacob Riger, Manager, Multimodal Transportation Planning, at 303-480-6751 or [jriger@drcog.org](mailto:jriger@drcog.org)



*Presented by:*

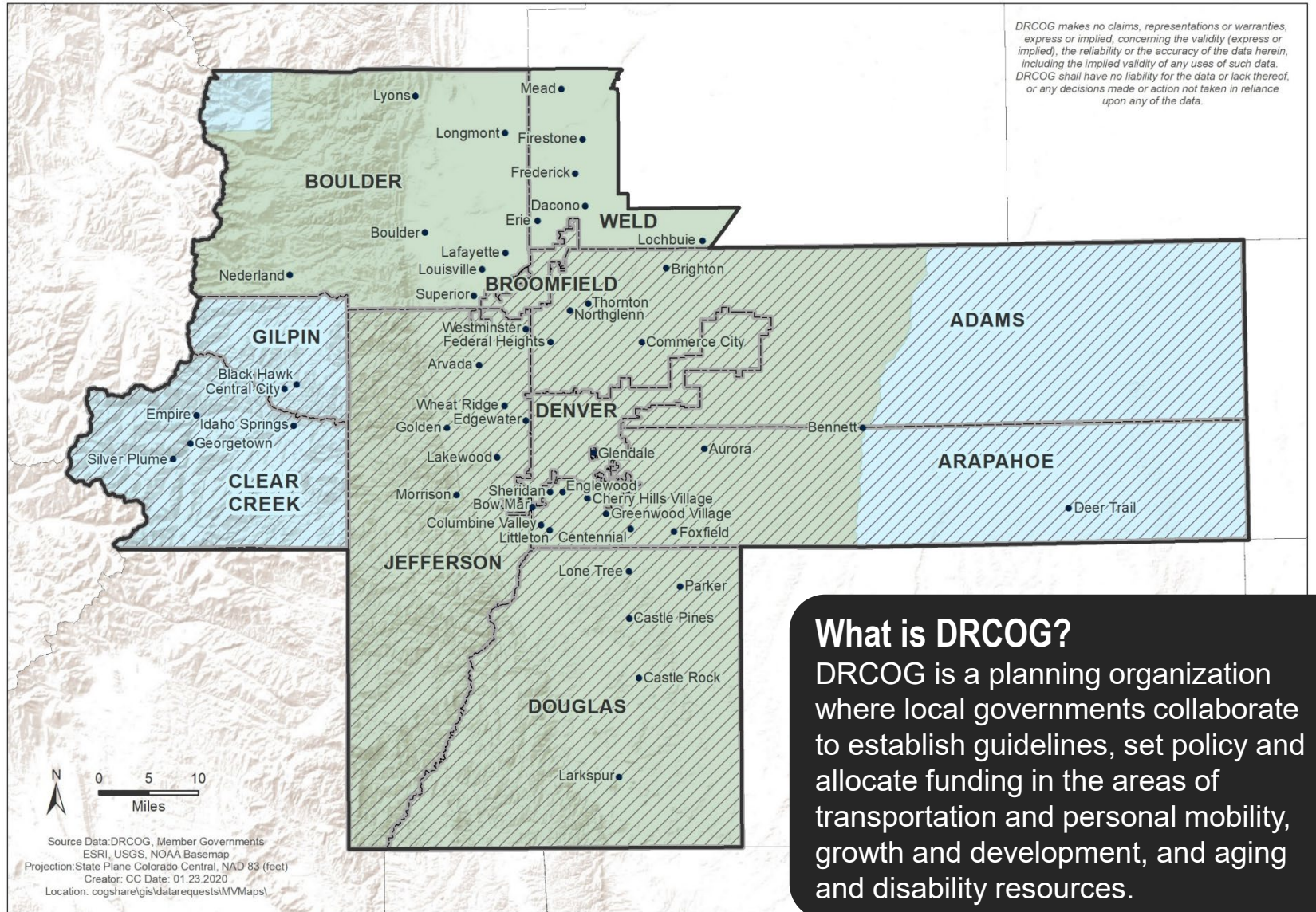
**Jacob Riger, AICP  
Manager,  
Multimodal  
Transportation  
Planning**

# Regional Transportation Committee Orientation





<b>Area</b>	<b>~10 counties</b> (58 member governments)
	<b>5,288 square miles</b> (comparable to Connecticut)
	<b>3.4 million people</b> (comparable to Utah)
	<b>Ute, Cheyenne, and Arapaho peoples</b> (traditional territory)
<b>Elevation</b>	<b>From Grays Peak</b> (14,278 feet)
	<b>To Badger Creek</b> (4,505 feet)
<b>Roles</b>	<b>Regional planning commission</b> (state statute)
	<b>Area Agency on Aging</b> (federal)
	<b>Metropolitan planning organization</b> (federal)



**What is DRCOG?**  
DRCOG is a planning organization where local governments collaborate to establish guidelines, set policy and allocate funding in the areas of transportation and personal mobility, growth and development, and aging and disability resources.



# Regional success depends on partnerships



DRCOG **is not** a  
**regulator.**



We are a  
**convener.**



We provide **policy**  
**guidance.**



We are a **bridge** between  
**partner jurisdictions** and  
**agencies.**



We identify  
**best practices.**





# From a regional vision to an achievable reality







## Federally directed responsibilities

Federal **transportation authorization** acts define all aspects of federal surface transportation policy (Bipartisan Infrastructure Law/Infrastructure Investment & Jobs Act)

- the Metropolitan Planning Organization leads the regional transportation planning process in urbanized areas
- requires specific products and activities
- must consider specific projects, strategies and services in the planning process

Other federal laws and regulations also apply, including Title VI of the Civil Rights Act, National Environmental Policy Act, the Clean Air Act, Americans with Disabilities Act



# State directed responsibilities

- **Under State law:**
  - Serves as the regional planning commission
  - Empowered to make and adopt regional plans
  - Required to develop a twenty-year transportation plan
  - Complies with greenhouse gas (GHG) reduction rule
  - Must approve any fixed guideway transit system proposed by the Regional Transportation District before construction can proceed
  - Reviews roadway tolling proposals for inclusion in Fiscally Constrained Regional Transportation Plan
  - Has representation on the **Statewide Transportation Advisory Committee**





## As Metropolitan Planning Organization (MPO)

- **Continuing, cooperative and comprehensive performance-based transportation planning process**
- **Unified Planning Work Program (UPWP)**
- **Regional Transportation Plan**
- **Transportation Improvement Program (TIP)**
- **Congestion Management Process**
- **Air Quality conformity**
- **Federal law/regulatory compliance-maintain eligibility for federal funding**





## Other Services

- **Technical assistance**
- **Transportation modeling**
- **Corridor/subarea/community planning/project support**
- **Scenario planning**
- **Local transportation plan support**
- **Traffic Operations Program: signal coordination**
- **Transportation Demand Management Program**
- **Regional Traffic Count Program Database**



# Regional transportation planning is a cooperative process



**COLORADO**  
Department of  
Transportation



**COLORADO**  
Department of Public  
Health & Environment



U.S. Department of Transportation  
**Federal Highway  
Administration**



**Federal Transit  
Administration**

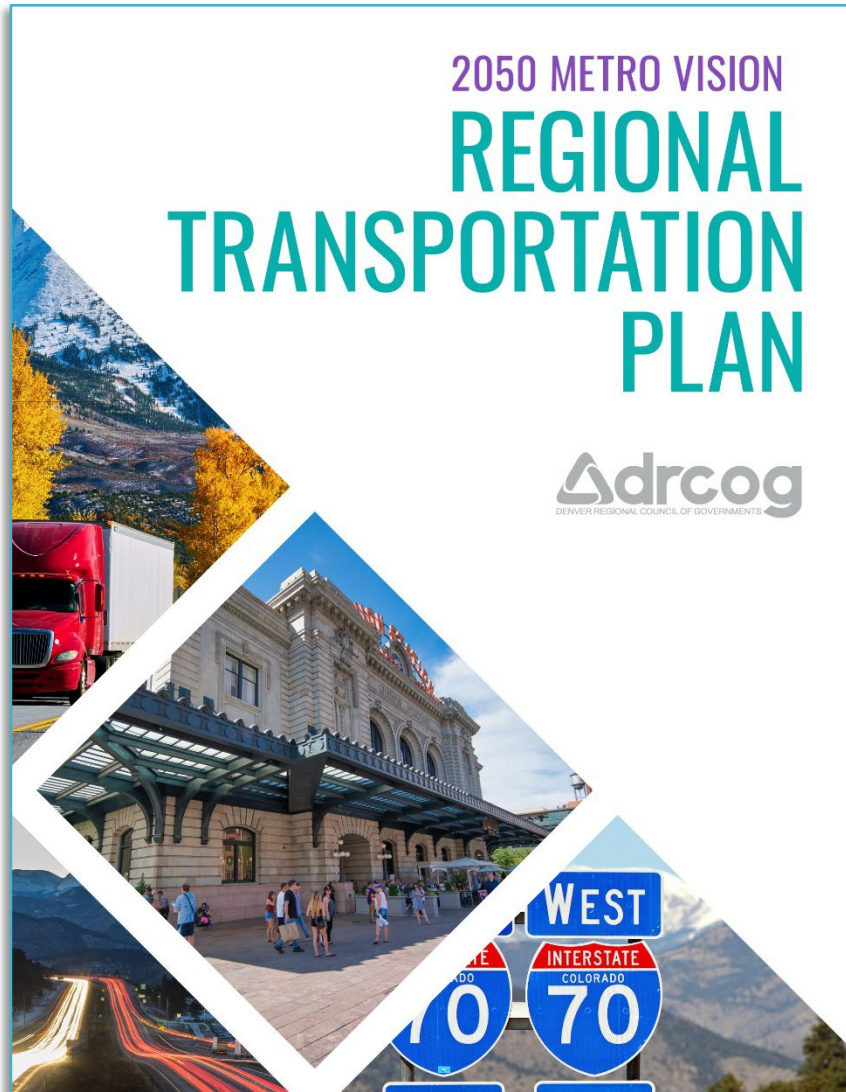


Downtown  
Denver  
Partnership





# Metro Vision Regional Transportation Plan (RTP)



Integrates with **Metro Vision** framework (themes, outcomes and objectives)

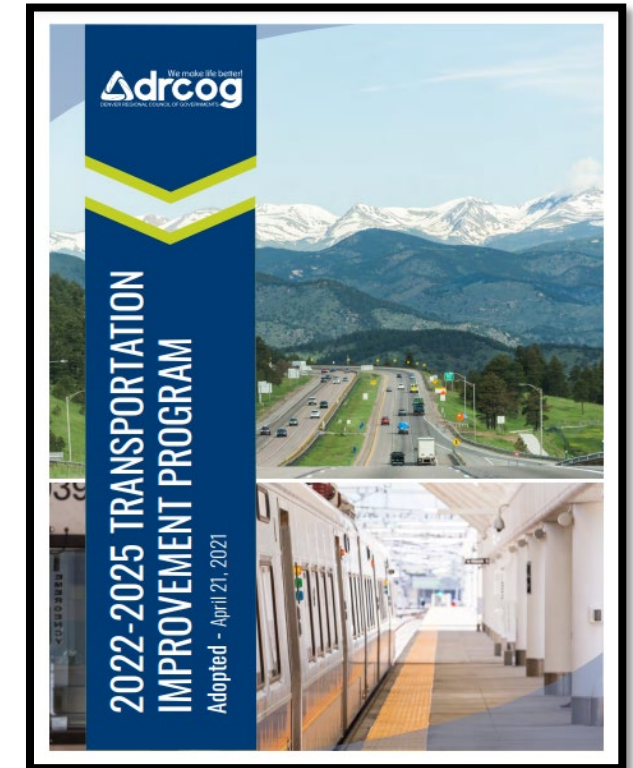
- **forecast** population, employment, travel demand and other planning assumptions
- **multimodal** transportation system component profiles and strategies
- **financial plan** (costs and revenues)
- community **engagement**, environment and other topics





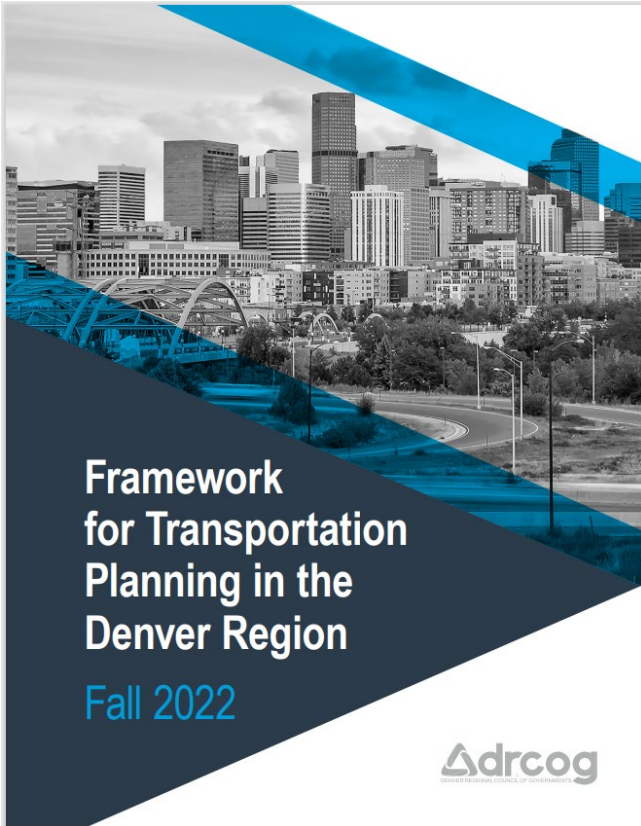
# Transportation Improvement Program (TIP)

- Short-term planning program with specific and dedicated funding (like a local Capital Improvement Program)
- Contains all projects with federal and state transportation funding
- Region-directed funding through competitive grants every 4 years
  - Surface Transportation Block Grant (STBG)
  - Congestion Mitigation Air Quality (CMAQ)
  - Multimodal & Mitigation Options Fund (MMOF)
  - Carbon Reduction Program (CRP)
  - Transportation Alternatives (TA)
- Handful of “set-aside” programs with more frequent calls for projects
- Adjusted often through administrative modifications and policy amendments





# Metropolitan transportation organization structure



**Metropolitan planning agreement requires that the Board and Regional Transportation Committee concur**







# Regional Transportation Committee authority & responsibilities

## Authority

Federal statute.

2001 memo of understanding.

DRCOG Board adopts committee description.

## Responsibilities

Assists the DRCOG Board in regional transportation planning.

Prepares regional transportation planning policy recommendations for action by the DRCOG Board.

- Reviews transportation planning processes & products
- Reviews DRCOG TAC recommendations & makes recommendations to DRCOG Board
- Provides guidance, support & “champions” (e.g. safety)



# Regional Transportation Committee membership

**DRCOG (5):** Board Chair, Vice Chair, 2 Board designees, Executive Director

**CDOT (4):** 3 metro area Transportation Commissioners, Executive Director

**RTD (4):** 3 Board members, General Manager/CEO

**RAQC (1):** Executive Director

**Other Members (3):** Representing various transportation planning-related stakeholders

**Chair/Vice Chair:** DRCOG Board Chair, Vice Chair

**Members:** 17 total

**Quorum:** 12 members, including at least 2 each from DRCOG, CDOT, RTD

**Voting:** 12 votes to carry an action



# Continuing, Emerging & Future Issues and Challenges

- Growing population and employment
- Aging population
- Equity and inclusion
- Housing and transportation
- Transportation technology
- Transit system optimization/future of mobility
- Mobility as a service
- Greenhouse gas emissions/air quality
- Complete streets & multimodal safety
- Micromobility
- Future of TDM and telework
- 2020 census and TMA/UZA boundaries
- Funding limitations





THANK YOU

QUESTIONS?

Jacob Riger, AICP  
Manager, Multimodal Transportation Planning

[jriger@drcog.org](mailto:jriger@drcog.org)

303-480-6751

**ATTACH C**



## ATTACHMENT C

To: Chair and Members of the Regional Transportation Committee

From: Max Monk, Assistant Planner  
303-480-6731 or [Mmonk@drcog.org](mailto:Mmonk@drcog.org)

Meeting Date	Agenda Category	Agenda Item #
November 14, 2023	Informational Briefing	5

### SUBJECT

2022 Annual Report on Roadway Traffic Congestion in the Denver Region

### PROPOSED ACTION/RECOMMENDATIONS

N/A

### ACTION BY OTHERS

N/A

### SUMMARY

The United States Department of Transportation requires all metropolitan planning organizations serving large populations to undertake a Congestion Management Process to monitor traffic congestion in the region. The Denver Regional Council of Governments conforms to this requirement through a process with two components: the calculation of congestion measurements for roadways in the region and the presentation of data within an annual report on traffic congestion. This process began in 2006.

Staff will provide an informational presentation of the *2022 Annual Report on Roadway Traffic Congestion in the Denver Region*. This year's report addresses the following topics:

- Continued impacts of the COVID-19 pandemic on travel behavior
- Vehicle miles traveled
- Transit and shared micromobility ridership
- Congestion projections for 2050

A printed copy of the report will be made available at the meeting.

### PREVIOUS DISCUSSIONS/ACTIONS

N/A

### PROPOSED MOTION

N/A

### ATTACHMENTS

1. [2022 Annual Report on Roadway Traffic Congestion in the Denver Region](#)
2. Staff presentation

### ADDITIONAL INFORMATION

If you need additional information, please contact Max Monk, Assistant Planner, at (303) 480-6731 or [mmonk@drcog.org](mailto:mmonk@drcog.org); or Robert Spotts, Mobility Analytics Program Manager, at (303) 480-5626 or [rspots@drcog.org](mailto:rspots@drcog.org).

# 2022 Annual Report on Traffic Congestion in the Denver Region

**Robert Spotts, Mobility Analytics Program Manager**

**Max Monk, Assistant Planner**

**November 2023**





# Congestion Management Process





# Overview of the congestion management process

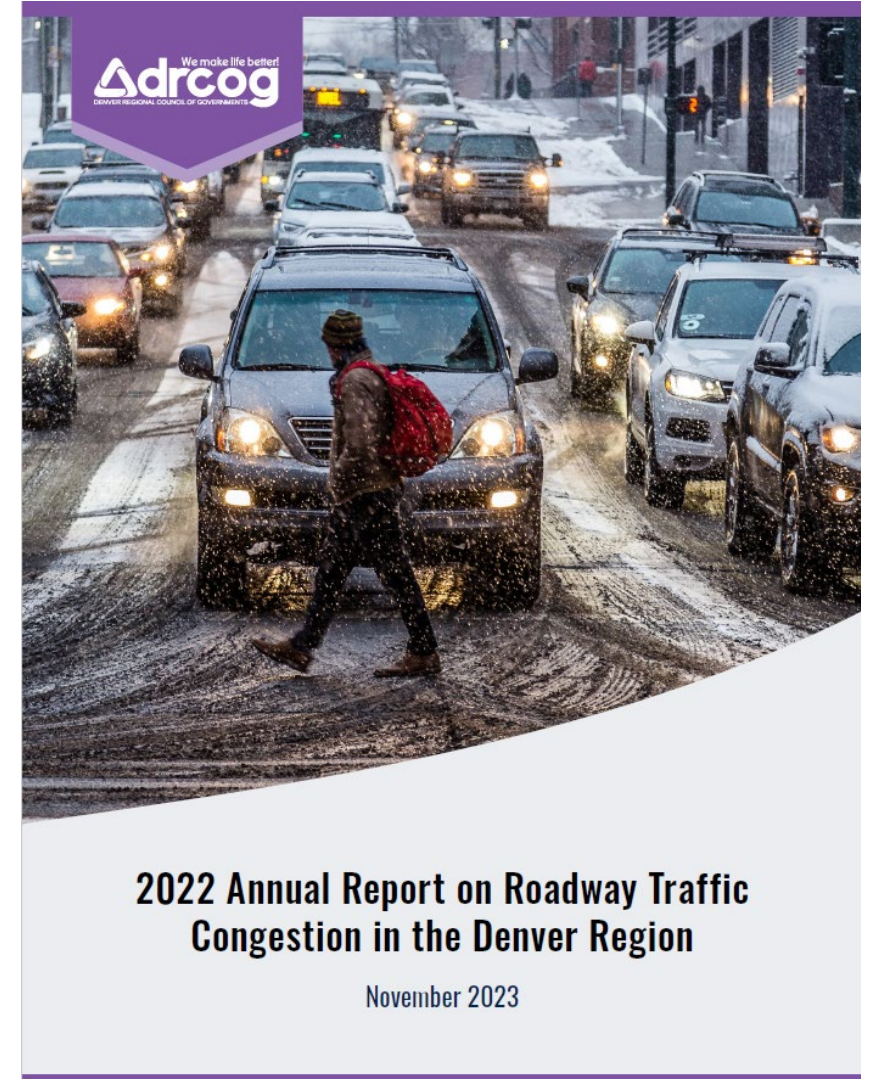


- A **federally-required process** to monitor the evolution of congestion in the region
- Components of DRCOG's process
  - *Annual Report on Roadway Traffic Congestion in the Denver Region*
  - Database of roadway attributes, traffic counts, and crash incidents
  - Multimodal data metrics

# Agenda



1. 2022 trends and observations
  - a) Vehicle miles traveled
  - b) Transit ridership
  - c) Shared micromobility usage
2. 2050 congestion projections
3. Shifting dynamics of commute corridors
4. Updates in the world of congestion





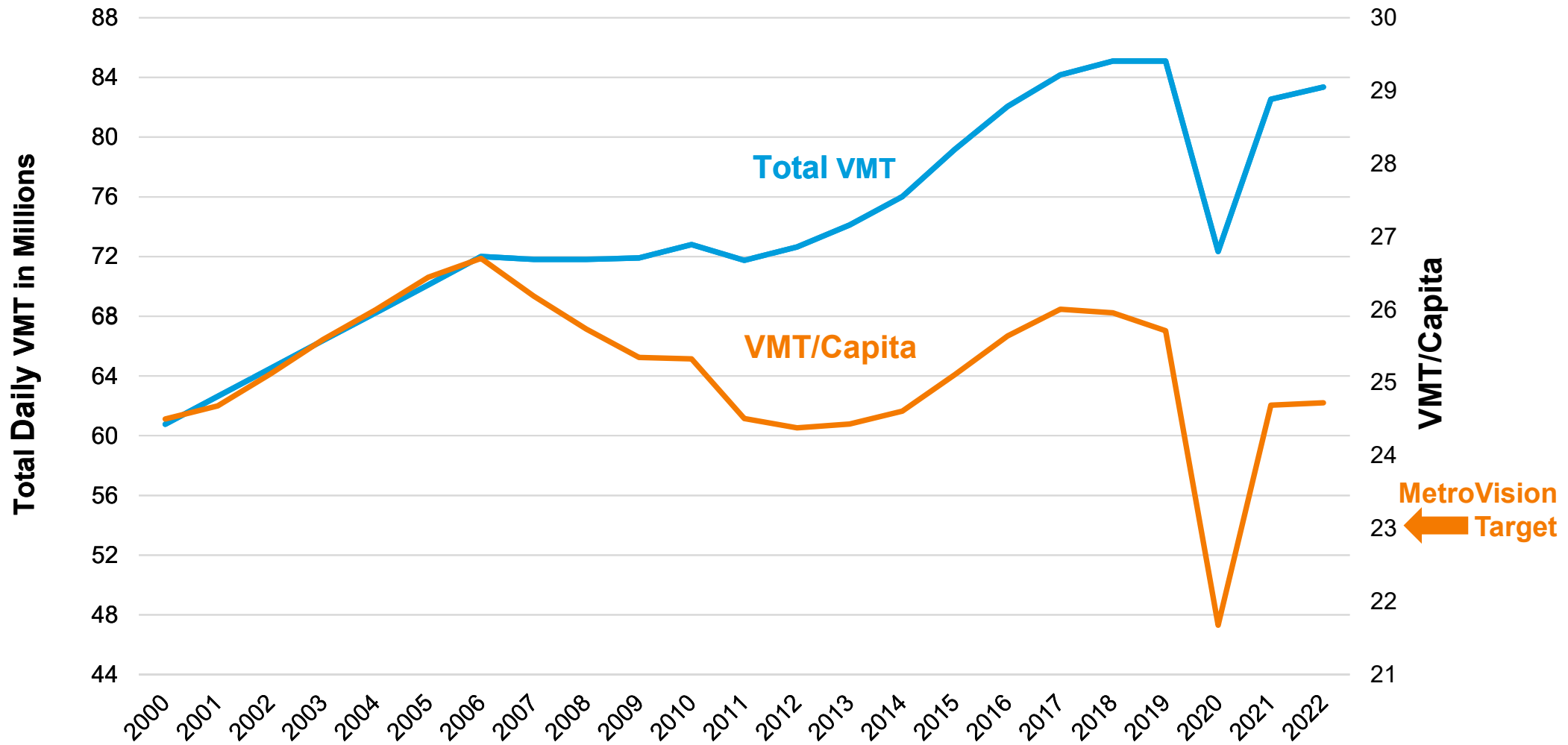
# 2022 Trends and Observations



# Vehicle Miles Traveled (VMT)



### Average Daily VMT in the Denver Region (2000 - 2022)

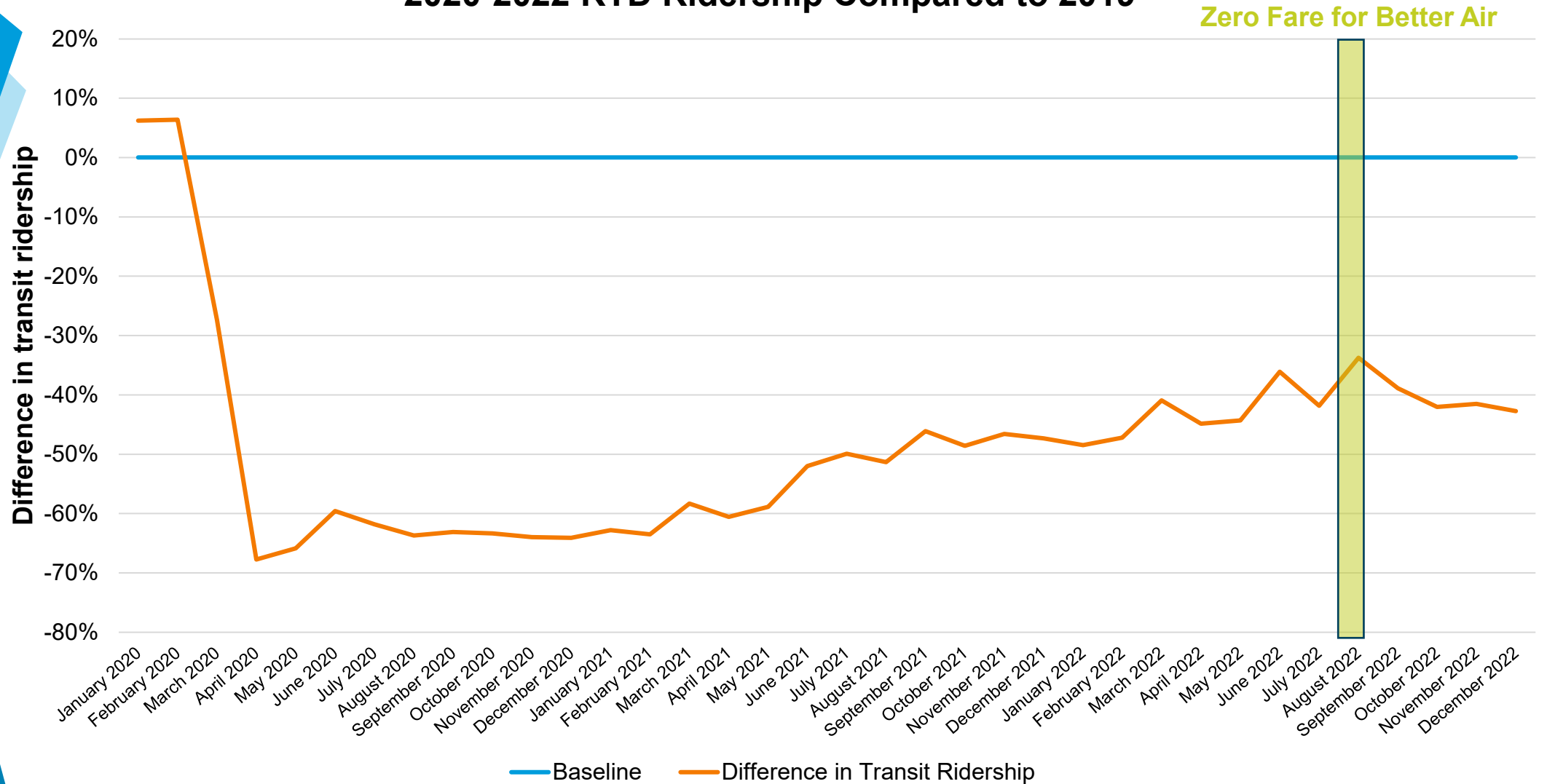


Source: Denver Regional Council of Governments

# Transit ridership



## 2020-2022 RTD Ridership Compared to 2019



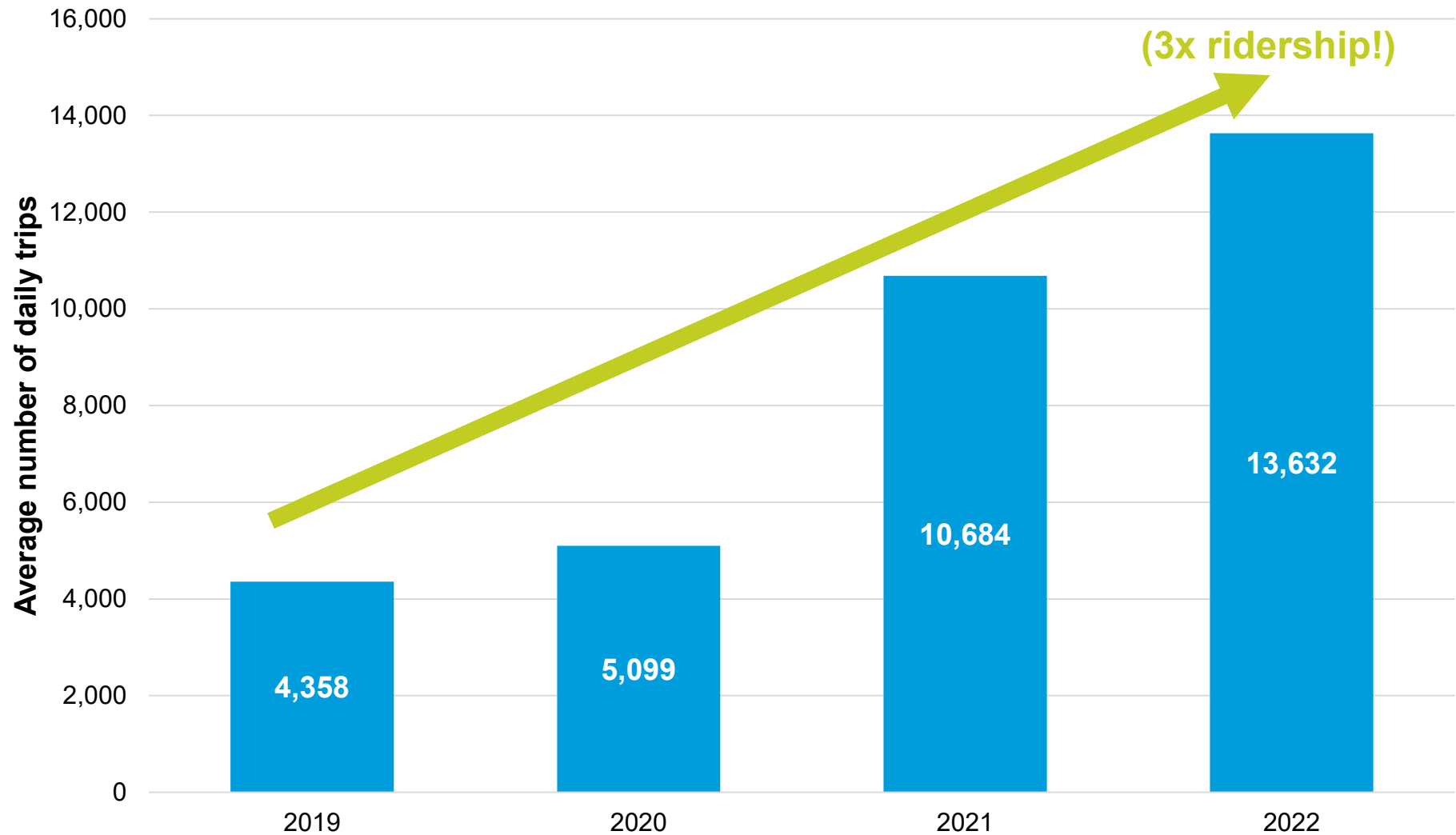
Source: National Transit Database



# Shared Micromobility Usage



Average number of micromobility trips per day

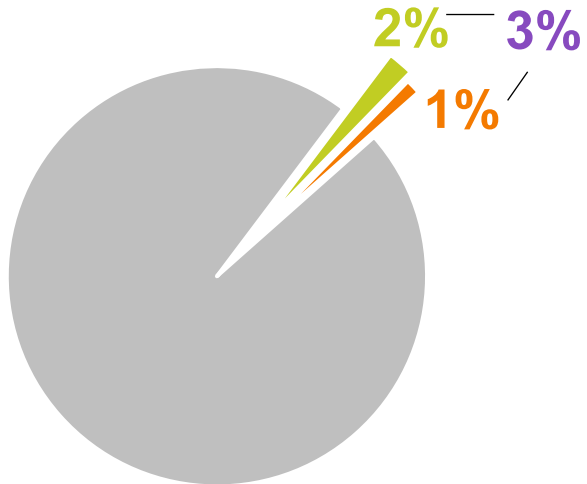


Source: Ride Report

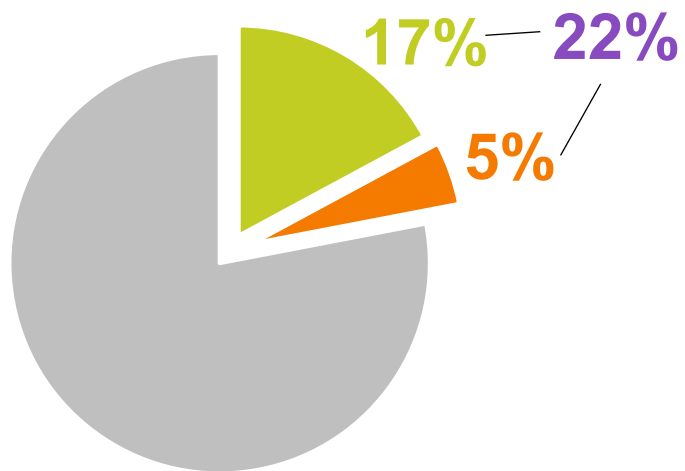
# Where freeway congestion is most severe



Corridor proportion of freeway network



Corridor proportion of freeway delay



I-25 from I-70 to University



I-270 from I-25 to I-70

Source: Denver Regional Council of Governments



# 2050 Congestion Projections



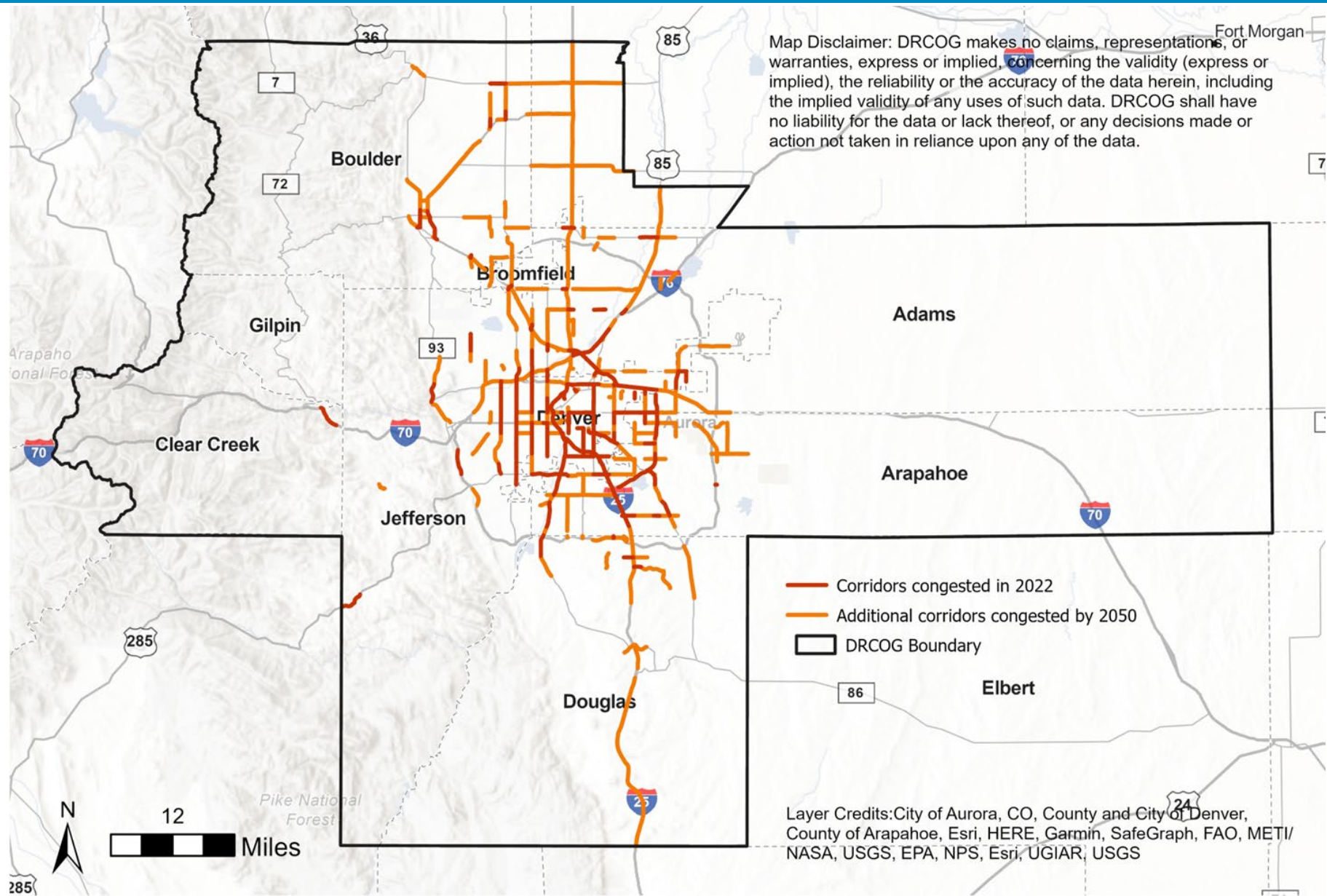
# 2050 congestion projections



- Vehicle miles traveled per capita is projected to grow to **27 miles per day** (compared to our MetroVision goal of 23 miles per day)
- The cost of congestion in the region is expected to increase by **67%** between 2022 and 2050



# 2050 congestion projections







# Shifting Dynamics in Commuting

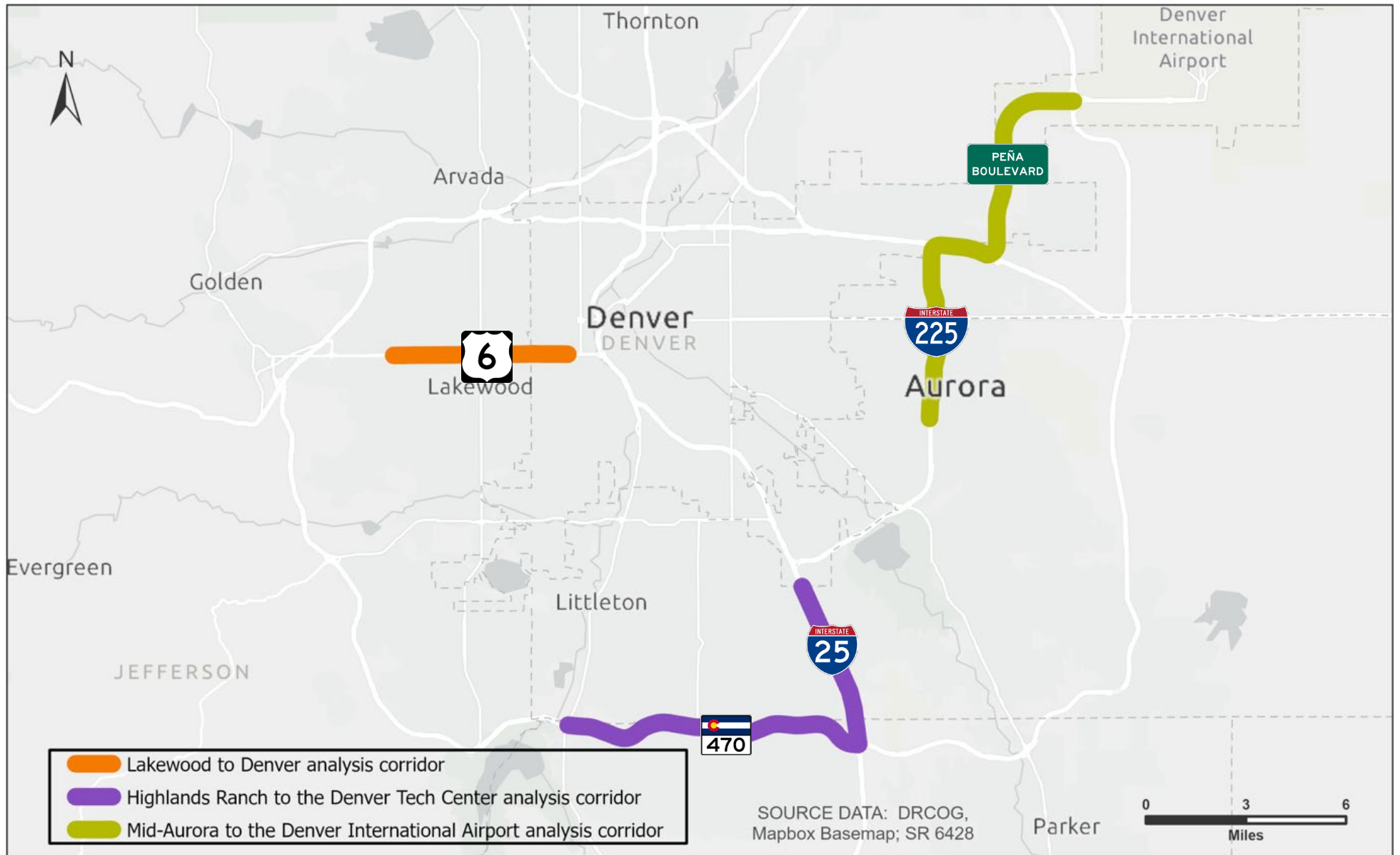
# Overview of analysis



- Telework became a public health necessity during the pandemic
- Telework remains more frequent following the influence of the pandemic, especially so for office commuters
- “Have the dynamics on historic office commute corridors shifted?”
- Examination of travel time and traffic volume data before the pandemic and in 2022



# Selected corridors



# Morning commute from Lakewood to Denver

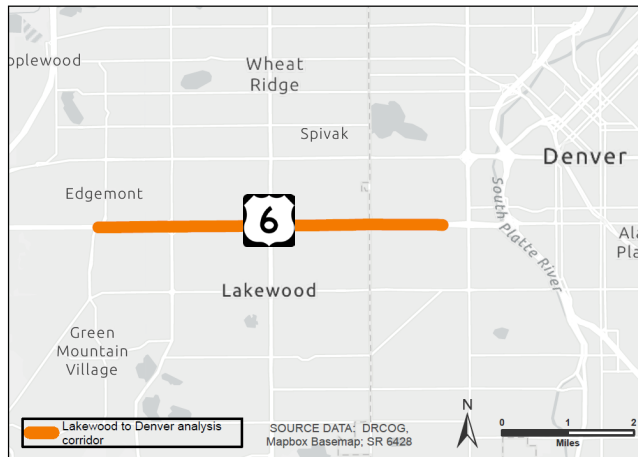


Average travel time  
during rush hour



2019  
11 minutes  
2022  
9 minutes

14% decrease in travel time  
and traffic delay



- **Near 2019 traffic levels** when considering all time periods
- **17% fewer vehicles** during the a.m. peak
- Telecommuting and flexible schedules are a key explanation for this decrease

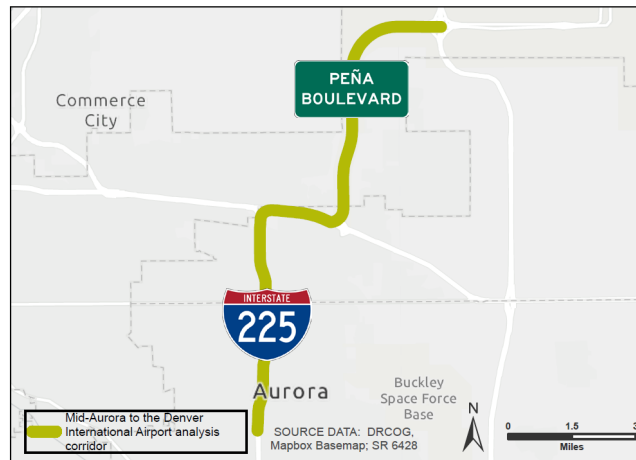
# Mid-Aurora to Denver International Airport



Average travel time during rush hour



**2019**  
25 minutes  
**2022**  
25 minutes



- Denver International Airport had a **record number of passengers** in 2022
- 2019 traffic levels were surpassed during the busier travel months in 2022
- Between 2019 and 2022 the area experienced a **20% increase in jobs** and a **6% increase in housing units**
- Traffic along this corridor is expected to grow as new housing and jobs become available

**Sources:** INRIX Speed Data, Colorado Department of Transportation Traffic Data, Denver Regional Council of Governments



# Highlands Ranch to the Denver Tech Center



Average travel time  
during rush hour



**2019**  
23 minutes  
**2022**  
18 minutes

**13% decrease in travel time  
and traffic delay**



- Fewer trips than 2019 **across all time periods**
- **13% decrease in travel time and traffic delay** along this corridor
- Some combination of telework and the completion of the C-470 managed lane would explain this shift



# Updates in the World of Congestion

# Updates in the world of congestion



- Discussion of **communication between smartphones and traffic signals** in Dallas
- **Production of a “digital twin”** modeling congestion live in Chattanooga
- Implementation of **congestion pricing** for streets south of 60<sup>th</sup> Street in New York City



# Smarter traffic signaling in Dallas



- Smartphones **network** with each other and know where congestion exists
- Dallas is considering upgrading their **traffic signals to tap into this network**
- Data are expanding exponentially and hold potential for **more efficient traffic management**

# “Digital Twin” traffic modeling in Chattanooga



- Through machine learning and real-time data, researchers from NREL and the DOE **created a micro-model** mirroring Chattanooga traffic conditions with precision
- The “digital twin” enabled planners to understand **underlying causes of congestion** and pinpoint specific areas of improvement
- For the analysis area, researchers observed a **32%** reduction in delay and a **16%** reduction in fuel spent idling

# Congestion pricing in New York City



- Applies to **all personal and commercial vehicles** on streets below 60<sup>th</sup> Street in Manhattan
- Tolls will range from a low of **\$5/driver overnight** and a high of **\$23/driver during peak periods**
- Low-income drivers get a 25% discount – after ten trips, this increases to 50%
- Revenue generated from the tolls largely goes to the funding of MTA

Where congestion pricing will apply



Source: New York Metropolitan Transportation Council's Hub Bound Travel report

Bloomberg



# Conclusion



# Conclusion



- Denver Region ITS
- State household travel survey
- Transportation demand management
- Projects that facilitate travel choices to avoid congestion



ADVANCED  
MOBILITY  
PARTNERSHIP



Program of **DRCOG**



**COLORADO**  
Department of Transportation



**Thank you!**

**Questions?**

**Robert Spotts | Mobility Analytics Program Manager**

**Max Monk | Assistant Planner**

**[MMonk@drcog.org](mailto:MMonk@drcog.org)**

**(303) 480-6731**

**ATTACH D**

## ATTACHMENT D

To: Chair and Members of the Regional Transportation Committee

From: Aaron Villere, Senior Active Transportation Planner

Meeting Date	Agenda Category	Agenda Item #
November 14, 2023	Informational Briefing	6

### SUBJECT

2023 Active Modes Crash Report

### PROPOSED ACTION/RECOMMENDATIONS

N/A

### ACTION BY OTHERS

N/A

### SUMMARY

The 2023 Active Modes Crash Report provides a detailed analysis of bicycle- and pedestrian-involved crashes in the region between 2015 and 2019. The previous Bicycle and Pedestrian Crash Report,<sup>1</sup> published as an appendix to the Active Transportation Plan in 2019, assessed crashes among active mode users between 2011 and 2015.

The report provides both an analysis of crashes involving pedestrians and people bicycling and a summary of annual crash trends and detailed analysis of common causes of crashes. The report finds that:

- Between 2015 and 2019, pedestrians and bicyclists were involved in 3% of all crashes, but 22% of crashes resulting in death or severe injury.
- During the same time period, pedestrian-involved fatal and severe injury crashes increased 9% (outpacing the region's 5% population growth and 7% vehicle miles traveled growth). Bicycle-involved fatal and severe injury crashes fell 21%.
- Age and sociodemographic factors (such as economic, environmental, and demographic indicators) were found to correlate with active mode crash and injury risk.
- Most active mode crashes occurred in the urban and suburban contexts, and the majority took place on major arterial roadways.

The report explores street type contexts and pre-crash maneuvers to better understand the most common types of conflicts for both pedestrian- and bicyclist-involved crashes. These findings provide a current overview of active mode crash trends and add detail and texture to the crash type analysis conducted for the Taking Action on Regional Vision Zero plan.

Finally, because of the COVID-19 pandemic and limitations with available statewide crash data, the report concludes with a high-level overview of crash trends in the first two years of the pandemic, separate from the detailed analysis conducted for crashes between 2015 and 2019.

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<sup>1</sup> [https://drcog.org/sites/default/files/resources/ActiveTransportationPlan\\_BicycleandPedestrianCrashReport.pdf](https://drcog.org/sites/default/files/resources/ActiveTransportationPlan_BicycleandPedestrianCrashReport.pdf)



PREVIOUS DISCUSSIONS/ACTIONS

N/A

PROPOSED MOTION

N/A

ATTACHMENTS

1. Staff presentation
2. [Active Modes Crash Report](#)

ADDITIONAL INFORMATION

If you need additional information, please contact Aaron Villere, Senior Active Transportation Planner, 303-480-5644 or [avillere@drcoq.org](mailto:avillere@drcoq.org).

# Active Modes Crash Report

Regional Transportation Committee

November 14, 2023

**Aaron Villere**  
Senior Active Transportation Planner



# Active Modes Crash Report

# What is the active modes crash report?



The **Active Modes Crash Report** uses regional crash data (from the Colorado Department of Revenue) to analyze crash trends and causes between 2015 and 2019.

**Active mode** users are...

- People **walking**, including people using mobility devices
- People **bicycling**
- People riding **scooters**

This report is an **update** to the 2019 Bicycle and Pedestrian Crash Report (2011-2015 data).

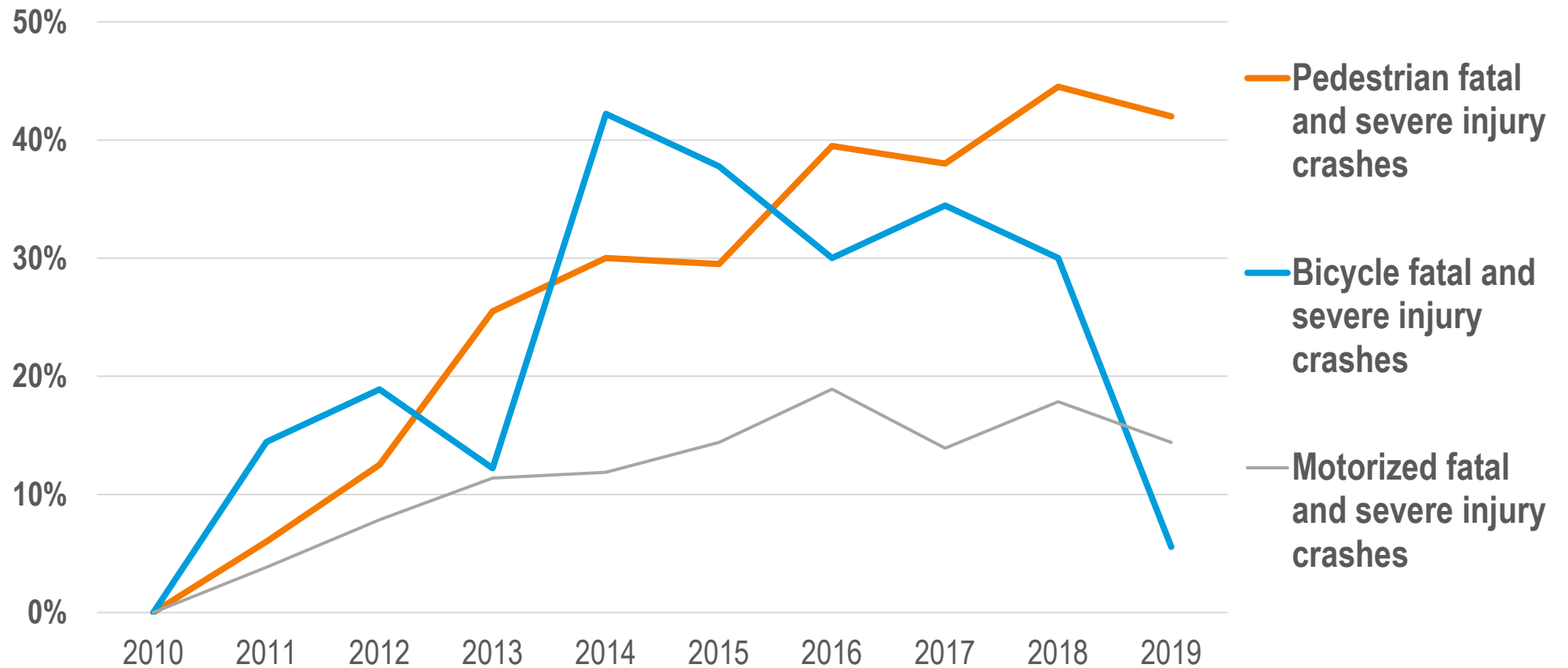




# Active mode crash trends



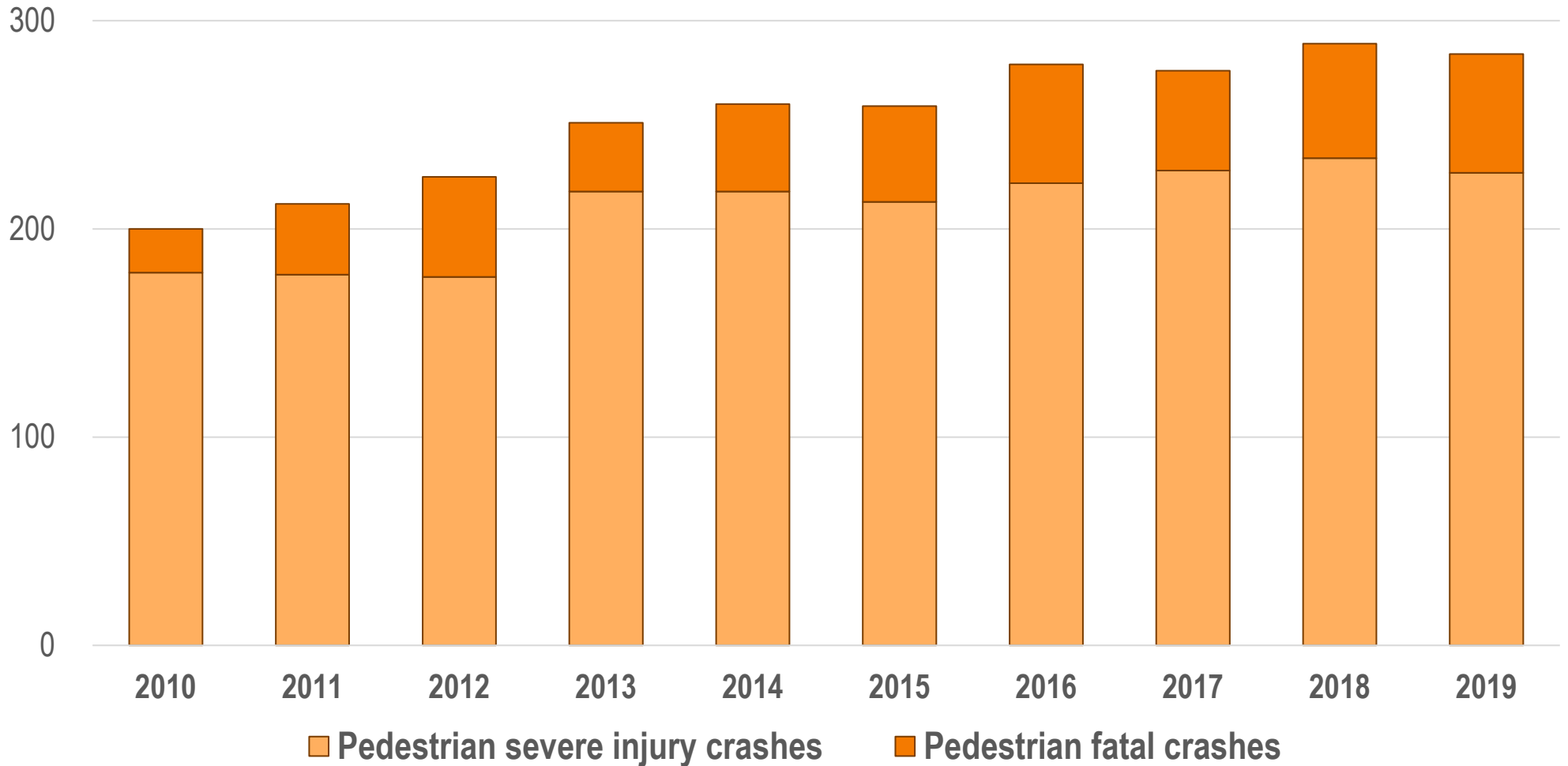
## Change in fatal and severe injury crashes since 2010



# Pedestrian crashes are increasing



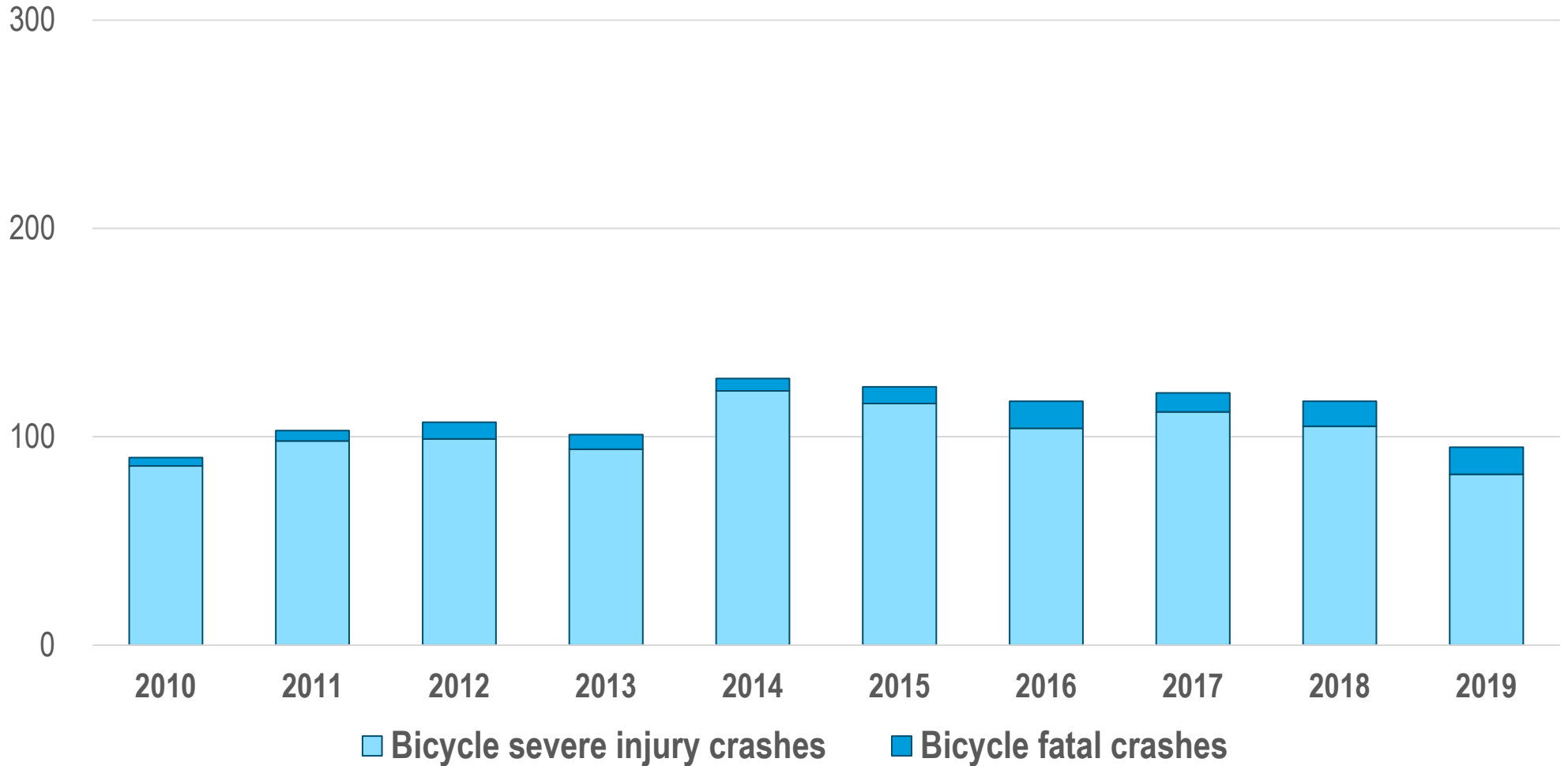
## Pedestrian-involved crashes, 2010-2019



# Bicycle crashes are more complicated



## Bicycle-involved crashes, 2010-2019

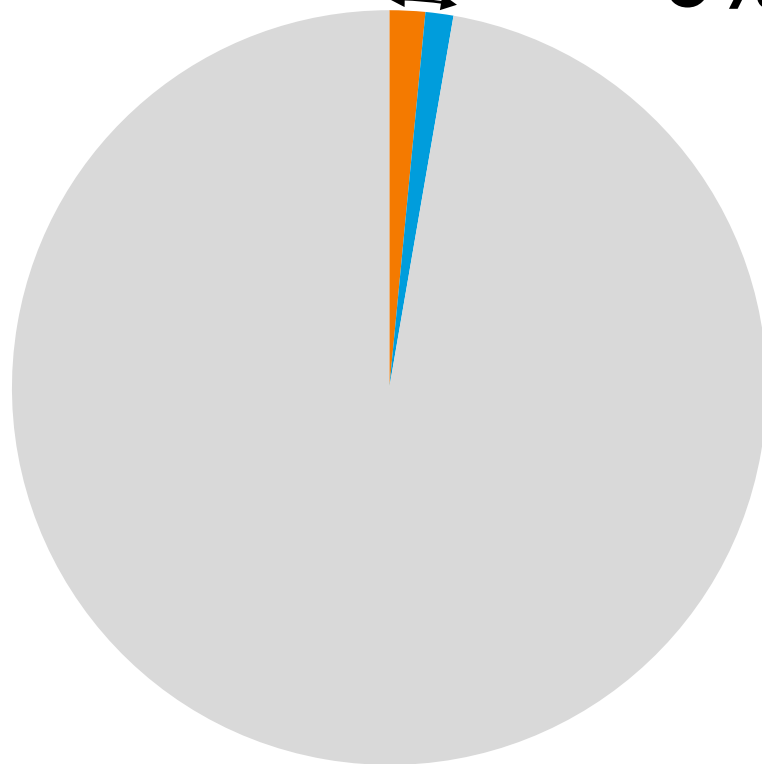


# Active mode crashes are over-represented



All crashes,  
2015-2019

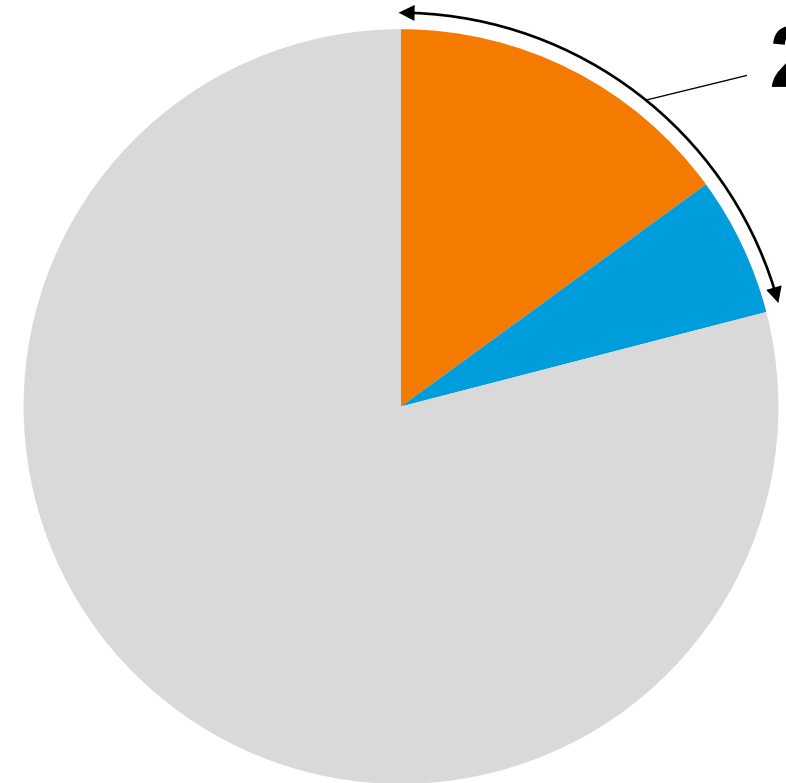
3%



■ Pedestrian ■ Bicycle ■ All Other Modes

Fatal and severe injury  
crashes, 2015-2019

22%



■ Pedestrian ■ Bicycle ■ All Other Modes



# Speed amplifies crash severity



SPEED  
LIMIT  
**20**



SPEED  
LIMIT  
**30**



SPEED  
LIMIT  
**40**



SPEED  
LIMIT  
**45+**



Where posted speed was **35MPH** or greater, crashes were more than **2x** as likely to result in fatality or severe injury as at **20MPH**.

# Speed amplifies crash severity



SPEED  
LIMIT  
**20**



SPEED  
LIMIT  
**30**



SPEED  
LIMIT  
**40**



SPEED  
LIMIT  
**45+**



Where posted speed was **35MPH** or greater, crashes were **50%** more likely to result in fatality or severe injury as at **20MPH**.

# Understanding active mode crashes



## Who was involved?

- Sex designation
- Age
- Sociodemographic factors
- Operator factors

## Where did the crash occur?

- Land use context
- Location on street
- Street classification
- Intersection type
- Pre-crash maneuvers



# Who Was Involved?

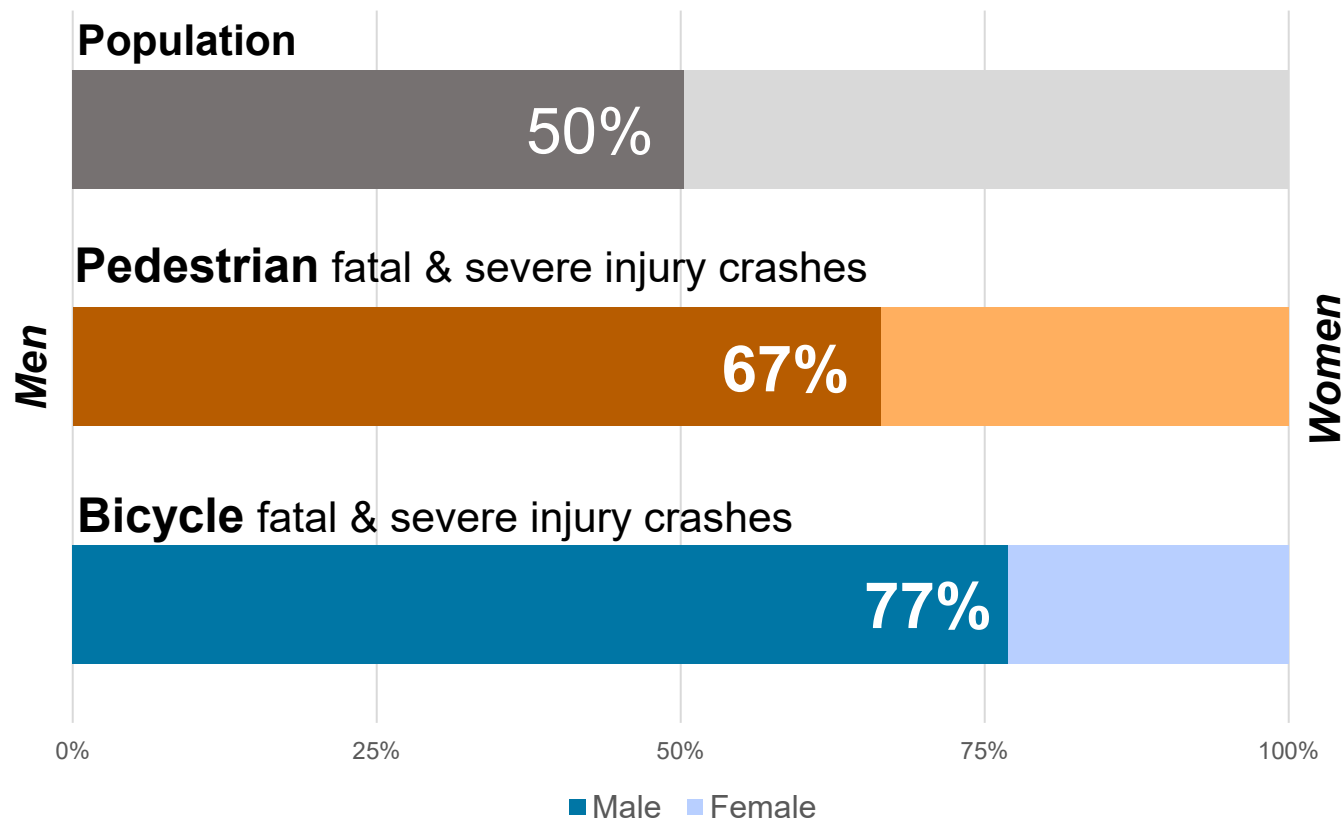




# Who was involved by sex?



**Men were more likely to be involved in fatal and severe injury crashes than women.**



**Men** represented **67%** of those involved in **pedestrian** fatal and severe injury crashes.

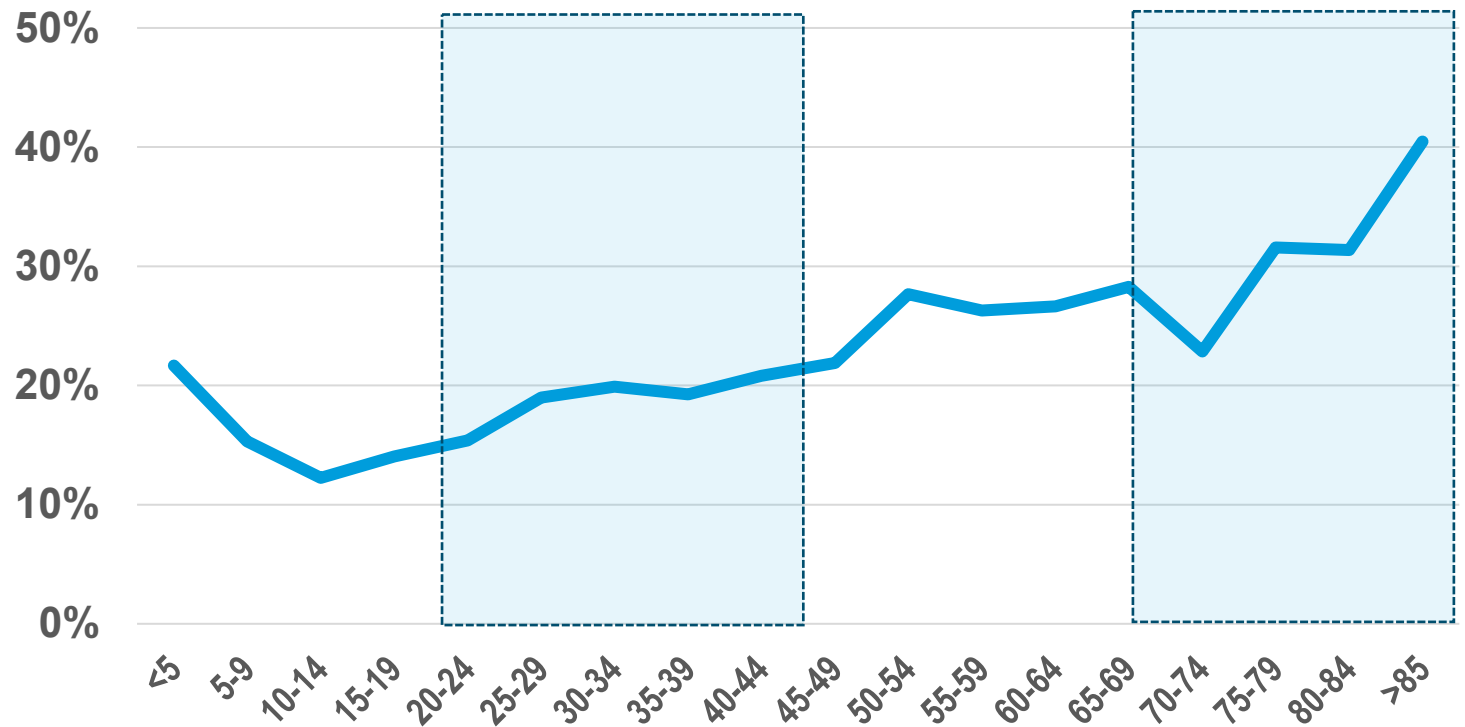
**Men** represented **77%** of those involved in **bicycle** fatal and severe injury crashes.

# Who was involved by age?



People **over 65** were **52%** more likely than people aged **20 – 45** to have crashes result in death or severe injury.

### Percent of active mode crashes resulting in a fatality or severe injury



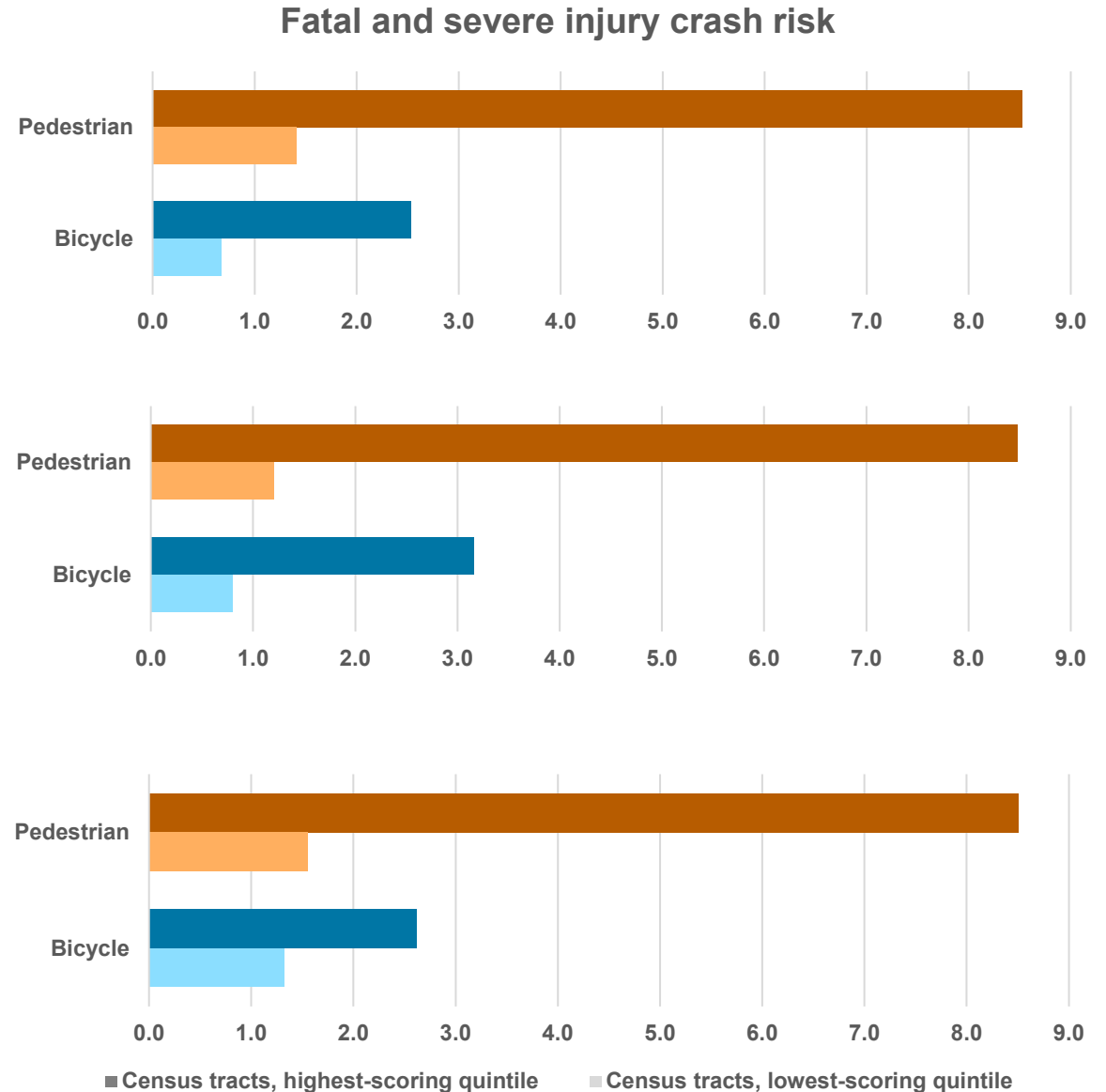
# Who was involved by sociodemographic factors?



## Social Vulnerability

## Environmental Burden

## Transportation Cost Burden



# Who was involved when drugs & alcohol were suspected?



**Alcohol** was suspected in at least one person involved in **20%** of **pedestrian** fatal and severe injury crashes.

**Drugs** or **alcohol** increased the likelihood of fatality or severe injury among all modes and crashes.

Alcohol Suspected	Pedestrian-Involved	Bicycle-Involved	All Other Modes
All Crashes	11%	3%	4%
Fatal / Severe Injury Crashes	20%	6%	17%

Drugs Suspected	Pedestrian-Involved	Bicycle-Involved	All Other Modes
All Crashes	2%	1%	1%
Fatal / Severe Injury Crashes	4%	2%	6%





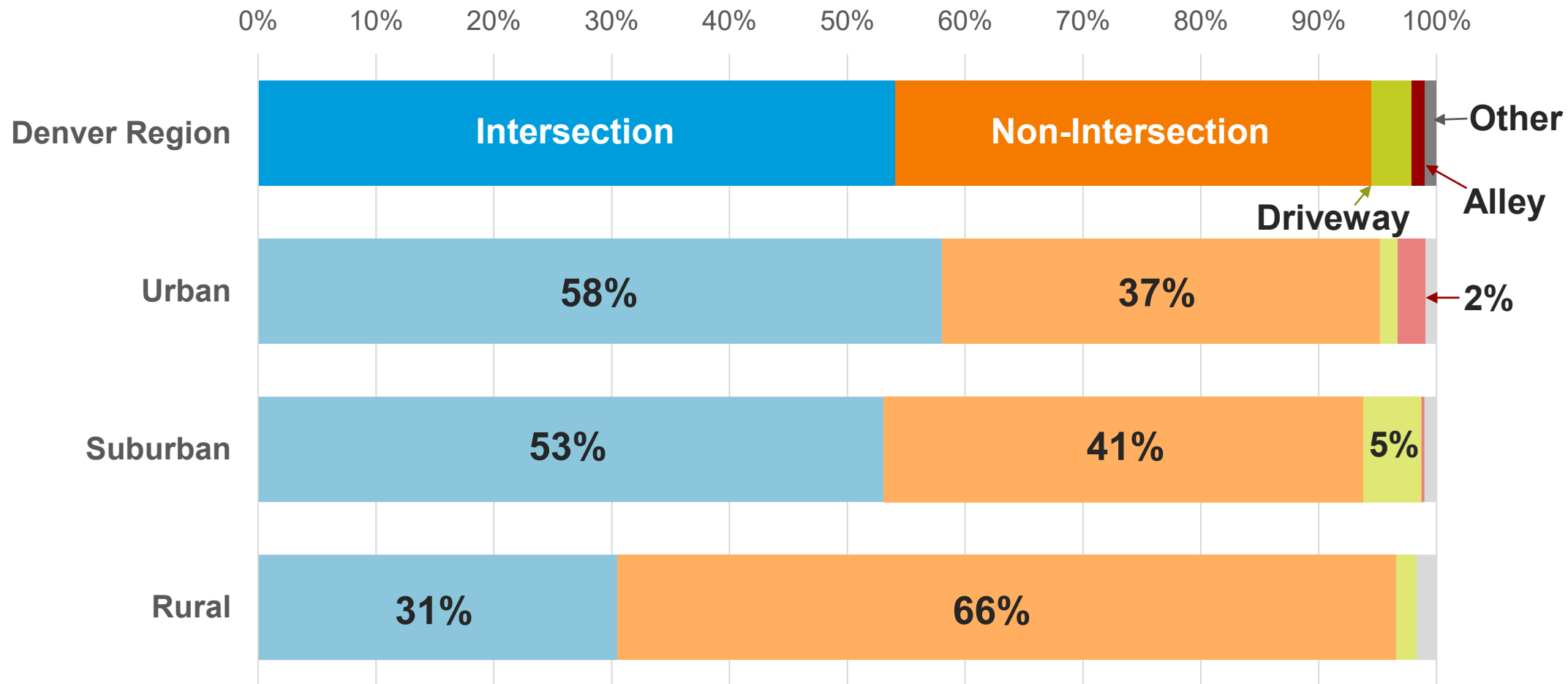
# Where Did Crashes Occur?



# Pedestrian crashes by area type



## Pedestrian fatal and severe injury crash locations

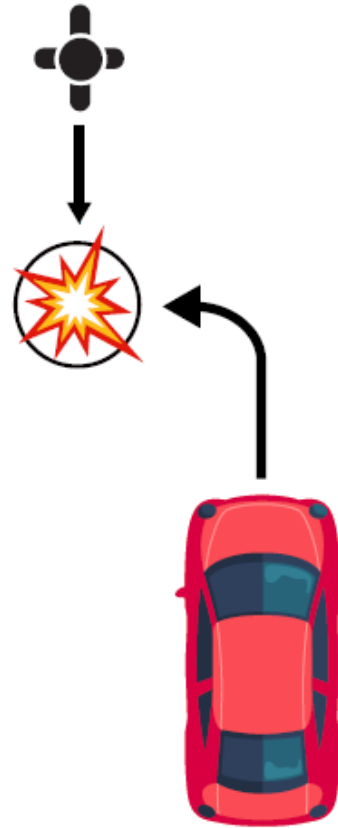


# Primary pedestrian crash types

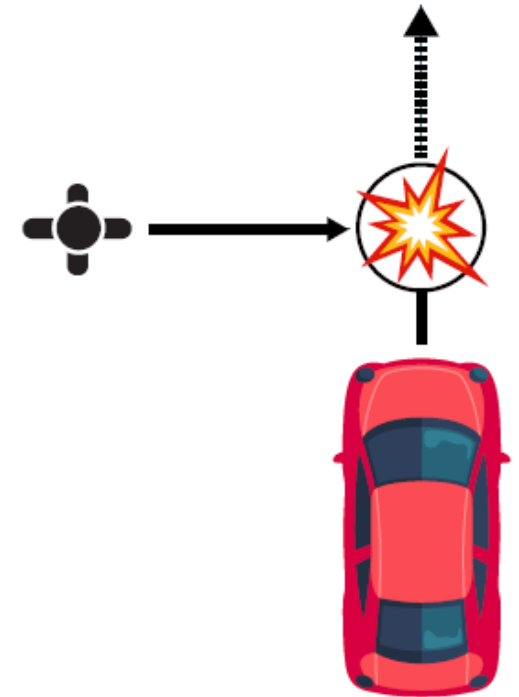


**41%** of pedestrian intersection fatal and severe injury crashes involve **Left Turns**.

**38%** involve **Broadside** collisions.



**Left Turn**  
crash example

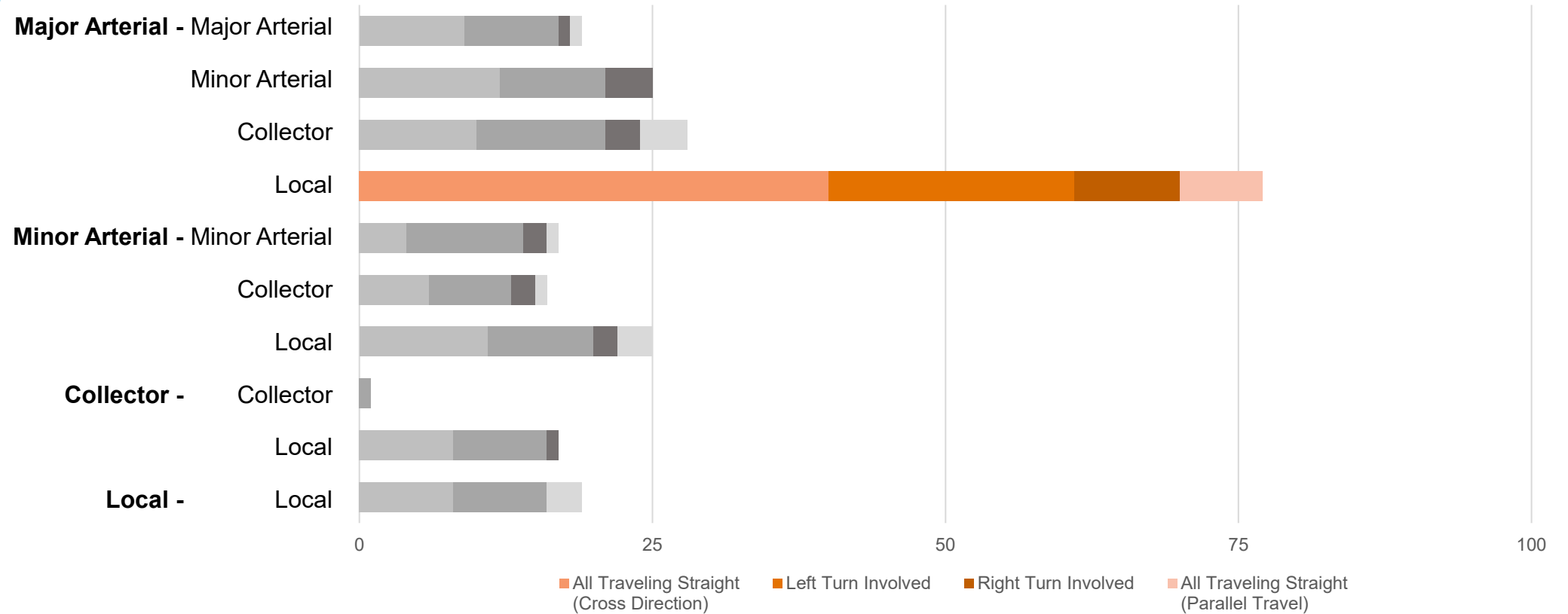


**Broadside**  
crash example

# Pedestrian intersection crash locations



**32% of urban pedestrian crashes at intersections occur at Major Arterial-to-Local crossings**

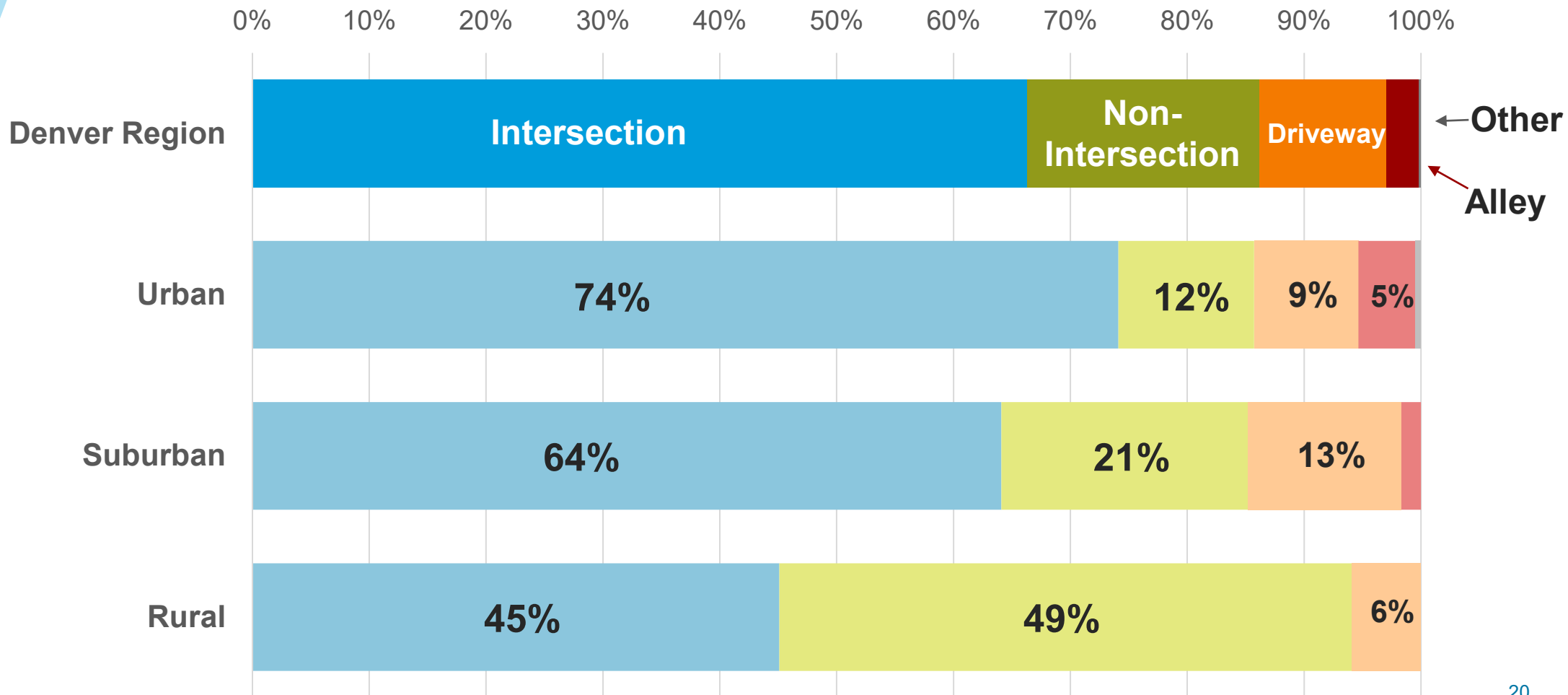




# Bicycle crashes by area type



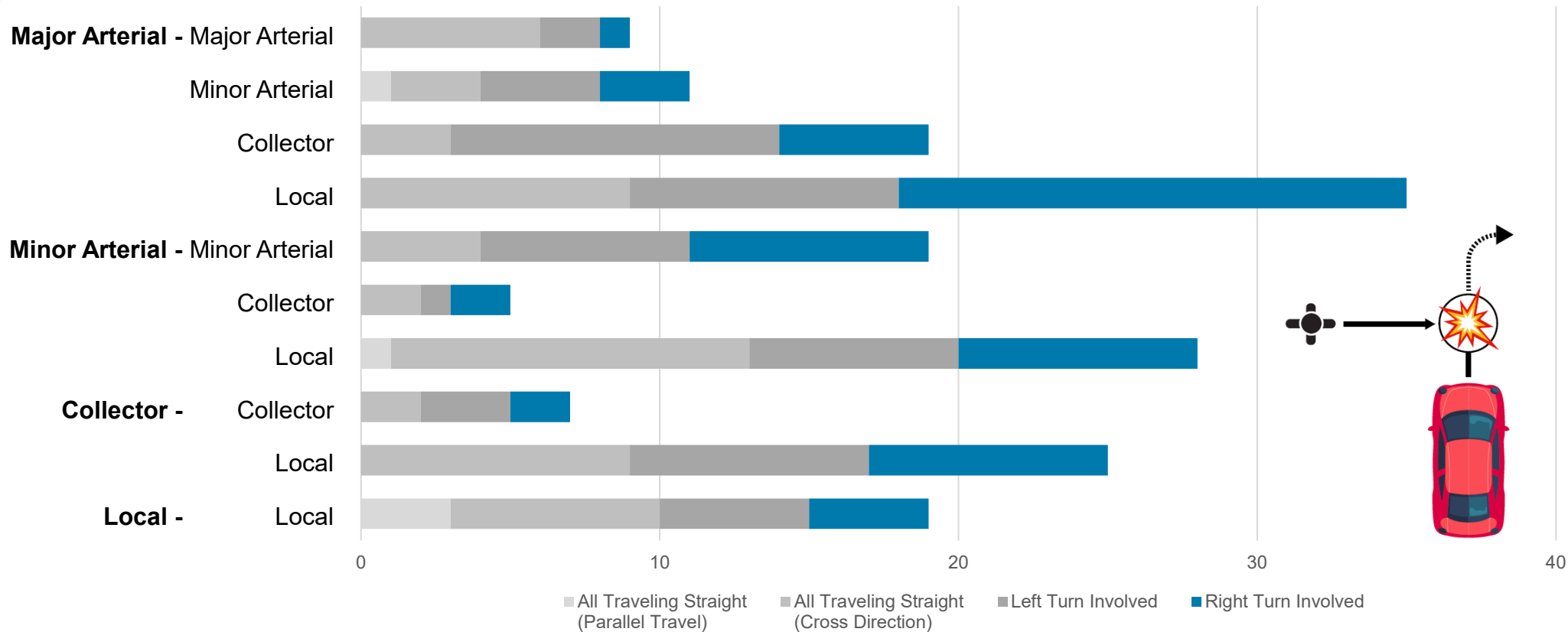
## Bicycle fatal and severe injury crash locations



# Bicycle intersection types



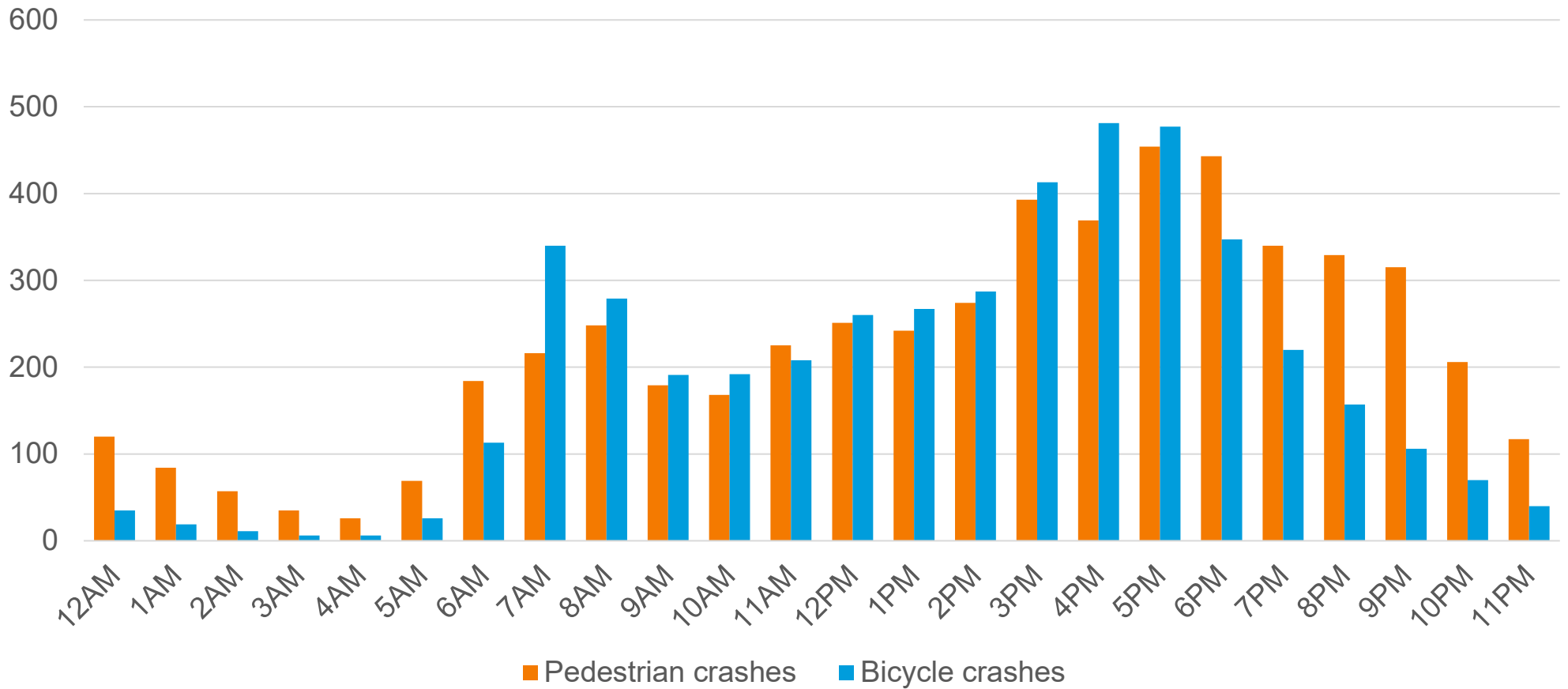
**32%** of suburban bicycle crashes at intersections involve **Right-Turn** movements



# Crashes by time of day



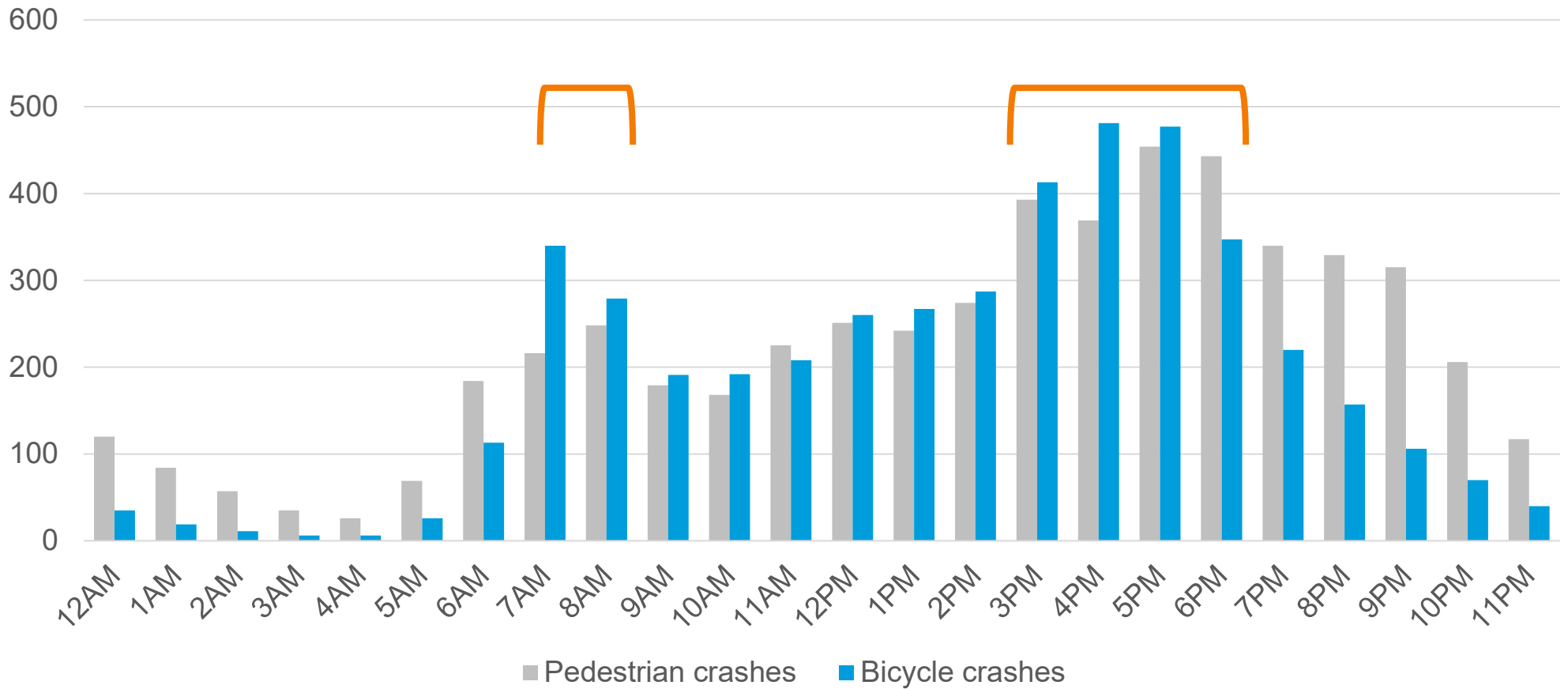
## Crashes by hour of day, 2015-2019



# Crashes by time of day



## Bicycle crashes are concentrated to peak hours

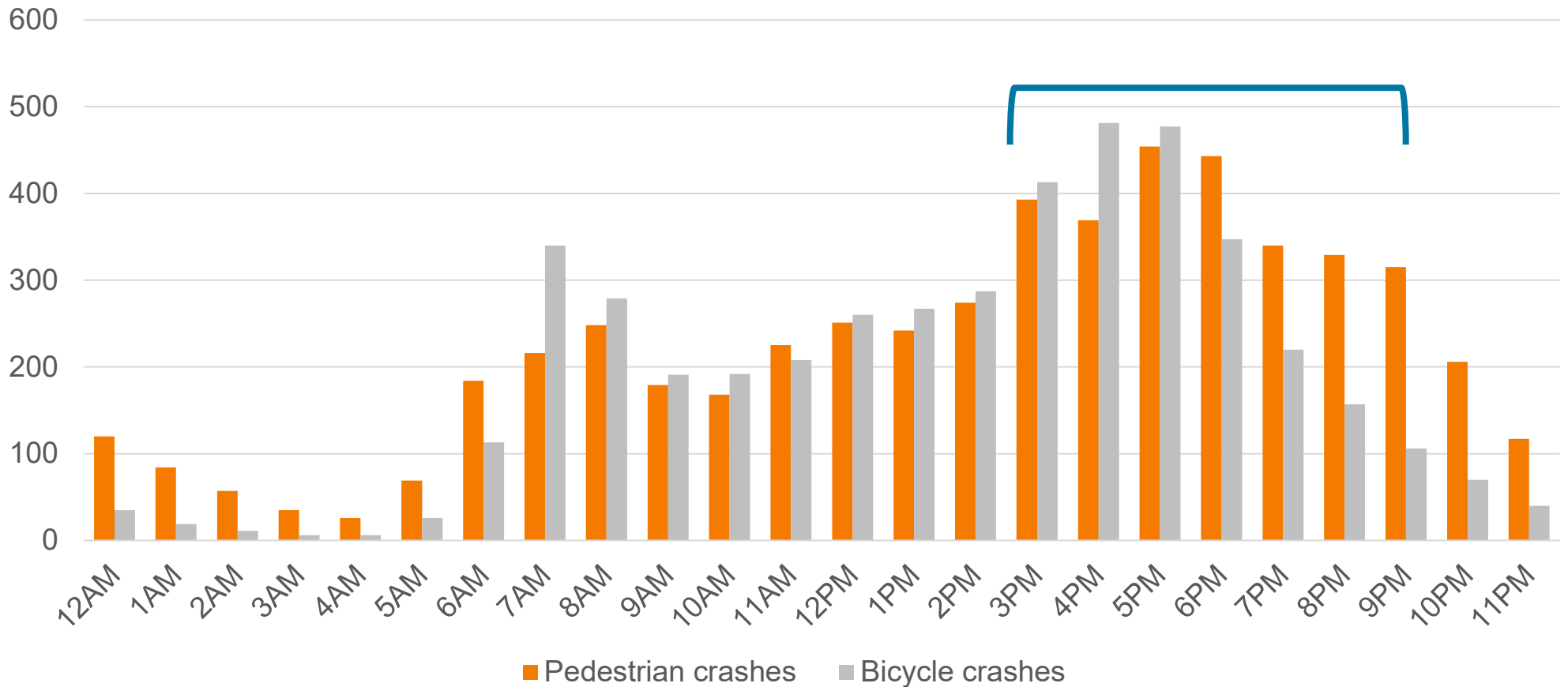




# Crashes by time of day



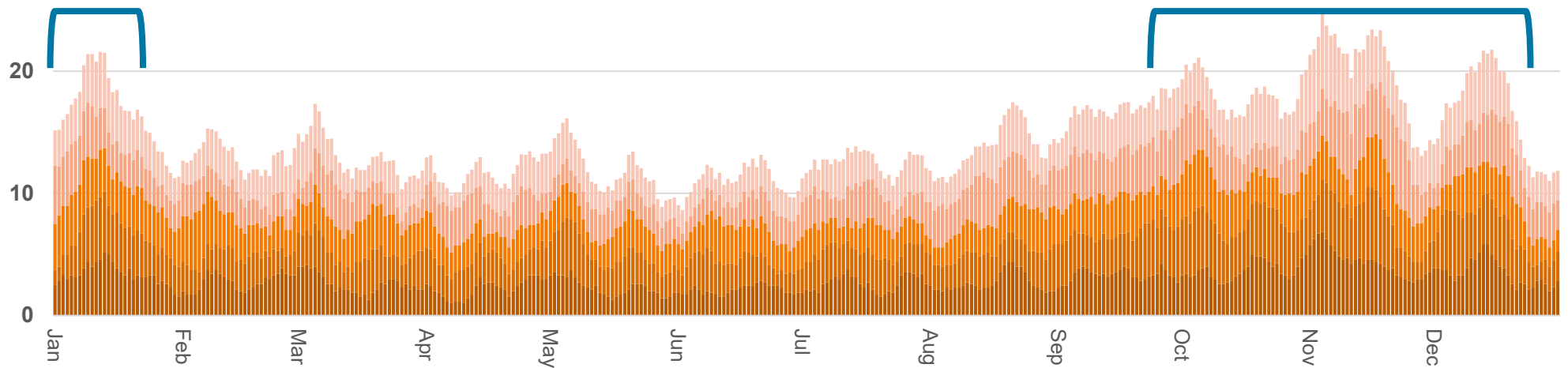
## Pedestrian crashes increase during afternoon and evening



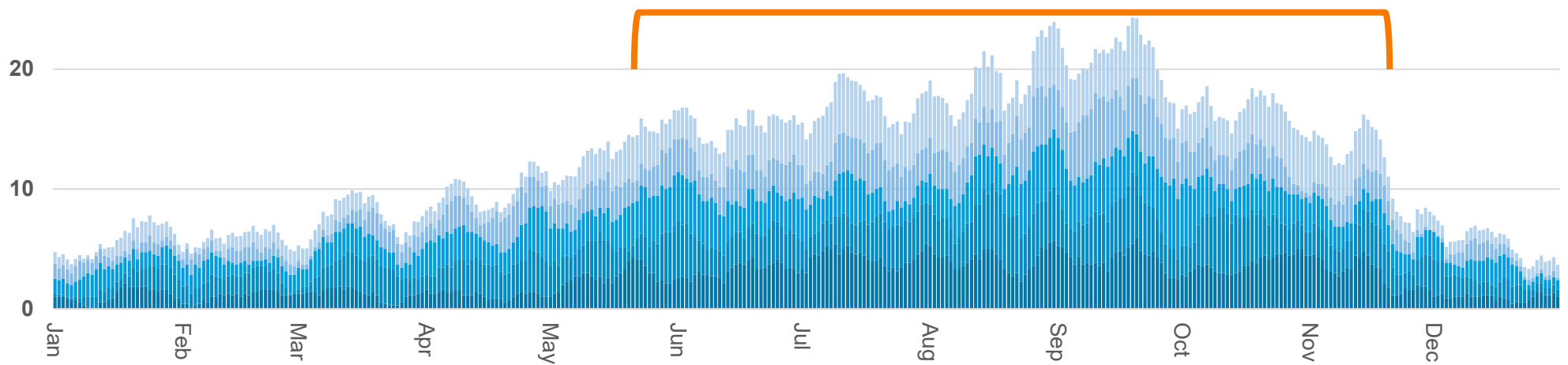
# Crashes by season



Pedestrian crashes per day (seven-day rolling average), 2015-2019



Bicycle crashes per day (seven-day rolling average), 2015-2019

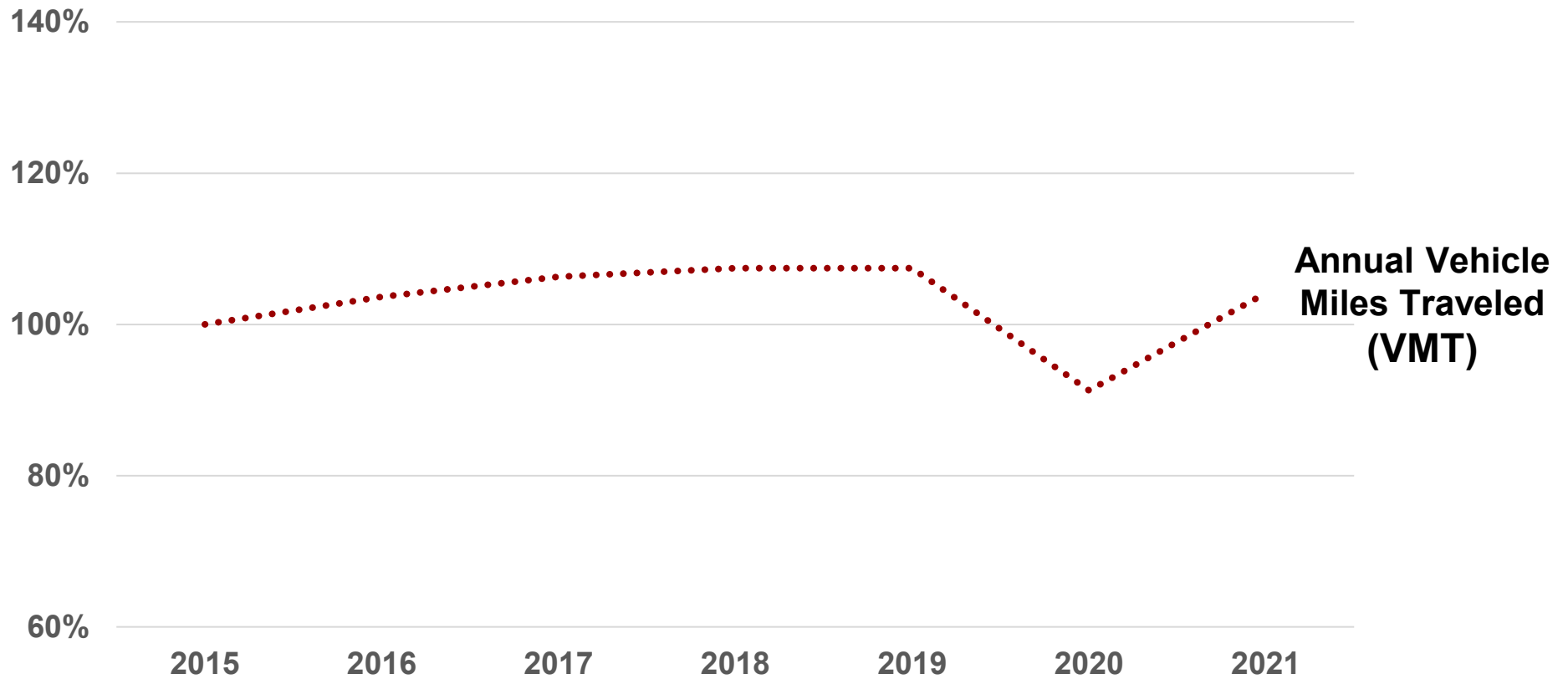


■ 2015 ■ 2016 ■ 2017 ■ 2018 ■ 2019

# 2020 & 2021: A new travel paradigm



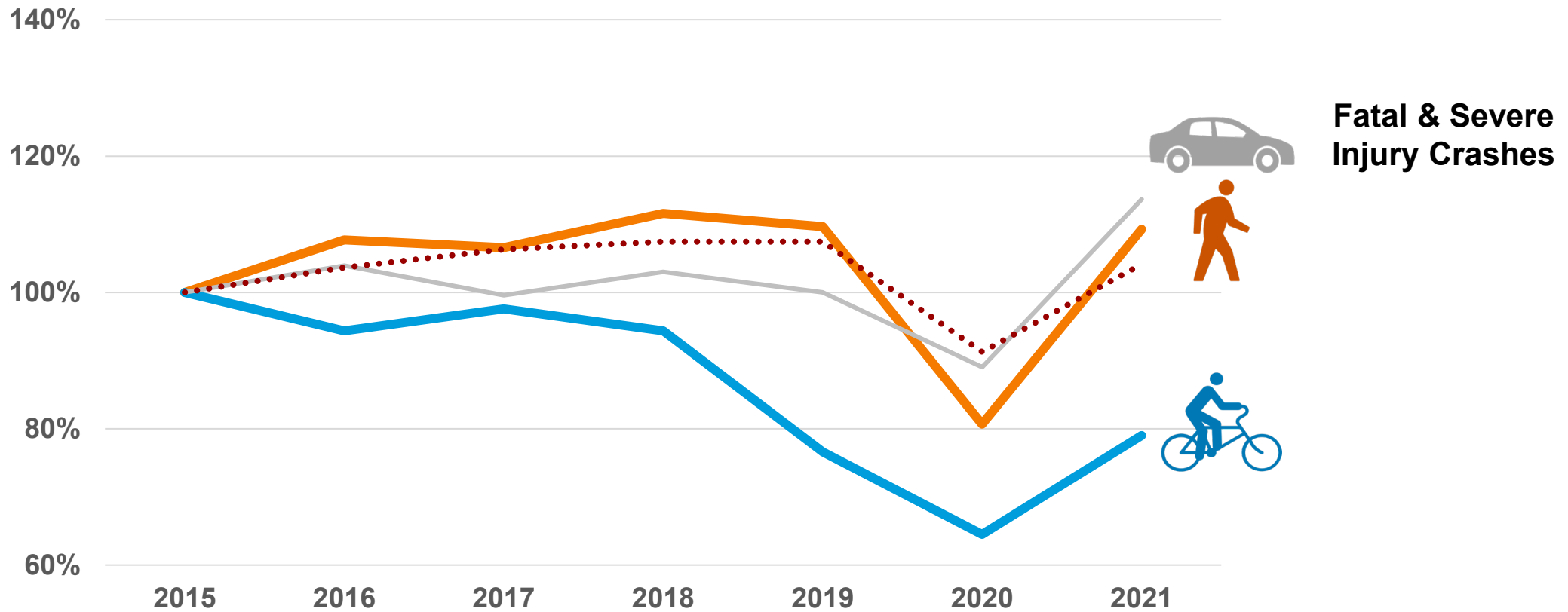
## Pedestrian and motor vehicle crashes rebounded post-2020 faster than vehicle traffic



# 2020 & 2021: A new travel paradigm



## Pedestrian and motor vehicle crashes rebounded post-2020 faster than vehicle traffic







**Thank you!**

**Questions?**

**Aaron Villere**

Senior Active Transportation Planner

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