

Summary of Traffic & Revenue Trends by Scenario

Mopac South Express Lanes Project

1. Introduction

This document describes observations and recommendations pertaining to traffic and toll revenue forecasts for the Mopac South Express Lanes Project under the following four configuration scenarios.

1. **1EL** (One Express Lane in each direction with tolled Direct Connectors to/from Downtown)
2. **1EL_noDCs** (One Express Lane in each direction without Direct Connectors to/from Downtown)
3. **2EL** (Two Express Lanes in each direction with tolled Direct Connectors to/from Downtown)
4. **2EL_noDCs** (Two Express Lanes in each direction without Direct Connectors to/from Downtown)

Toll Rates on the express Lanes were selected based on the Traffic Optimization strategy in which 1600 vehicles per hour per lane were maintained during the peak periods and peak directions (northbound in the morning and southbound in the afternoon). During the off-peak periods and off-peak directions in the peak periods, toll rates were selected based on either Revenue Maximization strategy or to cover minimum toll transaction cost.

2. General Observations

Figures 1 and 2 below illustrate toll transactions and annual revenue trends that compare the four configuration concepts listed above. These consist of one versus two lanes in each direction, and with or without directional ramps to and from Cesar Chavez Street/downtown. For reference, the original forecasts developed in October 2014 for the Mopac South express lanes which included two lanes per direction and the Cesar Chavez DC ramps are also illustrated. There is a slight difference in the results due to the application of higher minimum toll rates among the newer forecasts. The following observations were otherwise noted:

1. The largest increase in transactions associated with adding the DC ramps occurs with the two-lane concept. This is because the two-lane concept provides sufficient capacity to fully load the DC ramps as well as through movements to other destinations along the Mopac Expressway. The DC ramps produce a much smaller increase in transactions when attached to the one lane concept. This indicates that connections to other destinations are perhaps more important than connection to Cesar Chavez Street from Mopac South express lanes.
2. Transactions generated by the two lane concept without the DC ramps are about the same as the one-lane concept with the DC ramp, and not much higher than the one-lane concept without the DC ramp. This is most likely due to higher shoulder hour loading of the one-lane concepts due to peak spreading caused by the reduction in the number of express lanes to one in each direction. Thus higher toll rates over a longer portion of the peak period to manage traffic on the one-lane scenario generate transaction forecasts approximately equal to the two-lane scenario.

Figure 1 - Mopac South Expressway – Projected Average Weekday Toll Transactions

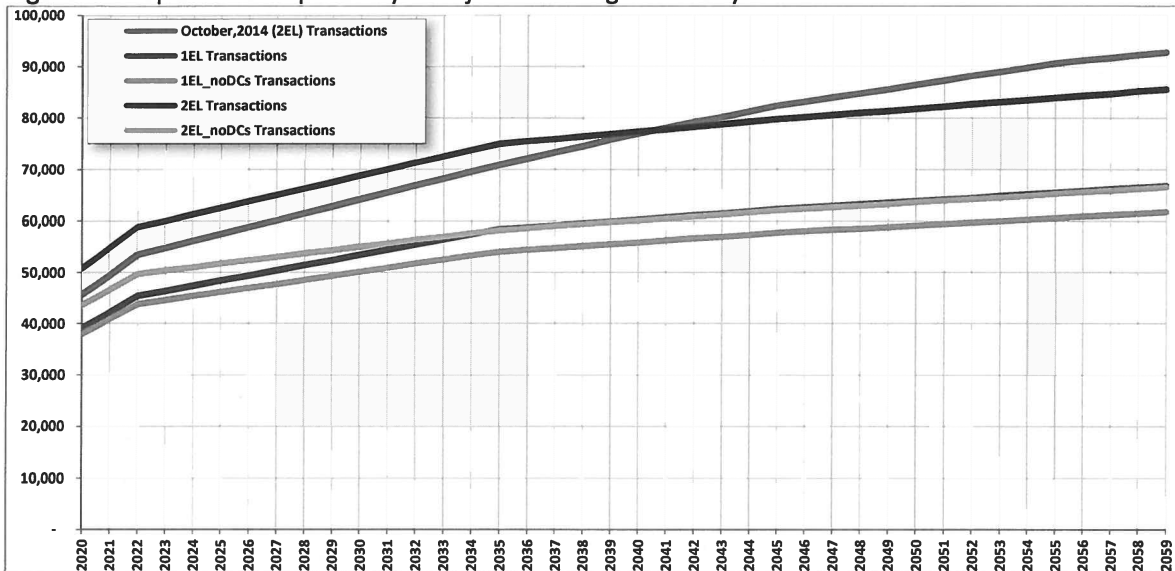
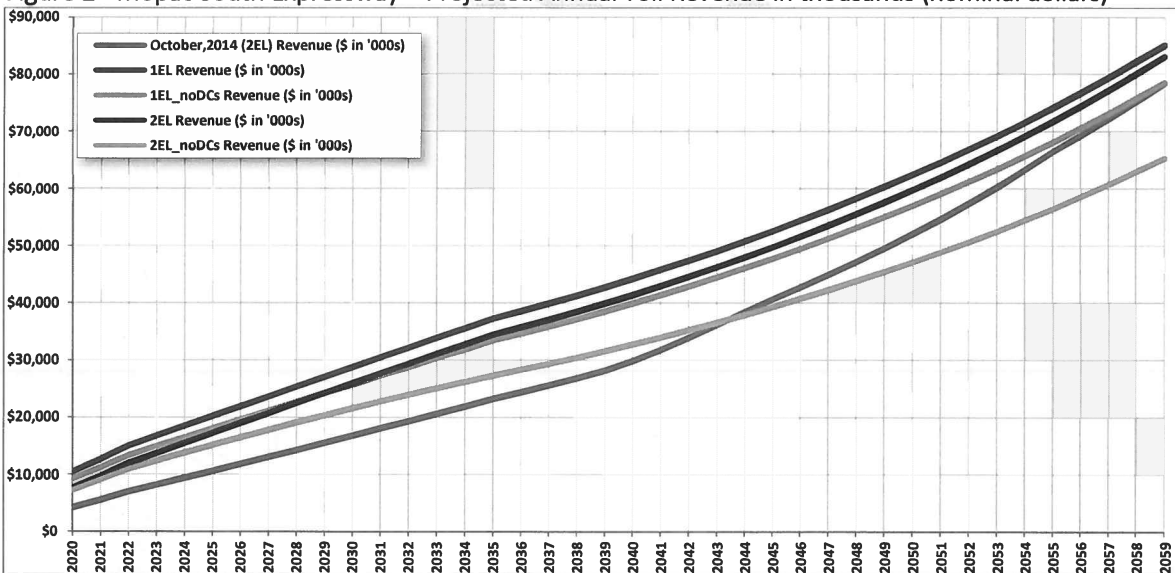


Figure 2 - Mopac South Expressway – Projected Annual Toll Revenue in thousands (nominal dollars)



3. Revenue generated by the two-lane concept with the DC ramps is not very different from the one-lane concept with the DC ramps. This is due to higher toll rates required to manage traffic on the one-lane concept, and the fact that they apply to more hours of the peak period due to peak spreading.
4. The revenue loss associated with removing the DC ramps from the one-lane concept is small, and still close to that of both concepts with the DC ramps. Revenue for the two-lane concept without DC ramps is substantially less than that of the other three concept scenario

combinations. This occurs because the DC ramps cannot be fully utilized without sufficient feeding and receiving capacity provided by the two-lane concept.

3. Peak Period Toll Charge Rates

Table 1 below summarizes peak period toll charge rates estimated for the Mopac South express lanes concept scenarios in the years 2020 and 2035. The AM peak is a two hour period, and the PM peak is a 2.5 hour period. The following observations were noted:

Table 1 – Peak Period Toll Charge Rates by Direction of Travel in 2020 and 2035 (nominal dollars)

Scenarios	Direction	2020		2035	
		AM	PM	AM	PM
1 EL	NB	\$ 9.44	\$ 1.33	\$ 17.05	\$ 3.95
	SB	\$ 0.91	\$ 3.52	\$ 3.89	\$ 16.22
1 EL_noDCs	NB	\$ 7.72	\$ 1.33	\$ 13.74	\$ 3.95
	SB	\$ 0.91	\$ 1.44	\$ 3.89	\$ 13.74
2 EL	NB	\$ 4.21	\$ 1.33	\$ 13.85	\$ 3.95
	SB	\$ 0.91	\$ 1.02	\$ 3.89	\$ 5.73
2 EL_noDCs	NB	\$ 4.76	\$ 1.33	\$ 12.83	\$ 3.95
	SB	\$ 0.91	\$ 1.22	\$ 3.89	\$ 6.14

1. The two-lane concepts have lower charge rates than the one-lane concepts due to the added delay reduction produced by providing two express lanes per direction, and/or the need to lower the toll rates more to fully load the two-lane concepts relative to the one-lane concepts during time periods when traffic maximization strategies apply.
2. Charge rates with the DC ramps are equal to or higher than those without the DC ramps. This is due to the added demand drawn to the express lanes, and the need to increase charge rates during the peak periods to manage traffic.

4. Other Considerations

The following are suggested options for consideration regarding a staging plan and a simplified tolling scheme that could improve toll viability:

1. Transactions and toll revenue results suggest that provision of a single-lane concept without the Cesar Chavez DC ramps could result in better toll feasibility on a near term basis. Construction of a single express lane project that does not preclude future expansion to two lanes per direction or some sort of direct access to downtown Austin could be a reasonable staging strategy that generates revenue to pay off the smaller initial project, and ultimately accumulates funds to construct the expanded project.

2. Consideration should be given to exclude the toll gantries from the segment of the express lanes south of William Cannon Drive. Tolls for this segment can be covered on the segment north of William Cannon to reduce transaction and toll collection equipment costs. Higher toll rates are never needed south of William Cannon Drive since toll rates to the north of William Cannon are used to manage demand on both segments, thus only minimum toll charges apply, which has a negative effect on net revenue generation potential after the toll collection costs are covered.

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TABLE 1
MoPac South Sketch-Level Traffic & Toll Revenue Study Preliminary Results
From Cesar Chavez to Slaughter Lane
Hybrid Traffic Optimization for ETC & Video Scenario

Scenario 1: MoPac South 1+1 concurrent managed lanes with Direct Connectors to/from Downtown

Year	Average Weekday Transaction			Annual Revenue ('000s)			
	ETC Transaction	Video Transaction	Total Transaction	ETC Revenue	Video Base Revenue	Video Surcharge Revenue	Total† Revenue
2020	31,900	7,200	39,100	\$8,615	\$1,800	\$594	\$10,416
2021	34,700	7,500	42,200	\$10,504	\$2,133	\$704	\$12,637
2022	37,700	7,700	45,400	\$12,559	\$2,470	\$815	\$15,029
2023	38,900	7,500	46,400	\$14,078	\$2,675	\$883	\$16,753
2024	40,000	7,400	47,400	\$15,614	\$2,859	\$944	\$18,474
2025	41,100	7,300	48,400	\$17,168	\$3,024	\$998	\$20,192
2026	42,300	7,100	49,400	\$18,740	\$3,169	\$1,046	\$21,908
2027	43,400	7,000	50,400	\$20,329	\$3,293	\$1,087	\$23,622
2028	44,600	6,800	51,400	\$21,935	\$3,398	\$1,121	\$25,333
2029	45,700	6,700	52,400	\$23,558	\$3,482	\$1,149	\$27,041
2030	46,900	6,500	53,400	\$25,200	\$3,547	\$1,170	\$28,746
2031	48,000	6,400	54,400	\$26,858	\$3,591	\$1,185	\$30,449
2032	49,100	6,300	55,400	\$28,534	\$3,616	\$1,193	\$32,149
2033	50,300	6,100	56,400	\$30,227	\$3,620	\$1,195	\$33,847
2034	51,400	6,000	57,400	\$31,938	\$3,604	\$1,189	\$35,542
2035	52,600	5,800	58,400	\$33,666	\$3,568	\$1,178	\$37,234
2036	52,900	5,800	58,700	\$34,841	\$3,694	\$1,219	\$38,535
2037	53,300	5,800	59,100	\$36,059	\$3,824	\$1,262	\$39,882
2038	53,600	5,900	59,500	\$37,319	\$3,958	\$1,306	\$41,277
2039	54,000	5,900	59,900	\$38,625	\$4,097	\$1,352	\$42,722
2040	54,300	6,000	60,300	\$39,977	\$4,242	\$1,400	\$44,219
2041	54,700	6,000	60,700	\$41,377	\$4,391	\$1,449	\$45,768
2042	55,000	6,100	61,100	\$42,828	\$4,546	\$1,500	\$47,374
2043	55,400	6,100	61,500	\$44,330	\$4,706	\$1,553	\$49,036
2044	55,800	6,100	61,900	\$45,886	\$4,872	\$1,608	\$50,758
2045	56,100	6,200	62,300	\$47,497	\$5,045	\$1,665	\$52,542
2046	56,400	6,200	62,600	\$49,153	\$5,221	\$1,723	\$54,374
2047	56,700	6,300	63,000	\$50,867	\$5,405	\$1,784	\$56,272
2048	57,000	6,300	63,300	\$52,643	\$5,594	\$1,846	\$58,237
2049	57,300	6,300	63,600	\$54,482	\$5,791	\$1,911	\$60,273
2050	57,600	6,300	63,900	\$56,386	\$5,995	\$1,978	\$62,381
2051	57,900	6,300	64,200	\$58,358	\$6,206	\$2,048	\$64,564
2052	58,100	6,400	64,500	\$60,401	\$6,424	\$2,120	\$66,825
2053	58,400	6,500	64,900	\$62,517	\$6,651	\$2,195	\$69,167
2054	58,700	6,500	65,200	\$64,708	\$6,885	\$2,272	\$71,593
2055	59,000	6,500	65,500	\$66,978	\$7,128	\$2,352	\$74,106
2056	59,300	6,500	65,800	\$69,329	\$7,380	\$2,435	\$76,709
2057	59,600	6,600	66,200	\$71,764	\$7,641	\$2,521	\$79,404
2058	59,900	6,600	66,500	\$74,286	\$7,911	\$2,611	\$82,197
2059	60,200	6,600	66,800	\$76,899	\$8,191	\$2,703	\$85,090

† Total Revenue does not include Video Surcharge Revenue

TABLE 2
MoPac South Sketch-Level Traffic & Toll Revenue Study Preliminary Results
From Cesar Chavez to Slaughter Lane
Hybrid Traffic Optimization for ETC & Video Scenario

Year	Average Weekday Transaction			Annual Revenue ('000s)			Total† Revenue
	ETC Transaction	Video Transaction	Total Transaction	ETC Revenue	Video Base Revenue	Video Surcharge Revenue	
	2020	30,900	7,100	38,000	\$7,572	\$1,614	
2021	33,600	7,300	40,900	\$9,256	\$1,924	\$635	\$11,180
2022	36,300	7,500	43,800	\$11,088	\$2,238	\$739	\$13,326
2023	37,200	7,400	44,600	\$12,451	\$2,432	\$803	\$14,883
2024	38,200	7,200	45,400	\$13,830	\$2,608	\$861	\$16,438
2025	39,100	7,100	46,200	\$15,225	\$2,765	\$912	\$17,990
2026	40,100	6,900	47,000	\$16,638	\$2,904	\$958	\$19,541
2027	41,000	6,700	47,700	\$18,067	\$3,024	\$998	\$21,090
2028	42,000	6,500	48,500	\$19,512	\$3,125	\$1,031	\$22,637
2029	42,900	6,400	49,300	\$20,975	\$3,208	\$1,059	\$24,182
2030	43,900	6,200	50,100	\$22,454	\$3,272	\$1,080	\$25,726
2031	44,800	6,100	50,900	\$23,949	\$3,318	\$1,095	\$27,267
2032	45,800	5,900	51,700	\$25,462	\$3,345	\$1,104	\$28,807
2033	46,700	5,800	52,500	\$26,991	\$3,354	\$1,107	\$30,344
2034	47,700	5,600	53,300	\$28,536	\$3,344	\$1,103	\$31,880
2035	48,600	5,400	54,000	\$30,099	\$3,315	\$1,094	\$33,414
2036	48,900	5,500	54,400	\$31,187	\$3,436	\$1,134	\$34,623
2037	49,300	5,400	54,700	\$32,315	\$3,561	\$1,175	\$35,876
2038	49,600	5,500	55,100	\$33,484	\$3,690	\$1,218	\$37,175
2039	49,900	5,600	55,500	\$34,697	\$3,825	\$1,262	\$38,522
2040	50,200	5,600	55,800	\$35,954	\$3,964	\$1,308	\$39,918
2041	50,600	5,600	56,200	\$37,257	\$4,108	\$1,356	\$41,366
2042	50,900	5,700	56,600	\$38,609	\$4,258	\$1,405	\$42,867
2043	51,200	5,700	56,900	\$40,010	\$4,413	\$1,456	\$44,423
2044	51,600	5,700	57,300	\$41,463	\$4,574	\$1,510	\$46,037
2045	51,900	5,800	57,700	\$42,969	\$4,741	\$1,565	\$47,710
2046	52,200	5,800	58,000	\$44,519	\$4,913	\$1,621	\$49,432
2047	52,400	5,900	58,300	\$46,125	\$5,092	\$1,680	\$51,217
2048	52,700	5,800	58,500	\$47,791	\$5,277	\$1,741	\$53,067
2049	53,000	5,800	58,800	\$49,517	\$5,468	\$1,805	\$54,986
2050	53,200	5,900	59,100	\$51,307	\$5,667	\$1,870	\$56,974
2051	53,500	5,900	59,400	\$53,163	\$5,873	\$1,938	\$59,036
2052	53,700	6,000	59,700	\$55,087	\$6,087	\$2,009	\$61,174
2053	54,000	6,000	60,000	\$57,082	\$6,309	\$2,082	\$63,391
2054	54,300	6,000	60,300	\$59,151	\$6,539	\$2,158	\$65,689
2055	54,600	6,000	60,600	\$61,295	\$6,777	\$2,236	\$68,072
2056	54,800	6,100	60,900	\$63,519	\$7,024	\$2,318	\$70,543
2057	55,100	6,100	61,200	\$65,824	\$7,280	\$2,403	\$73,105
2058	55,400	6,100	61,500	\$68,215	\$7,546	\$2,490	\$75,761
2059	55,700	6,100	61,800	\$70,694	\$7,822	\$2,581	\$78,516

† Total Revenue does not include Video Surcharge Revenue

TABLE 3
MoPac South Sketch-Level Traffic & Toll Revenue Study Preliminary Results
From Cesar Chavez to Slaughter Lane
Hybrid Traffic Optimization for ETC & Video Scenario

Year	Average Weekday Transaction			Annual Revenue ('000s)			
	ETC	Video	Total	ETC	Video Base	Video Surcharge	Total†
	Transaction	Transaction	Transaction	Revenue	Revenue	Revenue	Revenue
2020	40,700	10,000	50,700	\$6,063	\$1,442	\$476	\$7,506
2021	44,400	10,300	54,700	\$7,826	\$1,795	\$592	\$9,621
2022	48,100	10,700	58,800	\$9,754	\$2,155	\$711	\$11,909
2023	49,600	10,400	60,000	\$11,285	\$2,399	\$792	\$13,683
2024	51,000	10,300	61,300	\$12,830	\$2,621	\$865	\$15,451
2025	52,500	10,000	62,500	\$14,390	\$2,821	\$931	\$17,212
2026	53,900	9,900	63,800	\$15,966	\$3,000	\$990	\$18,966
2027	55,400	9,600	65,000	\$17,556	\$3,157	\$1,042	\$20,713
2028	56,800	9,500	66,300	\$19,161	\$3,292	\$1,087	\$22,453
2029	58,300	9,200	67,500	\$20,781	\$3,406	\$1,124	\$24,187
2030	59,700	9,100	68,800	\$22,415	\$3,498	\$1,154	\$25,913
2031	61,100	8,900	70,000	\$24,065	\$3,568	\$1,177	\$27,633
2032	62,600	8,700	71,300	\$25,729	\$3,617	\$1,193	\$29,346
2033	64,000	8,500	72,500	\$27,409	\$3,643	\$1,202	\$31,052
2034	65,500	8,300	73,800	\$29,103	\$3,648	\$1,204	\$32,751
2035	66,900	8,100	75,000	\$30,812	\$3,632	\$1,198	\$34,444
2036	67,300	8,200	75,500	\$31,962	\$3,767	\$1,243	\$35,729
2037	67,800	8,100	75,900	\$33,156	\$3,908	\$1,290	\$37,064
2038	68,200	8,200	76,400	\$34,395	\$4,054	\$1,338	\$38,449
2039	68,600	8,300	76,900	\$35,681	\$4,206	\$1,388	\$39,886
2040	69,000	8,400	77,400	\$37,015	\$4,363	\$1,440	\$41,378
2041	69,500	8,300	77,800	\$38,400	\$4,527	\$1,494	\$42,927
2042	69,900	8,400	78,300	\$39,838	\$4,696	\$1,550	\$44,534
2043	70,300	8,500	78,800	\$41,330	\$4,872	\$1,608	\$46,202
2044	70,800	8,500	79,300	\$42,878	\$5,055	\$1,668	\$47,933
2045	71,200	8,600	79,800	\$44,486	\$5,244	\$1,731	\$49,730
2046	71,600	8,600	80,200	\$46,140	\$5,440	\$1,795	\$51,580
2047	71,900	8,700	80,600	\$47,857	\$5,642	\$1,862	\$53,500
2048	72,300	8,700	81,000	\$49,639	\$5,853	\$1,931	\$55,492
2049	72,700	8,700	81,400	\$51,489	\$6,071	\$2,003	\$57,560
2050	73,000	8,800	81,800	\$53,408	\$6,298	\$2,078	\$59,706
2051	73,400	8,800	82,200	\$55,400	\$6,533	\$2,156	\$61,933
2052	73,800	8,900	82,700	\$57,467	\$6,777	\$2,236	\$64,244
2053	74,100	9,000	83,100	\$59,612	\$7,030	\$2,320	\$66,642
2054	74,500	9,000	83,500	\$61,838	\$7,293	\$2,407	\$69,132
2055	74,900	9,000	83,900	\$64,149	\$7,566	\$2,497	\$71,715
2056	75,200	9,100	84,300	\$66,547	\$7,850	\$2,590	\$74,397
2057	75,600	9,100	84,700	\$69,037	\$8,144	\$2,687	\$77,180
2058	76,000	9,200	85,200	\$71,620	\$8,449	\$2,788	\$80,069
2059	76,400	9,200	85,600	\$74,302	\$8,765	\$2,893	\$83,067

† Total Revenue does not include Video Surcharge Revenue

TABLE 4
MoPac South Sketch-Level Traffic & Toll Revenue Study Preliminary Results
From Cesar Chavez to Slaughter Lane
Hybrid Traffic Optimization for ETC & Video Scenario

Scenario 4: MoPac South 2+2 concurrent managed lanes without Direct Connectors to/from Downtown

Year	Average Weekday Transaction			Annual Revenue ('000s)			
	ETC Transaction	Video Transaction	Total Transaction	ETC Revenue	Video Base Revenue	Video Surcharge Revenue	Total† Revenue
2020	35,200	8,400	43,600	\$5,885	\$1,334	\$440	\$7,219
2021	37,900	8,700	46,600	\$7,394	\$1,632	\$538	\$9,026
2022	40,800	8,900	49,700	\$9,020	\$1,932	\$638	\$10,953
2023	41,700	8,700	50,400	\$10,251	\$2,126	\$702	\$12,377
2024	42,600	8,400	51,000	\$11,474	\$2,298	\$758	\$13,772
2025	43,400	8,300	51,700	\$12,691	\$2,449	\$808	\$15,140
2026	44,300	8,100	52,400	\$13,900	\$2,579	\$851	\$16,479
2027	45,200	7,800	53,000	\$15,103	\$2,688	\$887	\$17,791
2028	46,100	7,600	53,700	\$16,299	\$2,776	\$916	\$19,074
2029	46,900	7,400	54,300	\$17,487	\$2,842	\$938	\$20,329
2030	47,800	7,200	55,000	\$18,669	\$2,887	\$953	\$21,556
2031	48,700	6,900	55,600	\$19,844	\$2,911	\$961	\$22,755
2032	49,600	6,700	56,300	\$21,013	\$2,914	\$962	\$23,926
2033	50,400	6,500	56,900	\$22,174	\$2,895	\$955	\$25,069
2034	51,300	6,300	57,600	\$23,328	\$2,856	\$942	\$26,184
2035	52,200	6,000	58,200	\$24,475	\$2,795	\$922	\$27,270
2036	52,500	6,100	58,600	\$25,381	\$2,898	\$956	\$28,280
2037	52,900	6,100	59,000	\$26,322	\$3,006	\$992	\$29,328
2038	53,200	6,200	59,400	\$27,297	\$3,118	\$1,029	\$30,414
2039	53,600	6,200	59,800	\$28,309	\$3,233	\$1,067	\$31,542
2040	53,900	6,200	60,100	\$29,359	\$3,353	\$1,107	\$32,712
2041	54,200	6,300	60,500	\$30,448	\$3,478	\$1,148	\$33,927
2042	54,600	6,300	60,900	\$31,579	\$3,607	\$1,190	\$35,186
2043	54,900	6,400	61,300	\$32,752	\$3,742	\$1,235	\$36,494
2044	55,300	6,400	61,700	\$33,969	\$3,881	\$1,281	\$37,850
2045	55,700	6,400	62,100	\$35,232	\$4,025	\$1,328	\$39,258
2046	55,900	6,500	62,400	\$36,531	\$4,174	\$1,377	\$40,705
2047	56,200	6,500	62,700	\$37,878	\$4,329	\$1,428	\$42,207
2048	56,500	6,500	63,000	\$39,276	\$4,489	\$1,481	\$43,764
2049	56,800	6,500	63,300	\$40,726	\$4,655	\$1,536	\$45,381
2050	57,100	6,600	63,700	\$42,230	\$4,827	\$1,593	\$47,057
2051	57,400	6,600	64,000	\$43,791	\$5,006	\$1,652	\$48,797
2052	57,600	6,700	64,300	\$45,411	\$5,192	\$1,713	\$50,602
2053	57,900	6,700	64,600	\$47,091	\$5,384	\$1,777	\$52,475
2054	58,200	6,700	64,900	\$48,834	\$5,584	\$1,843	\$54,418
2055	58,500	6,800	65,300	\$50,643	\$5,791	\$1,911	\$56,434
2056	58,800	6,800	65,600	\$52,520	\$6,006	\$1,982	\$58,526
2057	59,100	6,800	65,900	\$54,467	\$6,230	\$2,056	\$60,697
2058	59,400	6,900	66,300	\$56,488	\$6,461	\$2,132	\$62,950
2059	59,700	6,900	66,600	\$58,585	\$6,702	\$2,212	\$65,287

† Total Revenue does not include Video Surcharge Revenue

Table 2 : MoPac South Baseline Traffic and Toll Revenue Study Assumptions**DRAFT**

Type of Study:	Sketch-Level Traffic and Toll Revenue Study						
Last Update:	6/19/2015						
Project Scenario:	Four Alternative Configuration Scenarios						
Tolling Strategy:	Hybrid Traffic Optimization (Throughput Maximization during Peak period and Peak direction. Revenue Maximization during Off-Peak period and direction)						
Project Limits:	MoPac South from Cesar Chavez Street to Slaughter Lane, approximately 7.5 miles						
Opening Date:	January 1, 2020						
T & R Forecast Duration:	40 Years						
Ramp up:	<table> <tr> <td>2020</td> <td>90%</td> </tr> <tr> <td>2021</td> <td>95%</td> </tr> <tr> <td>2022 and beyond</td> <td>100%</td> </tr> </table>	2020	90%	2021	95%	2022 and beyond	100%
2020	90%						
2021	95%						
2022 and beyond	100%						
Socio-economic Assumptions:	Trip tables are based on the revised demographics developed by the independent economist for other CTRMA projects						
Network Assumptions:	Background network for travel demand modeling is based on the Capital Area Metropolitan Planning Organization's (CAMPO) Mobility 2035 Plan and CTRMA confirmation. No changes to network configuration beyond 2035						
Assumptions relevant to base configuration for the corridors:	<p>Scenario 1: MoPac South 1+1 concurrent managed lanes in each direction opening in 2020 with Direct Connectors to/from Downtown</p> <p>Scenario 2: MoPac South 1+1 concurrent managed lanes in each direction opening in 2020 without Direct Connectors to/from Downtown</p> <p>Scenario 3: MoPac South 2+2 concurrent managed lanes in each direction opening in 2020 with Direct Connectors to/from Downtown</p> <p>Scenario 4: MoPac South 2+2 concurrent managed lanes in each direction opening in 2020 without Direct Connectors to/from Downtown</p>						
Minimum Toll:	The minimum toll per transaction is assumed to be 25 cents in opening year. This minimum toll per transaction was escalated at 2.5% every year						
Toll Rate Escalation:	Toll rate escalation of 2.5% per year beyond 2035						
Inflation Rate:	2.5% per year						
Payment Type:	ETC and Video only						
ETC Penetration Rates:	<table> <tr> <td>75% in opening year</td> </tr> <tr> <td>85% in 2035 and beyond</td> </tr> </table>	75% in opening year	85% in 2035 and beyond				
75% in opening year							
85% in 2035 and beyond							
Video Toll Surcharge:	33% of ETC Toll Rate						
Toll Policies:	All vehicles pay full toll rate for all periods without any discounts, with the exception of free vehicles						
Managed Lane Operations:	MoPac South Concurrent Managed Lanes are operational 24 hours a day and 7 days a week						
Toll Violation:	<table> <tr> <td>1% for both ETC and Video due to free vehicles</td> </tr> <tr> <td>Free vehicles: transit vehicles, registered van pools, emergency vehicles</td> </tr> </table>	1% for both ETC and Video due to free vehicles	Free vehicles: transit vehicles, registered van pools, emergency vehicles				
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Free vehicles: transit vehicles, registered van pools, emergency vehicles							
Congestion Pricing:	Congestion pricing will be applied beyond 2035 to maintain the desired LOS						
Managed Lane Traffic Growth Rate:	0.5% for Peak and 1.0% for Off-Peak beyond 2035 and reducing by 0.5% every 10 years, with 0.5% minimum growth rate						
Revenue Days:	265 days						

Table 2 : MoPac South Baseline Traffic and Toll Revenue Study Assumptions

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Type of Study:	Sketch-Level Traffic and Toll Revenue Study						
Last Update:	6/19/2015						
Project Scenario:	Four Alternative Configuration Scenarios						
Tolling Strategy:	Hybrid Traffic Optimization (Throughput Maximization during Peak period and Peak direction, Revenue Maximization during Off-Peak period and direction)						
Project Limits:	MoPac South from Cesar Chavez Street to Slaughter Lane, approximately 7.5 miles						
Opening Date:	January 1, 2020						
T & R Forecast Duration:	40 Years						
Ramp up:	<table border="0"> <tr> <td>2020</td> <td>90%</td> </tr> <tr> <td>2021</td> <td>95%</td> </tr> <tr> <td>2022 and beyond</td> <td>100%</td> </tr> </table>	2020	90%	2021	95%	2022 and beyond	100%
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Inflation Rate:	2.5% per year						
Payment Type:	ETC and Video only						
ETC Penetration Rates:	75% in opening year 85% in 2035 and beyond						
Video Toll Surcharge:	33% of ETC Toll Rate						
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Revenue Days:	265 days						