

# Transportation System Performance Evaluation (TSPE)

Update for TPP Technical Working Group



September 2022

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[metro council.org](https://metro council.org)

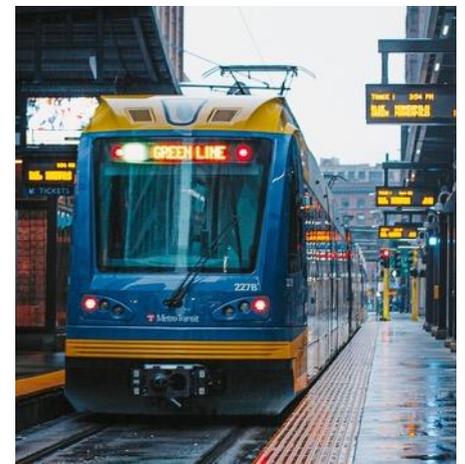
# Background – TSPE

## What is the TSPE?

- Comprehensive review of the Twin Cities transportation system
- Required by State statute
- Completed before every Transportation Policy Plan update

## What's in it?

- Demographic and economic context from Census, other sources
- Comparisons to peer regions where appropriate



# Background - TSPE



## Data Sources

U.S. Census- American Community Survey and Pulse Survey

Metropolitan Council Travel Behavior Inventory

UMN Accessibility Observatory

FTA: National Transit Database

MnDOT

Metro Transit

NHTSA: Fatality Analysis Reporting System

Texas Transportation Institute

Community Development research: Greenhouse gas emissions, flood risk assessment tools, extreme heat event analysis

# What's new this time? <sup>(1)</sup>



## The 2022 TSPE will be organized by Goal and Objective

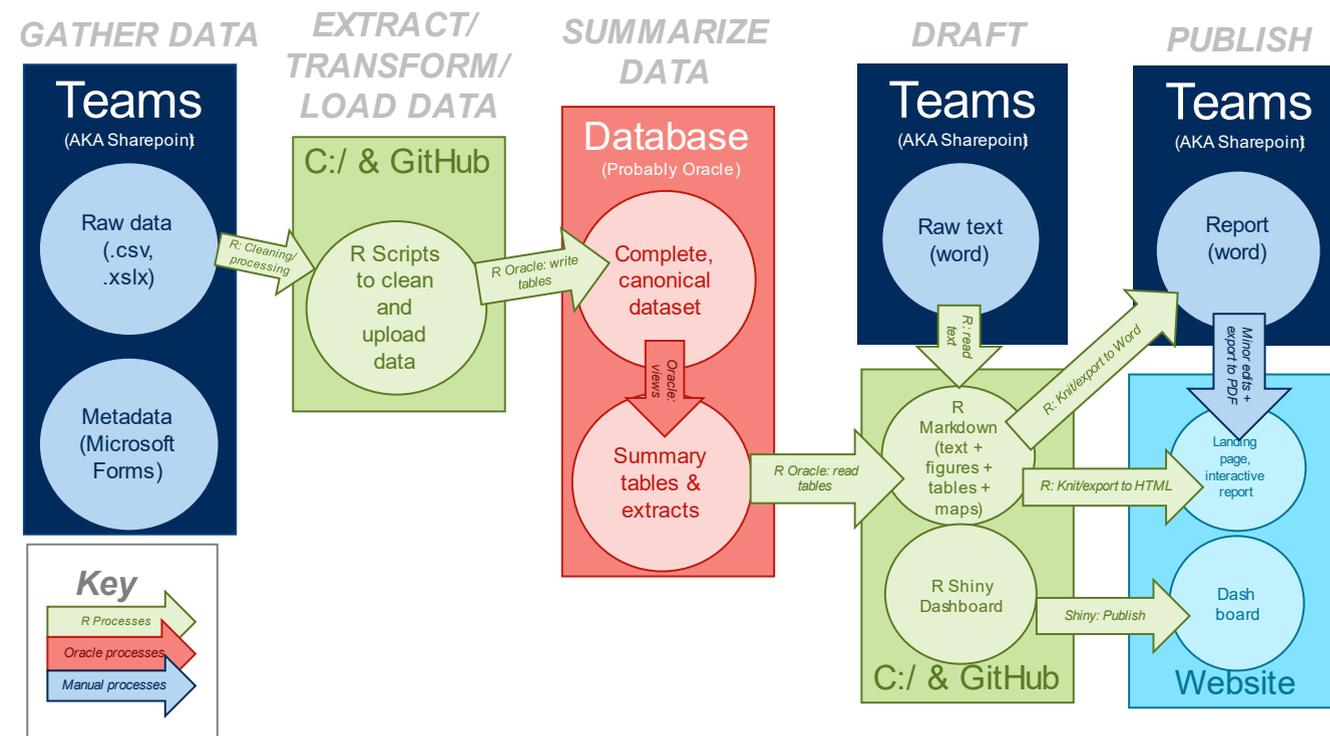
Goal	Number of Measures	Some Key Indicators
Access to Destinations	13	Accessibility Observatory measures of access to jobs by mode
Competitive Economy	9	Peer region comparisons of systems & travel behavior using census & TTI data
Leveraging Transportation to Guide Land Use	4	Summaries of comprehensive plans & Livable Communities summaries
Healthy and Equitable Communities	13	Greenhouse gas emissions estimates from Community Development
Safety and Security	13	Crash data summaries, flood risk assessments
System Stewardship	9	Bridge/pavement condition, transit capacity & subsidies
<b>TOTAL</b>	<b>61</b>	

# What's new this time? (2)

## New workflow and focus on web content

Focus on interactive charts and maps instead of static content

A streamlined workflow for producing the report using automated, script-based processes and good data hygiene



# Example Findings



# Access to Destinations <sup>(1)</sup>

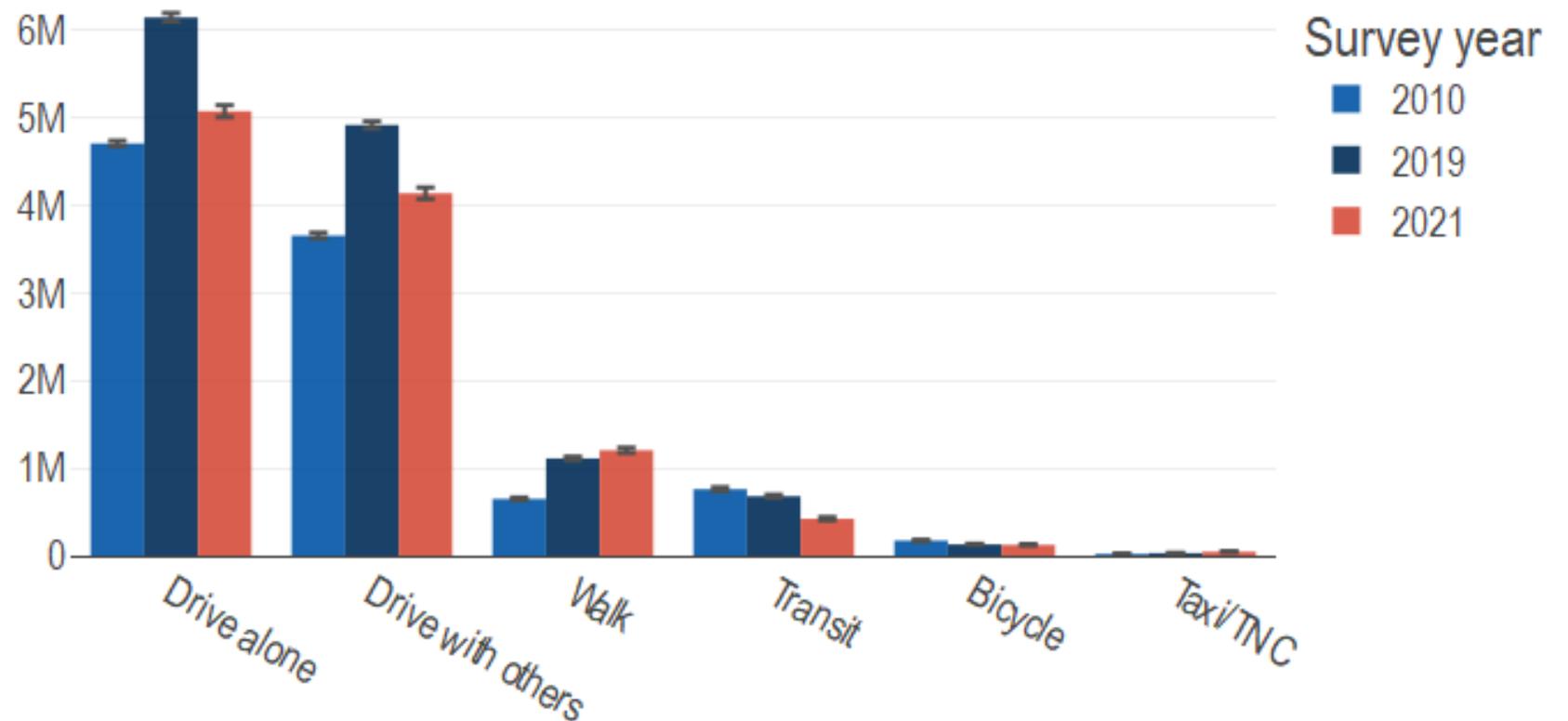
OBJECTIVE: INCREASE THE NUMBER AND SHARE OF TRIPS TAKEN USING CARPOOLS, TRANSIT, BICYCLING AND WALKING.

## Number of vehicle, transit trips declined in 2021

- Single-occupancy vehicle travel increased from 2010 to 2021, but fell during the Pandemic (2019-2021).
- Transit declined
- Taxi/TNC travel increased
- Walk mode share increased
- Bike share constant

Number of trips per day by mode: 2010, 2019 and 2021

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



# Access to Destinations (2)

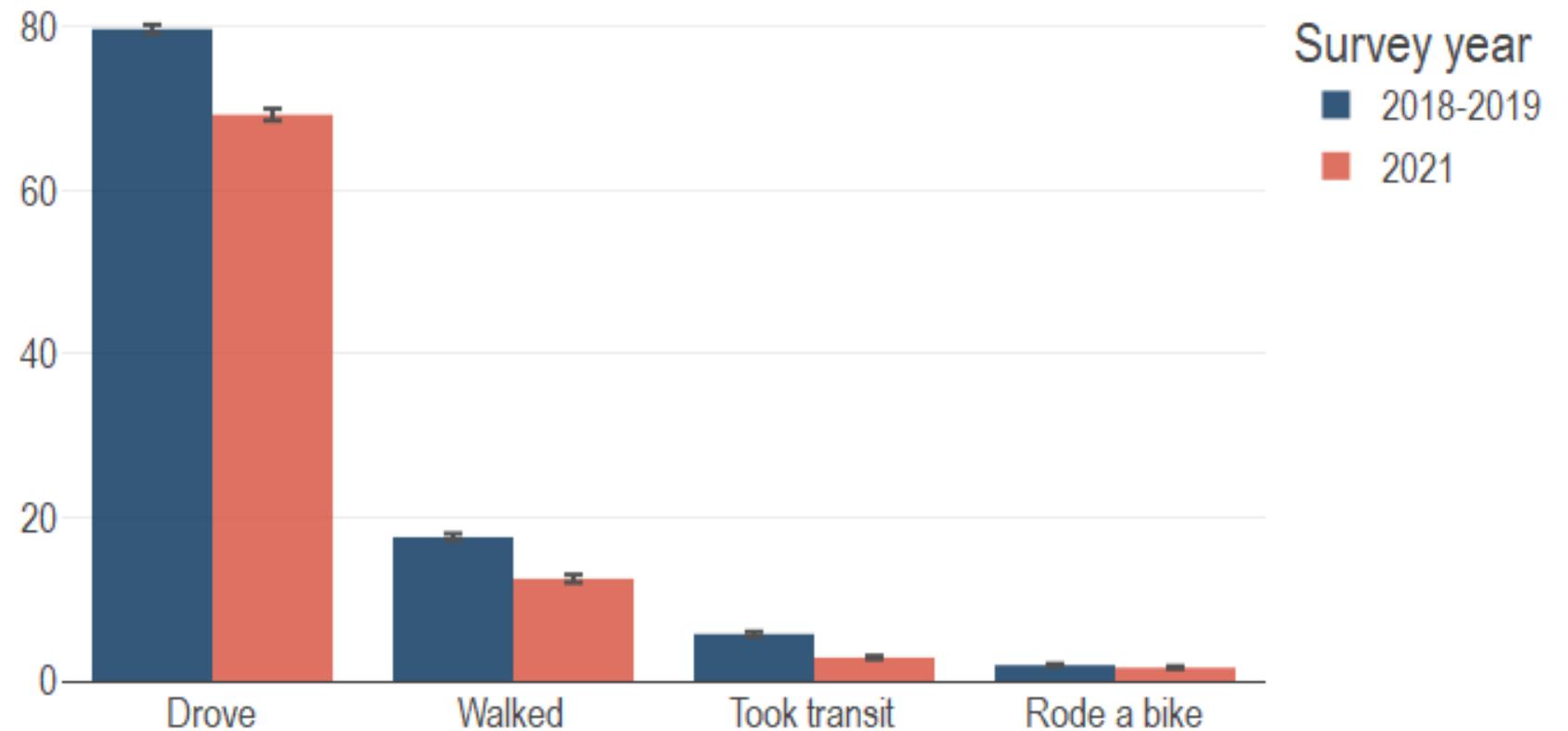
OBJECTIVE: INCREASE THE NUMBER AND SHARE OF TRIPS TAKEN USING CARPOOLS, TRANSIT, BICYCLING AND WALKING.

## Fewer people making trips in 2021

- Mode participation rate: the share of people who, on any given day, used a specific mode of travel
- Mode participation rate for all modes except bicycling decreased from 2019 to 2021

### Mode participation rate, adults, 2019 vs. 2021

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

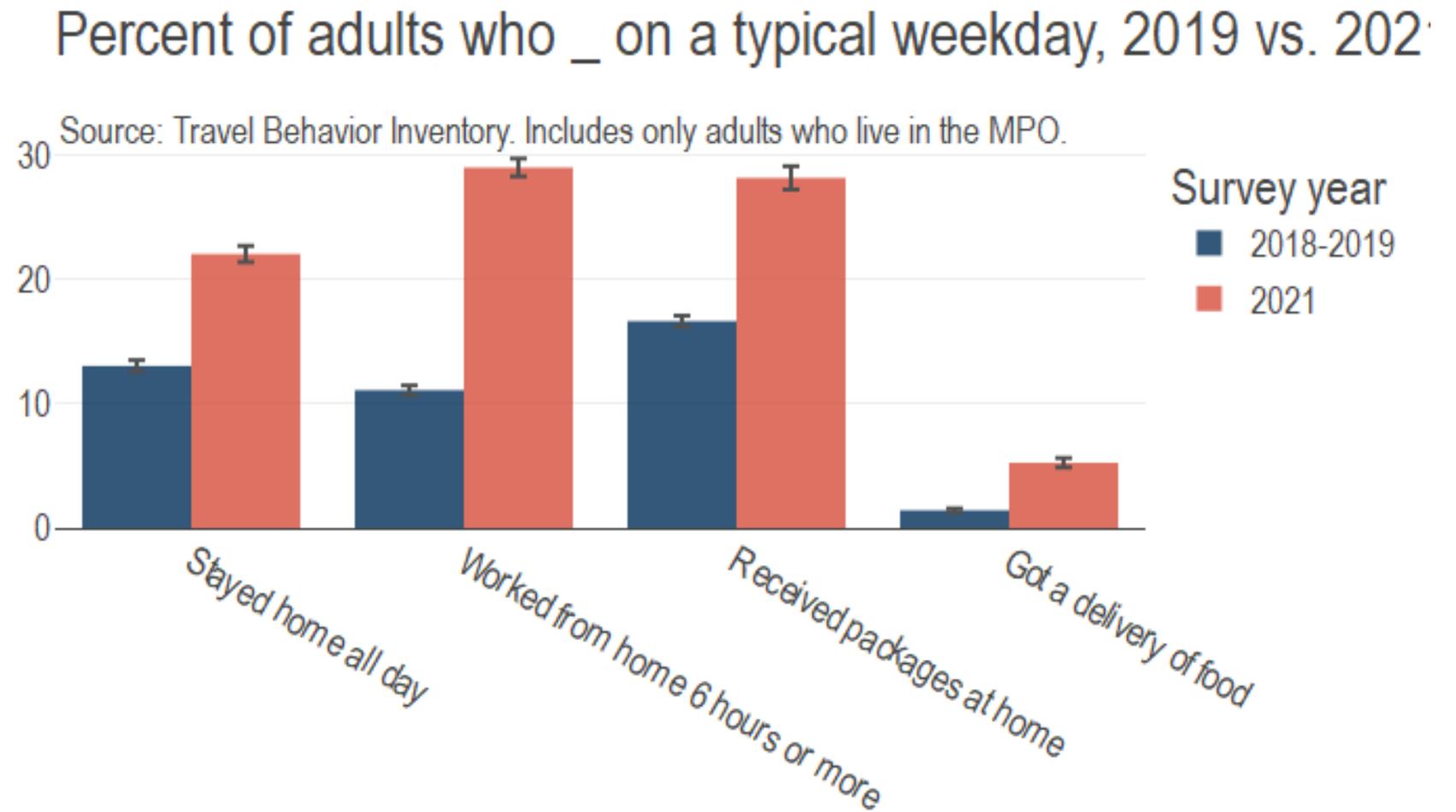


# Access to Destinations

OBJECTIVE: INCREASE THE NUMBER AND SHARE OF TRIPS TAKEN USING CARPOOLS, TRANSIT, BICYCLING AND WALKING.

## More people replacing trips with telework, delivery in 2021

- Trend helps explain decrease in travel, mode participation rate



# Competitive Economy (1)

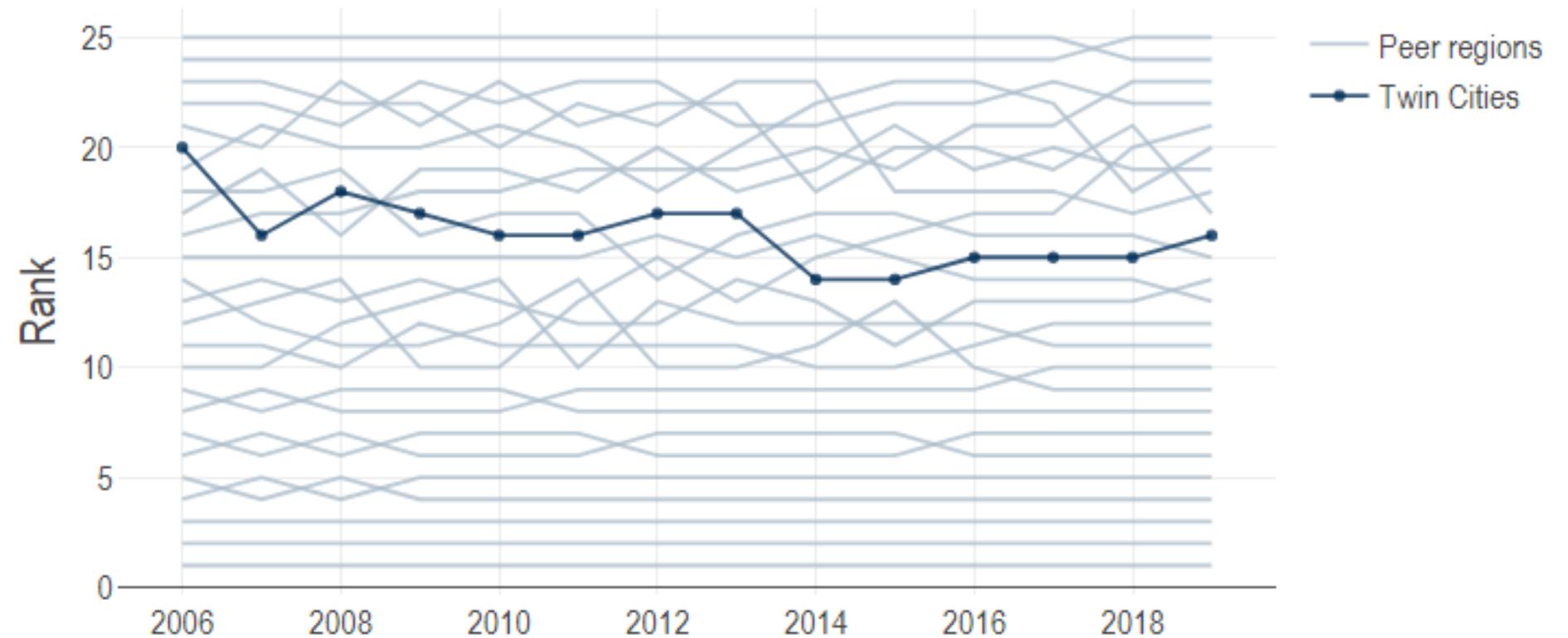
INVEST IN A MULTIMODAL TRANSPORTATION SYSTEM TO ATTRACT, RETAIN BUSINESSES & RESIDENTS

## Twin Cities ranks 16<sup>th</sup> among Top 25 MSAs for commutes by non-SOV modes

- Top regions (2019): New York, San Francisco, Washington, Boston, Seattle, Chicago
- Similar regions: Baltimore (14<sup>th</sup>), Miami (15<sup>th</sup>), Orlando (17<sup>th</sup>), Tampa (18<sup>th</sup>), San Antonio (19<sup>th</sup>)

### Rankings, % of commutes by non-SOV

Source: American Community Survey 1-year estimates, 2006-2019.

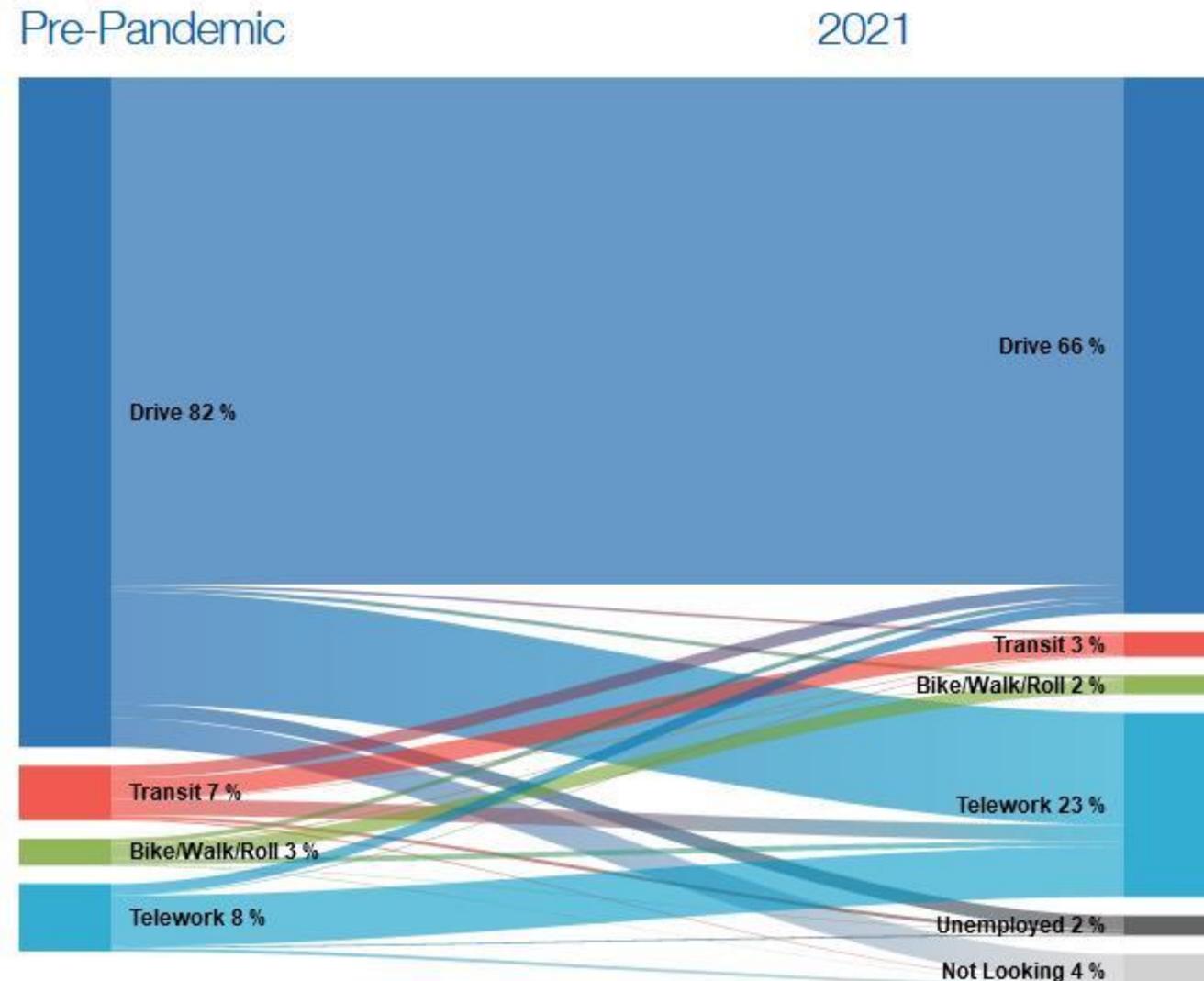


# Competitive Economy (3)

IMPROVE MULTIMODAL ACCESS TO REGIONAL JOB CONCENTRATIONS IDENTIFIED IN THRIVE MSP 2040

## Percent of workforce telecommuting

- TBI Household survey question, “How do you usually get to work?”
- In 2021, 23% of workers teleworked, compared to 8% before the pandemic.
- Drive commute share declined from 82% to 66%



The current graph shows how **adults employed before the pandemic** got to work before the pandemic (left) and in 2021 (right). Click on any bar to show data specific to each mode.

# Healthy and Equitable Communities (1)

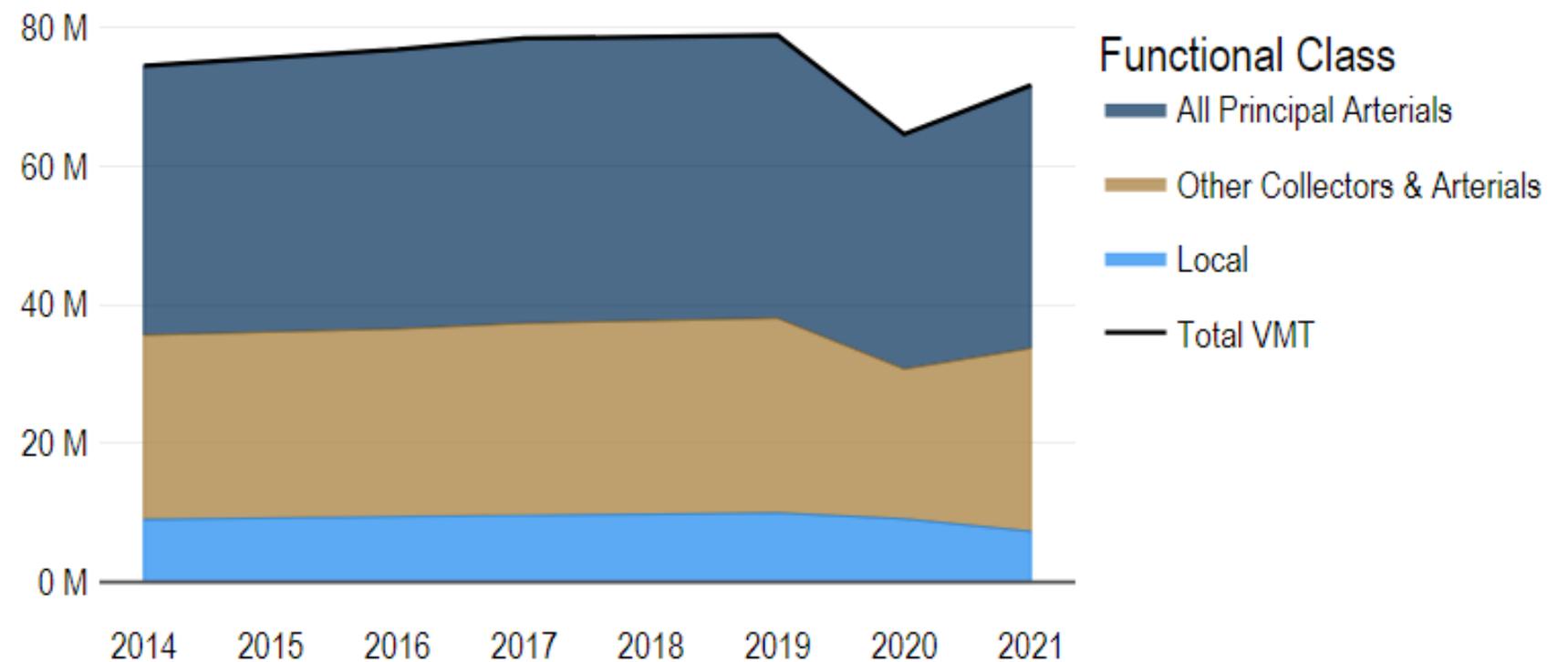
REDUCE TRANSPORTATION-RELATED AIR EMISSIONS

## Vehicle Miles Traveled (VMT)

- VMT increased from 2014-2019, then fell during the pandemic.
- VMT on Arterials and Collectors increased from 2020-2021, while VMT on Local roadways continued to decline
- These general trends were consistent across all 7 counties in the region.

VMT by Roadway Functional Class (Broad Categories)

7-county region. Source: MnDOT.



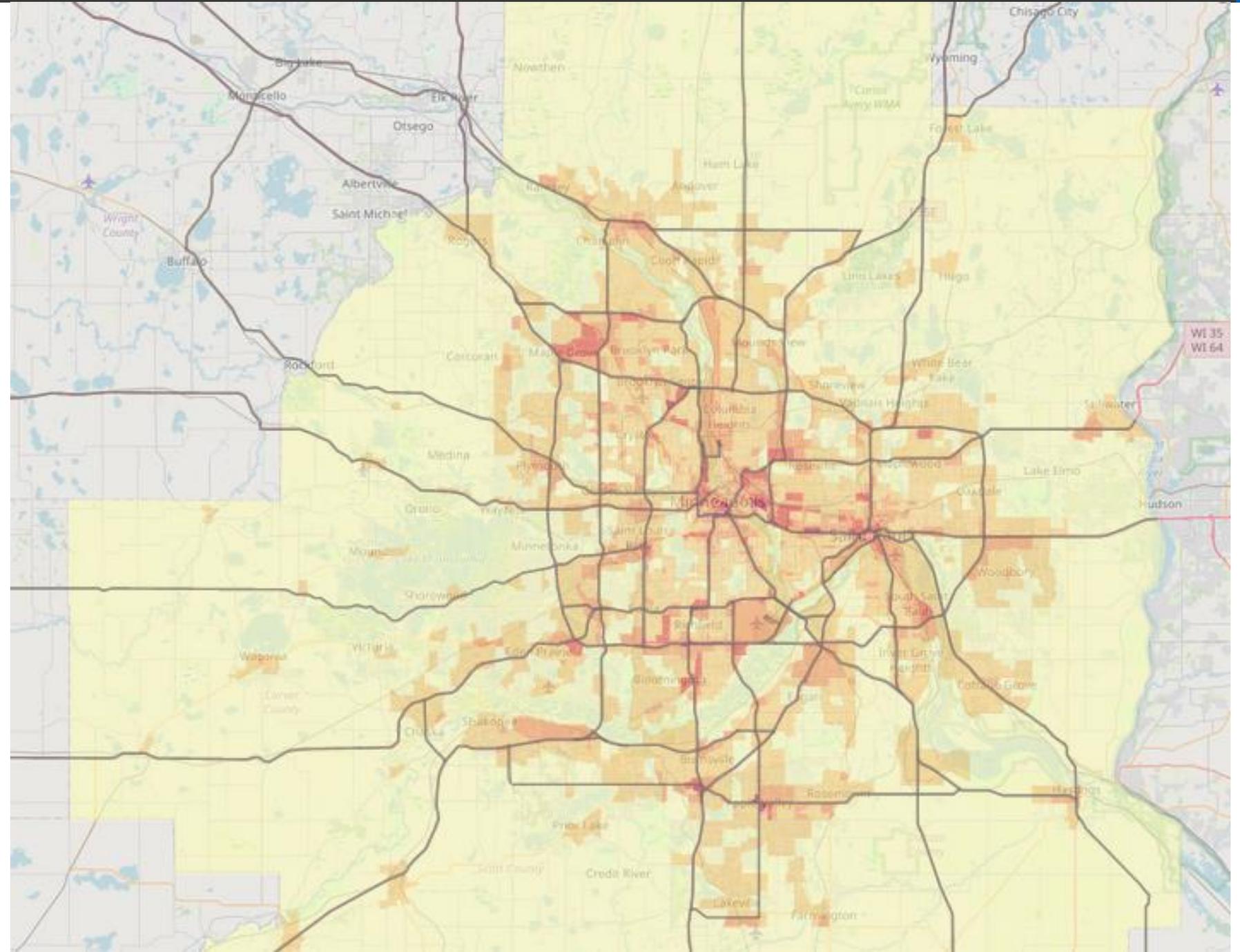
# Healthy and Equitable Communities (2)

REDUCE IMPACTS OF TRANSPORTATION CONSTRUCTION, OPERATIONS, AND USE ON THE NATURAL, CULTURAL, AND DEVELOPED ENVIRONMENTS.

## Percent of land covered by roads & parking lots

- 11% of all land area in the 7-county area is covered by roads or paved surfaces
- 3% covered by buildings

(Source: Twin Cities 1-meter Land Cover Classification, 2016)



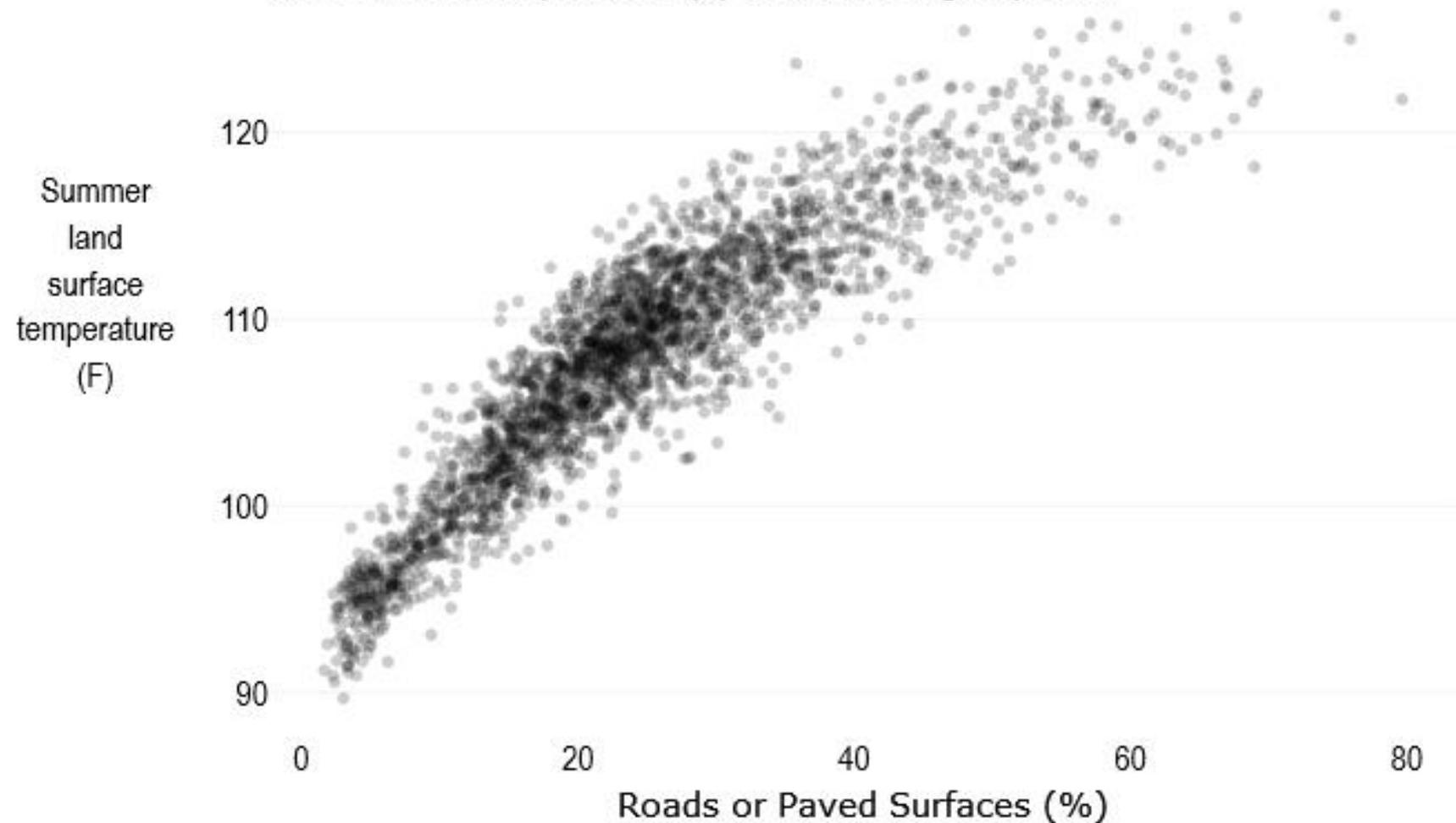
# Healthy and Equitable Communities

REDUCE IMPACTS OF TRANSPORTATION CONSTRUCTION, OPERATIONS, AND USE ON THE NATURAL, CULTURAL, AND DEVELOPED ENVIRONMENTS.

## Percent of land covered by roads & parking lots

- Roads & Paved surfaces has the **strongest positive** effect on surface temperature, compared to any other land cover type
- Summer land surface temperature from a historic 2016 Heat wave
- Temperature data compiled by Community Development

Relationship between Roads or Paved Surfaces (%) and Summer land surface temperature (F) at the block group level



# Safety and Security

REDUCE FATAL AND SERIOUS INJURY CRASHES AND IMPROVE SAFETY AND SECURITY FOR ALL MODES OF PASSENGER TRAVEL AND FREIGHT TRANSPORT

## Number of serious injuries & fatalities

- Serious injuries declined from 2017 to 2019, but increased in 2020 and 2021.
- 2022 Year-to-date totals suggest a similar trend for this year.

Number of serious injuries and fatalities, 2016-2021

Source: MnDOT. Restricted to crashes that occurred within the MPO boundary.

