Where We Stand: 8th Edition

Update 11: Roadway Congestion in Urban Areas

April 2023

Where We Stand has reported increased congestion on U.S. roadways in urban areas throughout the country for many years. That has changed, at least temporarily. In 2020, travel delay on U.S. roadways fell to about half of what it was in 2019, below levels seen in 1997.

Auto travelers in the St. Louis region continue to drive more than their peers in most other large metropolitan regions and face less congestion as they do so. Trucks and commercial vehicles also face less congestion as they move through St. Louis than they endure in other regions. However, 2020 data indicate that St. Louis was more congested relative to other major metropolitan regions than is typical.

In early 2021, congestion was still less than it was a decade earlier, but was trending back up. The Texas Transportation Institute (TTI) periodically releases the Urban Mobility Report (UMR) with data on congestion throughout the country. TTI speculates that it will take some regions years to return back to pre-pandemic levels, but regions that are growing may be back to pre-pandemic levels sooner (Schrank, 2021).

In the St. Louis region, 2021 data reported in the East-West Gateway Congestion Management Report (CMR) indicates that overall congestion in the region is higher than in 2020 but remains “well below” 2019 levels. However, the data reveal some changes in congestion patterns over the 2019 to 2021 time period. The most significant difference is substantially less congested roadways in the AM rush hour in 2021 than was seen in 2019 and 2020. A likely explanation for this shift is more flexible work hours, which allows travelers to avoid typical rush hours, as well as remote work arrangements that keep some off the roadways (East-West Gateway, 2022).

The decline in congestion during the pandemic is typical of recessionary periods; the economy and congestion tend to move in the same direction. This is one reason high levels or increased congestion are not necessarily bad. There is good and bad congestion; reducing congestion needs to be balanced with other goals.

There are some apparent negative effects of congestion, including traffic jams that lead to increased costs, an inefficient use of time, unreliable travel times for freight, and increased pollution. However, there are tradeoffs involved in determining what levels of congestion are acceptable, including property values, retail sales, and safety.

On thriving commercial corridors with many pedestrians, slower traffic may be necessary to preserve attractive, lively, and walkable spaces. On larger arterials, slower traffic can result from having a popular destination. On many roadways, congestion can slow auto traffic down in a way that makes the area less prone to serious or fatal crashes.

Generally, congestion tends to be most prevalent in areas where people want to be, a sign of vitality. Former Milwaukee mayor John Norquist writes, "congestion is a bit like cholesterol: If you don't have any, you die" (Norquist, 2011).

This Where We Stand Update ranks St. Louis among the 50 most populous U.S. regions (referred to as the peer regions)[1] on data reported by TTI in the Urban Mobility Report (UMR) and by the Federal Highway Administration (FHWA) through the National Performance Management Research Data Set (NPMRDS). The latest data available from TTI is 2020, but since the year is unusual, 2019 data is provided as well.

“With 2020 total congestion cost half of the 2019 level, the ‘congestion recovery’ may take a few years, but it also seems clear that some aspects of the problem and the solutions may have changed forever.”

~ Urban Mobility Report, 2021

1 Where We Stand tracks the St. Louis region among the 50 most populous Metropolitan Statistical Areas (MSAs), which are geographic entities delineated by the Office of Management and Budget (OMB). MSAs are areas with “at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.” The data in this Where We Stand Update are for the urbanized areas of the 50 most populous MSAs.

The Transportation System

This section provides some baseline information on the transportation system in St. Louis and the peer regions. These metrics can be helpful in understanding the differences in congestion among the regions.

Vehicle Miles Traveled (VMT)

In 2020, VMT did not follow historical trends of increasing in the region and across the country. For the St. Louis region, 2021 data shows the region is trending back to pre-recession levels of VMT but has not fully returned to the same amount of travel.

Based on data from TTI, residents in St. Louis, on average, drive more than people in other large metropolitan regions. This was true in both 2019 and 2020. In 2019, St. Louis ranked 6th among the peer regions, driving an average of 23.2 miles per person per day. This is quite a bit more than the peer region average of 19.4 miles and much more than the lowest ranking region, which was New York with 12.1 miles per day. St. Louis is joined in the top 10 with Nashville, one of the fastest growing regions, and the fellow Missouri region, Kansas City.

Since 1982, most of the peer regions experienced increases, or minimal decreases, in VMT from year-to-year, although dips in VMT were seen during recessionary periods. From 1982 to 2019, the average increase in VMT per capita for the peer regions was 6.6 miles per day (52.2 percent). As shown on Figure 1, miles traveled increased even more in the St. Louis region, 10.8 miles (88 percent).

From 2019 to 2020, all of the regions experienced a dramatic decrease in VMT with the largest decrease in San Jose (-28 percent) and the smallest decrease in Jacksonville (-6.9 percent). St. Louis was closer to the peer region average (-17.2 percent) with a -15.9 percent change in average VMT. In 2020, VMT in St. Louis was the lowest it had been since 1994 with people driving an average of 19.5 miles per day, ranking 7th among the peer regions.

Vehicle Miles Traveled

Average daily VMT per capita on freeways and arterials, 2019

1	**Nashville**	**30.5**
2	Birmingham	26.9
3	Kansas City	23.9
4	Richmond	23.7
5	Memphis	23.4
6	**St. Louis**	**23.2**
7	Atlanta	22.7
8	Raleigh	22.4
9	San Antonio	21.7
10	Charlotte	21.2
11	Detroit	21.1
12	Hartford	21.0
13	Jacksonville	20.9
14	Houston	20.9
15	Orlando	20.8
16	Dallas	20.7
17	Indianapolis	20.6
18	Minneapolis	20.5
19	Milwaukee	20.4
20	Oklahoma City	20.2
21	Boston	20.0
22	Riverside	19.9
23	Cincinnati	19.8
24	Columbus	19.7
25	San Diego	19.6
26	Baltimore	19.4
Peer Average		**19.4**
27	Los Angeles	19.3
28	Austin	19.3
29	Denver	19.0
30	Virginia Beach	18.8
31	Cleveland	18.6
32	Phoenix	18.2
33	Tampa	18.1
34	Buffalo	18.0
35	Salt Lake City	17.7
36	Washington, D.C.	17.6
37	Providence	17.4
38	Miami	17.0
39	Seattle	16.8
40	Sacramento	16.6
41	San Francisco	16.5
42	Louisville	16.5
43	San Jose	16.4
44	Pittsburgh	16.4
45	Philadelphia	15.5
46	Chicago	15.3
47	Portland	14.6
48	Las Vegas	14.3
49	New Orleans	12.8
50	**New York**	**12.1**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Vehicle Miles Traveled

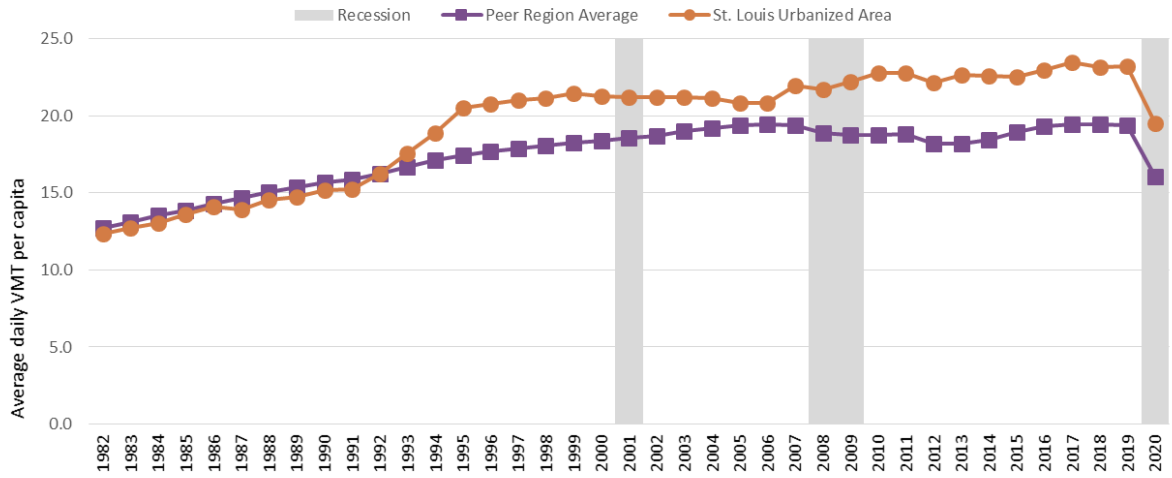
Average daily VMT per capita on freeways and arterials, 2020

1	**Nashville**	**26.6**
2	Birmingham	24.2
3	Memphis	20.7
4	Kansas City	20.3
5	Richmond	20.2
6	Atlanta	19.8
7	**St. Louis**	**19.5**
8	Jacksonville	19.5
9	Raleigh	18.9
10	Charlotte	18.5
11	San Antonio	18.1
12	Oklahoma City	18.1
13	Houston	18.0
14	Dallas	17.7
15	Indianapolis	17.3
16	Cincinnati	16.9
17	Orlando	16.9
18	Hartford	16.5
19	Milwaukee	16.4
20	Minneapolis	16.3
21	Denver	16.2
22	Columbus	16.2
23	Virginia Beach	16.1
Peer Average		**16.0**
24	Riverside	16.0
25	Phoenix	15.9
26	Austin	15.9
27	Tampa	15.9
28	Salt Lake City	15.8
29	Detroit	15.7
30	San Diego	15.6
31	Los Angeles	15.4
32	Cleveland	15.3
33	Boston	15.3
34	Baltimore	15.1
35	Sacramento	14.3
36	Buffalo	13.7
37	Louisville	13.7
38	Miami	13.7
39	Washington, D.C.	13.5
40	Providence	13.4
41	Pittsburgh	13.2
42	Seattle	13.1
43	Chicago	12.2
44	Las Vegas	12.0
45	Philadelphia	12.0
46	San Francisco	11.9
47	San Jose	11.8
48	Portland	11.7
49	New Orleans	11.1
50	**New York**	**9.0**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Figure 1. Vehicle Miles Traveled (VMT)

Average daily VMT per capita on freeways and arterials
St. Louis Urbanized Area and Peer Region Average, 1982 to 2020



Note: Data is for urbanized areas.
Source: Texas Transportation Institute, Urban Mobility Report

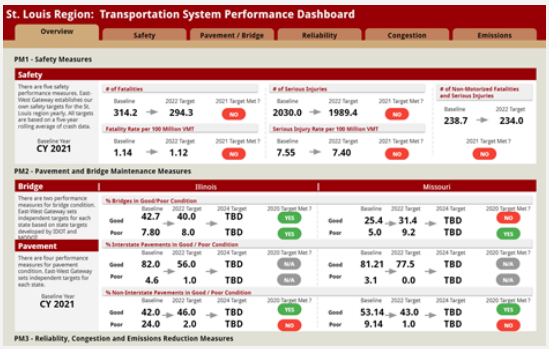
Road Network

Lower congestion levels in St. Louis are due in part to the extensive road network in the region. St. Louis had 2,583 miles of freeway lanes facilitating movement across the 1,447 square miles of land in 2020. Among the peer regions, St. Louis had more lane miles per square mile than on average for the peer regions. The region ranks 15th with 1.8 lane miles per square mile of land area.

Box 1. Transportation System Performance Dashboard

In accordance with federal policy, East-West Gateway tracks the performance of the regional transportation system based on a set of required performance measures (PMs), including those covered in this report: peak hours excessive delay (PHED), travel time reliability (interstate and non-interstate), and truck travel time reliability.

In addition, the agency tracks measures of bridge condition, pavement condition, safety, on-road mobile source emissions, freight, non-single occupancy vehicle travel (Non-SOV), transit asset management, and public transportation agency safety plans. Check out the dashboard at https://www.ewgateway.org/transportation-planning/long-range-planning/lrp-performance-dashboard/



Road Network

Freeway lane miles per urbanized area square mile, 2020

1	**Salt Lake City**	**4.0**
2	Los Angeles	2.9
3	Baltimore	2.5
4	San Jose	2.5
5	Dallas	2.4
6	San Antonio	2.4
7	Houston	2.1
8	Washington, D.C.	2.1
9	Austin	2.0
10	San Diego	2.0
11	San Francisco	1.9
12	Cleveland	1.8
13	Miami	1.8
14	Kansas City	1.8
15	**St. Louis**	**1.8**
16	Riverside	1.7
17	Denver	1.7
18	Richmond	1.6
19	New York	1.6
20	Milwaukee	1.5
21	Sacramento	1.5
22	Seattle	1.5
Peer Average		**1.4**
23	Columbus	1.4
24	Orlando	1.4
25	Cincinnati	1.4
26	Phoenix	1.4
27	Birmingham	1.4
28	Hartford	1.4
29	Louisville	1.3
30	New Orleans	1.3
31	Oklahoma City	1.3
32	Jacksonville	1.3
33	Detroit	1.3
34	Minneapolis	1.3
35	Portland	1.2
36	Charlotte	1.2
37	Nashville	1.2
38	Providence	1.1
39	Indianapolis	1.1
40	Buffalo	1.1
41	Philadelphia	1.1
42	Memphis	1.1
43	Boston	1.0
44	Pittsburgh	1.0
45	Las Vegas	1.0
46	Tampa	0.9
47	Atlanta	0.8
48	Chicago	0.8
49	Raleigh	0.8
50	**Virginia Beach**	**0.6**

Source: Federal Highway Administration, Highway Statistics
Data is for urbanized areas.

Congestion[2]

This report includes nine measures of congestion. Each provides a different perspective. Typically, congestion metrics indicate that St. Louis has relatively little congestion compared to the peer regions. However, in this report, there are two areas where the rankings for St. Louis deviate from this norm.

First, there is some discrepancy on the amount of traffic faced by trucks. TTI updated estimates of hours of delay experienced by trucks traveling in the St. Louis region. The revised estimates are based on new data available to TTI that result in the St. Louis region ranking closer to the peer region average on these measures. TTI could not provide further detail on the revision. The NPMRDS data on truck congestion still shows trucks facing low congestion in St. Louis relative to the peer regions. While both sources use some of the same data, they may differ on this point due to differing input data, metrics, and methodologies.

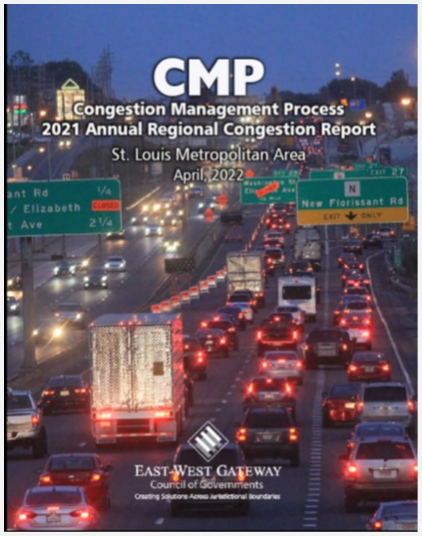
Second, the results for 2020 differ from other years. In 2020, the congestion measures show St. Louis ranking more towards the middle of the peer regions, rather than the usual ranking as one of the least congested regions. While all regions saw a decrease in congestion in 2020, St. Louis did not see as much of a decrease as many other regions. There are many dynamics to consider for differences between regions, including three potential contributing factors.

First, St. Louis was not as congested as some of the other regions to begin with. Therefore, there was not as much opportunity for a reduction in traffic. Second, U.S. metro regions had varying levels and lengths of COVID-19 stay-at-home orders and other policies that restricted or lessened how much people traveled in U.S. metro regions. Third, regions have different proportions of the workforce that switched to remote work, which meant fewer cars on the streets.

Box 2. What are the most congested roadways in St. Louis?

For more detailed information about congestion within the St. Louis region, see the report and accompanying dashboard that are part of the East-West Gateway Congestion Management Process (CMP) at https://www.ewgateway.org/transportation-planning/transportation-systems-management-operations/congestion-management-process/.

The CMP is "a systematic way of monitoring, measuring, and diagnosing the causes of current and future congestion on the 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."



2 TTI previously reported four additional measures of congestion that were not included in the most recent report. They are rush hour, congested travel, congested system, and planning time index.

Travel Time Reliability

The two travel time reliability metrics (interstate and non-interstate) report the percent of person-miles traveled on National Highway System (NHS) roads that are considered reliable, meaning that travel times vary little between free-flow and congested times of the day.

Based on this measure, 98 percent of miles traveled in St. Louis were on reliable interstates, the 5th most reliable interstate system in 2021. This is much higher than the average for peer regions (83.4 percent), and is dramatically different than the regions with the least reliable interstate systems.

St. Louis had the 19th most reliable NHS non-interstate system among the peer regions. There is less variability among the peer regions on this measure with about half having over 90 percent of travel on reliable non-interstate roadways.

These are two of the metrics for which state DOTs and MPOs are required to set targets. (See Box 1, Page 3 for more information.) The St. Louis region is on track to meet the 2022 targets of 86.9 percent reliability on interstates and 86.3 percent on non-interstate roadways.

Figure 2 shows that data as reported on the EWG dashboard at https://www.ewgateway.org/transportation-planning/long-range-planning/lrp-performance-dashboard/

Interstate Travel Time Reliability

Percent of person-miles traveled on interstates that are reliable, 2021

1	**Cleveland**	**98.9**
2	Memphis	98.7
2	Richmond	98.7
4	Buffalo	98.6
5	**St. Louis**	**98.0**
6	Columbus	97.3
7	Kansas City	97.0
8	Louisville	96.9
9	Birmingham	96.5
10	Raleigh	96.2
11	Salt Lake City	94.8
12	Hartford	94.6
13	Pittsburgh	94.5
14	Detroit	93.5
15	Jacksonville	92.0
16	Minneapolis	90.9
17	Charlotte	90.6
17	Cincinnati	90.6
19	Sacramento	90.1
20	Providence	89.8
21	Virginia Beach	89.2
22	Baltimore	87.6
22	Milwaukee	87.6
24	Indianapolis	87.5
25	Oklahoma City	85.2
26	Nashville	84.3
27	San Jose	84.2
Peer Average		**83.4**
28	Miami	80.1
29	San Diego	79.9
30	Philadelphia	79.8
31	San Antonio	79.2
32	New York	78.6
33	New Orleans	77.9
34	Boston	77.4
35	Houston	75.9
36	Las Vegas	75.7
37	Riverside	75.4
38	Tampa	75.3
39	Chicago	74.4
40	Dallas	74.2
41	San Francisco	73.0
42	Washington, D.C.	70.7
43	Atlanta	70.6
44	Portland	69.3
45	Austin	68.8
45	Denver	68.8
47	Seattle	65.4
48	Orlando	63.3
49	Phoenix	59.5
50	**Los Angeles**	**53.0**

Source: Federal Highway Administration, National Performance Management Research Data Set

Data is for urbanized areas.

Non-Interstate Travel Time Reliability

Percent of person-miles traveled on non-interstates that are reliable, 2021

1	**Oklahoma City**	**97.7**
2	Miami	97.6
3	Raleigh	96.0
4	Orlando	95.9
5	Buffalo	95.8
6	Indianapolis	94.7
6	Memphis	94.7
6	Tampa	94.7
9	Minneapolis	94.6
10	Jacksonville	94.4
11	Kansas City	94.1
12	Denver	93.9
13	Virginia Beach	93.8
14	Chicago	93.5
15	Hartford	93.3
16	Columbus	93.2
17	Cleveland	93.0
17	Detroit	93.0
19	**St. Louis**	**92.9**
20	Las Vegas	92.8
20	Philadelphia	92.8
22	Providence	92.0
23	Milwaukee	91.9
24	Pittsburgh	91.8
25	Cincinnati	90.7
25	Washington, D.C.	90.7
27	Baltimore	90.4
28	Nashville	89.6
Peer Average		**89.5**
29	Austin	89.0
30	Phoenix	88.5
31	Atlanta	88.4
32	Salt Lake City	88.3
33	Sacramento	88.0
34	Houston	87.3
35	Portland	86.3
36	Charlotte	85.8
37	New Orleans	85.6
38	Louisville	85.5
39	Birmingham	85.4
40	Boston	84.8
41	Richmond	84.6
42	Dallas	84.1
43	San Jose	83.9
44	New York	83.6
45	San Francisco	82.7
46	San Diego	82.4
47	Seattle	82.1
48	San Antonio	78.5
49	Riverside	76.9
50	**Los Angeles**	**76.0**

Source: Federal Highway Administration, National Performance Management Research Data Set

Data is for urbanized areas.

Figure 2. Percent of Person-Miles Traveled that are Reliable

St. Louis Urbanized Area, 2017 to 2021 + Target for 2022

Note: Data is for the urbanized area.
Source: Federal Highway Administration, National Performance Management Research Data Set, accessed 5 January 2023; St. Louis Region: Transportation System Performance Dashboard accessed at www.ewgateway.org.

Travel Time Index

The travel time index (TTI) is the ratio of travel time in peak traffic (rush hour) to the travel time in free-flow conditions.[3] The TTI in St. Louis in 2019 was 1.14. This means a trip is estimated to take 14 percent more time during congested times than it does during non-congested times. For example, a trip that takes 20 minutes during free-flow times would take 14 percent longer, or a total of 22.8 minutes, during rush hour. The St. Louis region, along with Cleveland, ranks 48th among the peer regions on this metric with one of the lowest levels of congestion.

The TTI in St. Louis increased steadily from 1982 through 2007 and 2008 when it reached a peak of 1.17. From 2008 to 2019 it declined to 1.14 and then in 2020 it dropped to 1.08. Figure 3 displays this increase in the number of minutes added to a 20-minute drive. The peak TTI for St. Louis during this time period was just before the Great Recession, when the TTI was 1.17, meaning that 3.4 minutes would be added to a 20-minute trip. During the Great Recession, the TTI dipped to 1.15 in 2013 (add 3 additional minutes), and then to 1.14 in 2018 and 2019.

By comparison, the peer region average TTI increased from 1.10 (add 1.9 minutes) in 1982 to 1.24 (add 4.9 minutes) in 2007. The peer region average TTI then decreased slightly during the recession but then increased past prerecession levels to 1.25 (add 5.1 minutes) in 2013, where it had remained until it dropped to 1.09 in 2020.

Travel Time Index

Ratio of peak period travel time to free-flow travel time, 2019

1	**Los Angeles**	**1.52**
2	San Francisco	1.51
3	San Jose	1.44
4	Seattle	1.37
5	New York	1.36
5	Washington, D.C.	1.36
7	Austin	1.35
7	Portland	1.35
9	Houston	1.34
9	Miami	1.34
9	San Diego	1.34
12	New Orleans	1.33
12	Riverside	1.33
14	Denver	1.32
15	Atlanta	1.30
16	Chicago	1.29
16	Phoenix	1.29
18	Boston	1.28
19	Sacramento	1.27
20	Baltimore	1.26
20	Minneapolis	1.26
Peer Average		**1.25**
22	Dallas	1.25
22	Las Vegas	1.25
22	Tampa	1.25
25	Orlando	1.24
25	Philadelphia	1.24
27	Detroit	1.23
27	Nashville	1.23
27	San Antonio	1.23
30	Charlotte	1.22
31	Jacksonville	1.21
32	Oklahoma City	1.20
33	Indianapolis	1.18
33	Memphis	1.18
33	Pittsburgh	1.18
33	Columbus	1.18
37	Cincinnati	1.17
37	Hartford	1.17
37	Louisville	1.17
37	Raleigh	1.17
37	Salt Lake City	1.17
37	Birmingham	1.17
43	Buffalo	1.16
43	Kansas City	1.16
43	Milwaukee	1.16
43	Virginia Beach	1.16
43	Providence	1.16
48	Cleveland	1.14
48	**St. Louis**	**1.14**
50	**Richmond**	**1.12**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Travel Time Index

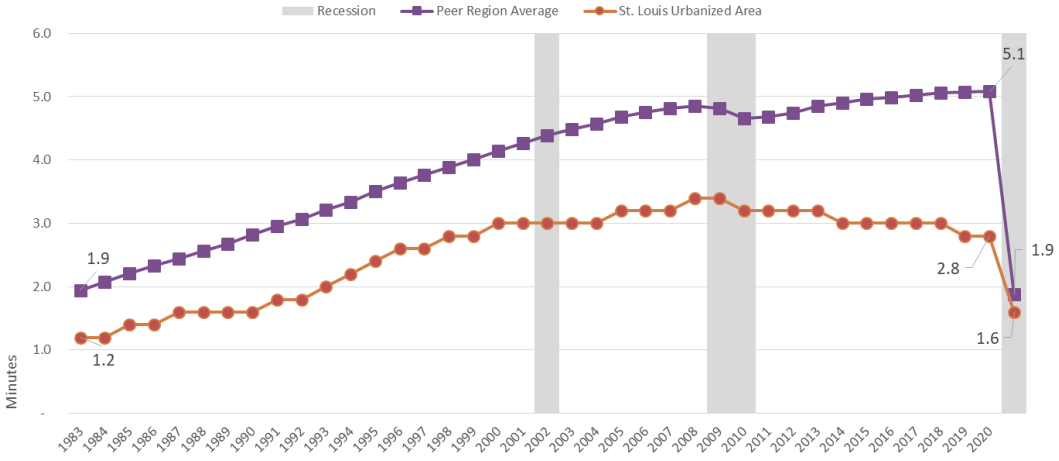
Ratio of peak period travel time to free-flow travel time, 2020

1	**New York**	**1.17**
2	Los Angeles	1.16
2	San Francisco	1.16
4	Houston	1.15
5	Austin	1.13
5	Providence	1.13
7	Boston	1.12
7	Dallas	1.12
7	Detroit	1.12
7	Oklahoma City	1.12
7	Philadelphia	1.12
7	San Antonio	1.12
7	Washington, D.C.	1.12
7	San Jose	1.12
15	Miami	1.11
15	Minneapolis	1.11
15	New Orleans	1.11
15	Sacramento	1.11
15	Seattle	1.11
20	Atlanta	1.10
20	Chicago	1.10
20	Kansas City	1.10
20	Portland	1.10
20	San Diego	1.10
Peer Average		**1.09**
25	Denver	1.09
26	Buffalo	1.08
26	Cleveland	1.08
26	Memphis	1.08
26	Phoenix	1.08
26	Pittsburgh	1.08
26	**St. Louis**	**1.08**
26	Tampa	1.08
26	Columbus	1.08
26	Riverside	1.08
35	Baltimore	1.07
35	Hartford	1.07
35	Las Vegas	1.07
35	Milwaukee	1.07
35	Orlando	1.07
35	Richmond	1.07
41	Charlotte	1.06
41	Cincinnati	1.06
41	Indianapolis	1.06
41	Jacksonville	1.06
41	Nashville	1.06
41	Salt Lake City	1.06
41	Virginia Beach	1.06
48	Louisville	1.05
48	Raleigh	1.05
48	Birmingham	1.05

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Figure 3. Additional Minutes Added to a 20-Minute Drive to Arrive on Time Based on the Travel Time Index

St. Louis Urbanized Area and Peer region Average, 1982 to 2020



Note: Data is for urbanized areas.
Source: Texas Transportation Institute, Urban Mobility Report

3 Free-flow speed is the average speed during low-volume conditions with an upper threshold of 65 mph on freeways and no limit on arterials.

Commuter Stress Index (CSI)

The commuter stress index (CSI) is similar to the travel time index (TTI), except that it examines only the peak direction of travel during rush hours. According to the UMR, this is "more indicative of the work trip experienced by each commuter on a daily basis." This is a relatively new metric for the UMR and is only available back to 2017. For St. Louis, the CSI and TTI scores are very similar.

In 2019, St. Louis had one of the lowest scores on the CSI among the peer regions. Richmond had the lowest CSI, with a score of 1.13. St. Louis, Milwaukee, Kansas City, Cleveland, and Buffalo tied for the second lowest CSI, with a score of 1.17.

For St. Louis, the CSI score increased from 1.15 in 2017 to 1.16 in 2018 and to 1.17 in 2019. Then, in 2020, it dropped to 1.08. The score for 2020 shows that congestion in St. Louis was still low relative to the peer regions, but other regions experienced larger declines, pushing St. Louis up in the ranking to 36th.

"The Commuter Stress Index (CSI) measure combines the travel speed from the direction with the most congestion in each peak period to illustrate the conditions experienced by the commuters traveling in the predominant directions (for example, inbound from suburbs in the morning and outbound to the suburbs in the evening). The calculation is conducted with the Travel Time Index formula, but only for the peak directions. Thus, the CSI is more indicative of the work trip experienced by each commuter on a daily basis."

~ Urban Mobility Report, 2021

Commuter Stress Index

Congestion experienced by travelers in peak direction at peak times, 2019

1	**Los Angeles**	**1.76**
2	San Francisco	1.65
3	San Jose	1.55
4	Austin	1.51
5	Miami	1.46
6	Portland	1.45
6	Riverside	1.45
8	Houston	1.44
8	Washington, D.C.	1.44
10	Seattle	1.43
11	Atlanta	1.40
12	New York	1.39
12	San Diego	1.39
14	Denver	1.37
15	New Orleans	1.36
16	Nashville	1.35
17	Phoenix	1.34
17	Sacramento	1.34
19	Dallas	1.33
20	Baltimore	1.32
20	Chicago	1.32
20	Tampa	1.32
23	Boston	1.31
23	San Antonio	1.31
Peer Average		**1.31**
25	Orlando	1.30
26	Detroit	1.28
26	Jacksonville	1.28
26	Minneapolis	1.28
29	Philadelphia	1.27
30	Charlotte	1.26
30	Las Vegas	1.26
32	Birmingham	1.22
33	Oklahoma City	1.21
33	Columbus	1.21
35	Indianapolis	1.20
36	Louisville	1.19
36	Memphis	1.19
36	Pittsburgh	1.19
36	Raleigh	1.19
36	Salt Lake City	1.19
41	Cincinnati	1.18
41	Hartford	1.18
41	Virginia Beach	1.18
41	Providence	1.18
45	Buffalo	1.17
45	Cleveland	1.17
45	Kansas City	1.17
45	Milwaukee	1.17
45	**St. Louis**	**1.17**
50	**Richmond**	**1.13**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Commuter Stress Index

Congestion experienced by travelers in peak direction at peak times, 2020

1	**Los Angeles**	**1.21**
1	**New York**	**1.21**
3	San Francisco	1.18
4	Houston	1.16
5	Providence	1.15
6	Austin	1.14
6	Dallas	1.14
6	Washington, D.C.	1.14
9	Boston	1.13
9	Detroit	1.13
9	Oklahoma City	1.13
9	Philadelphia	1.13
9	Sacramento	1.13
9	San Antonio	1.13
15	Miami	1.12
15	Minneapolis	1.12
15	Seattle	1.12
15	San Jose	1.12
19	Atlanta	1.11
19	Chicago	1.11
19	Kansas City	1.11
19	New Orleans	1.11
19	Portland	1.11
19	San Diego	1.11
Peer Average		**1.11**
25	Denver	1.10
26	Baltimore	1.09
26	Buffalo	1.09
26	Cleveland	1.09
26	Hartford	1.09
26	Jacksonville	1.09
26	Phoenix	1.09
26	Pittsburgh	1.09
26	Tampa	1.09
26	Columbus	1.09
26	Riverside	1.09
36	Memphis	1.08
36	Orlando	1.08
36	Richmond	1.08
36	**St. Louis**	**1.08**
40	Charlotte	1.07
40	Cincinnati	1.07
40	Indianapolis	1.07
40	Las Vegas	1.07
40	Milwaukee	1.07
40	Nashville	1.07
40	Salt Lake City	1.07
40	Virginia Beach	1.07
48	Louisville	1.06
48	Birmingham	1.06
50	**Raleigh**	**1.05**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Peak Hour Excessive Delay

In St. Louis, the average auto traveler spent an additional 6.6 hours in 2021 on the national highway system (local roads are not included) during the evening rush hour (3-7 PM) due to congestion. The region ranks 32nd, lower than most of the peer regions (for which data are available) and lower than the peer region average of 10.3 hours.

For the PHED (peak hour excessive delay) metric, "excessive delay" is defined as the greater of two values, either 20 miles per hour or 60 percent of the posted speed limit.[4]

This is one of the metrics for which state DOTs and MPOs are required to set targets. (See Box 1, Page 3 for more information.) Compared to the goal of 9.5 hours for 2022, congestion in the St. Louis region was less in 2020 and 2021 but was slightly higher in 2019.

Figure 4 shows that data as reported on the EWG dashboard at https://www.ewgateway.org/transportation-planning/long-range-planning/lrp-performance-dashboard/.

Peak Hour Excessive Delay

Hours per capita spent on roads with more than normal delay during evening rush hour (3-7 p.m.), 2021

1	**Los Angeles**	**32.7**
2	Nashville	21.0
3	New York	20.6
4	Seattle	18.9
5	San Francisco	18.3
6	Riverside	16.6
7	Atlanta	14.4
8	Baltimore	13.9
9	San Jose	13.7
10	Houston	13.5
11	Philadelphia	13.1
11	Washington, D.C.	13.1
13	Chicago	12.1
14	San Diego	11.9
15	Denver	11.7
16	Dallas	11.4
17	Austin	11.3
18	San Antonio	10.6
Peer Average		**10.3**
19	Charlotte	10.0
20	Detroit	9.8
21	Pittsburgh	9.3
22	Memphis	9.1
22	Las Vegas	9.1
24	Sacramento	9.0
25	Louisville	8.4
26	Miami	8.3
27	Buffalo	8.1
28	Portland	7.8
29	Orlando	7.4
30	Cincinnati	6.8
31	Providence	6.7
32	**St. Louis**	**6.6**
33	Tampa	6.5
34	Hartford	5.7
35	Virginia Beach	5.2
36	Cleveland	5.0
36	Raleigh	5.0
38	Jacksonville	4.7
39	Phoenix	4.2
40	Columbus	3.6
41	Kansas City	3.5
42	Minneapolis	3.2
43	**Indianapolis**	**3.0**

Source: Federal Highway Administration, National Performance Management Research Data Set

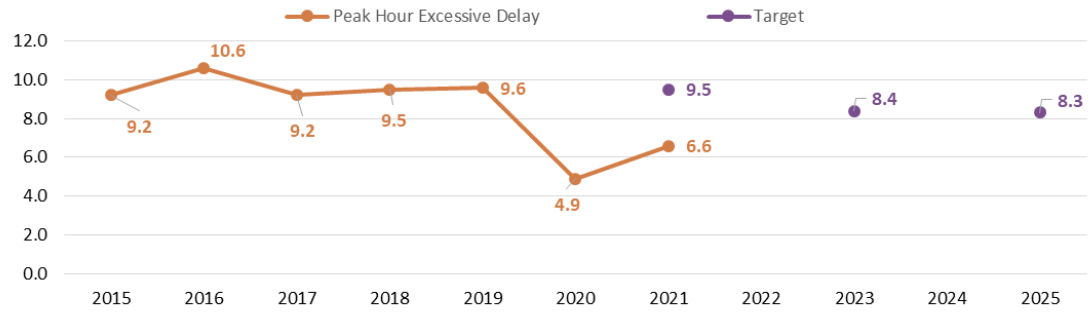
Data is for urbanized areas.

"What's even more striking as a finding, is the significant decrease in total congested miles in the AM peak period across both arterials and freeways...one likely explanation is the adaptation of employers and public to the new environment. With the prevalence of remote and flexible working conditions, transportation users can adjust their trip schedule to avoid rush hours."

~Congestion Management Process 2021 Report, St. Louis Metropolitan Area

Figure 4. Peak Hour Excessive Delay

Hours per capita spent on roads with more than normal delay during evening rush hour (3-7 PM)
St. Louis Urbanized Area, 2015 to 2021 + Target for 2022 to 2025



Note: Data is for the urbanized area.
Source: Federal Highway Administration, National Performance Management Research Data Set, accessed 5 January 2023; St. Louis Region: Transportation System Performance Dashboard accessed at www.ewgateway.org.

4 Peak Hour Excessive Delay Measure, FHWA, accessed at https://www.fhwa.dot.gov/tpm/rule/pm3/phed.pdf.

Truck Travel Time Reliability Index

The truck travel time reliability index (TTRI) indicates the St. Louis region highway system is more reliable for moving freight than in many of the peer regions. The TTRI is a metric that lacks an intuitive interpretation, but it provides an indication of the amount of congestion met by the freight industry. The measure accounts for congestion during non-peak travel times and has a higher threshold for on-time arrivals than is used in other congestion metrics.[5]

The relatively low score for St. Louis, 1.33, ranks 46th among the peer regions, indicating the transportation system in St. Louis is more predictable and reliable than in other major metropolitan regions.

This is one of the metrics for which state DOTs and MPOs are required to set targets. (See Box 1, Page 1 for more information.) In 2021, the TTRI was below the 2022 target index of 1.54 for the St. Louis region.

Figure 6 shows that data as reported on the EWG dashboard at https://www.ewgateway.org/transportation-planning/long-range-planning/lrp-performance-dashboard/

"In 2020, the price tag for truck congestion was about $11.3 billion in wasted time and fuel. Truck congestion was 12 percent of the total congestion cost. Only 23 percent of the $11 billion truck congestion cost is in the largest 15 urban areas, illustrating that truck congestion is a problem spread throughout all urban areas. The share of truck cost to the total congestion cost has gone up from 11 percent in 2019 to 12 percent in 2020."

~ Urban Mobility Report, 2021

Truck Travel Time Reliability Index

2021

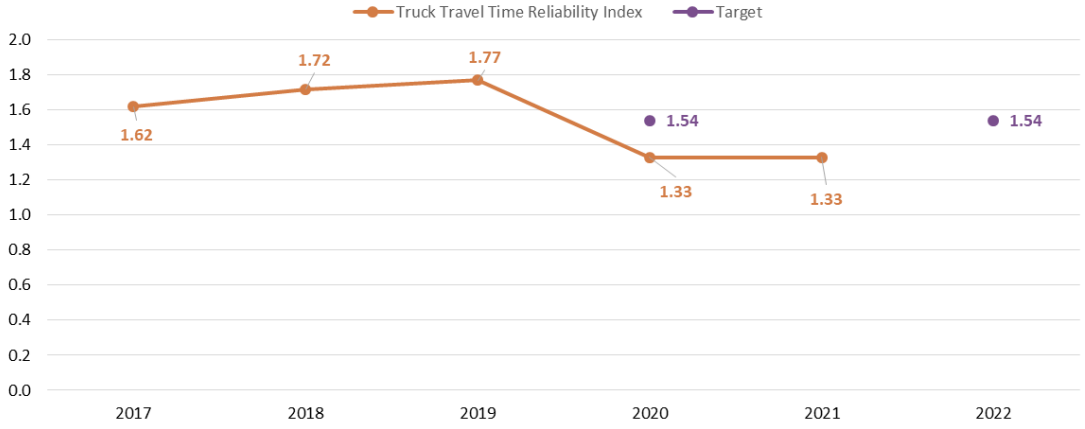
1	**Seattle**	**2.47**
2	Washington, D.C.	2.43
3	Los Angeles	2.37
4	Orlando	2.36
5	Phoenix	2.28
6	Portland	2.19
7	Atlanta	2.17
8	Houston	2.13
9	New York	2.06
10	Riverside	2.05
11	Dallas	2.04
11	New Orleans	2.04
13	San Francisco	2.03
14	Miami	1.99
15	San Diego	1.97
16	Denver	1.94
17	Austin	1.90
18	Virginia Beach	1.87
19	Boston	1.85
19	Memphis	1.85
21	Chicago	1.84
22	Philadelphia	1.76
Peer Average		**1.76**
23	Oklahoma City	1.75
24	San Jose	1.74
25	Tampa	1.70
26	Baltimore	1.68
26	Las Vegas	1.68
26	San Antonio	1.68
29	Sacramento	1.66
30	Nashville	1.65
31	Cincinnati	1.61
32	Louisville	1.58
33	Providence	1.57
34	Detroit	1.54
35	Milwaukee	1.53
36	Charlotte	1.52
36	Indianapolis	1.52
38	Minneapolis	1.51
39	Jacksonville	1.50
40	Birmingham	1.48
41	Salt Lake City	1.44
42	Raleigh	1.42
43	Hartford	1.40
44	Pittsburgh	1.39
45	Kansas City	1.36
46	**St. Louis**	**1.33**
47	Columbus	1.28
48	Richmond	1.26
49	Buffalo	1.24
50	**Cleveland**	**1.23**

Source: Federal Highway Administration, National Performance Management Research Data Set

Data is for urbanized areas.

Figure 6. Truck Travel Time Reliability Index

St. Louis Urbanized Area, 2017 to 2021 + Target for 2020 and 2022



Note: Data is for the urbanized area.
Source: Federal Highway Administration, National Performance Management Research Data Set, accessed 5 January 2023; St. Louis Region: Transportation System Performance Dashboard accessed at www.ewgateway.org.

5 The TTRI uses the ratio of longer travel times (95th percentile) to a normal travel time (50th percentile) while the other travel time reliability indexes uses the 80th percentile for the longer travel times. See more information at https://www.ewgateway.org/wp-content/uploads/2021/07/Freight-Fact-Sheet.pdf

Congestion Costs

For the United States[6] the cost of congestion increased from an estimated $15.5 billion (in 2020 dollars) in 1982 to $189.9 billion in 2019. For St. Louis, the increase was from $141 million (2020 dollars) to $1.6 billion. Across the country, congestion and associated costs detoured from the long-term trend of annual increases, and decreased dramatically in 2020. From 1982 to 2019, costs increased at average annual rates of 7.1 percent for the United States and 6.9 percent for the St. Louis region. From 2019 to 2020, costs for the country decreased 47 percent to $100.6 billion and decreased 27 percent for St. Louis to $1.2 billion.

These costs are those reported by TTI, which include "the yearly value of delay time and wasted fuel by all vehicles," during congested times for both individuals and truck drivers. These values do not consider any additional costs or economic gains that may result from congested areas. The following sections provide the estimates reported in the UMR for costs to individuals and costs to companies (via trucks).

Costs to Individuals

Congestion cost those who traveled by car in the St. Louis region an average of $986 in 2019. Compared to the peer region average, St. Louis had a smaller increase in congested roadways and a smaller increase in the price of motor fuel, between 1982 and 2019. Both of these factors contributed to the relatively small increase in congestion costs.

The region ranked 37th with lower average costs than most of the peer regions. The range is wide from $693 in Richmond to $2,886 in Los Angeles and San Francisco. The peer region average is 32 percent more than in St. Louis, at an average of $1,297 per auto traveler in 2019.[7]

Figure 5 displays the average costs for St. Louis and the peer region average for 1982 to 2020 (in 2020 dollars). While the costs rose for both, they increased at a greater magnitude on average for the peer regions (133.8 percent) than they did for St. Louis (92.2 percent).

Congestion Costs

Average annual costs per auto traveler, in 2020 dollars, 2019

1	**San Francisco**	**2,886**
2	Los Angeles	2,866
3	Washington, D.C.	2,191
4	New York	2,159
5	Boston	1,805
6	Atlanta	1,775
7	San Jose	1,731
8	San Diego	1,681
9	Houston	1,635
10	Seattle	1,612
11	Miami	1,606
12	Chicago	1,587
13	Austin	1,520
14	Nashville	1,465
15	Portland	1,424
16	Dallas	1,335
Peer Average		**1,297**
17	Philadelphia	1,292
18	Riverside	1,272
19	Charlotte	1,271
20	Denver	1,263
21	Orlando	1,261
22	New Orleans	1,225
23	Baltimore	1,219
24	Cincinnati	1,192
25	Phoenix	1,179
26	Detroit	1,167
27	Sacramento	1,164
28	Birmingham	1,139
29	Columbus	1,126
30	Tampa	1,125
31	Minneapolis	1,119
32	Jacksonville	1,089
33	Cleveland	1,072
34	San Antonio	1,069
35	Buffalo	1,056
36	Las Vegas	997
37	**St. Louis**	**986**
38	Hartford	976
39	Kansas City	961
40	Pittsburgh	952
41	Indianapolis	941
42	Milwaukee	931
43	Salt Lake City	903
44	Oklahoma City	857
45	Providence	856
46	Louisville	835
47	Raleigh	832
48	Memphis	806
49	Virginia Beach	763
50	**Richmond**	**693**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Congestion Costs

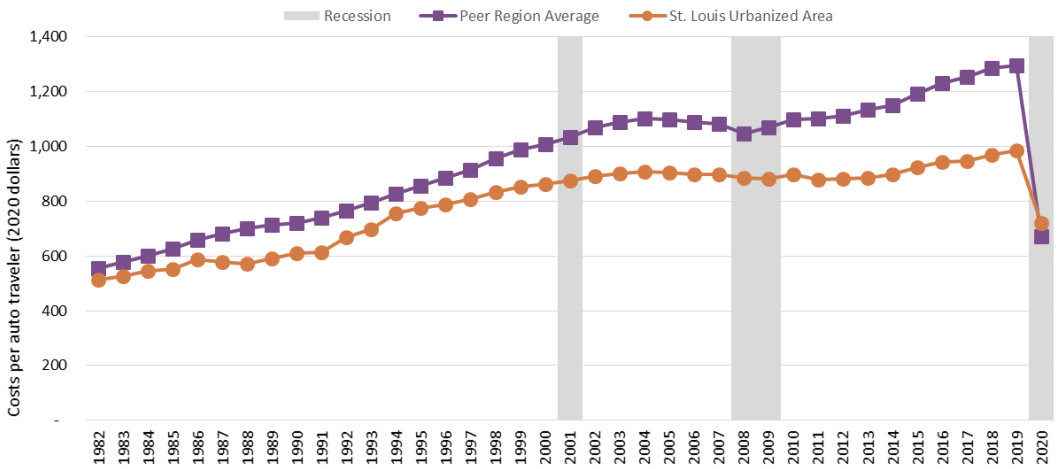
Average annual costs per auto traveler, in dollars, 2020

1	**New York**	**1,322**
2	San Francisco	1,301
3	Los Angeles	1,142
4	Boston	1,103
5	Houston	1,097
6	Austin	945
7	Washington, D.C.	905
8	Atlanta	869
9	Chicago	852
10	Dallas	848
11	Sacramento	800
12	Philadelphia	789
13	**St. Louis**	**719**
14	San Jose	712
15	Detroit	710
16	Kansas City	694
17	Portland	690
18	Cleveland	686
19	Seattle	685
20	San Antonio	682
Peer Average		**672**
21	San Diego	665
22	Nashville	659
23	Oklahoma City	656
24	Buffalo	649
25	Columbus	645
26	Providence	630
27	Minneapolis	620
28	Cincinnati	608
28	Miami	608
30	Hartford	606
31	Milwaukee	602
32	New Orleans	597
33	Charlotte	585
34	Pittsburgh	552
35	Baltimore	549
36	Denver	545
37	Salt Lake City	544
38	Birmingham	521
39	Riverside	511
40	Phoenix	489
41	Indianapolis	487
42	Richmond	482
43	Orlando	471
44	Jacksonville	448
45	Memphis	427
46	Tampa	401
47	Virginia Beach	399
48	Louisville	386
49	Las Vegas	363
50	**Raleigh**	**361**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Figure 5. Congestion Costs

Average Annual Costs per Auto Traveler, in 2020 dollars
St. Louis Urbanized Area and Peer Region Average, 1982 to 2020



Note: Data is for urbanized areas.
Source: Texas Transportation Institute, Urban Mobility Report

6 "United States" is the 494 U.S. urban areas included in the UMR report.
7 TTI uses the term "auto commuter," but the term "traveler" is used in this report. The data point includes delay experienced both by commuters during rush hours and by other auto travelers during non-peak hours, including drivers and passengers for both.

From 2019 to 2020, costs for the peer region average (-48.2 percent) decreased more than was seen in St. Louis (-27.1 percent). This resulted in St. Louis ranking higher among the peer regions (13th) in 2020 than is normally seen.

For fuel price, TTI uses the state average for each region. For the St. Louis region, they use the average for the state of Missouri. The cost of fuel for the St. Louis region and the average for the peer regions was the same in 1982, $1.42 per gallon. Over the next three decades, the prices fluctuated, but the price was never more in the St. Louis region than the average for the peer regions.

For 2020, TTI recorded the cost of a gallon of gas in St. Louis as $2.09, and the average for the peer regions as $2.44. Since the amount of time St. Louis residents spend in congestion is less than the average for the peer regions, less excess fuel is consumed. TTI estimates that in 1982, the amount of excess fuel consumed per auto traveler in St. Louis (4 gallons) was slightly less than the average for the peer regions (4.8 gallons). In 2019, the gap was larger. In St. Louis, the average auto traveler consumed an extra 19 gallons of fuel a year due to congestion. The peer region average was 25 gallons. In 2020, the peer region average was less than in St. Louis, 12.7 and 14 gallons, respectively.

The other factor used to estimate congestion costs is the amount of time spent in congestion. A national constant for the value of time is used for the UMR,[8] $19.14 per hour per person in 2019 and $20.17 in 2020.

Typically, including in 2019, the average number of hours spent in congestion per auto traveler in the St. Louis region has been one of the lowest among the peer regions.[9] In 2019, only four of the peer regions had fewer hours of delay. In 2020, during the height of the pandemic, the St. Louis region experienced more hours of delay than the peer region average and many of the peer regions.

In 2019, Los Angeles ranked 1st with 119 hours of delay per auto traveler. The peer region average of 61 hours per auto traveler is well above that of the St. Louis region. Chicago is the only Midwest peer region with more hours of delay than the peer region average. In 2017, Kansas City had one more hour of delay per auto traveler than St. Louis. In 2019, that had increased to a gap of four hours.

Annual Delay per Auto Traveler

Average hours lost due to congestion per auto traveler, 2019

1	**Los Angeles**	**119**
2	Washington, D.C.	105
3	San Francisco	103
4	New York	96
5	Boston	86
6	San Jose	80
7	Atlanta	78
8	Seattle	77
9	Houston	76
10	Chicago	74
10	Miami	74
12	Austin	68
12	Portland	68
14	Nashville	66
15	Dallas	65
16	San Diego	64
16	Riverside	64
18	Baltimore	63
18	Philadelphia	63
20	Denver	62
Peer Average		**61**
21	Orlando	61
21	Phoenix	61
23	Detroit	60
24	Minneapolis	59
25	Sacramento	56
26	Memphis	54
26	New Orleans	54
28	Charlotte	53
28	Jacksonville	53
28	Tampa	53
31	Cincinnati	52
31	Hartford	52
31	Indianapolis	52
31	San Antonio	52
35	Birmingham	51
36	Kansas City	50
36	Las Vegas	50
38	Buffalo	49
38	Columbus	49
40	Louisville	48
41	Cleveland	47
41	Milwaukee	47
41	Oklahoma City	47
41	Providence	47
45	Salt Lake City	46
45	**St. Louis**	**46**
47	Pittsburgh	45
48	Virginia Beach	43
49	Raleigh	40
50	**Richmond**	**35**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Annual Delay per Auto Traveler

Average hours lost due to congestion per auto traveler, 2020

1	**New York**	**56**
2	Boston	50
3	Houston	49
4	Los Angeles	46
4	San Francisco	46
6	Washington, D.C.	42
7	Austin	41
8	Dallas	40
9	Chicago	39
10	Sacramento	38
11	Atlanta	37
11	Philadelphia	37
13	Detroit	35
13	Oklahoma City	35
15	Kansas City	34
16	**St. Louis**	**33**
16	Providence	33
18	Minneapolis	32
18	San Antonio	32
20	Hartford	31
20	Portland	31
20	Seattle	31
20	San Jose	31
Peer Average		**31**
24	Buffalo	29
24	Cleveland	29
24	Milwaukee	29
27	Memphis	28
27	Nashville	28
29	Baltimore	27
29	Miami	27
29	Columbus	27
32	Cincinnati	26
32	Denver	26
32	Indianapolis	26
32	New Orleans	26
32	Salt Lake City	26
37	Phoenix	25
37	Pittsburgh	25
37	Riverside	25
40	Charlotte	24
40	Richmond	24
40	San Diego	24
43	Birmingham	23
44	Louisville	22
44	Orlando	22
44	Virginia Beach	22
47	Jacksonville	21
48	Las Vegas	18
48	Tampa	18
50	**Raleigh**	**17**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

8 TTI uses the median hourly wage rate for all occupations as reported by the Bureau of Labor Statistics.
9 The number of auto commuters and number of occupants per vehicle (national constant of 1.5) was not available for 2020. Therefore, the values for 2019 were used by TTI. This results in a higher number of commuters than was present during the pandemic and lower delay per auto commuter but provides an "all else equal" picture.

From 2010 to 2019, among all of the peer regions, St. Louis experienced the smallest change in hours delayed due to congestion per auto traveler, an increase of three hours. The average increase for the peer regions was 11.7 hours and the largest increase was 22 hours in Los Angeles.

St. Louis auto travelers experienced an average of 13 fewer hours of delay in 2020 than they did in 2019. This was the 3rd smallest decrease among the peer regions. On average, travelers in U.S. major metropolitan regions experienced 30.4 fewer hours of delay in 2020 than in 2019, 31 hours and 61 hours, respectively. All of the Midwest peer regions, except Chicago, experienced less of a decrease in congestion in 2020 than on average for the peer regions.

"The best measure of the size of the congestion problem is the annual travel delay (in person-hours). This measure combines the intensity of congestion (for example, slow speeds) on any section of road with a magnitude element (the amount of people suffering that congestion). For example, a four-lane freeway can operate at the same speed as a 10-lane freeway. But the higher volume on the 10-lane freeway will mean it has more delay and, thus, is a bigger problem for the region."

~ Urban Mobility Report, 2021

Change in Annual Delay per Auto Traveler

Change in average hours lost due to congestion per auto traveler, 2010-2019

1	**Los Angeles**	**22.0**
2	Boston	21.0
2	Houston	21.0
4	Nashville	20.0
5	Austin	19.0
5	Miami	19.0
7	Atlanta	18.0
7	New York	18.0
9	Portland	17.0
9	San Jose	17.0
11	Baltimore	16.0
11	Birmingham	16.0
13	Chicago	15.0
13	Dallas	15.0
13	Washington, D.C.	15.0
16	Memphis	14.0
17	Orlando	13.0
17	Philadelphia	13.0
17	San Francisco	13.0
17	Seattle	13.0
21	Denver	12.0
21	Jacksonville	12.0
21	Minneapolis	12.0
Peer Average		**11.7**
24	Cincinnati	11.0
24	Louisville	11.0
24	Phoenix	11.0
24	Tampa	11.0
28	Indianapolis	10.0
28	Kansas City	10.0
28	Sacramento	10.0
28	Salt Lake City	10.0
28	San Antonio	10.0
28	San Diego	10.0
34	Detroit	9.0
34	New Orleans	9.0
36	Buffalo	8.0
36	Charlotte	8.0
36	Cleveland	8.0
36	Columbus	8.0
40	Milwaukee	7.0
40	Richmond	7.0
42	Hartford	6.0
42	Las Vegas	6.0
42	Pittsburgh	6.0
42	Providence	6.0
42	Raleigh	6.0
42	Riverside	6.0
48	Virginia Beach	5.0
49	Oklahoma City	4.0
50	**St. Louis**	**3.0**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Change in Annual Delay per Auto Traveler

Change in average hours lost due to congestion per auto traveler, 2019-2020

1	**Richmond**	**-11.0**
2	Oklahoma City	-12.0
3	**St. Louis**	**-13.0**
4	Providence	-14.0
5	Kansas City	-16.0
6	Cleveland	-18.0
6	Milwaukee	-18.0
6	Sacramento	-18.0
9	Buffalo	-20.0
9	Pittsburgh	-20.0
9	Salt Lake City	-20.0
9	San Antonio	-20.0
13	Hartford	-21.0
13	Virginia Beach	-21.0
15	Columbus	-22.0
16	Raleigh	-23.0
17	Dallas	-25.0
17	Detroit	-25.0
19	Cincinnati	-26.0
19	Indianapolis	-26.0
19	Louisville	-26.0
19	Memphis	-26.0
19	Philadelphia	-26.0
24	Austin	-27.0
24	Houston	-27.0
24	Minneapolis	-27.0
27	Birmingham	-28.0
27	New Orleans	-28.0
29	Charlotte	-29.0
Peer Average		**-30.4**
30	Jacksonville	-32.0
30	Las Vegas	-32.0
32	Chicago	-35.0
32	Tampa	-35.0
34	Baltimore	-36.0
34	Boston	-36.0
34	Denver	-36.0
34	Phoenix	-36.0
38	Portland	-37.0
39	Nashville	-38.0
40	Orlando	-39.0
40	Riverside	-39.0
42	New York	-40.0
42	San Diego	-40.0
44	Atlanta	-41.0
45	Seattle	-46.0
46	Miami	-47.0
47	San Jose	-49.0
48	San Francisco	-57.0
49	Washington, D.C.	-63.0
50	**Los Angeles**	**-73.0**

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Costs to Companies (via Trucks)

Prior to the pandemic, most truck traffic was due to deliveries to businesses. As the nation progressed through the pandemic, home deliveries became more common, and accounted for a greater share of truck traffic. As a result, truck traffic did not decrease by as much as passenger car travel. Also, truckers shifted more to typically off-peak periods with 53 percent of U.S. truck delay occurring in off-peak periods in 2020, compared to 40 percent in 2019 (Schrank, 2021).

The Texas Transportation Institute (TTI) regularly updates estimates of travel delay and costs based on new data available to the agency, making historical adjustments as needed. Previously, TTI estimates of congestion faced by trucks in St. Louis ranked similarly among the peer regions as the region does on other measures of congestion, with relatively low levels of congestion in St. Louis.[10] Based on new estimates, the number of hours of delay experienced by trucks traveling in St. Louis is now higher than previously estimated.

Truck congestion costs in the St. Louis region are now estimated to be about the same as is seen on average for the peer regions in 2019 and higher than the peer region average in 2020. Since commercial trucks travel more during non-rush hours than auto travelers, the relatively low congestion levels in St. Louis during rush hours do not result in as much savings for trucks as for auto travelers.

In 2020, trucks also experienced a dramatic drop in congestion, but not as large of a decrease as auto users experienced. For all U.S. urban areas, the decrease in average hours of delay from 2019 to 2020 for trucks was 46 percent compared to 50 percent for auto travelers.

TTI accounts for two costs of congestion for commercial vehicles. The value of commercial vehicle time is a national standard of $52.24 per hour for 2020.[11] The state average cost per gallon for diesel fuel is used for each MSA. For all U.S. urban areas, the average cost of diesel in 2020 was $2.98. For the St. Louis region, TTI uses the average for Missouri, $2.49 per gallon of diesel in 2020.[12]

Nationally, in 2019, trucks incurred an estimated $20.3 billion in congestion costs, which includes the value of commercial vehicle time (387 million hours) and excess fuel consumed due to congestion (653 million gallons).[13] In 2020, costs incurred via trucks was almost half that, $11.3 billion.

In 2019, trucks traveling in St. Louis spent an estimated 4.4 million hours in traffic, costing companies an estimated $256 million in employee time and excess fuel. In 2020, they spent 3.4 million hours at a cost of $181 million.

For comparison with the peer regions, the truck congestion costs estimated by TTI are reported in the Where We Stand tables based on the amount of vehicle miles traveled (VMT) in each region.

Truck Congestion Costs

Average annual costs per 1,000 vehicle miles traveled, in millions of dollars, 2019

1	New Orleans	16.2
2	San Francisco	13.9
3	San Jose	8.7
4	New York	7.8
5	Los Angeles	7.7
6	Chicago	7.3
7	Portland	6.6
8	Phoenix	6.1
9	Oklahoma City	5.8
10	Seattle	5.8
11	Louisville	5.7
12	Nashville	5.7
13	Miami	5.5
14	Riverside	5.4
15	Washington, D.C.	5.4
16	Austin	5.3
17	Houston	5.2
18	Memphis	5.1
19	St. Louis	5.0
Peer Average		5.0
20	Dallas	4.8
21	Tampa	4.7
22	San Antonio	4.6
23	Las Vegas	4.5
24	Denver	4.5
25	Atlanta	4.5
26	San Diego	4.2
27	Cleveland	4.2
28	Sacramento	4.2
29	Baltimore	4.1
30	Detroit	4.0
31	Boston	4.0
32	Kansas City	4.0
33	Birmingham	4.0
34	Minneapolis	4.0
35	Philadelphia	4.0
36	Orlando	3.9
37	Columbus	3.9
38	Charlotte	3.9
39	Indianapolis	3.7
40	Salt Lake City	3.6
41	Cincinnati	3.5
42	Hartford	3.3
43	Pittsburgh	3.2
44	Milwaukee	3.2
45	Buffalo	3.0
46	Jacksonville	3.0
47	Providence	2.7
48	Raleigh	2.5
49	Virginia Beach	2.2
50	Richmond	2.1

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Truck Congestion Costs

Average annual costs per 1,000 vehicle miles traveled, in millions of dollars, 2020

1	San Francisco	8.6
2	New Orleans	8.3
3	New York	7.6
4	San Jose	6.2
5	Oklahoma City	5.4
6	Chicago	5.3
7	Portland	4.8
8	Houston	4.3
9	Austin	4.3
10	St. Louis	4.2
11	Kansas City	4.2
12	Detroit	4.0
13	Los Angeles	3.9
14	Philadelphia	3.8
15	Boston	3.8
16	Cleveland	3.4
17	Memphis	3.4
Peer Average		3.4
18	Sacramento	3.3
19	San Antonio	3.3
20	Seattle	3.2
21	Milwaukee	3.2
22	Dallas	3.2
23	Louisville	3.1
24	Buffalo	3.1
25	Hartford	3.0
26	Washington, D.C.	3.0
27	Indianapolis	2.9
28	Nashville	2.9
29	Providence	2.9
30	Columbus	2.9
31	Baltimore	2.8
32	Riverside	2.7
33	Pittsburgh	2.7
34	Salt Lake City	2.6
35	Denver	2.5
36	Minneapolis	2.5
37	Atlanta	2.5
38	Miami	2.5
39	Phoenix	2.4
40	Cincinnati	2.3
41	San Diego	2.1
42	Orlando	2.1
43	Las Vegas	2.1
44	Charlotte	2.0
45	Birmingham	1.8
46	Richmond	1.7
47	Tampa	1.7
48	Virginia Beach	1.6
49	Jacksonville	1.3
50	Raleigh	1.1

Source: Texas Transportation Institute, Urban Mobility Report
Data is for urbanized areas.

Companies that run trucks through the St. Louis region, experienced about the same costs as seen on average for the peer regions in 2019, ranking 19th at a cost of $5 million (2020 dollars) per 1,000 miles driven in the region. In 2020, truck congestion cost was higher in St. Louis than in many of the peer regions, ranking 10th with a cost of $4.2 million per 1,000 VMT.

10 For example, the estimated number of truck delay hours for St. Louis for 2017 went from 3,002 in the 2019 UMR to 4,008 in the 2021 UMR. This resulted in the St. Louis region going from ranking 44th among 50 regions to 27th (50th is least congested) for truck congestion costs per VMT.
11 The commercial value of time is based on an annual survey conducted by the American Transportation Research Institute.
12 In 2019, the costs were as follows: commercial vehicle value of time was $53.33 per hour, average cost of diesel in urban areas was $2.98, and for the St. Louis region/Missouri the costs of diesel was $2.69 per gallon.
13 Sum for the 494 U.S. urban areas.

Conclusion

The COVID-19 pandemic interrupted the long-term trend of congestion increasing in urban areas across the country and the St. Louis region. Data from the last months of 2020 and early 2021 indicate that travel is returning back towards pre-recession levels but remains lower than in 2019. For St. Louis, 2021 data shows a significant decrease in AM rush hour traffic that may be a lasting effect of the pandemic and changing work policies.

While St. Louis has relatively low congestion compared to other large metropolitan regions, East-West Gateway (EWG) works with partners through the Congestion Management Process (CMP) to identify congested roadways and strategies for mitigating congestion. EWG produces an annual report that identifies specific roadways where congestion occurs most frequently and evaluates strategies for addressing both current and future congestion.

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