

# DFW TRAFFIC IMPACT MEMO

March 27, 2023

Subject: Potential Traffic Impacts Resulting from CTA Development

The purpose of this memorandum is to document, for purposes of NEPA evaluation, potential vehicle traffic impacts resulting from implementation of proposed improvements to the DFW Central Terminal Area (CTA). The framework for the memo is based on guidance contained within the *FAA Environmental Desk Reference for Airport Actions, October 2007 (FAA Environmental Desk Reference)*.

CTA improvements are needed to provide additional aircraft gates to meet FAA forecasted passenger growth, renovate aging facilities, and modernize CTA facilities. Therefore, traffic analysis for this effort is focused on the growth of annual passengers that could occur with the addition of additional CTA gates and associated improvements.

**Table 1** summarizes forecast passenger levels forecasted within the 2021 FAA Terminal Area Forecasts (TAF). The 2021 TAF was selected as the operational level upon which the demand for additional facilities are based. It was determined that an additional 31 aircraft gates are necessary by 2038 to meet passenger demand. If the gates are not constructed (No Action Alternative) the airport will reach capacity in 2028. Please note, the FAA only provides forecasts for enplaned passengers and not deplaned passengers; therefore, to estimate total number of passengers the number of enplaned passengers can be multiplied by two.

Based on the forecast, when all new gates are operational at DFW in 2038, the number of annual passengers is estimated to be 103,677,178 (51,838,589 x 2).

**Table 1 – DFW Historical and Forecast TAF Enplanements**

<b>Historic Passenger Enplanements</b>			
<b>TAF Year</b>	<b>Air Carrier</b>	<b>Commuter</b>	<b>Total Enplanements</b>
2003	20,793,894	3,807,587	24,601,481
2004	22,748,736	4,850,042	27,598,778
2005	24,044,682	3,915,662	27,960,344
2006	24,558,015	4,069,889	28,627,904
2007	24,387,536	4,008,175	28,395,711
2008	23,637,147	4,006,389	27,643,536
2009	22,481,833	4,083,152	26,564,985
2010	22,498,994	4,251,087	26,750,081
2011	23,117,592	4,346,566	27,464,158
2012	23,438,053	4,361,864	27,799,917
2013	24,346,676	4,599,762	28,946,438
2014	25,699,892	4,651,914	30,351,806
2015	25,489,407	5,866,768	31,356,175
2016	25,016,146	6,416,414	31,432,560
2017	25,108,840	6,324,255	31,433,095
2018	26,573,503	6,191,939	32,765,442
2019	28,252,269	6,610,026	34,862,295
2020	17,623,662	4,844,444	22,468,106
2021	21,020,665	6,554,504	27,575,169
<b>Forecast Passenger Enplanements</b>			
<b>TAF Year</b>	<b>Air Carrier</b>	<b>Commuter</b>	<b>Total Enplanements</b>
2022	25,311,338	6,577,592	31,888,930
2023	28,827,529	7,455,216	36,282,745
2024	30,071,455	7,752,429	37,823,884
2025	30,895,270	7,962,353	38,857,623
2026	31,688,516	8,163,999	39,852,515
2027	32,515,341	8,374,772	40,890,113
2028	33,346,451	8,586,683	41,933,134
2029	34,140,582	8,788,926	42,929,508
2030	34,918,401	8,986,070	43,904,471
2031	35,693,444	9,182,082	44,875,526
2032	36,482,739	9,382,958	45,865,697
2033	37,266,982	9,582,466	46,849,448
2034	38,072,227	9,787,195	47,859,422
2035	38,883,843	9,993,921	48,877,764
2036	39,698,794	10,201,356	49,900,150
2037	40,476,592	10,399,268	50,875,860
2038	41,245,065	10,593,524	51,838,589
2039	42,019,729	10,790,039	52,809,768

## Traffic Analysis Background

In August 2020 a Traffic Impact Analysis (TIA) was completed for the International Parkway Modernization Program. This program sought to replace aging infrastructure, enhance roadway safety, and increase throughput efficiency by removing several, non-standard left-hand exits and associated flyover bridges. The removed left-hand exits will be replaced by national and TxDOT standard right-hand exits.

The TIA evaluated the entire CTA road network and concluded that a level of service (LOS) C is maintained through 90 million annual passengers (MAP). Based on FAA forecasts, this passenger level is anticipated to occur between the years 2031 and 2032. Once that passenger level is reached, the road network LOS may begin to decline (refer to **Appendix A** for prior coordination regarding the 90 MAP analysis).

## CTA Improvement Traffic Analysis

In accordance with the *FAA Environmental Desk Reference*, analysis is needed to provide information on the CTA development's potential to reduce the LOS of airport access roads, or of roads in the areas immediately surrounding the airport. Once analysis is complete, appropriate transportation management agencies are to then be consulted regarding potential impact and their level of significance considering the long-term development of the area.

To support necessary analysis the following was undertaken:

- Estimated the number of daily vehicular trips that would occur on primary roads serving the CTA.
- Determined the ability of the existing road network to meet estimated traffic demand and described impact on LOS of roads serving the CTA

## Estimation of Daily Trips Resulting from CTA Improvements

Historical Control Plaza data was analyzed to determine an estimated number of additional vehicles that could operate on the landside roadways throughout the CTA as a result of proposed development. Control Plaza transaction data was obtained for calendar years 2016 to 2022 and adjusted to remove vehicle pass-thru or U-turn operations. Additionally, due to the impact of the COVID-19 Pandemic, data from calendar years 2020 and 2021 were removed.

The resulting analysis showed that, on average, 0.3 vehicle operations occur per passenger using DFW. This metric was applied to the increased passengers as forecasted within the TAF. For the purposes of NEPA evaluation the vehicle operations of the No Action Alternative and the Proposed Action Alternative were compared. The comparison began in 2028 when DFW operations would be constrained by gate availability.

**Table 2** provides the comparison of the No Action and Proposed Action Alternatives and summarizes the additional vehicle trips that would occur with development of the proposed CTA Improvements.

**Table 2 – Proposed Action vs. No-Action Vehicle Trips Comparison**

Year	Proposed Action		No Action		Difference in Number of Vehicle Trips
	Total Passengers	Vehicle Trips	Total Passengers	Vehicle Trips	
2028	83,866,268	25,159,880	81,132,685	24,339,805	820,075
2029	85,859,016	25,757,705	81,772,055	24,531,617	1,226,088
2030	87,808,942	26,342,683	82,412,008	24,723,602	1,619,080
2031	89,751,052	26,925,316	83,057,922	24,917,376	2,007,939
2032	91,731,394	27,519,418	83,704,869	25,111,461	2,407,958
2033	93,698,896	28,109,669	84,348,351	25,304,505	2,805,164
2034	95,718,844	28,715,653	84,995,035	25,498,510	3,217,143
2035	97,755,528	29,326,658	85,643,399	25,693,020	3,633,639
2036	99,800,300	29,940,090	86,285,510	25,885,653	4,054,437
2037	101,751,720	30,525,516	86,917,293	26,075,188	4,450,328
2038	103,677,178	31,103,153	87,550,427	26,265,128	4,838,025

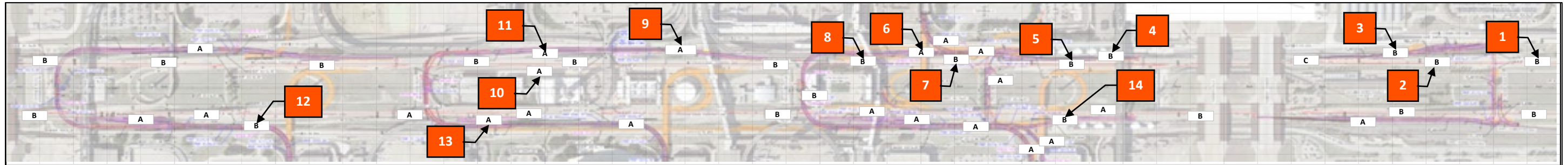
## Impact of Traffic Demand on Road System

As previously described, a Traffic Impact Analysis was completed in 2020 for the International Parkway Modernization Program. This analysis, and resulting report, evaluated the entire CTA road network and concluded a LOS C is maintained through 90 MAP.

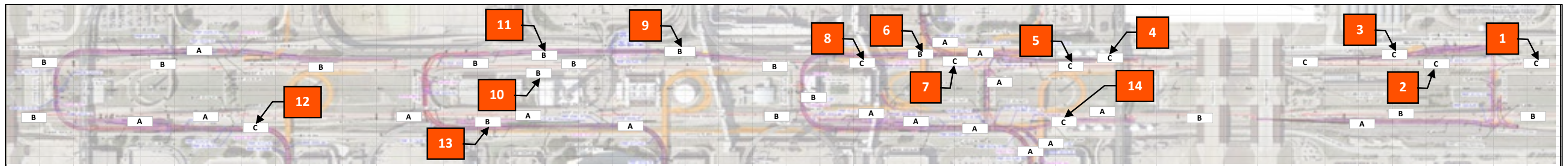
According to the 2021 TAF, passenger levels in 2038 are expected to exceed 100 MAP, reaching 103 MAP. The 2020 traffic analysis was updated to reflect 100 MAP to determine resultant LOS. Findings are shown on **Figure 1** which provides an overview of the LOS on the CTA roadway network at both 90 MAP and 100 MAP. **Table 3** summarizes those roadway segments shown in **Figure 1** which experience an LOS degradation between 90 and 100 MAP.

Figure 1 – LOS Comparison: 90 MAP Versus 100 MAP

90 MAP LOS Overview



100 MAP LOS Overview



**Table 3 – CTA Roadway Segment LOS Degradation Between 90 MAP and 100 MAP**

Roadway Segment ID	Roadway Location	90 MAP LOS	100 MAP LOS
1	SB International Parkway before exit from Express North	B	C
2	SB International Parkway after exit from Express North	B	C
3	Ramp to SB IP from Turnaround from IP North	B	C
4	Ramp from SB IP to Terminal A/B	B	C
5	SB International Parkway after Ramp to Terminal A/B	B	C
6	Terminal A/B Ramp from SB IP after peel off to Terminal B	A	B
7	SB International Parkway after Ramp to Terminal A/B	B	C
8	SB International Parkway after Terminal B Existing Exit ramp (incase Terminal B existing exit remains)	B	C
9	Ramp from SB IP to Terminal C	A	B
10	Ramp from SB IP to Terminal D (RT Hand)	A	B
11	Exit ramp from Terminal D to SB IP	A	B
12	Ramp to Terminal E After merge of SB and NB IP traffic	B	C
13	Ramp to Terminal C from NB IP	A	B
14	Ramp from Terminal A/B to NB IP After merge of Terminal A and Terminal B Exit Traffic	B	C

## CONCLUSION

Implementation of the proposed CTA improvements will result in an increase in vehicle trips; however, this increase is not considered significant from both a traffic and road level of service perspective. No changes, modifications, or additions to the CTA road network, beyond the International Parkway Right-Hand Exits project are needed to support the development of this CTA improvement project.