

DVRPC CMP Focus Roadway Corridor Congestion Analysis

Planning Time Index Summary: February 2020 versus February 2022

The COVID-19 pandemic has continued to alter traffic conditions in the DVRPC region, as well as nationally, making it more challenging to understand evolving travel trends to prioritize improvements and recommend appropriate strategies for managing congestion. Congestion on average is down and reliability is up compared to pre-pandemic levels; however, increased traffic exists on some roadways. Uncertainties still remain, such as some commuters that may have taken transit prior to the pandemic may be now for health or other reasons driving to work, leading to less reliable travel times. Alternatively, some workers are working from home that previously commuted to work, resulting in more reliable travel times. This summary analysis considers nonrecurring congestion impacts on travel trends due to traffic events such as crashes, disabled vehicles, construction and adverse weather. It also identifies which CMP roadway corridors experience the most congestion and least reliability in February 2022, and which ones experience the most change in congestion and reliability comparing February 2020 (pre-pandemic) to February 2022. Each analysis was performed for both the 7:00-8:00 AM and 5:00-6:00 PM weekday peak hour periods.

Archived GPS vehicle probe data from the RITIS Probe Data Analytics (PDA) Suite was used to analyze weekly peak hour travel times using the Planning Time Index (PTI) performance measure. PTI is defined as the ratio of the 95th percentile peak hour travel time to the free-flow travel time (uncongested travel time). The higher the PTI, then the greater congestion and less reliability. **The analysis of PTI during the PM peak period indicates that 153 (28%) of CMP corridors experienced less reliability (greater PTI) in February 2022 than in February 2020. However, regionally there was less congestion and more reliable travel times in February 2022 than in February 2020 with the PTI decreasing on average from 1.71 in 2020 to 1.55 in 2022, or 9.4%.**

The top ten CMP corridors with the least reliability in February 2022 and the top ones that experience the greatest decline in reliability comparing February 2020 to February 2022 were analyzed separately by state within the DVRPC region. Tables 1 to 4 include the CMP corridors with the least reliability in February 2022 during the AM and PM peak hour; Tables 5 to 8 show the top corridors with the greatest increase and percent change increase in PTI comparing February 2020 to February 2022 for the DVRPC Pennsylvania counties; and Tables 9 to 12 show the same for the DVRPC New Jersey counties. Figures 1 and 2 show mapping of PTI for the least reliable CMP corridors for February 2020 and February 2022, respectively, and Figure 3 shows the change in PTI. Additional analysis (see Tables 13 and 14) include all the CMP corridors average weekly and monthly PTI including the absolute and percent change, along with the rankings of the least reliable corridors and most absolute and percent change analyzed separately by state. A rank of one indicates the least reliable, or most change or percent change increase.

CMP corridors in the DVRPC Pennsylvania counties that experience the least reliability in February 2022 during the peak hours include I-676 (Vine Street Expressway), I-76 from I-676 to US 1 (City Avenue), US 1 from I-76 to PA 611 and I-95 from Academy Road to Frankford Ave in Philadelphia; I-76 from US 1 (City Avenue) to I-476 in Montgomery County; US 30 Bypass from PA 100 to Reeceville Road in Chester County; I-95 from PA 63 to Academy Road in Bucks County; and I-476 from US 1 to Baltimore Pike in Delaware County (see Tables 1 and 2). In the DVRPC New Jersey Counties, top locations include I-76 from the Whitman Bridge to I-295, I-676 from the Ben Franklin Bridge to I-76, I-295 from US 130 to NJ 70, and NJ 168 (Black Horse Pike) from I-295 to NJ 42 in Camden County; NJ 55 from NJ 42 to NJ 47 in Gloucester County; NJ 42 from the AC Expressway to I-295 in Camden and Gloucester Counties; and NJ 29 from Cass Street to I-295 and NJ 129 from NJ 29 to US 1 in Mercer County (see Tables 3 and 4).

CMP corridors that experienced the most absolute and percent change increase in PTI comparing February 2020 to February 2022 in the DVRPC Pennsylvania counties include I-676 (Vine Street Expressway), US 1 from I-76 to PA 611, Market Street from I-95 (Penn's Landing) to Broad Street, and I-95 from PA 90 (Betsy Ross Bridge) to Frankford Avenue in Philadelphia; I-95/I-295 from US 1 Business to Academy Road in Bucks County; US 30 Bypass from US 202 to PA 100 in Chester County; I-76 from US 1 (City Avenue) to I-476 and I-276 Turnpike from I-476 NE Ext to PA 309 in Montgomery County; and I-95 from I-476 to US 322 in Delaware County (see Tables 5 to 8). In the DVRPC New Jersey counties top locations include I-76 from the Walt Whitman Bridge to I-295, I-295 from US 130 to NJ 42, NJ Turnpike from Exit 3 to Exit 4, and I-676 from I-76 to the Benjamin Franklin Bridge in Camden County; NJ 73 from NJ 70 to US 30 in Camden and Burlington Counties; NJ 31 from I-295 to CR 623, US 1 from Alexander Road to the Mercer-Middlesex County Line, NJ Turnpike from Exit 7A to Exit 8, and NJ 29 from Cass Street to I-295 in Mercer County; and US 322 from I-295 to the NJ Turnpike in Gloucester County (see Tables 9 to 12).

4/18/2022

CMP Corridors with the Highest February 2022 Planning Time Index Pennsylvania Portion of the DVRPC Region

Table 1: Top Ten CMP Corridors during the 7:00-8:00 AM Peak Hour

CMP ID	Corridor	Direction	County	2022 ¹	2020
019	I-76 from US 1 (City Ave) to I-476	EB	Montgomery	4.60	2.02
026	I-95 from Academy Rd to PA 90 (Betsy Ross Br)	SB	Philadelphia	4.48	4.16
057	US 30 Bypass from US 30 Bus to Reeceville Rd	EB	Chester	4.45	3.69
018	I-76 from US 30 (Girard Ave) to US 1 (City Ave)	EB	Philadelphia	4.36	3.32
117	I-676 (Vine Street Expy) from I-76 to I-95	WB	Philadelphia	4.07	2.52
018	I-76 from US 30 (Girard Ave) to US 1 (City Ave)	WB	Philadelphia	3.80	2.90
019	I-76 from US 1 (City Ave) to I-476	WB	Montgomery	3.39	2.93
013	I-476 from US 1 to Baltimore Pk (Swarthmore)	SB	Delaware	3.33	4.63
027	I-95 from PA 90 (Betsy Ross Br) to Frankford Ave	SB	Philadelphia	3.27	4.13
032	I-95 from US 322 to the PA-DE State Line	NB	Delaware	3.07	2.78

Table 2: Top Ten CMP Corridors during the 5:00-6:00 PM Peak Hour

CMP ID	Corridor	Direction	County	2022 ¹	2020
117	I-676 (Vine Street Expy) from I-76 to I-95	EB	Philadelphia	7.11	6.60
117	I-676 (Vine Street Expy) from I-76 to I-95	WB	Philadelphia	5.58	3.22
041	US 1 from I-76 to PA 611	NB	Philadelphia	5.56	3.35
017	I-76 from I-676 (Vine Street Expy) to US 30	EB	Philadelphia	5.32	4.91
018	I-76 from US 30 (Girard Ave) to US 1 (City Ave)	WB	Philadelphia	5.29	3.98
056	US 30 Bypass from PA 100 to US 30 Business	WB	Chester	4.68	3.72
025	I-95 from PA 63 to Academy Rd	SB	Bucks	4.64	2.31
017	I-76 from I-676 (Vine Street Expy) to US 30	WB	Philadelphia	4.53	2.90
031	I-95 from I-476 to US 322 (Commodore Barry Br)	SB	Delaware	4.52	2.55
018	I-76 from US 30 (Girard Ave) to US 1 (City Ave)	EB	Philadelphia	4.31	3.74

New Jersey Portion of the DVRPC Region

Table 3: Top Ten CMP Corridors during the 7:00-8:00 AM Peak Hour

CMP ID	Corridor	Direction	County	2022 ¹	2020
211	NJ 42 from AC Expressway to I-295	NB	Camden, Gloucester	3.63	4.08
258	NJ 55 from NJ 42 to NJ 47	NB	Gloucester	3.41	4.46
278	NJ 29 from Cass St to I-295	NB	Mercer	2.31	1.95
212	NJ 168 (Black Horse Pk) from I-295 to NJ 42	NB	Camden	2.28	2.74
207	I-295 from US 130 to NJ 42	NB	Camden	2.02	1.38
205	NJ Turnpike from Exit 3 to Exit 4	NB	Camden	1.99	0.99
208	I-295 from NJ 42 to NJ 70	SB	Camden	1.98	2.94
218	US 1 from Alexander Rd to County Line	NB	Mercer	1.90	1.37
208	I-295 from NJ 42 to NJ 70	NB	Camden	1.89	1.98
301	CR 583 (Princeton Pk) from I-295 to NJ 27	NB	Mercer	1.89	2.53

Table 4: Top Ten CMP Corridors during the 5:00-6:00 PM Peak Hour

CMP ID	Corridor	Direction	County	2022 ¹	2020
228	I-76 from Walt Whitman Bridge to I-295	EB	Camden	4.34	3.36
227	I-676 from I-76 to Benjamin Franklin Bridge	SB	Camden	3.97	3.56
208	I-295 from NJ 42 to NJ 70	SB	Camden	3.79	3.25
258	NJ 55 from NJ 42 to NJ 47	NB	Gloucester	2.66	4.51
298	NJ 129 from NJ 29 to US 1	SB	Mercer	2.54	2.91
212	NJ 168 (Black Horse Pk) from I-295 to NJ 42	SB	Camden	2.52	2.43
236	US 130 from US 30 to I-76	SB	Camden	2.33	2.43
270	NJ 73 from Tacony Palmyra Bridge to US 130	NB	Camden, Burlington	2.22	2.27
222	US 30 from I-676 to US 130	EB	Camden	2.12	2.21
273	NJ 73 from NJ 70 to US 30	SB	Camden, Burlington	2.12	1.71

CMP ID highlighted in blue indicates a corridor that is in both the 7:00-8:00 AM and 5:00-6:00 PM peak hour top ten lists

¹ Sorted from high to low by 2021 PTI where a higher PTI indicates greater congestion and less reliability

February 2020 vs 2022 PTI Comparison: Pennsylvania Portion of the DVRPC Region

7:00-8:00 AM Peak Hour

Table 5: Top Ten CMP Corridors with the Greatest Change Increase in Planning Time Index

CMP ID	Corridor	Direction	County	Delta ²	% Change
019	I-76 from US 1 (City Ave) to I-476	EB	Montgomery	2.58	127.7
117	I-676 (Vine Street Expy) from I-76 to I-95	WB	Philadelphia	1.55	61.5
025	I-95 from PA 63 to Academy Rd	SB	Bucks	1.30	128.7
003	I-276 Turnpike from I-476 NE Ext to PA 309	WB	Montgomery	1.12	88.9
078	Market St from I-95 (Penn's Landing) to Broad St	EB	Philadelphia	1.12	87.5
018	I-76 from US 30 (Girard Ave) to US 1 (City Ave)	EB	Philadelphia	1.04	31.3
018	I-76 from US 30 (Girard Ave) to US 1 (City Ave)	WB	Philadelphia	0.90	31.0
027	I-95 from PA 90 (Betsy Ross Br) to Frankford Ave	NB	Philadelphia	0.82	68.3
057	US 30 Bypass from US 30 Bus to Reeceville Rd	EB	Chester	0.76	20.6
026	I-95 from Academy Rd to PA 90 (Betsy Ross Br)	NB	Philadelphia	0.74	43.0

Table 6: Top Ten CMP Corridors with the Greatest Percent Change Increase in Planning Time Index

CMP ID	Corridor	Direction	County	Delta	% Change ³
025	I-95 from PA 63 to Academy Rd	SB	Bucks	1.30	128.7
019	I-76 from US 1 (City Ave) to I-476	EB	Montgomery	2.58	127.7
003	I-276 Turnpike from I-476 NE Ext to PA 309	WB	Montgomery	1.12	88.9
078	Market St from I-95 (Penn's Landing) to Broad St	EB	Philadelphia	1.12	87.5
027	I-95 from PA 90 (Betsy Ross Br) to Frankford Ave	NB	Philadelphia	0.82	68.3
117	I-676 (Vine Street Expy) from I-76 to I-95	WB	Philadelphia	1.55	61.5
077	US 422 from Trooper Rd to US 202	EB	Montgomery	0.72	55.4
143	US 30 Bypass from Reeceville Rd to PA 10	EB	Chester	0.48	47.5
026	I-95 from Academy Rd to PA 90 (Betsy Ross Br)	NB	Philadelphia	0.74	43.0
060	US 322 from PA 452 to US 1	EB	Delaware	0.61	33.9

CMP ID highlighted in blue indicates a corridor that is in both top ten lists for absolute and percent change in PTI for the 7:00-8:00 AM peak hour

5:00-6:00 PM Peak Hour

Table 7: Top Ten CMP Corridors with the Greatest Change Increase in Planning Time Index

CMP ID	Corridor	Direction	County	Delta ²	% Change
117	I-676 (Vine Street Expy) from I-76 to I-95	WB	Philadelphia	2.36	73.3
025	I-95 from PA 63 to Academy Rd	SB	Bucks	2.33	100.9
041	US 1 from I-76 to PA 611	NB	Philadelphia	2.21	66.0
055	US 30 Bypass from US 202 to PA 100	WB	Chester	2.11	109.9
031	I-95 from I-476 to US 322 (Commodore Barry Br)	SB	Delaware	1.97	77.3
024	I-95 from PA 132 (Street Rd) to PA 63	SB	Bucks	1.80	81.8
023	I-295/I-95 from BUS 1 (Lincoln Hwy) to PA 132	SB	Bucks	1.72	133.3
017	I-76 from I-676 (Vine Street Expy) to US 30	WB	Philadelphia	1.63	56.2
024	I-95 from PA 132 (Street Rd) to PA 63	NB	Bucks	1.63	138.1
018	I-76 from US 30 (Girard Ave) to US 1 (City Ave)	WB	Philadelphia	1.31	32.9

Table 8: Top Ten CMP Corridors with the Greatest Percent Change Increase in Planning Time Index

CMP ID	Corridor	Direction	County	Delta	% Change ³
024	I-95 from PA 132 (Street Rd) to PA 63	NB	Bucks	1.63	138.1
023	I-295/I-95 from BUS 1 (Lincoln Hwy) to PA 132	SB	Bucks	1.72	133.3
055	US 30 Bypass from US 202 to PA 100	WB	Chester	2.11	109.9
025	I-95 from PA 63 to Academy Rd	SB	Bucks	2.33	100.9
024	I-95 from PA 132 (Street Rd) to PA 63	SB	Bucks	1.80	81.8
031	I-95 from I-476 to US 322 (Commodore Barry Br)	SB	Delaware	1.97	77.3
003	I-276 Turnpike from I-476 NE Ext to PA 309	EB	Montgomery	1.25	75.3
167	US 322 from I-95 to Commodore Barry Bridge	EB	Delaware	0.77	74.8
117	I-676 (Vine Street Expy) from I-76 to I-95	WB	Philadelphia	2.36	73.3
025	I-95 from PA 63 to Academy Rd	NB	Bucks	0.96	69.1

CMP ID highlighted in blue indicates a corridor that is in both top ten lists for absolute and percent change in PTI for the 5:00-6:00 PM peak hour

² Sorted from high to low by PTI change (or delta), where delta is defined as February 2021 PTI minus February 2019 PTI

³ Sorted from high to low by PTI percent change, where change is defined as the difference of February 2021 PTI minus 2019 PTI divided by 2019 PTI

February 2020 vs 2022 PTI Comparison: New Jersey Portion of the DVRPC Region 7:00-8:00 AM Peak Hour

Table 9: Top Ten CMP Corridors with the Greatest Change Increase in Planning Time Index

CMP ID	Corridor	Direction	County	Delta ²	% Change
205	NJ Turnpike from Exit 3 to Exit 4	NB	Camden	1.00	101.0
207	I-295 from US 130 to NJ 42	NB	Camden	0.64	46.4
218	US 1 from Alexander Rd to County Line	NB	Mercer	0.53	38.7
202	NJ Turnpike from Exit 7A to Exit 8	SB	Mercer	0.50	49.5
278	NJ 29 from Cass St to I-295	NB	Mercer	0.36	18.5
247	NJ 31 from I-295 to CR 623	NB	Mercer	0.30	21.4
240	US 322 from I-295 to NJ Turnpike	WB	Gloucester	0.29	25.4
230	I-295 from CR 541 (Mt. Holly Rd) to CR 656	NB	Burlington	0.25	19.4
218	US 1 from Alexander Rd to County Line	SB	Mercer	0.23	17.3
267	NJ 70 from NJ 38 to I-295	WB	Camden	0.22	15.4

Table 10: Top Ten CMP Corridors with the Greatest Percent Change Increase in Planning Time Index

CMP ID	Corridor	Direction	County	Delta	% Change ³
205	NJ Turnpike from Exit 3 to Exit 4	NB	Camden	1.00	101.0
202	NJ Turnpike from Exit 7A to Exit 8	SB	Mercer	0.50	49.5
207	I-295 from US 130 to NJ 42 (Exit 26)	NB	Camden	0.64	46.4
218	US 1 from Alexander Rd to County Line	NB	Mercer	0.53	38.7
240	US 322 from I-295 to NJ Turnpike	WB	Gloucester	0.29	25.4
247	NJ 31 from I-295 to CR 623	NB	Mercer	0.30	21.4
230	I-295 from CR 541 (Mt. Holly Rd) to CR 656	NB	Burlington	0.25	19.4
278	NJ 29 from Cass St to I-295	NB	Mercer	0.36	18.5
218	US 1 from Alexander Rd to County Line	SB	Mercer	0.23	17.3
243	NJ 29 from Cass St to CR 579 (Sullivan Way)	SB	Mercer	0.18	17.0

CMP ID highlighted in blue indicates a corridor that is in both top ten lists for absolute and percent change in PTI for the 7:00-8:00 AM peak hour

5:00-6:00 PM Peak Hour

Table 11: Top Ten CMP Corridors with the Greatest Change Increase in Planning Time Index

CMP ID	Corridor	Direction	County	Delta ²	% Change
228	I-76 from Walt Whitman Bridge to I-295	EB	Camden	0.98	29.2
208	I-295 from NJ 42 (Exit 26) to NJ 70 (Exit 34)	SB	Camden	0.54	16.6
207	I-295 from US 130 to NJ 42 (Exit 26)	SB	Camden	0.45	40.5
247	NJ 31 from I-295 to CR 623	SB	Mercer	0.43	33.1
227	I-676 from I-76 to Benjamin Franklin Bridge	SB	Camden	0.41	11.5
273	NJ 73 from NJ 70 to US 30	SB	Camden, Burlington	0.41	24.0
228	I-76 from Walt Whitman Bridge to I-295	WB	Camden	0.40	34.2
211	NJ 42 from AC Expressway to I-295	SB	Camden, Gloucester	0.33	18.9
267	NJ 70 from NJ 38 to I-295	WB	Camden	0.28	17.6
240	US 322 from I-295 to NJ Turnpike (Exit 2)	EB	Gloucester	0.26	18.1

Table 12: Top Ten CMP Corridors with the Greatest Percent Change Increase in Planning Time Index

CMP ID	Corridor	Direction	County	Delta	% Change ³
207	I-295 from US 130 to NJ 42 (Exit 26)	SB	Camden	0.45	40.5
228	I-76 from Walt Whitman Bridge to I-295	WB	Camden	0.40	34.2
247	NJ 31 from I-295 to CR 623	SB	Mercer	0.43	33.1
228	I-76 from Walt Whitman Bridge to I-295	EB	Camden	0.98	29.2
273	NJ 73 from NJ 70 to US 30	SB	Camden, Burlington	0.41	24.0
226	I-195 from I-295 to I-95 (NJ Turnpike)	WB	Mercer	0.23	22.1
214	Sicklerville Rd/ 536 Spur from AC Expy to NJ 42	NB	Camden	0.24	19.4
211	NJ 42 from AC Expressway to I-295	SB	Camden, Gloucester	0.33	18.9
240	US 322 from I-295 to NJ Turnpike	EB	Gloucester	0.26	18.1
267	NJ 70 from NJ 38 to I-295	WB	Camden	0.28	17.6

CMP ID highlighted in blue indicates a corridor that is in both top ten lists for absolute and percent change in PTI for the 5:00-6:00 PM peak hour

Data Source: University of Maryland CATT Lab RITIS-PDA Suite. DVRPC GIS web mapping is available [here](#) to identify the location of the CMP corridors. Select the CMP Focus Roadway Facilities tab to access the CMP corridors. If you have a RITIS-PDA Suite login, the CMP corridors can be accessed using the PDA analysis tools that provide access to the segment sets. In the Display Options button, type "CMP TMC" to get a list of the CMP corridor segment sets.