Transportation System Performance Evaluation

Transportation Advisory Board

Information Item

August 16, 2023   Liz Roten, Jonathan Ehrlich   metrocouncil.org

An interactive, web-native approach

Overview

- 98 interactive charts and maps
- 128 tables
- 60+ distinct data sources
- Primarily web-based
- Static PDF available on request

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Transportation System Performance Evaluation

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AUTHOR
Metropolitan Council

PUBLISHED
April 14, 2023

Preface

This report is a comprehensive review of the Twin Cities transportation system as prepared by Metropolitan Council in 2023. The Minnesota State Legislature adopted statutes in 1996 requiring the Metropolitan Council to produce this report (previously called the Transportation System Audit). This report was prepared to inform the 2024 update of the region's long-range transportation plan, the 2050 Transportation Policy Plan (2050 TPP).

Metropolitan Council

The Council's mission is to foster efficient and economic growth for a prosperous metropolitan region

Chair: Charlie Zelle

Table 1: Metropolitan Council Members

District 1	Judy Johnson	District 10	Peter Lindstrom
District 2	Reva Chamblis	District 11	Susan Vento
District 3	Tyronne Carter	District 12	Gail Cederberg
District 4	Deb Barber	District 13	Chai Lee
District 5	Anjuli Cameron	District 14	Willetha (Toni) Carter
District 6	John Pacheco Jr.	District 15	Tenzin Dolkar

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Organized by goal

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Transportation System Performance Evaluation

Transportation System Performance Evaluation

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Preface

Stewardship ›

1 Efficiently preserve and maintain the transportation system

2 Operate the regional transportation system efficiently and cost - effectively

Safety and Security ›

3 Reduce vulnerability

4 Reduce crashes and improve safety and security

Access to Destinations ›

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4.1 Perception of Safety When Walking and Bicycling

Easy navigation

Context

Metro respondents to MnDOT's public opinion survey ⤢ are asked to rate perceptions of safety for bicycling and walking in their communities using a four point scale. 1 corresponds to a perception that bicycling and walking is not at all safe and 4 corresponds to a perception that bicycling and walking is very safe. MnDOT tracks the percentage of respondents who perceive their environment as safe by totaling those who respond with 3 (somewhat safe) or 4 (very safe). The survey is typically done every two years.

Figure 4.1 shows how people's responses to the question **How safe do you think your community is for walking (or using a wheelchair or personal mobility device)?** over time. In recent years, the amount of people who felt "not very safe" or "not at all safe" has increased. For instance, those who felt "not at all safe" increased from 2% in 2015 to 4% in 2019.

Interactive charts

Figure 4.1: Perceptions of safety when walking

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Current 2040 TPP Goals

Transportation System Stewardship

Sustainable investments in the transportation system are protected by strategically preserving, maintaining, and operating system assets.

Safety and Security

The regional transportation system is safe and secure for all users.

Access to Destinations

A reliable, affordable, and efficient multimodal transportation system supports the prosperity of people and businesses by connecting them to destinations throughout the region and beyond.

Competitive Economy

The regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and state.

Healthy and Equitable Communities

The regional transportation system advances equity and contributes to communities' livability and sustainability while protecting the natural, cultural, and developed environments.

Leveraging Transportation Investments to Guide Land Use

The region leverages transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability.

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System Stewardship

Efficiently preserves and maintain the regional transportation system in a state of good repair

Operate the regional transportation system to efficiently and cost - effectively connect people and freight to destinations.
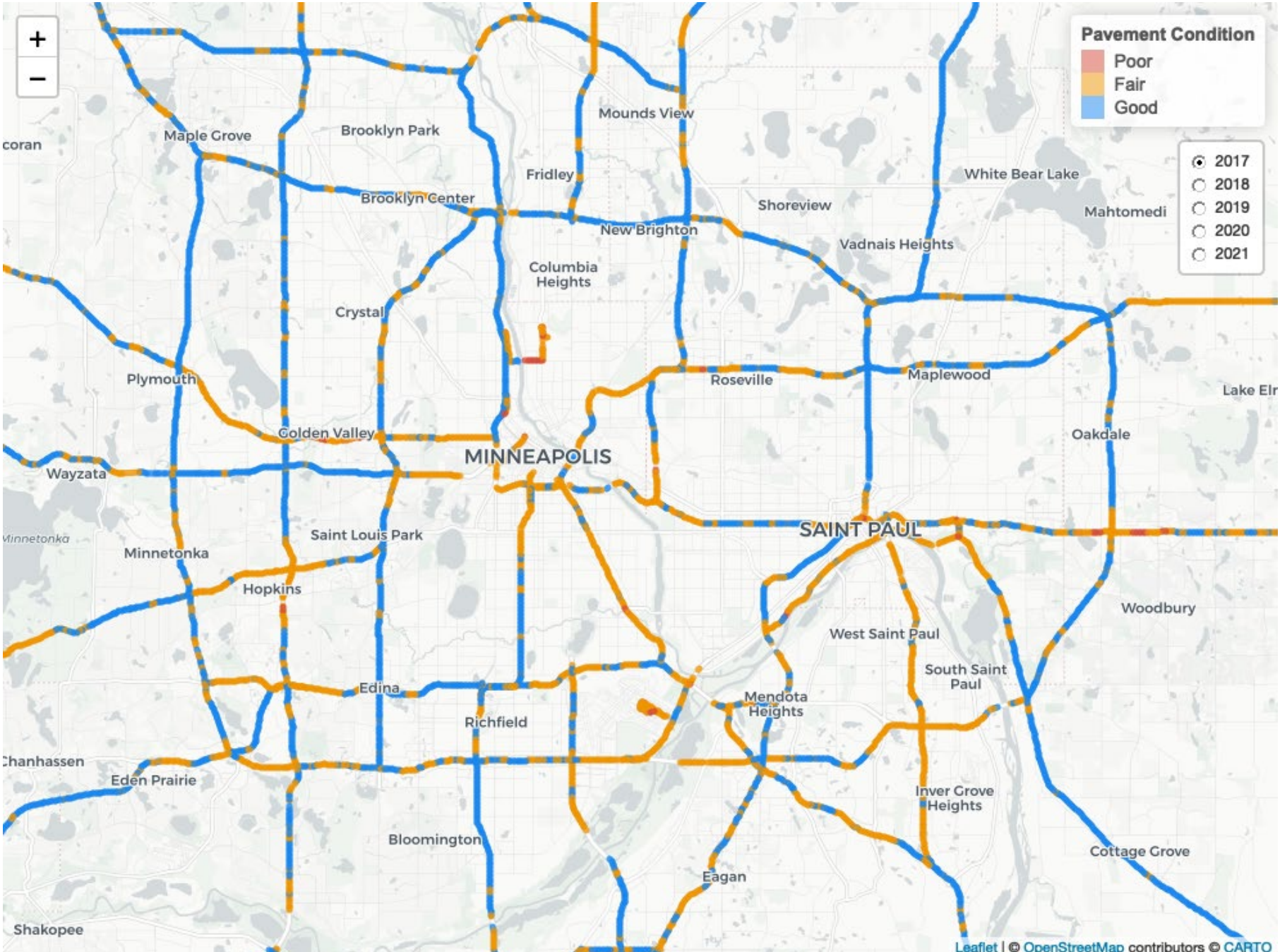
Pavement Condition

Pavement in 'Poor' Category (Interstate and NHS)

Twin Cities and Minnesota. Source: MnDOT
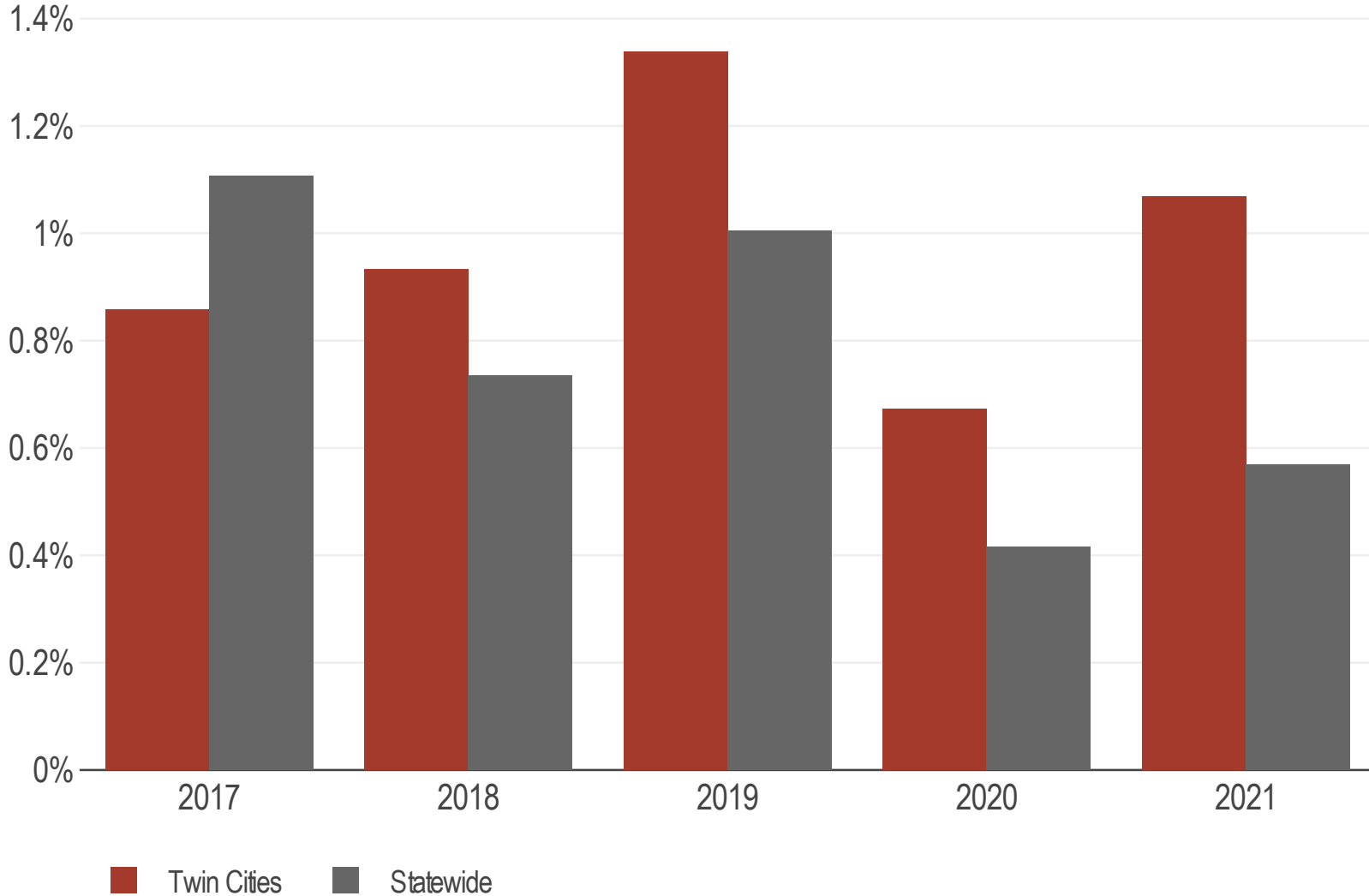
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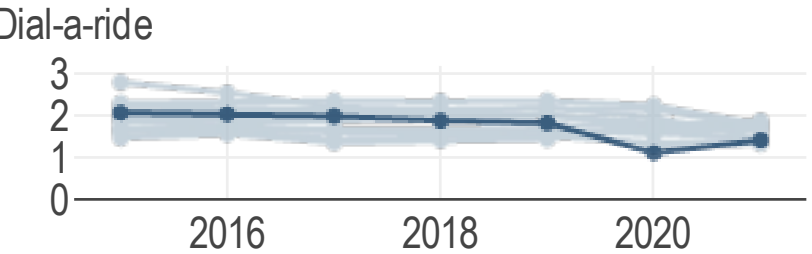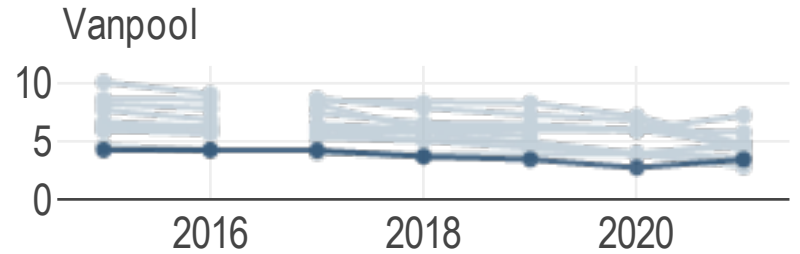# Pavement Condition Map

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Public Transit

Unlinked trips per revenue hour

Source: National Transit Database

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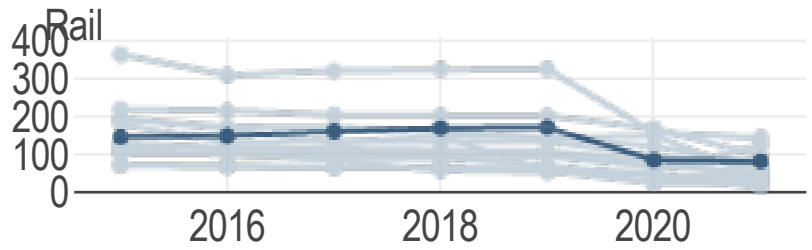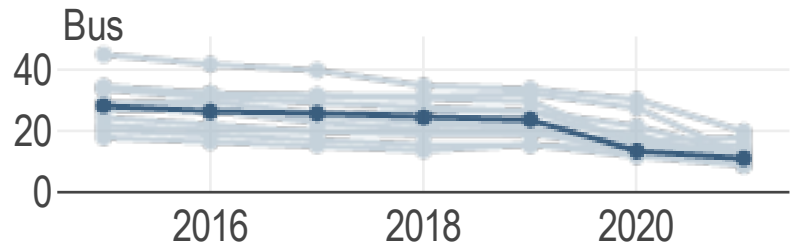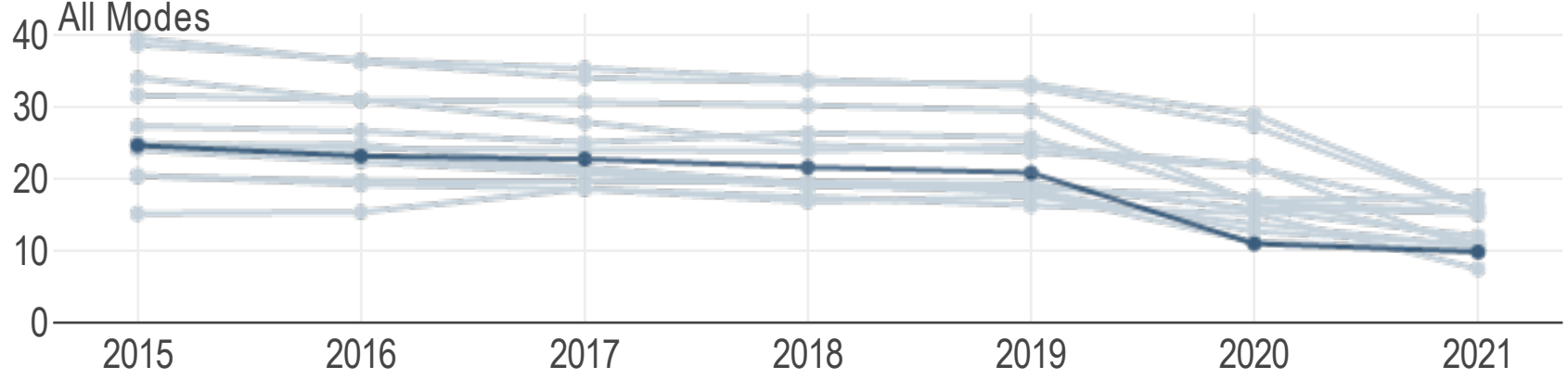
Safety and Security

Reduce the transportation system's vulnerability to natural and human - caused incidents and threats, including climate change and terrorism.

Reduce fatal and serious injury crashes and improve safety and security for all modes of passenger travel and freight transport.

Climate Change

Annual Precipitation in Minnesota

NOAA National Centers for Environmental information, Climate at a Glance: Statewide Time Series, published December 2022
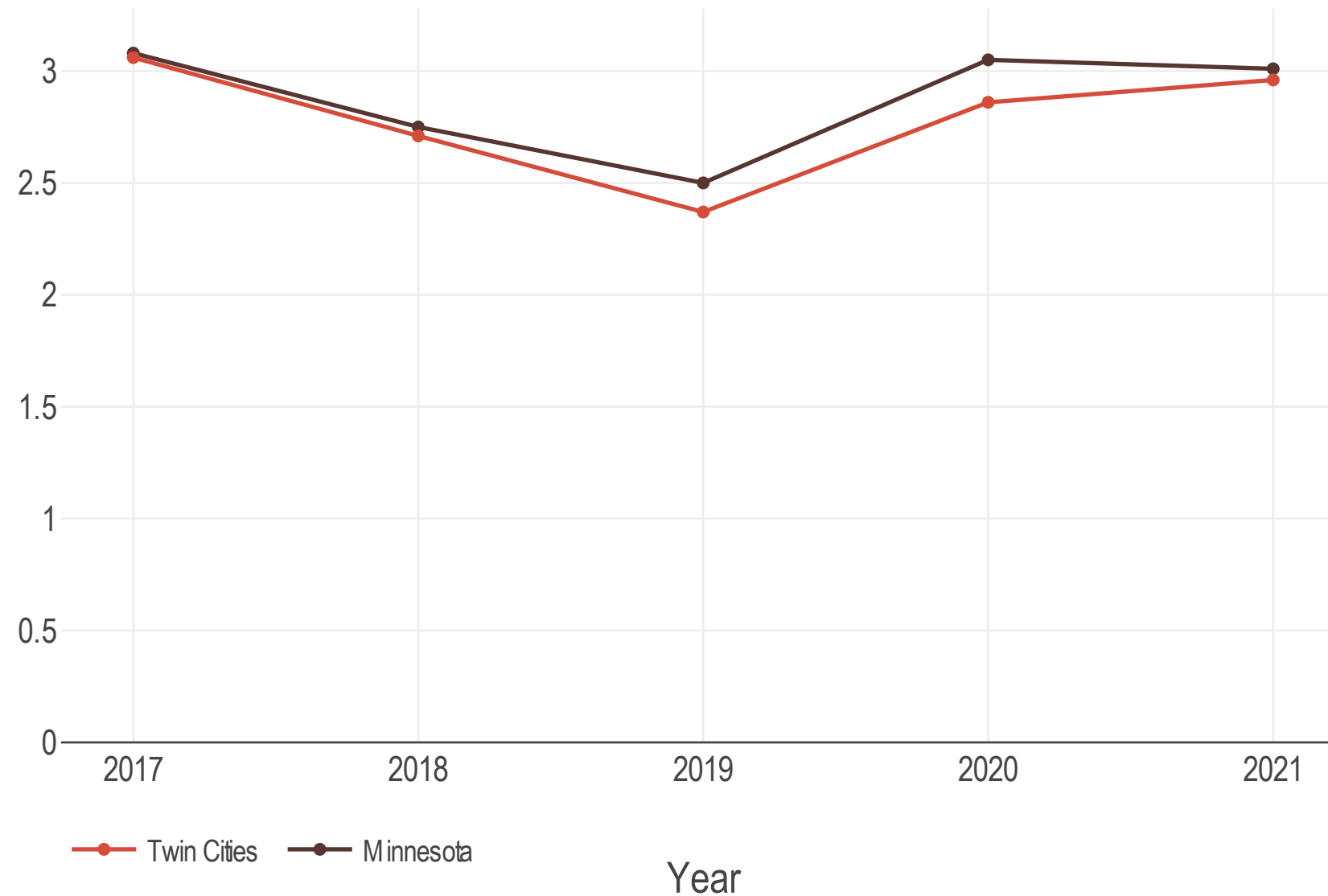
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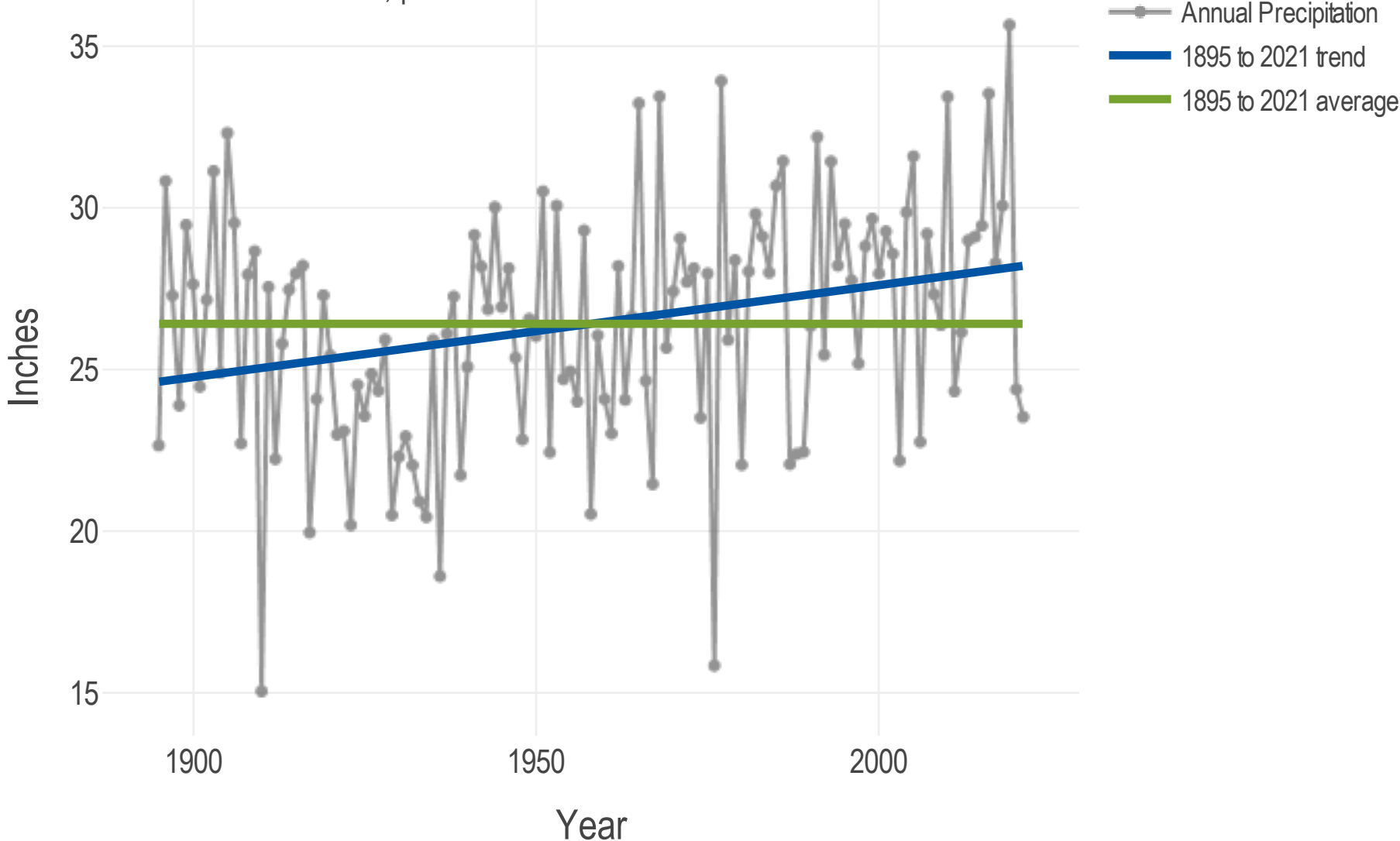
Serious injury crash rate

Serious injury crash rate on Minnesota roads, 2017-2021

Source: MnDOT Office of Traffic Engineering

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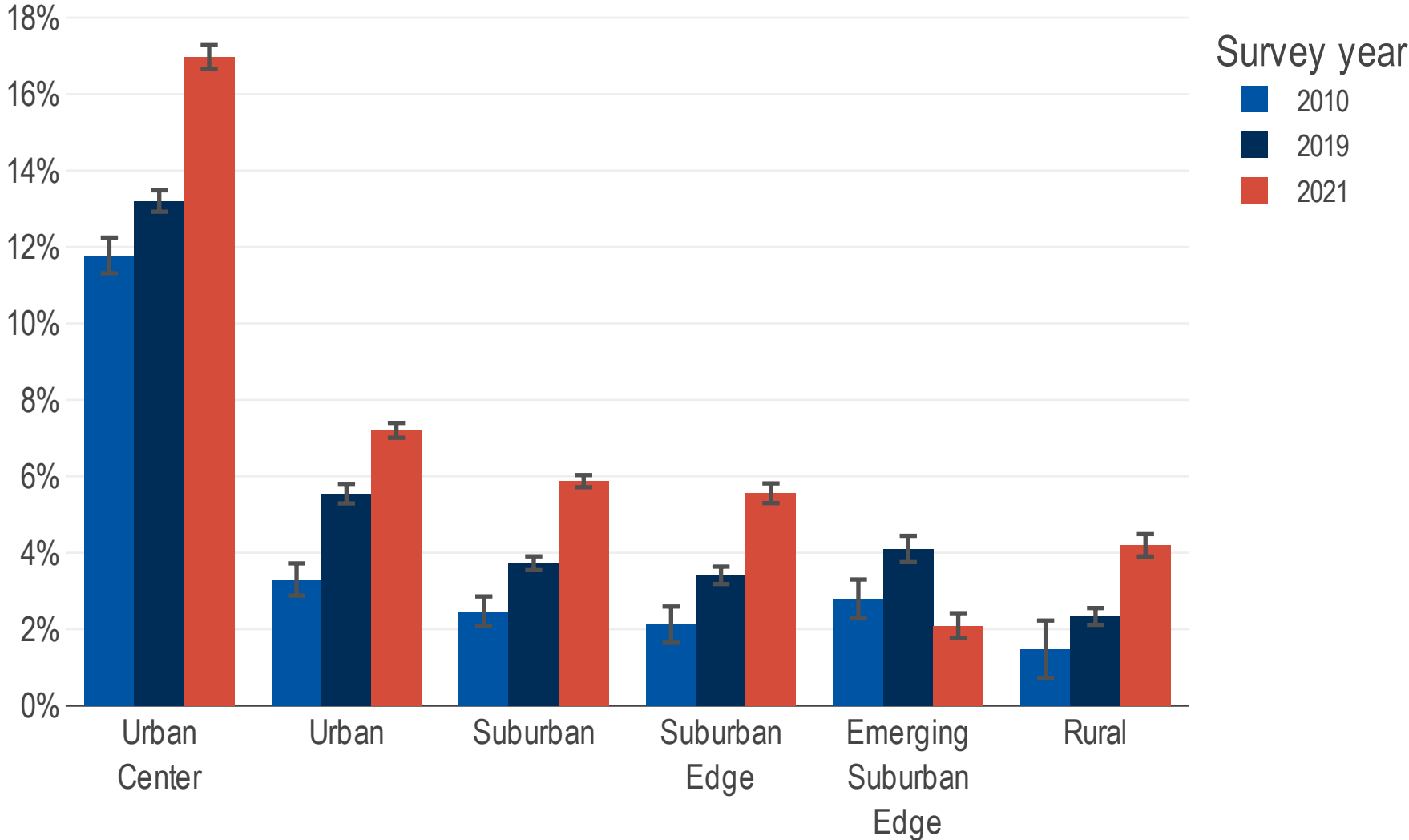
Access to Destinations

Increase the number and share of trips taken using carpools, transit, bicycling, and walking.

Improve the availability and quality of multimodal travel

Mode share by Thrive - walking

Percent of trips made by walking: 2010, 2019 and 2021

Source: Travel Behavior Inventory. Includes trips that started or ended within the MPO.
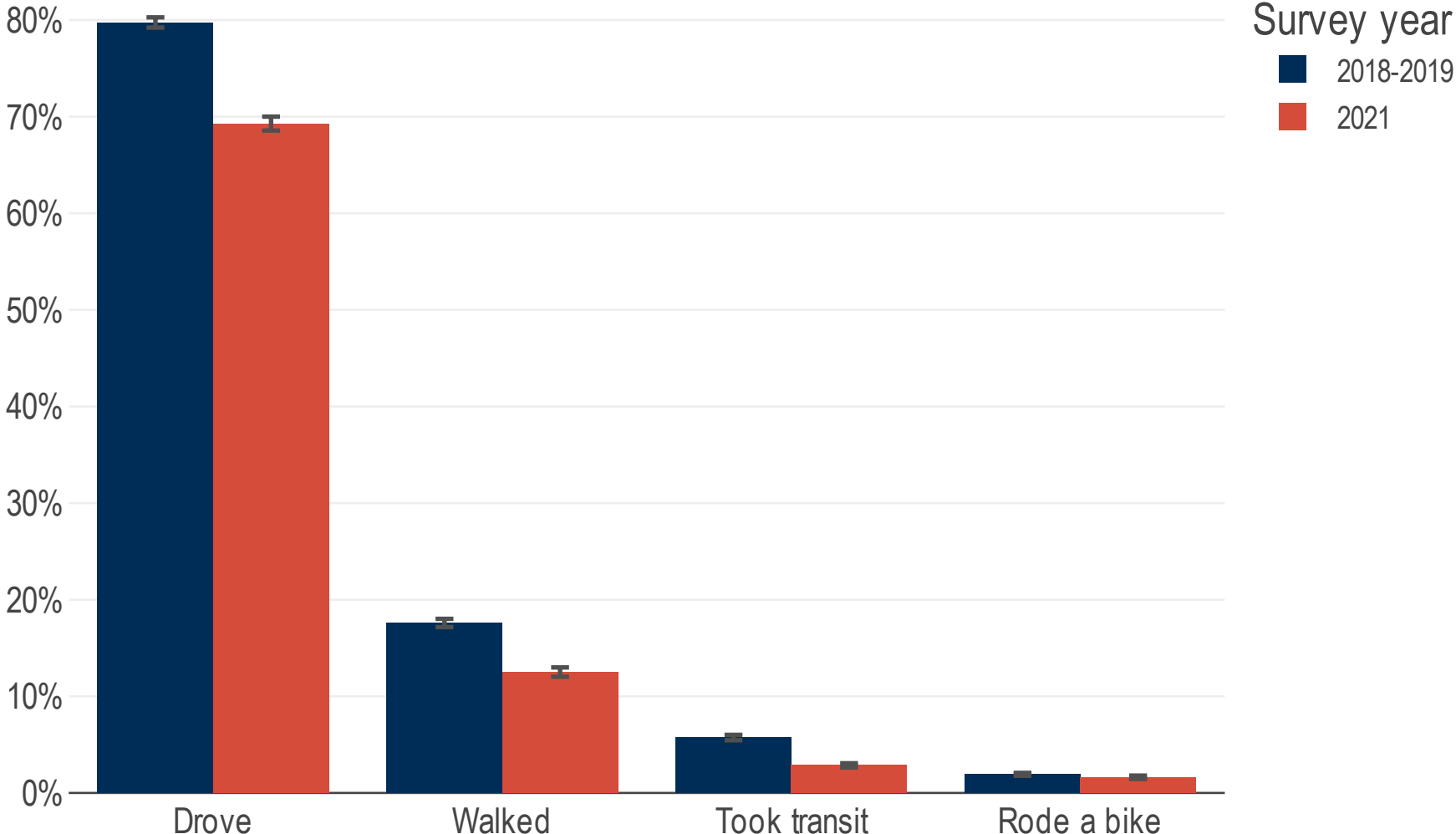
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Mode participation rate

Mode participation rate, adults, 2019 vs. 2021

Source: Travel Behavior Inventory. Includes only adults who live in the MPO.

Survey year
- 2018-2019
- 2021

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Trip replacement behavior

Percent of adults who _ on a typical weekday, 2019 vs. 2021

Source: Travel Behavior Inventory. Includes only adults who live in the MPO.

Survey year
- 2018-2019
- 2021

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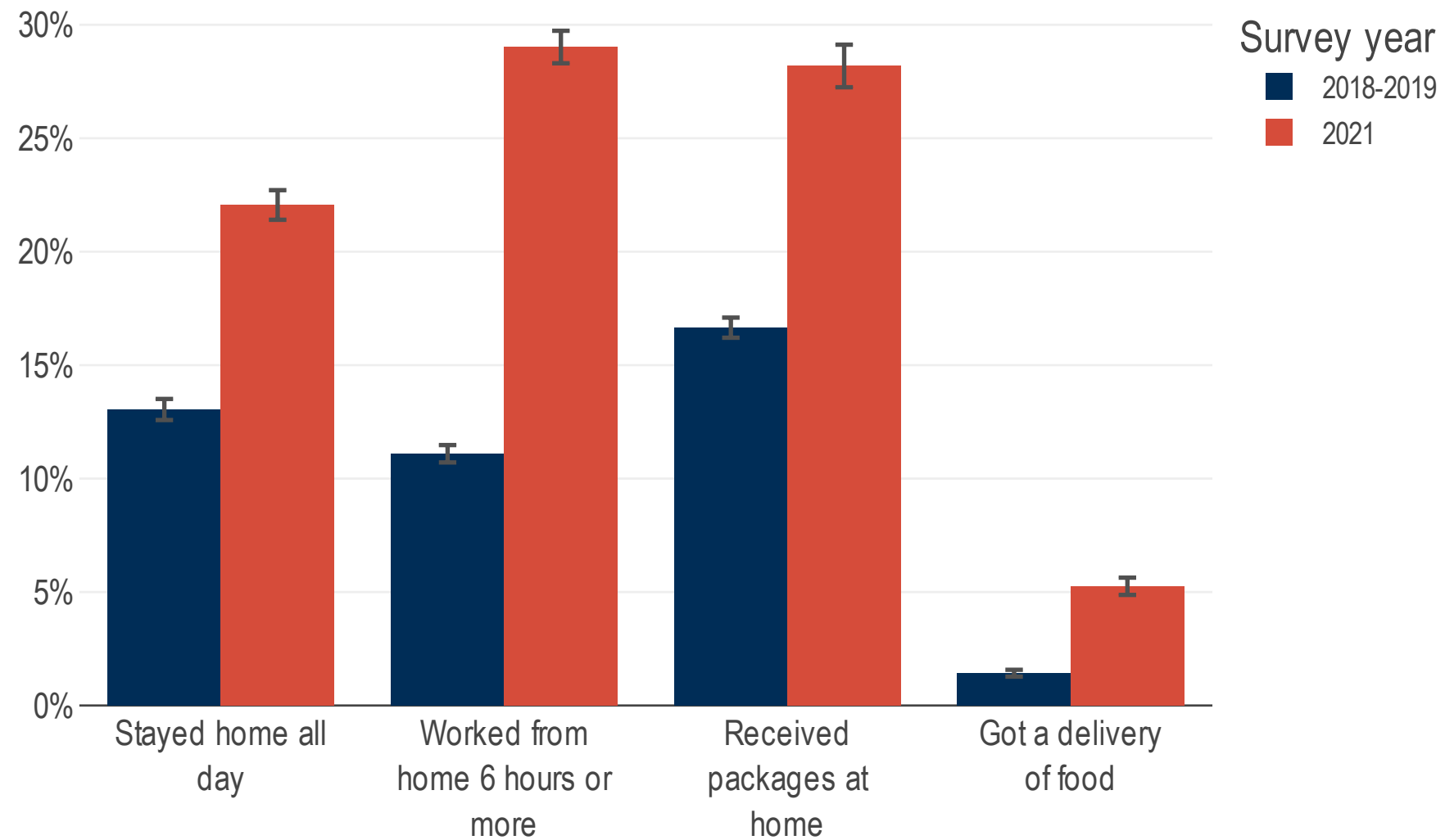
Transit Ridership

Twin Cities Ridership by mode

Source: National Transit Database

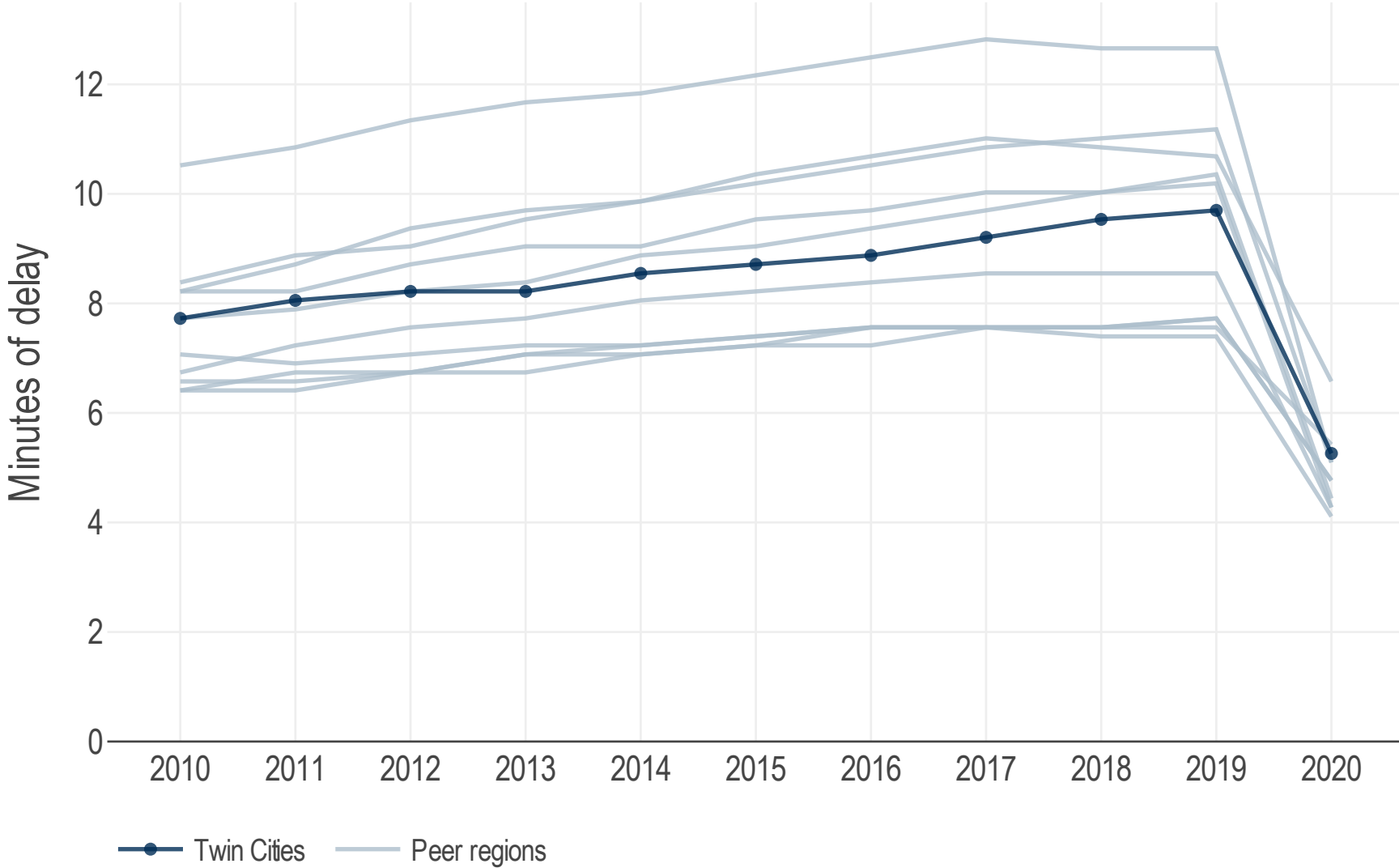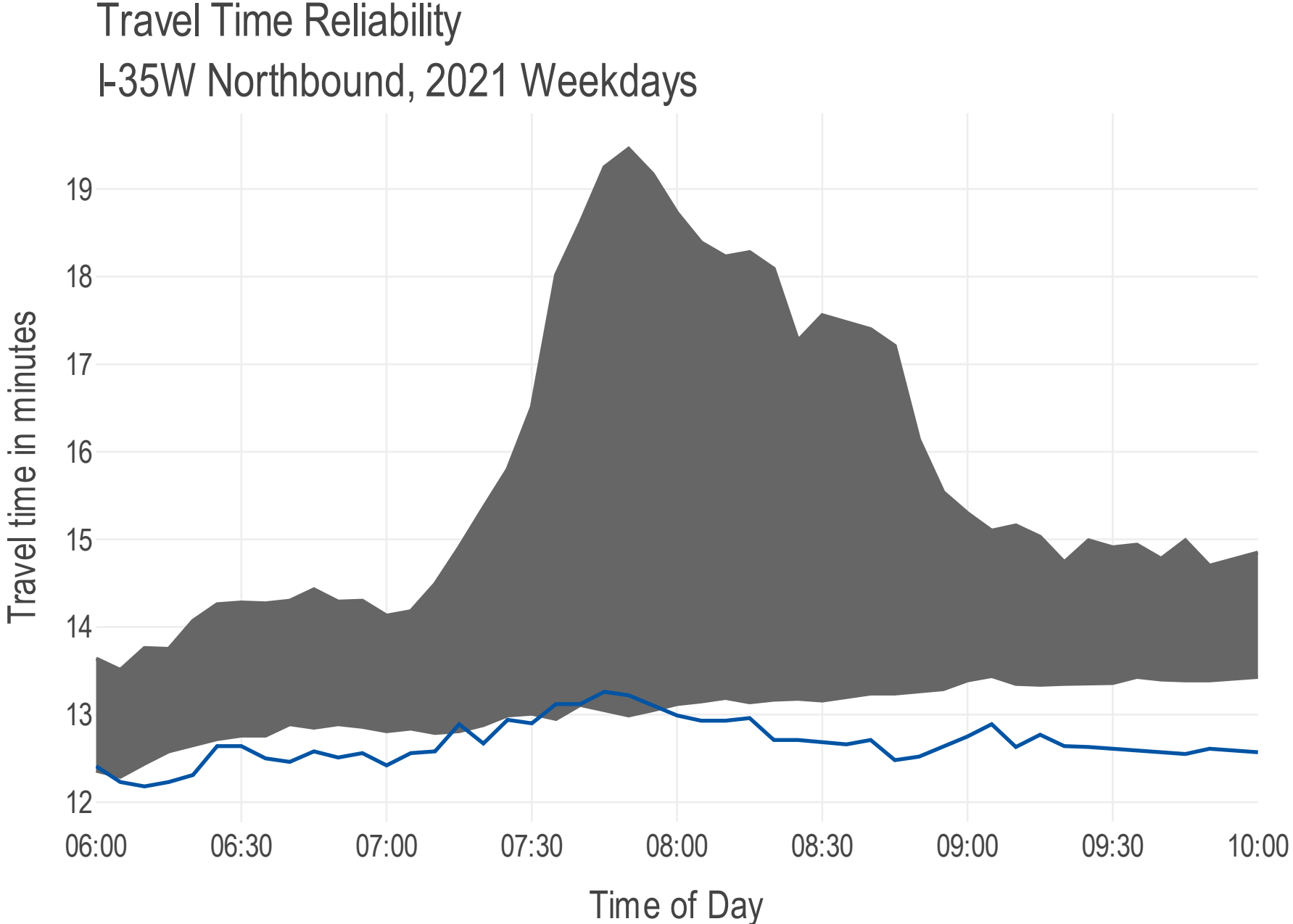Bus | Dial-a-ride | Rail | Vanpool | Aa Total Ridership
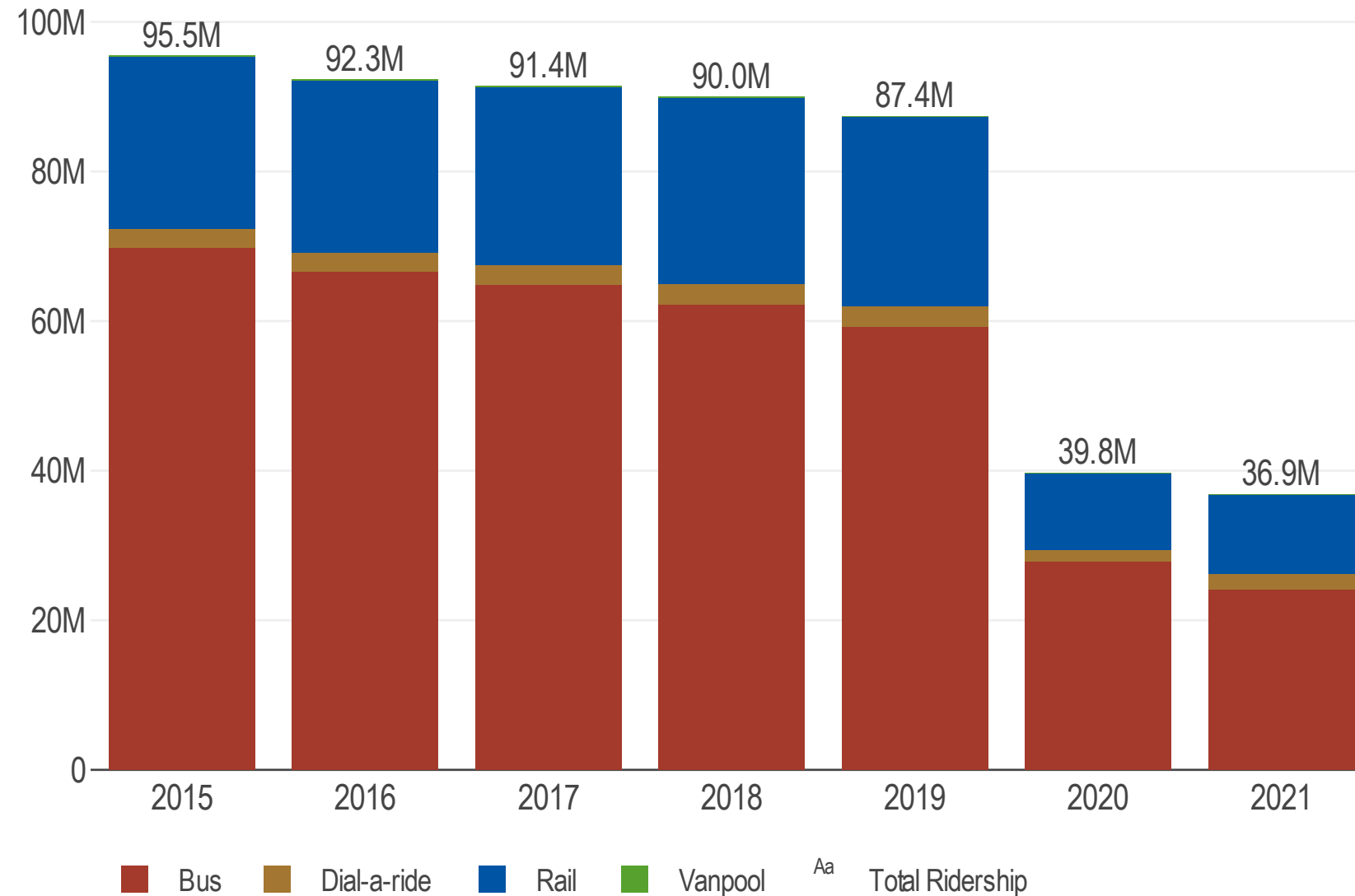
Daily delay per commuter

Peak-hour auto commuter delay, minutes per person per day

Source: TTI Urban Mobility Report

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E-ZPass Travel Time

Travel Time Reliability
I-35W Northbound, 2021 Weekdays

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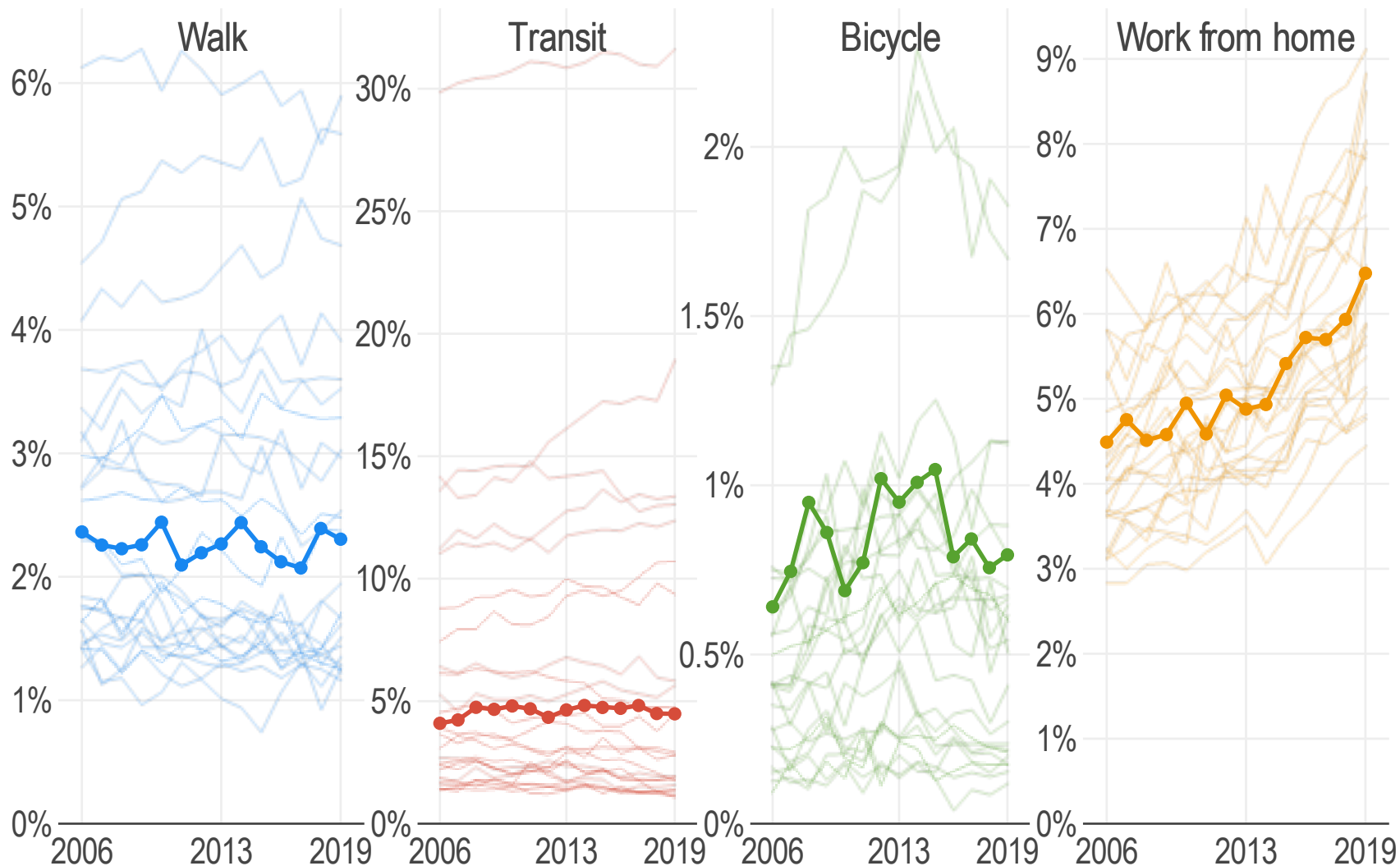Metropolitan Council

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Competitive Economy

Invest in a multimodal transportation system

Improve multimodal access to regional jobs
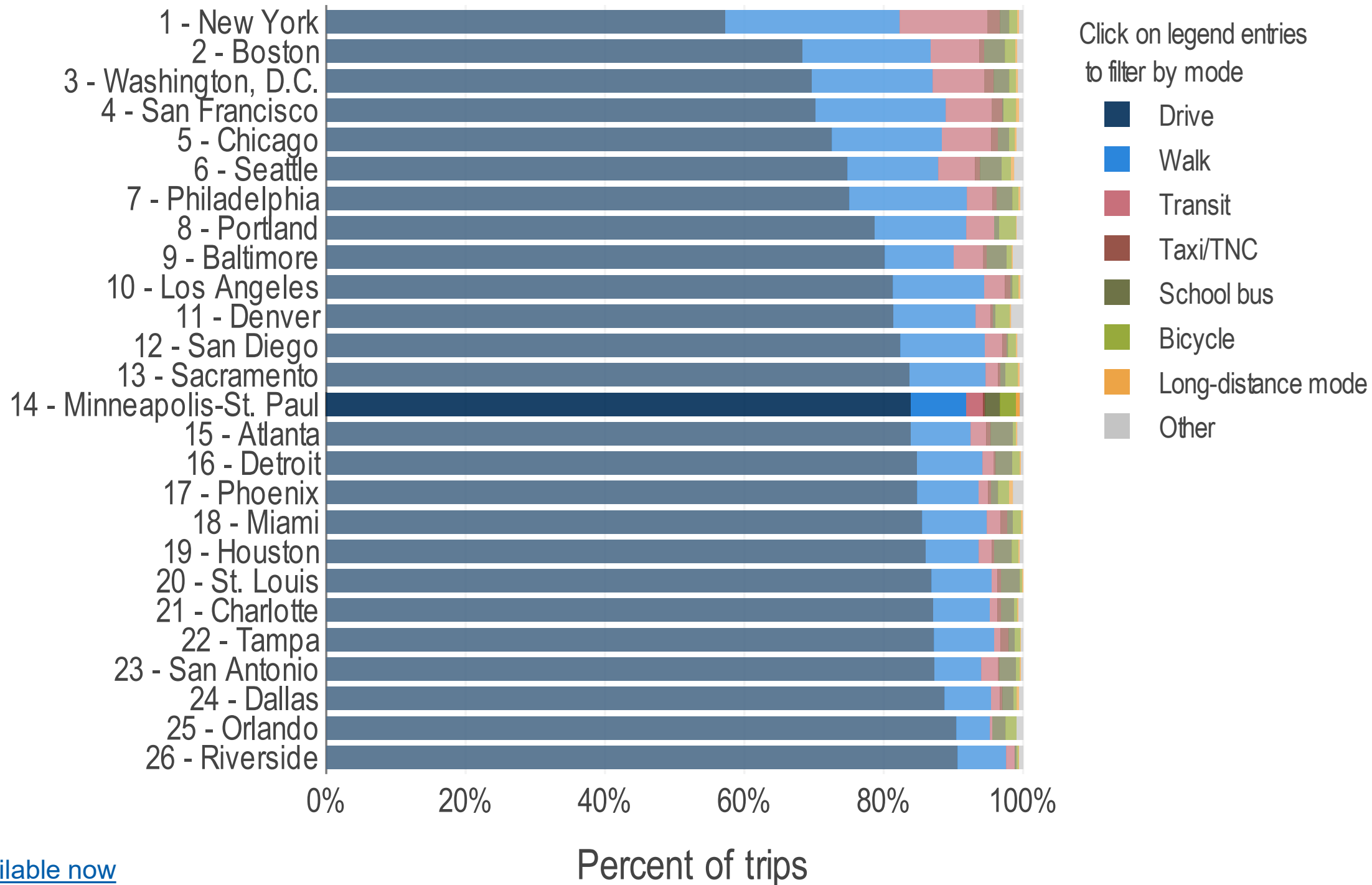
Non-auto commute modes

Share of commuters who use non-auto modes, top 25 U.S. metro areas

Source: ACS 1-year estimates by Metropolitan Statistical Area. **Bold** line is Twin Cities MSA.

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How people travel in the 26 most populous U.S. metro areas

Source: 2017 National Household Travel Survey.

Click on legend entries
to filter by mode

- Drive
- Walk
- Transit
- Taxi/TNC
- School bus
- Bicycle
- Long-distance mode
- Other

Categories (top to bottom):
1 - New York
2 - Boston
3 - Washington, D.C.
4 - San Francisco
5 - Chicago
6 - Seattle
7 - Philadelphia
8 - Portland
9 - Baltimore
10 - Los Angeles
11 - Denver
12 - San Diego
13 - Sacramento
14 - Minneapolis-St. Paul
15 - Atlanta
16 - Detroit
17 - Phoenix
18 - Miami
19 - Houston
20 - St. Louis
21 - Charlotte
22 - Tampa
23 - San Antonio
24 - Dallas
25 - Orlando
26 - Riverside

X-axis: 0% 20% 40% 60% 80% 100%
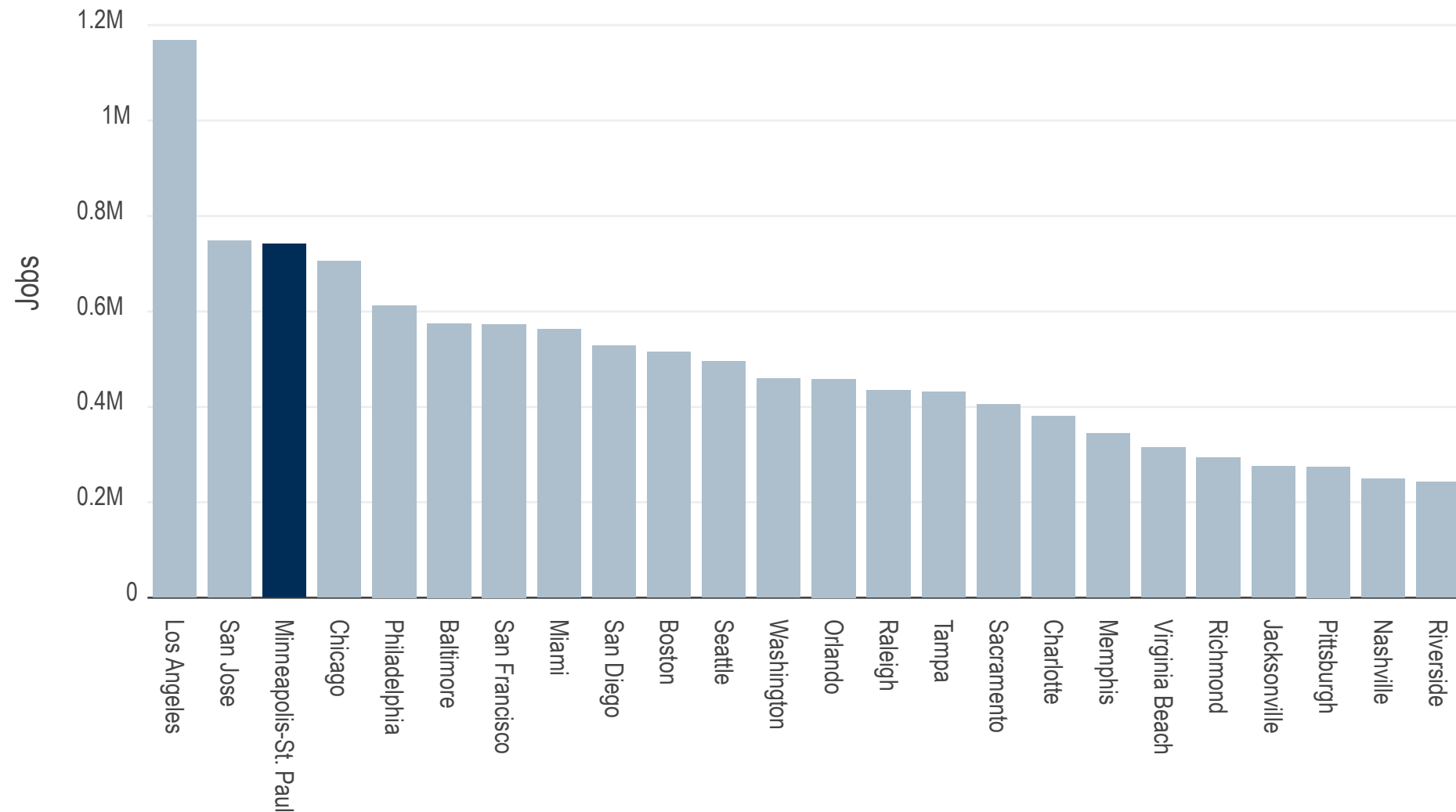
Percent of trips

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Job availability by mode

Jobs available within 30 minutes by car

Source: UMN Accessibility Observatory. Access Across America: Auto 2019

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Healthy and Equitable Communities

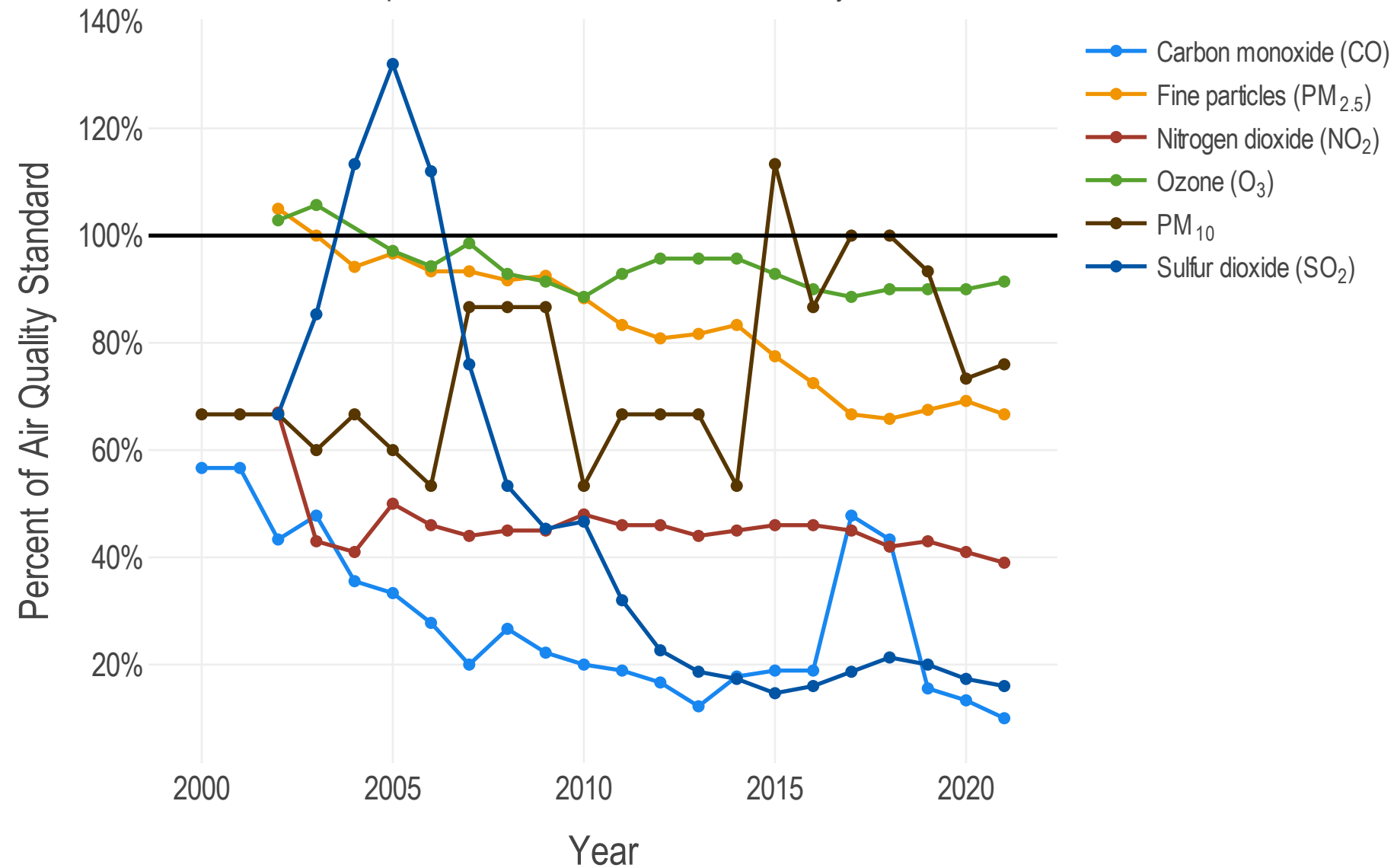Reduce transportation-related air emissions

Increase the availability and attractiveness of transit, bicycling, and walking

Air quality

Air quality in the Twin Cities

Maximum value as percent of National Ambient Air Quality Standards. Source: MPCA, 2022

Legend:
- Carbon monoxide (CO)
- Fine particles ($PM_{2.5}$)
- Nitrogen dioxide (NO_2)
- Ozone (O_3)
- PM_{10}
- Sulfur dioxide (SO_2)

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VMT and population

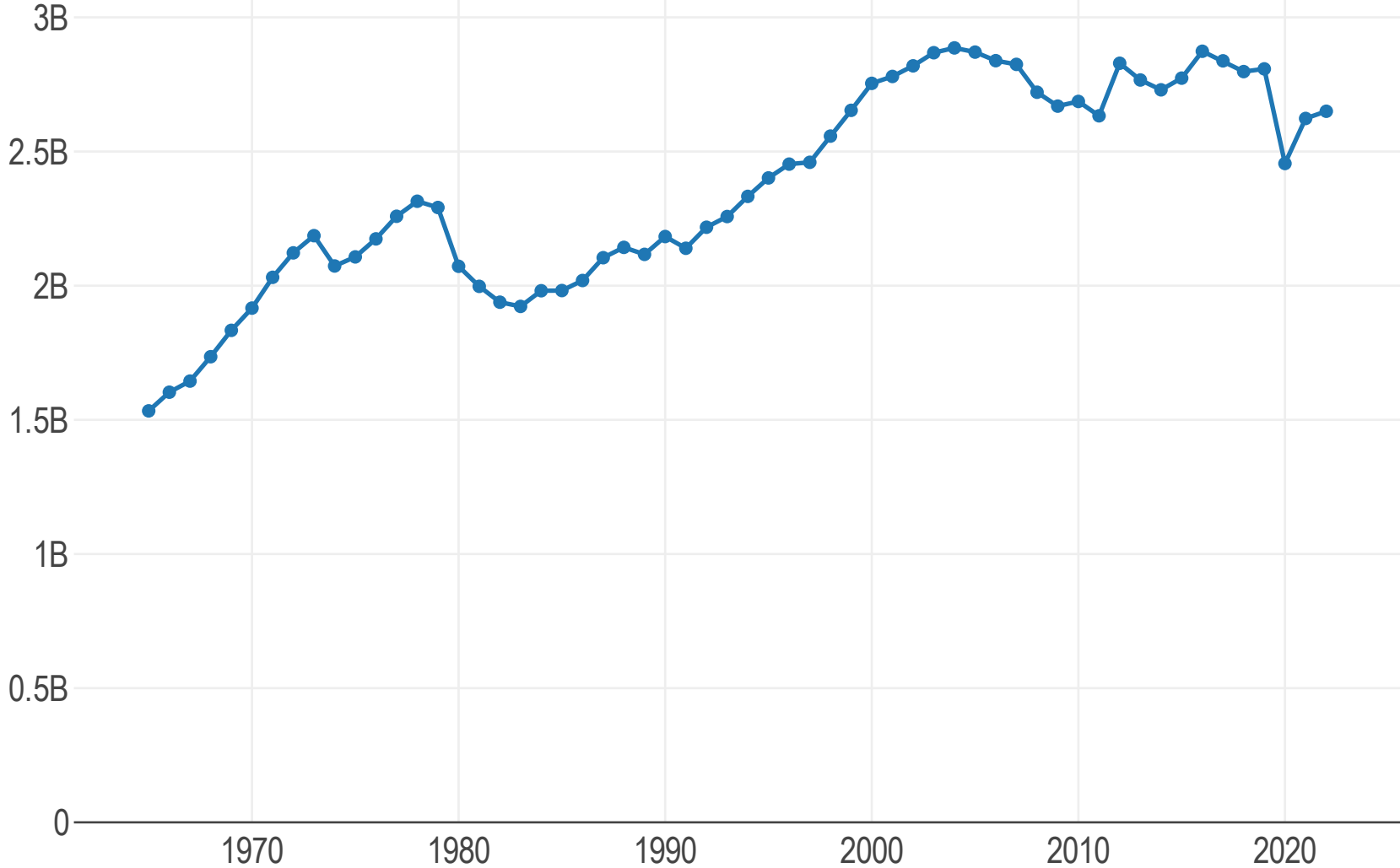Change in population and VMT since 2010

Source: Compiled Metropolitan Council, ACS, and Census population estimates and MnDOT VMT

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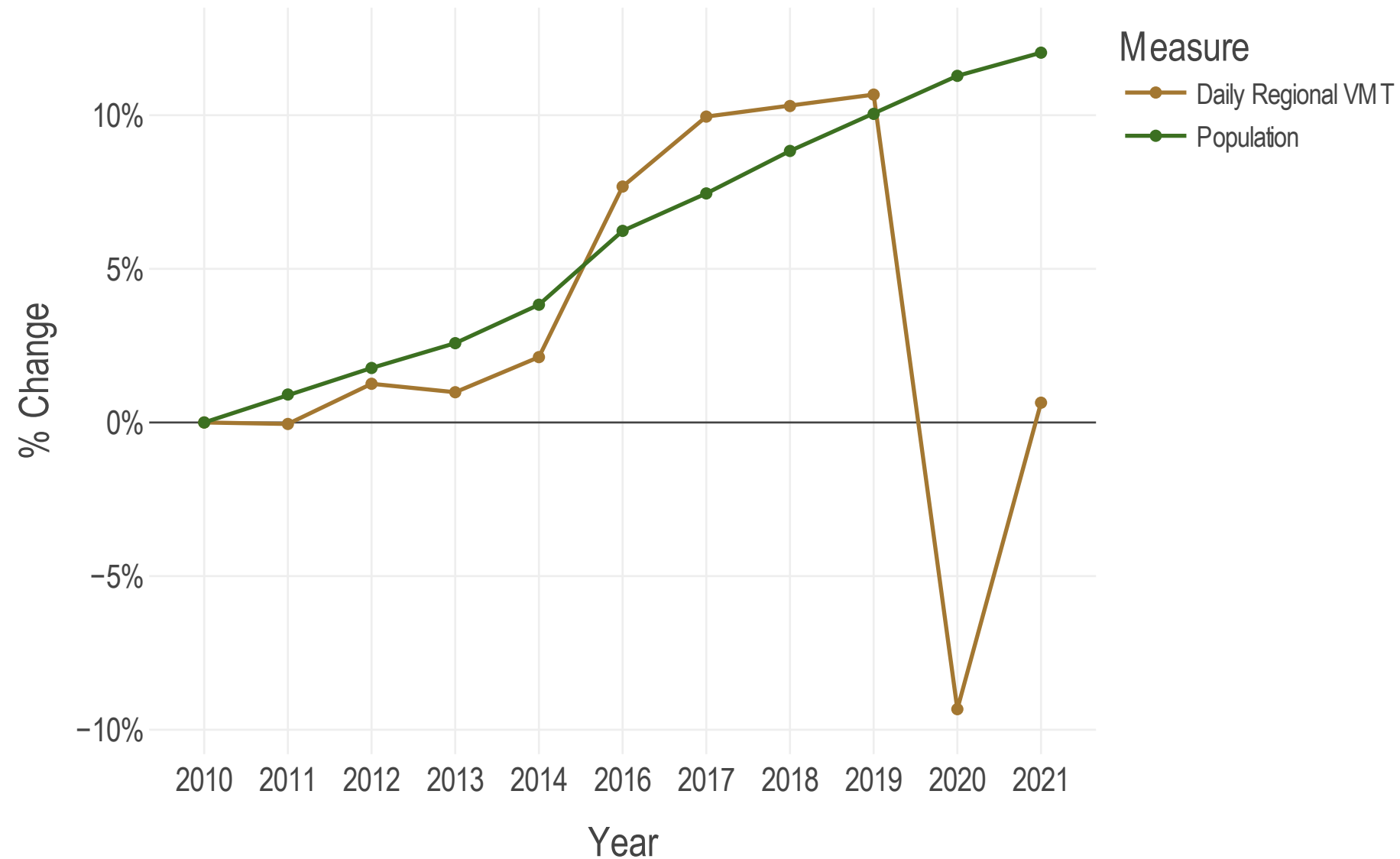
Gasoline consumption

Statewide gasoline consumption

Source: MN Department of Revenue. Aviation and special fuel not included.

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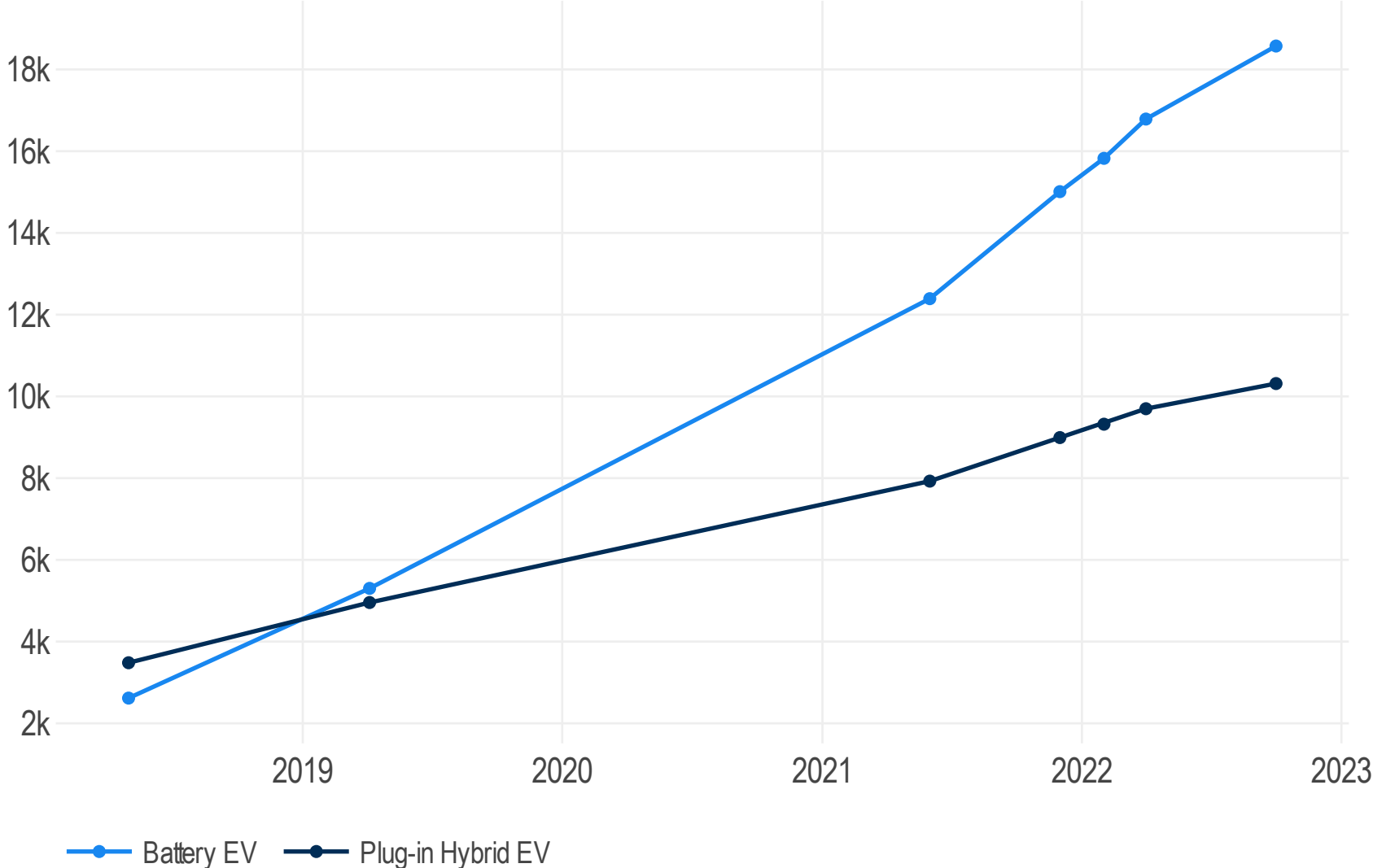
Electric vehicles

Electric Vehicle Registrations

Combined original and renewal registrations. Source: MnDOT Electric Vehicle Dashboard

Legend: Battery EV, Plug-in Hybrid EV

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High-frequency transit

Share of population within a 10 min. walk of transit, by service type

Source: Open Mobility Data (transit feeds), Census ACS (population estimates), and Metro Transit (walkshed

Service type: ■ Any ■ High-Frequency

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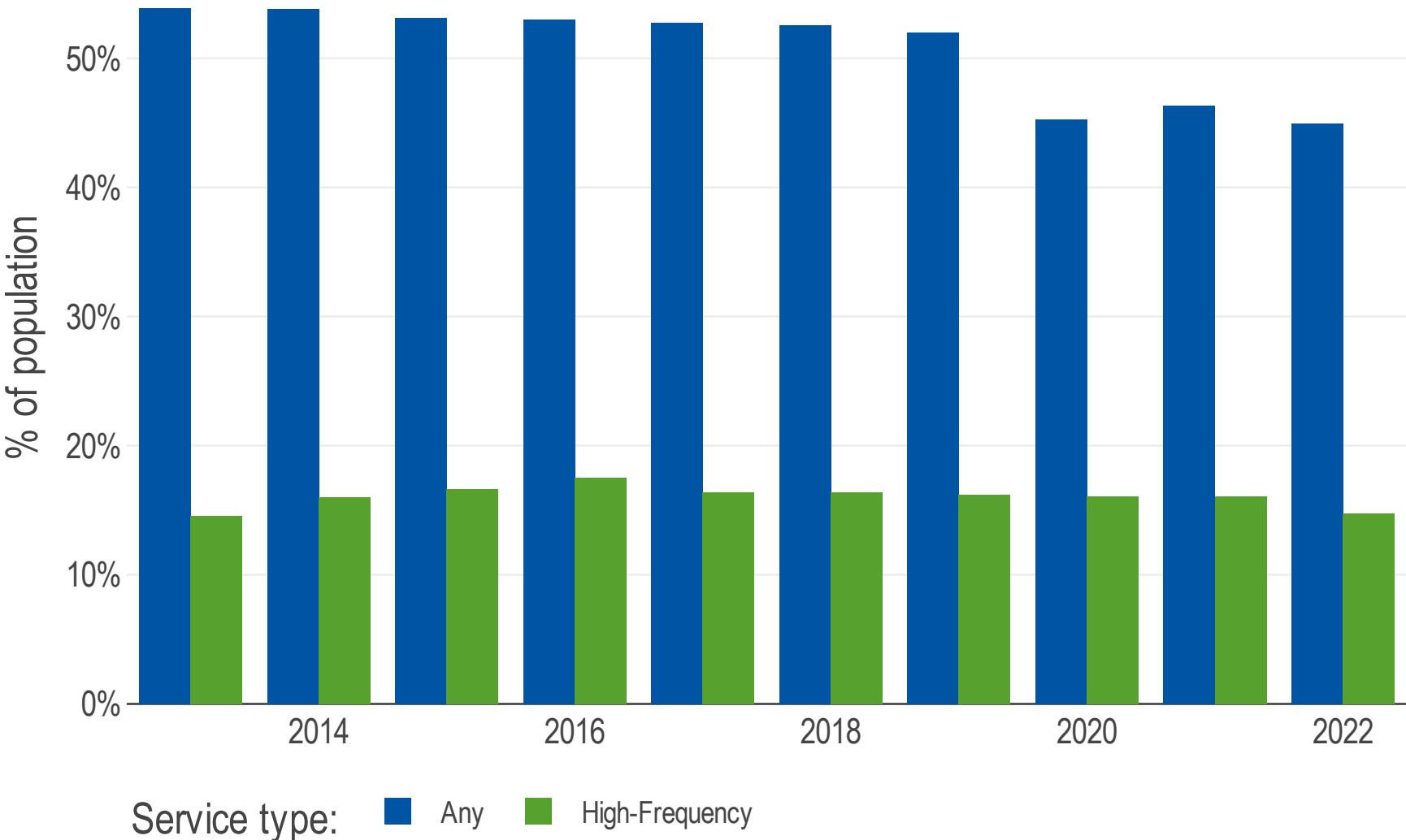
Guiding Land Use

Encourage land use design that integrates highways, streets, transit, walking, and bicycling.

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Comprehensive plans
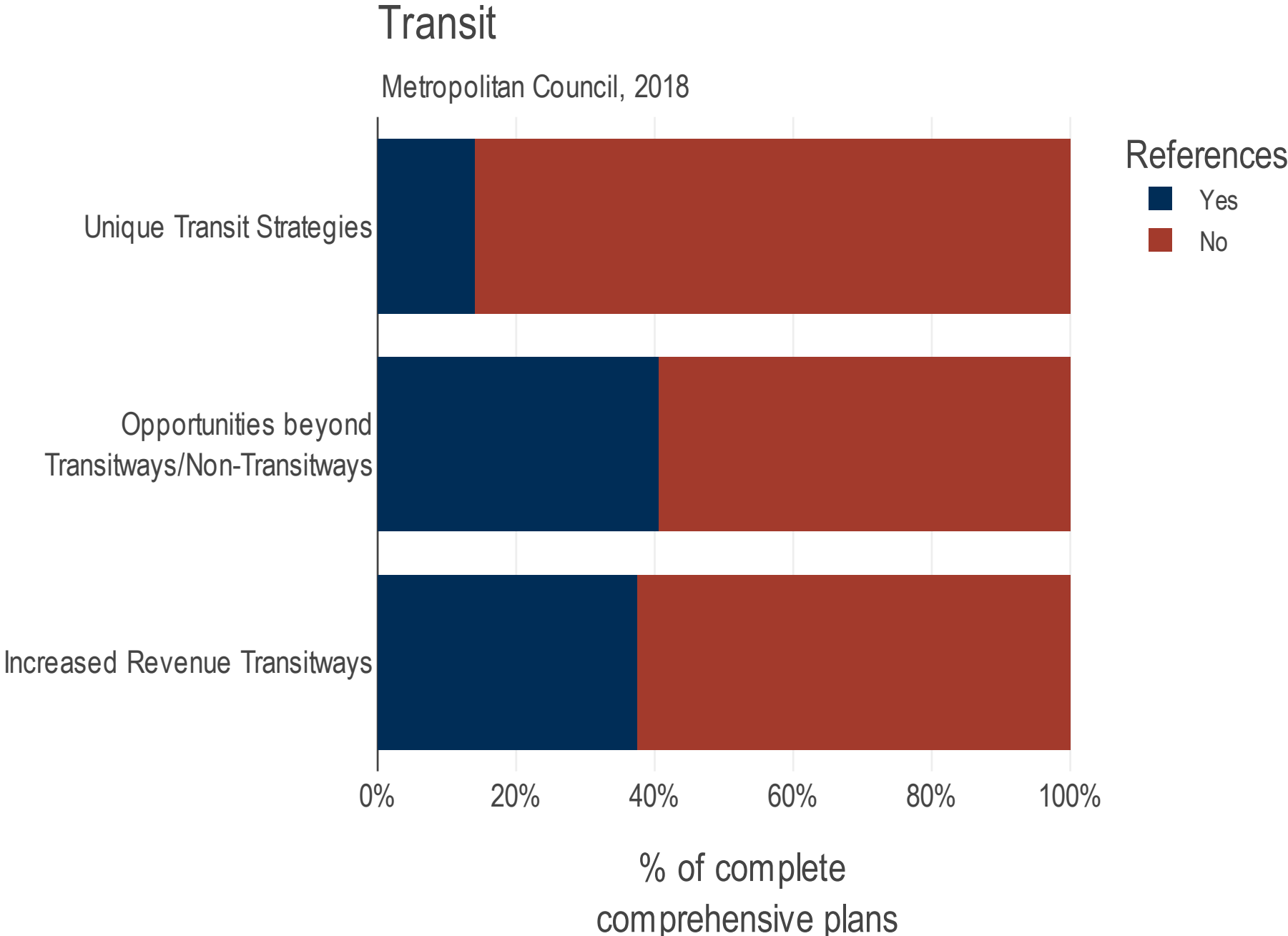
Transit

Metropolitan Council, 2018

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Digging deeper
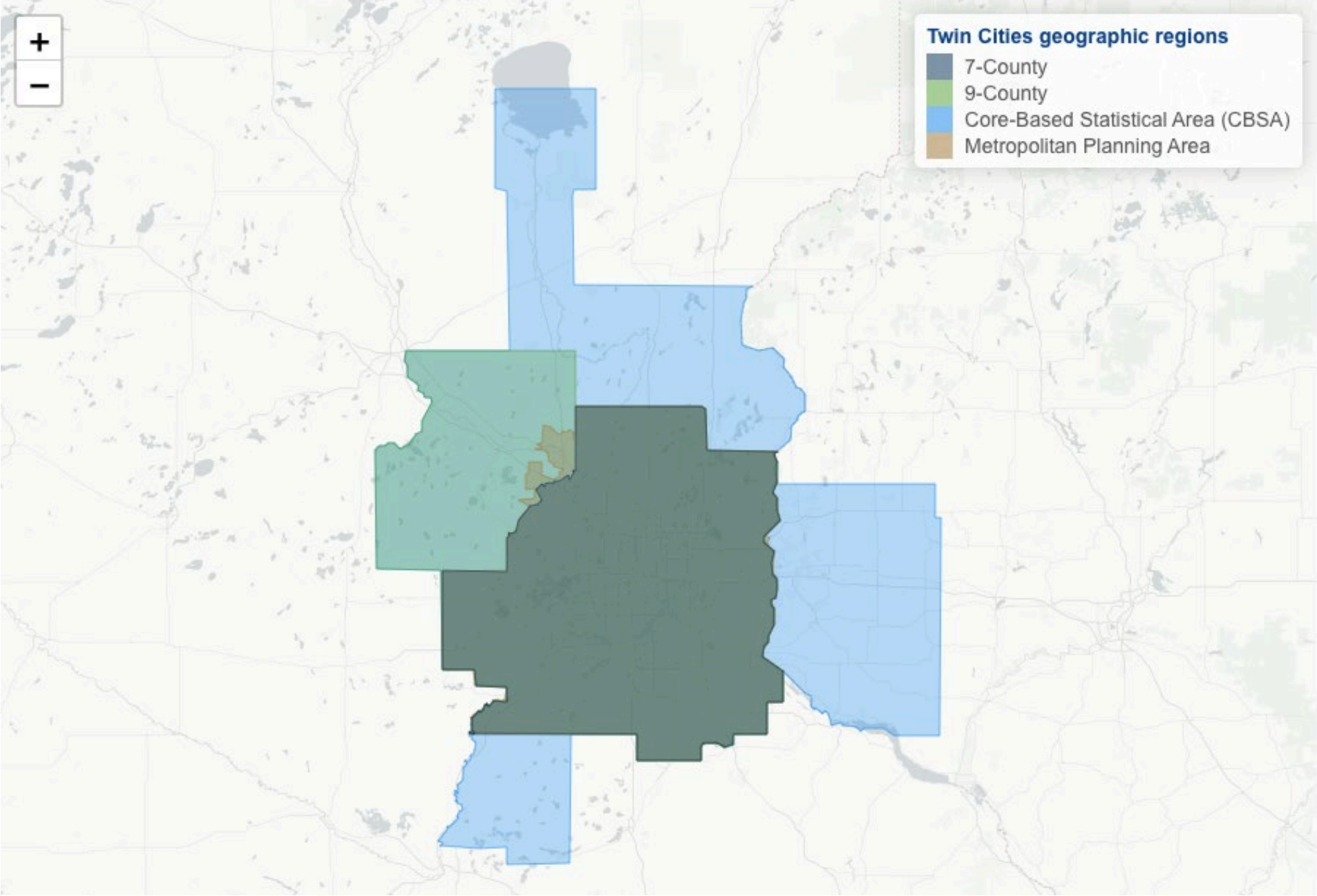
Comprehensive appendices

- 7 sections, including supplementary plots, tables, maps
- Links resources and agencies, like MnDOT, MPCA, and federal agencies
- Definitions and acronyms
- References, links to raw data sources

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Geographic boundaries

Twin Cities geographic regions
- 7-County
- 9-County
- Core-Based Statistical Area (CBSA)
- Metropolitan Planning Area

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Thank you

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