

# Minnesota MPO Summer Workshop Presentation

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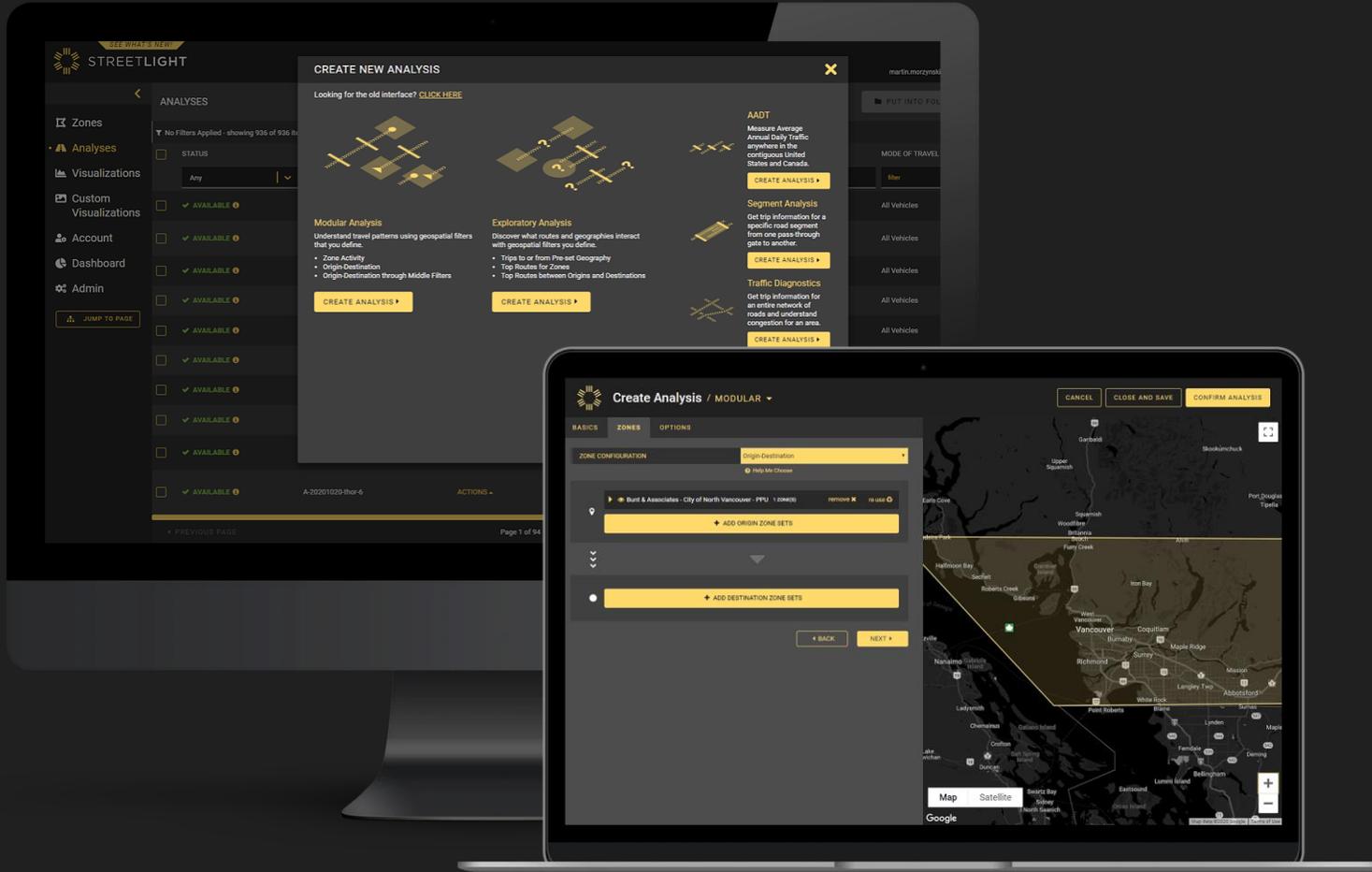


# Agenda

1. Quick overview of StreetLight InSight®
2. MPO Use Cases Examples from around the Country
3. MnDOT Use Cases
4. How Minnesota MPOs can get access
5. Q & A



# StreetLight InSight® is an **interactive** transportation data platform



- It's NOT a model, a report or a static heatmap.
- It's your self-serve desktop software with **on-demand access to accurate mobility metrics.**

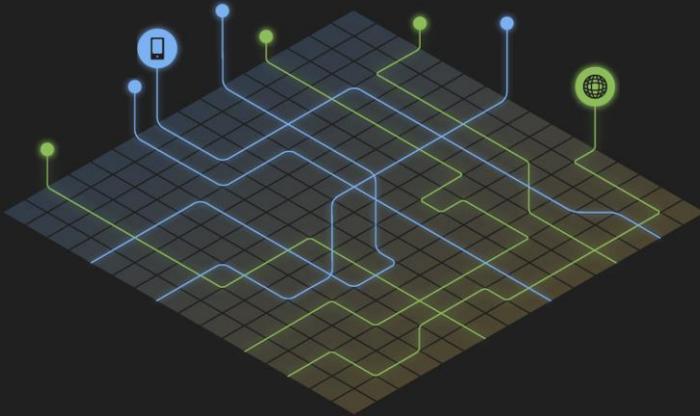


# At your fingertips: Analytics for every road, bike lane and Census Block

## LBS and Contextual Data

### DATA SOURCES:

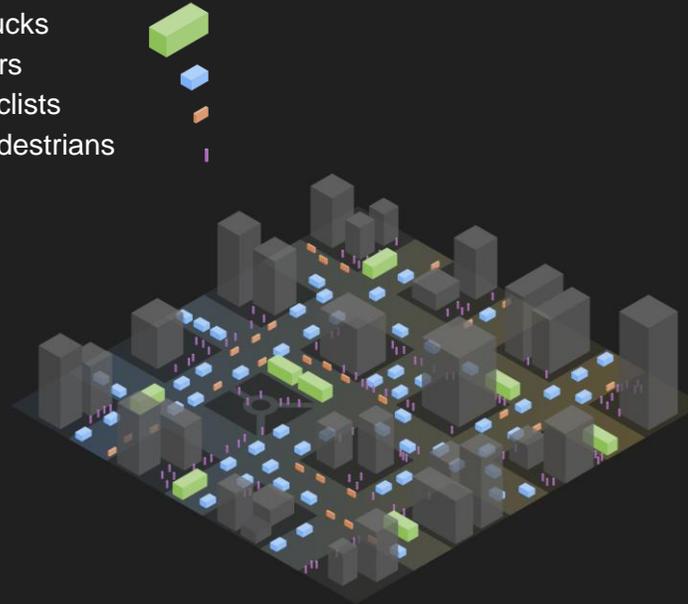
Location-based Services Data  
GPS Data  
Contextual Data (Road, Census, etc.)



## Machine Learning + Algorithmic Processing

### MODES:

Trucks  
Cars  
Cyclists  
Pedestrians



## StreetLight InSight® Metrics

### FUNDAMENTALS:

Origin Destination

Routing

Select Link

AADT, MADT, hourly traffic

### TRIP ATTRIBUTES:

Trip speed, duration, length

Travel time

Trip circuitry

### TRAVELER ATTRIBUTES:

Inferred trip purpose

Demographics

Every month, StreetLight processes over ~40 billion anonymized location records from **smart phones** and **GPS navigation devices** in cars and trucks.

Our proprietary data processing engine **Route Science®** transforms them into contextualized, normalized, aggregated, **multimode** travel patterns.

StreetLight InSight® lets you analyze how vehicles, bicycles and pedestrians move on virtually every road and Census Block.

## Section II

# MPO case studies from around the country



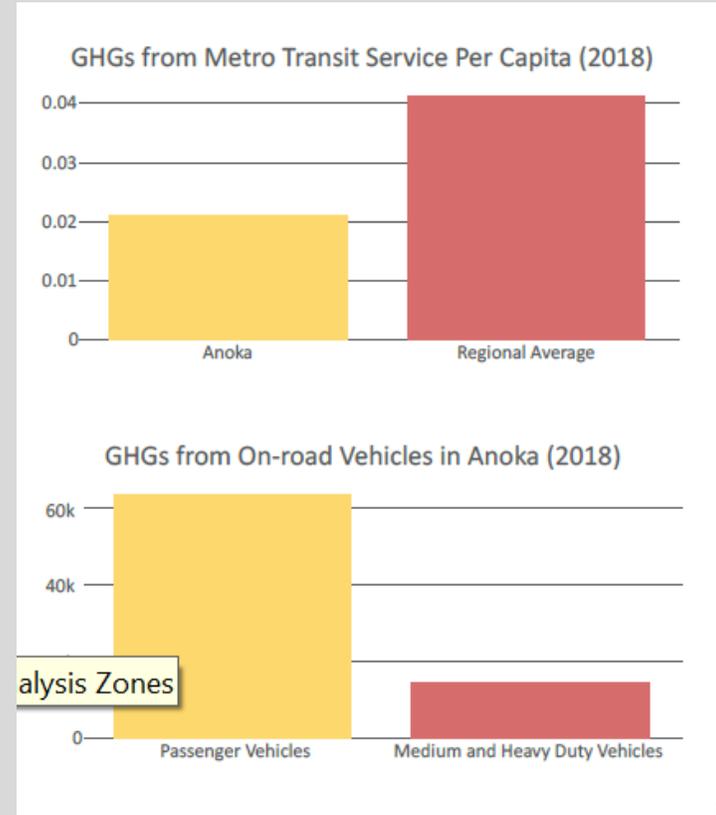
# Sharing Regional Transportation Emissions Data

## Challenge:

The Metropolitan Council (Council) is the MPO for the Twin Cities metropolitan region. Officials needed to measure emission sources and change over time, but they lacked jurisdiction specific data. The Council wanted to offer meaningful data to help localities quantify and reduce transportation emissions, but prior to StreetLight's involvement, emissions were being calculated solely based on traffic volume, which was leading to skewed results since emissions were being over-counted in small communities that intersected highways

## StreetLight Solution:

They segregated vehicle emission data by jurisdictions and townships through StreetLight's Origin-Destination Analysis, which looked at the volume of traffic for commercial and personal vehicles. They then determined the VMT for each O-D pair and calculated transportation missions in combination with vehicle emission rates. The Council made the results widely available online and Planners were able to quantify vehicle emissions and select reduction strategies.



Emissions data for each locality includes area output compared to the regional average, divided into commercial and personal vehicles.

**“The work will help develop new national standards for climate action planning at the regional level.”**

ANU RAMASWAMI  
Director of the  
Sustainable  
Healthy Cities Network

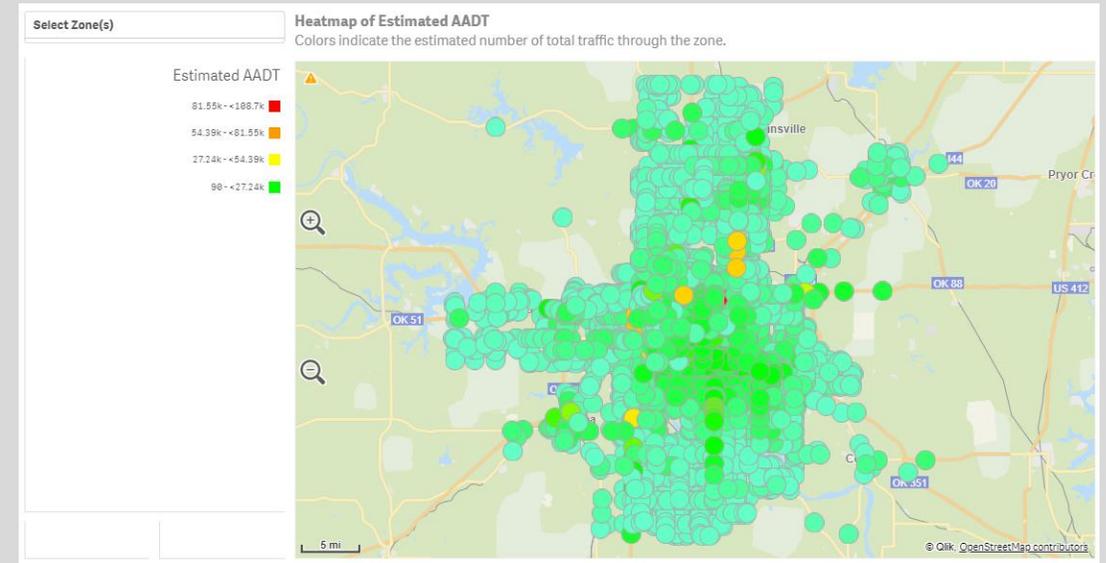
# An Oklahoma MPO Used AADT Data to Compile a Web Map for the Region

## Challenge:

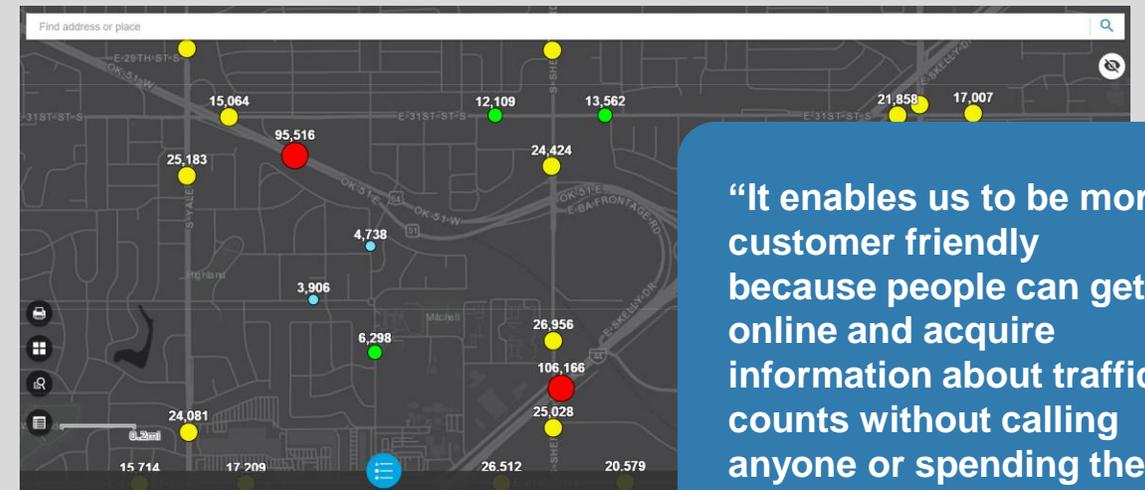
INCOG needs AADT traffic counts to feed into their [publicly-available web map](#) that developers, business owners, county officials, city planning departments, and others use to obtain standard AADT counts. Due to high cost, many regions stopped collecting traffic counts, creating gaps in data INCOG could provide to its constituents.

## StreetLight Solution:

INCOG entered 2,500+ zones into StreetLight Insight® and was able to get the AADT counts for those specific areas in minutes. They uploaded the counts into their web map and subsequently updated the Comprehensive Plan for Tulsa, provided counts to county commissioners who were trying to understand traffic flow on roads in unincorporated county, and more.



2018 AADT counts for the Tulsa region in InSight®



INCOG's map showing AADT on Tulsa region streets and highways

**“It enables us to be more customer friendly because people can get online and acquire information about traffic counts without calling anyone or spending the money on traffic counts.”**

TY SIMMONS  
INCOG

# StreetLight's AADT Metrics Help INCOG Bring More Transparency to Traffic Counts in the Tulsa Region

-  **Retailers and commercial real estate professionals** use the AADT metrics to consider traffic when **evaluating sites for business**
-  **Lawyers** use the AADT metrics in **accident cases**
-  **County commissioners** use the AADT data to understand traffic flow on **roads in unincorporated county**
-  **Transportation modelers** use the AADT data to understand the traffic on arterial roads and potential bike lanes when doing **traffic safety studies**
-  **City engineers** use the AADT data when running **traffic analyses**
-  **City planners** use the AADT metrics when **updating the Comprehensive Plan**



# Active Transportation Plan for Sarasota

## Challenge:

Sarasota/Manatee MPO wanted an Active Transportation Plan to guide decisions and funding for transit, bicycle, and pedestrian facilities. They needed to ensure that this multimodal network would make these modes safer, affordable, and more convenient for all users, including increasing the number of people walking, bicycling, and taking transit trips in the region and promoting equity throughout the process.

## StreetLight Solution:

They worked with Kittleson & Associates to manage the project and provide recommendations. With StreetLight InSight®, Kittleson's team was able to analyze the region's origin and destination (O-D) travel in granular detail for peak versus off-peak season, weekday versus weekend, hour of the day, and income level, revealing top O-D pairs without surveys. The analyses informed the plan to prioritize direct routes and high-stress segments and was included in the Active Transportation Network plan.



The final Active Transportation Plan vision network prioritizes bike routes that exist today and smaller gaps that can be filled to improve route directness.

**“The data enabled a clear understanding of how to address people’s travel needs efficiently with fixed-route and, in some cases, flexible services.”**

# Port Freight Planning

## Challenge:

The Hampton Roads Transportation Planning Organization (HRTPO) wanted to understand which routes were most commonly used by port trucks, in order to support project prioritization, ongoing studies, and federal funding applications.

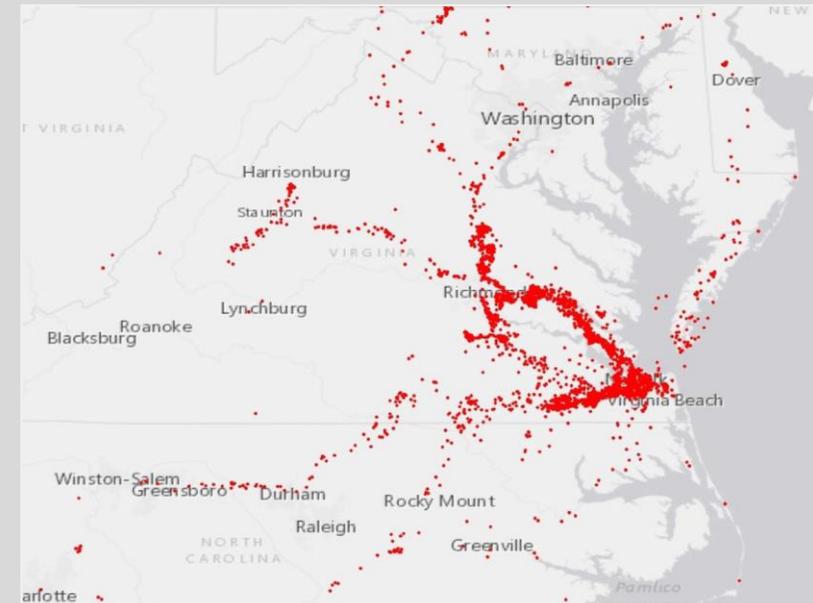
## StreetLight Solution:

Planners can now score potential projects in the region via a prioritization tool, rewarding projects that increase access to port facilities.

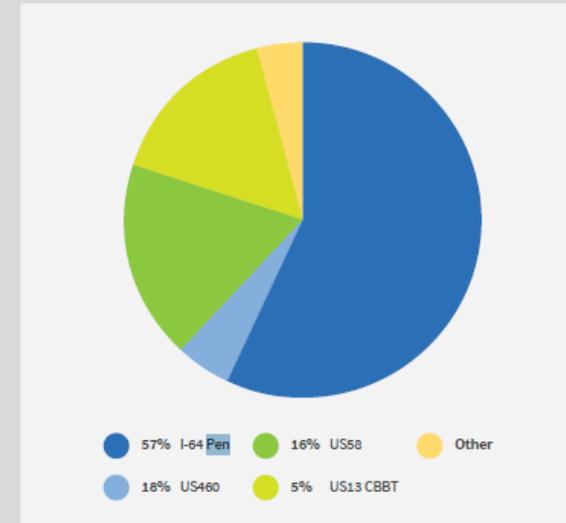
The results have also been used to validate HRTPO's selection of past projects for regional highway maintenance and infrastructure improvements.



O-D analysis of truck routes from port



Highway gateway use on average weekday



“This analysis confirmed our investment in a billion-dollar mega-project on I-64.”

DR. ROBERT CASE  
Hampton Roads TPO

# Use Big Data for Regional Transportation Planning in Madison Metro Area

## Use Cases

1. Evaluate Accuracy of StreetLight Daily Volume Estimates
2. TDM Validation and Calibration
3. VMT
4. Segment Analysis Tool
5. EJ Priority Area Analysis
6. Bicycle O-D Analysis



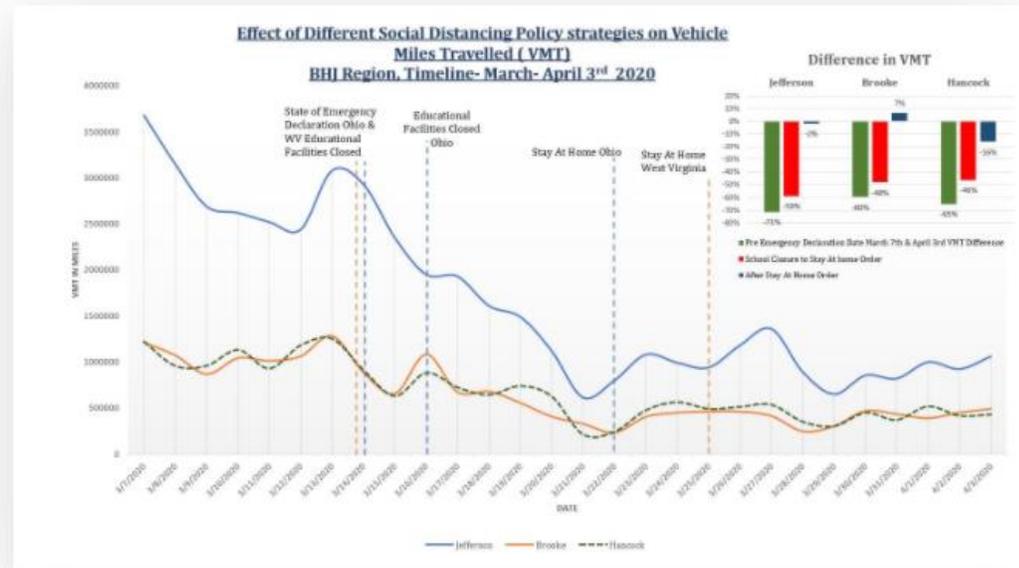
[https://www.youtube.com/watch?v=Dzh\\_C627Hgs&feature=youtu.be](https://www.youtube.com/watch?v=Dzh_C627Hgs&feature=youtu.be)

# Impact of COVID during March 2020 in BHJMPC region

Our customers have been using our metrics to understand the impact of COVID-19 and the stay-home orders. We asked Panini Chowdhury of the Brooke Hancock Jefferson Metropolitan Planning Commission if we could share his analysis of changing travel in northern West Virginia and Jefferson County, Ohio. Our summary covers:

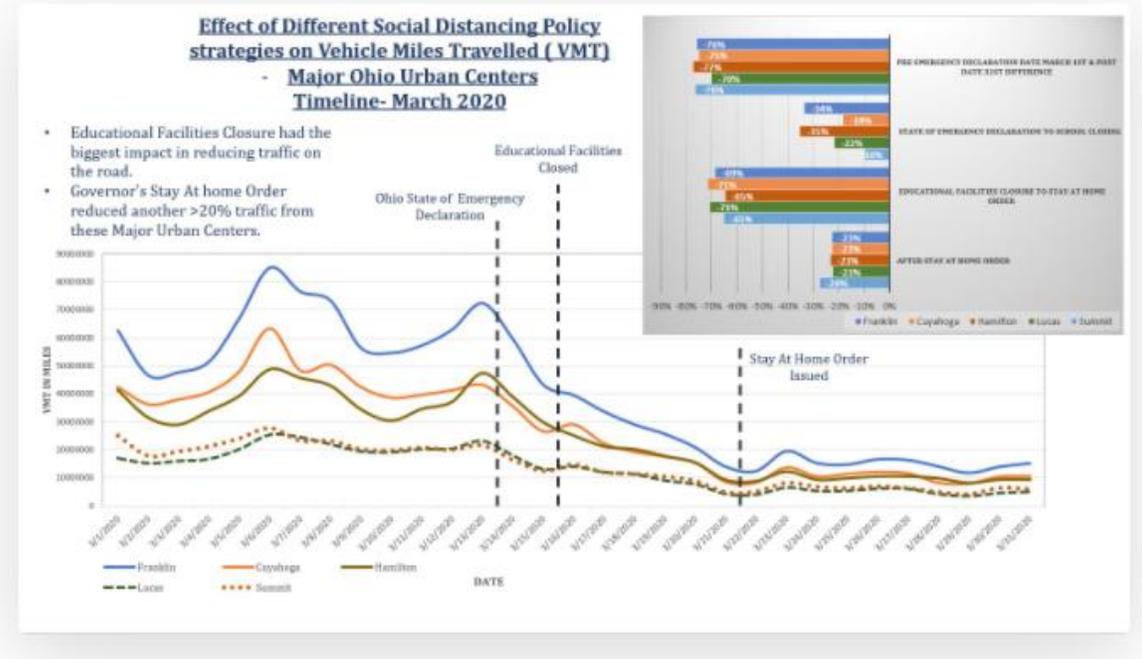
- [Effect of school closures](#)
- [Trip purpose](#)
- [Year-over-year comparison](#)
- [Travel in urban vs rural areas](#)

Although the public health impact of COVID-19 has so far been minimal in northern West Virginia and Jefferson County, Ohio, travel was heavily affected. But exactly where, and why? To get answers, Brooke Hancock Jefferson MPO drew on multiple primary and secondary sources, including StreetLight Data, to study the month of March.



## Urban Versus Rural Differences

After stay-home orders, all urban centers in the region experienced a significant decrease of VMT, with larger metropolitan areas seeing a 20% travel reduction. This was due to, most likely, the higher presence of non-essential workplaces in the more densely-populated urban areas (population greater than 200,000).



<https://www.streetlightdata.com/covid-impact-travel-ohio-west-virginia/>

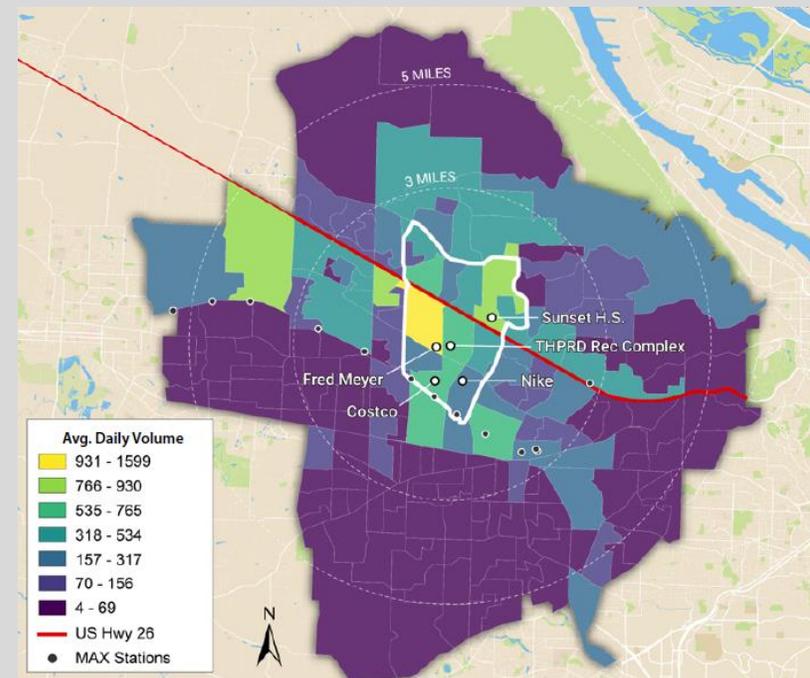
# Identifying opportunities for bicycle and pedestrian mode shift

## Challenge:

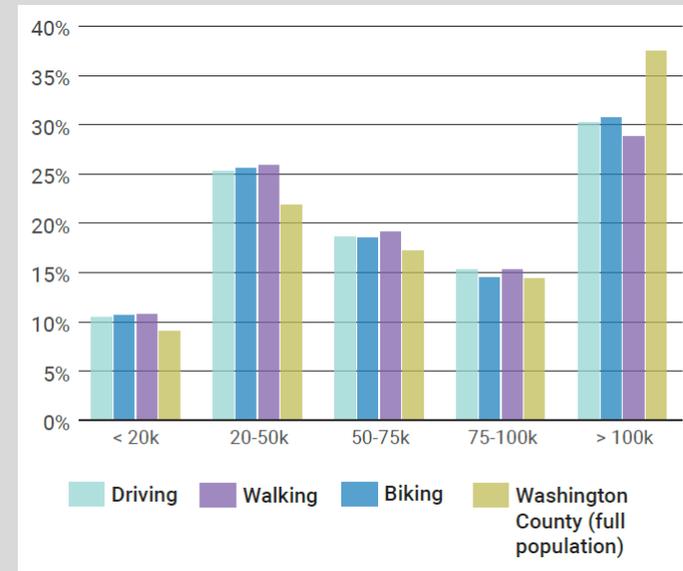
Tualatin Hills Park & Recreation District secured funding to build a pedestrian/bicyclist bridge crossing U.S. Highway 26. Since the traditional Portland metro area model did not provide enough detail about pedestrian and bicycle activity, the Parks and Rec District asked Jacobs to help them understand the existing conditions to support a trail and bridge facility to meet the needs of the community and encourage mode shift away from vehicles.

## StreetLight Solution:

Trading in traditional travel demand models for StreetLight's bike and pedestrian data, Jacobs analyzed the current bike/ped activity in the area and projected mode shift potential for the new bridge. StreetLight's O-D metrics captured the nuances needed to support bike/ped planning and funding and they were able to measure the social equity impact which ensured the new bridge could benefit low-income individuals of color.



Jacobs analyzed the amount of motor vehicle trips that begin on one side of U.S. Hwy 26 and end on the opposite side of the highway (within five miles) to understand potential mode shift.



Income distribution of regional trips to the target zone, by mode (compared to county as a whole).

**“StreetLight gave us the advantage of learning what has happened recently and what’s happening now to make decisions for what is happening next.”**

**SARAH JENNIGES**  
Jacobs

## Section III

# MnDOT Use Cases – Presented by Michael Corbett, MnDOT Metro District



Section IV

# Getting Access for your MPO



# “Add-On” Program with MnDOT subscription

- MnDOT negotiated a special provision to allow other agencies in the state – like MPOs – to be able to use its subscription with the purchase of individual licenses
- Fee is \$5000 per license
- Can be used by staff member of MPO or authorized consultant; can also transfer between users as need be
- Interested? Email: [Catherine.Manzo@streetlightdata.com](mailto:Catherine.Manzo@streetlightdata.com)





# STREETLIGHT DATA

[www.streetlightdata.com](http://www.streetlightdata.com)