



# **Spatial Shifts in Daytime Population**

## **Due to COVID-Impacts & Increasing Levels of Remote Work**

Prepared for 2021 Local Employment Dynamics (LED)  
Partnership Annual Workshop



We equip change agents with the tools to build better communities and stronger economies.

# Telework and Commuting



## National Surveys

Remote work may be here to stay and hybrid and remote work models are quickly becoming “the new normal”



## Google COVID-19 Mobility Data

Tracking location data through mobile devices. Data shows how visits to places, such as grocery stores and parks, are changing over time



## New York Times

Writing about telework and commuting’s impact on commercial real estate with headlines like: “What Will Happen to All the Empty Office Buildings and Hotels?”

# Today's Presentation

Goal: **How LED data can be used to describe spatial shifts in daytime population**

Agenda:

1. Shifts in Commuting Findings
2. Brief Methodology Walk Through
3. "So What?" Takeaways
4. Questions to Prompt Discussion

Section 1

# Shifts in Commuting Findings

# Interesting Analysis Starts with a Good Question



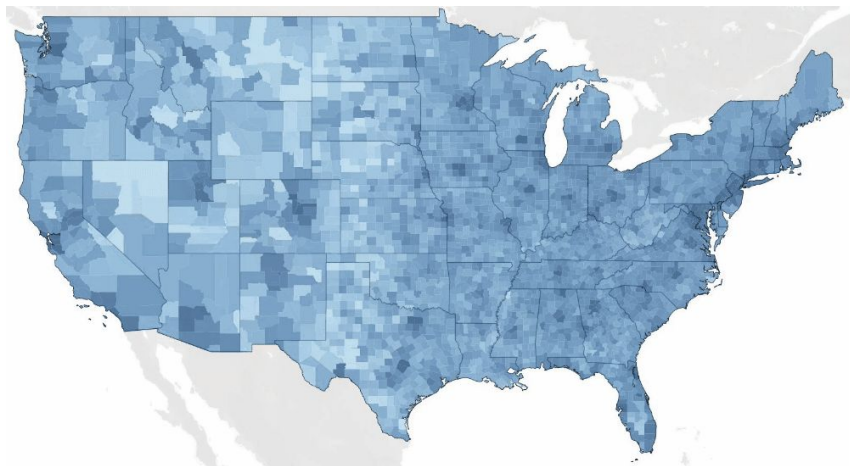
Image Source: Tri-County Regional Planning Commission

***“How has the shift to remote work affected commuting in the Lansing, Michigan region?”***

- Tri-County Regional Planning Commission

# Ability to Work Remotely ~42M workers

Map: Workers who are able to work remotely



Low concentration  
of remote workers



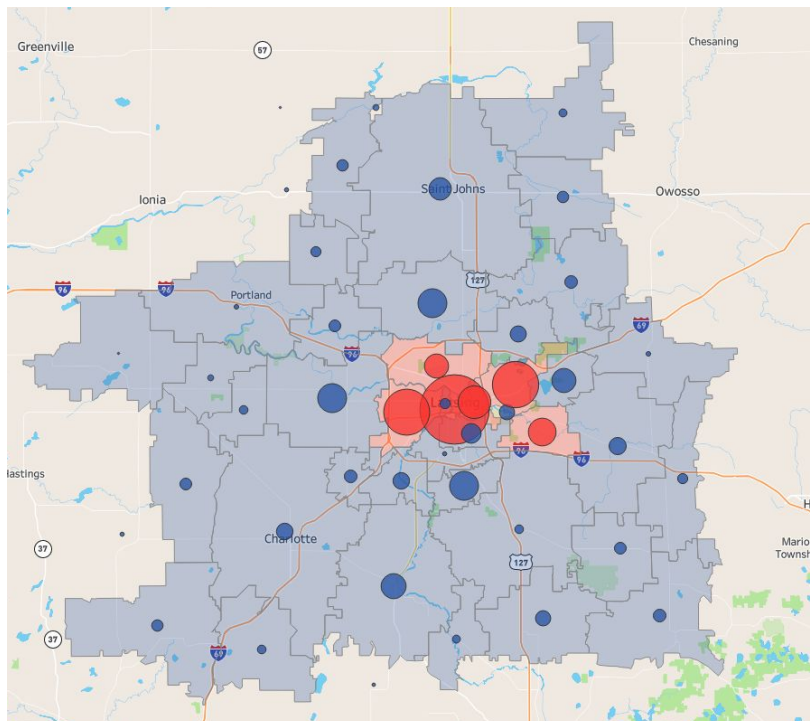
High concentration  
of remote workers

**Industry and  
occupation mix  
determines ability to  
work remotely.**

Across the country, the concentration of workers who are able to work remotely generally ranges from  $\frac{1}{4}$  to  $\frac{1}{3}$  of all workers.

# Shifts in Commuting

## Map: Change in Daytime Population



● **Loss** in daytime population

● **Gain** in daytime population

**-20,500 workers, a loss of -14%**

The six zip codes in the region that have a lower daytime population saw a decrease in daytime population of -20,500, a loss of -14%.

**+14,700 workers, a gain of +21%**

The suburban and rural areas of the region that gained daytime population gained +14,700 workers, +21% increase of pre-pandemic levels.

**-5,800 in daytime population**

The three county planning region see an overall loss of -5,800 in daytime population.

Source: Based on modeling the Change in Daytime Population by Fourth Economy, includes BLS Job Flexibilities and Work Schedule data, 2017-2018 and Census Longitudinal Employment Household Dynamics data, 2018

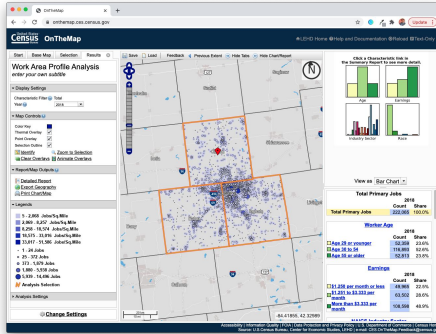


Section 2

# Brief Methodology Walk Through

## Section 2: Brief Methodology Walk Through

# Tools Used



Census OnTheMap

The screenshot shows a spreadsheet titled '2018 Work Area Comparison Report by ZIP Codes (ZCTA)'. The spreadsheet is organized into several sections: 'Total Primary Jobs', 'Jobs by Worker Age', 'Jobs by Commute', and 'Jobs by NAICS Industry Sector'. Each section contains a table with columns for 'Count' and 'Share' for various categories. The 'Total Primary Jobs' section shows a total count of 22,036 and a share of 100.0%. The 'Jobs by Worker Age' section shows counts and shares for different age groups. The 'Jobs by Commute' section shows counts and shares for different commute distances. The 'Jobs by NAICS Industry Sector' section shows counts and shares for various industry sectors.

Spreadsheet Software

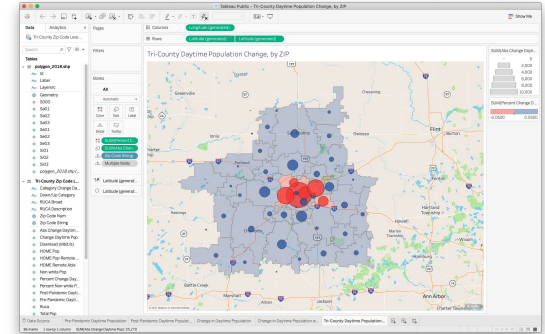


Tableau Public

# Data Used

## Census on the Map

- Home/Work Area: both Home and Work used
- Area Profile, Labor Market Segment: All Workers
- Year: 2018
- Job Type: Primary Jobs

## Remote Work Ability by Industry

- BLS Job Flexibilities and Work Schedule data, 2017-2018

# Basic Model

**Change in  
Daytime Pop.**

=

**Post-Pandemic Daytime Pop.**

(accounting for shift to remote work for large segments of the workforce)

Post-Pandemic Daytime Population =  
Work Location of Primary Workers  
- Remote Workers by Industry  
+ Home Location Remote Workers by Industry

-

**Pre-Pandemic Daytime Pop.**

(with baseline of 4% remote workers,  
based on historical Census ACS data)

Pre-Pandemic Daytime Population =  
96% of Work Location of Primary Workers  
+ 4% of Home Location Primary Workers

Section 3

## **“So What?” Takeaways**

# So What?

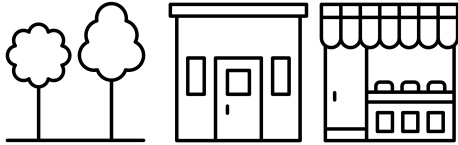
Geospatial distribution of workers has far reaching implications for commuting data, consumer spending behaviors at restaurants, retail, and services, and commercial real estate.

This “shifts in commuting” dataset is **more impactful when merged with other data.**

Over the next few slides, we'll look at an example of the “So What” in the Lansing, Michigan region around estimates of Loss in Main Street Small Business Revenue

# Commuting Impacts on Main St. Small Business

Small businesses within retail, accommodation and food, arts, entertainment, and rec., and other services industries in the 6 ZIP Codes losing commuters.



**2,100**

**Main St. Small Businesses**

The six zip codes in the region that have a lower daytime population from losing commuters have an estimated 2,100 main street small businesses.



**\$184 M**

**Monthly Sales**

These main street small businesses generate an estimated \$184 million in monthly sales.



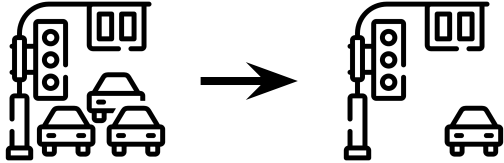
**14,300**

**Workers**

These main street small businesses employ an estimated 14,300 workers.

# Commuting Impacts on Main St. Small Business

Small businesses within retail, accommodation and food, arts, entertainment, and rec., and other services industries in the 6 ZIP Codes losing commuters.



**-14%**

**Change in Demand**

If all workers who could work remotely work remotely, these six ZIP Codes would see a shift of commuters of -20,500, a loss of -14%.



**-\$25.8 M**

**Monthly Sales**

With a -14% decrease in sales, these main street businesses would lose an estimated \$25.8 million in monthly sales.



**2,000**

**Workers**

This demand decrease could impact 2,000 workers, using a sales per worker estimate from the Economic Census.



# So What?

- Are Business Supports Enough?  
PPP loans and State of Michigan Grants to main street small businesses in the 6 zip codes losing commuters would cover 3 months of lost sales due to less commuters from remote workers.
- “Buy Local” Campaign  
Spending on experiences and services could rebound - arts and culture, restaurants, and travel spending could rise as consumer confidence returns. “Buy local” campaigns could make a comeback.
- Rural Opportunity  
Shifts in commuting patterns due to an increase in remote work may lead to negative impacts for small businesses in the urban core, but may also lead to an increase in business and activity for businesses in surrounding suburbs and rural areas.



Image Source: Ken Lund, Flickr

Section 4

## **Questions to Prompt Discussion**

# What are you seeing in your community?

- Is remote work here to stay?
- What implications will remote work have on commuting behavior?
- How does the shift to remote work impact consumer spending?
- What about impacts to commercial real estate and office vacancy?



Thank you!

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