



Public Meeting

October 5, 2023

12:00-1:00 p.m.

Central Texas Council of Governments
2180 N Main St
Belton, Texas 76513

5:30-6:30 p.m.

Harker Heights Public Library
400 Indian Trail
Harker Heights, TX 76548



KTMPO ● P.O. Box 729 ● Belton, TX 76513

Killeen-Temple Metropolitan Planning Organization Public Meeting & Comment Period

In-person meeting with live virtual option

Regarding:

KTMPO Congestion Management Process (CMP) Appendix D

Public Comment Period September 25 – October 9, 2023

Public Meeting

Thursday, October 5, 2023

12:00-1:00 pm

Central Texas Council of Governments
2180 N Main St
Belton, TX 76513

5:30-6:30pm

Harker Heights Public Library
400 Indian Trail
Harker Heights, TX

Virtual Meeting Link: [KTMPO Public Meeting](#)

Call in Number 1 (224) 501-3412

Access Code: 938-515-829

For virtual access info visit:

<http://www.ktmpo.org>

Summary

Congestion Management Process (CMP) Amendment

Background

KTMPO's received one corrective action request during the 2022 Federal Certification Review (FCR) to amend the CMP in order to account for the effect of added capacity projects on the congestion network.

KTMPO staff have been working with the Texas A&M Transportation Institute (TTI) to gather appropriate data for 10 added capacity projects that have been constructed since 2016 and provide an analysis of those projects' effects in response to the FCR finding. The analysis has been compiled into a draft appendix to be added to the current CMP.

Amendments to KTMPO plans are required to undergo a 15-day public comment period with one public hearing during that period.

Schedule:

- September 6, 2023 – TAC considers recommending initiation of public involvement for an amendment to the CMP;
- September 20, 2023 – TPPB considers initiation of public involvement for an amendment to the CMP;
- September 25, 2023 – October 9, 2023: 15-Day Public Comment Period.
- October 5, 2023 – Public Hearing: TBD
 - Virtual Meeting Link: [Click Here](#)
 - Call in number: +1 (224) 501-3412; Access Code: 938-515-829
- October 4, 2023 – TAC considers recommending approval of an amendments to the CMP;
- October 18, 2023 – TPPB considers approving an amendments to the CMP.

Congestion Management Process (CMP) Appendix D



Appendix D

2023 CMP Update – Analysis of Completed Added
Capacity Projects



Appendix D. Analysis of Completed Added Capacity Projects

The Killeen Temple Metropolitan Planning Organization applied the Texas A&M Transportation Institute Congestion Management Process Assessment Tool (COMPAT: <https://compat.tti.tamu.edu/>) in analyzing the impacts to roadway congestion, through before and after congestion and reliability performance measurements, to the degree practically possible. The analysis covers the time-period of 2016-2021.

Note: 2017 reflects an exogenous data event related to conversion of the INRIX probe-based data source from a primarily truck-oriented data set to a primarily passenger-vehicle-oriented data set. This resulted in a large increase in volume and measured speeds that also show up across all corridors as an increase in delay and a decrease in roadway reliability. 2020 reflects unprecedented low congestion levels, as a direct result of the COVID-19 pandemic.

The selected performance measurements include:

- **Person Hours of Delay:**
Person hours of delay is the difference in travel time between uncongested traffic and congested traffic. This is the sum of all persons in vehicles traveling for a year across the selected corridor.
- **Planning Time Index-80th percentile:**
80th percentile Planning Time Index (PTI) is the ratio of the 80th percentile travel time as compared to the free-flow travel time. This planning time measures how much extra time (1.2 = + 20%, 1.3 = +30%, and so on) to add into an average travel time across the selected corridor to make it to the destination on time 80% of the time, (i.e., being late only 1 time per week).
- **Travel Time Index:**
Travel Time Index is the ratio of the peak-period travel time as compared to the free-flow travel time. This measure is computed for the AM peak period (6:00 a.m. to 9:00 a.m.) and PM peak period (4:00 p.m. to 7:00 p.m.) on weekdays. It serves as a measure of how reliable roadways are during peak traffic congestion periods. A travel time index number that equals 1.2 means the corridor typically requires 20% more travel time over the selected corridor during peak periods.

KTMPO staff utilized the selected performance measure data to identify congestion trends, the overall effectiveness of each project, and identification of next steps.

- **Trend of Performance Measures:** Analysis of the selected performance measures to determine a declining or increasing trend in congestion.
 - A travel time index of 1.00-1.09 is considered “uncongested” for the KTMPO region.
 - A travel time index of 1.10-1.25 is considered “nearing congestion” for the KTMPO region.
 - A travel time index of 1.25 or greater is considered “congested” for the KTMPO region.
- **Strategy Identification:**
 - Remove from Monitoring Network – If a segment remains uncongested for 5 years after construction and is not trending upwards, consider removing from monitoring network.
 - Continue to Monitor – If a segment is uncongested, but trending upward, or is nearing congestion, but trending downward continue to monitor.
 - CMP Strategy – If a segment is nearing congestion and trending upward, or is currently congested continue to monitor and recommend review for identification of CMP strategy
- **Overall Project Effectiveness:**
 - Marginal, segment does not exhibit the intended benefits of investment.
 - Fair, segment exhibits some intended benefits of investment.
 - Exceptional, project greatly exhibits intended benefits of investment.



Some projects were ongoing as of the date of this analysis. Future updates will use the same segments selected for the purposes of maintaining consistency in comparing year-to-year segmentation performance oriented toward capacity planning projects.

Table 1 depicts all regional added-capacity projects going back a period of ten years, their KTMO ID, CSJ Number, Project Name, Limits, Description, Estimated Cost, Let Date, and Completion Date.

Table 1. Ten-Year List of Added Capacity Projects for the KTMO Region

KTMO Project ID	CSJ Number	Project Name	Project Limits	Project Description	Estimated Cost	Actual Let Date	Actual Completion Date
T15-06c	0015-14-091	IH 35 - Temple	S Loop 363 to N Loop 363	Widen from 6 to 8 lanes	\$103,548,650	9/1/2012	7/29/2020
T25-11	0398-04-059	SH 317	0.2 mi S of FM 2305 to 0.4 mi N of FM 439	Reconstruct and widen from two to four lanes with raised median	\$16,671,723	5/1/2016	11/14/2019
H15-02b	2304-02-036	FM 2410	Roy Reynolds Dr to Commercial Dr	Widen from 2 to 4 lane roadway with sidewalks, median and turn lanes	\$8,800,000	7/1/2016	10/21/2020
T35-24	0909-36-155	Prairie View Road	W of SH 317 to N Pea Ridge Rd	Construction of a 4 lane roadway, aligning FM 2483 to Prairie View Rd with a signalized intersection	\$6,480,000	1/1/2018	6/2/2020
K30-02	0909-36-156	Rosewood Dr Extension	Riverstone Dr to Chaparral Dr	Construction of a 4 lane roadway with center median and an off-system bridge	\$7,965,049	3/1/2018	7/17/2020
W40-02	0231-03-143	US 190	1.0 mi W of FM 2410 to Knights Way	Widen main lanes from 4 to 6 lane divided freeway and ramp alignments	\$9,000,000	12/1/2017	8/21/2020
W40-06	0231-03-145	US 190	FM 3423 (Indian Trail) to FM 2410 in W Belton	Widen main lanes from 4 to 6 lane divided freeway and ramp alignments	\$39,000,000	6/1/2019	10/29/2022
W40-05	0231-04-060	US 190	FM 2410 in W Belton to IH-35	Widen main lanes from 4 to 6 lanes and resurface	\$35,000,000	6/1/2020	06/01/2023
W35-12	0185-01-030	US 190 (Rogers Relief Route)	2.0 mi S of FM 436 in Heidenheimer to Milam County Line	Widen from 2 to 4 lane divided rural highway	\$62,800,000	11/1/2019	Ongoing Es. Complete: 2024/2025
W40-04a(1)	2502-01-021	Loop 121 Phase 1a	Lake Rd (FM 439) to South of W Ave O	Widen from two lanes to four lanes with a raised median	\$30,800,000	8/1/2021	Ongoing Est Complete 2024/2025

The next section contains individual project profiles determined from the COMPAT analysis.



Completed Projects:

KTMO Project ID: T15-06C

I-35 construction through Temple, TX from South Loop 363 to North Loop 363 initiated on September 1, 2012 and completed on July 29, 2020. Capacity expansion included widening I-35 from 6 to 8 lanes. Figure 1 displays the project limits on I-35 for T15-06c.

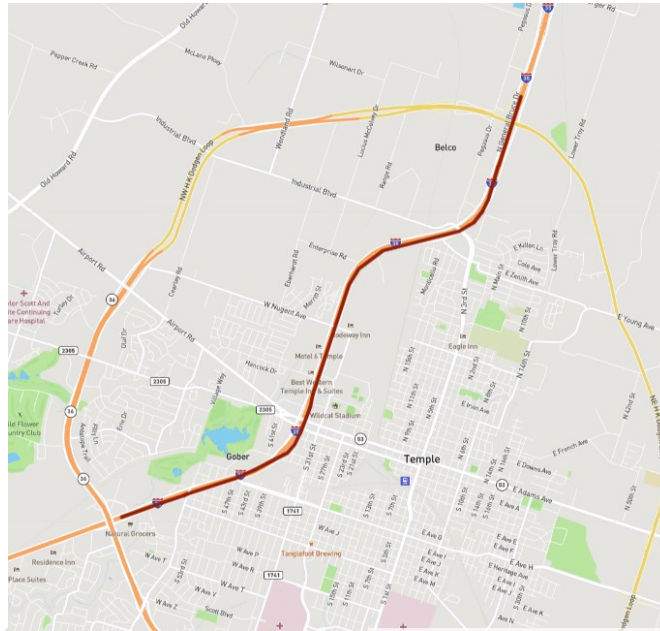


Figure 1. T15-06c Project Limits

Table 2 depicts key annualized performance measure data for the selected corridor.

Table 2. 2016-2021 Congestion Performance Measures for T15-06c

Year	Person Hours of Delay	Planning Time Index-80 th Percentile	Travel Time Index
2016	126662	1.14	1.05
2017	295610	1.26	1.13
2018	97029	1.08	1.03
2019	48782	1.09	1.01
2020	6167	1.07	1.00
2021	7429	1.06	1.01

Figures 2-7 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. The corridor shows a declining trend of reported person hours of delay, planning time index and travel time index values from 2016-2021 following a large increase in 2017.

- **Trend of Performance Measures:** Uncongested
- **Strategy Identification:** Continue to Monitor
- **Overall Project Effectiveness:** Exceptional

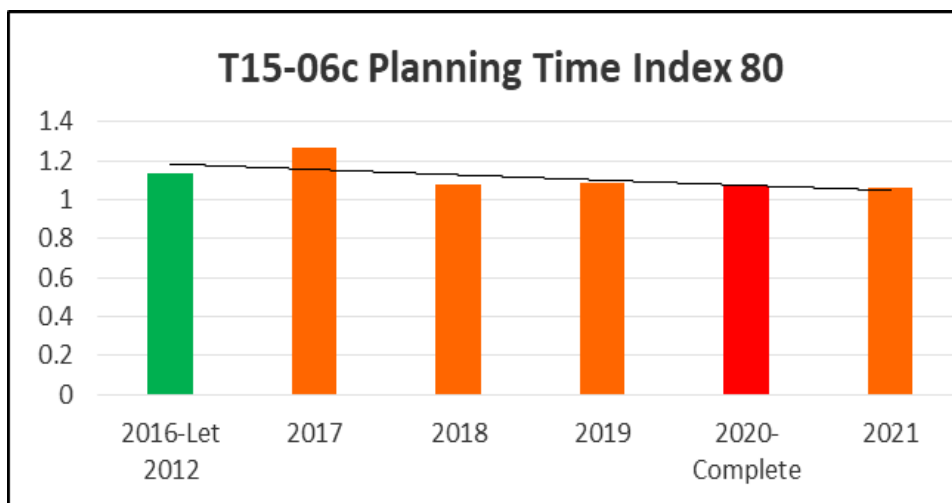


Figure 2. T15-06c Planning Time Index-80th Percentile Trends

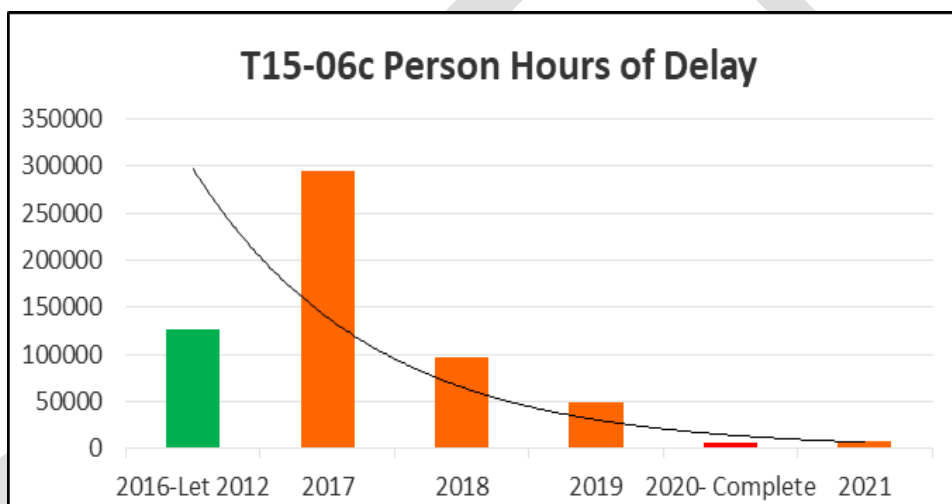


Figure 3. T15-06c Person Hours of Delay Trends

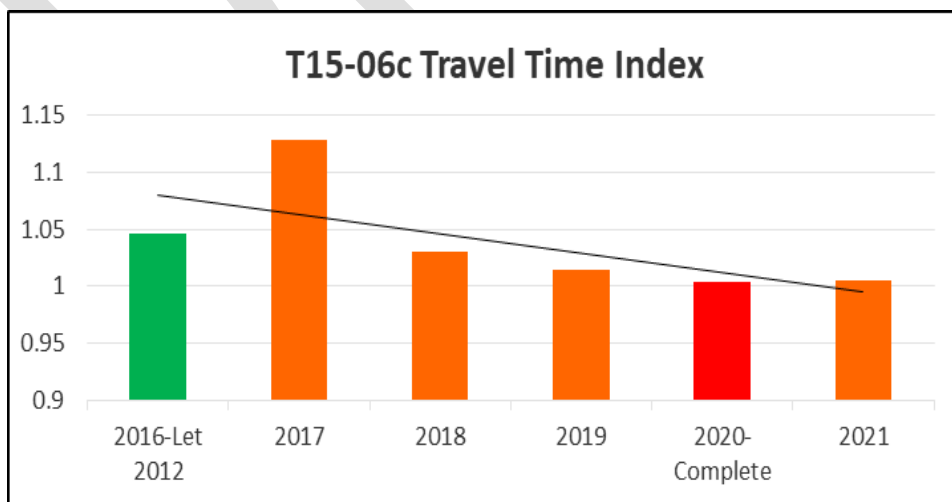


Figure 4. T15-06c Travel Time Index Trends

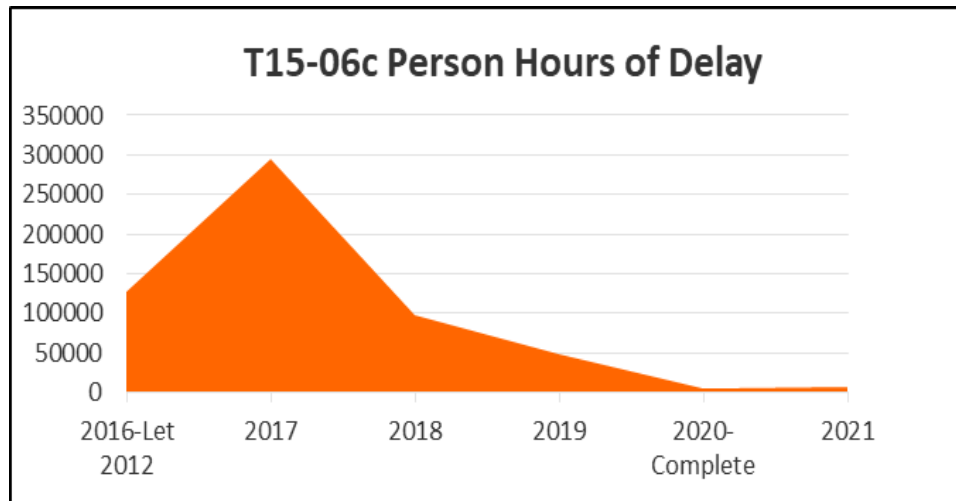


Figure 5. T15-06c Person Hours of Delay Performance Over Time

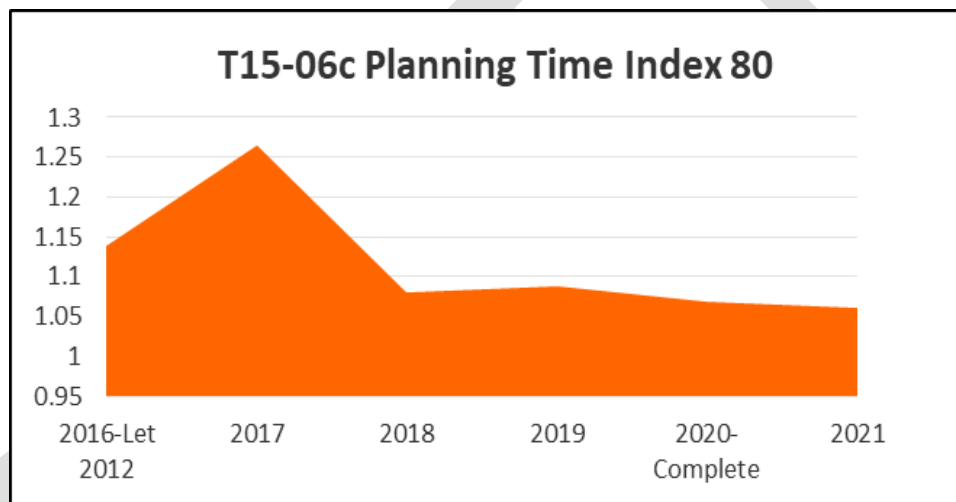


Figure 6. T15-06c Planning Time Index-80th Percentile Performance Over Time

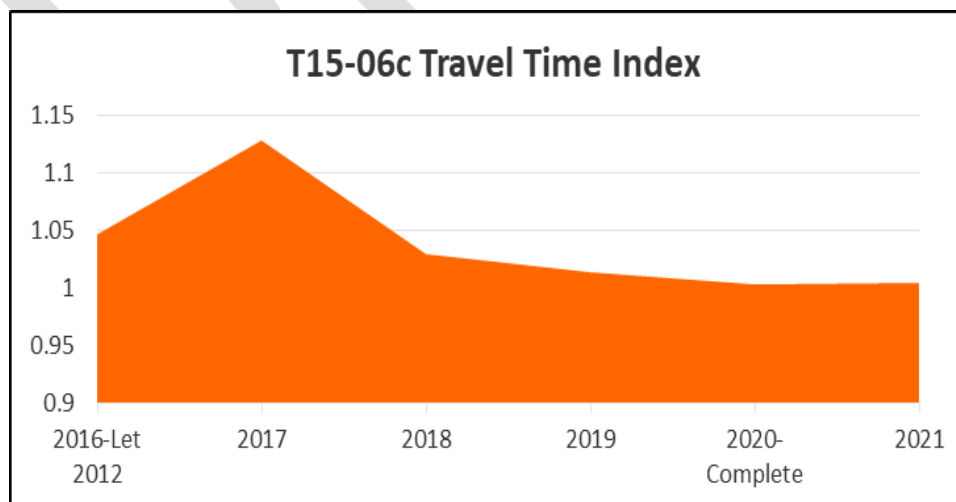


Figure 7. T15-06c Travel Time Index Performance Over Time



KTMPO Project ID: T25-11

State Highway 317 construction through Belton, TX from .2 miles south of FM 2305 to .4 miles north of FM 439 initiated on May 1, 2016 and completed on November 14, 2019. Capacity expansion included reconstructing and widening from two to four lanes with a raised median. Figure 8 displays the project limits for project T25-11.

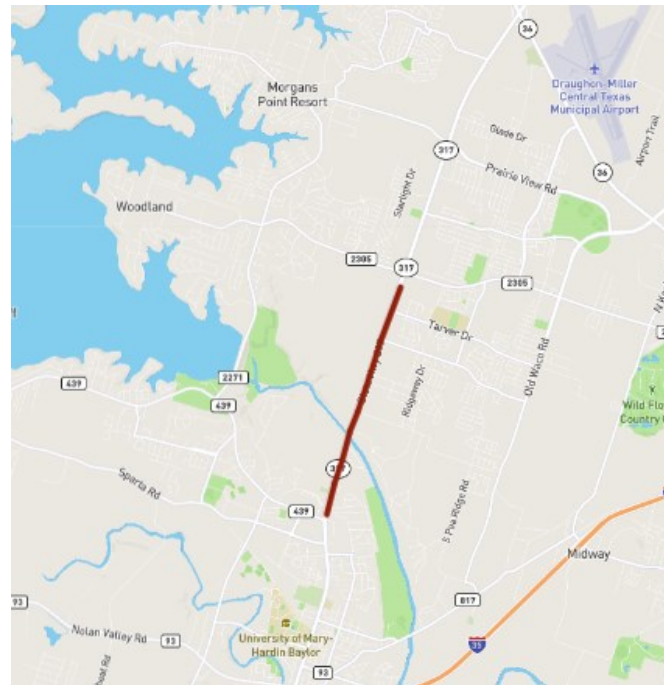


Figure 8. T25-11 Project Limits

Table 3 depicts key annualized performance measure data for the selected corridor.

Table 3. 2016-2021 Congestion Performance Measures for T25-11

Year	Person Hours of Delay	Planning Time Index-80 th Percentile	Travel Time Index
2016	63802	1.26	1.17
2017	101517	1.51	1.32
2018	89649	1.36	1.22
2019	43907	1.13	1.07
2020	12970	1.12	1.03
2021	37977	1.15	1.08

Figures 9-14 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. The corridor shows a declining trend of reported person hours of delay, planning time index and travel time index values from 2016-2021 following a large increase in 2017.

- **Trend of Performance Measures:** Uncongested
- **Strategy Identification:** Continue to Monitor
- **Overall Project Effectiveness:** Exceptional

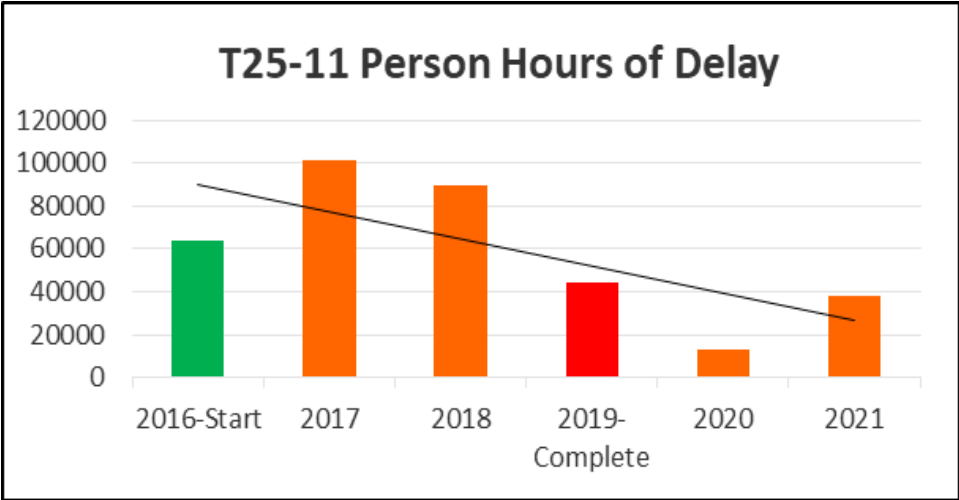


Figure 9. T25-11 Person Hours of Delay Trends

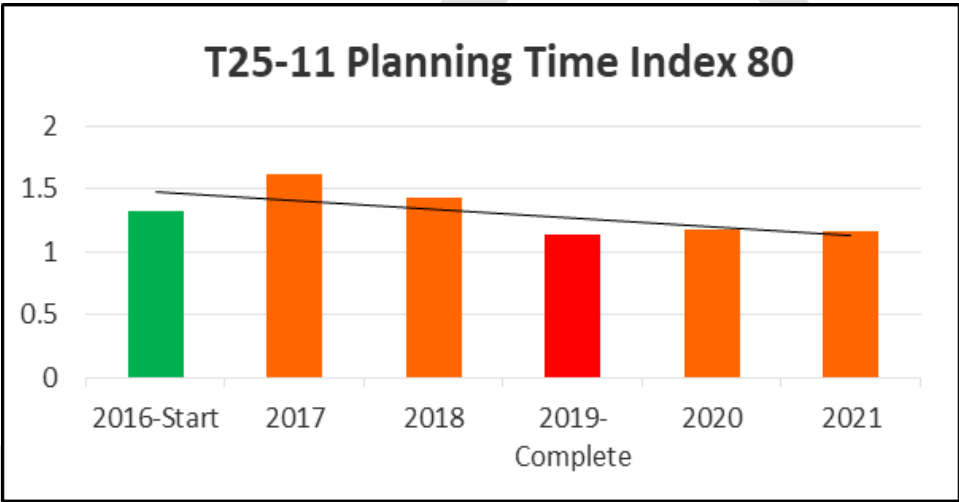


Figure 10. T25-11 Planning Time Index-80th Percentile Trends

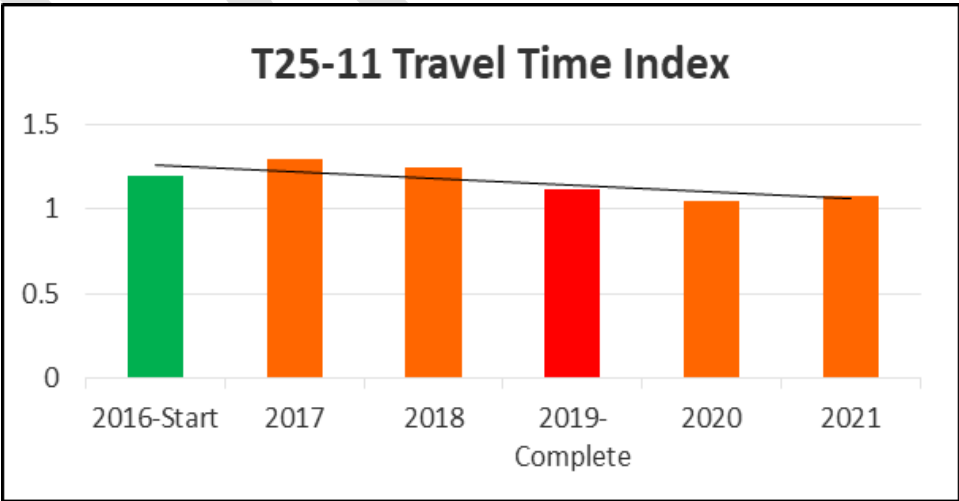


Figure 11. T25-11 Travel Time Index Trends

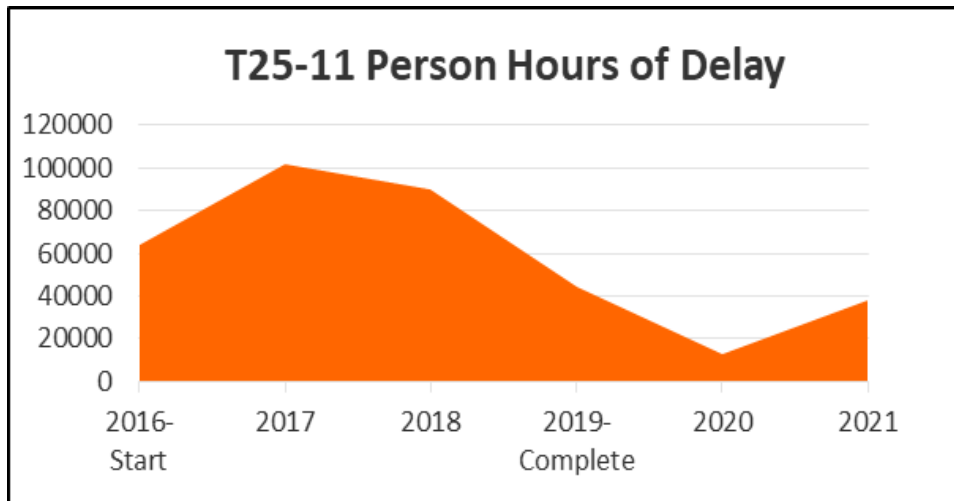


Figure 12. T25-11 Person Hours of Delay Performance Over Time

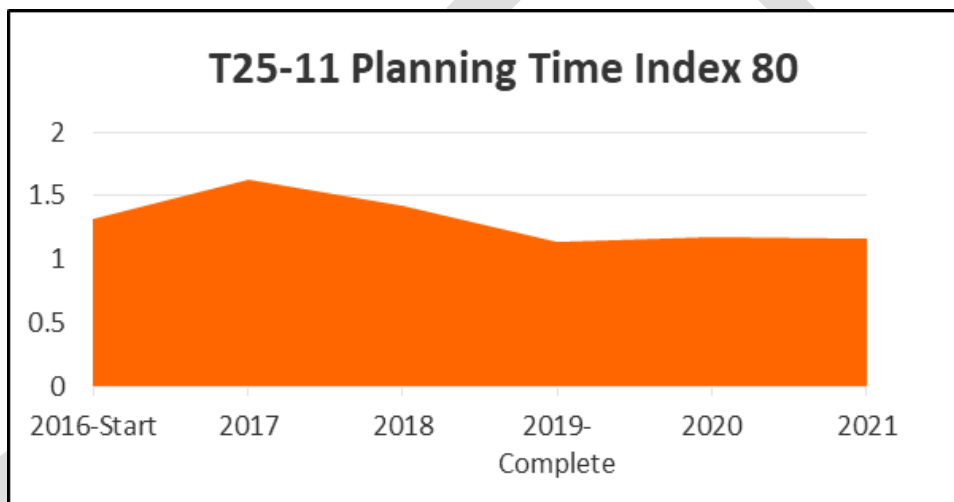


Figure 13. T25-11 Planning Time Index-80th Percentile Performance Over Time

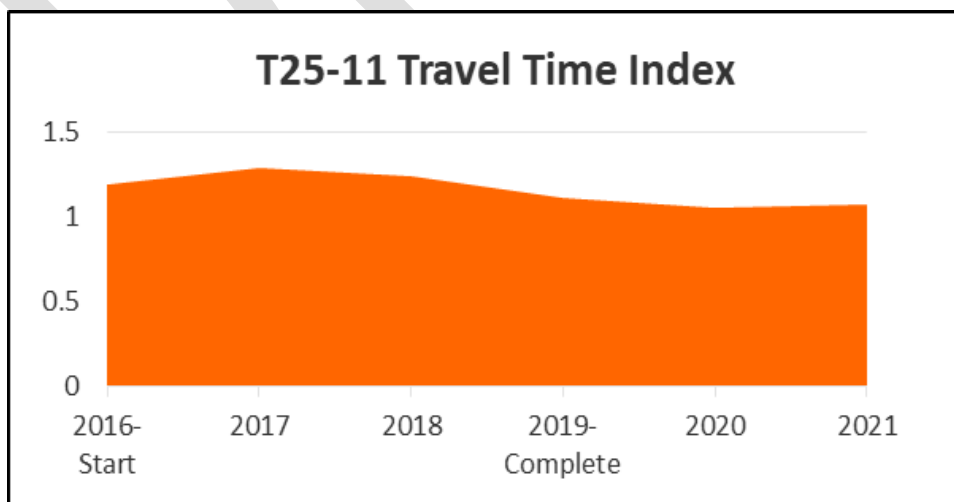


Figure 14. T25-11 Travel Time Index Performance Over Time



KTMO Project ID: H15-02b

FM 2410 construction through Harker Heights, TX from Roy Reynolds Dr. to Commercial Dr. initiated on July 1, 2016 and completed on October 21, 2020. Capacity expansion included widening from a 2 to 4 lane roadway with sidewalks, median and turn. Figure 15 displays the project limits for project H15-02b.

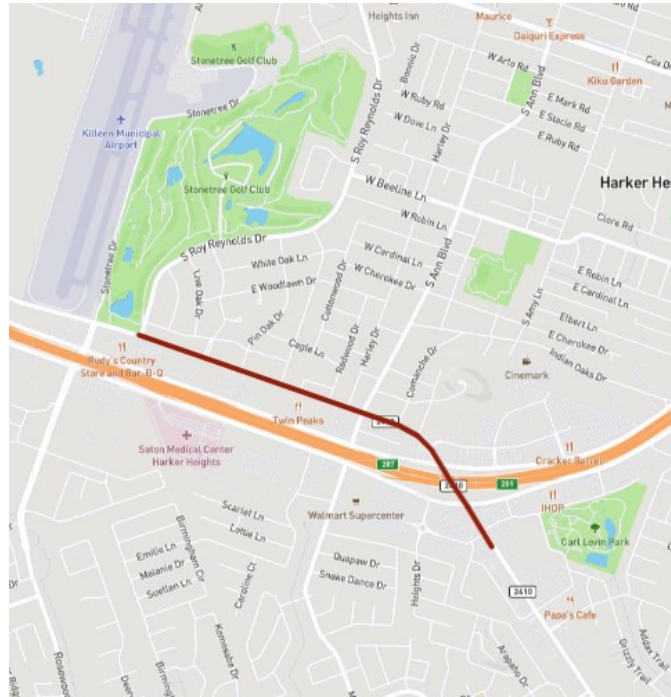


Figure 15. H15-02b Project Limits

Table 4 depicts key annualized performance measure data for the selected corridor.

Table 4. 2016-2021 Congestion Performance Measures for H15-02b

Year	Person Hours of Delay	Planning Time Index-80 th Percentile	Travel Time Index
2016	39918	1.26	1.16
2017	168030	1.44	1.29
2018	53142	1.34	1.21
2019	42185	1.21	1.12
2020	11213	1.11	1.03
2021	41449	1.23	1.12

Figures 16-21 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. The corridor shows a declining trend of reported person hours of delay, planning time index and travel time index values from 2016-2021 following a large increase in 2017.

- **Trend of Performance Measures:** Nearing Congestion
- **Strategy Identification:** Continue to Monitor
- **Overall Project Effectiveness:** Fair

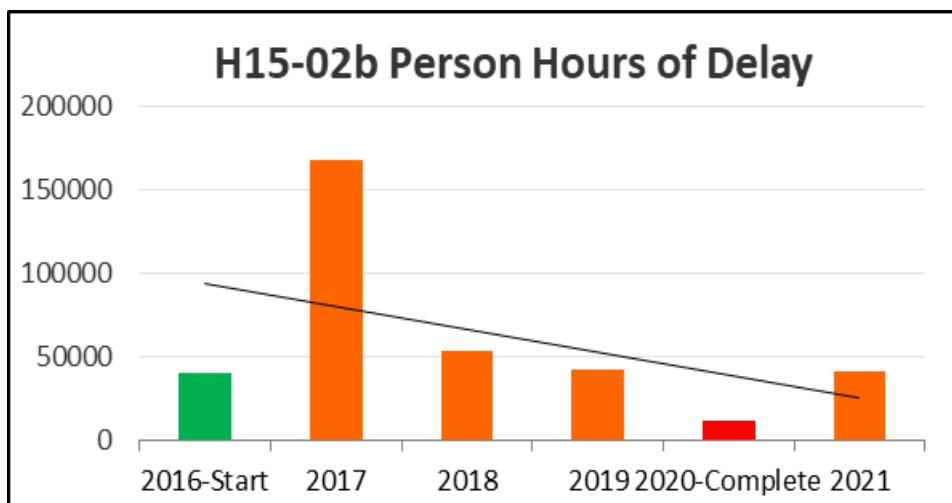


Figure 16. H15-02b Person Hours of Delay Trends

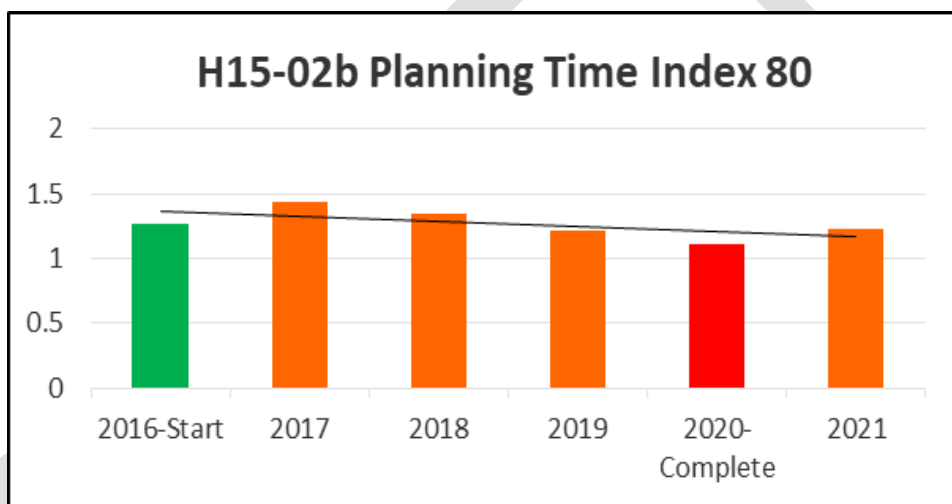


Figure 17. H15-02b Planning Time Index 80th-Percentile Trends

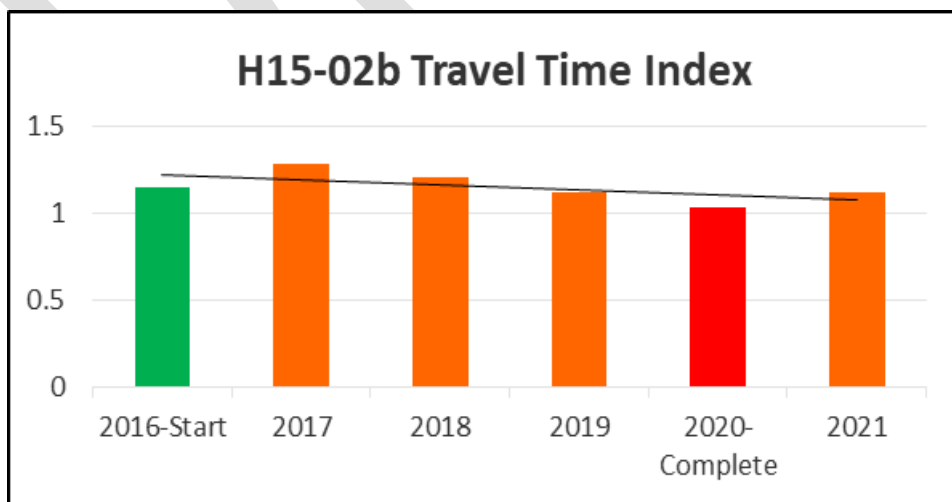


Figure 18. H15-02b Travel Time Index Trends

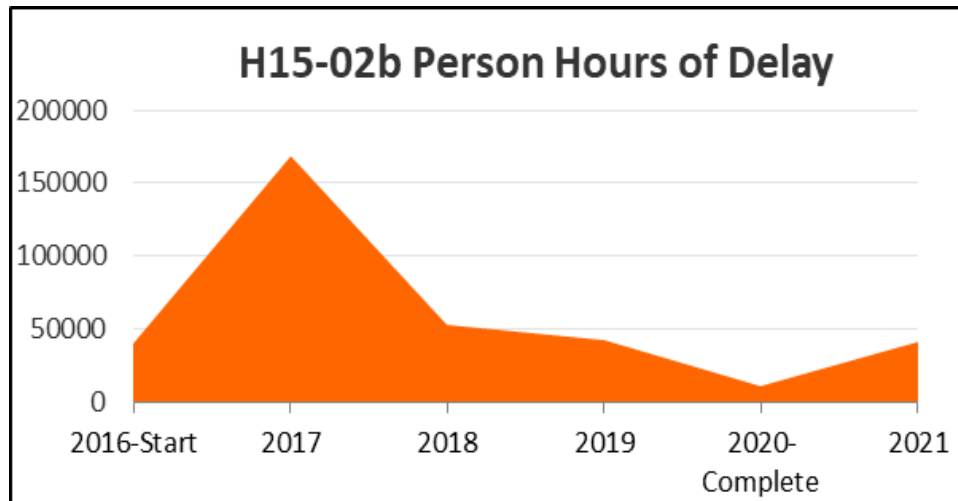


Figure 19. H15-02b Person Hours of Delay Performance Over Time

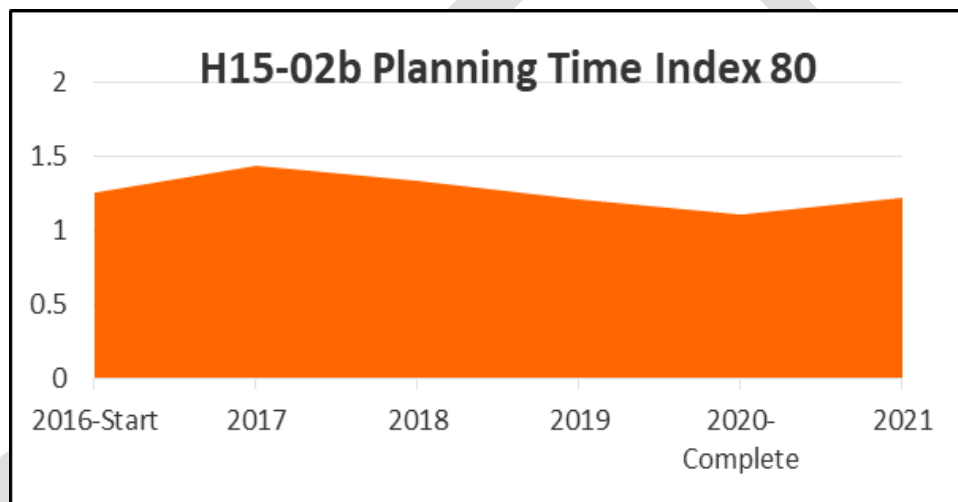


Figure 20. H15-02b Planning Time Index 80th-Percentile Performance Over Time

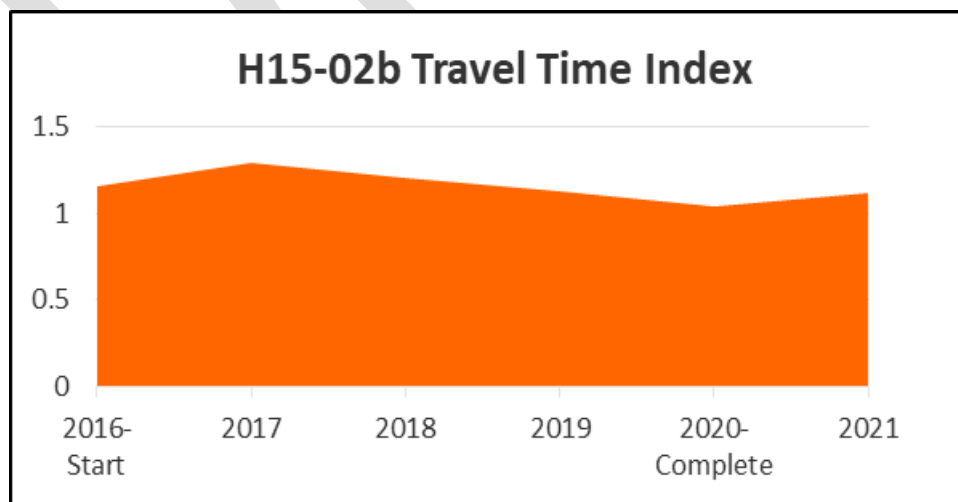


Figure 21. H15-02b Travel Time Index Performance Over Time



KTMO Project ID: T35-24

The Prairie View Road Enhancements construction through Temple, TX from State Highway 317 to Pea Ridge Road initiated on January 1, 2018 and completed on June 2, 2020. Capacity expansion included construction of a 4-lane roadway, aligning FM 2483 to Prairie View Rd with a signalized intersection. Figure 29 displays the project limits for project T35-24.

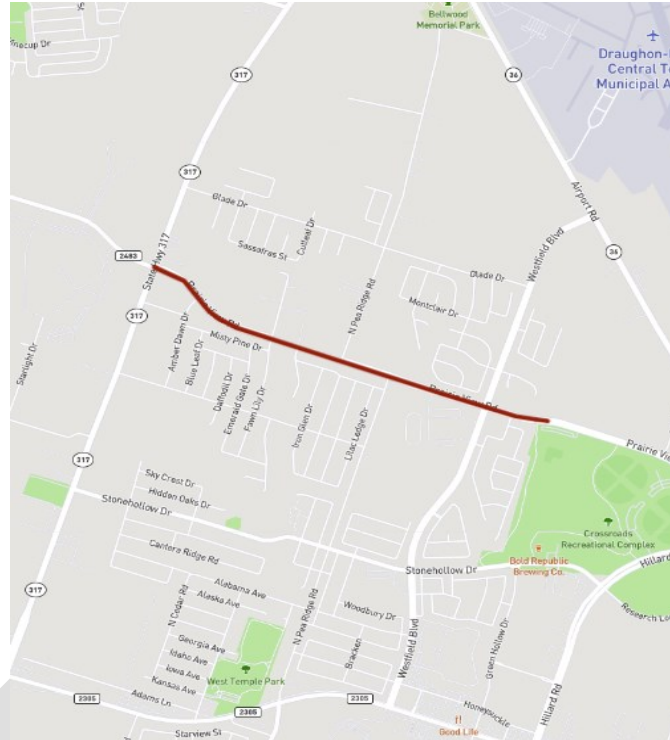


Figure 22. T35-24 Project Limits

Table 6 depicts key annualized performance measure data for the selected corridor.

Table 5. 2016-2021 Congestion Performance Measures for T35-24

Year	Person Hours of Delay	Planning Time Index-80 th Percentile	Travel Time Index
2016	4941	1.16	1.08
2017	1023	1.11	1.06
2018	1952	1.19	1.11
2019	2072	1.19	1.11
2020	3668	1.17	1.09
2021	6503	1.29	1.13

Figures 30-35 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. While the data set does not cover the complete period of construction, having finalized in December of 2022, thus far the corridor shows an increasing trend of reported person hours of delay, planning time index and travel time index values from 2016-2021.

- **Trend of Performance Measures:** Nearing Congestion
- **Strategy Identification:** Continue to Monitor
- **Overall Project Effectiveness:** Fair

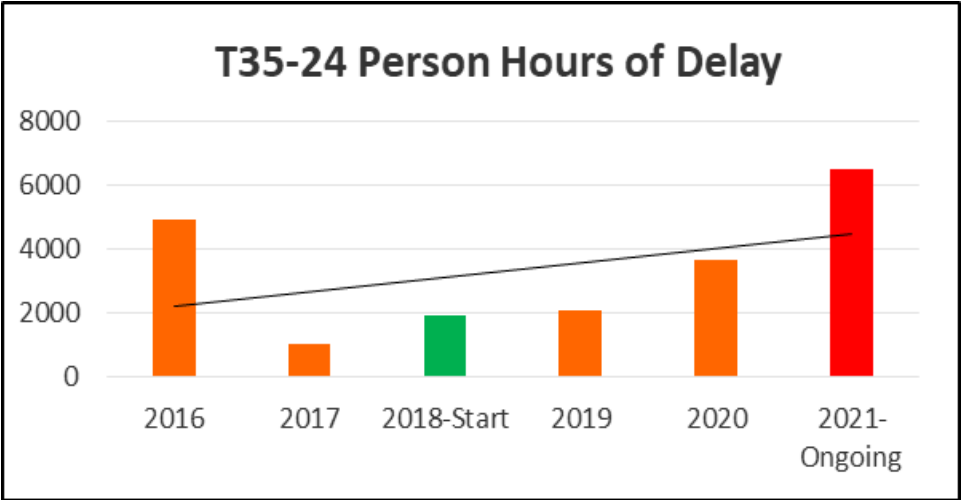


Figure 23. T35-24 Person Hours of Delay Trends

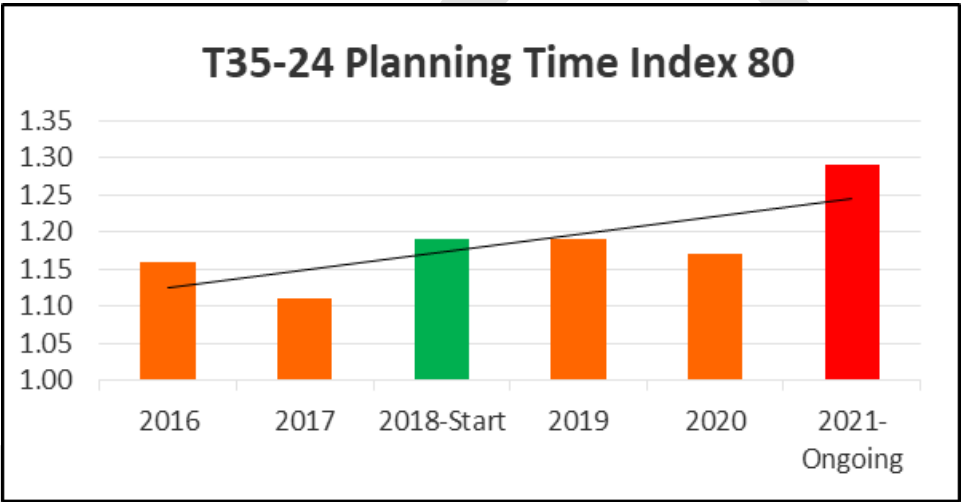


Figure 24. T35-24 Planning Time Index 80-Percentile Trends

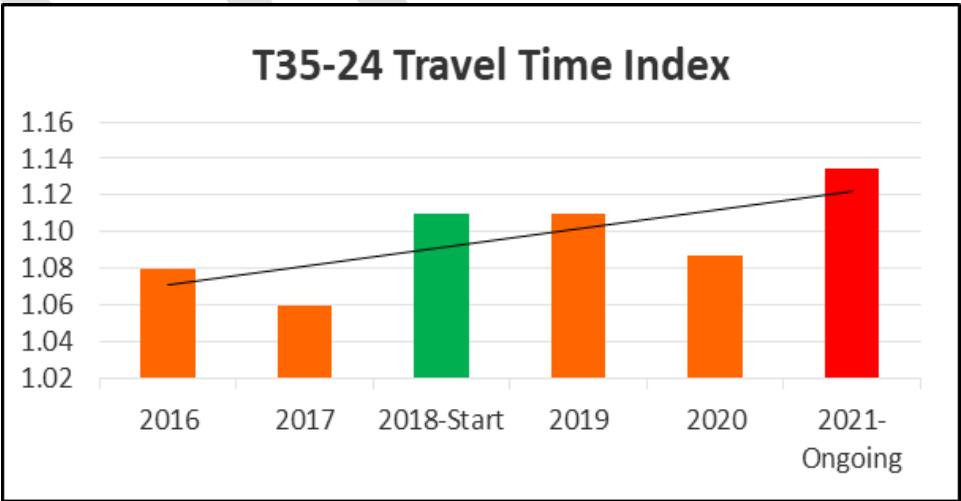


Figure 25. T35-24 Travel Time Index Trends

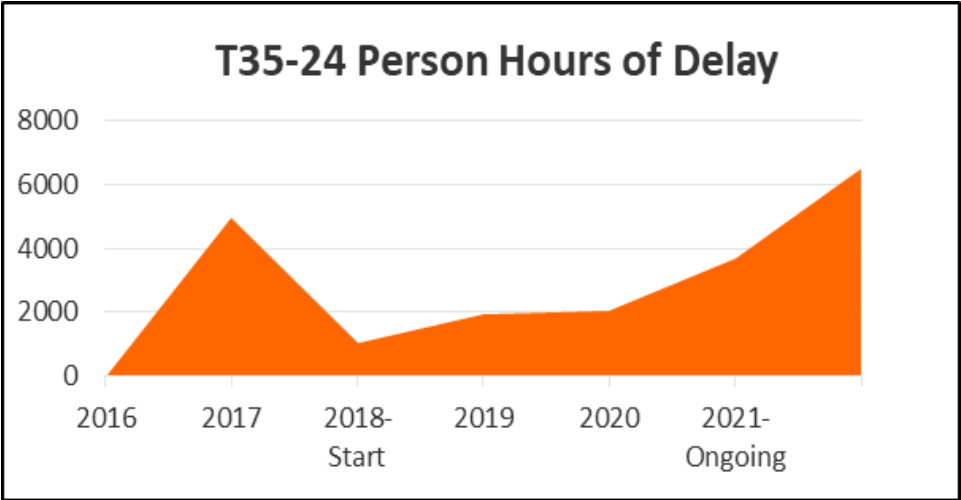


Figure 26. T35-24 Person Hours of Delay Performance Over Time

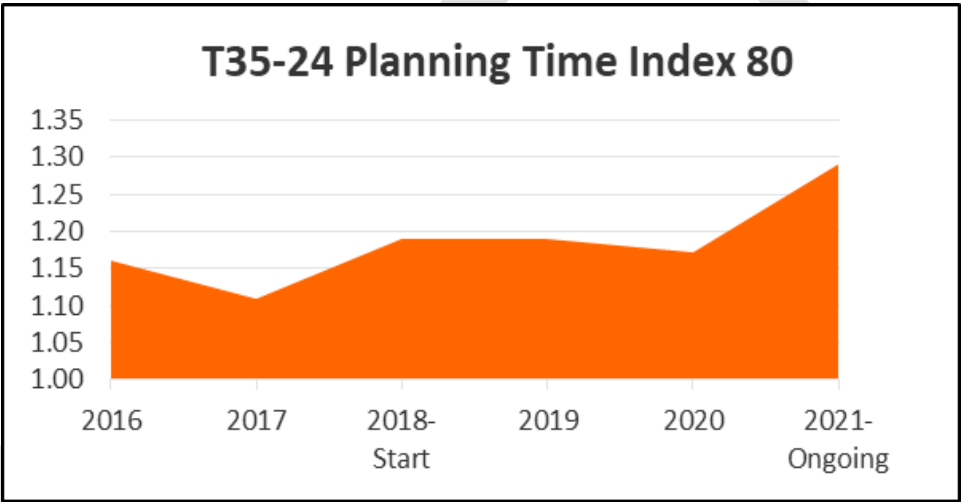


Figure 27. T35-24 Planning Time Index 80th-Percentile Performance Over Time

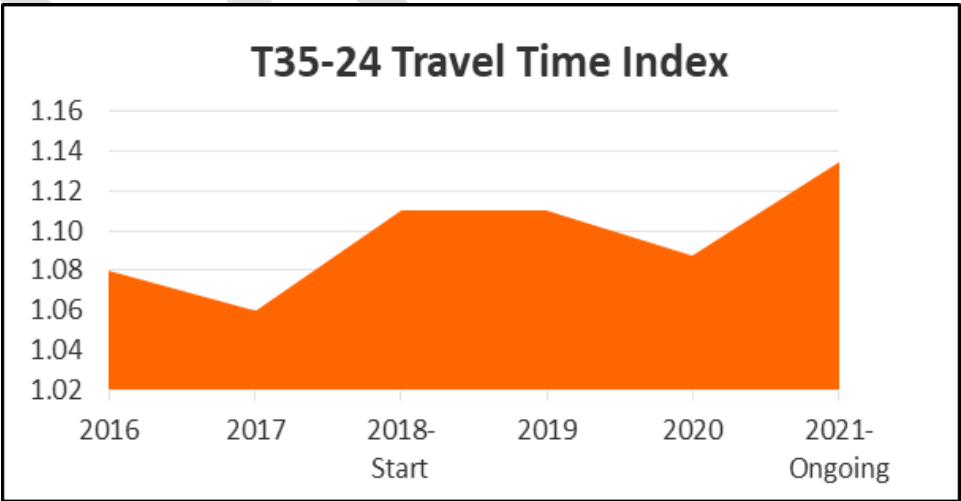


Figure 28. T35-24 Travel Time Index Performance Over Time



KTMPO Project ID: K30-02

The Rosewood Drive Extension construction through Killeen, TX from Chaparral Drive north to Riverstone Drive initiated on March 1, 2018 and completed on July 17, 2020. Capacity expansion included construction of a 4-lane roadway with center median and an off-system bridge. Figure 22 displays the project limits for project K30-02.

Note: Performance measures were unavailable in COMPAT and in the UMD CATT Lab RITIS site for the project limits. Performance measures were therefore obtained for the Rosewood Drive portions north of the corridor from Sulfur Spring Drive to Stagecoach Road to gauge potential impacts from the Rosewood Drive Extension project.

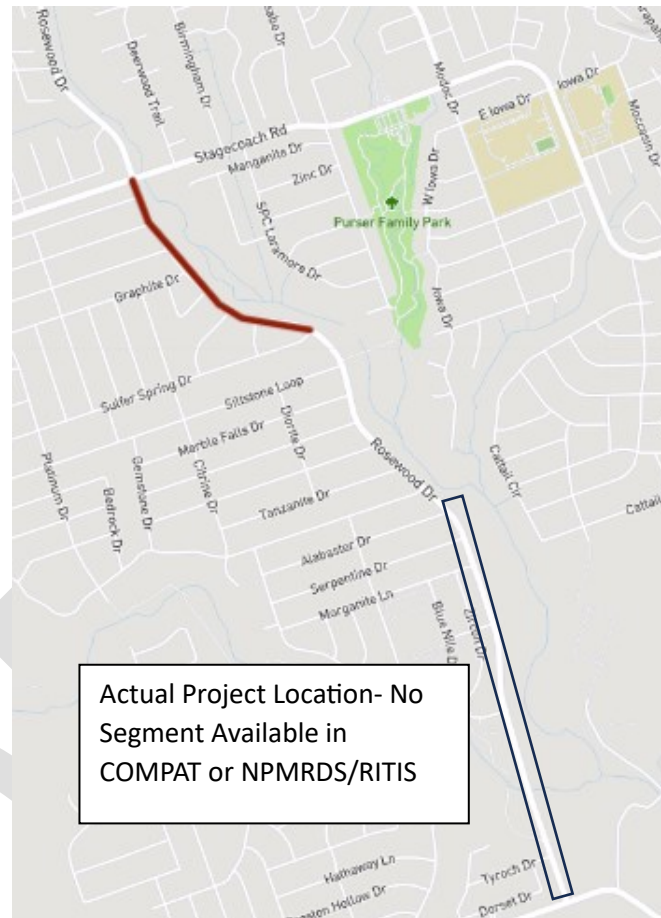


Figure 29. K30-02 Project Limits

Table 5 depicts key annualized performance measure data for the selected corridor.

Table 6. 2016-2021 Congestion Performance Measures for K30-02

Year	Person Hours of Delay	Planning Time Index- 80 th Percentile	Travel Time Index
2016	6716	1.16	1.08
2017	1377	1.11	1.06
2018	2023	1.19	1.07
2019	2138	1.18	1.09
2020	1246	1.17	1.04
2021	941	1.09	1.03



Figures 23-28 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. The corridor shows a decreasing trend of reported person hours of delay, planning time index and travel time index values from 2016-2021.

- **Trend of Performance Measures:** Uncongested
- **Strategy Identification:** Continue to Monitor
- **Overall Project Effectiveness:** Exceptional

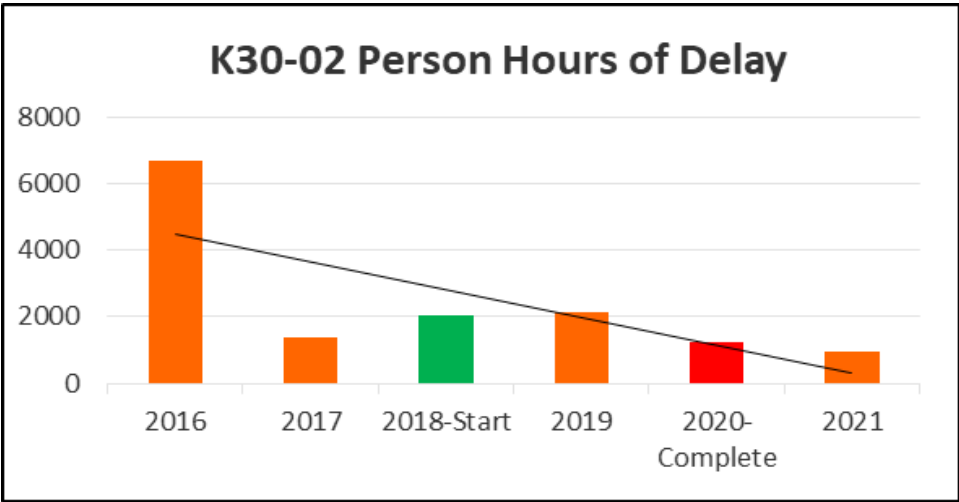


Figure 30. K30-02 Person Hours of Delay Trends

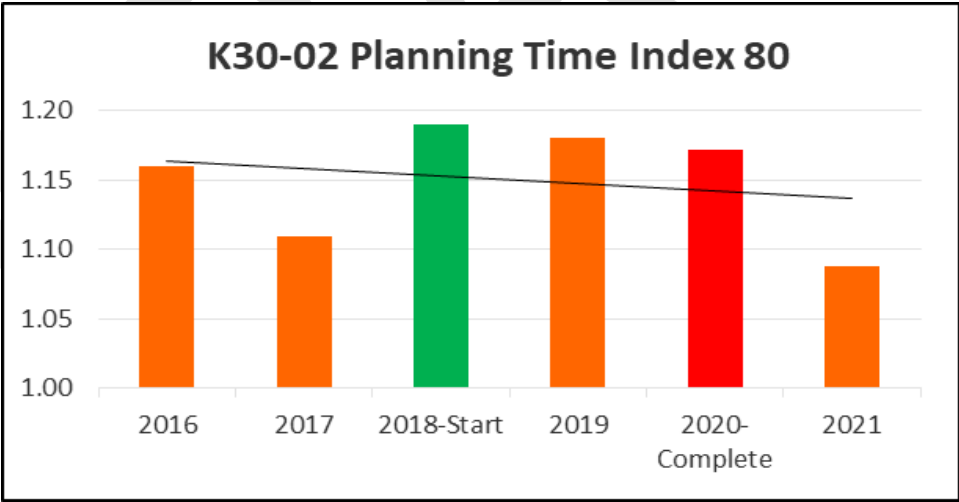


Figure 31. K30-02 Planning Time Index-80th Percentile Trends

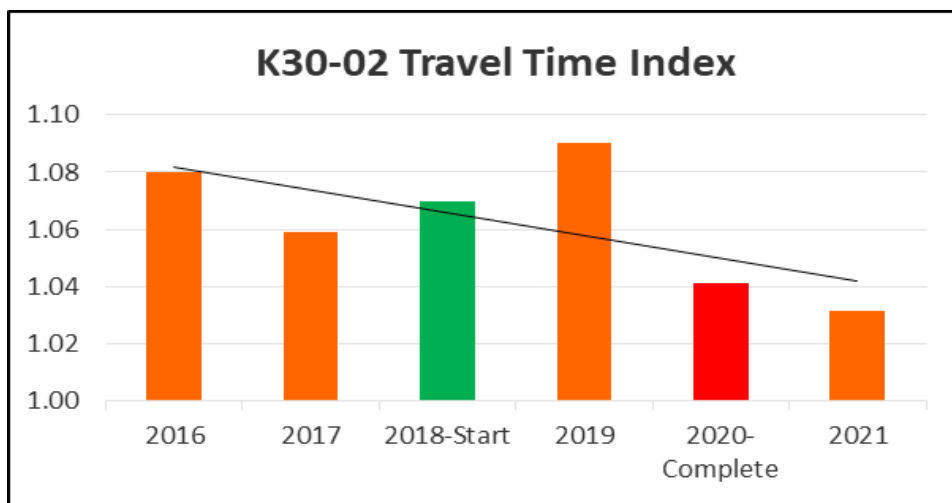


Figure 32. K30-02 Travel Time Index Trends

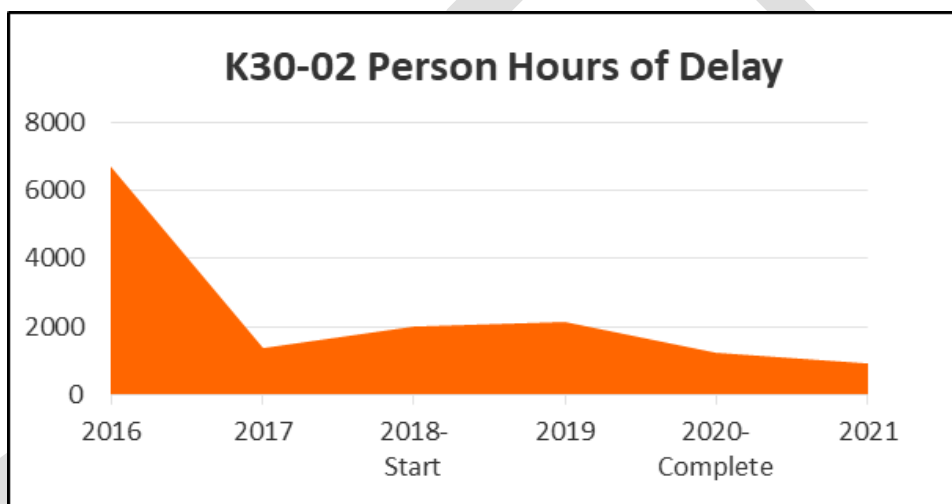


Figure 33. K30-02 Person Hours of Delay Performance Over Time

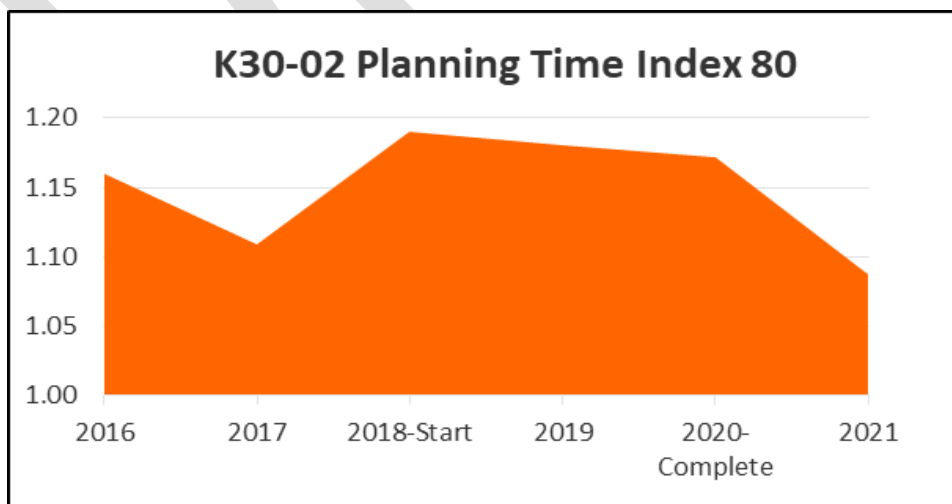


Figure 34. K30-02 Planning Time Index 80-Percentile Performance Over Time

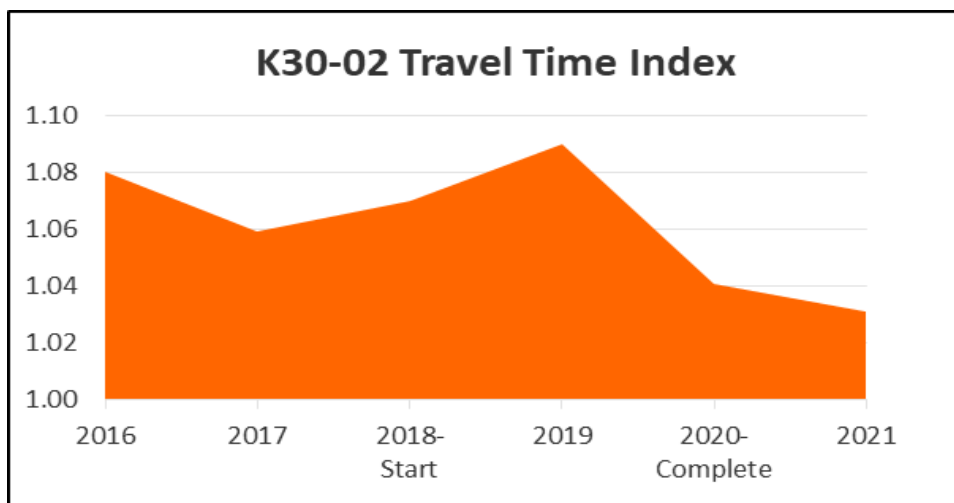


Figure 35. K30-02 Travel Time Index Performance Over Time

DRAFT



KTMPO Project ID: W40-02

The US 190 construction through Harker Heights, TX from 1 mile west of FM 2410 to FM 3423 (Indian Trail) initiated on December 1, 2017 and completed on August 21, 2020. Capacity expansion included widening main lanes from a 4 to 6 lane divided freeway along with ramp alignments. Figure 36 displays the project limits for project W40-02.

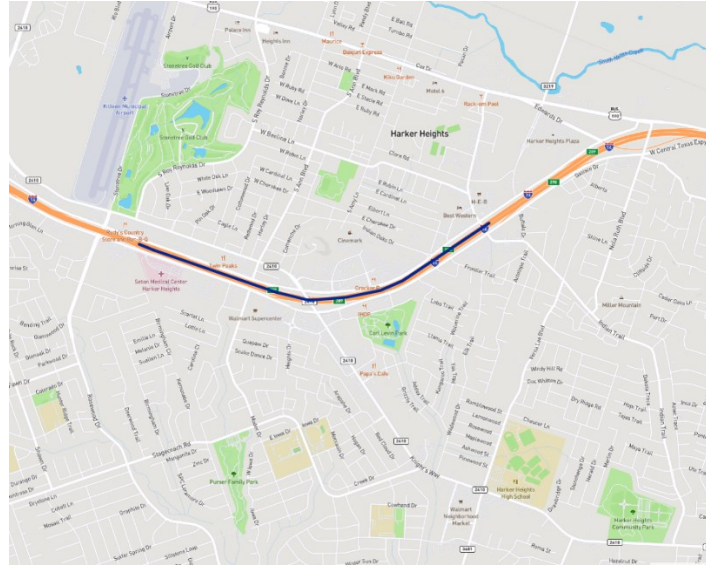


Figure 36. W40-02 Project Limits

Table 6 depicts key annualized performance measure data for the selected corridor.

Table 7. 2016-2021 Congestion Performance Measures for W40-02

Year	Person Hours of Delay	Planning Time Index-80 th Percentile	Travel Time Index
2016	6522	1.02	1.00
2017	9320	1.06	1.00
2018	11098	1.06	1.01
2019	6624	1.03	1.00
2020	2263	1.05	1.00
2021	5529	1.07	1.00

Figures 37-42 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. The corridor shows a decreasing trend of reported person hours of delay, an increase in planning time index and a slight decrease in travel time index values from 2016-2021.

- **Trend of Performance Measures:** Uncongested
- **Strategy Identification:** Continue to Monitor
- **Overall Project Effectiveness:** Fair

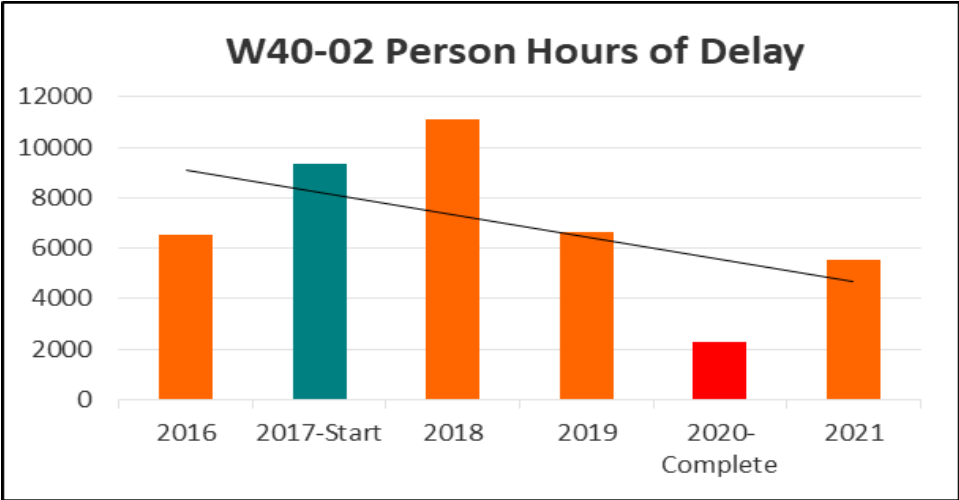


Figure 37. W40-02 Person Hours of Delay Trends

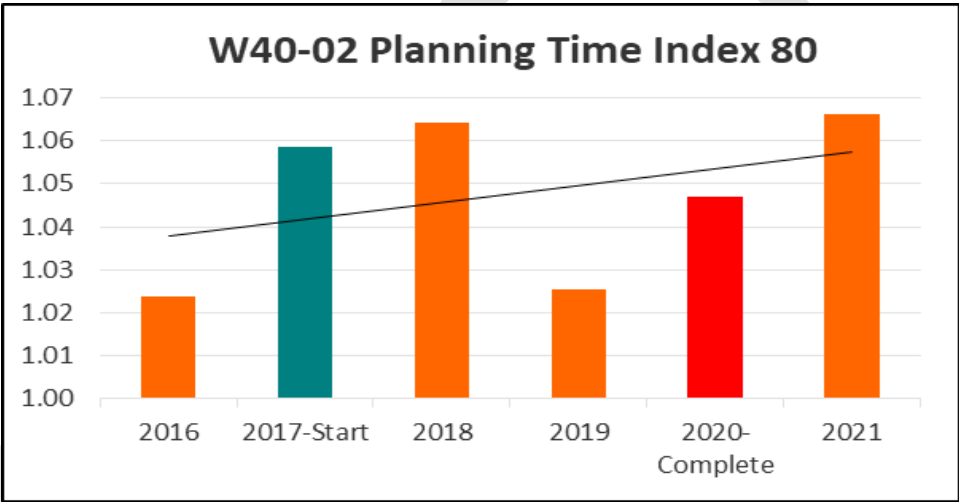


Figure 38. W40-02 Planning Time Index-80th Percentile Trends

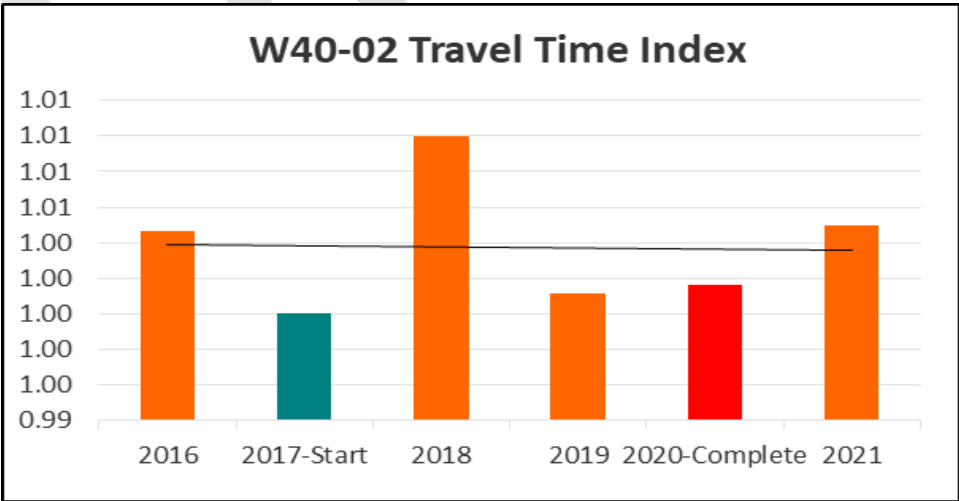


Figure 39. W40-02 Travel Time Index Trends

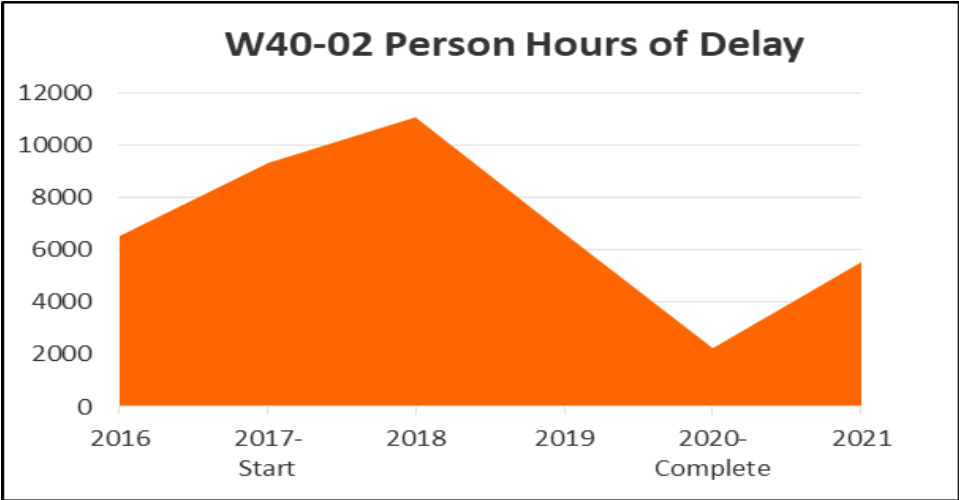


Figure 40. W40-02 Person Hours of Delay Performance Over Time

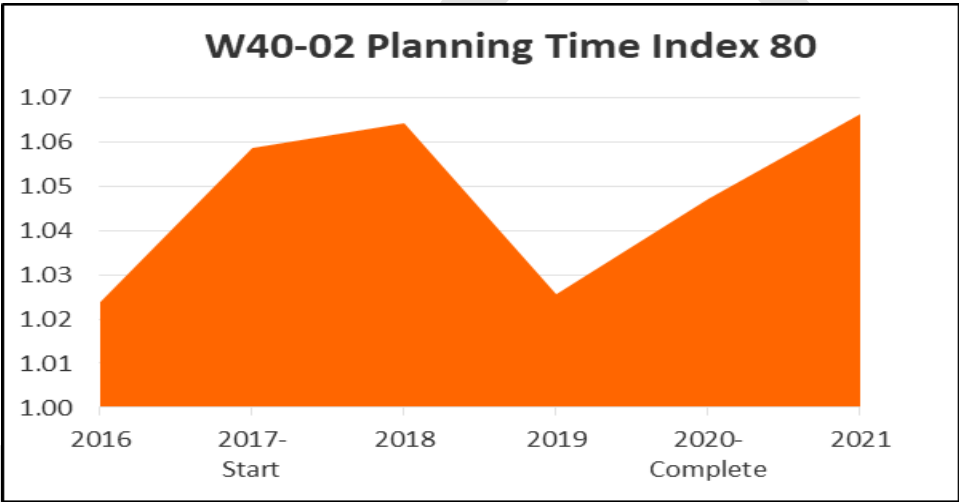


Figure 41. W40-02 Planning Time Index 80th-Percentile Performance Over Time

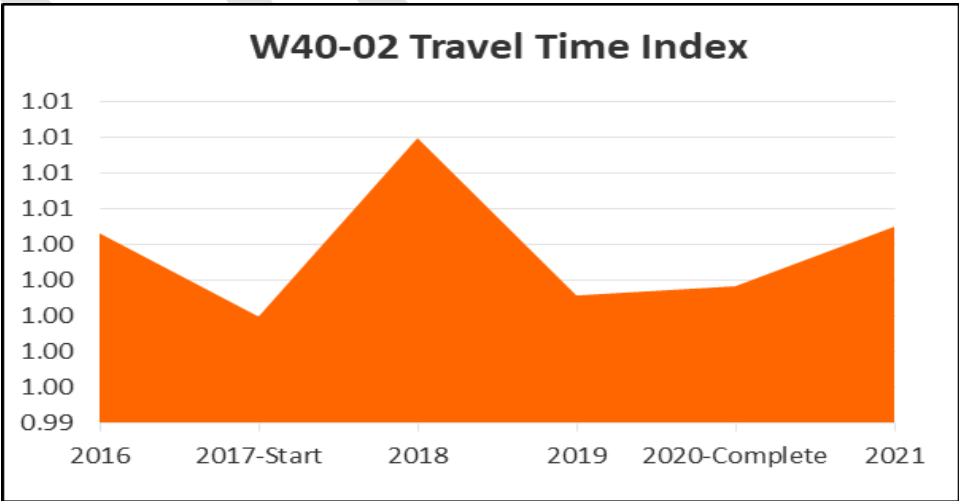


Figure 42. W40-02 Travel Time Index Performance Over Time



KTMO Project ID: W40-o6

The US 190 construction through Harker Heights and Nolanville, TX from FM 3423 (Indian Trail) to .25 miles west of Paddy Hamilton Road initiated on June 1, 2019 and completed on October 29, 2022. Capacity expansion included widening main lanes from a 4 to 6 lane freeway and resurfacing. Figure 43 displays the project limits for project W40-o6.

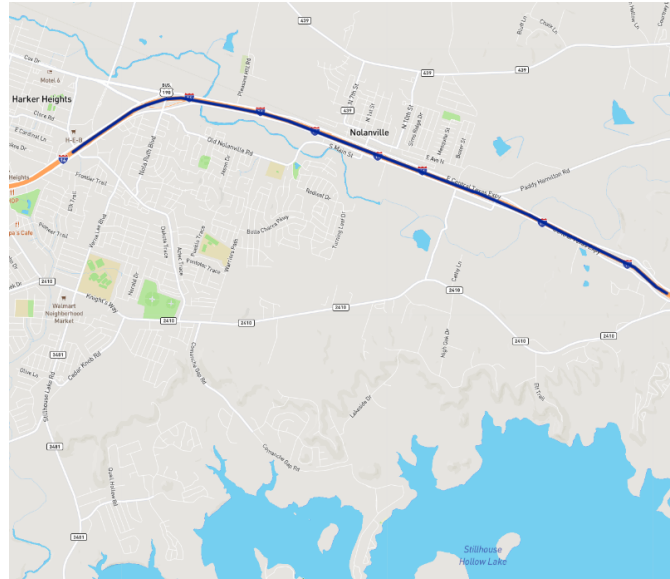


Figure 43. W40-o6 Project Limits

Table 8 depicts key annualized performance measure data for the selected corridor.

Table 8. 2016-2021 Congestion Performance Measures for W40-o6

Year	Person Hours of Delay	Planning Time Index-80 th Percentile	Travel Time Index
2016	2460	1.07	1.000
2017	5463	1.12	1.000
2018	7426	1.10	1.004
2019	1672	1.07	1.000
2020	4980	1.09	1.002
2021	9587	1.05	1.003

Figures 44-49 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. The corridor shows an increasing trend in person hours of delay and travel time index measures (though miniscule) and a decreasing trend in Planning Time Index 80th-percentile measures from 2016-2021.

- **Trend of Performance Measures:** Uncongested
- **Strategy Identification:** Continue to Monitor
- **Overall Project Effectiveness:** To be Determined

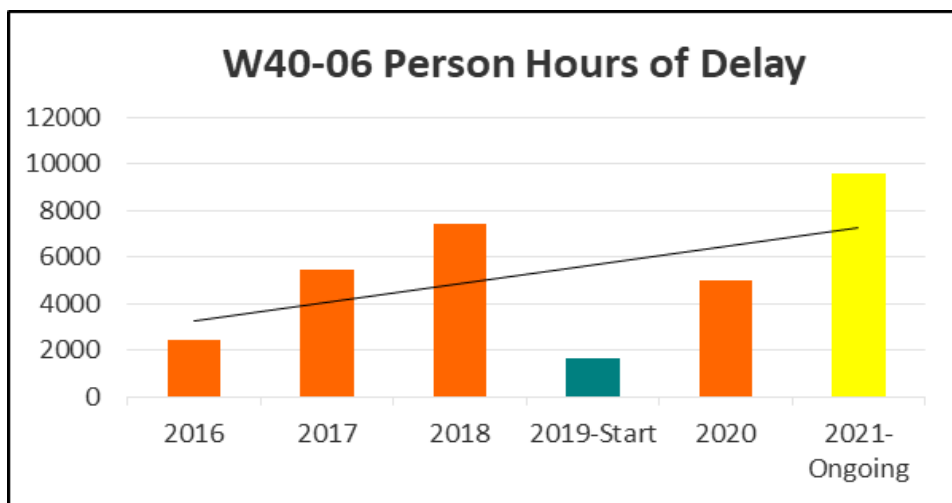


Figure 44. W40-06 Person Hours of Delay Trends

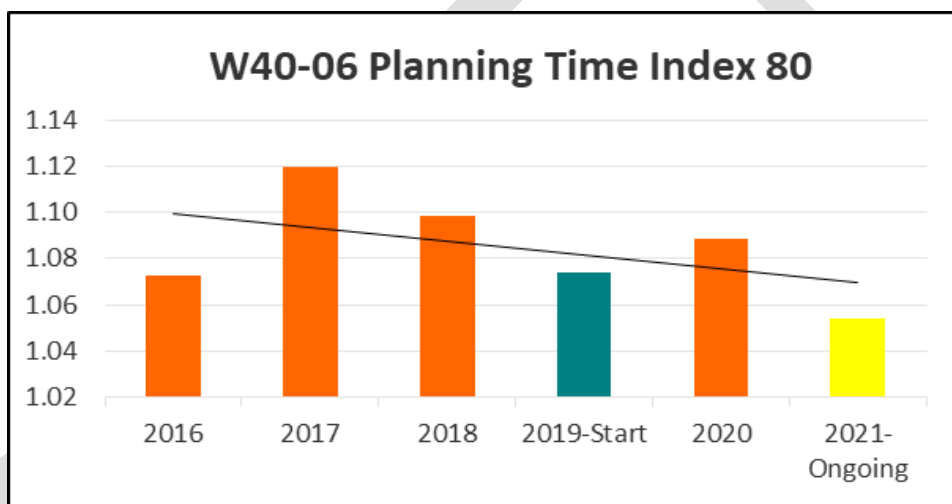


Figure 45. W40-06 Planning Time Index 80th-Percentil Trends

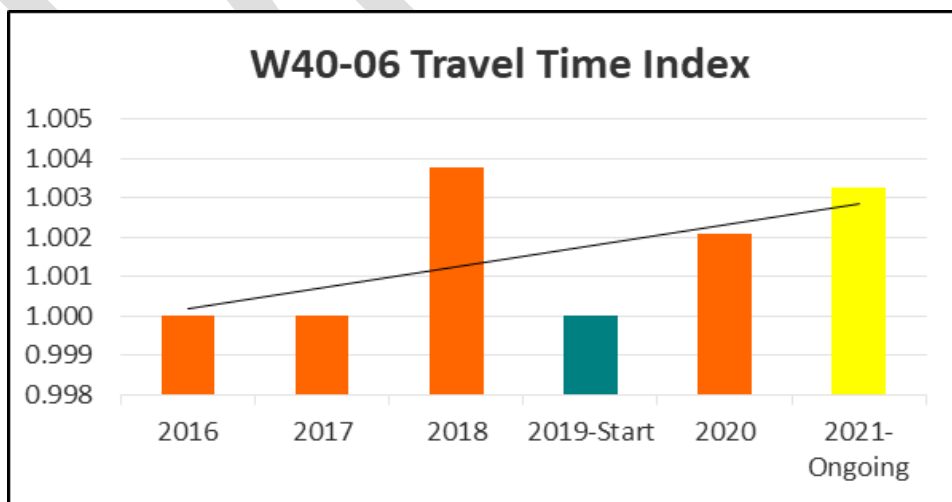


Figure 46. W40-06 Travel Time Index Trends

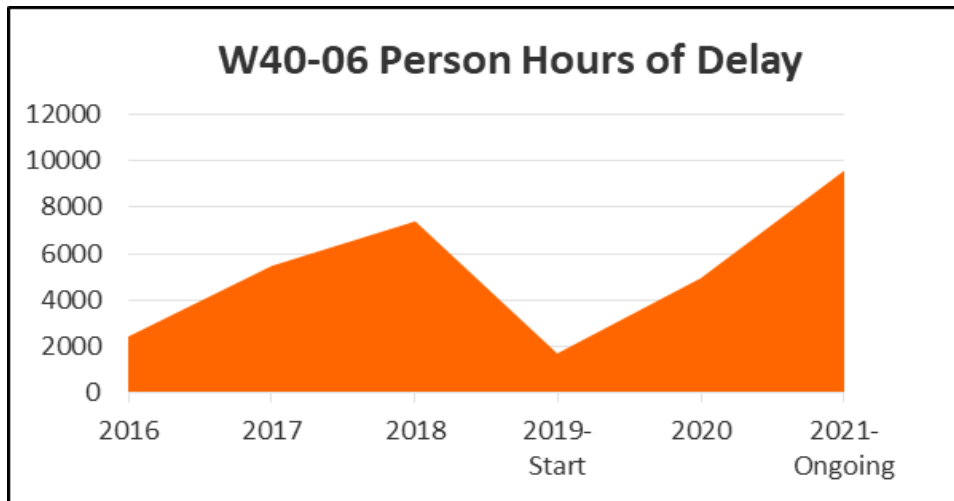


Figure 47. W40-06 Person Hours of Delay Performance Over Time

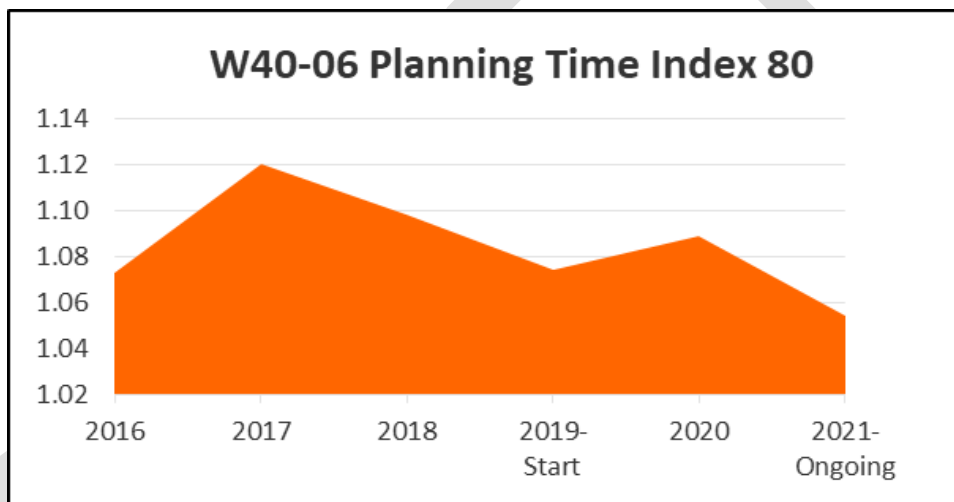


Figure 48. W40-06 Planning Time Index 80th-Percentile Performance Over Time

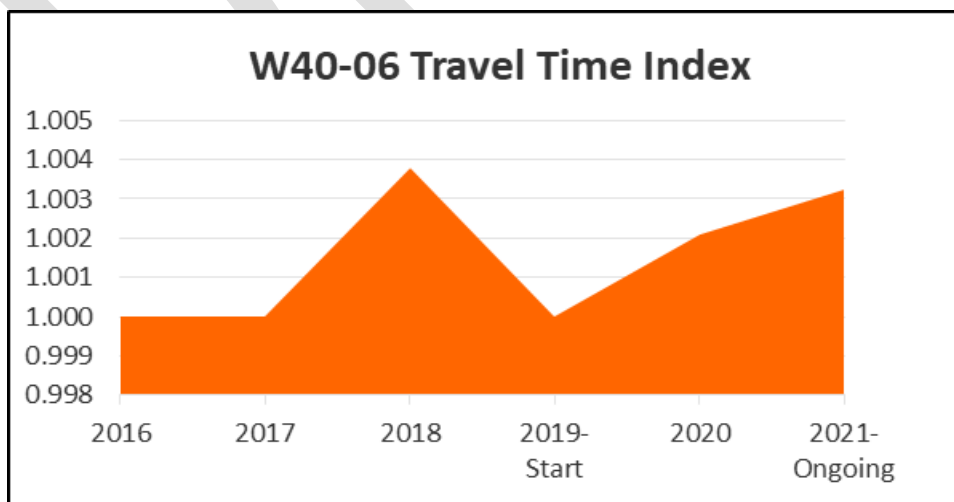


Figure 49. W40-06 Travel Time Index Performance Over Time



KTMPO Project ID: W40-05

The US 190 construction through Belton, TX from FM 2410 to IH-35 initiated on June 1, 2020 and completed on June 1, 2023. Capacity expansion included widening main lanes from a 4 to 6 lane freeway and resurfacing. Figure 50 displays the project limits for project W40-05.

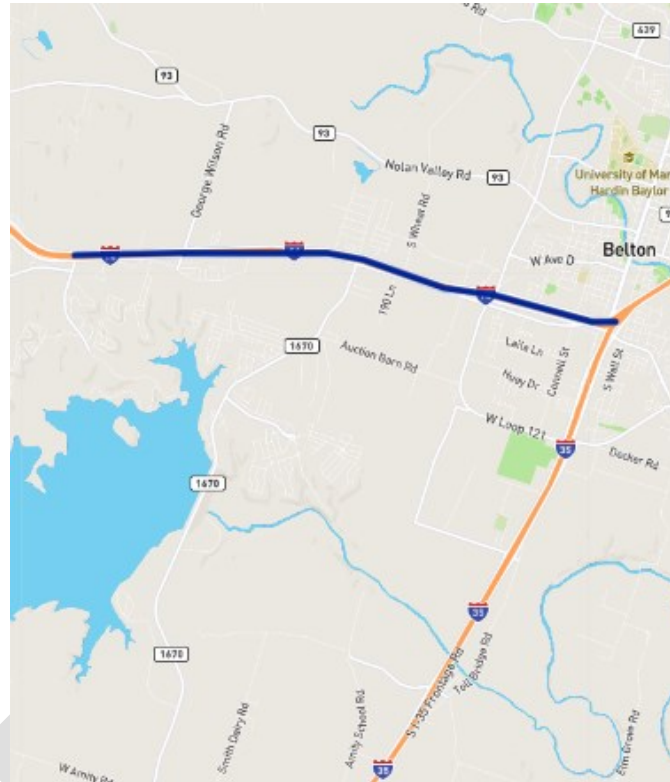


Figure 50. W40-05 Project Limits

Table 9 depicts key annualized performance measure data for the selected corridor.

Table 9. 2016-2021 Congestion Performance Measures for W40-05

Year	Person Hours of Delay	Planning Time Index-80 th Percentile	Travel Time Index
2016	167758	1.22	1.05
2017	9216	1.11	1.00
2018	8057	1.10	1.00
2019	6024	1.07	1.00
2020	3496	1.09	1.00
2021	25813	1.05	1.01

Figures 51-56 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. The corridor shows a decreasing trend in person hours of delay, travel time index measures and Planning Time Index 80th-percentile measures from 2016-2021.

- **Trend of Performance Measures:** Uncongested
- **Strategy Identification:** Continue to Monitor
- **Overall Project Effectiveness:** To be Determined

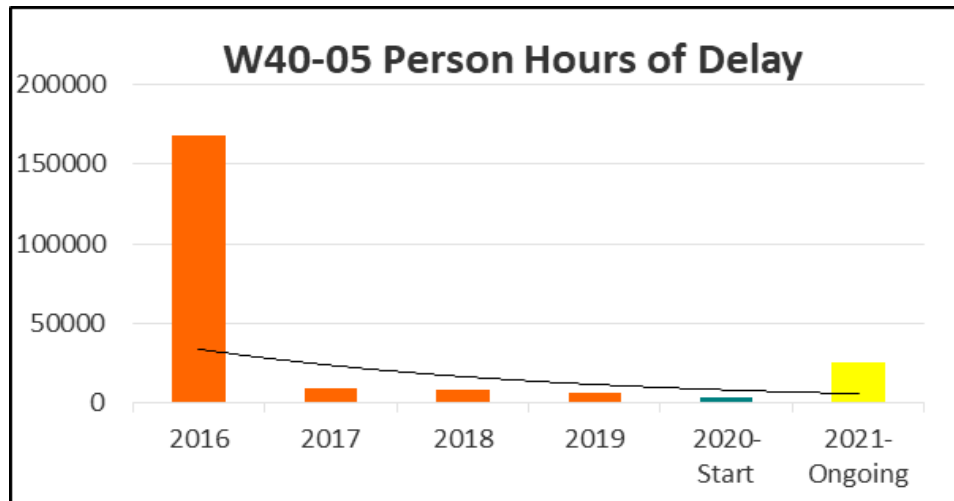


Figure 51. W40-05 Person Hours of Delay Trends

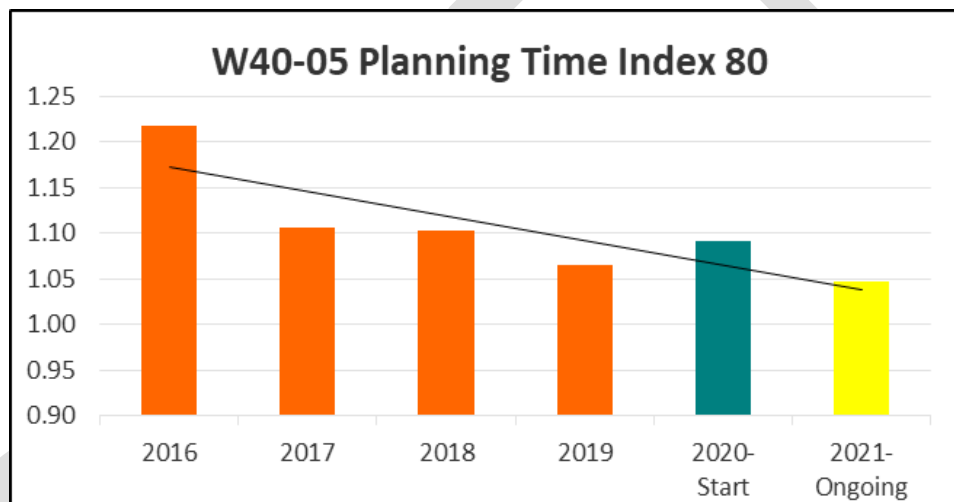


Figure 52. W40-05 Planning Time Index 80th-Percentile Trends

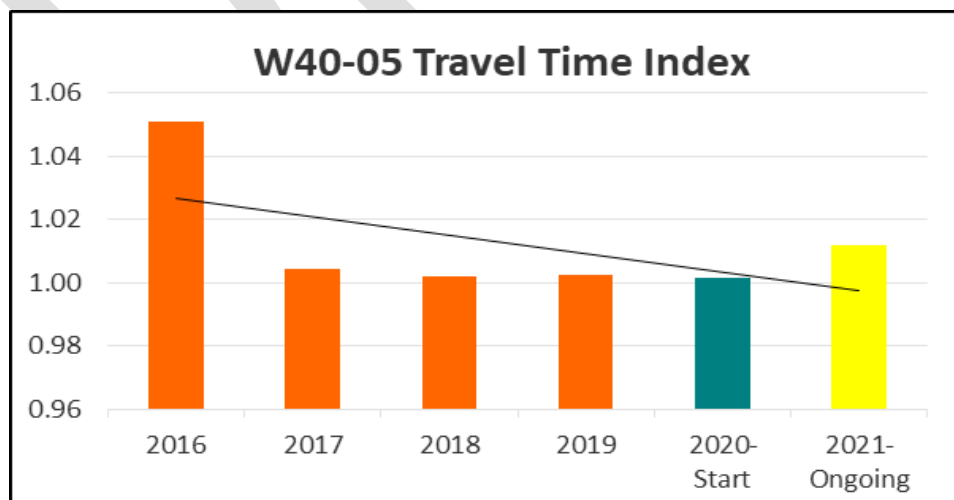


Figure 53. W40-05 Travel Time Index Trends

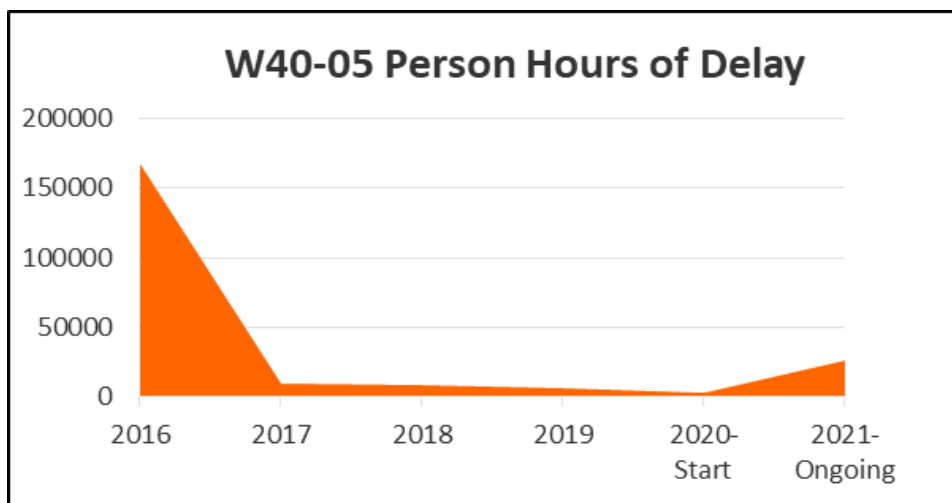


Figure 54. W40-05 Person Hours of Delay Performance Over Time

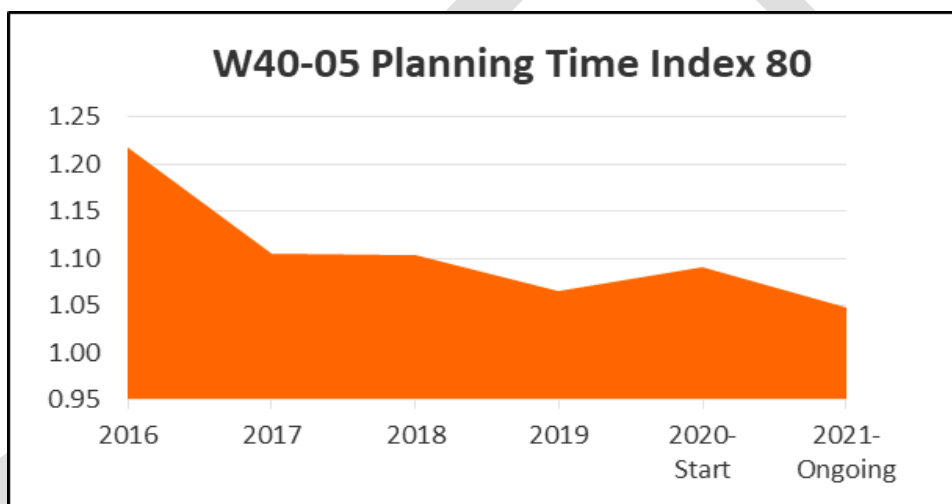


Figure 55. W40-05 Planning Time Index 80th-Percentile Performance Over Time

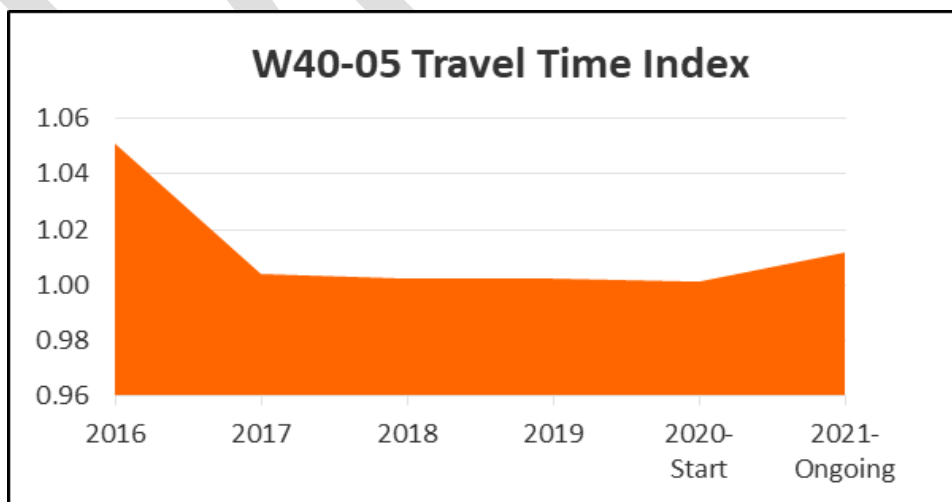


Figure 56. W40-05 Travel Time Index Performance Over Time



Completed Projects:

KTMO Project ID: W35-12

The US 190 Rogers Relief Route construction through Heidenheimer and Rogers, TX from 2 miles south of FM 436 in Heidenheimer to the Milam County Line initiated on November 1, 2019 and is ongoing with an estimated completion date in the 2024-2025 time period. Capacity expansion included widening from a 2 lane to a 4 lanes divided rural highway. Figure 57 displays the project limits for project W35-12.

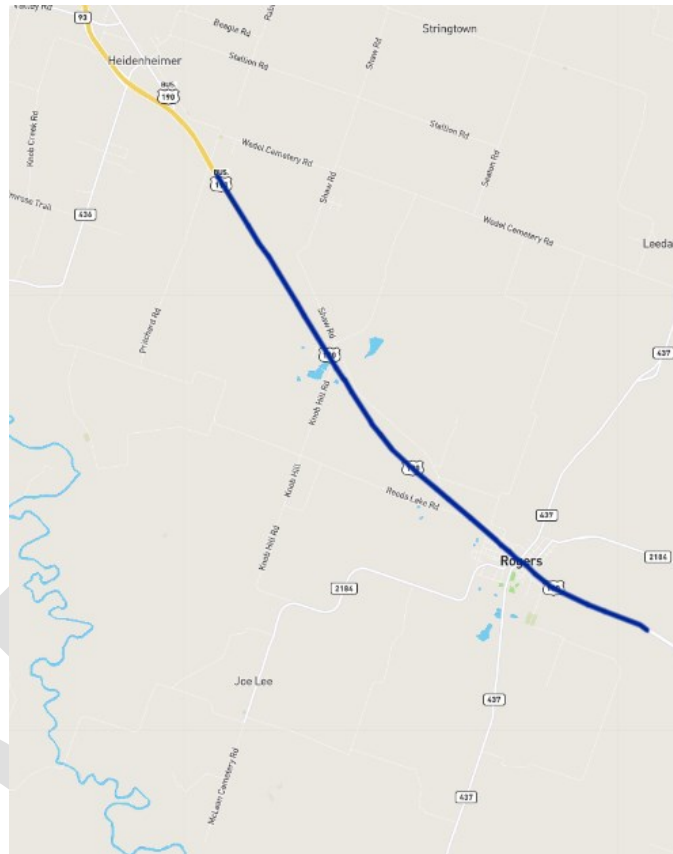


Figure 57. W35-12 Project Limits

Table 10 depicts key annualized performance measure data for the selected corridor.

Table 10. 2016-2021 Congestion Performance Measures for W35-12

Year	Person Hours of Delay	Planning Time Index- 80 th Percentile	Travel Time Index
2016	8961	1.04	1.01
2017	9024	1.05	1.01
2018	9633	1.05	1.01
2019	8228	1.05	1.01
2020	9570	1.07	1.01
2021	11263	1.05	1.02



Figures 58-63 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. While the data set does not cover the complete period of construction, with construction ongoing, thus far the corridor shows an increasing trend in person hours of delay, travel time index measures and Planning Time Index 80th-percentile measures from 2016-2021.

- **Trend of Performance Measures:** Uncongested
- **Strategy Identification:** Continue to Monitor/Rehabilitation Ongoing
- **Overall Project Effectiveness:** To be Determined

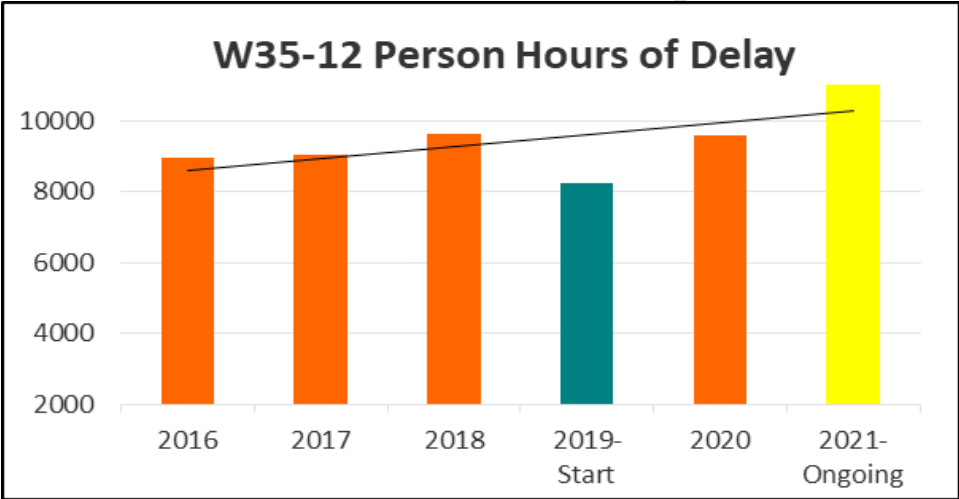


Figure 58. W35-12 Person Hours of Delay Trends

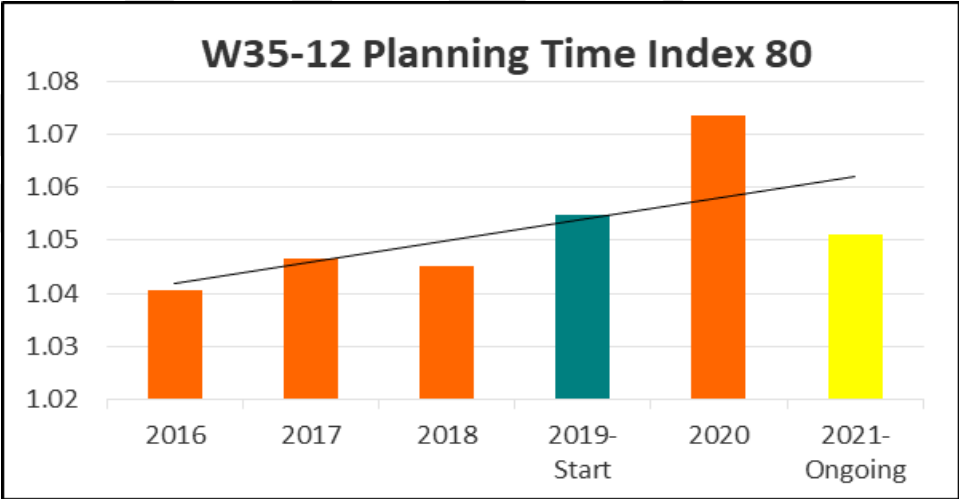


Figure 59. W35-12 Planning Time Index 80th-Percentile Trends

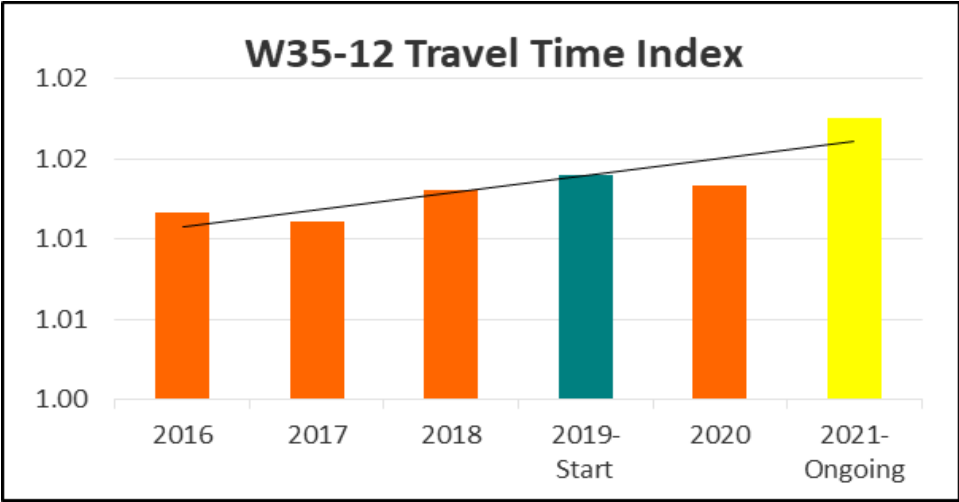


Figure 60. W35-12 Travel Time Index Trends

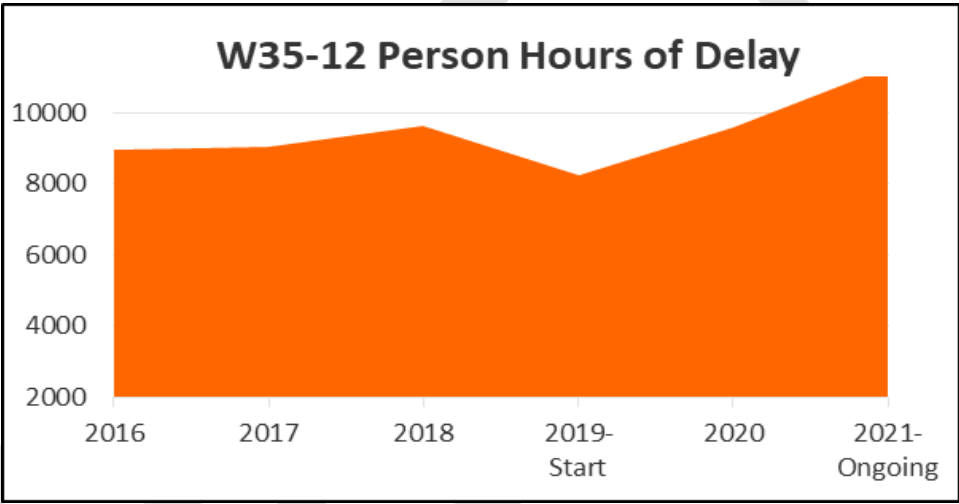


Figure 61. W35-12 Person Hours of Delay Performance Over Time

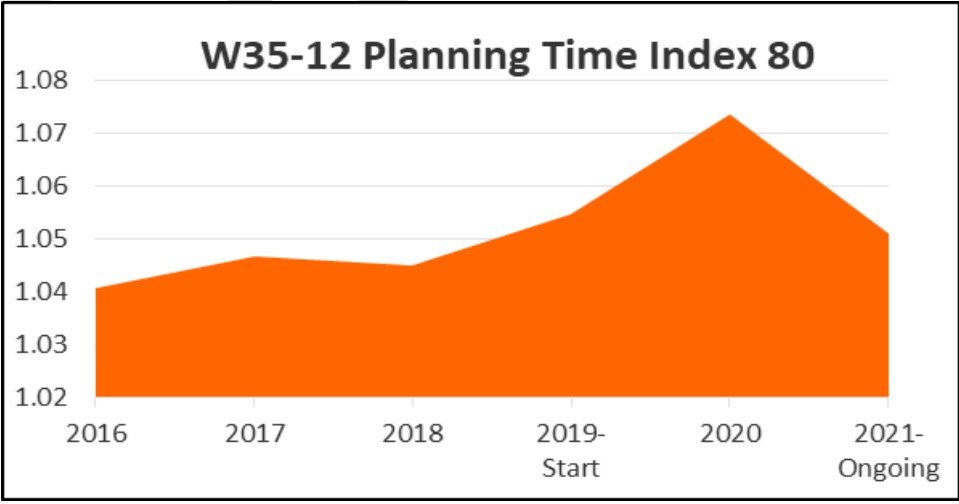


Figure 62. W35-12 Planning Time Index 80th-Percentile Performance Over Time

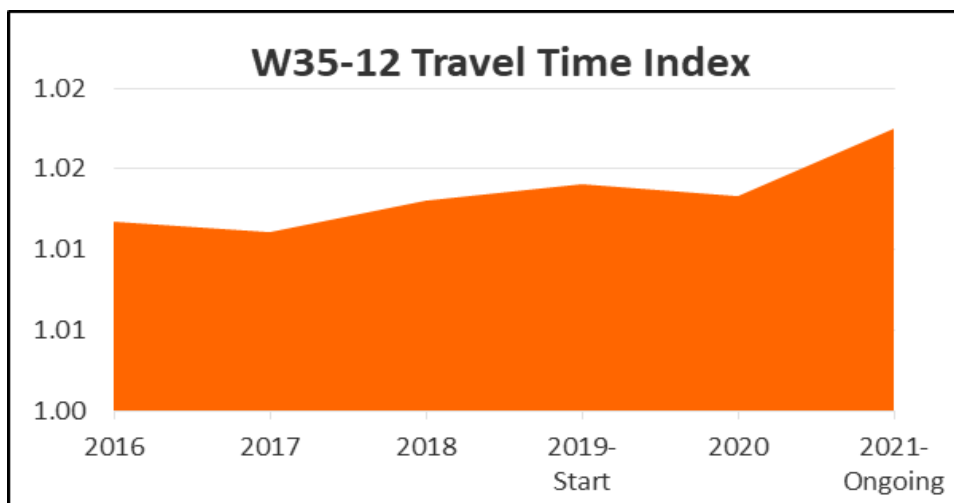


Figure 63. W35-12 Travel Time Index Performance Over Time

DRAFT



KTMPO Project ID: W40-04a(1)

The Loop 121 Phase 1a construction through Belton, TX from FM 439 (Lake Road) to south of West Ave O initiated on August 1, 2021 and is ongoing with an estimated completion date in the 2024-2025 time period. Capacity expansion included widening from a 2 lane to a 4 lanes roadway with a raised median. Figure 64 displays the project limits for project W40-04a(1).

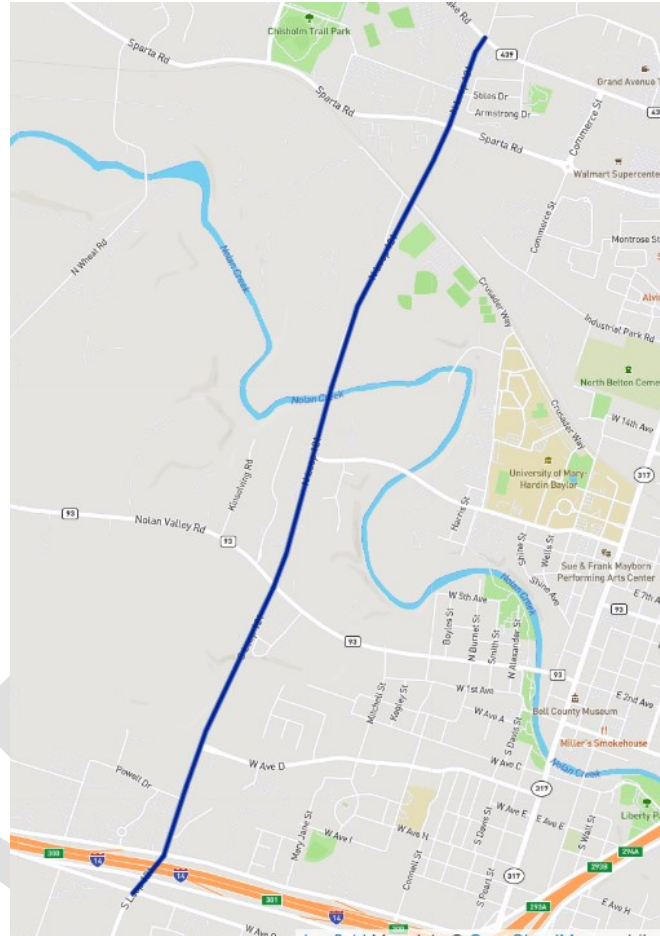


Figure 64. W40-04a(1) Project Limits

Table 11 depicts key annualized performance measure data for the selected corridor.

Table 11. 2016-2021 Congestion Performance Measures for W40-04a(1)

Year	Person Hours of Delay	Planning Time Index- 80 th Percentile	Travel Time Index
2016	64240	1.44	1.28
2017	94757	1.55	1.37
2018	86774	1.46	1.31
2019	119776	1.46	1.32
2020	84804	1.42	1.30
2021	74306	1.52	1.31



Figures 65-70 display congestion performance measure trends and visualizations over time for person hours of delay, planning time index-80th percentile, and travel time index. While the data set does not cover the complete period of construction, with construction ongoing, thus far the corridor shows an increasing trend in person hours of delay, a slight increase in planning time index 80th-percentile measures, and a decrease in travel time index values from 2016-2021.

- **Trend of Performance Measures:** Congested
- **Strategy Identification:** Continue to Monitor/Rehabilitation Ongoing
- **Overall Project Effectiveness:** To be Determined

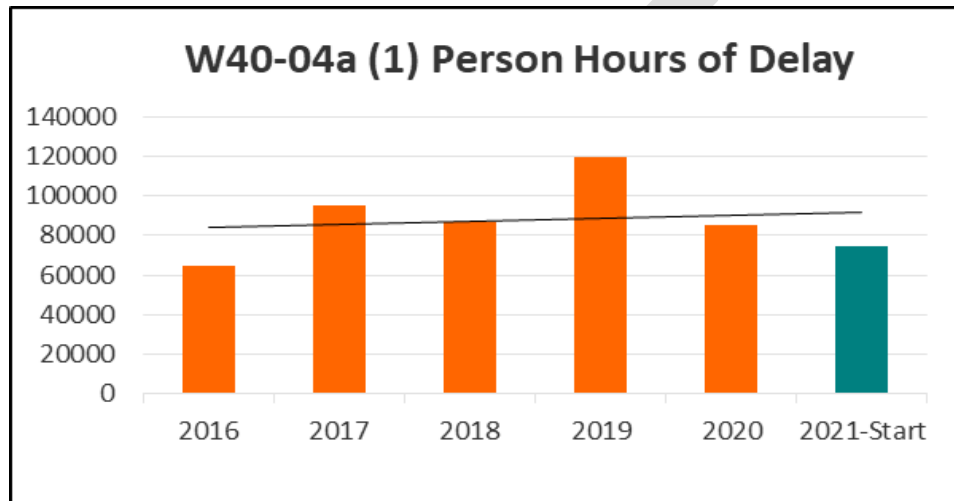


Figure 65. W40-04a(1) Person Hours of Delay Trends

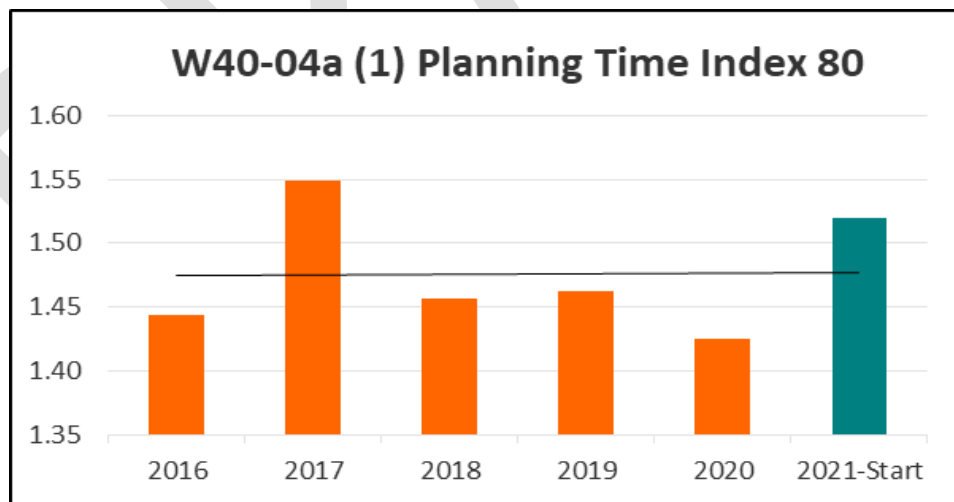


Figure 66. W40-04a(1) Planning Time Index 80th-Percentile Trends

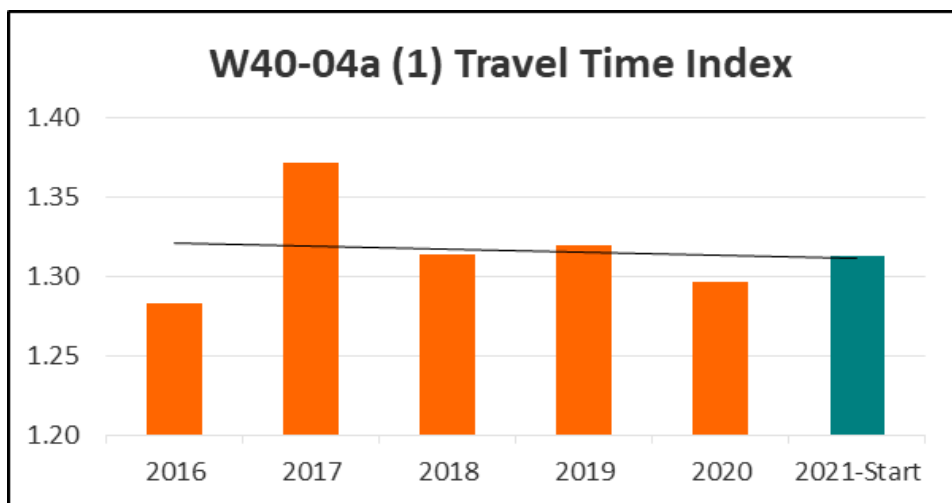


Figure 67. W40-04a(1) Travel Time Index Trends

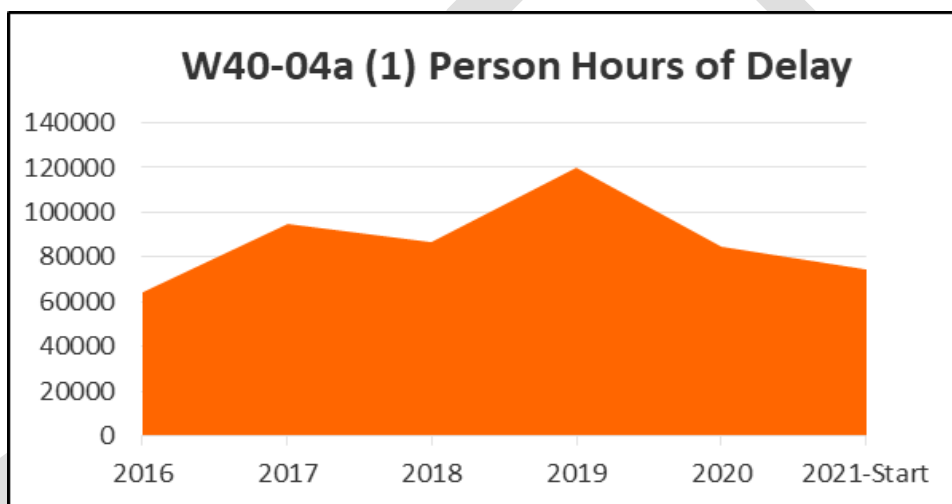


Figure 68. W40-04a(1) Person Hours of Delay Performance Over Time

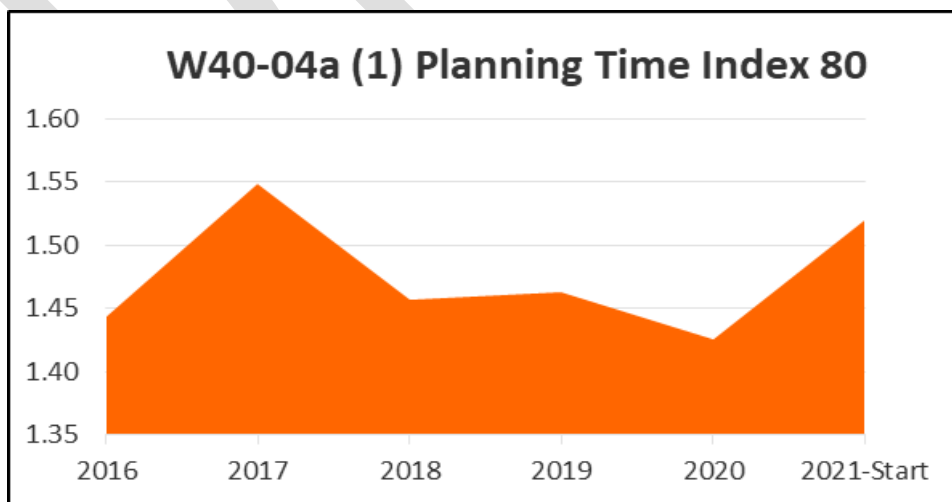


Figure 69. W40-04a(1) Planning Time Index 80th-Percentile Performance Over Time

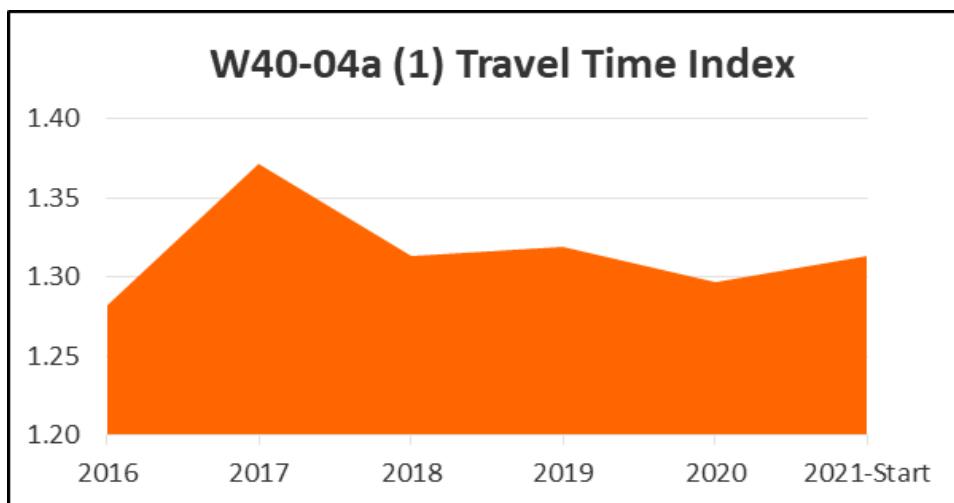


Figure 70. W40-04a(1) Travel Time Index Performance Over Time

DRAFT

End of Packet