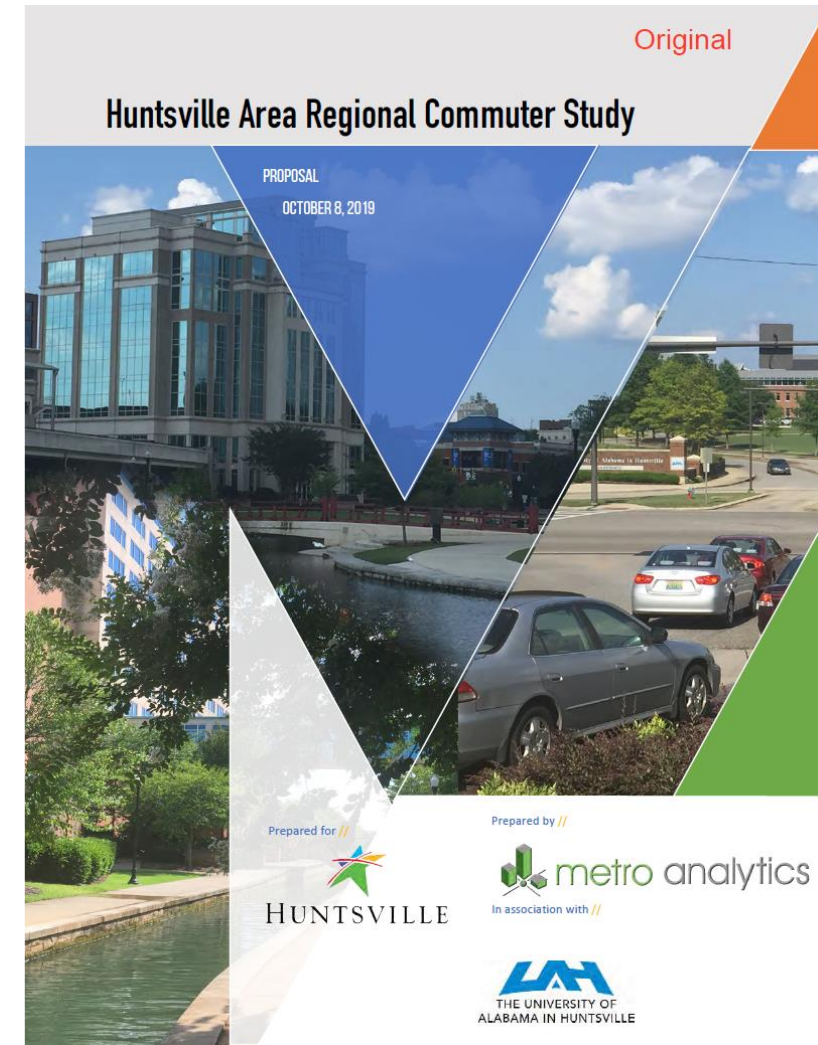


# Huntsville Area Regional Commuter Study

Presented to:  
*Ohio Travel Demand Model Users Group*  
*September 10, 2021*

Presented by:  
Robert G. Schiffer, AICP  
*Metro Analytics and*  
*FuturePlan Consulting*



# Presentation Overview

- Study background
- Quick study overview
- Initial analysis of COVID-19 traffic patterns (2019 vs. 2020)
- Refined analysis of COVID-19 impacts on travel (2019, 2020, 2021)
- Study conclusions & insights
- Questions & comments

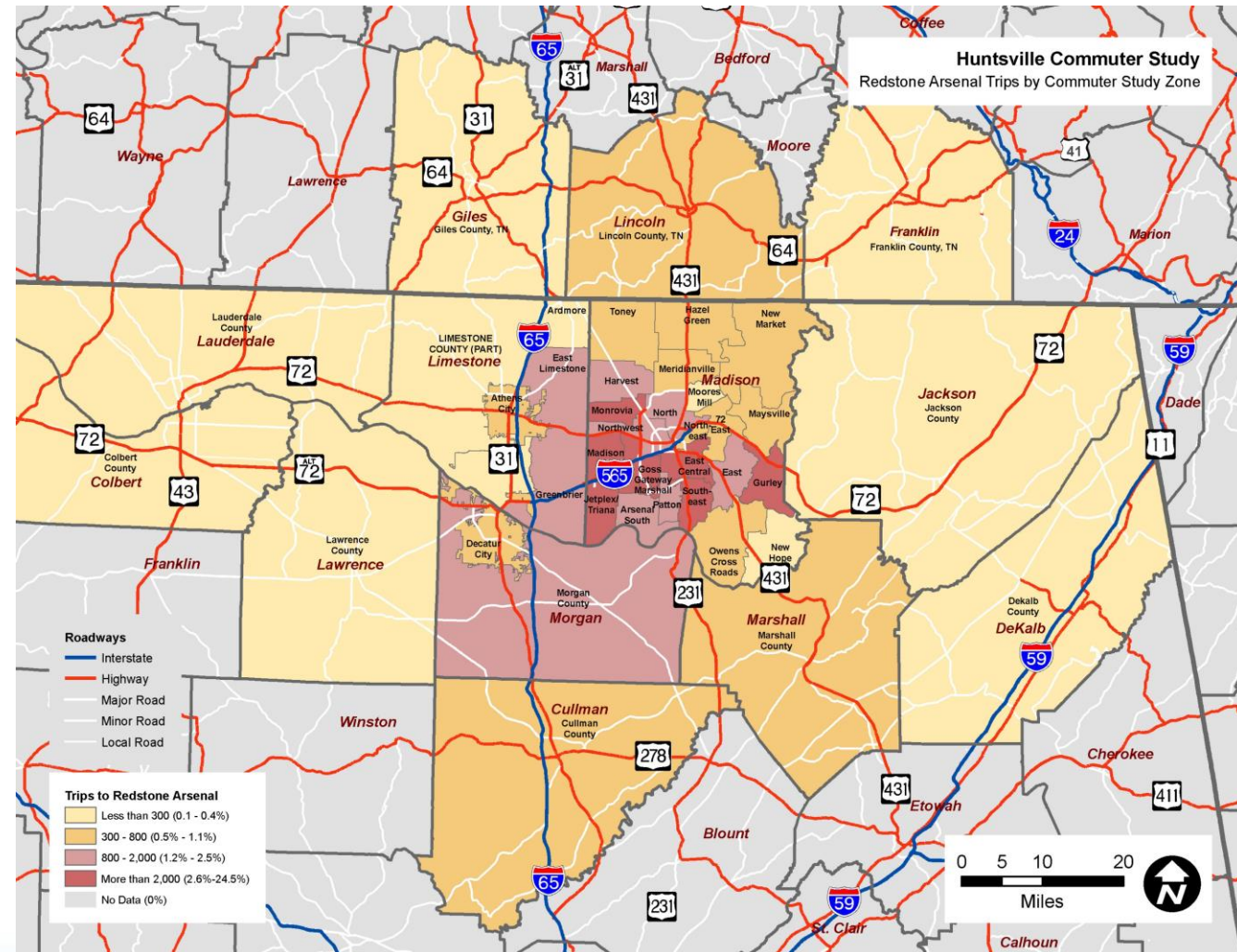


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# Study Background

- Redstone Arsenal is the largest single employer in Huntsville, AL
- Huntsville MPO found it difficult to estimate employment and trip patterns for the Arsenal
  - Government workers not fully accounted for in commercial employment databases
  - No available travel survey data



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# Quick Study Overview

- Project Purpose – better understand worker travel patterns
- *Data obtained from StreetLight InSight and Redstone Arsenal*
- *Identified predominant trip origins and destinations*
- *Mapped key flows between origin and destination points*
- *Analyzed trips by time-of-day and truck travel patterns*
- *Located future park-n-ride lots – inside and outside MPO area*
- *Revised MPO's Congestion Management Plan*
- Assessing travel conditions pre-, during-, post-COVID
- Analyzing external travel patterns – anticipate MPO expansion



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# Initial analysis of COVID-19 traffic patterns (2019 vs. 2020)

- MPO staff requested a COVID analysis in Summer of 2020
- StreetLight InSight 2019 used in prior tasks
- Data available for 2019 and the first six months of 2020 at that time
- Initial focus on comparing travel patterns of April 2019 with April 2020:
  - All trips by 50 zones
  - Truck trips by 50 zones

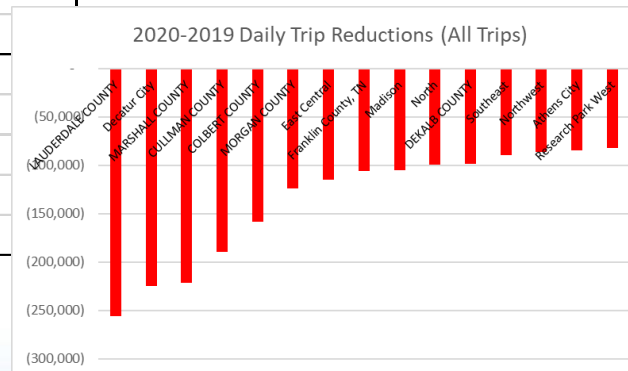


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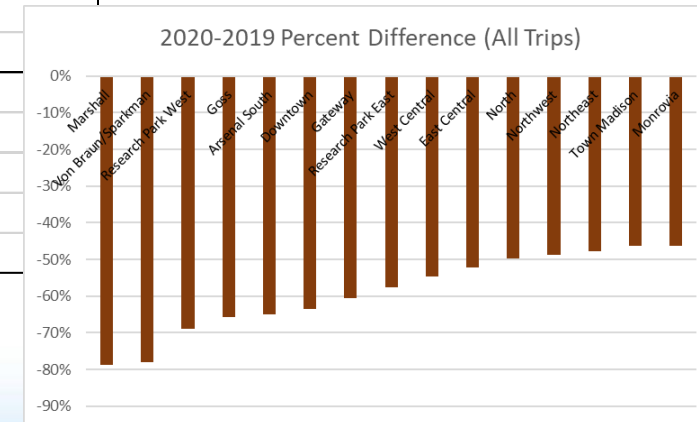


# Initial analysis of COVID-19 traffic patterns (Cont'd) – All Trips

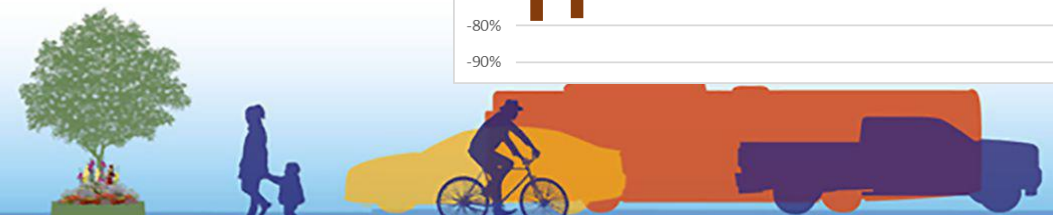
Numeric Difference Rank Order			
#	Zone Name	Average Daily Zone Traffic (Start+End)	Outside MPO?
1	LAUDERDALE COUNTY	(256,001)	yes
2	Decatur City	(224,641)	yes
3	MARSHALL COUNTY	(221,716)	yes
4	CULLMAN COUNTY	(189,262)	yes
5	COLBERT COUNTY	(158,411)	yes
6	MORGAN COUNTY	(124,161)	yes
7	East Central	(114,875)	
8	Franklin County, TN	(105,912)	yes
9	Madison	(105,069)	
10	North	(99,593)	
11	DEKALB COUNTY	(98,932)	yes
12	Southeast	(89,997)	
13	Northwest	(86,527)	
14	Athens City	(84,291)	yes
15	Research Park West	(82,595)	



% Difference Rank Order			
#	Zone Name	Percent Difference	Arsenal Site?
1	Marshall	-79%	yes
2	Von Braun/Sparkman	-78%	yes
3	Research Park West	-69%	
4	Goss	-66%	yes
5	Arsenal South	-65%	yes
6	Downtown	-64%	
7	Gateway	-61%	yes
8	Research Park East	-58%	
9	West Central	-55%	
10	East Central	-52%	
11	North	-50%	
12	Northwest	-49%	
13	Northeast	-48%	
14	Town Madison	-46%	
15	Monrovia	-46%	

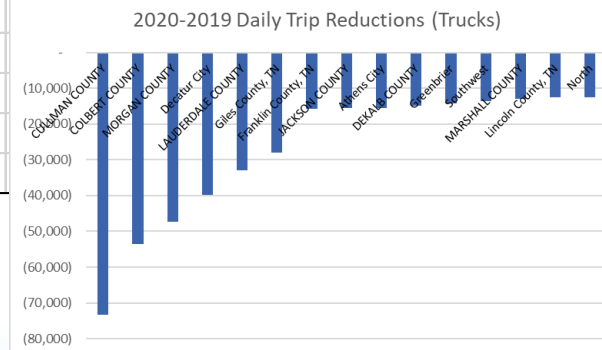


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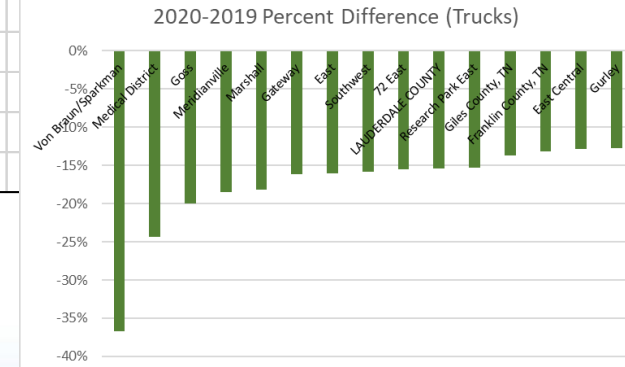


# Initial analysis of COVID-19 traffic patterns (Cont'd) – Trucks

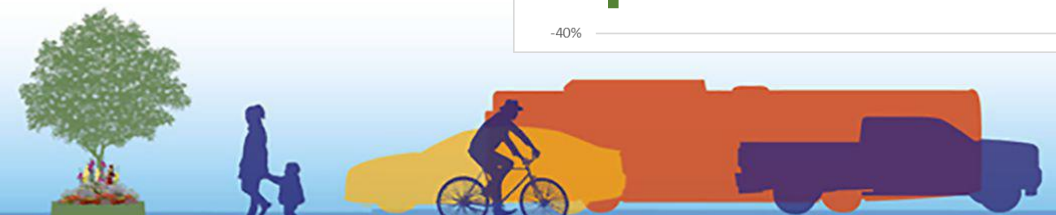
Rank Order by Numeric Difference				
#	Zone Name	2020 Minus 2019 Trucks	Percent Difference	Outside MPO?
1	CULLMAN COUNTY	(73,253)	-10%	yes
2	COLBERT COUNTY	(53,469)	-11%	yes
3	MORGAN COUNTY	(47,380)	-8%	yes
4	Decatur City	(39,851)	-10%	yes
5	LAUDERDALE COUNTY	(32,932)	-15%	yes
6	Giles County, TN	(27,940)	-14%	yes
7	Franklin County, TN	(15,684)	-13%	yes
8	JACKSON COUNTY	(15,639)	-6%	yes
9	Athens City	(15,627)	-11%	yes
10	DEKALB COUNTY	(14,911)	-5%	yes
11	Greenbrier	(14,310)	-11%	
12	Southwest	(13,630)	-16%	
13	MARSHALL COUNTY	(13,013)	-3%	
14	Lincoln County, TN	(12,620)	-9%	
15	North	(12,571)	-10%	



Rank Order by Percentage Difference				
#	Zone Name	Percent Difference	2020 Minus 2019 Trucks	Arsenal Site?
1	Von Braun/Sparkman	-37%	(784)	yes
2	Medical District	-24%	(3,249)	
3	Goss	-20%	(1,343)	yes
4	Meridianville	-19%	(8,452)	
5	Marshall	-18%	(560)	yes
6	Gateway	-16%	(1,178)	yes
7	East	-16%	(5,733)	
8	Southwest	-16%	(13,630)	
9	72 East	-16%	(5,406)	
10	LAUDERDALE COUNTY	-15%	(32,932)	
11	Research Park East	-15%	(3,819)	
12	Giles County, TN	-14%	(27,940)	
13	Franklin County, TN	-13%	(15,684)	
14	East Central	-13%	(7,381)	
15	Gurley	-13%	(1,354)	

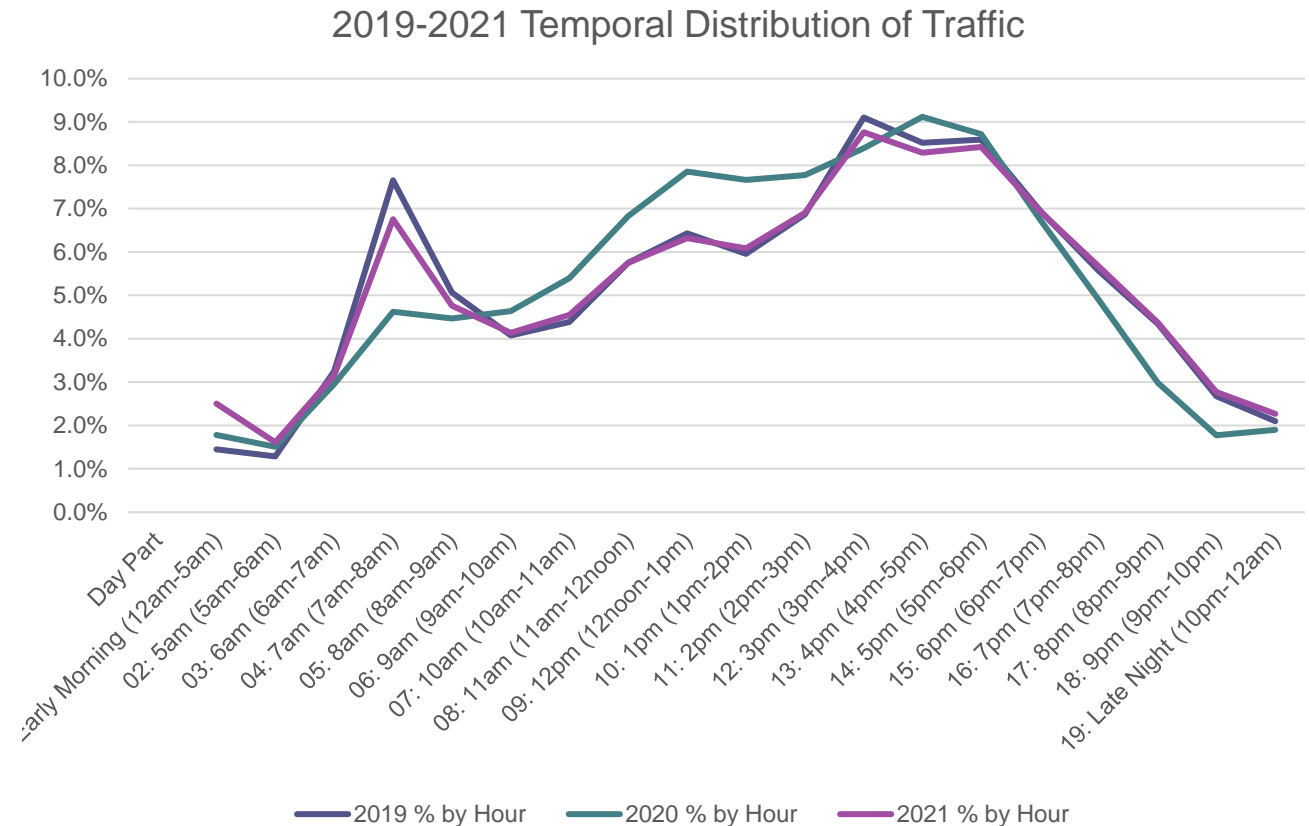


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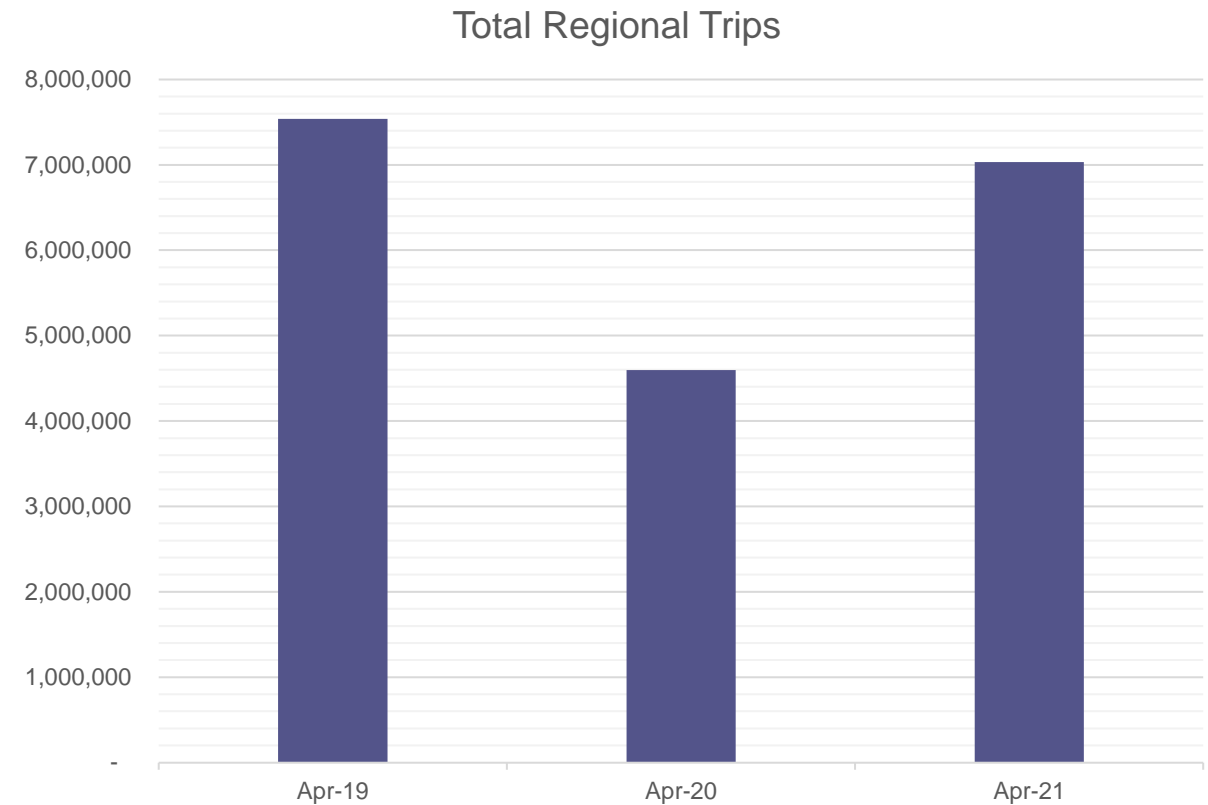
# Refined COVID-19 Analysis of Travel Patterns – Time-of-Day

- Compared April 2019, April 2020, and April 2021
  - 2020 was an expected anomaly – traffic continued to increase throughout the day until late afternoon (single peak)
  - 2019 and 2021 exhibit similar trip patterns by time-of-day; however, 2021 traffic is still generally lower than 2019



# Refined COVID-19 Analysis of Travel Patterns – Autos

- As expected, 2020 trip activity was way down from 2019, with 2021 climbing towards 2019 levels
- 2020 trip disruption was greatest in areas with highest office employment:
  - Arsenal zones
  - Research Park zones
  - Downtown Huntsville area

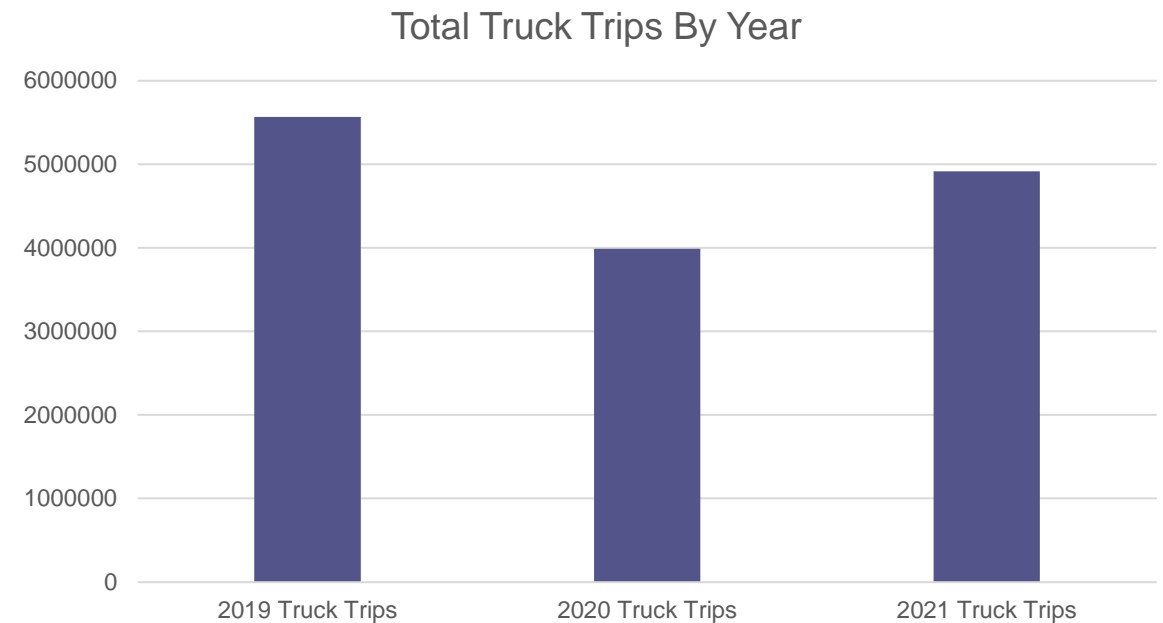


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# Refined COVID-19 Analysis of Travel Patterns – Trucks

- Similar drop from 2019 to 2020 and partial increase from 2020 to 2021
- 2020 truck disruption had some similarities/differences vs. autos:
  - Arsenal zones
  - Medical district
  - Meridianville (home to Toyota plant)



# Study Deliverables, Conclusions and Insights

- Employment allocation at Arsenal properties
- Arsenal workers by home zip code
- Predominant travel flows to/from Arsenal
- Relative share of trips across the MPO Area
- Flow patterns into/out of MPO Area by time-of-day
- Intra-MPO flow patterns by time-of-day
- Temporal distribution of travel in MPO area
- Truck flows within MPO and into/out of MPO area

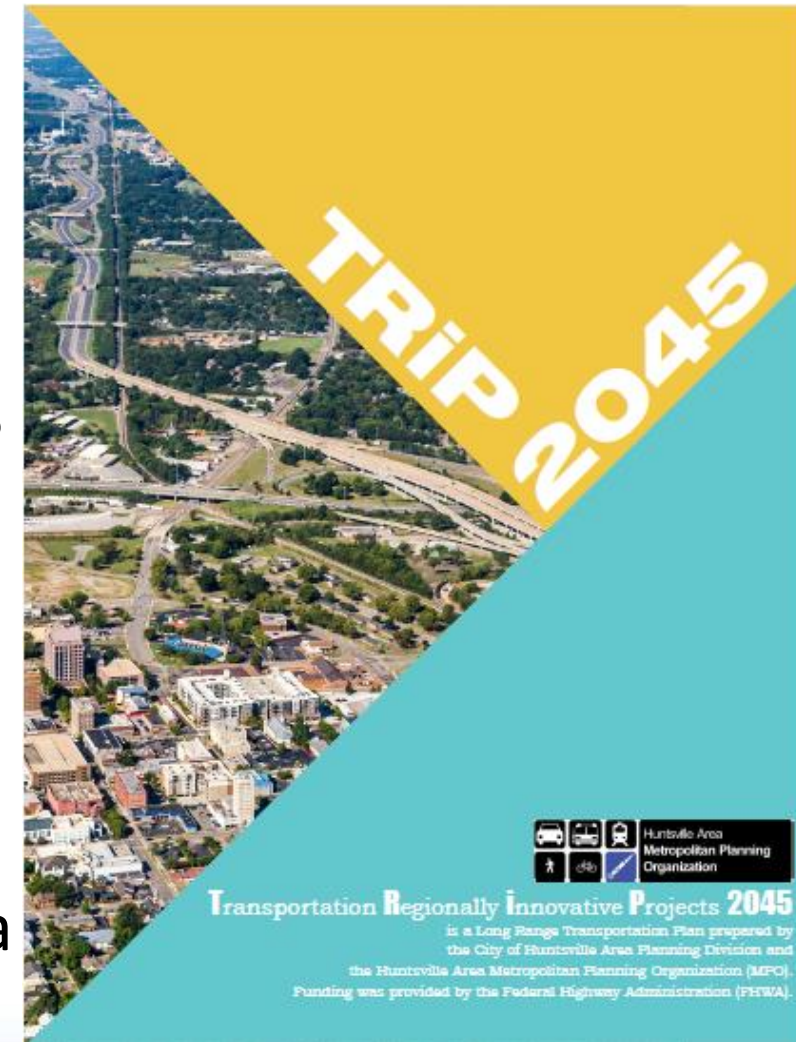


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# Study Conclusions & Insights (Cont'd)

- Park-n-Ride Locations within MPO area
- Park-n-Ride Locations in adjacent counties
- Update to Congestion Management chapter of TRiP 2045 Report
- Covid-19 analysis of trip patterns by time-of-day, location, and vehicle type (April 2019, 2020, 2021)
- Daily through trip estimates by origin/destination
- Daily flows from key highway locations to MPO area



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# Questions & comments



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