CMP

Congestion Management Process 2020 Annual Regional Congestion Report

St. Louis Metropolitan Area June 30, 2021

in Han

FedEx

and the state



Creating Solutions Across Jurisdictional Boundaries

2020 Annual Regional Congestion Report

"The opinions, findings and conclusions expressed in this publication are those of the authors and not necessarily those of the Missouri Highways and Transportation Commission, the Illinois Department of Transportation, the Federal Highway Administration or the Federal Transit Administration."

FedEx

The East-West Gateway Council of Governments (EWG) hereby gives public notice that it is the policy of the agency to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related statutes and regulations in all programs and activities. Title VI requires that no person in the United States of America shall, on the grounds of race, color, sex, or national origin, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which EWG receives federal financial assistance. Any person who believes they have been aggrieved by an unlawful discriminatory practice under Title VI has a right to file a formal complaint with EWG. Any such complaint must be in writing and filed with EWG's Title VI Coordinator within one hundred eighty (180) days following the date of the alleged discriminatory occurrence. For more information, or to obtain a Title VI Discrimination Complaint Form, please see our web site at http://www.ewgateway.org or call (314) 421-4220

Contents

Introduction1
Scope of CMP Network Congestion Analysis2
1 Regional Freeway and Arterial Congestion Analyses
1.1 Congested CMP Network
1.2 Selected Congested Locations
1.3 Congestion Performance Analyses17
1.3.1 Total Congestion Trend 17
1.3.2 Planning Time Index Trend by Peak-Period18
1.3.3 Travel Time Index Trend by Peak-Period
1.4 Ranked Congested Locations 21
1.5 Changes in Overall Severity and Delay Impact
2 The impact of Covid-19
2.1 Basic Measures of Congestion
2.2 Congestion Progression
3 Mobility-Enhancing Strategies
3.1 Gateway Green Light (GGL) Signal Optimization Project
Conclusions
Appendix
Appendix 1: Ranked Freeway Locations
Appendix 2: Ranked Arterial Locations
Appendix 3: 2020 Major Highway Work Zone Congestion Impacts

Introduction

The regional Congestion Management Process (CMP) is a systematic and regionally accepted approach for managing congestion that provides accurate and up-to-date information on transportation system performance. As an MPO for the St. Louis region with a population over 2,000,000, East-West Gateway is required to maintain a CMP as part of its ongoing transportation planning process.

The CMP is intended to be a systematic way of monitoring, measuring and diagnosing the causes of current and future congestion on a region's multi- modal transportation systems; evaluating and recommending alternative strategies to manage current and future regional congestion; and monitoring and evaluating the performance of strategies implemented to manage congestion.

The purpose of the MPO transportation planning process is to comprehensively consider possible strategies, evaluate projects from diverse viewpoints, and meaningfully involve key stakeholders to support strategic regional choices in congestion management, such as improving roadways, expanding transit capacity, encouraging bicycling, and ensuring safe walking environments. These congestion management strategies provide a connecting tissue between the Long-Range Transportation Plan (LRTP), the Transportation Improvement Plan (TIP), and the Regional Intelligent Transportation System (ITS) Architecture. The CMP is strongly connected to the LRTP by providing a set of congestion management objectives, performance measures, and strategies that make the plan comprehensive.

The CMP provides system performance information for evaluating projects nominated for inclusion in the TIP and the CMP objectives are integrated with the application scoring and prioritization process. Transportation systems management and operation for congestion management are implemented through Intelligent Transportation Systems (ITS) such as traffic signal improvements; traveler information projects; electronic fare systems, Automatic Vehicle Identification (AVI), and Automatic Vehicle Location (AVL) technologies. Also, proposed ITS projects are required to be consistent with the regional CMP strategies.

The HERE data set was used to analyze the identified performance measures. HERE is a private vendor that provides mapping data and related services to individuals and companies. MODOT has contracted with HERE for access to their data and the use of the Regional Integrated Transportation Information System (RITIS). RITIS is an automated data sharing, dissemination, and archiving system that includes many performance measures, dashboard, and visual analytics tools housed at the University of Maryland.

MODOT's contract provides the same access to Missouri MPOs, which gives EWG the ability to analyze the HERE data set for the entire eight-county region. Three performance measures were analyzed in this study. These are Speed Index (SI), Planning Time Index (PTI), and Travel Time Index (TTI). These performance measures are defined below:

• Speed Index is the ratio of average speeds to 85th-percentile speeds of a segment. Speed Index was used to identify possible congested freeways.

- Travel Time Index is Travel Time represented as a percentage of the ideal travel time. For example, a TTI value of 1.2 means travel time during peak period is 20% longer than the free-flow travel time between the same origin and destination.
- Planning Time Index is the total travel time that should be planned when extra time (buffer time) is included in the trip. For example, a Planning Time Index of 1.60 means that, for a 15-minute trip, the total time that should be planned for the trip to ensure on-time arrival is 24 minutes (15 minutes x 1.60 = 24 minutes). In this scenario, the buffer time alone is 9 minutes (15 minutes x 0.6 percent). The higher the Planning Time Index, the more unreliable travel time is.

The 2020 Regional Congestion Report is comprised of five parts. These are: definition of the congested network, regional congestion analyses (for freeways and arterials), Covid-19 impact, evaluation of mobility-enhancing strategies, and a conclusion that notes a broader outlook for regional congestion.

Scope of CMP Network Congestion Analysis

The CMP network consists of Interstates, other Freeways and Expressways, and Principal Arterials included in the National Highway System (NHS). This analysis is limited to the core urban and suburban areas of the St. Louis region where congestion is prevalent on a regular, recurring basis. For the purposes of this analysis, the morning peak-period is from 6 am to 9 am and the evening peak period is from 3 pm to 6 pm. All performance measures are calculated and compared based on congestion data from these time periods.

The process of identifying the congested network for this analysis involved a detailed visual inspection of Speed Index congestion on all NHS roadways in the region. This index is the ratio of average speeds to 85th-percentile speed, which represents free-flow speeds. Four thresholds are applied to the Speed Index to reveal the various categories of congestion from the system for both arterials and freeways.

Congested location selection process is as follows:

- locations that met or exceeded thresholds for congestion are identified,
- short congested sections of the arterials where length of congestion was 0.3 miles or less were eliminated from the selection.

1 Regional Freeway and Arterial Congestion Analyses

This section covers the spatial analysis of the congested freeways and arterials, overview of the selected congested locations, and congestion performance analyses.

1.1 Congested CMP Network

The scope of analysis of the freeway system on the Missouri side of the region consisted of all Interstate highways and other freeways in St. Louis City, St. Louis County and St. Charles County. On the Illinois side, the freeways analyzed were I-255, from I-270 south to the Missouri State line, along with all interstates east of I-255 to the Missouri state line in St. Clair and Madison County. The limits that were chosen include the locations where congestion exists on a regular recurring basis on the Interstate highways and other freeways in our region.

Arterial operations vary widely in different parts of the region based on the population density and land use. For this reason, this report looks at the congested arterial locations separately for each area of the region. The intent is to supply each jurisdiction with the status of arterial operations so that they can determine how best to address their arterial congestion issues. The spatial distribution of the regional freeway and arterial network is shown in Figure 1.

Freeways

A total of 569.2 directional miles of freeway were selected for the regional analysis, which includes the mileage of both directions of travel for each segment of road. The analysis determined that 21.4 miles, 3.8% of total miles, were considered congested during morning peak, and 44.8 miles, 7.9% of total miles, during evening peak hours. A breakdown of how the total congested miles is distributed across the region is shown in Table 1.

Country	Congested Netw	vork (AM & PM)	AM Co	ongestion	PM Co	ngestion
County	Miles	Percent	Miles	Percent	Miles	Percent
St. Louis City	8.6	13.0%	2.2	10.3%	6.4	14.3%
St. Louis	32.8	49.5%	12.1	56.5%	20.7	46.2%
St. Charles	12.7	19.2%	2.3	10.7%	10.4	23.2%
IL	12.1	18.3%	4.8	22.4%	7.3	16.3%
Total	66.2	100%	21.4	100%	44.8	100%

 Table 1: Comparison of Regional and Congested Freeway Miles



Figure 1: Regional Freeway and Arterial Network

East-West Gateway Region May 2021

- ✓ Interstate / Freeway
- ~ Major Arterial

County Boundary 📁 River / Lake

Miles

Sources: Federal Highway Administration, Here Data; East-West Gateway Council of Governments

EAST-WEST GATEWAY

Arterials

Our analysis identified a total of 72.8 miles on the regional arterial network that were considered congested in the morning and evening peak periods. A comparison of congested miles by county is shown in Table 2. St. Louis City is ranked as the most congested percentage wise.

County	Congestee	l Network
County	Miles	Percent
St. Louis City	27.9	38.3%
St. Louis	25	34.3%
St. Charles	7.6	10.4%
Jefferson	1.3	1.8%
IL	11	15.1%
Total	72.8	100%

 Table 2: Comparison of Regional and Congested Arterial Miles

1.2 Selected Congested Locations

The tables in this section provide information on queue length, TTI, PTI, severity, and delay impact for the congested locations.

Severity and delay impact are defined as:

- The severity is the average of the TTI and PTI. It takes into account two aspects of congestion; the average delay of a congested location and how reliable the average travel time is from day to day. Higher severity numbers reflect more severe congestion.
- The delay impact is obtained by multiplying the congested miles of a location by the TTI. Its purpose is to compare the impact of delay to motorists, by factoring in the comparative lengths of the queues in each congested location.

Freeways

Our freeway analyses resulted in the selection of 66.2 miles of congested locations: 8.6 miles in the city of St. Louis, 32.8 miles in St. Louis county, 12.7 miles in St. Charles county, and 12.1 miles in Illinois. Table 3 lists the identified congested locations along with their performance measures during the AM and PM peaks. The maps in Figures 2 and 3 show the location of selected congested freeways, ranked by level of congestion based on speed index in the AM and PM peaks.

Map No	Route	Limits	State	County	Directio n	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	I-64	Kingshighway Blvd to McCausland Ave	МО	St. Louis City	WB	AM	2.18	2.54	1.13	1.83	2.47
2	I-64	Chesterfield Pkwy to MO 340/Olive Blvd	МО	St. Louis	EB	AM	0.30	2.4	1.09	1.74	0.33
3	I-270	Bellefontaine Rd to Washington St	МО	St. Louis	WB	AM	4.59	2.29	1.25	1.77	5.74
4	I-270	MO-30 to Big Bend Rd	MO	St. Louis	NB	AM	3.59	2.34	1.1	1.72	3.96
5	I-44	S Lindbergh Blvd to N Highway Dr	МО	St. Louis	WB	AM	2.07	1.2	1.13	1.16	2.35
6	I-44	Bowles Ave to Meramec River	МО	St. Louis	EB	AM	1.52	1.43	1.21	1.32	1.84
7	I-70	Zumbehl Rd to 5th St	MO	St. Charles	EB	AM	2.32	1.82	1.15	1.48	2.68
8	I-64	25th St to PSB	IL	IL	WB	AM	4.12	2.13	1.2	1.66	4.95
9	I-55/I-70	Exchange Ave to St. Clair Ave Exit 2	IL	IL	WB	AM	0.66	1.76	1.17	1.46	0.78
10	I-55	I-44/I-55 to Russell Blvd	мо	St. Louis City	SB	PM	1.39	1.56	1.14	1.35	1.59
11	I-44	10th St to I-55 SB	МО	St. Louis City	EB	PM	1.83	3.87	1.42	2.64	2.61
12	I-64	S Boyle Ave to Bellevue Ave	МО	St. Louis City/Co.	WB	РМ	3.47	2.96	1.3	2.13	4.52
13	I-64	McKnight Ave to Boland Pl	МО	St. Louis	EB	PM	1.71	2.66	1.21	1.93	2.07
14	I-270	Olive Blvd to MO-100	MO	St. Louis	SB	PM	4.93	2.16	1.13	1.64	5.58
15	I-270	McDonnell Blvd to New Florissant Rd	мо	St. Louis	EB	PM	3.99	2.74	1.29	2.01	5.15
16	I-170	Olive Blvd to I-64	MO	St. Louis	SB	PM	2.59	3.03	1.25	2.14	3.24
17	I-170	I-70 to Airport Rd	MO	St. Louis	NB	PM	1.29	2.19	1.14	1.66	1.48
18	I-44	S Lindbergh Blvd to N Highway Dr	МО	St. Louis	WB	РМ	2.07	2.13	1.24	1.68	2.57
19	I-70	MO-180 to 5th St	МО	St. Louis/St. Charles	WB	PM	4.97	2.36	1.39	1.87	6.91
20	I-70	MO-A to Wentzville Pky	MO	St. Charles	WB	PM	3.61	2.29	1.32	1.80	4.77
21	I-64	MO-DD/Winghaven to I- 70	МО	St. Charles	WB	PM	5.59	2.85	1.31	2.08	7.33
22	I-64	MLK Brg to IL-3	IL	IL	WB	PM	1.99	1.64	1.14	1.39	2.28
23	I-64	PSB to I-55/64/70 E Split	IL	IL	EB	PM	2.49	1.79	1.2	1.49	2.99
24	I-270	IL-3 to Riverview Dr	IL	IL	WB	PM	2.79	1.12	1.13	1.12	3.16
Total							66.17				

Table 3: Congested Freeway Locations



Figure 2: Congested Locations (AM Peak)



Arterials

Our analyses resulted in the selection of 72.8 miles of congested locations: 27.9 miles in the city of St. Louis, 25 miles in St. Louis county, 7.6 miles in St. Charles county, 1.3 miles in Jefferson county, and 11 miles in Illinois counties. The tables 4 through 8 show the identified congested locations along with their performance measures during the AM and PM peaks for each county. Figures 4a through 5b, show the location of selected congested arterials for morning and evening peak periods.

No	Map No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	1	Grand Blvd	Hall St to I-70	MO	SB	AM	0.38	2	1.44	1.72	0.56
2	2	Grand Blvd	Chouteau Ave to Park Ave	MO	SB	AM	0.38	2.56	1.86	2.21	0.71
3	3	Kingshighway Blvd	I-64 to MO-100	МО	SB	AM	0.31	2.25	1.44	1.84	0.45
4	4	Kingshighway Blvd	I-64 to Laclede Ave	МО	NB	AM	0.59	2.22	1.5	1.86	0.89
5	5	Market St	14th Street to Jefferson Ave	MO	WB	AM	0.80	1.97	1.46	1.71	1.18
6	6	Market St	Garrison Ave to Jefferson Ave	МО	EB	АМ	0.42	2.36	1.49	1.92	0.62
7	7	MO-100	Truman Pkwy to S Broadway	МО	EB	AM	0.79	1.97	1.38	1.67	1.09
8	8	MO-100	S Broadway to Truman Pkwy	МО	WB	AM	0.76	1.83	1.43	1.63	1.09
9	9	MO-100	Vandeventer to S Kingshighway	МО	WB	AM	0.95	2.08	1.51	1.79	1.44
10	10	Tucker Blvd	I-70 to 13th Ave	MO	SB	AM	0.33	2.31	1.39	1.85	0.46
11	11	Tucker Blvd	Cole St to Market St	MO	SB	AM	0.56	2.09	1.47	1.78	0.83
12	19	Cole St	Tucker Blvd to I-44	MO	EB	PM	0.54	1.96	1.65	1.80	0.90
13	20	Cole St	I-44 to Tucker Blvd	MO	WB	PM	0.55	2.48	1.81	2.14	1
14	21	Forest Park	Vandeventer Ave to Kingshighway Blvd	МО	WB	PM	1.36	1.77	1.37	1.57	1.86
15	22	Forest Park	Kingshighway Blvd to Vandeventer Ave	МО	EB	PM	1.22	1.75	1.37	1.56	1.68
16	23	Grand Blvd	Hall St to Florissant Ave	MO	SB	PM	0.81	2.04	1.57	1.80	1.28
17	24	Grand Blvd	I-64 to Park Ave	MO	SB	PM	0.75	2.92	1.86	2.39	1.39
18	25	Grand Blvd	I-64 to Lindell Blvd	MO	NB	PM	0.37	2.11	1.62	1.86	0.61
19	26	Grand Blvd	Russell Blvd to Park Ave	MO	NB	PM	0.50	2	1.4	1.7	0.70
20	27	Grand Blvd	Gravois Ave to Arsenal St	MO	NB	PM	0.71	1.73	1.42	1.57	1.01
21	28	Salisbury St	I-70 to Natural Br. Ave	мо	WB	PM	0.74	1.89	1.52	1.70	1.14
22	29	Jefferson Ave	Ave	МО	SB	PM	0.43	1.93	1.48	1.70	0.63
23	30	Jefferson Ave	Washington Blvd to Market St	МО	SB	PM	0.30	2.17	1.47	1.82	0.44
24	31	Jefferson Ave	Market St to Washington Blvd	мо	NB	РМ	0.30	1.92	1.46	1.69	0.44
25	32	Salisbury St	Florissant Ave to I-70	MO	EB	PM	0.48	2.56	1.95	2.25	0.94
26	33	Hampton Ave	Watson Ave to I-44	MO	NB	PM	0.60	2	1.38	1.69	0.83
27	34	Kingshighway Blvd	Lindell Blvd to MO-100	МО	SB	PM	1.27	2.52	1.59	2.05	2.03
28	35	Kingshighway Blvd	MO-100 to Forest Park Ave	МО	NB	PM	0.98	2.13	1.45	1.79	1.42
29	36	Market St	4th St to Jefferson Ave	MO	WB	PM	1.50	2.09	1.57	1.83	2.35
30	37	Market St	Garrison Ave to Jefferson Ave	МО	EB	PM	0.42	2.36	1.52	1.94	0.64
31	38	Market St	21st to 4th St	MO	EB	PM	1.27	1.94	1.54	1.74	1.96
32	39	MO-100	Truman Pkwy to S Tucker Blvd	МО	EB	PM	0.33	2.44	1.71	2.07	0.56

Table 4: St. Louis City

No	Map No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
33	40	MO-100	S Kingshighway Blvd to Vandeventer Ave	МО	EB	PM	0.95	2	1.65	1.82	1.57
34	41	MO-100	Vandeventer to S Kingshighway	МО	WB	PM	0.95	2.45	1.94	2.19	1.85
35	42	MO-100	S Broadway to Truman Pkwy	МО	WB	PM	0.76	1.8	1.45	1.62	1.10
36	43	MO-115	Salisbury St to Florissant Ave	МО	EB	PM	0.35	3.25	2.11	2.68	0.74
37	44	MO-D	Martin Luther King to Vandeventer	МО	WB	PM	0.52	1.75	1.44	1.59	0.75
38	45	MO-D	Goodfellow Blvd to Skinker Pkwy	МО	WB	PM	0.43	1.93	1.49	1.71	0.65
39	46	Skinker Blvd	Forest Park Pkwy to Delmar Blvd	МО	NB	PM	0.42	2	1.41	1.70	0.60
40	47	Skinker Blvd	Delmar Blvd to Forest Park Pkwy	МО	SB	PM	0.42	2.27	1.66	1.96	0.70
41	48	Tucker Blvd	I-70 to 13th Ave	MO	SB	PM	0.33	2.43	1.5	1.96	0.50
42	49	Tucker Blvd	Cole St to Market St	MO	SB	PM	0.56	2.3	1.7	2	0.96
43	50	Tucker Blvd	Park Ave to Chouteau Ave	MO	NB	PM	0.31	1.71	1.45	1.58	0.45
				27.91							

Table 4: St. Louis City (Continued)

No	Map No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	12	US-67	Washington St to Patterson Rd	МО	NB	AM	0.37	2.00	1.41	1.71	0.52
2	13	MO-21	Butler Hill rd to MO-141	MO	SB	AM	3.41	1.51	1.37	1.44	4.67
3	14	MO-100	Big Bend Blvd to McCausland Ave	МО	EB	AM	0.83	1.86	1.41	1.64	1.17
4	15	Natural Br. Rd	Woodson Rd to Brown Rd	МО	SB	AM	0.80	2.07	1.60	1.84	1.29
5	16	Natural Br. Rd	Brown Rd to Woodson Rd	МО	NB	AM	0.80	1.73	1.42	1.58	1.13
6	51	St Ferdinand St	Lindbergh Blvd to Washington St	МО	SB	PM	0.44	1.94	1.56	1.75	0.68
7	52	US-67	New Halls Ferry Rd to New Florissant Rd	МО	SB	PM	1.11	1.88	1.36	1.62	1.51
8	53	US-67	St Ferdinand St to Washington St	МО	SB	PM	0.67	3.20	1.64	2.42	1.11
9	54	US-67	New Florissant Rd to New Halls Ferry Rd	МО	NB	PM	1.14	2.06	1.65	1.86	1.89
10	55	US-67	Washington St to Patterson Rd	МО	NB	PM	0.37	2.31	1.58	1.95	0.58
11	56	US-61	Adams Ave to Big Bend Blvd	МО	SB	PM	1.17	1.79	1.38	1.59	1.61
12	57	US-61	I-55 to Lemay Ferry Rd	MO	SB	PM	0.61	1.94	1.51	1.73	0.92
13	58	MO-21	Butler Hill rd to MO-141	MO	SB	PM	3.41	1.51	1.37	1.44	4.67
14	59	MO-21	S Lindbergh Blvd to Kennerly Rd	МО	SB	PM	1.65	2.03	1.51	1.77	2.50
15	60	MO-21	Butler Hill rd to I-270	MO	NB	PM	1.50	1.93	1.48	1.71	2.21
16	61	MO-30	Sappington Rd to Lindbergh Blvd	МО	WB	PM	0.34	2.38	1.52	1.95	0.51
17	62	MO-30	Lindbergh Blvd to Sappington Rd	МО	EB	PM	0.34	2.46	1.72	2.09	0.58
18	63	MO-100	McCausland Ave to Big Bend Blvd	МО	WB	PM	0.83	1.83	1.45	1.64	1.21
19	64	MO-100	MO-340 to Old State rd	MO	WB	PM	0.54	2.11	1.56	1.84	0.84
20	65	MO-100	Big Bend Blvd to McCausland Ave	МО	EB	PM	0.83	2.17	1.77	1.97	1.47
21	66	MO-100	Henry Rd to MO-141	MO	EB	PM	0.45	2.14	1.49	1.82	0.67
22	67	Natural Br. Rd	Woodson Rd to Brown Rd	МО	SB	PM	0.80	2.21	1.77	1.99	1.42
23	68	Natural Br. Rd	Brown Rd to Woodson Rd	МО	NB	PM	0.80	1.86	1.51	1.69	1.20
24	69	MO-340	Chesterfield Pkwy to Baxter Rd	МО	SB	PM	0.38	2.92	1.50	2.21	0.57
25	70	MO-366	Lindbergh Blvd to Geyer Rd	MO	WB	PM	0.44	2.19	1.52	1.86	0.66
26	71	MO-AC	Old Halls Ferry Rd to I-270	MO	NB	PM	0.67	2.07	1.55	1.81	1.03
27	72	MO-D	MO	WB	PM	0.36	2.58	1.61	2.10	0.58	
			Total				25.04				

Table 5: St. Louis County

Table 6: St. Charles

No	Map No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	18	MO-94	W Clay to I-70	MO	SB	AM	0.69	1.94	1.38	1.66	0.96
2	74	Mexico Rd	I-70 to Jungermann Rd	MO	WB	PM	0.88	2.02	1.51	1.77	1.33
3	75	Mid Rivers Mall Dr	MO-364 to Central School Rd	МО	NB	PM	0.51	2.25	1.53	1.89	0.77
4	76	MO-K	I-70 to MO-364	MO	SB	PM	3.50	1.79	1.39	1.59	4.87
5	77	MO-94	5th St to I-70	MO	SB	PM	1.99	1.90	1.47	1.69	2.92
			Total				7.57				

Table 7: Jefferson

No	Map No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	17	MO-141	Jeffco Blvd to I-55	MO	NB	AM	0.47	2.01	1.47	1.74	0.70
2	73	MO-141	Jeffco Blvd to Arnold Church Rd	МО	NB	PM	0.84	2.20	1.67	1.94	1.41
			Total				1.32				

Table 8: Illinois

No	Map No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	78	IL-157	IL-143 to IL-159	IL	SB	PM	0.46	1.71	1.42	1.57	0.65
2	79	IL-157	E University Dr to Center Grove	IL	SB	PM	0.58	1.74	1.35	1.55	0.78
3	80	IL-157	Horseshoe Lake Rd to I- 55/70	IL	SB	РМ	0.78	2.46	1.68	2.07	1.31
4	81	IL-157	I-55/70 to Horseshoe Lake Rd	IL	NB	PM	0.47	2.00	1.54	1.77	0.72
5	82	IL-157	I-64 to New Bunkum Rd	IL	NB	PM	0.43	2.05	1.41	1.73	0.61
6	83	IL-159	I-64 to Frank Scott Pkwy	IL	SB	PM	1.80	2.18	1.58	1.88	2.84
7	84	IL-159	Lebanon Ave to Washington St	IL	SB	РМ	0.44	2.13	1.47	1.80	0.64
8	85	IL-159	I-270 to Governers Pkwy	IL	NB	PM	2.20	1.93	1.44	1.69	3.16
9	86	IL-159	Frank Scott Pkwy to I-64	IL	NB	PM	2.05	2.02	1.44	1.73	2.96
10	87	IL-203	Pontoon Rd to Madison Ave	IL	SB	PM	0.92	1.88	1.54	1.71	1.41
11	88	IL-203	Madison Ave to Pontoon Rd	IL	NB	PM	0.83	1.71	1.42	1.57	1.18
			Total				10.96				



Figure 4a: Congested Locations (AM Peak)







Figure 5a: Congested Locations (PM Peak)



Figure 5b: Congested Locations Inset Map (PM Peak)

1.3 Congestion Performance Analyses

Performance measures are key components of the CMP process as they:

- characterize existing and anticipated conditions on the regional transportation system;
- track progress toward meeting regional objectives;
- identify specific locations with congestion to address; and
- assess congestion mitigation strategies, programs, and projects.

In this section, three key analyses were undertaken for AM and PM peak periods. These are:

- Trends in congested miles by peak-period;
- Trends in average PTI by peak-period;
- Trends in average TTI by peak-period;

1.3.1 Total Congestion Trend

Total Congestion Trend analysis focuses on overall changes in total congestion over time by peak period.

Freeways

Figure 6 compares the percentages of total freeway miles that are congested in each peak period for each year.

Findings:

- The 2016-20 average ratio of total congested miles in PM peak period to AM peak period was about 64%.
- The ratio of total congested miles in the PM to AM peak period has continued to grow.





Arterials

Figure 7 compares the percentages of total arterial miles that are congested in each peak period for each year.

Findings

• The ratio of total congested miles in the PM to AM peak period has been steady from 2018 to 2020.



Figure 7: Trends in Total Congestion

1.3.2 Planning Time Index Trend by Peak-Period

This section looks at changes in average PTI over time for each peak period.

Freeways

Figure 8 represents the change in average PTI for freeways. From 2016 to 2019, both AM and PM peak periods showed a slight upward trend, indicating a decrease of the reliability of travel times on the congested network. However, the average PTI in 2020 decreased significantly for both AM and PM periods.



Figure 8: Trends in Planning Time Index (Average)

Arterials

Figure 9 represents the change in average PTI for Arterials. Both AM and PM peak hours showed a slight trend upwards from 2016 to 2019. The average PTI has decreased significantly in 2020.





1.3.3 Travel Time Index Trend by Peak-Period

This analysis tracks changes in average TTI over time for each peak period

Freeways

Figure 10 compares average TTI for morning and evening peak periods. Overall, both AM and PM peaks showed a slight upward trend in travel times from 2016 to 2019. The average TTI decreased significantly in 2020.





Arterials

Figure 11 compares average TTI for morning and evening peak periods. Similar to other measures, TTI has decreased in 2020.



Figure 11: Trends in Travel Time Index (Average)

1.4 Ranked Congested Locations

The top 10 freeway congested locations by severity and delay impact are shown in Tables 9 and 10, respectively. Tables 11 and 12, represent the same information for arterials.

The complete list of ranked congested locations are available in the Appendix 1 and 2.

Freeways

No	Route	Limits	State	County	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	I-44	10th St to I-55 SB	МО	St. Louis City	EB	PM	1.84	3.87	1.42	2.65	2.61
2	I-170	Olive Blvd to I-64	МО	St. Louis County	SB	PM	2.59	3.03	1.25	2.14	3.24
3	I-64	S Boyle Ave to Bellevue Ave	МО	St. Louis City/County	WB	PM	3.48	2.96	1.30	2.13	4.52
4	I-64	MO-DD/Winghaven to I- 70	МО	St Charles	WB	РМ	5.59	2.85	1.31	2.08	7.33
5	I-270	McDonnell Blvd to New Florissant Rd	МО	St. Louis County	EB	PM	3.99	2.74	1.29	2.02	5.15
6	I-64	McKnight Ave to Boland Pl	МО	St. Louis County	EB	PM	1.71	2.66	1.21	1.94	2.07
7	I-70	MO-180 to 5th St	МО	St. Louis/St Charles Co.	WB	PM	4.97	2.36	1.39	1.88	6.91
8	I-64	Kingshighway Blvd to McCausland Ave	МО	St. Louis City	WB	AM	2.18	2.54	1.13	1.84	2.47
9	I-70	MO-A to Wentzville Pky	MO	St Charles	WB	PM	3.61	2.29	1.32	1.81	4.77
10	I-270	Bellefontaine Rd to Washington St	МО	St. Louis County	WB	AM	4.59	2.29	1.25	1.77	5.74

Table 9: Top 10 Locations by Severity

Table 10: Top 10 Locations by Delay Impact

No	Route	Limits	State	County	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	I-64	MO-DD/Winghaven to I-70	МО	St Charles	WB	PM	5.59	2.85	1.31	2.08	7.33
2	I-70	MO-180 to 5th St	МО	St. Louis/St Charles Co.	WB	PM	4.97	2.36	1.39	1.88	6.91
3	I-270	Bellefontaine Rd to Washington St	МО	St. Louis County	WB	AM	4.59	2.29	1.25	1.77	5.74
4	I-270	Olive Blvd to MO-100	МО	St. Louis County	SB	PM	4.94	2.16	1.13	1.65	5.58
5	I-270	McDonnell Blvd to New Florissant Rd	МО	St. Louis County	EB	PM	3.99	2.74	1.29	2.02	5.15
6	I-64	25th St to PSB	IL	IL	WB	AM	4.12	2.13	1.20	1.67	4.95
7	I-70	MO-A to Wentzville Pky	МО	St Charles	WB	PM	3.61	2.29	1.32	1.81	4.77
8	I-64	S Boyle Ave to Bellevue Ave	МО	St. Louis City/County	WB	PM	3.48	2.96	1.30	2.13	4.52
9	I-270	MO-30 to Big Bend Rd	МО	St. Louis County	NB	AM	3.60	2.34	1.10	1.72	3.96
10	I-170	Olive Blvd to I-64	МО	St. Louis County	SB	PM	2.59	3.03	1.25	2.14	3.24

Arterials

No	Route	Limits	State	County	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	MO-115	Salisbury St to Florissant Ave	МО	St. Louis City	EB	PM	0.35	3.25	2.11	2.68	0.74
2	US-67	St Ferdinand St to Washington St	МО	St. Louis	SB	PM	0.67	3.20	1.64	2.42	1.11
3	Grand Blvd	I-64 to Park Ave	МО	St. Louis City	SB	PM	0.75	2.92	1.86	2.39	1.40
4	Salisbury St	Florissant Ave to I-70	МО	St. Louis City	EB	PM	0.49	2.56	1.95	2.26	0.95
5	Grand Blvd	Chouteau Ave to Park Ave	МО	St. Louis City	SB	AM	0.38	2.56	1.86	2.21	0.71
6	MO-340	Chesterfield Pkwy to Baxter Rd	МО	St. Louis	SB	PM	0.38	2.92	1.50	2.21	0.57
7	MO-100	Vandeventer to S Kingshighway	МО	St. Louis City	WB	PM	0.96	2.45	1.94	2.20	1.85
8	Cole St	I-44 to Tucker Blvd	МО	St. Louis City	WB	РМ	0.55	2.48	1.81	2.15	1.00
9	MO-D	I-170 to Woodson Rd	MO	St. Louis	WB	PM	0.36	2.58	1.61	2.10	0.58
10	MO-30	Lindbergh Blvd to Sappington Rd	МО	St. Louis	EB	PM	0.34	2.46	1.72	2.09	0.58

Table 11: Top 10 Locations by Severity

Table 12: Top 10 Locations by Delay Impact

No	Route	Limits	State	County	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	MO-K	I-70 to MO-364	MO	St. Charles	SB	PM	3.50	1.79	1.39	1.59	4.87
2	MO-21	Butler Hill rd to MO-141	MO	St. Louis	SB	AM	3.41	1.51	1.37	1.44	4.67
3	MO-21	Butler Hill rd to MO-141	MO	St. Louis	SB	PM	3.41	1.51	1.37	1.44	4.67
4	IL-159	I-270 to Governers Pkwy	IL	IL	NB	PM	2.20	1.93	1.44	1.69	3.16
5	IL-159	Frank Scott Pkwy to I-64	IL	IL	NB	PM	2.05	2.02	1.44	1.73	2.96
6	MO-94	5th St to I-70	MO	St. Charles	SB	PM	1.99	1.90	1.47	1.69	2.92
7	IL-159	I-64 to Frank Scott Pkwy	IL	IL	SB	PM	1.80	2.18	1.58	1.88	2.84
8	MO-21	S Lindbergh Blvd to Kennerly Rd	МО	St. Louis	SB	РМ	1.65	2.03	1.51	1.77	2.50
9	Market St	4th St to Jefferson Ave	МО	St. Louis City	WB	РМ	1.50	2.09	1.57	1.83	2.36
10	MO-21	Butler Hill rd to I-270	MO	St. Louis	NB	PM	1.50	1.93	1.48	1.71	2.21

1.5 Changes in Overall Severity and Delay Impact

In this section, we provide a high-level comparison of severity and delay impacts on regional network from 2016 to 2020 based on the data developed in the Annual Regional Congestion reports. The figures in this section show ranking of congested locations based on their severity and delay impact scores.

Freeways

Overall, the severity of congestion increased over time (Figure 12). In 2019, the highest levels of congestion dropped below 2018 levels. The congested locations in 2020 had the lowest severity in the five-year period.

The highest levels of delay impact decreased slightly over years (Figure 13). 2016 and 2017 had the highest delay impacts, followed by gradual decreases in 2018 and 2019. While for the most part (except 2017), the ranking of congested locations exhibited no significant pattern of increase or decrease, the delay impact decreased significantly in 2020.



Figure 12: Ranking of Locations by Severity

Figure 13: Ranking of Locations by Delay Impact



Arterials

Figure 14 and 15 show rankings of congested locations by severity and delay impact. The severity of congestion has seen a steady increase from 2016 to 2019. In 2020 however, the severity has dropped significantly, but it is still above 2016 levels.



Figure 14: Ranking of Locations by Severity

In general, the delay impact has increased from 2016 to 2019. The delay impact in 2020 is the lowest among all studied years.



Figure 15: Ranking of Locations by Delay Impact

2 The impact of Covid-19

Like other metropolitan areas, Covid-19 impacted St. Louis Region in different ways. Stay-athome orders and the implementation of work-from-home decreased traffic and changed the patterns of movements. A proper study of how Covid-19 impacted mobility and congestion requires detailed data analysis.

In this section, we use a simple approach to obtain a general picture of how Covid-19 impacted congestion in St. Louis Region. To do so, we first compare the basic measures of congestion between 2019 and 2020 and assume that the difference is mainly due to the impact of pandemic. We then measure congestion progression.

2.1 Basic Measures of Congestion

This section provides a series of charts that compare PTI, TTI, total congested miles, and average severity for ten congested locations with the highest severity, and average delay impact for ten congested locations with the highest delay impact. This provides a valid representation of the region-wide impact of Covid-19 on congestion.

The following figures show that all measures of congestion, for freeways and arterials, decreased significantly from 2019 to 2020.



Figure 15: Change in Congestion Measure for Freeways:



Figure 16: Change in Congestion Measure for Arterials:

2.2 Congestion Progression

This section provides a series of figures that represent the progression of congested segments of the regional freeway network over space and time. Each figure represents congested locations for the average of a single hour during the morning peak and evening peak period. The congested locations are also represented for the after-peak hour of 6 -7 PM.

The most important finding from these figures is that the number of congested locations and their severity decreased significantly from 2019 to 2020, as depicted in the figures by the stark differences in the amount of congestion shown.

Additionally, these figures can help identify where the bottlenecks begin and compare their progression during the peak hour.

The figures also suggest total congested miles is higher in the PM peak period, a finding also supported in the previous sections.



Figure 18. Regional Freeway Congestion: 6-7 AM

Congestion Level

severe

heavy

moderate





heavy

moderate





severe

heavy

moderate



Figure 21. Regional Freeway Congestion: 3-4 PM

Congestion Level

severe

heavy

moderate





severe

heavy

moderate





heavy

moderate





severe

heavy

moderate

3 Mobility-Enhancing Strategies

Following the implementation of mobility-enhancing projects, partners are often required to evaluate strategies to ensure that implemented strategies are effective at addressing congestion as intended. Strategies that significantly improve congestion are encouraged in future project sponsorship.

Due to Covid-19, the results for MoDOT's signal optimization projects, and IDOT's SCAT projects in 2020 were not available at the time this report was completed.

The following section reports GGL Project's mobility evaluations from the region.

3.1 Gateway Green Light (GGL) Signal Optimization Project

This project included optimization of four signalized corridors and eight stand-alone signalized intersections. The optimization of traffic signal timing at 32 specified project intersections throughout Saint Charles County resulted in decreased travel times along each of the study corridors. On average, travel times were reduced throughout the study area by **13%** during the morning peak period, **15%** during the midday peak period, **10%** during the evening peak period, and **17%** during the Saturday midday peak period.

Cost or Emission Measure	Pre-Study	Post-Study	Difference	Percent Reduction
Estimated Annual Fuel Consumption (gallons/year):	2,180,215	2,118,490	61,725	2.83%
Estimated Annual Operating Costs (dollars/year)*:	\$3,837,178	\$3,728,542	\$108,636	2.83%
Estimated Annual Pollutant Emissions (pounds/y	ear):			
VOC	74,706	70,527	4,179	5.59%
СО	586,902	538,539	48,363	8.24%
NO	127,028	126,783	245	0.19%
Total (VOC, CO, NO)	788,636	735,849	52,787	6.69%

Table 13: Annualized Savings Due to Improved Coordination from GGL Phase 6

Conclusions

The Covid-19 Pandemic was by far the overriding factor impacting the status of congestion on the transportation system in the St. Louis region in 2020. Restrictions implemented to reduce transmission of the virus and control the pandemic caused significant reductions in travel and resulted in reduced traffic volumes across the region.

As a result, the most significant finding in this report is the reduction of congestion measures across freeways and arterials in 2020. Planning Time Index (PTI) and Travel Time Index (TTI) have the lowest values in 2020 compared to the previous four years.

We performed a qualitative analysis of changes in congestion measures from 2019 to 2020. Based on this study, PTI and TTI have decreased around 10% from 2019 to 2020. Other measures such as Total Congested Miles, and the average severity and delay impact for the top 10 most congested locations have higher levels of reduction.

Tables 14 and 15 summarize the overall changes in performance measures for all congested locations from 2019 to 2020.

Measure	20	19	2020			
	AM	PM	AM	PM		
Total Congested Miles	91.9	174.9	21.4	44.8		
Average PTI	2.40	2.68	1.99	2.36		
Average TTI	1.28	1.40	1.16	1.24		
Average Severity	1.84	2.04	1.57	1.80		
Average Delay Impact	5.58	9.35	2.80	3.75		

Table 14: Comparison of Freeway Congestion Measures between 2019 and 2020

Table 15: Comparison of Arterial Congestion Measures between 2019 and 2020

Measure	20	19	2020			
	AM	PM	AM	PM		
Total Congested Miles	29.6	126	13.7	59.1		
Average PTI	2.41	2.47	2.04	2.12		
Average TTI	1.54	1.66	1.47	1.55		
Average Severity	1.98	2.06	1.76	1.83		
Average Delay Impact	1.40	1.81	1.10	1.28		

The single most telling statistic that defines the impact of the Covid-19 pandemic on regional congestion is the decrease in total miles of congestion in the AM and PM peak hours. Total Freeway congested miles declined by 73% and total Arterial congested miles declined by 53% from 2019 to 2020.

Appendix

Appendix 1: Ranked Freeway Locations

No	Route	Limits	State	County	Direction	Peak	Queue	PTI	TTI	Severity	Delay
-	T 44	104 Geo. 1 55 GD	140	St. Louis	FD	D) (2.07	1.40	2.65	
1	1-44	10th St to 1-55 SB	мо	City	ЕВ	PM	1.84	3.87	1.42	2.65	2.61
2	I-170	Olive Blvd to I-64	МО	St. Louis County	SB	PM	2.59	3.03	1.25	2.14	3.24
3	I-64	S Boyle Ave to Bellevue Ave	МО	St. Louis City/County	WB	PM	3.48	2.96	1.30	2.13	4.52
4	I-64	MO-DD/Winghaven to I-70	мо	St Charles	WB	РМ	5.59	2.85	1.31	2.08	7.33
5	I-270	McDonnell Blvd to New Florissant Rd	МО	St. Louis County	EB	PM	3.99	2.74	1.29	2.02	5.15
6	I-64	McKnight Ave to Boland Pl	МО	St. Louis County	EB	PM	1.71	2.66	1.21	1.94	2.07
7	I-70	MO-180 to 5th St	МО	St. Louis/St Charles Co.	WB	PM	4.97	2.36	1.39	1.88	6.91
8	I-64	Kingshighway Blvd to McCausland Ave	МО	St. Louis City	WB	AM	2.18	2.54	1.13	1.84	2.47
9	I-70	MO-A to Wentzville Pky	МО	St Charles	WB	PM	3.61	2.29	1.32	1.81	4.77
10	I-270	Bellefontaine Rd to Washington St	МО	St. Louis County	WB	AM	4.59	2.29	1.25	1.77	5.74
11	I-64	Chesterfield Pkwy to MO 340/Olive Blvd	МО	St. Louis County	EB	AM	0.31	2.40	1.09	1.75	0.33
12	I-270	MO-30 to Big Bend Rd	МО	St. Louis County	NB	AM	3.60	2.34	1.10	1.72	3.96
13	I-44	S Lindbergh Blvd to N Highway Dr	МО	St. Louis County	WB	PM	2.08	2.13	1.24	1.69	2.57
14	I-64	25th St to PSB	IL	IL	WB	AM	4.12	2.13	1.20	1.67	4.95
15	I-170	I-70 to Airport Rd	МО	St. Louis County	NB	PM	1.30	2.19	1.14	1.67	1.48
16	I-270	Olive Blvd to MO-100	МО	St. Louis County	SB	РМ	4.94	2.16	1.13	1.65	5.58
17	I-64	PSB to I-55/64/70 E Split	IL	IL	EB	PM	2.49	1.79	1.20	1.50	2.99
18	I-70	Zumbehl Rd to 5th St	MO	St Charles	EB	AM	2.33	1.82	1.15	1.49	2.68
19	I-55/I-70	Exchange Ave to St. Clair Ave Exit 2	IL	IL	WB	AM	0.66	1.76	1.17	1.47	0.78
20	I-64	MLK Brg to IL-3	IL	IL	WB	PM	2.00	1.64	1.14	1.39	2.28
21	I-55	I-44/I-55 to Russell Blvd	МО	St. Louis City	SB	PM	1.40	1.56	1.14	1.35	1.59
22	I-44	Bowles Ave to Meramec River	МО	St. Louis County	EB	AM	1.52	1.43	1.21	1.32	1.84
23	I-44	S Lindbergh Blvd to N Highway Dr	МО	St. Louis County	WB	AM	2.08	1.20	1.13	1.17	2.35
24	I-270	IL-3 to Riverview Dr	IL	IL	WB	PM	2.79	1.12	1.13	1.13	3.16

Table A.1: Freeway Locations Ranked by Severity

No	Route	Limits	State	County	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	I-64	MO-DD/Winghaven to I-70	МО	St Charles	WB	РМ	5.59	2.85	1.31	2.08	7.33
2	I-70	MO-180 to 5th St	МО	St. Louis/St Charles Co.	WB	РМ	4.97	2.36	1.39	1.88	6.91
3	I-270	Bellefontaine Rd to Washington St	мо	St. Louis County	WB	AM	4.59	2.29	1.25	1.77	5.74
4	I-270	Olive Blvd to MO-100	мо	St. Louis County	SB	PM	4.94	2.16	1.13	1.65	5.58
5	I-270	McDonnell Blvd to New Florissant Rd	МО	St. Louis County	EB	РМ	3.99	2.74	1.29	2.02	5.15
6	I-64	25th St to PSB	IL	IL	WB	AM	4.12	2.13	1.20	1.67	4.95
7	I-70	MO-A to Wentzville Pky	МО	St Charles	WB	PM	3.61	2.29	1.32	1.81	4.77
8	I-64	S Boyle Ave to Bellevue Ave	МО	St. Louis City/County	WB	PM	3.48	2.96	1.30	2.13	4.52
9	I-270	MO-30 to Big Bend Rd	МО	St. Louis County	NB	AM	3.60	2.34	1.10	1.72	3.96
10	I-170	Olive Blvd to I-64	МО	St. Louis County	SB	PM	2.59	3.03	1.25	2.14	3.24
11	I-270	IL-3 to Riverview Dr	IL	IL	WB	PM	2.79	1.12	1.13	1.13	3.16
12	I-64	PSB to I-55/64/70 E Split	IL	IL	EB	PM	2.49	1.79	1.20	1.50	2.99
13	I-70	Zumbehl Rd to 5th St	MO	St Charles	EB	AM	2.33	1.82	1.15	1.49	2.68
14	I-44	10th St to I-55 SB	МО	St. Louis City	EB	РМ	1.84	3.87	1.42	2.65	2.61
15	I-44	S Lindbergh Blvd to N Highway Dr	МО	St. Louis County	WB	PM	2.08	2.13	1.24	1.69	2.57
16	I-64	Kingshighway Blvd to McCausland Ave	МО	St. Louis City	WB	AM	2.18	2.54	1.13	1.84	2.47
17	I-44	S Lindbergh Blvd to N Highway Dr	мо	St. Louis County	WB	AM	2.08	1.20	1.13	1.17	2.35
18	I-64	MLK Brg to IL-3	IL	IL	WB	PM	2.00	1.64	1.14	1.39	2.28
19	I-64	McKnight Ave to Boland Pl	МО	St. Louis County	EB	PM	1.71	2.66	1.21	1.94	2.07
20	I-44	Bowles Ave to Meramec River	МО	St. Louis County	EB	AM	1.52	1.43	1.21	1.32	1.84
21	I-55	I-44/I-55 to Russell Blvd	МО	St. Louis City	SB	PM	1.40	1.56	1.14	1.35	1.59
22	I-170	I-70 to Airport Rd	МО	St. Louis County	NB	PM	1.30	2.19	1.14	1.67	1.48
23	I-55/I-70	Exchange Ave to St. Clair Ave Exit 2	IL	IL	WB	AM	0.66	1.76	1.17	1.47	0.78
24	I-64	Chesterfield Pkwy to MO 340/Olive Blvd	мо	St. Louis County	EB	AM	0.31	2.40	1.09	1.75	0.33

Table A.2: Freeway	Locations I	Ranked b	v Delay	Impact

Appendix 2: Ranked Arterial Locations

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	MO-115	Salisbury St to Florissant Ave	МО	EB	РМ	0.35	3.25	2.11	2.68	0.74
2	Grand Blvd	I-64 to Park Ave	MO	SB	PM	0.75	2.92	1.86	2.39	1.40
3	Salisbury St	Florissant Ave to I-70	MO	EB	PM	0.49	2.56	1.95	2.26	0.95
4	Grand Blvd	Chouteau Ave to Park Ave	МО	SB	AM	0.38	2.56	1.86	2.21	0.71
5	MO-100	Vandeventer to S Kingshighway	МО	WB	PM	0.96	2.45	1.94	2.20	1.85
6	Cole St	I-44 to Tucker Blvd	MO	WB	PM	0.55	2.48	1.81	2.15	1.00
7	MO-100	Truman Pkwy to S Tucker Blvd	МО	EB	РМ	0.33	2.44	1.71	2.08	0.56
8	Kingshighway Blvd	Lindell Blvd to MO-100	МО	SB	РМ	1.28	2.52	1.59	2.06	2.03
9	Tucker Blvd	Cole St to Market St	MO	SB	PM	0.57	2.30	1.70	2.00	0.96
10	Skinker Blvd	Delmar Blvd to Forest Park Pkwy	МО	SB	РМ	0.43	2.27	1.66	1.97	0.71
11	Tucker Blvd	I-70 to 13th Ave	MO	SB	PM	0.34	2.43	1.50	1.97	0.50
12	Market St	Garrison Ave to Jefferson Ave	МО	EB	PM	0.42	2.36	1.52	1.94	0.64
13	Market St	Garrison Ave to Jefferson Ave	МО	EB	AM	0.42	2.36	1.49	1.93	0.63
14	Grand Blvd	I-64 to Lindell Blvd	MO	NB	PM	0.38	2.11	1.62	1.87	0.61
15	Kingshighway Blvd	I-64 to Laclede Ave	МО	NB	AM	0.60	2.22	1.50	1.86	0.90
16	Tucker Blvd	I-70 to 13th Ave	MO	SB	AM	0.34	2.31	1.39	1.85	0.47
17	Kingshighway Blvd	I-64 to MO-100	МО	SB	AM	0.32	2.25	1.44	1.85	0.46
18	Market St	4th St to Jefferson Ave	MO	WB	PM	1.50	2.09	1.57	1.83	2.36
19	MO-100	S Kingshighway Blvd to Vandeventer Ave	MO	EB	PM	0.96	2.00	1.65	1.83	1.58
20	Jefferson Ave	Washington Blvd to Market St	MO	SB	PM	0.30	2.17	1.47	1.82	0.45
21	Cole St	Tucker Blvd to I-44	MO	EB	PM	0.55	1.96	1.65	1.81	0.91
22	Grand Blvd	Ave	МО	SB	PM	0.82	2.04	1.57	1.81	1.28
23	MO-100	Vandeventer to S Kingshighway	МО	WB	AM	0.96	2.08	1.51	1.80	1.44
24	Kingshighway Blvd	MO-100 to Forest Park Ave	МО	NB	РМ	0.98	2.13	1.45	1.79	1.43
25	Tucker Blvd	Cole St to Market St	MO	SB	AM	0.57	2.09	1.47	1.78	0.83
26	Market St	21st to 4th St	MO	EB	PM	1.27	1.94	1.54	1.74	1.96
21	Grand Divu	14th Street to Jefferson	MO	SD	AN	0.39	2.00	1.44	1.72	0.30
28	Market St	Ave Goodfallow Blvd to	МО	WB	AM	0.81	1.97	1.46	1.72	1.18
29	MO-D	Skinker Pkwy	MO	WB	PM	0.44	1.93	1.49	1.71	0.65
30	Sansbury St	I-70 to Natural Br. Ave	MO	WB	PIVI	0.75	1.89	1.52	1./1	1.14
31	Jefferson Ave	Ave	МО	SB	PM	0.43	1.93	1.48	1.71	0.64
32	Skinker Blvd	Delmar Blvd	MO	NB	PM	0.43	2.00	1.41	1.71	0.60
33	Grand Blvd	Ave	МО	NB	РМ	0.50	2.00	1.40	1.70	0.71
34	Jefferson Ave	Market St to Washington Blvd	МО	NB	PM	0.30	1.92	1.46	1.69	0.44
35	Hampton Ave	Watson Ave to I-44	MO	NB	PM	0.60	2.00	1.38	1.69	0.83
36	MO-100	Truman Pkwy to S Broadway	МО	EB	AM	0.79	1.97	1.38	1.68	1.09

Table A.3: City of St. Louis Arterial Locations Ranked by Severity

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
37	MO-100	S Broadway to Truman Pkwy	МО	WB	AM	0.76	1.83	1.43	1.63	1.09
38	MO-100	S Broadway to Truman Pkwy	МО	WB	PM	0.76	1.80	1.45	1.63	1.11
39	MO-D	Martin Luther King to Vandeventer	МО	WB	PM	0.52	1.75	1.44	1.60	0.75
40	Tucker Blvd	Park Ave to Chouteau Ave	МО	NB	PM	0.31	1.71	1.45	1.58	0.45
41	Grand Blvd	Gravois Ave to Arsenal St	МО	NB	РМ	0.71	1.73	1.42	1.58	1.01
42	Forest Park	Vandeventer Ave to Kingshighway Blvd	МО	WB	PM	1.36	1.77	1.37	1.57	1.87
43	Forest Park	Kingshighway Blvd to Vandeventer Ave	МО	EB	PM	1.23	1.75	1.37	1.56	1.68

Table A.3: City of St. Louis Arterial Locations Ranked by Severity (Continued)

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	Market St	4th St to Jefferson Ave	MO	WB	PM	1.50	2.09	1.57	1.83	2.36
2	Kingshighway Blvd	Lindell Blvd to MO-100	МО	SB	PM	1.28	2.52	1.59	2.06	2.03
3	Market St	21st to 4th St	MO	EB	PM	1.27	1.94	1.54	1.74	1.96
4	Forest Park	Vandeventer Ave to Kingshighway Blvd	MO	WB	PM	1.36	1.77	1.37	1.57	1.87
5	MO-100	Vandeventer to S Kingshighway	МО	WB	PM	0.96	2.45	1.94	2.20	1.85
6	Forest Park	Kingshighway Blvd to Vandeventer Ave	МО	EB	PM	1.23	1.75	1.37	1.56	1.68
7	MO-100	S Kingshighway Blvd to Vandeventer Ave	МО	EB	PM	0.96	2.00	1.65	1.83	1.58
8	MO-100	Vandeventer to S Kingshighway	МО	WB	AM	0.96	2.08	1.51	1.80	1.44
9	Kingshighway Blvd	MO-100 to Forest Park Ave	МО	NB	РМ	0.98	2.13	1.45	1.79	1.43
10	Grand Blvd	I-64 to Park Ave	MO	SB	PM	0.75	2.92	1.86	2.39	1.40
11	Grand Blvd	Hall St to Florissant Ave	МО	SB	РМ	0.82	2.04	1.57	1.81	1.28
12	Market St	14th Street to Jefferson Ave	МО	WB	AM	0.81	1.97	1.46	1.72	1.18
13	Salisbury St	I-70 to Natural Br. Ave	MO	WB	PM	0.75	1.89	1.52	1.71	1.14
14	MO-100	S Broadway to Truman Pkwy	MO	WB	PM	0.76	1.80	1.45	1.63	1.11
15	MO-100	Truman Pkwy to S Broadway	MO	EB	AM	0.79	1.97	1.38	1.68	1.09
16	MO-100	S Broadway to Truman Pkwy	MO	WB	AM	0.76	1.83	1.43	1.63	1.09
17	Grand Blvd	Gravois Ave to Arsenal St	MO	NB	PM	0.71	1.73	1.42	1.58	1.01
18	Cole St	I-44 to Tucker Blvd	MO	WB	PM	0.55	2.48	1.81	2.15	1.00
19	Tucker Blvd	Cole St to Market St	MO	SB	PM	0.57	2.30	1.70	2.00	0.96
20	Cole St	Tucker Blyd to I-44	MO	EB FR	PM PM	0.49	2.50	1.95	2.20	0.95
21	Kingshighway	I-64 to Laclede Ave	MO	NB	AM	0.60	2.22	1.50	1.86	0.90
23	Tucker Blvd	Cole St to Market St	МО	SB	AM	0.57	2.09	1.47	1.78	0.83
24	Hampton Ave	Watson Ave to I-44	МО	NB	PM	0.60	2.00	1.38	1.69	0.83
25	MO-D	Martin Luther King to Vandeventer	МО	WB	PM	0.52	1.75	1.44	1.60	0.75
26	MO-115	Salisbury St to Florissant Ave	МО	EB	PM	0.35	3.25	2.11	2.68	0.74
27	Grand Blvd	Chouteau Ave to Park Ave	МО	SB	AM	0.38	2.56	1.86	2.21	0.71
28	Skinker Blvd	Delmar Blvd to Forest Park Pkwy	МО	SB	PM	0.43	2.27	1.66	1.97	0.71
29	Grand Blvd	Russell Blvd to Park Ave	МО	NB	PM	0.50	2.00	1.40	1.70	0.71
30	MO-D	Goodfellow Blvd to Skinker Pkwy	МО	WB	PM	0.44	1.93	1.49	1.71	0.65
31	Market St	Garrison Ave to Jefferson Ave	МО	EB	PM	0.42	2.36	1.52	1.94	0.64
32	Jefferson Ave	Russell Blvd to Gravois Ave	МО	SB	PM	0.43	1.93	1.48	1.71	0.64
33	Market St	Garrison Ave to Jefferson Ave	МО	EB	AM	0.42	2.36	1.49	1.93	0.63
34	Grand Blvd	I-64 to Lindell Blvd	MO	NB	PM	0.38	2.11	1.62	1.87	0.61
35	Skinker Blvd	Forest Park Pkwy to Delmar Blvd	МО	NB	PM	0.43	2.00	1.41	1.71	0.60
36	MO-100	Truman Pkwy to S Tucker Blvd	МО	EB	PM	0.33	2.44	1.71	2.08	0.56
37	Grand Blvd	Hall St to I-70	MO	SB	AM	0.39	2.00	1.44	1.72	0.56

Table A.4: City of St. Louis Arterial Locations Ranked by Delay Impact

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
38	Tucker Blvd	I-70 to 13th Ave	MO	SB	PM	0.34	2.43	1.50	1.97	0.50
39	Tucker Blvd	I-70 to 13th Ave	MO	SB	AM	0.34	2.31	1.39	1.85	0.47
40	Kingshighway Blvd	I-64 to MO-100	МО	SB	AM	0.32	2.25	1.44	1.85	0.46
41	Tucker Blvd	Park Ave to Chouteau Ave	МО	NB	PM	0.31	1.71	1.45	1.58	0.45
42	Jefferson Ave	Washington Blvd to Market St	МО	SB	PM	0.30	2.17	1.47	1.82	0.45
43	Jefferson Ave	Market St to Washington Blvd	МО	NB	РМ	0.30	1.92	1.46	1.69	0.44

Table A.4: City of St. Louis Arterial Locations Ranked by Delay Impact (Continued)

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	US-67	St Ferdinand St to Washington St	МО	SB	PM	0.67	3.20	1.64	2.42	1.11
2	MO-340	Chesterfield Pkwy to Baxter Rd	МО	SB	PM	0.38	2.92	1.50	2.21	0.57
3	MO-D	I-170 to Woodson Rd	MO	WB	PM	0.36	2.58	1.61	2.10	0.58
4	MO-30	Lindbergh Blvd to Sappington Rd	МО	EB	PM	0.34	2.46	1.72	2.09	0.58
5	Natural Br. Rd	Woodson Rd to Brown Rd	МО	SB	PM	0.80	2.21	1.77	1.99	1.42
6	MO-100	Big Bend Blvd to McCausland Ave	МО	EB	PM	0.83	2.17	1.77	1.97	1.47
7	MO-30	Sappington Rd to Lindbergh Blvd	МО	WB	PM	0.34	2.38	1.52	1.95	0.51
8	US-67	Washington St to Patterson Rd	МО	NB	PM	0.37	2.31	1.58	1.95	0.58
9	US-67	New Florissant Rd to New Halls Ferry Rd	МО	NB	PM	1.14	2.06	1.65	1.86	1.89
10	MO-366	Lindbergh Blvd to Geyer Rd	МО	WB	PM	0.44	2.19	1.52	1.86	0.66
11	Natural Br. Rd	Woodson Rd to Brown Rd	МО	SB	AM	0.80	2.07	1.60	1.84	1.29
12	MO-100	MO-340 to Old State rd	MO	WB	PM	0.54	2.11	1.56	1.84	0.84
13	MO-100	Henry Rd to MO-141	MO	EB	PM	0.45	2.14	1.49	1.82	0.67
14	MO-AC	Old Halls Ferry Rd to I- 270	МО	NB	PM	0.67	2.07	1.55	1.81	1.03
15	MO-21	S Lindbergh Blvd to Kennerly Rd	МО	SB	PM	1.65	2.03	1.51	1.77	2.50
16	St Ferdinand St	Lindbergh Blvd to Washington St	МО	SB	PM	0.44	1.94	1.56	1.75	0.68
17	US-61	I-55 to Lemay Ferry Rd	MO	SB	PM	0.61	1.94	1.51	1.73	0.92
18	US-67	Washington St to Patterson Rd	МО	NB	AM	0.37	2.00	1.41	1.71	0.52
19	MO-21	Butler Hill rd to I-270	MO	NB	PM	1.50	1.93	1.48	1.71	2.21
20	Natural Br. Rd	Brown Rd to Woodson Rd	МО	NB	РМ	0.80	1.86	1.51	1.69	1.20
21	MO-100	McCausland Ave to Big Bend Blvd	МО	WB	PM	0.83	1.83	1.45	1.64	1.21
22	MO-100	Big Bend Blvd to McCausland Ave	МО	EB	AM	0.83	1.86	1.41	1.64	1.17
23	US-67	New Halls Ferry Rd to New Florissant Rd	МО	SB	PM	1.11	1.88	1.36	1.62	1.51
24	US-61	Adams Ave to Big Bend Blvd	МО	SB	PM	1.17	1.79	1.38	1.59	1.61
25	Natural Br. Rd	Brown Rd to Woodson Rd	МО	NB	AM	0.80	1.73	1.42	1.58	1.13
26	MO-21	Butler Hill rd to MO-141	MO	SB	AM	3.41	1.51	1.37	1.44	4.67
27	MO-21	Butler Hill rd to MO-141	MO	SB	PM	3.41	1.51	1.37	1.44	4.67

 Table A.5: St. Louis County Arterial Locations Ranked by Severity

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	MO-21	Butler Hill rd to MO-141	MO	SB	AM	3.41	1.51	1.37	1.44	4.67
2	MO-21	Butler Hill rd to MO-141	MO	SB	PM	3.41	1.51	1.37	1.44	4.67
3	MO-21	S Lindbergh Blvd to Kennerly Rd	МО	SB	РМ	1.65	2.03	1.51	1.77	2.50
4	MO-21	Butler Hill rd to I-270	MO	NB	PM	1.50	1.93	1.48	1.71	2.21
5	US-67	New Florissant Rd to New Halls Ferry Rd	МО	NB	РМ	1.14	2.06	1.65	1.86	1.89
6	US-61	Adams Ave to Big Bend Blvd	МО	SB	РМ	1.17	1.79	1.38	1.59	1.61
7	US-67	New Halls Ferry Rd to New Florissant Rd	МО	SB	РМ	1.11	1.88	1.36	1.62	1.51
8	MO-100	Big Bend Blvd to McCausland Ave	МО	EB	РМ	0.83	2.17	1.77	1.97	1.47
9	Natural Br. Rd	Woodson Rd to Brown Rd	МО	SB	РМ	0.80	2.21	1.77	1.99	1.42
10	Natural Br. Rd	Woodson Rd to Brown Rd	МО	SB	AM	0.80	2.07	1.60	1.84	1.29
11	MO-100	McCausland Ave to Big Bend Blvd	МО	WB	PM	0.83	1.83	1.45	1.64	1.21
12	Natural Br. Rd	Brown Rd to Woodson Rd	МО	NB	РМ	0.80	1.86	1.51	1.69	1.20
13	MO-100	Big Bend Blvd to McCausland Ave	МО	EB	AM	0.83	1.86	1.41	1.64	1.17
14	Natural Br. Rd	Brown Rd to Woodson Rd	МО	NB	AM	0.80	1.73	1.42	1.58	1.13
15	US-67	St Ferdinand St to Washington St	МО	SB	PM	0.67	3.20	1.64	2.42	1.11
16	MO-AC	Old Halls Ferry Rd to I- 270	МО	NB	PM	0.67	2.07	1.55	1.81	1.03
17	US-61	I-55 to Lemay Ferry Rd	MO	SB	PM	0.61	1.94	1.51	1.73	0.92
18	MO-100	MO-340 to Old State rd	MO	WB	PM	0.54	2.11	1.56	1.84	0.84
19	St Ferdinand St	Lindbergh Blvd to Washington St	МО	SB	РМ	0.44	1.94	1.56	1.75	0.68
20	MO-100	Henry Rd to MO-141	MO	EB	PM	0.45	2.14	1.49	1.82	0.67
21	MO-366	Lindbergh Blvd to Geyer Rd	МО	WB	РМ	0.44	2.19	1.52	1.86	0.66
22	MO-30	Lindbergh Blvd to Sappington Rd	МО	EB	РМ	0.34	2.46	1.72	2.09	0.58
23	US-67	Washington St to Patterson Rd	МО	NB	РМ	0.37	2.31	1.58	1.95	0.58
24	MO-D	I-170 to Woodson Rd	MO	WB	PM	0.36	2.58	1.61	2.10	0.58
25	MO-340	Chesterfield Pkwy to Baxter Rd	МО	SB	РМ	0.38	2.92	1.50	2.21	0.57
26	US-67	Washington St to Patterson Rd	МО	NB	AM	0.37	2.00	1.41	1.71	0.52
27	MO-30	Sappington Rd to Lindbergh Blvd	МО	WB	РМ	0.34	2.38	1.52	1.95	0.51

 Table A.6: St. Louis County Arterial Locations Ranked by Delay Impact

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	MO-K	I-70 to MO-364	MO	SB	PM	3.50	1.79	1.39	1.59	4.87
2	MO-94	W Clay to I-70	MO	SB	AM	0.69	1.94	1.38	1.66	0.96
3	MO-94	5th St to I-70	MO	SB	PM	1.99	1.90	1.47	1.69	2.92
4	Mexico Rd	I-70 to Jungermann Rd	MO	WB	PM	0.88	2.02	1.51	1.77	1.33
5	Mid Rivers Mall Dr	MO-364 to Central School Rd	МО	NB	PM	0.51	2.25	1.53	1.89	0.77

Table A.7: St. Charles County Arterial Locations Ranked by Severity

Table A.8: St. Charles County Arterial Locations Ranked by Delay Impact

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	MO-K	I-70 to MO-364	MO	SB	PM	3.5	1.79	1.39	1.59	4.865
2	MO-94	5th St to I-70	MO	SB	PM	1.988	1.9	1.47	1.685	2.923
3	Mexico Rd	I-70 to Jungermann Rd	MO	WB	PM	0.881	2.02	1.51	1.765	1.33
4	MO-94	W Clay to I-70	MO	SB	AM	0.693	1.94	1.38	1.66	0.956
5	Mid Rivers Mall Dr	MO-364 to Central School Rd	МО	NB	PM	0.505	2.25	1.53	1.89	0.773

Table A.9: Jefferson County Arterial Locations Ranked by Severity

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	MO-141	Jeffco Blvd to Arnold Church Rd	МО	NB	PM	0.841	2.2	1.67	1.935	1.405
2	MO-141	Jeffco Blvd to I-55	MO	NB	AM	0.474	2.01	1.47	1.74	0.697

Table A.10: Jefferson County Arterial Locations Ranked by Delay Impact

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	MO-141	Jeffco Blvd to Arnold Church Rd	МО	NB	РМ	0.841	2.2	1.67	1.935	1.405
2	MO-141	Jeffco Blvd to I-55	MO	NB	AM	0.474	2.01	1.47	1.74	0.697

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	IL-157	Horseshoe Lake Rd to I- 55/70	IL	SB	PM	0.78	2.46	1.68	2.07	1.31
2	IL-159	I-64 to Frank Scott Pkwy	IL	SB	PM	1.80	2.18	1.58	1.88	2.84
3	IL-159	Lebanon Ave to Washington St	IL	SB	РМ	0.44	2.13	1.47	1.80	0.64
4	IL-157	I-55/70 to Horseshoe Lake Rd	IL	NB	PM	0.47	2.00	1.54	1.77	0.72
5	IL-157	I-64 to New Bunkum Rd	IL	NB	PM	0.43	2.05	1.41	1.73	0.61
6	IL-159	Frank Scott Pkwy to I-64	IL	NB	PM	2.05	2.02	1.44	1.73	2.96
7	IL-203	Pontoon Rd to Madison Ave	IL	SB	РМ	0.92	1.88	1.54	1.71	1.41
8	IL-159	I-270 to Governers Pkwy	IL	NB	PM	2.20	1.93	1.44	1.69	3.16
9	IL-157	IL-143 to IL-159	IL	SB	PM	0.46	1.71	1.42	1.57	0.65
10	IL-203	Madison Ave to Pontoon Rd	IL	NB	РМ	0.83	1.71	1.42	1.57	1.18
11	IL-157	E University Dr to Center Grove	IL	SB	PM	0.58	1.74	1.35	1.55	0.78

 Table A.11: Illinois Counties Arterial Locations Ranked by Severity

 Table A.12: Illinois Counties Arterial Locations Ranked by Delay Impact

No	Route	Limits	State	Direction	Peak	Queue Length	PTI	TTI	Severity	Delay Impact
1	IL-159	I-270 to Governers Pkwy	IL	NB	PM	2.20	1.93	1.44	1.69	3.16
2	IL-159	Frank Scott Pkwy to I-64	IL	NB	PM	2.05	2.02	1.44	1.73	2.96
3	IL-159	I-64 to Frank Scott Pkwy	IL	SB	PM	1.80	2.18	1.58	1.88	2.84
4	IL-203	Pontoon Rd to Madison Ave	IL	SB	PM	0.92	1.88	1.54	1.71	1.41
5	IL-157	Horseshoe Lake Rd to I- 55/70	IL	SB	PM	0.78	2.46	1.68	2.07	1.31
6	IL-203	Madison Ave to Pontoon Rd	IL	NB	PM	0.83	1.71	1.42	1.57	1.18
7	IL-157	E University Dr to Center Grove	IL	SB	PM	0.58	1.74	1.35	1.55	0.78
8	IL-157	I-55/70 to Horseshoe Lake Rd	IL	NB	PM	0.47	2.00	1.54	1.77	0.72
9	IL-157	IL-143 to IL-159	IL	SB	PM	0.46	1.71	1.42	1.57	0.65
10	IL-159	Lebanon Ave to Washington St	IL	SB	PM	0.44	2.13	1.47	1.80	0.64
11	IL-157	I-64 to New Bunkum Rd	IL	NB	PM	0.43	2.05	1.41	1.73	0.61

Appendix 3: 2020 Major Highway Work Zone Congestion Impacts

I-270 North Reconstruction Project - McDonnell Blvd to Bellefontaine Rd:

- Four-year project that includes reconstruction of eight interchanges.
- Multiple closures and detours during the course of the project.

I-44 Meramec River Bridge Replacement and I-44/I-270 Interchange Revisions:

- Replaces both EB and WB Meramec River Bridges and EB and WB Rte. 366/Watson Rd. Ramp Bridges.
- Revisions to I-270/I-44 interchange to improve operations.

I-70 Blanchette Missouri River Bridge Rehab:

- Both EB and WB bridges impacted during construction
- Included lane shifts and lane reductions.

These projects included multiple detours, lane reductions and lane closures that would normally have resulted in significantly increased delays to motorists. However, in 2020 the decreased volumes of traffic due to the Covid-19 pandemic resulted in lower levels of increased congestion than normal.



Creating Solutions Across Jurisdictional Boundaries

Gateway Tower One Memorial Drive, Suite 1600 St. Louis, MO 63102-2451

> 314-421-4220 618-274-2750

www.ewgateway.org