Memphis MPO
METROPOLITAN PLANNING ORGANIZATION

Strengthening Regional Transportation

FREIGHT STAKEHOLDER SURVEY

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Source: Memphis MPO Staff

THE UNIVERSITY OF MEMPHIS
Intermodal Freight Transportation Institute

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Table of Contents

List of Figures iii
List of Tables iv
Introduction 1
Methodology 3
Survey Instrument 3
Recipients 3
Analysis 4
Results 5
Question 1. Respondent Information 6
Question 2. Type of Industry 7
Question 3. Number of Company Employees 9
Question 4. Company Mode(s) 9
Question 5. Years in Operation in the Greater Memphis Area 10
Question 6. Decision to Locate Company 12
Question 7. Factors in Decision to Locate Company 12
Question 8. Local Infrastructure Rating 14
Question 9. Costs to Business – Congestion 16
Question 10. Technology Use 18
Question 11. Operational Strategies 21
Question 12. Safe Truck Parking Availability 22
Question 13. Locations for Expanded Truck Parking 23
Question 14. Barriers to Driver Efficiency 24
Question 15. Effects of COVID-19 27
Question 16. Effects of Recent Changes 29
Question 17. Locations for Future Emphasis 31
Question 18. Locations for Future Emphasis – Free Response 32
Question 19. Topics for Future Emphasis 35
Question 20. General Recommendations from Respondents 38
Summary 39
References 41

List of Figures

Figure 1. Memphis Urban Area Metropolitan Planning Organization Boundary, 2020 (Memphis MPO 2020) 1
Figure 2. Heat Map of Zip Codes for Respondents 6
Figure 3. Question 1 – Respondents 7
Figure 4. Question 2 – Responses by Respondent Industry 7
Figure 5. Question 2 – Analysis of Respondent Industry by State 8
Figure 6. Question 3 – Percentage of Respondents by Number of Company Employees (n = 107) 9
Figure 7. Question 4 – Number of Respondents Representing each Mode 9
Figure 8. Question 4 – Modal Representation by State 10
Figure 9. Question 5 – Percentage of Responses by the Years in Operation in the Greater Memphis Area (n =105) 10
Figure 10. Question 5 – Analysis of the Years in Operation in the Greater Memphis Area by Mode. 11
Figure 11. Question 5 – Analysis of the Years in Operation in the Greater Memphis Area by State. 11
Figure 12. Question 7 – Mean Response by Mode. 13
Figure 13. Question 8 – Mean Response for Local Infrastructure Rating 15
Figure 14. Question 9 – Percentage of Respondents by Cost to Business – Congestion. 16
Figure 15. Question 10 – Mean Response for Technology Use. 18
Figure 16. Question 10 – Analysis of Technology Use by Mode. 19
Figure 17. Question 10 – Analysis of Technology Use by State. 20
Figure 18. Question 11 – Response to Operational Strategy Use. 21
Figure 19. Question 11 – Analysis of Operational Strategy Use by Mode. 21
Figure 20. Question 11 – Analysis of Operational Strategy Use by Mode. 22
Figure 21. Question 12 – Responses by Shortage of Safe Truck Parking (n = 64) 22
Figure 22. Question 13 – Analysis of Expanded Truck Parking – Heat Map. 23
Figure 23. Question 14 – Response by Barriers to Driver Efficiency 24
Figure 24. Question 14 – Analysis of Barriers to Efficiency (Frequency) by Mode. 25
Figure 25. Question 14 – Analysis of Barriers to Efficiency (Effect) by State. 26
Figure 26. Question 15 – Response by COVID-19 Impact. 27
Figure 27. Question 15 – Analysis of COVID-19 Impact by Mode. 28
Figure 28. Question 16 – Responses by Impact from Recent Changes. 29
Figure 29. Question 16 – Analysis of Impact from Recent Changes by Mode 30
Figure 30. Question 16 – Analysis of Impact from Recent Changes by State 30
Figure 31. Question 17 – Analysis of the Locations that need the Most Attention - Heat Map. 31
Figure 32. Question 19 – Most and Least Important Topics for Future Emphasis 36

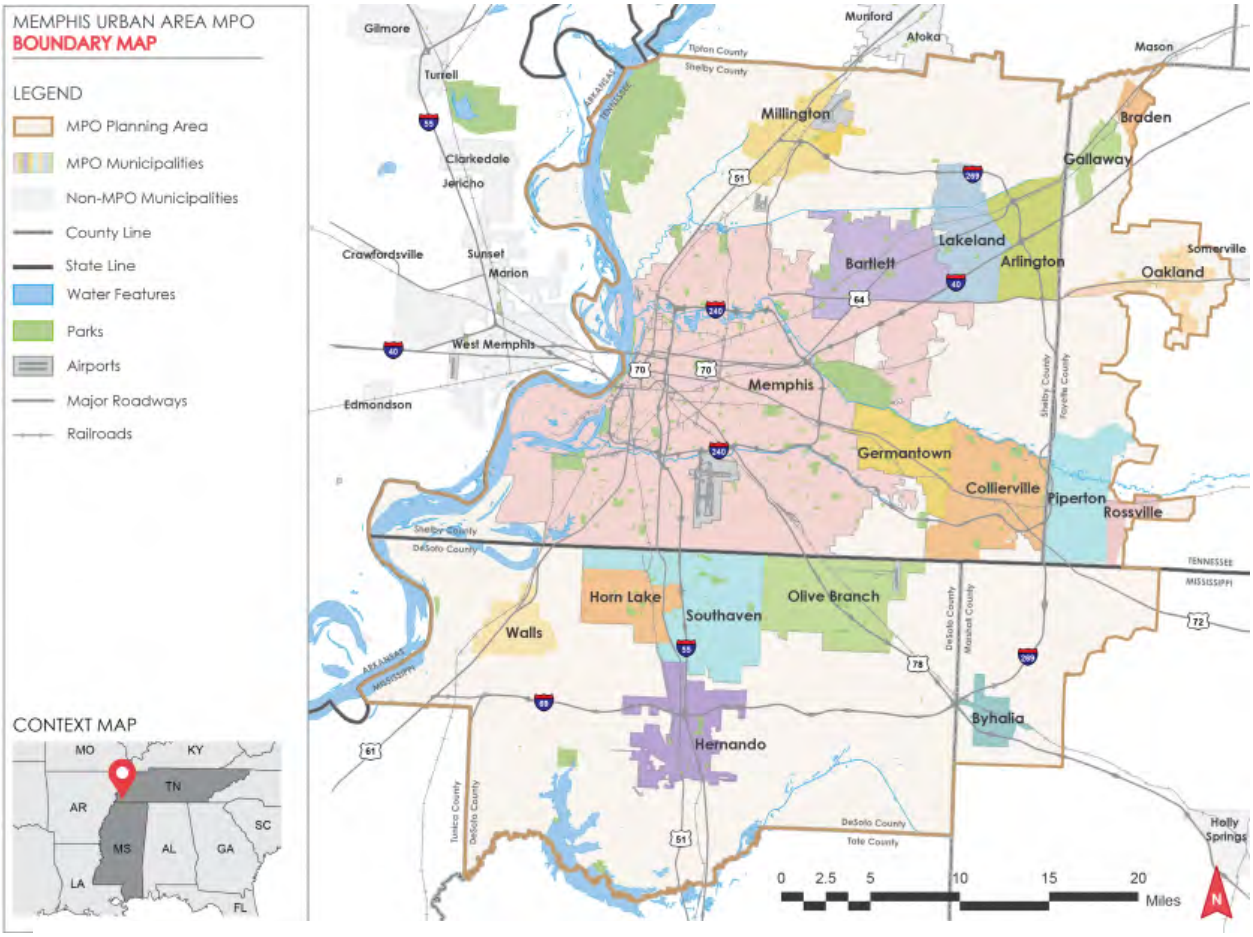
List of Tables

Table 1. Survey Question Topics. 5
Table 2. Question 1 – Responses by State (109 Respondents) 6
Table 3. Question 7 – Mean Responses, Sorted. 12
Table 4. Question 7 – Regions Competitive with the Greater Memphis Area 13
Table 5. Question 8 – Likert Scale Descriptions. 14
Table 6. Question 8 – Mean Response for Local Infrastructure Rating 14
Table 7. Question 9 – Number of Respondents by Cost to Business - Congestion 16
Table 8. Question 9 – Mean Rank by Mode for Cost to Business – Congestion 17
Table 9. Question 9 – Mean Rank by State for Cost to Business – Congestion 17
Table 10. Question 10 – Results Obtained from Technology Use 20
Table 11. Question 17 – Number of Selections for Locations of Future Emphasis 32
Table 12. Question 18 – Responses 32
Table 13. Question 19 – Top 5 "Most Important" Topics for Emphasis by Mode 37
Table 14. Question 19 – Top 5 "Most Important" Topics for Emphasis by State 37

Introduction

The Memphis Urban Area Metropolitan Planning Organization (MPO) is a regional, multi-jurisdictional agency that is responsible for the planning and programming of Long-Range Transportation facilities in the Memphis Metropolitan Area. The Memphis MPO planning boundary covers all of Shelby County, TN and Desoto County, MS, the western portion of Fayette County, TN and the northwest corner of Marshall County, MS (see Figure 1).

Figure 1. Memphis Urban Area Metropolitan Planning Organization Boundary, 2020 (Memphis MPO 2020)



The Intermodal Freight Transportation Institute (IFTI) has conducted a survey of freight stakeholders on behalf of the Memphis Urban Area Metropolitan Planning Organization. The survey was sent to individuals in Shelby County and Fayette County in Tennessee, DeSoto County and Marshall County in Mississippi, and Crittenden County in Arkansas. The extent of the study area is shown in Figure 1.

The primary goal of the survey was to obtain feedback from freight stakeholders within the Midsouth region (Tri-State area) regarding concerns, future trends, impact of COVID-19 and outlooks that will impact the local freight industry. The resulting information will be used for the update of the MPO Freight Plan and future Regional Plan updates.

Methodology

Survey Instrument

To obtain data, a survey instrument was developed using Qualtrics® XM survey development platform.

The survey was designed to utilize various question types available on the platform, including Likert scale, ranking, heat map, and pick-group-rank questions. The survey instrument focused on perception of the existing freight infrastructure in the Greater Memphis Area and state of practice for local freight companies. The 2015 MPO Freight Stakeholder Survey instrument was used as a base and modified to address specific concerns of the MPO, including:

1. Truck parking needs
2. Impact of ELD/hours of service tracking
3. Truck platooning
4. Truck/warehouse automation
5. Alternative Fuel Options
6. Intermodal operations – including challenges and pinch points
7. Impact of I-269 opening (both on traffic and development), closure of Forrest yard, and other recent changes
8. Infrastructure needs and condition
9. Drone and other alternative delivery modes
10. COVID-19 impact on business operations

Additionally, the team conducted a review of similar freight stakeholder surveys across the U.S. and other literature related to MPOs engaging the freight industry. The following documents were referenced:

1. Chicago Metropolitan Agency for Planning (CMAP): "Regional Freight System Planning Recommendations Study: Final Report", 2010
2. Chicago Metropolitan Agency for Planning (CMAP): "The Freight System: Leading the way." A brochure summarizing the 2050 transportation plan, 2017
3. FHWA Office of Operations of Freight Management and Operations: "Jason's Law Truck Parking Survey Results and Comparative Analysis", 2015
4. José Holguín-Veras et al: "State of the art and practice of urban freight management", Parts I and II, 2020
5. Christopher Lindsey: "A Framework for Integrating Freight into MPO Transportation Planning", Master's Thesis, 2008
6. FHWA: "A Guidebook for Engaging the Private Sector in Freight Transportation Planning", 2010.

Findings from the literature review influenced the design of the present survey instrument, which can be found in Appendix A.

Methodology

Recipients

Emails were sent to individuals identified from the existing contact lists of the Intermodal Freight Transportation Institute (IFTI) and the Tennessee Department of Transportation (TDOT). The team also asked several organizations – including the Memphis World Trade Club, Greater Memphis Chamber, DeSoto County Economic Development Board, West Memphis MPO, and Marshall County Industrial Development Authority – to distribute the survey. Social media was also used to increase response rates. The invitation and survey link were shared through social media accounts by IFTI, the Greater Memphis Chamber, and the Memphis World Trade Club. To increase outreach, companies found via Internet searches where email addresses were not published were contacted by phone and asked to participate via an emailed link to the survey or a phone interview. In these Internet searches and phone calls, special attention was given to obtain more diverse representation by state (TN, MS, AR) and by mode (Rail, Water, Air, Road, Truckload, LTL). In total, over 1000 individuals from over 700 companies were contacted regarding the survey.

Analysis

Survey results were analyzed using the Stats IQ™ and Results services built into Qualtrics®. Each question was analyzed individually and checked for modal and state-based variation.

Results

The Memphis Metropolitan Planning Organization Freight Stakeholder Survey was sent to over 1000 individuals, and 109 individuals took the survey. 108 took the survey online via a link shared via email or social media, and 1 completed it via phone interview. The instrument used to conduct the survey can be found in Appendix A. It should be noted that not every respondent answered every question. Additionally, due to the logic used in Qualtrics, some questions were not shown to all respondents. Other questions allowed multiple selected responses. Therefore, many of the following tables and figures do not display a total of 109 respondents.

Survey respondents were asked to respond to 20 questions regarding the state of the infrastructure in the Memphis Metropolitan area. The survey questions consisted of a range of topics. Table 1 below displays the topic breakdown by question.

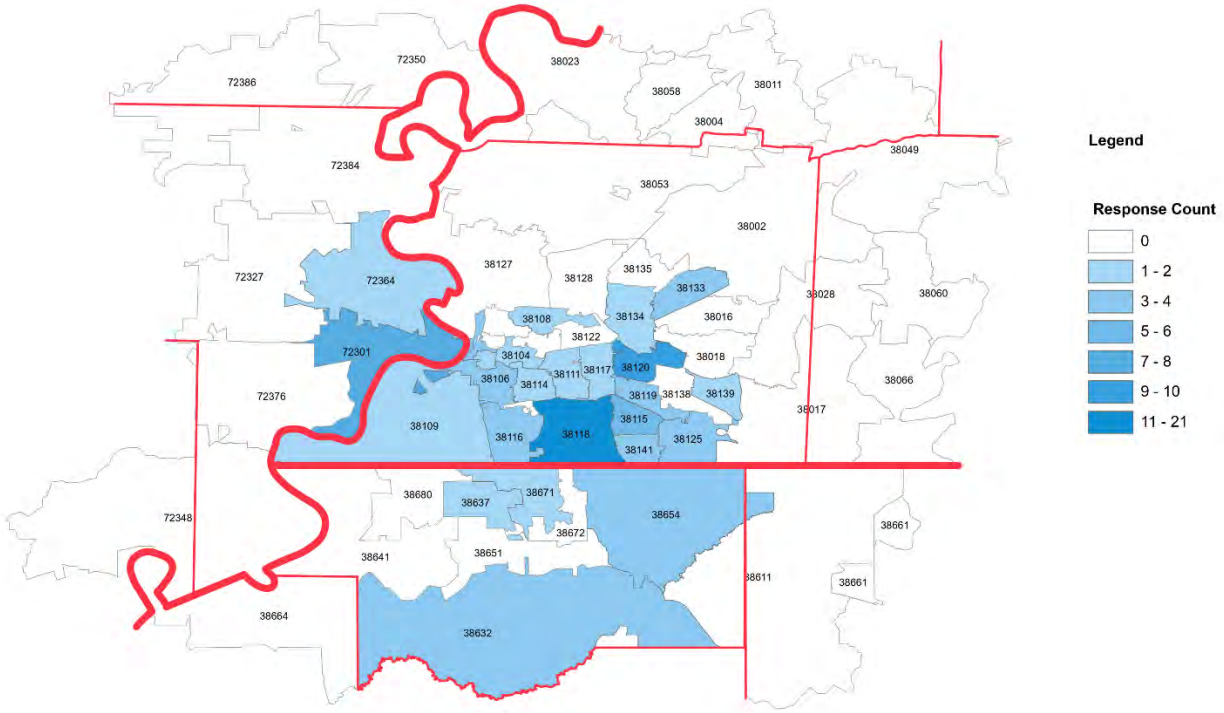
Table 1. Survey Question Topics

Question	Topic Area
1	Respondent Information
2	Type of Industry
3	Number of Company Employees
4	Company Mode(s)
5	Years in Operation in the Greater Memphis Area
6	Decision to Locate Company
7	Factors in Decision to Locate Company
8	Local Infrastructure Rating
9	Costs to Business - Congestion
10	Technology Use
11	Operational Strategies
12	Safe Truck Parking Availability
13	Locations for Expanded Truck Parking
14	Barriers to Driver Efficiency
15	Effects of COVID-19
16	Effects of Recent Changes
17	Locations for Future Emphasis
18	Locations for Future Emphasis - Free Response
19	Topics for Future Emphasis
20	General Recommendations from Respondents

Question 1: Respondent Information

Question 1 was used to obtain respondent information, including respondent name, company name, and company zip code. Only the zip code field was required. Figure 2 displays a heat map of the distribution of respondent zip codes across the Greater Memphis Area.

Figure 2. Heat Map of Zip Codes for Respondents



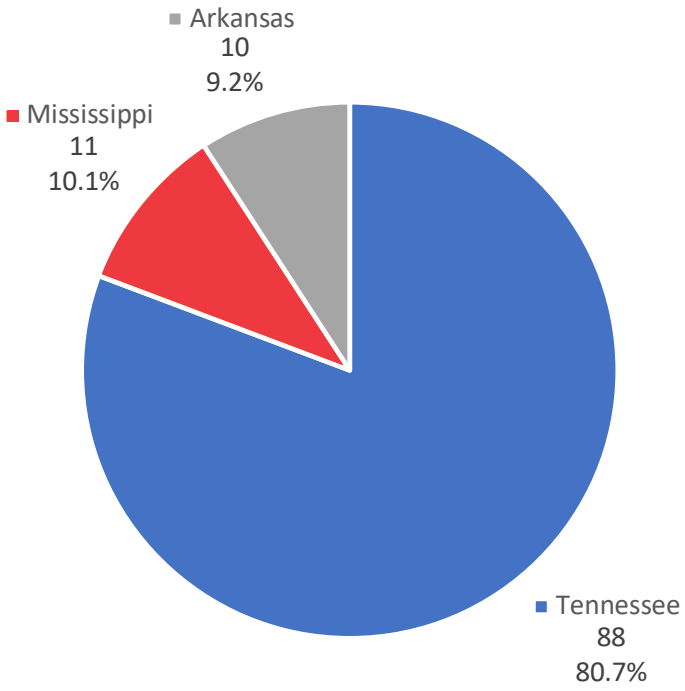
The respondent zip code was used to determine the respondent's state. Table 2 displays the responses broken down by state.

Table 2. Question 1 – Responses by State (109 Respondents)

State	Count	Percent of Total
Tennessee	88	80.7%
Mississippi	11	10.1%
Arkansas	10	9.2%
Total	*109*	

Figure 3 displays the responses broken down by state.

Figure 3. Question 1 - Respondents



Question 2: Type of Industry

Question 2 was used to determine the respondent's industry. Figure 4 displays the distribution of respondent industries. Respondents were able to select multiple industries.

Figure 4. Question 2 - Responses by Respondent Industry

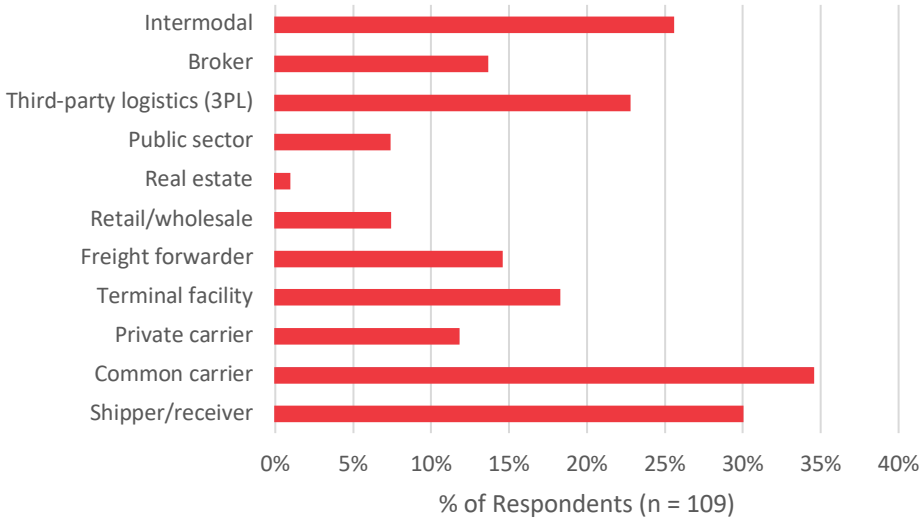
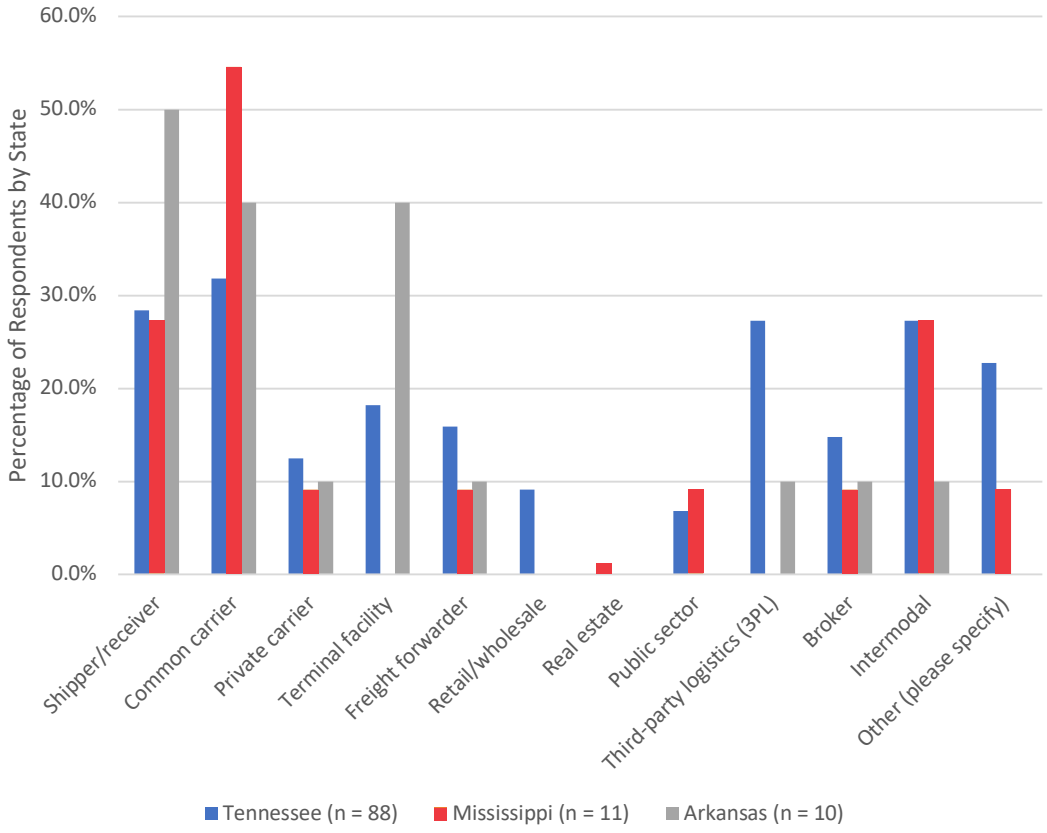


Figure 5 displays the precentage of respondents in each state that indicated a specific mode

Figure 5. Question 2 - Analysis of Respondent Industry by State



Question 2 allowed for a free response "Other" option. The responses are shown below.

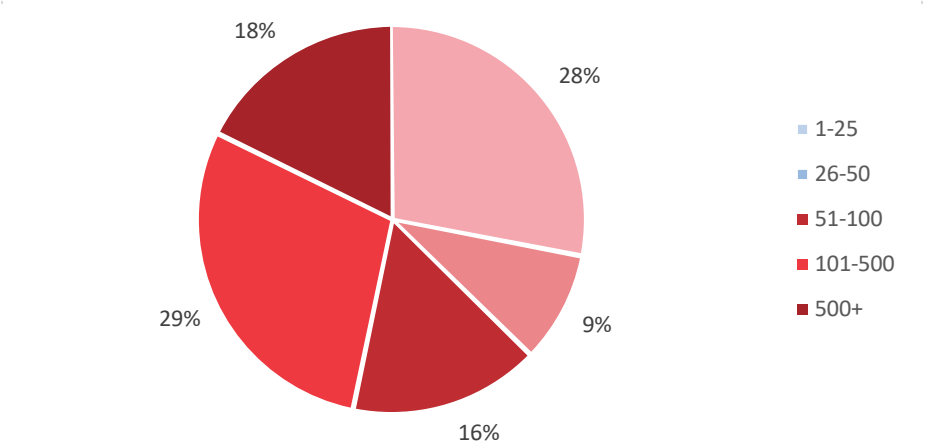
1. Asphalt Industry
2. Audit/spend management/technology
3. Class 8 truck dealer
4. Commercial Truck Dealership
5. Commercialization and entrepreneurial training, logistics innovation
6. Consultant
7. Engineering (2)
8. Engineering Consulting
9. Expedited motor carrier
10. Government
11. Heavy Haul
12. ISO Containers
13. Manufacturing
14. Medical Devices
15. Parcel Consultant/ Logistics/Freight Audit
16. Passenger Rail
17. River Port facility
18. Technology company
19. Truck Dealer
20. Warehouseman

- Warehouseman

Question 3: Number of Company Employees

Figure 6 displays the breakdown of the number of employees at the respondent's company. Companies of all sizes were represented in the responses, with the largest response rates from small companies (1-25 employees) and companies with 101-500 employees.

Figure 6. Question 3 - Percentage of Respondents by Number of Company Employees (n = 107)



Question 4: Company Mode(s)

Question 4 asked respondents to indicate which modes their company represented. Respondents were able to select multiple modes. Figure 7 displays the percentage of respondents indicating each mode.

Figure 7. Question 4 - Number of Respondents Representing each Mode

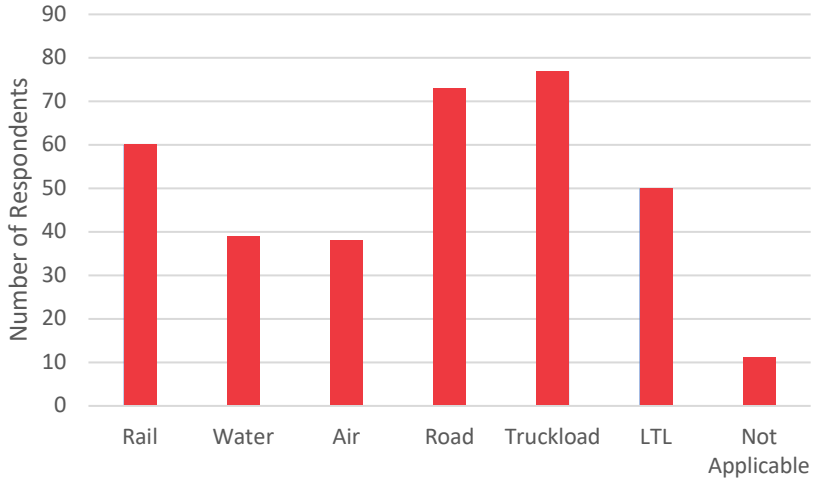
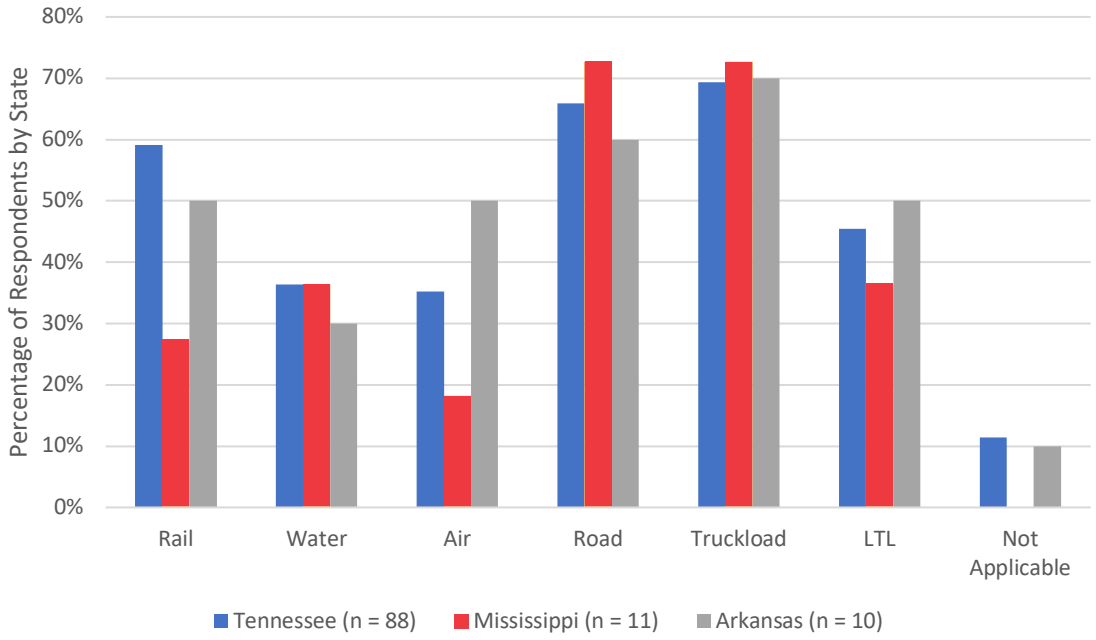


Figure 8 displays the percentage of respondents from each state indicating a specific mode. For example, 70% of all respondents from Arkansas indicated "Truckload" as a mode.

Figure 8. Question 4 - Modal Representation by State



Question 5: Years in Operation in the Greater Memphis Area

Figure 9 displays the distribution of the number of years that respondents' companies have been in operation in the Greater Memphis Area. Question 5 allowed respondents to enter any numeric value. Then, the results were grouped into the categories shown in Figure 9.

Figure 9. Question 5 - Percentage of Responses by the Years in Operation in the Greater Memphis Area (n = 105)

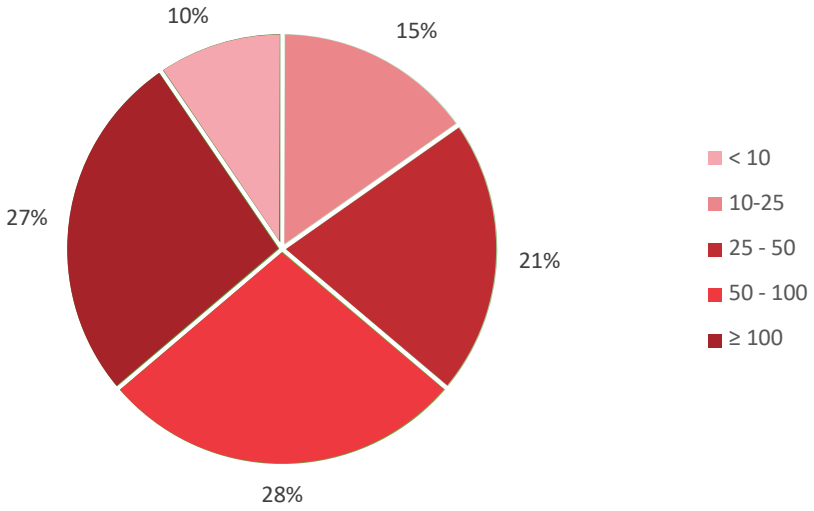


Figure 10 and Figure 11 display the distribution of the number of years that a respondent's company has been in operation in the Greater Memphis Area broken down by the respondent's mode and state, respectively.

Figure 10. Question 5 - Analysis of the years in Operation in the Greater Memphis Area by Mode

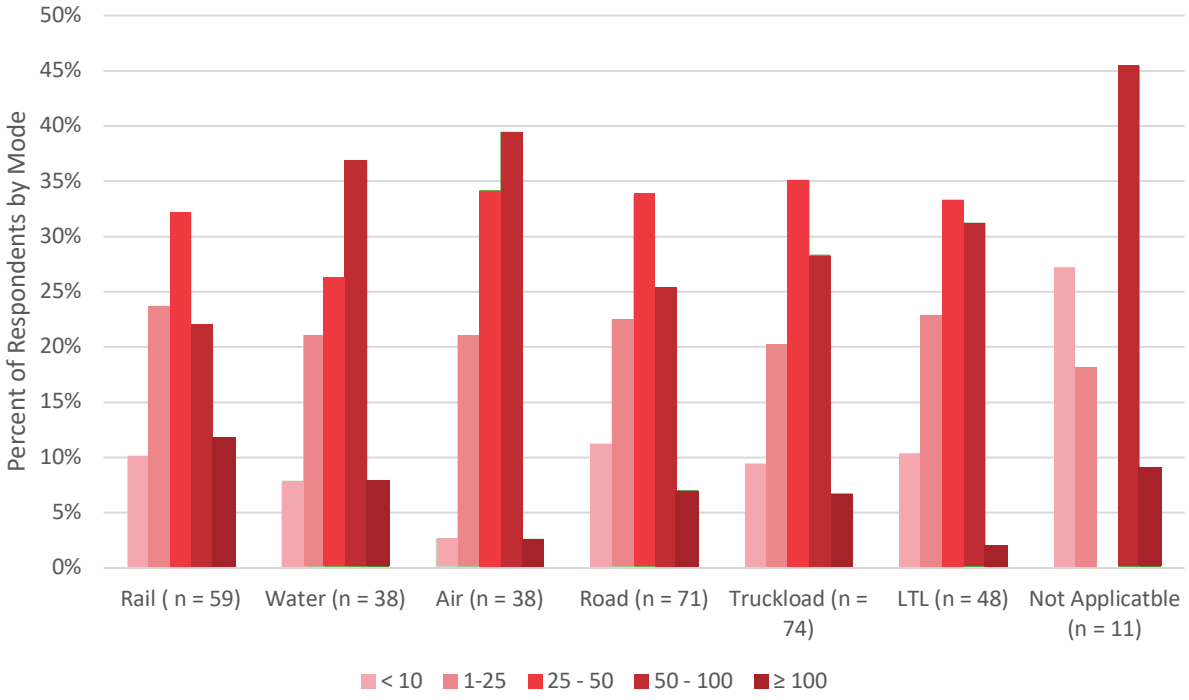
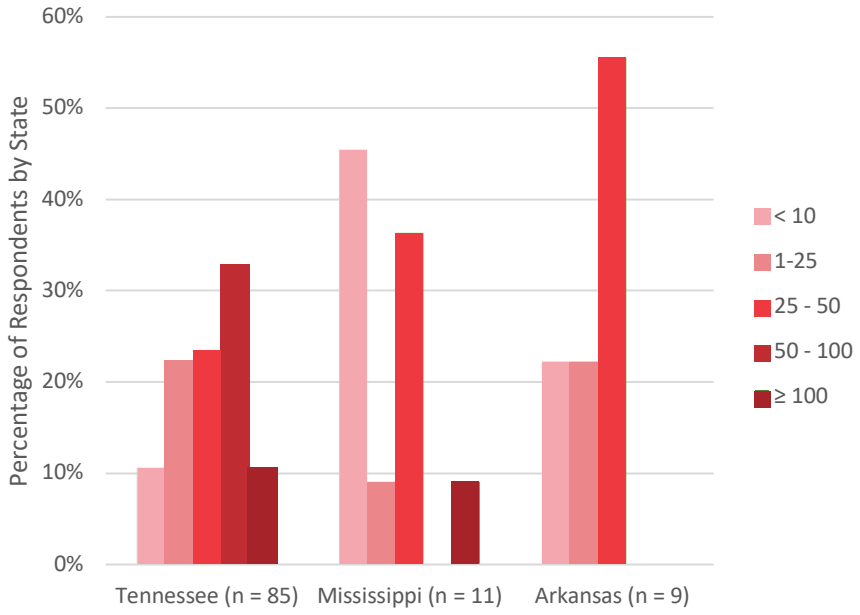


Figure 11. Question 5 - Analysis of the Years in Operation in the Greater Memphis Area by State



Question 6: Decision to Locate Company

Question 6 asked whether a respondent was involved in the decision to locate their company in the Greater Memphis Area. This question was used to determine which participants to show Q7. Thirty-Two participants (30% of all participants) indicated that they were involved in the decision to locate their company.

Question 7: Factors in Decision to Locate Company

Question 7 asked participants to indicate the importance of each of 8 factors in their decision to locate in the Greater Memphis Area. The question used a 5-point Likert scale, with 1 being "Not important", 3 being "Somewhat important", and 5 being "Very important". Question 7 was only shown to the participants indicating "yes" in Question 6, which asked if they were involved in their company's decision to locate in the Greater Memphis Area. Participants were not required to respond to every factor.

Table 3 shows the factors sorted by mean importance. A higher mean indicates an overall greater importance.

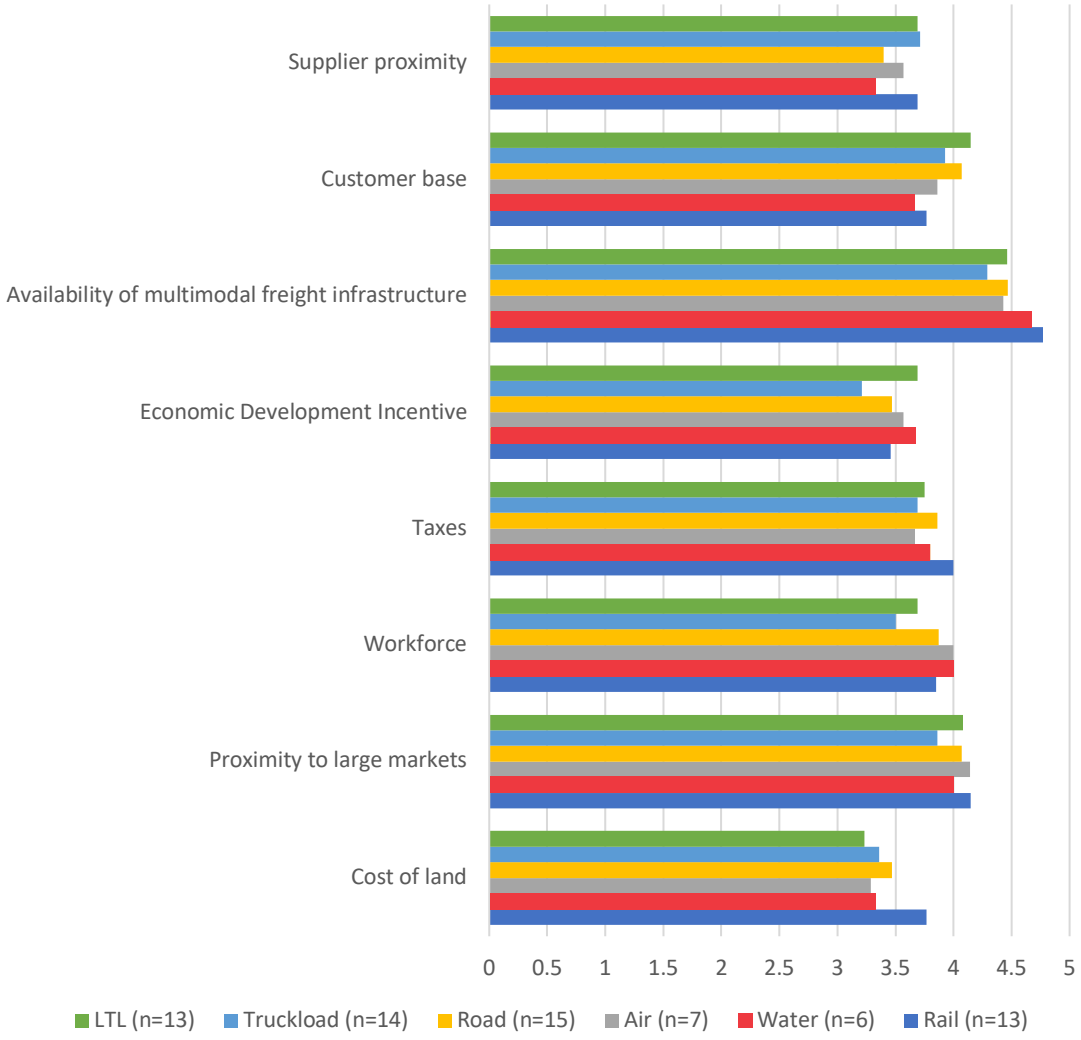
Table 3. Question 7 – Mean Responses, Sorted

Factor	Mean	Std Deviation	Count
Availability of multimodal freight infrastructure	4.45	1.02	20
Other (please specify)	4.33	0.94	3
Proximity to large markets	4.05	1.16	20
Customer base	3.90	1.26	20
Supplier proximity	3.80	0.98	20
Taxes	3.79	0.89	19
Workforce	3.70	1.00	20
Cost of land	3.55	1.07	20
Economic Development Incentive	3.30	1.35	20

Two of the participants indicating "Other" factors responded with "Access to class I rails" and "Travel demand". The other participant indicating "Other" factors left no description.

Figure 12 shows the breakdown of mean importance by mode.

Figure 12. Question 7 - Mean Response by Mode



Respondents were also asked to indicate which other U.S. regions were competitive with the Greater Memphis Area for each factor. Table 4 shows the responses.

Table 4. Question 7 – Regions Competitive with the Greater Memphis Area

Factor	Competing Markets
Cost of land	Atlanta, Savannah GA
Proximity to large markets	Nashville, Chicago, Roanoke
Workforce	St. Louis, Nashville
Taxes	Nashville, Little Rock, Chattanooga
Economic Development Incentive	Nashville, Knoxville
Availability of multimodal freight infrastructure	Knoxville, Atlanta
Customer base	Nashville, Chattanooga, Asheville NC
Supplier proximity	Roanoke
Other (blank)	Richmond

Question 8: Local Infrastructure Rating

All survey participants were asked to rate the infrastructure in the Greater Memphis Area on a 5-point Likert scale for three different criteria: meeting current requirements, ready for future requirements, and importance to business operations. Likert scale descriptions are in Table 5. Ratings of 2 and 4 had no accompanying descriptions.

Table 5. Question 8 – Likert Scale Descriptions

	Meeting Current Requirements	Ready for Future Requirements	Importance to Business Operations
1	"Falls short of requirements"	"Falls short of requirements"	"Not important"
2		No description	
3	"Meets requirements"	"On pace to meet requirements"	"Somewhat important"
4		No description	
5	"Exceeds requirements"	"Exceeds requirements"	"Critical"

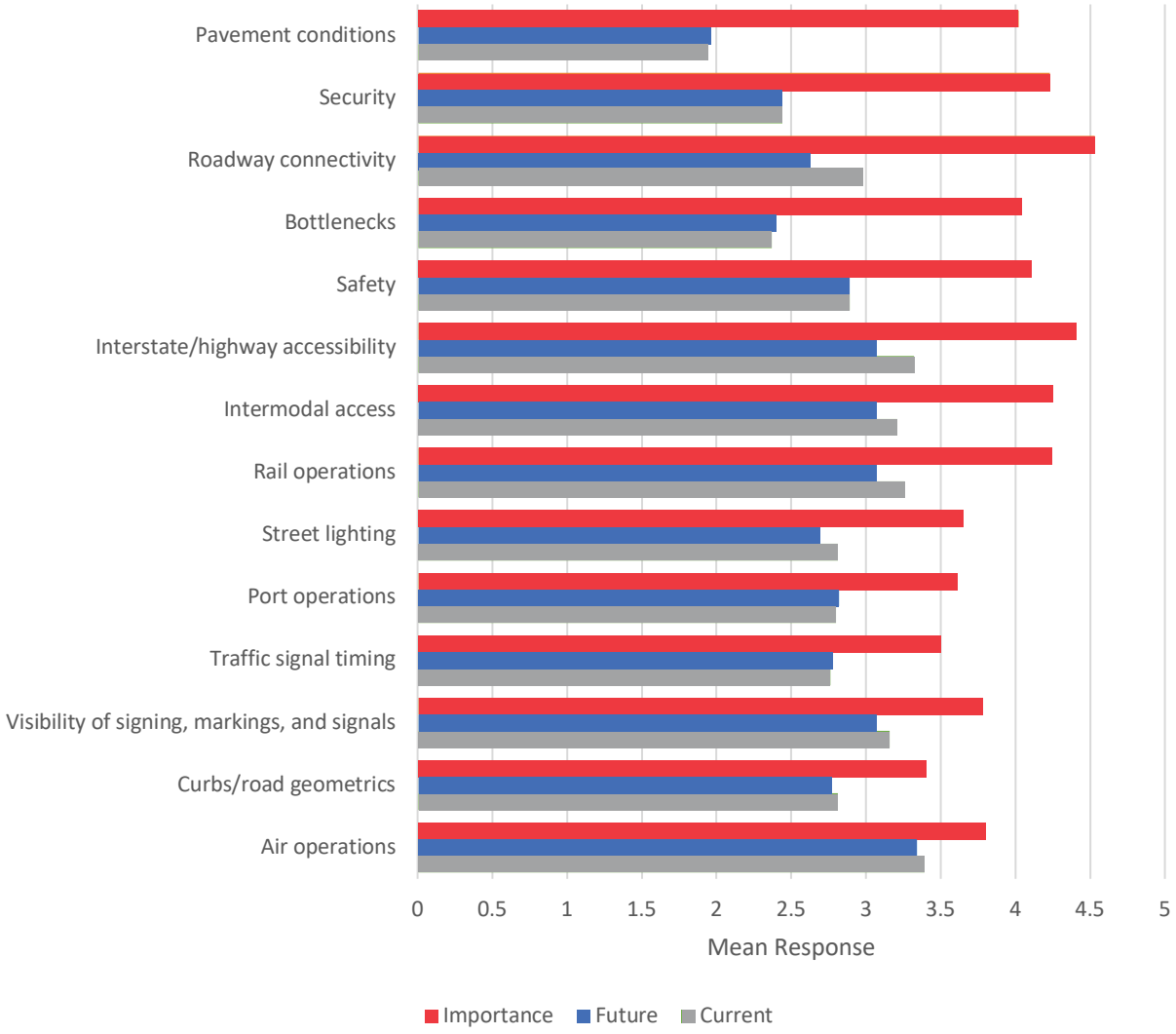
Table 6 displays the mean responses of respondents to Question 8. For the first two columns, a higher response indicates a better perception of the category's current and future performance. For the last column, a higher response indicates a greater importance to the respondent's business operations.

Table 6. Question 8 – Mean Response for Local Infrastructure Rating

Category	Meeting Current Requirements	Ready for Future Requirements	Importance to Business Operations
Roadway connectivity	2.98	2.63	4.53
Pavement conditions	1.94	1.96	4.02
Interstate/highway accessibility	3.32	3.07	4.40
Visibility of signing, markings, and signals	3.16	3.07	3.78
Street lighting	2.81	2.69	3.65
Traffic signal timing	2.76	2.78	3.50
Bottlenecks	2.37	2.40	4.04
Curbs/road geometrics	2.81	2.77	3.40
Intermodal access	3.21	3.07	4.25
Rail operations	3.26	3.07	4.24
Air operations	3.39	3.34	3.80
Port operations	2.80	2.82	3.61
Safety	2.89	2.89	4.11
Security	2.44	2.44	4.23

These results are plotted in Figure 13. For this figure, a measure of "urgency" was calculated as the difference between an item's importance to business operations and readiness for current/future requirements. The figure is sorted by this measurement.

Figure 13. Question 8 - Mean Response for Local Infrastructure Rating



As can be seen in Figure 13, the difference between the mean value of importance and current/future requirements is used to determine the urgency of the factor. Using this method, Figure 13 shows that respondents see pavement conditions as the most pressing need while air operations has the least gap between importance to operations and rating of the infrastructure's readiness for current/future requirements.

Question 9: Costs to Business - Congestion

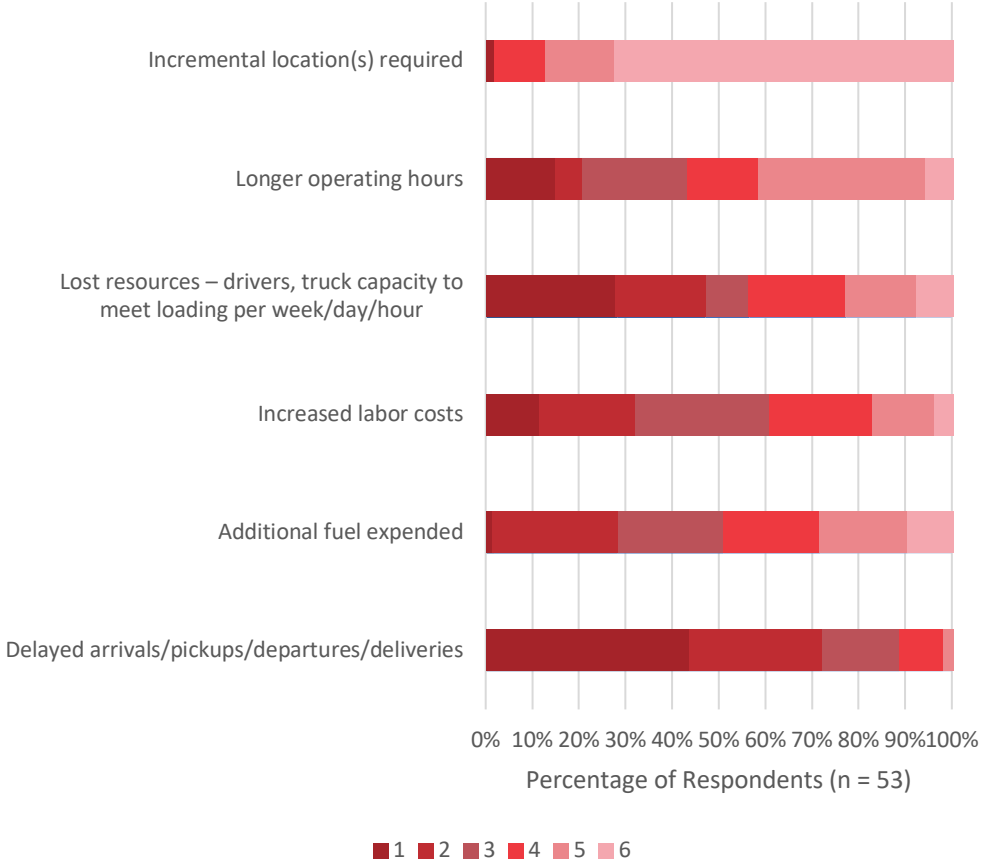
Question 9 asked respondents to rank the cost to their business associated with congestion for the mode they represent. Table 7 shows the number of respondents indicating each rank for each category. For this question, a rank of 1 was considered most costly and a 6 was considered least costly.

Table 7. Question 9 – Number of Respondents by Cost to Business - Congestion

	← More Costly					Less Costly →
Rank	1	2	3	4	5	6
Delayed arrivals/pickups/departures/deliveries	23	15	9	5	1	--
Additional fuel expended	1	14	12	11	10	5
Increased labor costs	6	11	15	12	7	2
Lost resources – drivers, truck capacity to meet loading per week/day/hour	15	10	5	11	8	4
Longer operating hours	8	3	12	8	19	3
Incremental location(s) required	--	--	1	6	8	39

Figure 14 visualizes the data in Table 7 as a stacked bar chart. In this chart, darker red indicates a more significant cost

Figure 14. Question 9 - Percentage of Respondents by Cost to Business - Congestion



Results from Question 9 were analyzed by mode. Table 8 shows the mean rank for each cost broken out by mode. Note that a lower mean rank represents a more significant cost.

Table 8. Question 9 – Mean Rank by Mode for Cost to Business – Congestion

Cost	Rail	Water	Air	Road	Truckload	LTL
Delayed arrivals/pickups/departures/deliveries	1.97	1.95	1.81	1.82	2.08	2.00
Additional fuel expended	3.81	4.00	3.95	3.54	3.77	3.96
Increased labor costs	3.03	2.86	2.90	3.18	3.18	2.86
Lost resources – drivers, truck capacity to meet loading per week/day/hour	2.81	2.86	2.90	2.79	2.67	2.61
Longer operating hours	3.75	3.68	3.90	4.10	3.67	4.04
Incremental location(s) required	5.63	5.64	5.52	5.56	5.64	5.54

Similarly, the results from Question 9 were analyzed by state, as shown in Table 9.

Table 9. Question 9 – Mean Rank by State for Cost to Business – Congestion

Cost	**Tennessee**	**Mississippi**	**Arkansas**
Delayed arrivals/pickups/departures/deliveries	2.00	1.40	2.40
Additional fuel expended	3.42	3.40	5.00
Increased labor costs	3.19	3.20	3.00
Lost resources – drivers, truck capacity to meet loading per week/day/hour	3.07	3.60	1.60
Longer operating hours	3.65	4.00	3.60
Incremental location(s) required	5.67	5.40	5.40

Question 10: Technology Use

Question 10 asked about the technology use of the respondent companies. A Likert scale was used to evaluate the technology use on a scale of 1 (Not Used) to 5 (Widely Used). Respondents were also able to indicate "Not Applicable for my mode/business". Figure 15 displays the mean response to Question 10.

Figure 15. Question 10 - Mean Response for Technology Use

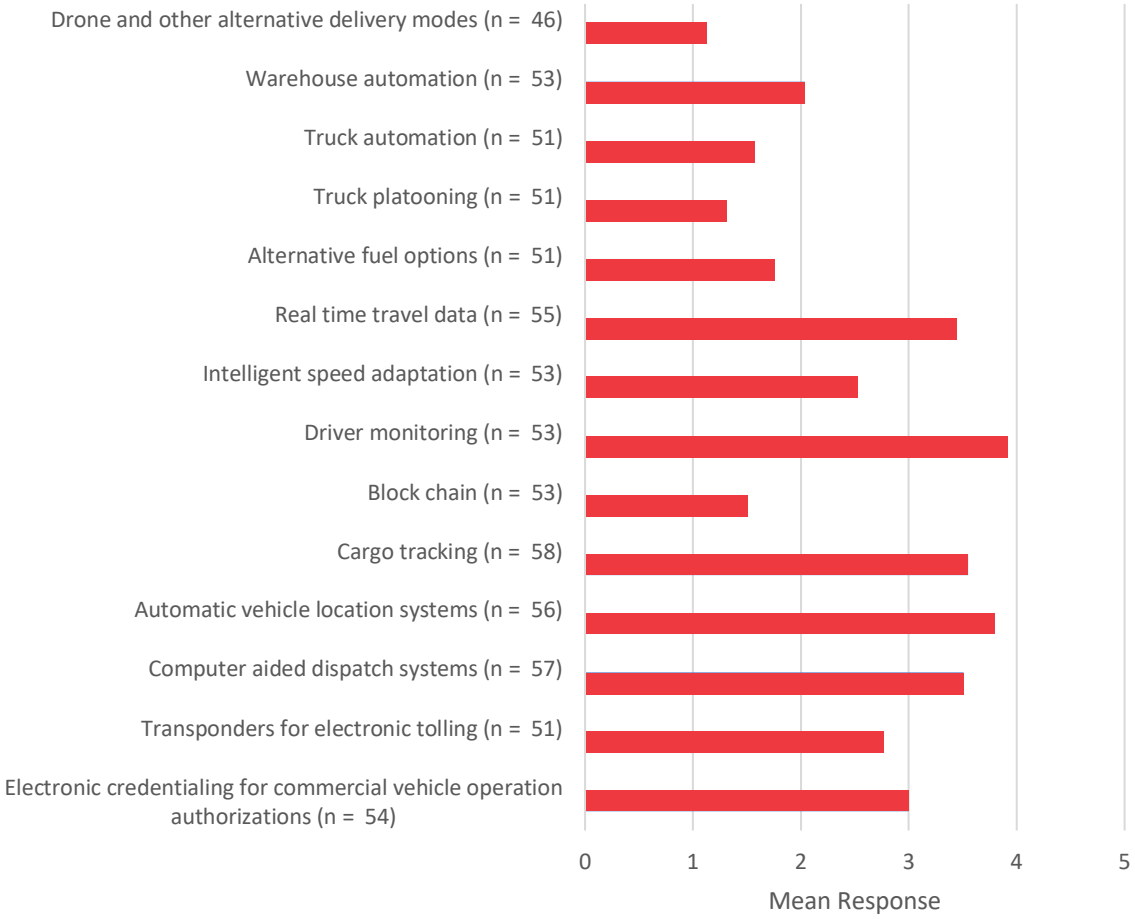


Figure 16 and Figure 17 display the distribution of the mean response to technology use broken down by the respondent's mode and state, respectively.

Figure 16. Question 10 - Analysis of Technology Use by Mode

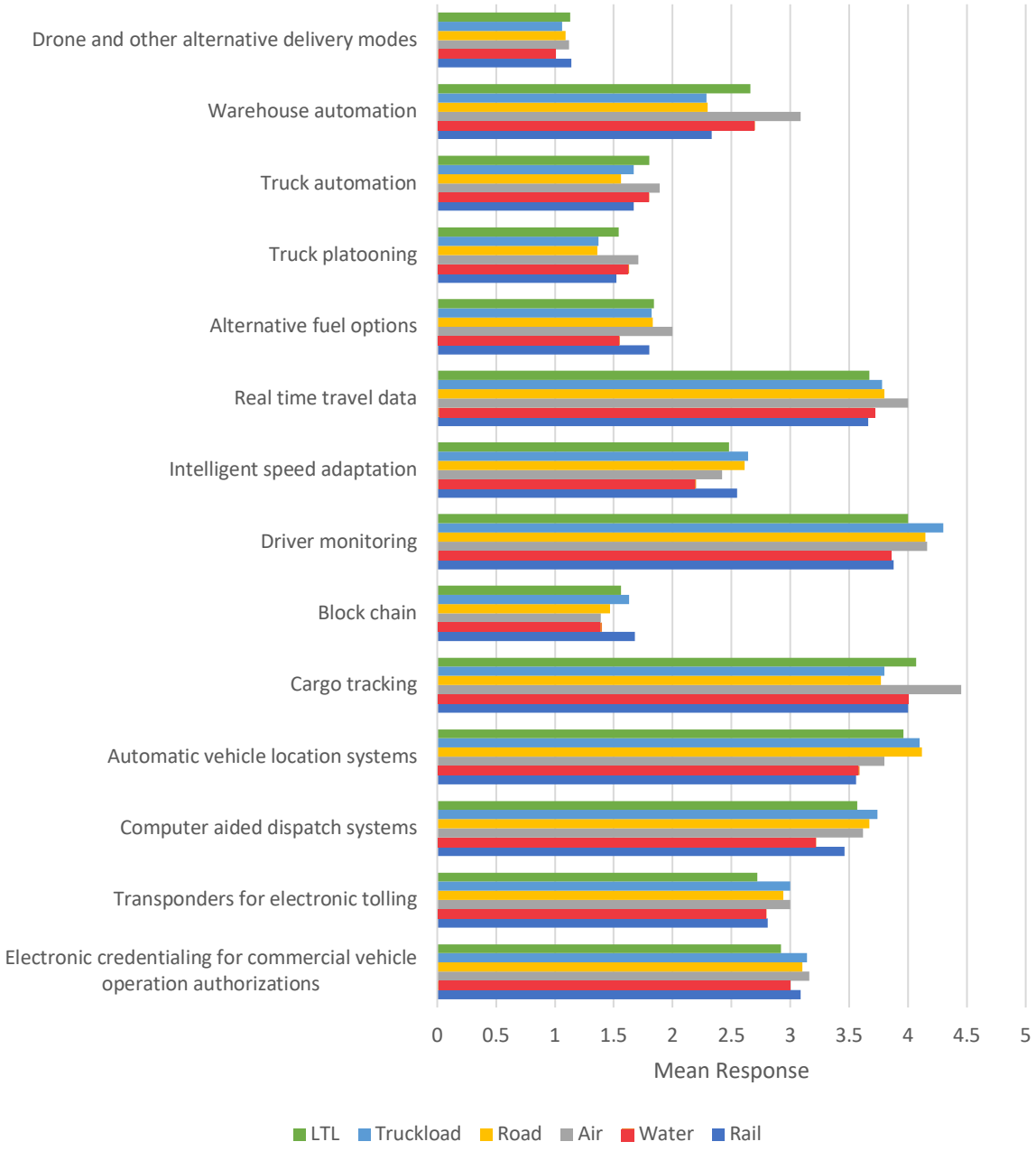
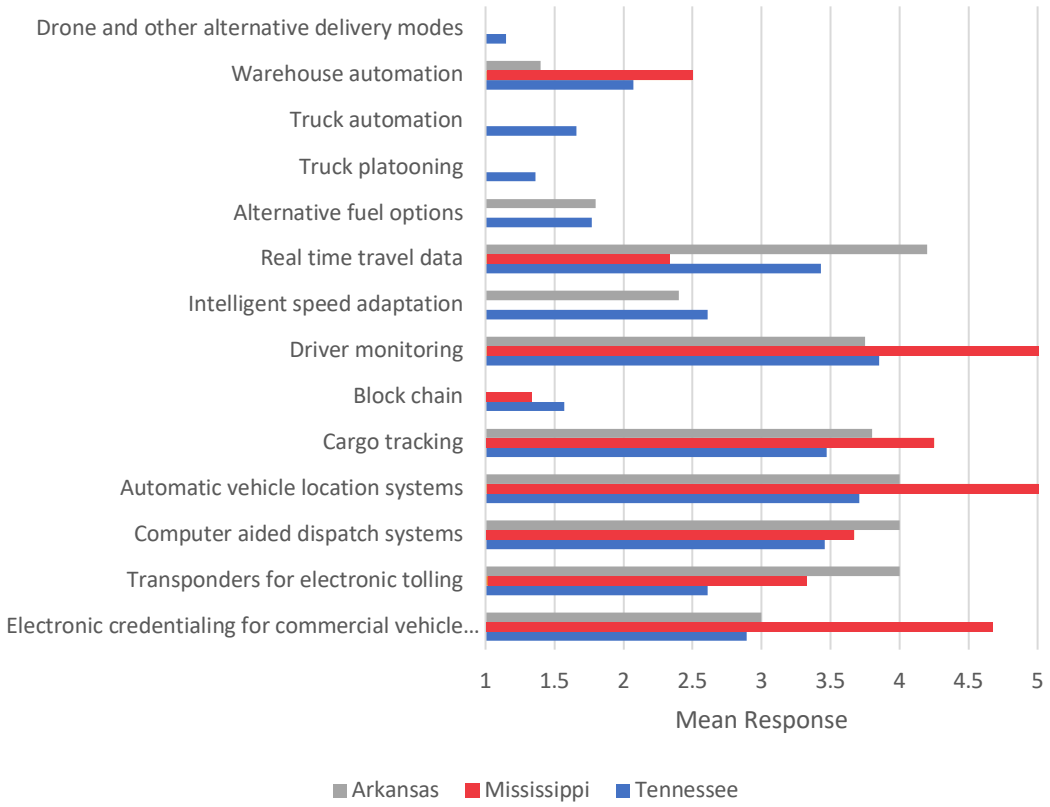


Figure 17. Question 10 - Analysis of Technology Use by Mode



Question 10 allowed respondents to describe the results they have obtained with the specific technology uses. Table 10 displays the responses to the free-response question.

Table 10. Question 10 – Results Obtained from Technology Use

Technology	Results Obtained
Electronic credentialing for commercial vehicle operation authorizations	Longer travel times
Automatic vehicle location systems	More hours driving due to congestion
Blockchain	Over buzzed and hyped.
Truck platooning	Not used yet but this will be huge as the systems advance
Truck automation	Looking forward to this being used in the future. Will decrease cost dramatically as our drivers get crazy OT.
Warehouse automation	Will be used a lot in the future as less people are willing to work in these environments.
Drone and other alternative delivery modes	Will be widely used in the future to decrease the cost of the last mile delivery.

Question 11: Operational Strategies

Question 11 addressed methods to combat negative impacts of freight traffic on the local communities and improve operations for freight carriers. The question asked respondents to select all strategies that their company utilizes. Figure 18 displays the percentage of respondents who utilize each strategy.

Figure 18. Question 11 - Response to Operational Strategy Use

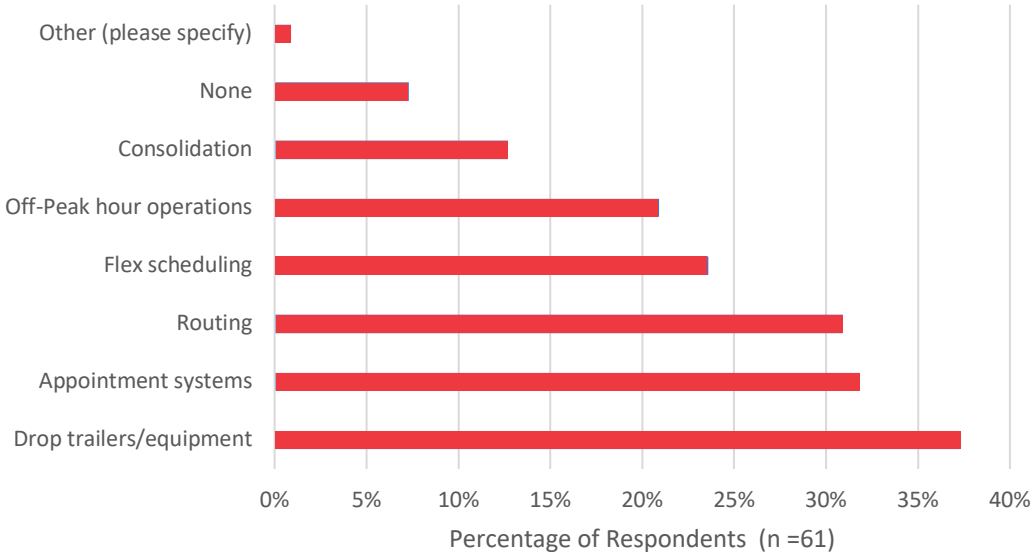


Figure 19 and Figure 20 display the distribution of the respondent use of operational strategies broken down by the respondent's mode and state, respectively.

Figure 19. Question 11 - Analysis of Operational Strategy Use by Mode

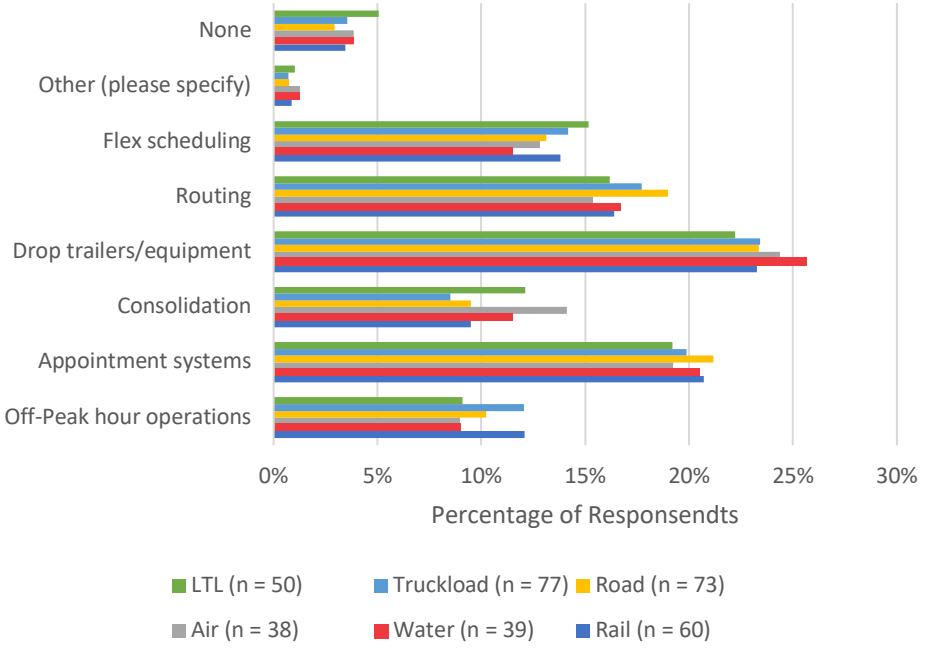
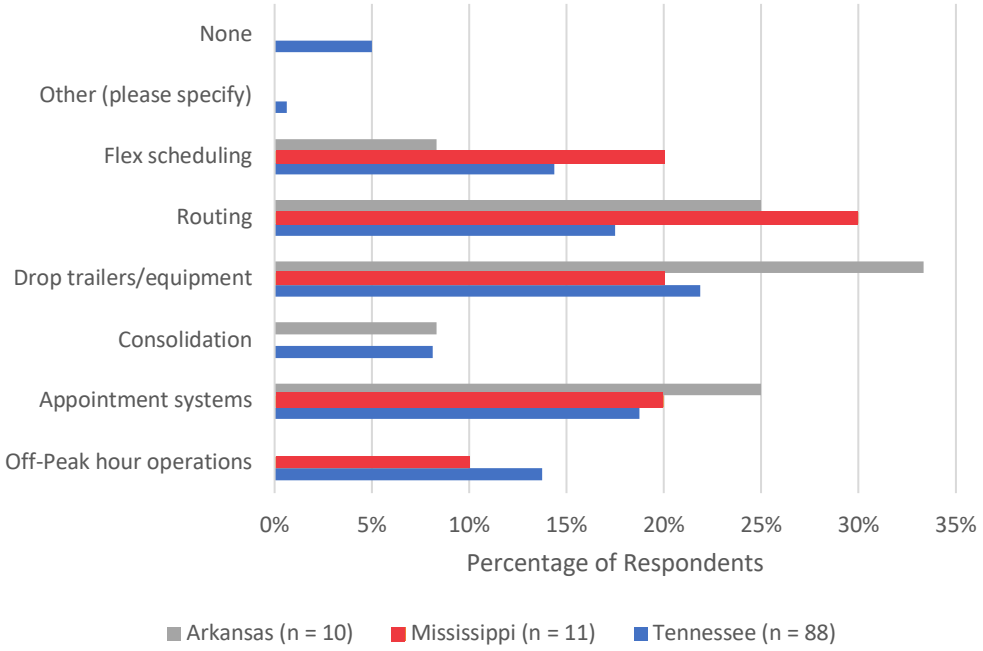


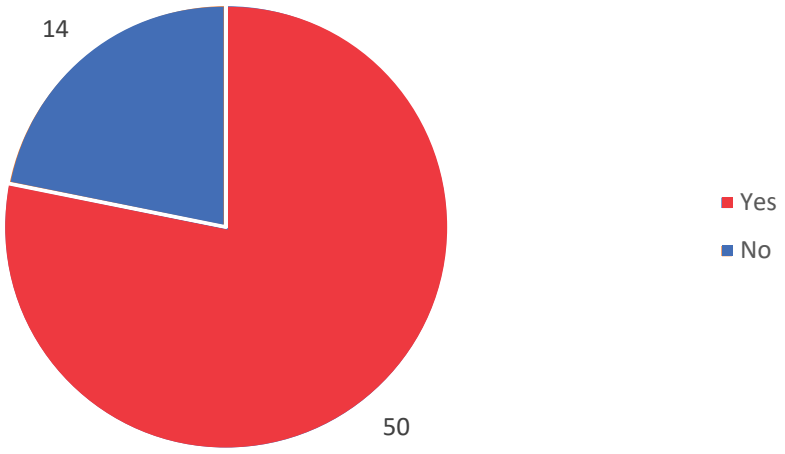
Figure 20. Question 11 - Analysis of Operational Strategy Use by Mode



Question 12: Safe Truck Parking Availability

Question 12 whether respondents feel there is a shortage of safe truck parking in the Greater Memphis Area. Figure 21 displays the results of Question 12.

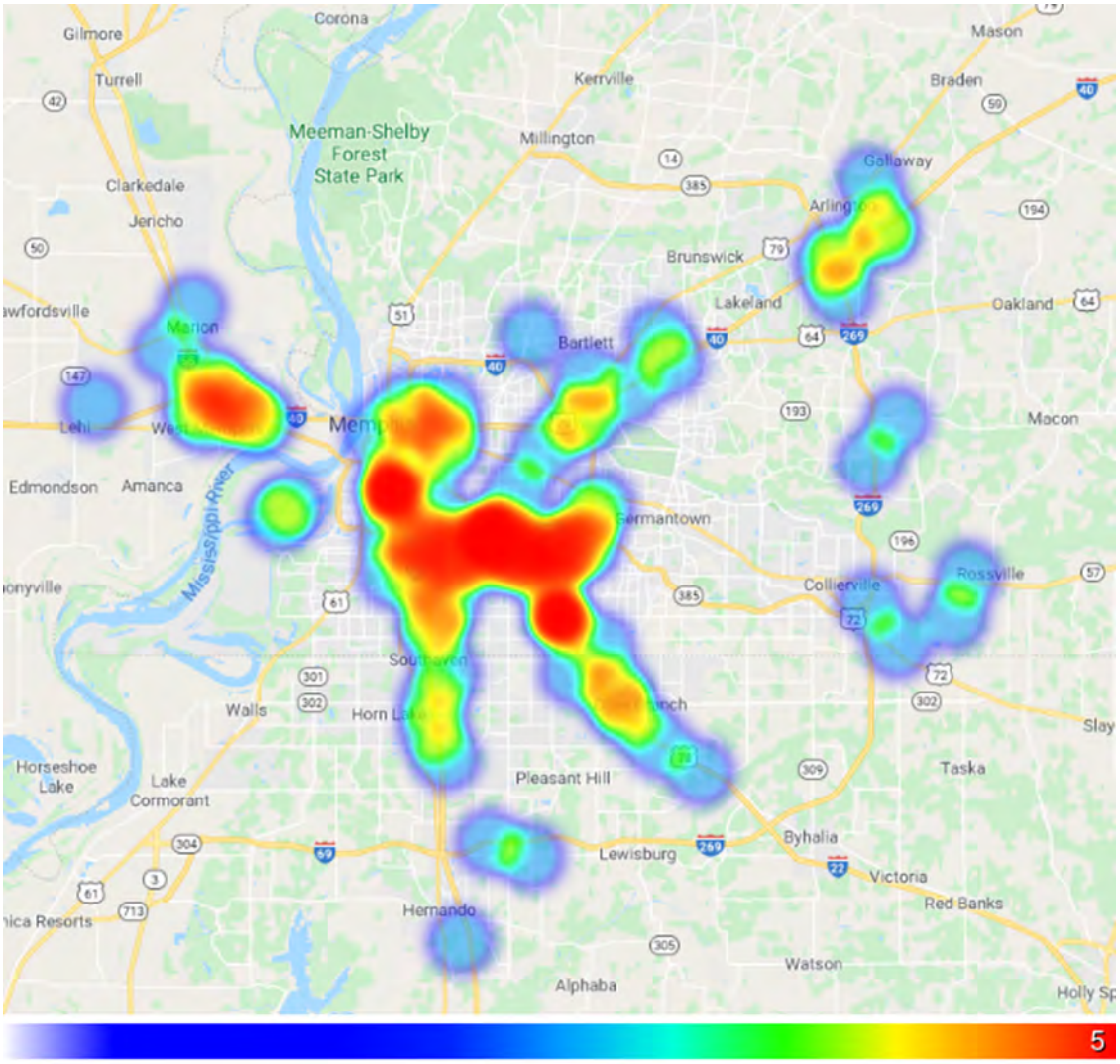
Figure 21. Question 12 - Responses by Shortage of Safe Truck Parking (n = 64)



Question 13: Locations for Expanded Truck Parking

Question 13 builds onto Question 12 by allowing respondents to use a map-based question to select areas that need to expand truck parking. Participants were shown a static image from Google Maps of the Greater Memphis Area and asked to select up to three locations for expanded truck parking. Respondents could click anywhere on the map, and only three clicks per respondent were recorded. This question was only shown to respondents who indicated "yes" to Question 12. Figure 22 displays a heat map of the Greater Memphis Area that indicates the areas with the greatest need of expanded truck parking.

Figure 22. Question 13 - Analysis of Expanded Truck Parking - Heat Map

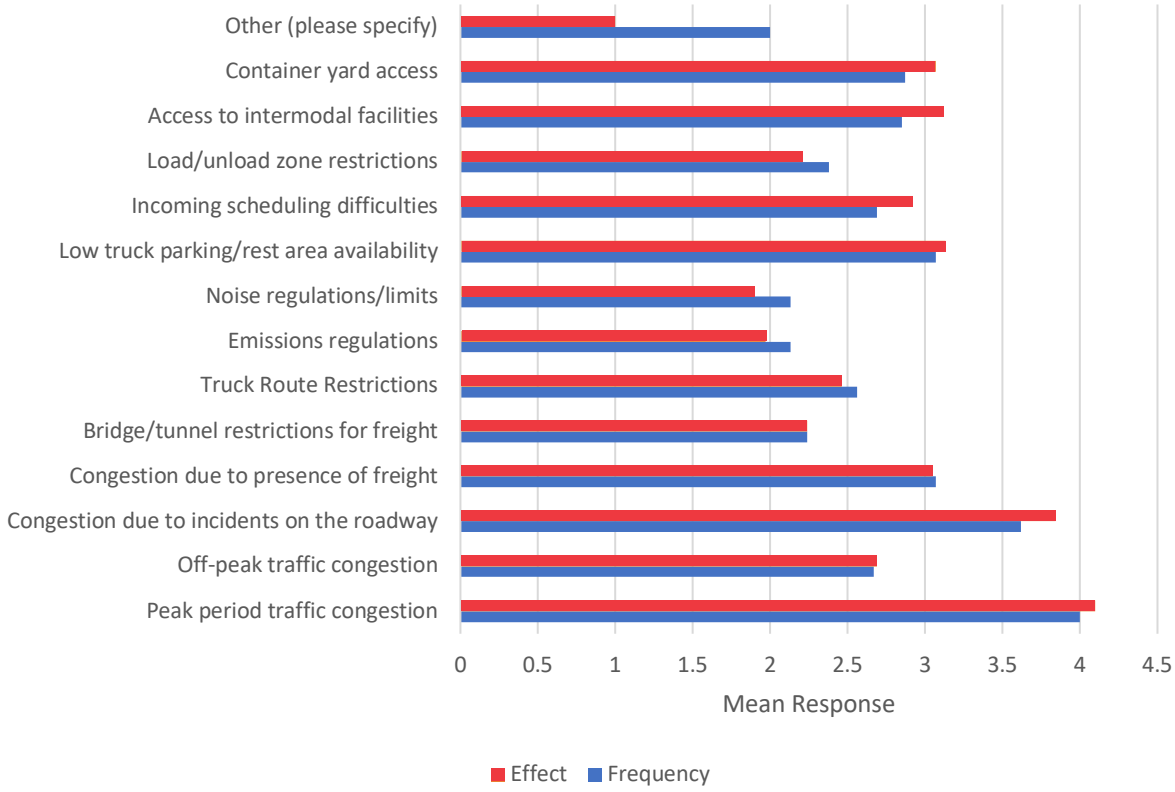


This heat map shows that survey respondents suggest expanding truck parking along Lamar Ave, I-240, and I-40/I-55 in West Memphis.

Question 14: Barriers to Driver Efficiency

This question was only shown to respondents who indicated using modes "Road", "Truckload", and/or "LTL" in Question 4. Question 14 asked respondents to indicate how often their drivers encounter each of 14 barriers to efficiency and how much each barrier affects their company's efficiency. Both sub-questions used 5-point Likert scales. For the frequency question, the scale ranged from 1 = "Never" to 5 = "Very often". For the effect on efficiency question, the scale ranged from 1 = "Little to no effect" to 5 = "Extremely disruptive". The mean responses to this question are shown in Figure 23.

Figure 23. Question 14 - Response by Barriers to Driver Efficiency



These results were analyzed by state in Figure 24 and Figure 25.

Figure 24. Question 14 - Analysis of Barriers to Efficiency (Frequency) by Mode

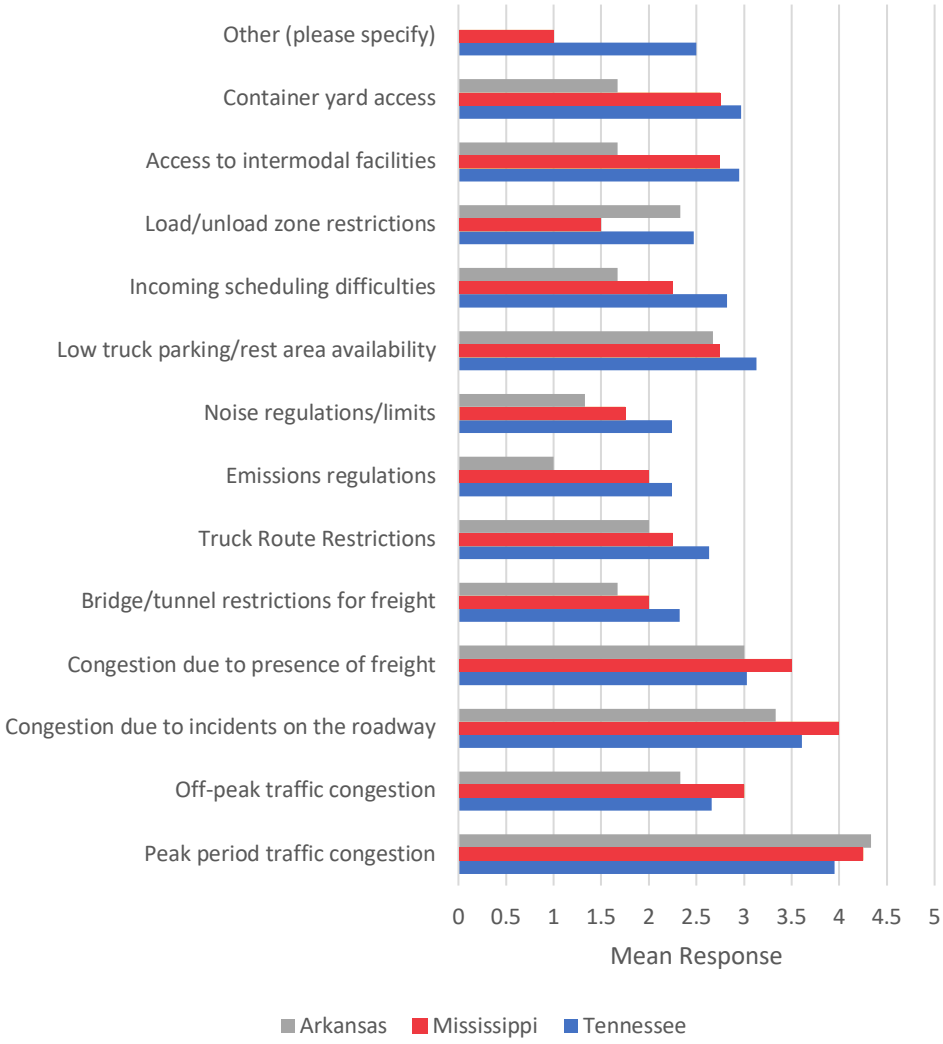
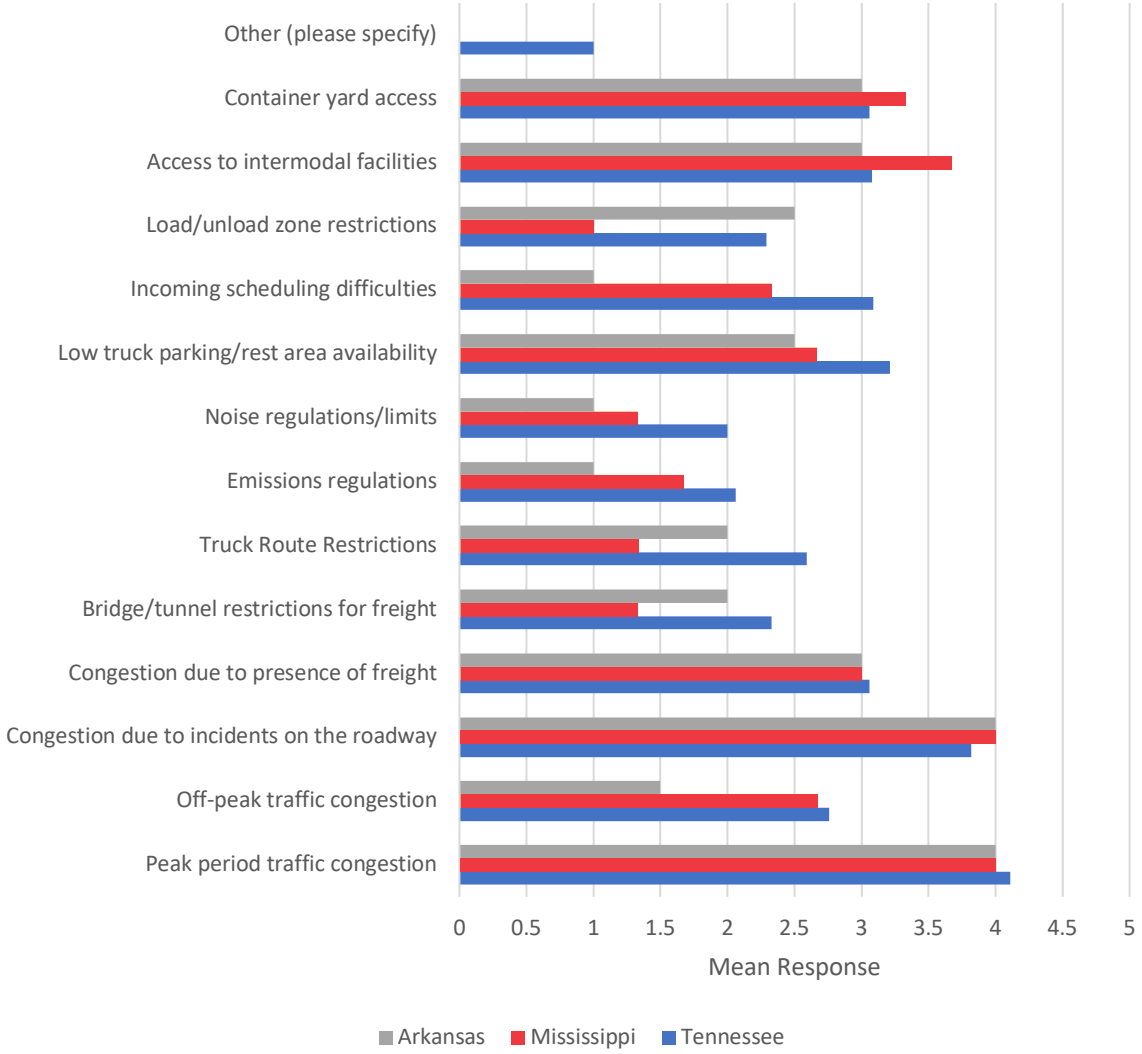


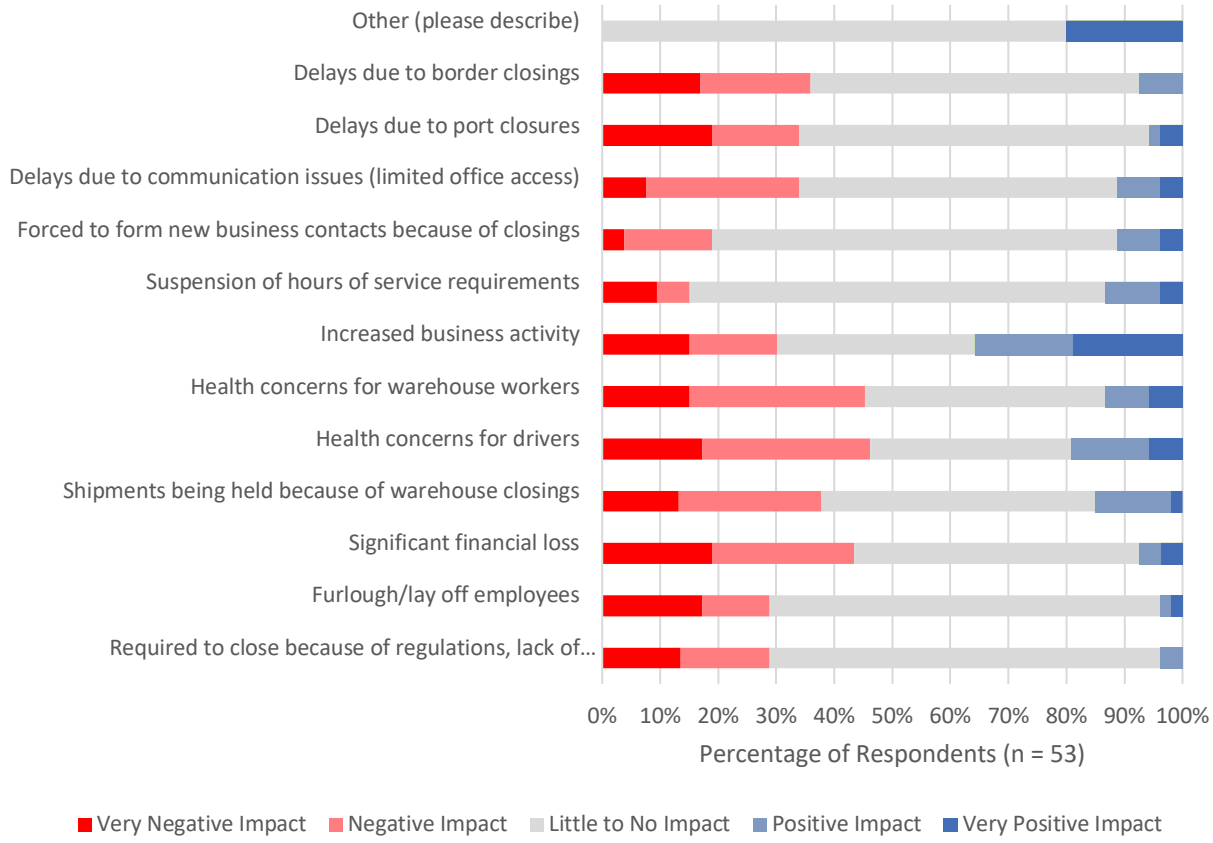
Figure 25. Question 14 - Analysis of Barriers to Efficiency (Effect) by Mode



Question 15: Effects of COVID-19

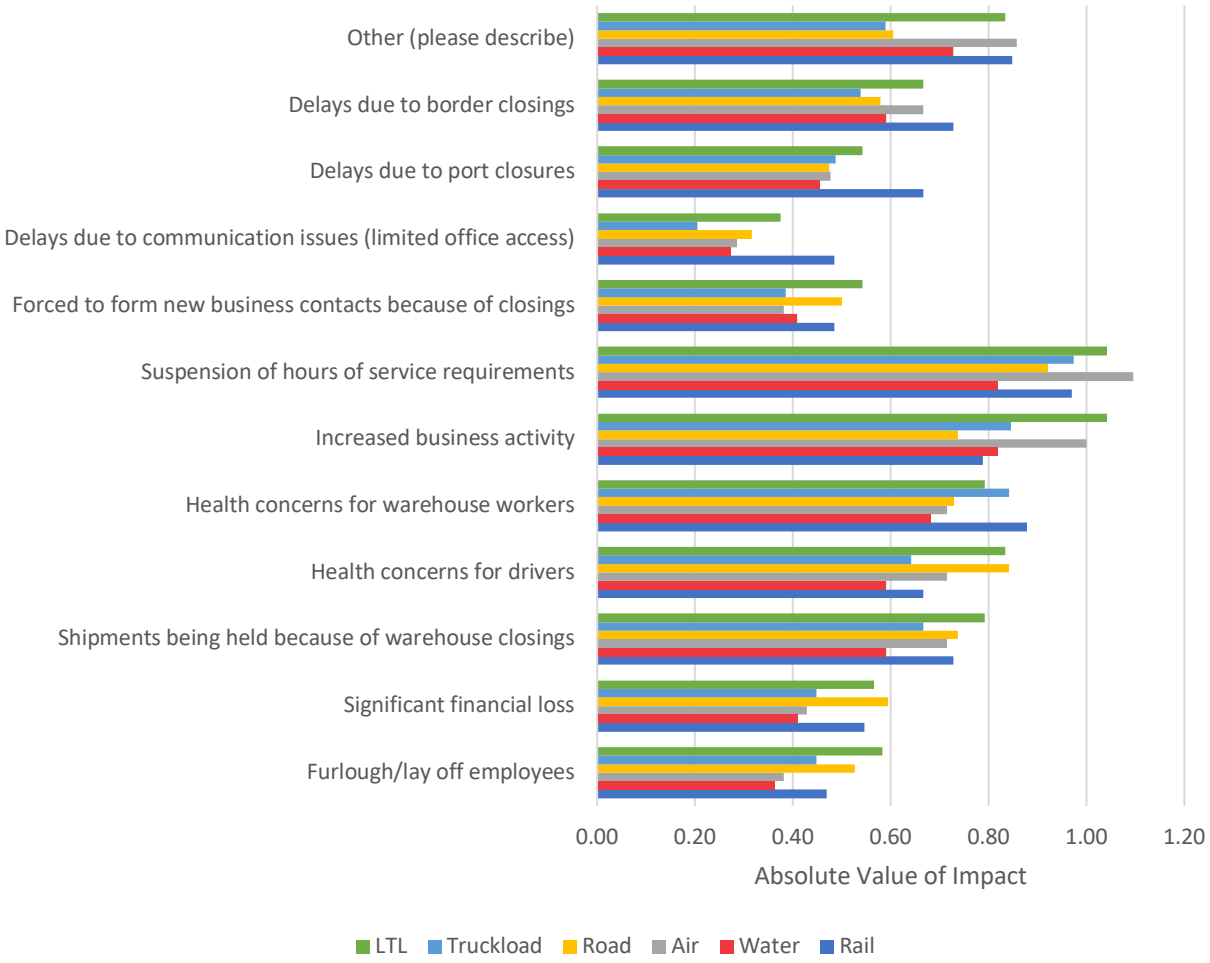
Respondents were asked to indicate how the COVID-19 pandemic has affected their business operations in 13 categories. This question was on a 5-point Likert scale ranging from -2 to 2, with -2 being "Very Negative Impact", 0 being "Little to No Impact", and 2 being "Very Positive Impact". Figure 26 shows the breakdown of responses for each of the 13 categories as a stacked bar chart, with darker red indicating more negative effects and darker green indicating more positive effects.

Figure 26. Question 15 - Response by COVID-19 Impact



Responses were analyzed by mode, as shown in Figure 27. For this figure, the absolute value of each response was taken before averaging all responses together. This then indicates the overall size of the impact, whether positive or negative.

Figure 27. Question 15 - Analysis of COVID-19 Impact by Mode



Question 16: Effects of Recent Changes

Respondents were asked to rate how 4 recent changes have affected their company. Like the previous question, Question 16 used a 5-point Likert scale ranging from -2 to 2, with -2 being "Very Negative Impact", 0 being "Little to No Impact", and 2 being "Very Positive Impact". Figure 28 shows the breakdown of responses for each of the 13 categories as a stacked bar chart, with darker red indicating more negative effects and darker green indicating more positive effects.

Figure 28. Question 16 - Responses by Impact from Recent Changes

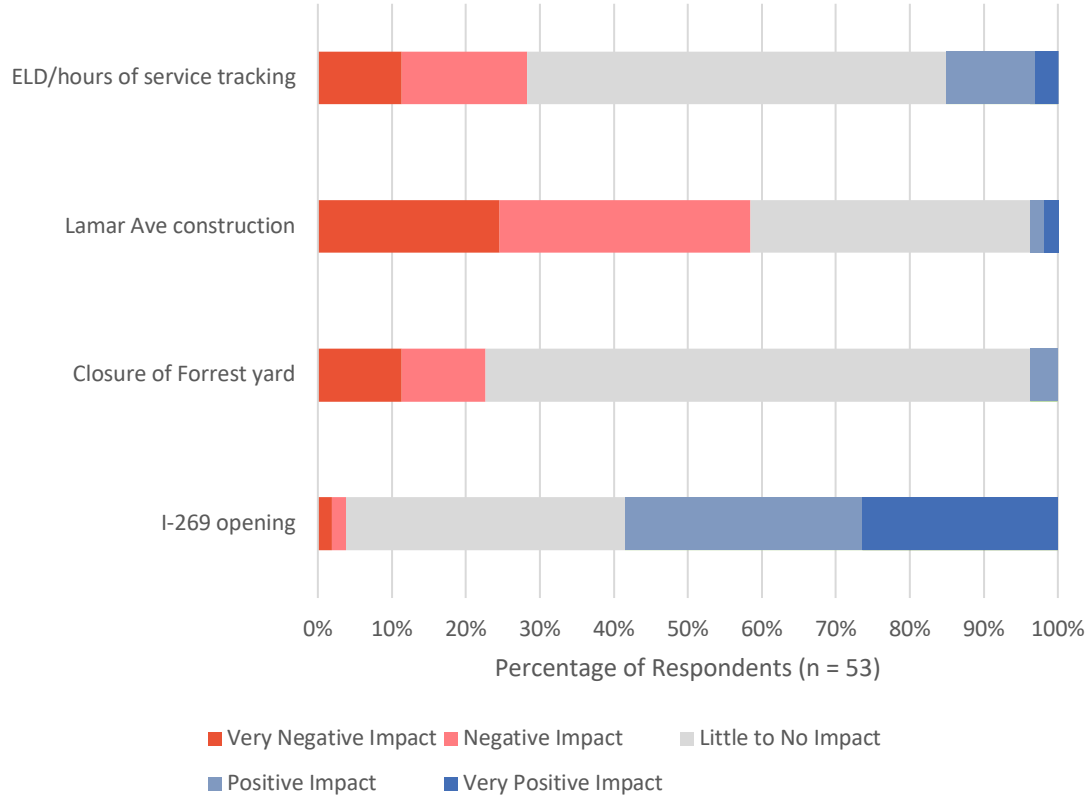


Figure 29. Question 16 - Analysis of Impact from Recent Changes by Mode

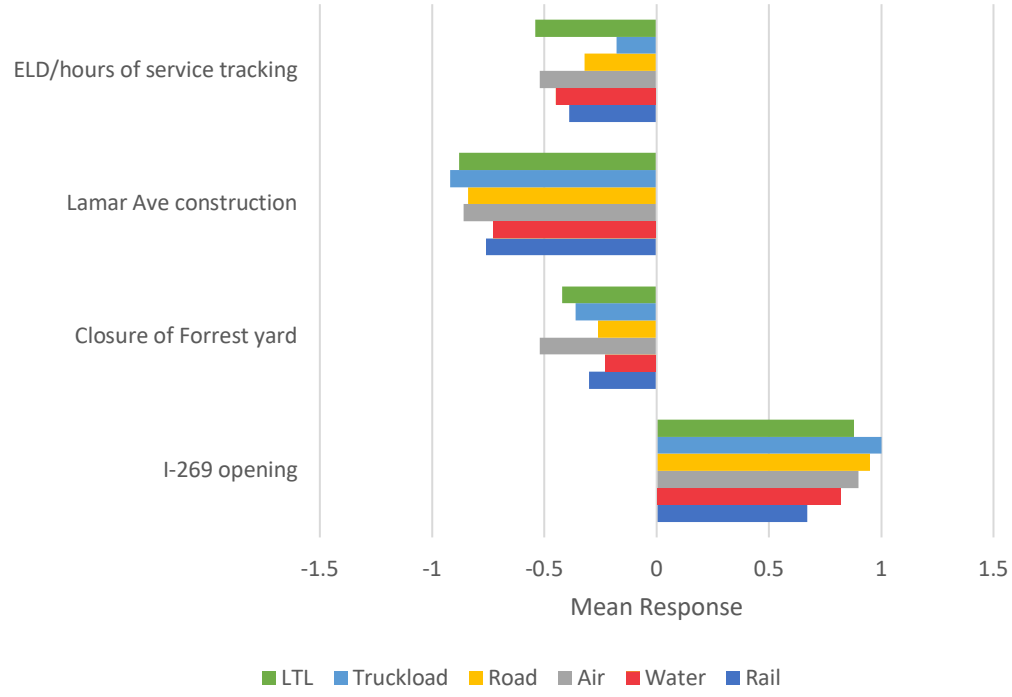
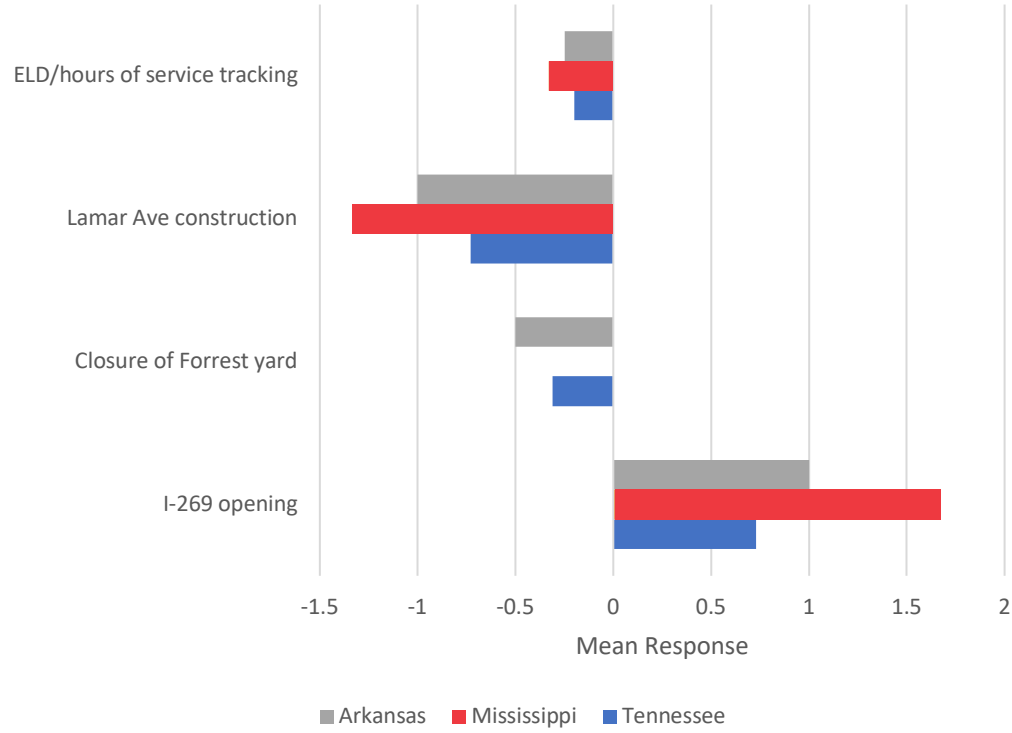


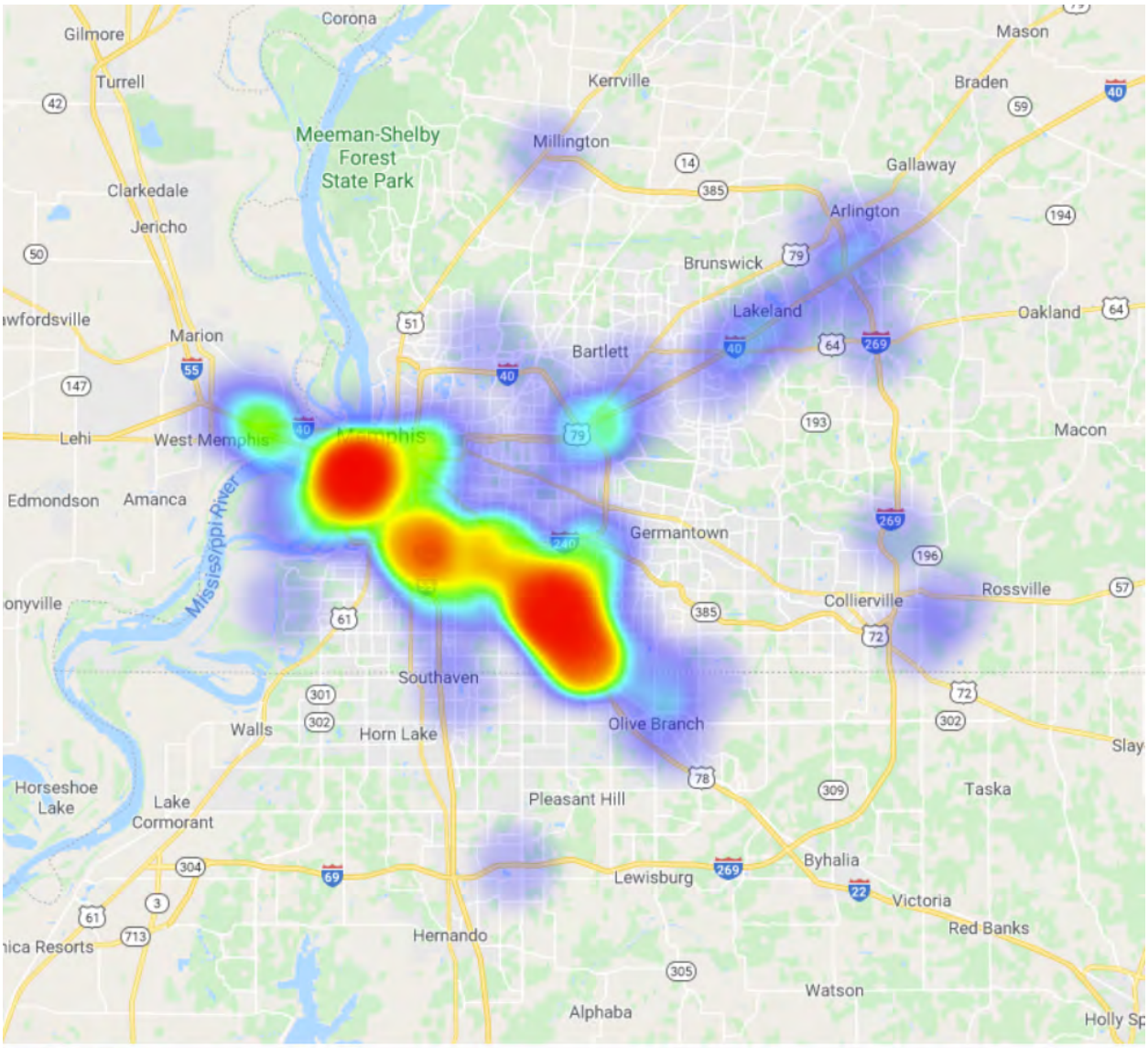
Figure 30. Question 16 - Analysis of Impact from Recent Changes by State



Question 17: Locations for Future Emphasis

Question 17 asked respondents to select areas that need the most attention from the MPO over the next 5 years on a static image from Google Maps. Figure 31 displays a heat map of the Greater Memphis Area that indicates these areas of need. Like Question 13, respondents were asked to select up to three locations for emphasis by the MPO. Respondents could click anywhere on the map, and only three clicks per respondent were recorded. Figure 31 shows the results from this heat map question.

Figure 31. Question 17 - Analysis of the Location that need the Most Attention - Heat Map



For this question, regions were set up on the heat map. Regions are invisible polygons drawn on the map before the survey was distributed that can aid analysis. Table 11 shows the number of clicks that occurred in the survey's predefined regions for this question.

Table 11. Question 17 – Number of Selections for Locations of Future Emphasis

Region	Number of Clicks
I-240/TN-385/Poplar	2
President's Island	4
Downtown	1
Airport Area	9
I-40/55 in West Memphis	4
US-72 south of Poplar	0
I-260 southeast	0
I-40 east / US-64 / I-269 northeast	7
I-55 / Stateline	1
Hacks Cross / Stateline	1
I-40 north loop	6
Shelby/Holmes	6
W Mem Southloop Ext	0
Other	38
Total	**79**

Question 18: Locations for Future Emphasis - Free Response

Question 18 allowed individuals who responded to Question 17 to indicate the reasons why they selected the specific locations for future emphasis. Respondents were asked to describe the location and the reason they picked the location. Table 12 displays the results of Question 18.

Location Description	Reason Picked
38118	• Proximity to rail, intermodal and chassis yards
Airport	• There is a lot on investment in this area over the next few years with UPS and FedEx. • AIRPORT CORRIDOR STILL NEEDS MASSIVE INFRASTRUCTURE AND REPAVING OF ROADS AND GREATER ACCESS OUT. • There is a high volume of traffic in this general area both commercial and consumer
Airways Blvd	• The City only fixed on section but needs to complete the job.
American Way	• Centrally located
Arlington	• Site of New Train Station, Retail Environment • Arlington Galloway are has alot of growth potential also
Bartlett	• Site of New Train Station, Retail Environment • Future multi-state multi-city passenger rail connections / stations • Friendly section of Shelby County

Location Description	Reason Picked
BNSF	• Better access
Bridges	• There has been no new bridge capacity while traffic has skyrocketed • Because bridge capacity obviously hasn't increased while traffic has. • Upgrades needed
CN/CSX area	• major congestion • Congestion at the CN and CSX for drivers that cause delays and rescheduling of freight because of missing RV times
Collierville	• Very good potential for growth at Industrial Park outside Collierville.
Downtown	• This area should always look great
Elvis home	• A main attraction to Memphis should be clean and safe at all times
Empty lots	• Space for development
Fairgrounds	• Future multi-state multi-city passenger rail connections / stations
Farm land	• Space for development
Hacks Cross	• TERRIBLE bottle neck at state line, very dangerous all the way back to Winchester
Hernando	• I269 has alot of potential
I-240 @ Airways Blvd	• Bottleneck for Airport traffic
I-240 @ I-55	• not enough distance to change lanes safely • merge and on/off ramp points poorly designed for traffic flow and tractor trailer ease of use • Interchange is highly congested
I-240 @ Lamar Ave	• south bound entrance ramp is too short • Should be I-22 merging with I-240. • Need more fluidity
I-240 @ TN-385	• Congestion, merging problems • The ramp to 385 [from I-240 EB] is at least 1 lane to narrow. It creates hazardous conditions on Eastbound 385.
I-269 @ US-64	• growth of outlying Shelby and Fayette County will increase both truck and car traffic
I-40	• Freight and commuter traffic congestion
I-40 @ I-240	• Peak congestion • signage and lane selection difficult to understand, causes late lane changes and potential safety hazards
I-40 @ I-269	• growth of outlying Shelby and Fayette County will increase both truck and car traffic
I-40 @ US-64	• Wolfchase area is changing will require attention to make sure that changes happen in an orderly fashion

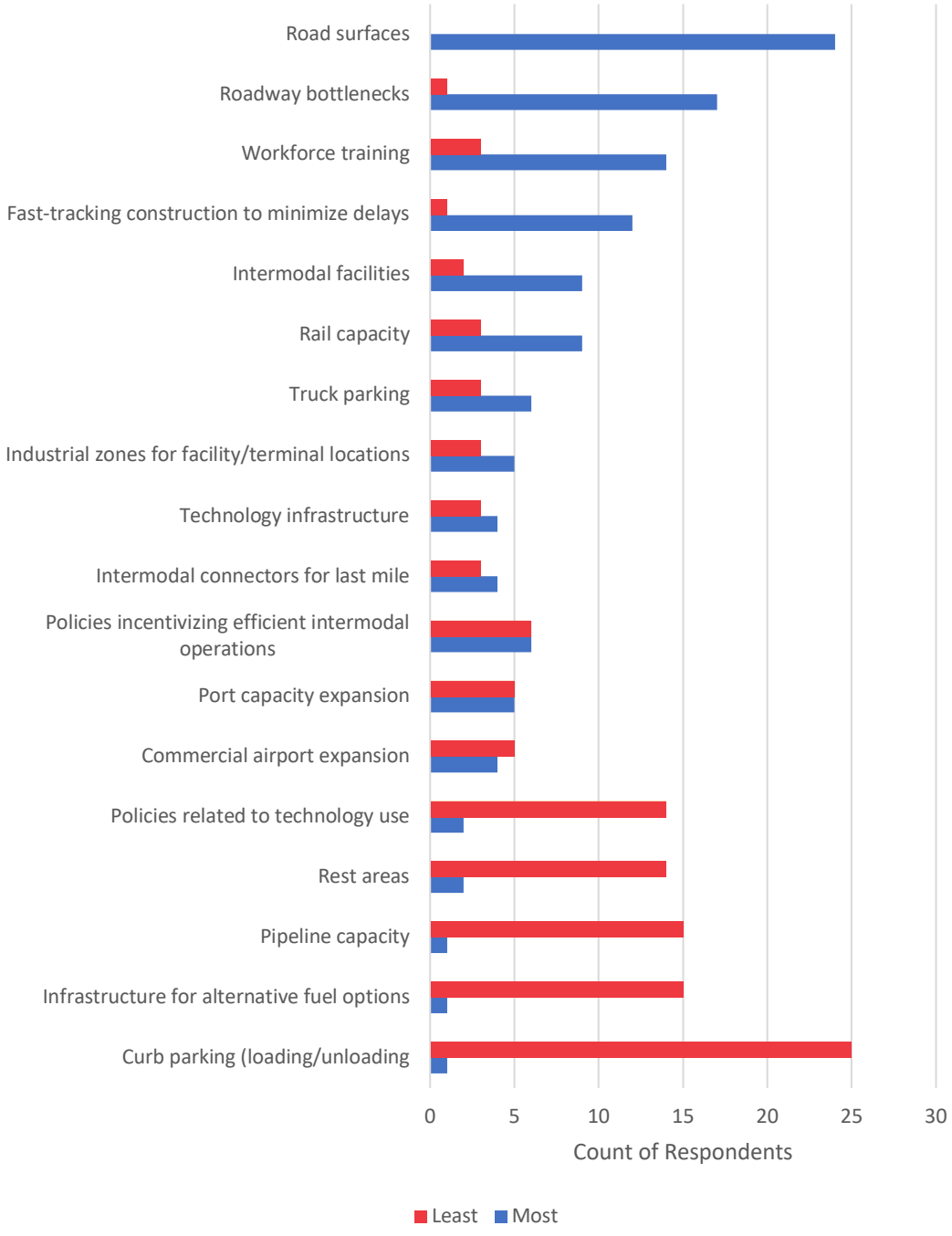
Location Description	Reason Picked
I-55 @ Brooks Rd	• High Crime area with many shipping facilities and poor roads.
I-55 @ Crump	• The congestion in this area and the Old Bridge cause numerous accidents • Dangerous exit for trucks • Critical bottleneck for I-55 traffic
I-55 bridge	• major trucking route
Lakeland	• Future multi-state multi-city passenger rail connections / stations
Lamar Ave	• Congestion & Road Work • Continued construction and upkeep from heavy truck traffic • 78 CORRIDOR PROJECT WILL CREATE NIGHTMARES FOR DRAY - IMC DELAYS • Most anticipated road improvements • Terrible congestion and worse roads, now construction • disaster • Road construction • Significant freight corridor • Road conditions • Shameful that it still isn't interstate to the state line. Even Alabama got their section built! • Should be I-22. • Lamar needs resurfacing • Need more fluidity • Typical example of improvements needed, i.e. traffic signals, paving, lane widths, etc.
McLemore/President's Island	• Outdated interchange that limits growth on President's Island
Memphis to Millington	• Fite Road. Need I say more. Booming!
MS Old Bridge	• Congestion & Road Work
new bridge	• I55 and I40 bridges need plans for disaster and construction bottlenecks
North Memphis	• Much investment here over the next few year. Would be smart for the city to commit to keeping this area safe so more can see the advantages of being in that area.
Old Bridge	• Need back up plan for rail if disaster hits, Memphis is an intermodal center because of the rail bridge over the river
Olive Branch, MS	• The entire area is booming and traffic is some of the worst in the area. Same as with Southaven
Orange Mound	• Location of New Train Station, Retail Environment

Location Description	Reason Picked
President's Island	• To many business' shut down during the 2008 recession and have not came back. The roadways on Presidents Island are probably some of the worst in the country. Extremely deteriorated. • Close to city and located in an industrialized area • The amount of industries located in this area all suffer because of the conditions of the roadways and entering and exiting the island. • Upgrades of all kinds needed
Raines Road	• Close to the BNSF
Riverdale	• Bottleneck at state line
Rossville, TN	• There seems to be a lot of congestion related to the container yard operations in the area. Same as with Southaven and Olive Branch
Shelby Drive	• Numerous accidents and speeding on this section of roadway causes people to detour from traveling Shelby Drive.
Southaven, MS	• Increasing warehouse activities in the area that are all relatively close to residential areas. Traffic is becoming more of a problem, causing delays and accidents. There are a lot of opportunities for productivity improvements around the way that cargo is handled in and out of the area.
Steam Plant	• Close to the CN and CSX
West Memphis AR	• Lots of opportunity and room for growth, especially in the industrial park areas

Question 19: Topics for Future Emphasis

Question 19 allowed the respondents to select the three most important and 3 least important topics for emphasis within the next 5 years. Figure 32 displays the percentage of respondents to indicate that a topic is one of the three most important or three least important.

Figure 32. Question 19 - Most and Least Important Topics for Future Emphasis



The three topics that show the most need are road surfaces, roadway bottlenecks, and workforce training. The three topics that show the least need are curb parking, pipeline capacity, and infrastructure for alternative fuel options. Table 13 and Table 14 display the most important topics for emphasis analyzed by the respondent mode and state, respectively.

Table 13. Question 19 – Top 5 "Most Important" Topics for Emphasis by Mode

Mode	1st	2nd	3rd	4th	5th
Rail	Road surfaces	Rail capacity	Intermodal facilities	Roadway bottlenecks	Workforce training
Water	Road surfaces	Roadway bottlenecks	Fast-tracking construction to minimize delays	Intermodal facilities	Workforce training
Air	Road surfaces	Workforce training	Intermodal facilities	Industrial zones for facility/ terminal locations	Fast-tracking construction to minimize delays
Road	Road surfaces	Roadway bottlenecks	Workforce training	Fast-tracking construction to minimize delays	Intermodal facilities
Truckload	Road surfaces	Roadway bottlenecks	Workforce training	Fast-tracking construction to minimize delays	Truck parking
LTL	Road surfaces	Roadway bottlenecks	Rail capacity	Industrial zones for facility/ terminal locations	Workforce training

Table 14. Question 19 – Top 5 "Most Important" Topics for Emphasis by State

State	1st	2nd	3rd	4th	5th
Tennessee	Road surfaces	Roadway bottlenecks	Workforce training	Fast-tracking construction to minimize delays	Intermodal facilities
Mississippi	Road surfaces	Roadway bottlenecks	Rest areas	Fast-tracking construction to minimize delays	Workforce training
Arkansas	Road surfaces	Roadway bottlenecks	Truck parking	Rail capacity	Port capacity expansion

Question 20: General Recommendations from Respondents

Question 20 allowed respondents to add any additional comments or recommendations that were not addressed in any of the survey questions. The results are as follows:

1.) No other concerns. There were parts of this survey that I could not complete because I couldn't figure out how to do it.
2.) Increased police/security presence around high traffic areas
3.) Get control of cargo thefts it's out of control.
4.) Build a 3rd Bridge. I55 Bridge bottlenecks to 1 lane to get back on interstate causing delays and accidents. The single lane is in extremely bad shape and very hard on automobiles and trucks.
5.) Replace I-55 bridge - hairpin turns cause backups and accidents
6.) More training centers and better pay should be discussed by business men and city officers
7.) Port efficiency study

Summary

Compared to the MPO's 2015 Freight Stakeholder Survey, this survey was sent out to over twice as many individuals and received a similar number of responses (115 individuals in 2015, 109 in 2020). The increased outreach efforts produced a respondent pool which was better balanced by business location, industry type, and mode of transportation. Survey respondents also included a higher percentage of small businesses in the Greater Memphis Area. The responses in this report have been cross-tabulated by factors such as transportation mode and state to provide a more detailed view of the perspectives of these sub-groups of freight stakeholders.

The primary objective of the survey was to obtain feedback from freight stakeholders within the Greater Memphis Area regarding concerns, future trends, and impacts of COVID-19 on the local freight industry and infrastructure. The resulting information will be used for the update of the MPO Freight Plan and future Regional Plan updates. The key findings of this survey are as follows:

1. The availability of multimodal freight infrastructure continues to be one of the Greater Memphis Area's most attractive features for freight companies.
2. Respondents reported several times throughout the survey that pavement conditions in the Greater Memphis Area are inadequate for their companies' needs.
3. Congestion does not incur significant cost in the form of requiring incremental locations, but it does incur significant cost in the form of delays. This is the case for all modes and in all states.
4. The entirety of I-240 from TN-385 in the east to I-40 in the west was suggested as a location for expanded truck parking. Other locations suggested included Lamar Ave in Tennessee and I-40/55 in West Memphis.
5. Peak period congestion and congestion due to incidents on the roadway are both the most frequent and the most disruptive barriers to productivity for truck drivers.
6. Several barriers to productivity are more disruptive to companies in Tennessee than in other states. Notable examples are incoming scheduling difficulties, noise regulations/limits, emissions regulations, and truck route restrictions.
7. For companies indicating impacts due to COVID-19, a mostly negative impact was reported. The most significant negative effects were health concerns for drivers and warehouse workers, significant financial loss, and delays due to warehouse and border closings.
8. The closure of the Norfolk Southern Forrest yard was mostly inconsequential to survey respondents. The opening of I-269 has had a very positive impact on the freight industry, with over half of respondents reporting a positive impact and only 4% of respondents reporting a negative impact to their business.
9. Lamar Ave was consistently a point of concern for survey respondents, who reported largely negative effects of the corridor's construction on their business.
10. The Lamar-240-55 corridor was overwhelmingly suggested as a location that needs the most attention from the MPO in the next 5 years. A few comments suggested that Lamar should be an uninterrupted facility from I-240 to the state line. Several others mentioned the need for routine improvements such as resurfacing and signal coordination.

11. Respondents suggested road surfaces, roadway bottlenecks, and workforce training as the most important topics for emphasis over the next 5 years. Workforce training was especially important to companies representing air freight.
12. Mississippi respondents indicated a consistently larger mean response to the frequency of congestion-related factors than Arkansas and Tennessee respondents while also indicating a greater impact due to lack of access. Additionally, Arkansas companies indicated a greater impact from mandate and restrictions than Mississippi and Tennessee.
13. Respondents who indicated rail as their mode were much more likely to have been impacted by closures due to COVID-19 than other modes. For most questions, there were minimal differences between the modal choices, indicating a consistent sentiment among modes.

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