Tampa Bay Express Planning Level Traffic and Revenue (T&R) Study

Project Report

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Table of Contents

List of Figures

List of Tables

Executive Summary

The Florida Department of Transportation (FDOT), District 7, is planning the implementation of a regional network of express lanes, referred to as Tampa Bay Express (TBX). While several portions of the interstate system in the Tampa Bay area have been reconstructed and expanded over the last decade, traffic demand continues to grow and congestion on several portions of the system continues to increase. The FDOT has a statewide policy that all new capacity for limited access facilities on the State Highway System (SHS) shall be actively managed as an express lane (EL). The purpose of this policy is to better manage congestion, offer a more reliable choice to drivers in the ELs, and provide an opportunity to enhance regional express bus service. By building an express lanes network, FDOT is creating and preserving a portion of capacity, which is intended to be more reliable and free flowing even as congestion grows. The express lanes network will be an available choice for drivers who wish to save time based on their own situation and trip purpose.

A "planning level" traffic and revenue (T&R) study was performed for the TBX starter network. The revenue forecast was conducted in two phases, and provided estimates of T&R under four alternative scenarios. Numerous technical memoranda were prepared in support of this report, as listed in **Chapter 1**. The information in this summary reflects the development of a forecast that was finalized on July 11, 2016. Full project documentation was completed in February 2017. A more detailed comprehensive study (also termed as an investment grade T&R study) is needed for project bond financing purposes. The T&R estimates developed in this study are being utilized by FDOT for project financial planning purposes.

E.1 Project Description

The overall system consists of seven express lanes sections, with connection to a new, limited-access, static tolled facility referred to as the Gateway Expressway (Section 1). The Section 1 and the other seven express lane sections are described below in **Table ES-1**. The express lanes will extend along I-275 from Gandy Boulevard north to Fowler Avenue, with additional sections along SR 60 / SR 589 and a 10-mile portion of I-4 from I-275 to east of Mango Road, as shown on **Figure ES-1**. In total, the TBX starter project will construct nearly 50 miles of express lanes mostly within the existing interstate median to connect the region's major activity centers. Sections 2 and 3 will feature a single express lane in each travel direction connecting the Gateway Expressway in Pinellas County to the Westshore Business District. Sections 4, 5, and 6 will include at least two express lanes in each direction connecting the Westshore Business District to Downtown Tampa. Section 4 will provide a connection extending north of I-275 to the Tampa International Airport and also to

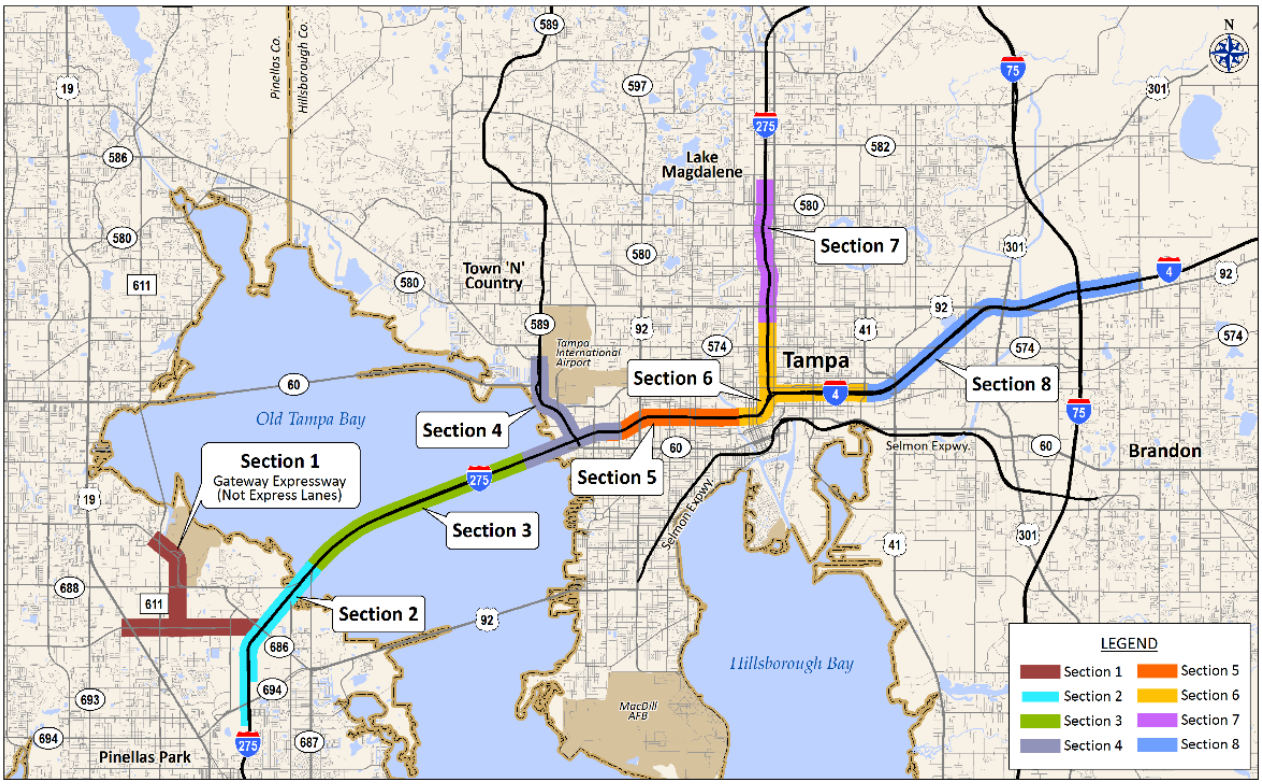
the express lanes on the Veterans Expressway. Section 7 will also feature a single express lane in each travel direction connecting areas north of Tampa, including the University of South Florida area and Pasco County. Much of Section 8 will include one express lane in each direction connecting eastern Hillsborough and Polk County.

Table ES-1: TBX Project Sections and Limits

Project Section	Section Description	From	To
1	Gateway Expressway	118th Avenue North at US 19	118th Avenue North at I-275
		SR 686 at 118th Avenue North	SR 686 South of Bayside Bridge
2	I-275 Pinellas County Section	Gandy Boulevard	West of 4th Street
3	I-275 Howard Frankland Bridge Section	West of 4th Street	East of Howard Frankland Bridge
4	I-275 at SR 60 Junction Section	SR 60 at Memorial Highway	SR 60 at I-275 Junction
		I-275 East of Howard Frankland Bridge	I-275 West of Lois Avenue
5	I-275 west of Downtown Section	West of Lois Avenue	East of Rome Avenue
6	I-275/I-4/Downtown Section	East of Rome Avenue	I-275 South of Hillsborough Avenue; I-4 West of MLK Boulevard
7	I-275 North Section	South of Hillsborough Avenue	South of Fowler Avenue
8	I-4 East Section	West of MLK Boulevard	East of Mango Road

Note: Project Section 1 (Gateway Expressway) is not a part of the TBX project.

Figure ES-1: TBX Project Configuration



E.2 Assumptions

E.2.1 Express Lanes Operational Assumptions

The proposed express lanes add new lanes adjacent to the existing general use lanes in each corridor. Tolls will only be assessed on the express lanes and the existing general use lanes will remain non-tolled. It is important to recognize that the express lanes will usually accommodate a smaller proportion of total traffic in each corridor. This is due to several factors including that there are usually more general purpose lanes than express lanes, and dynamic tolling is used to manage demand in the express lanes to ensure at least 45 mph travel speeds. In addition, express lanes usage is limited to vehicles with SunPass or other interoperable toll transponders, and vehicles (other than buses) with more than two axles are not allowed to use the express lanes.

Consistent with FDOT policy, the express lanes toll is set at a $0.50 minimum per gantry on interstate facilities. Tolls will be dynamically priced based on the amount of traffic in the express lanes. The toll will be increased to manage congestion in the express lanes, and therefore, toll rates may change frequently in peak

periods. The current rate in effect at any given time will be displayed on dynamic message signs in advance of each point of entry so drivers can choose to enter the express lanes or remain in the general use lanes. While the rate may change during the time that a given vehicle is in the express lanes, the final rate charged will be no higher than the rate that was displayed at the time that the vehicle entered the system.

For purposes of the analysis, it was assumed that about 75% of all eligible vehicles would be equipped with transponders in 2025, gradually increasing to 88% by 2040. All users are required to pay a toll, except for certain vehicles that are exempt by Florida Statute or Administrative Rule. These exempt vehicles include express transit buses, school buses, and authorized emergency and law enforcement vehicles, and were assumed for this study to be 1% of the express lane traffic.

E.2.2 Traffic and Revenue Assumptions

T&R estimates were based on numerous T&R assignments performed for each of the scenarios. All traffic assignments were made on a weekday basis; no specific modeling analysis was undertaken for weekend conditions. For this reason, annual transaction and revenue estimates were developed by using "annualization factors" applied to weekday traffic assignment results. The factor used for revenue was lower than the factor used for transactions because toll rates on weekends tend to be lower than weekdays. Each of these factors were derived based on information regarding annualization factors from other express toll lane facilities in Florida and across the United States.

A toll diversion model was used in this analysis, which estimates the share of traffic willing to pay a toll at any given rate based on a comparison of travel times for a routing along express lanes versus the best toll-free alternative routing (normally the general purpose lanes). The proportion of motorists willing to pay a toll depends on the amount of the time savings and the toll charged. The toll is converted to an equivalent "cost per minute saved", by dividing the toll rate by the computed time savings of using the express lanes. This "cost per minute saved" is then compared with the median value of time, and the distribution of value of time around the median, to estimate the share of eligible traffic which would be willing to pay the toll and use the express lanes.

The toll diversion model outputs were reviewed for reasonableness, and very limited manual adjustments were made. After this review, downward adjustment factors were applied to the model outputs to reflect the effect of "ramp-up". Ramp-up reflects the pattern normally seen on new toll facilities where there is high growth in the first few years of operation. This reflects the time it takes the driving public to become familiar

with a new toll facility and, in the case of express lanes, the time it takes to enroll and equip vehicles with transponders. Ramp-up was assumed to occur over the first three years of operation.

To avoid over estimating off-peak T&R, the final model results for the first Mid-Day analysis period (MD1) from 9:30 AM to 2:30 PM were factored down by 30%, and the Evening/Overnight period (between 6:30 PM and 6:30 AM) volumes were factored down by 50%. These post-model factors were applied to both transactions and revenue calculations, and were based on a review of actual operating experience on other express lanes projects in Florida and across the United States. In general, the proportion of express lane transactions and revenue occurring in off-peak and overnight hours tends to be lower than modeled results. Hence, the reduction factors used were intended to reduce the likelihood of overestimation of off-peak period express lanes usage. **Table ES-2** shows a summary of the toll diversion post-model adjustment factors utilized in this study.

Table ES-2: Toll Diversion Post-Model Adjustment Factors

Annualization Factors	Transactions: 285 Revenue: 265
Ramp-Up Factors	First Year: 0.7 Second Year: 0.8 Third Year: 0.9
Off-peak Volume Adjustments	Mid-Day 1 Period (9:30 AM to 2:30 PM): 0.7 Evening/Overnight (6:30 PM to 6:30 AM): 0.5

E.3 Study Approach

The study was conducted in two phases. Phase 1 provided preliminary T&R estimates based on available data. In addition, project specific data was collected as part of Phase 1. In Phase 2, the project specific data collected during Phase 1 was used to provide a refined T&R forecast with a 75% probability that actual revenue would be equal to or greater than the forecast. A brief discussion on data collection, sub-area model development, and traffic & revenue forecast is provided below:

E.3.1 Data Collection

Data collection included the assembly and review of traffic counts at every interchange in the TBX project corridors, collection of speed data, review of historical speed profiles from third party sources and surveys.

Current travel pattern information was obtained, in May 2015, using a "Bluetooth" survey approach, which collected and matched unique Bluetooth device identity codes at 147 locations along the TBX network corridors. The surveys captured numerical code data for Bluetooth devices in vehicles using the TBX routes without collecting data which could identify vehicle owners or drivers. This provided information on current interchange to interchange travel patterns.

A Stated Preference (SP) survey was conducted in July and August 2015 of motorists traveling in the TBX project corridors to assess the willingness of drivers in the region to use express lanes by estimating their value of time (VOT). The VOT provides an estimate of the implied toll value that travelers would be willing to pay for a given amount of travel-time savings offered by using the express lanes compared to any existing non-tolled general use lanes in the proposed network. The results of these market surveys were then used to develop a relationship between household income and VOT. This enabled the development of unique VOT distributions based on household income information by traffic zone within the travel demand model.

E.3.2 Sub-Area Model Development

The Tampa Bay Regional Planning Model version 8.0 (TBRPM v8.0) was validated and updated to reflect 2014 base year conditions in the project area for the TBX corridors, for four model time periods. A sub-area model was then developed from the regional model. A calibrated sub-area toll diversion model was developed for use in the detailed modeling work.

The calibrated sub-area model was used to estimate the share of traffic expected to choose the express lanes versus the non-tolled general use lanes considering varying congestion levels and toll rates. This sub-area model included all of the TBX project sections and the surrounding areas in Hillsborough, Pinellas, and Pasco counties. The sub-area model included a total of nine time periods, three hourly periods for each of the morning (AM) and afternoon (PM) peak periods, two Mid-Day periods and one Evening/Overnight period.

E.3.3 Phase 1 Preliminary T&R Estimates

During Phase 1 of the study conducted in 2015, a complete traffic and operations profile was developed for the entire TBX network, including hourly traffic counts on all interchange ramps and mainline road segments. In addition, a detailed corridor review of historical and current speed and delay patterns was conducted by direction and time of day. Because the construction phasing plan was still under development, the study included analyses of four alternative implementation scenarios.

Detailed traffic assignments were run for four future years: 2021, 2025, 2030, and 2040. A toll sensitivity analysis was undertaken for each time period to determine the toll rates needed to manage demand and ensure at least 45 mph speed within the express lanes in each travel direction. T&R results for intermediate years were developed through interpolation of results in the four model years. Beyond 2040, to constrain the rate of growth of express lane transactions due to the express lane capacity constraints, T&R estimates were extrapolated assuming declining future growth rates. Traffic and revenue estimates were developed for each of the four scenarios for fiscal years 2021 through 2070 (for example, fiscal year 2021 is from July 1, 2020 through June 30, 2021) to provide a 50-year gross revenue forecast. The Phase 1 T&R forecasts were developed in a P50 condition, which represents a 50% likelihood that actual revenue would exceed or fall below the forecast value.

E.3.4 Phase 2 Refined T&R Estimates

P50 T&R results developed in Phase 2 were developed using a sub-area model with a calibration that was refined to reflect the additional benefit of the extensive Phase 1 data collection efforts, including the Bluetooth Origin-Destination and Stated Preference Survey data. The sub-area model was further refined between Phases 1 and 2 to better reflect specific queuing patterns in the corridor following completion of major road reconstruction efforts along portions of I-275 west of Downtown Tampa.

Four alternative scenarios were evaluated. Each of the scenarios assumed Sections 1 and 2 to be open in 2021. Scenario 1 assumed Sections 3 through 8 to be open in 2025. Scenario 2 assumed only Sections 3 and 4, plus a portion of Section 5 to be open in 2023. Scenario 3 assumed only Sections 3 through 6 to be open in 2025. Scenario 4 assumed Sections 3 through 6 to be open in 2025, similar to Scenario 3, and expanding to add Sections 7 and 8 in 2030. In addition to the four scenarios, Section 8 of the Project (I-4 from the I-4 Connector to Mango Road) was also evaluated as a sensitivity test for potential extension to the east of Branch Forbes Road. **Table ES-3** summarizes each of the Scenarios 1 through 4, showing the assumed first full year of operation of the various sections in each scenario.

Using the P50 forecast and additional analyses from Phase 1, a P75 forecast was developed for each scenario. A P75 forecast represents a 75% likelihood that actual revenue will meet or exceed the forecast (more conservative than the P50). A risk analysis was then performed by using a Monte Carlo risk simulation model that incorporated results from the sensitivity tests. The risk analysis allowed alternating multiple variables to measure the combined effects on the resulting T&R estimates. As a result of this, a forecast reflecting the P75 condition was developed for each of the four Scenarios.

Table ES-3: TBX Project Scenarios

Project Section	Section Description	Interim Project	Scenario 1	Scenario 2	Scenario 3	Scenario 4
1	Gateway Expressway	2021	2021	2021	2021	2021
2	I-275 Pinellas County Section	2021	2021	2021	2021	2021
3	I-275 Howard Frankland Bridge Section	N/A	2025	2023	2025	2025
4	I-275 at SR 60 Junction Section	N/A	2025	2023	2025	2025
5A	I-275 from Lois Avenue to East of Rome Avenue (Partial)	N/A	N/A	2023	N/A	N/A
5	I-275 from Lois Avenue to East of Rome Avenue Section (Full)	N/A	2025	N/A	2025	2025
6	I-275/I-4/Downtown Section	N/A	2025	N/A	2025	2025
7	I-275 North Section	N/A	2025	N/A	N/A	2030
8	I-4 East Section	N/A	2025	N/A	N/A	2030

Notes:
1. Project section 1 (Gateway Expressway) is not a part of the TBX project.
2. "N/A" indicates that the project section will not be implemented or in operation.
3. The express lanes on Section 8 (I-4 East Section) are assumed to end east of Mango Road, i.e., the above table does not include the sensitivity test extending Section 8 to east of Branch Forbes Road.

E.4 Results

E.4.1 Estimated Toll Rates

Optimal toll rates by time interval were determined for each model year, for a typical weekday condition. Rates during these time intervals varied from point to point for each individual travel movement based on time of day, length of trip, and amount of traffic in the express lanes. For illustrative purposes, **Table ES-4** provides a summary of estimated peak hour toll rates to and from Downtown Tampa from the TBX express lane endpoints on I-275, I-4, and SR 60. For example, a typical inbound morning peak movement in the express lanes from the north end of the project near Fowler Avenue to Downtown would pay $2.37 in 2025 dollars. A similar movement from St. Petersburg to Downtown Tampa would be about $3.00 in 2025 dollars. In 2040, $6.96 is the toll for the inbound morning movement from Fowler Avenue to Downtown Tampa and $8.37 is the toll for the inbound morning movement from St. Petersburg to Downtown Tampa. Values modeled at 2025 and 2040 levels are presented in inflation adjusted future dollar levels. The assumption for nominal inflation of 2.5% per year was provided by Central Office Project Finance.

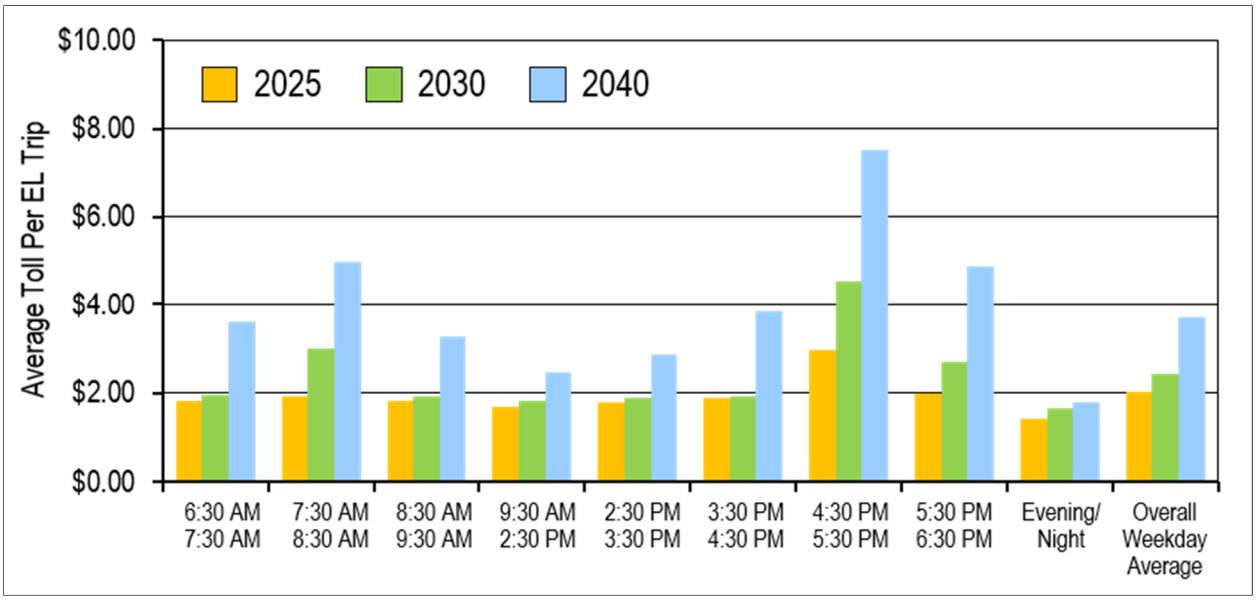
Table ES-4: Weekday Peak Hour Toll Rates to/from Downtown (P50 for Scenario 1)

Trip Origin/Destination	2025 Toll Rates		2040 Toll Rates	
	AM Peak	PM Peak	AM Peak	PM Peak
Downtown to St. Petersburg (I-275 South end)	$2.50	$4.75	$5.59	$11.81
St. Petersburg (I-275 South end) to Downtown	$3.00	$3.18	$8.37	$9.15
Downtown to Veterans Expressway	$1.50	$2.87	$2.37	$7.14
Veterans Expressway to Downtown	$1.50	$1.94	$4.07	$5.43
Downtown to Fowler Avenue (I-275 North end)	$1.50	$2.25	$1.52	$6.33
Fowler Avenue (I-275 North end) to Downtown	$2.37	$1.62	$6.96	$4.97
Downtown to Mango Road (I-4 East end)	$1.50	$1.50	$1.52	$3.17
Mango Road (I-4 East end) to Downtown	$1.50	$1.50	$2.71	$1.52

Note: The toll amounts shown are outputs of the travel demand models that utilize all of the information available at the time when the forecast was prepared. Actual toll rates could be different when the facility opens.

Figure ES-2 shows average toll rates per trip per direction on a typical weekday in 2025, 2030 and 2040 for each of the nine analysis intervals, plus the overall weekday average. These rates reflect average tolls per express lane trip (a trip can span multiple toll gantry locations). All values in this figure include inflation adjustments to future year prices. The average weekday user of the express lanes would pay about $2.01 per trip per direction in 2025, the first year of assumed full system operation. The weekday average toll per trip per direction increases to about $2.44 in 2030 and to $3.72 in 2040.

Figure ES-2: Estimated Average Toll Per Trip by Weekday Period



In the first full year of operation, 2025, toll rates by time of day vary only a small amount, with the largest increase being seen in the afternoon peak hour. In later years, especially as shown for 2040, there is much more variation by time period in all peak periods, due to the increased congestion levels on the general purpose lanes during the morning and afternoon peak periods.

E.4.2 P50 Traffic and Revenue Estimates

Traffic and Revenue estimates are usually prepared for an average weekday condition. Annual estimates are obtained later by applying annualization factors. **Figure ES-3** provides a representation of estimated AM and PM peak hour traffic in the express lanes in 2025. This assumes the full project (Scenario 1), and reflects traffic assignment results from the model before downward adjustments for "ramp-up" in the first few years of operation. Estimates are shown for each of the major movements within the overall TBX network. The red numbers reflect the AM peak hour (7:30 AM to 8:30 AM), while the black numbers reflect the PM peak hour (4:30 PM to 5:30 PM), in each travel direction. The values shown represent traffic levels at representative locations within each corridor and represent the P50 condition. The numbers in parentheses adjacent to each traffic estimate show the approximate percent share of the express lane traffic in relation to the total traffic on each section in a given direction. For example, AM peak eastbound traffic in the express lanes between the I-275/SR 60 Junction and Downtown Tampa is estimated at 2,868 vehicles, which represents about 24% of the total eastbound traffic demand on I-275 at that location.

Figure ES-3: Peak Weekday Traffic in Express Lanes in 2025 – P50 for Scenario 1

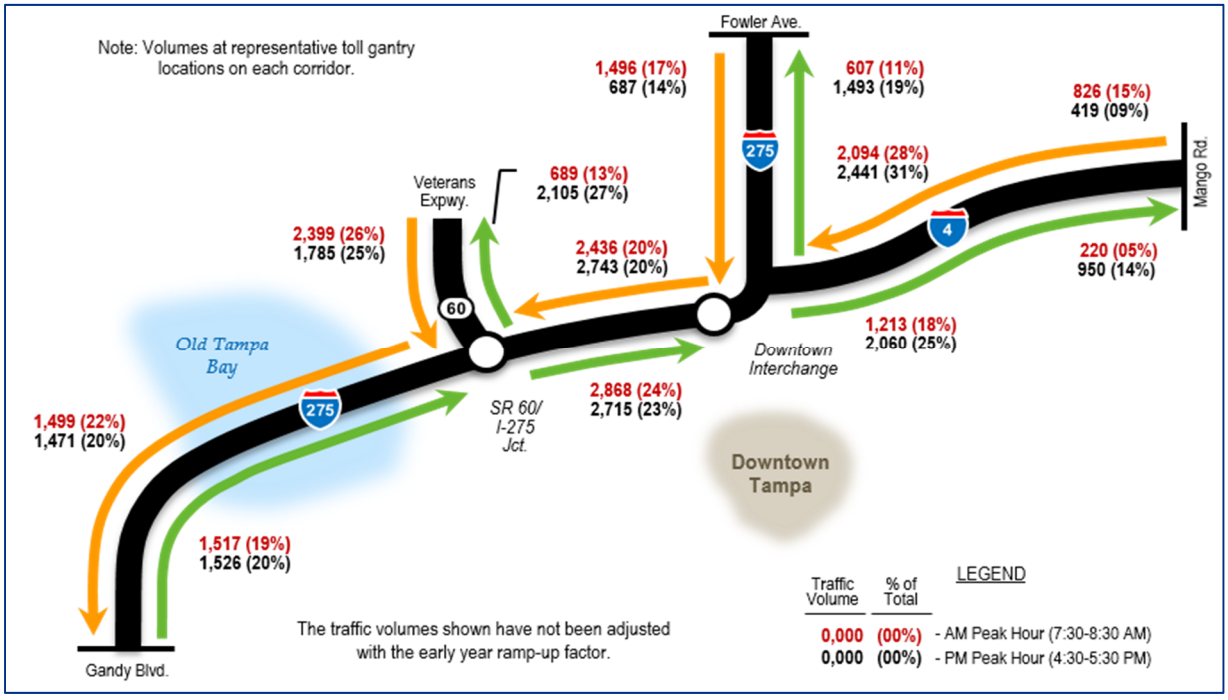


Table ES-5 presents average weekday express lanes and general purpose lanes traffic estimates, and the associated express lanes shares for major movements for 2025 and 2040.

Table ES-5: Average Weekday General Purpose (GP) and Express Lanes (EL) Traffic - P50 for Scenario 1

Corridor	2025			2040		
	EL Volume	GP Volume	EL Share	EL Volume	GP Volume	EL Share
I-275: South end to SR 60	18,834	166,700	10.2%	28,253	191,292	12.9%
I-275: SR 60 to Downtown	28,559	244,739	10.4%	46,781	271,885	14.7%
I-275: Downtown to Fowler	17,202	174,849	9.0%	30,233	195,295	13.4%
SR 60: I-275 to Veterans	20,574	155,228	11.7%	30,871	165,815	15.7%
I-4: I-75 to I-4 Connector	12,802	154,827	7.6%	21,933	169,727	11.4%
I-4: I-4 Connector to I-275	22,821	177,338	11.4%	41,776	195,745	17.6%

Note: The volumes and shares are shown for representative locations along the sections. The 2025 volumes shown above have not been reduced for ramp-up.

Table ES-6 shows estimated average weekday transactions, trips, and revenue estimates for selected years under the P50 condition. Toll transactions reflect the estimated number of vehicle passages beneath the various toll collection gantries along the system. This is estimated at 244,712 transactions per weekday in 2025, the assumed first year of operation of the full TBX network. This represents an overall 10.3% of weekday total traffic passing across all tolling points. Higher proportions of traffic would use the express lanes in the more congested peak periods. The estimated number of one-way express lanes trips on a typical weekday in 2025 is 66,354. The typical one-way express lanes trip would pass through three to four toll collection gantries. Therefore, in any given year the toll transactions are greater than the number of trips shown. After adjusting for inflation, the average toll per weekday trip in 2025 is $2.01 and the average weekday revenue is $133,330. On average, annual transactions increase by 2.5% while annual revenues grow by 6.2% between 2025 and 2050. The estimates for fiscal year (FY) 2021 are much lower than the other years because only Section 2 of the express lanes are assumed to be operating at that time.

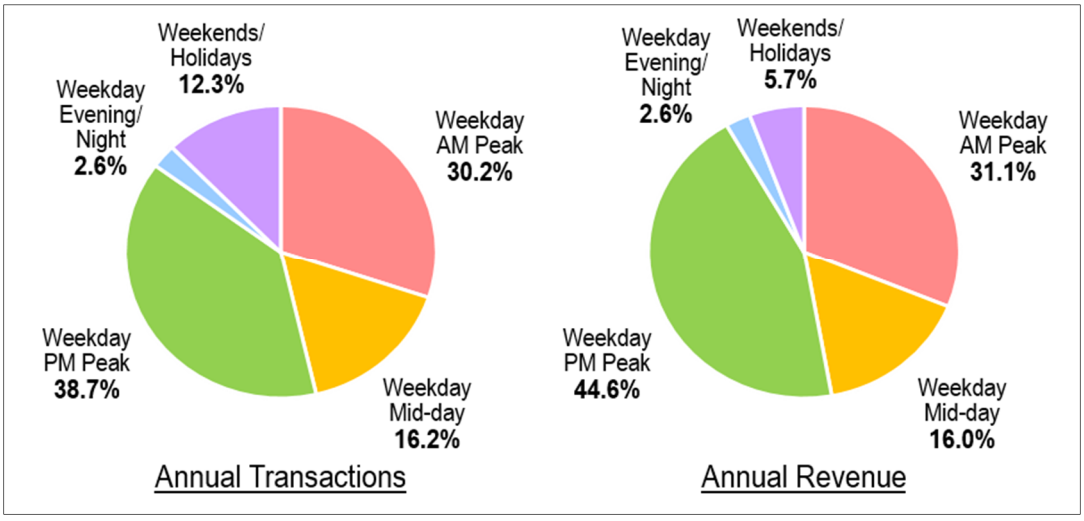
Table ES-6: Estimated Weekday Traffic and Revenue – P50 for Scenario 1

Fiscal Year	Estimated Weekday Toll Transactions	Percent Share of Total Traffic	Estimated Weekday Express Lane Trips	Nominal (Future) Year Dollars	
				Estimated Weekday Revenue	Average Toll Per Trip
2021	5,787	1.8%	5,787	$2,896	$0.50
2025	244,712	10.3%	66,354	$133,330	$2.01
2030	331,318	13.4%	87,410	$213,422	$2.44
2035	366,372	14.7%	95,418	$286,589	$3.00
2040	405,721	16.1%	104,159	$387,712	$3.72
2045	427,179	16.8%	108,826	$480,896	$4.42
2050	449,931	17.6%	113,702	$597,846	$5.26
Compounded Annual Growth Rate (2025-2050)					
	2.5%		2.2%	6.2%	3.9%

Note: Estimates for 2021 include only Section 2 of the project. Full TBX system opens by 2025.

Figure ES-4 shows the relative distribution of annual transactions and revenue at 2025 for Scenario 1. Like most express lanes projects, a majority of transactions and revenue will occur in peak periods, represented by three hours in the morning and three hours in the afternoon. These periods will account for an estimated 69% of 2025 transactions and about 76% of annual revenue. The fact that toll rates in the express lanes are higher in the peak periods results in a higher share of annual revenue during these hours. Off-peak weekdays represent about 19% of revenue, while weekends and holidays account for about 6% of annual revenue.

Figure ES-4: Year 2025 Express Lanes Annual Transactions and Revenue by Time Period – P50 for Scenario 1



An alternate configuration scenario that extends the I-4 express lanes approximately seven miles east of Mango Road to east of Branch Forbes Road was analyzed to obtain a conceptual understanding of the revenue impacts associated with extending the I-4 segment of the TBX network. This extension was evaluated using a separate, spreadsheet-based toll diversion model, and was not based on the detailed modeling utilized to generate the T&R estimates for all other study scenarios. Compared to the total TBX revenue under the baseline configuration (where the I-4 express lanes ended east of Mango Road) for Scenario 1, the I-4 express lanes extension to east of Branch Forbes Road resulted in 2.1% additional revenue in 2030 and 3.0% additional revenue in 2050.

E.4.3 P75 Traffic and Revenue Estimates

The P75 estimates were developed by utilizing the P50 estimates developed in Phase 2 and the results of sensitivity tests on key input parameters used for toll diversion modeling purposes. The sensitivity tests showed that the value of time had less of an impact on toll revenue than population/employment.

A risk analysis was then performed by using a Monte Carlo risk simulation model that incorporated results from the sensitivity tests. It should be noted that the P75 results were developed for the baseline configuration where the I-4 express lanes end just east of Mango Road. As might be expected, revenue estimates under the P75 case are lower than the P50 case. The P75 estimates were 15% and 21% lower than P50 estimates in 2025 and 2040, respectively.

Table ES-7 summarizes the P75 annual transaction and gross revenue estimates for Scenarios 1 and 2. Under Scenario 1, annual revenue is estimated at $21.4 million in 2025 in future dollars, which increases to $46.7 million in 2030 and to $124.7 million by 2050. Between 2030 and 2050, transactions are expected to increase about 1.7% per year, while revenue growth is expected to average about 5.0% per year. Under Scenario 2, where Sections 3 and 4, plus a portion of Section 5 were assumed to be open, revenues are approximately 38% and 50% lower than the revenues under Scenario 1 in 2025 and 2040, respectively.

Table ES-7: Annual P75 Transactions and Revenue - Scenarios 1 and 2

Fiscal Year	Scenario 1		Scenario 2	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	998	$455	998	$455
2025	43,345	$21,429	26,862	$13,351
2030	82,592	$46,726	38,034	$21,835
2035	92,327	$61,238	41,625	$29,730
2040	103,355	$80,877	45,650	$40,832
2045	108,823	$100,345	47,581	$51,682
2050	114,619	$124,739	49,619	$65,537
Compounded Annual Growth Rate (2030-2050)				
	1.7%	5.0%	1.3%	5.6%

Note: Revenue results include a 1% reduction to account for non-revenue vehicles. Results shown assumed EL on I-4 to end just east of Mango Road.

Table ES-8 summarizes the P75 annual transaction and gross revenue estimates for Scenarios 3 and 4. Under Scenario 3, where Sections 3 through 6 were assumed to be open, the annual revenues in all years are approximately 20% lower than the revenues under Scenario 1. Under Scenario 4, where Sections 3 through 6 are assumed open in 2025, similar to Scenario 3, and expanding to add Sections 7 and 8 assumed to open in 2030, the 2025 revenue is approximately 20% lower than Scenario 1 revenue, but the revenue from 2035 onwards is same as the revenue under Scenario 1.

Table ES-8: Annual P75 Transactions and Revenue - Scenarios 3 and 4

Fiscal Year	Scenario 3		Scenario 4	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	998	$455	998	$455
2025	34,805	$17,146	34,805	$17,146
2030	64,808	$37,285	78,328	$44,457
2035	72,322	$48,887	92,327	$61,238
2040	80,852	$64,606	103,355	$80,877
2045	85,083	$80,198	108,823	$100,345
2050	89,573	$99,754	114,619	$124,739
Compounded Annual Growth Rate (2030-2050)				
	1.6%	5.0%	1.9%	5.3%

Note: Revenue results include a 1% reduction to account for non-revenue vehicles. Results shown assumed EL on I-4 to end just east of Mango Road.

E.5 Conclusions

This traffic and revenue study, completed in two phases extending between 2015 and 2016, has shown that the planned Tampa Bay Express lane network will provide important congestion relief to the region's freeway system, while providing new travel options to the motoring public. Since only new capacity will be priced, drivers will not have to pay tolls where they don't have to today. Rather, they can choose to use the new lanes if they wish; those that do will reduce demand in the adjacent toll free lanes thereby reducing congestion for all motorists. The study found that, under the full build scenario, the TBX system will likely have peak hour tolls in the range of $1.50 to $3.00 for typical trips in 2025, with lower toll charges in off peak hours. The overall average toll per trip in the express lanes in 2025 is estimated at about $2.00, increasing to almost $3.75 by 2040, although specific rates will depend on travel movement and time of day.

The TBX network is expected to serve about 20-30% of total traffic in peak hours, with a lower share in less congested off-peak periods. In accordance with FDOT policy, toll rates were selected which would manage express lane demand on the lanes, ensuring typical speeds of at least 45 MPH at all times, providing a high level of travel service and reliability. On a daily basis, the overall share of traffic in the TBX system is expected to range from around 10% in 2025 to nearly 15% in 2040 as traffic grows. More than 65,000 trips per weekday are forecast on the system in 2025, increasing to more than 104,000 per weekday by 2040, under the P50 scenario (which represents a 50% likelihood that actual revenue would exceed or fall below the forecast value). Under the slightly more conservative P75 scenario (which represents a 50% likelihood that actual revenue would exceed or fall below the forecast value), annual revenue is expected to increase from about $21.4 million in 2025 to almost $125 million by 2050. As with most express lanes projects, about three-fourths of this revenue will be generated in weekday peak hours.

Chapter 1 Introduction and Project Background

The Florida Department of Transportation (FDOT), District 7, is planning the implementation of a regional network of express lanes, referred to as Tampa Bay Express (TBX). While several portions of the interstate system in the Tampa Bay area have been reconstructed and expanded over the last decade, traffic demand continues to grow and congestion on several portions of the system continues to increase. The FDOT has a statewide policy that all new capacity for limited access facilities on the state highway system (SHS) shall be actively managed as an express lane (EL). The purpose of this policy is to better manage congestion, provide a more reliable choice to drivers in the ELs, and provide an opportunity to enhance regional express bus service. By building an express lanes network, FDOT is creating and preserving a portion of capacity, which will be more reliable and free flowing when congestion grows. The express lanes network will be an available choice for drivers who wish to save time based on their own situation and trip purpose.

A "planning level" traffic and revenue (T&R) study was performed for the TBX starter network. This report summarizes the results of that study. The study was conducted in two phases, and provided estimates of T&R under four alternative scenarios. The information in this report reflects the development of a forecast that was finalized on July 11, 2016. Full project documentation was completed in February 2017.

1.1 Project Description

The overall TBX system consists of seven express lanes sections, with connection to a new, limited-access, static tolled facility referred to as the Gateway Expressway (Section 1). The express lane system consists of seven sections, which are described below in **Table 1-1**. The express lanes will extend from a point on I-275 near Gandy Boulevard northerly to Fowler Avenue, with additional sections along SR 60 / SR 589 and a 10-mile portion of I-4 from I-275 to east of Mango Road. In total, the TBX starter project will construct nearly 50 miles of express lanes mostly within the existing interstate median to connect the region's major activity centers. Sections 2 and 3 will feature a single express lane in each travel direction connecting the Gateway Expressway in Pinellas County to the Westshore Business District. Sections 4, 5, and 6 will include at least two express lanes in each direction connecting the Westshore Business District to Downtown Tampa. Section 4 will provide a connection extending north of I-275 to the Tampa International Airport and also to the express lanes on the Veterans Expressway. Section 7 will also feature a single express lane in each travel direction connecting areas north of Tampa, including the University of South Florida area and Pasco County. Much of

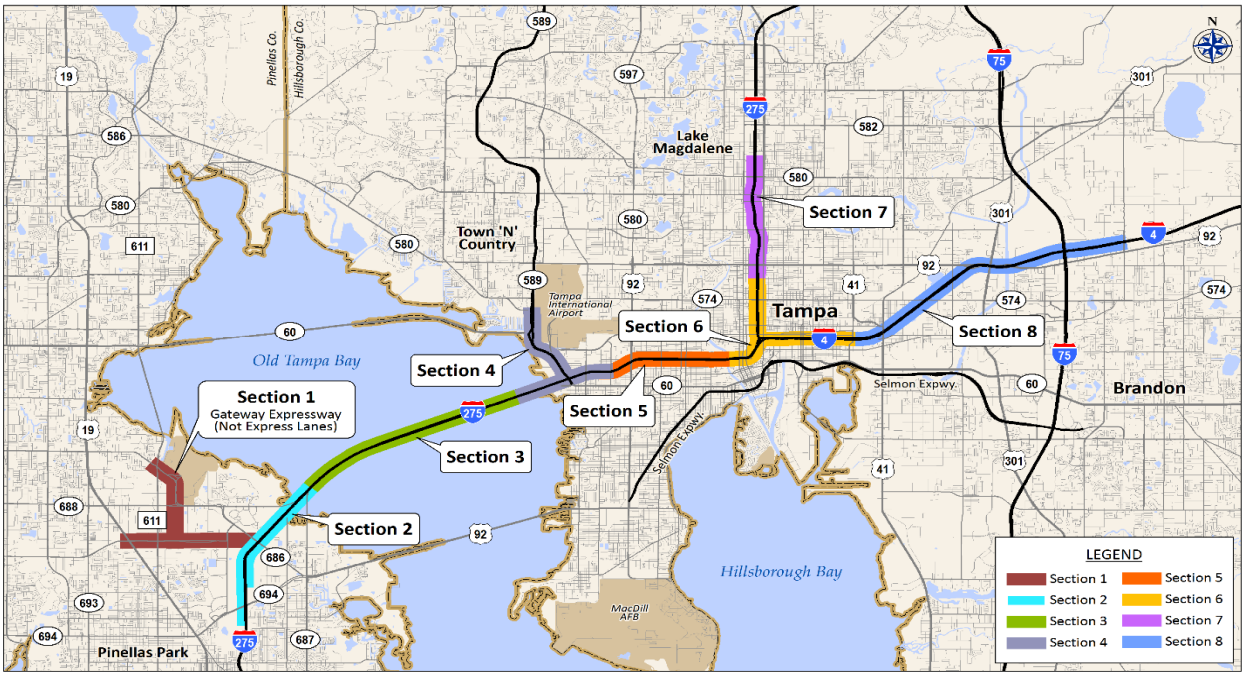
Section 8 will include one express lane in each direction connecting eastern Hillsborough and Polk County. The overall segmentation of the TBX network is depicted in **Figure 1-1.**

Table 1-1: TBX Project Sections and Limits

Project Section	Section Description	From	To
1	Gateway Expressway	118th Avenue North at US 19	118th Avenue North at I-275
		SR 686 at 118th Avenue North	SR 686 South of Bayside Bridge
2	I-275 Pinellas County Section	Gandy Boulevard	West of 4th Street
3	I-275 Howard Frankland Bridge Section	West of 4th Street	East of Howard Frankland Bridge
4	I-275 at SR 60 Junction Section	SR 60 at Memorial Highway	SR 60 at I-275 Junction
		I-275 East of Howard Frankland Bridge	I-275 West of Lois Avenue
5	I-275 west of Downtown Section	West of Lois Avenue	East of Rome Avenue
6	I-275/I-4/Downtown Section	East of Rome Avenue	I-275 South of Hillsborough Avenue; I-4 West of MLK Boulevard
7	I-275 North Section	South of Hillsborough Avenue	South of Fowler Avenue
8	I-4 East Section	West of MLK Boulevard	East of Mango Road

Note: Project Section 1 (Gateway Expressway) is not a part of the TBX project.

Figure 1-1: TBX Project Sections



1.2 Express Lanes Operations Overview

The proposed express lanes add new lanes adjacent to the existing general use lanes in each corridor. Tolls will only be assessed on the express lanes. It is important to recognize that the express lanes will usually accommodate a smaller proportion of total traffic in each corridor. This is due to several factors including that there are usually more general purpose lanes than express lanes, and dynamic tolling is used to manage demand in the express lanes to ensure at least 45 mph travel speeds. In addition, express lanes usage is limited to vehicles with SunPass or other interoperable toll transponders, and vehicles (other than buses) with more than two axles are not allowed to use the express lanes.

Consistent with FDOT policy, the express lanes toll is set at a $0.50 minimum per gantry on interstate facilities. Tolls will be dynamically priced based on the amount of traffic in the express lanes. The toll will be increased to manage congestion in the express lanes, and therefore, toll rates may change frequently in peak periods. The current rate in effect at any given time will be displayed on dynamic message signs in advance of each point of entry so drivers can choose to enter the express lanes or remain in the general use lanes. While the rate may change during the time that a given vehicle is in the express lanes, the final rate charged will be no higher than the rate that was displayed at the time that the vehicle entered the system.

1.3 Study Approach

The study was conducted in two phases. Phase 1 provided preliminary T&R estimates based on available data. In addition, project specific data was collected. In Phase 2, the project specific data collected during Phase 1 was used to provide a refined T&R forecast with a 75% probability that actual revenue would be equal to or greater than the forecast.

During Phase 1 of the study, a complete traffic and operations profile was developed for the entire TBX network, including hourly traffic counts on all interchange ramps and mainline road segments. In addition, a detailed corridor review of historical and current measured speed and delay patterns was conducted by direction and time of day. Current travel pattern information was obtained, in May 2015, using a "Bluetooth" survey approach, which collected and matched unique Bluetooth device identity codes at 147 locations along the TBX network corridors. A Stated Preference (SP) survey was conducted in July and August 2015 of motorists traveling in the TBX project corridors. The SP survey was conducted to assess the willingness of drivers in the region to use express lanes by estimating their value of time.

The Tampa Bay Regional Planning Model version 8.0 (TBRPM v8.0) was validated and updated to reflect 2014 base year conditions in the TBX corridors project area. A calibrated sub-area toll diversion model was then developed for use in the detailed modeling work, and was used to estimate the share of traffic expected to use the express lanes versus the non-tolled general use lanes considering varying congestion levels and toll rates. This sub-area model included all of the TBX project sections and the surrounding areas in Hillsborough, Pinellas and Pasco counties.

Detailed traffic assignments were run for four future years: 2021, 2025, 2030, and 2040. A toll sensitivity analysis was undertaken for each time period to determine the toll rates needed to manage demand and ensure at least 45 mph speed within the express lanes in each travel direction. Traffic and revenue estimates were developed for each of the four scenarios for fiscal years 2021 through 2070 (for example, fiscal year 2021 is from July 1, 2020 through June 30, 2021) to provide a 50-year gross revenue forecast.

Because the construction phasing plan is still under development, the study included analyses of four alternative implementation scenarios. Each of the scenarios assumed Sections 1 and 2 to be open in 2021. Scenario 1 assumed Sections 3 through 8 to be open in 2025. Scenario 2 assumed only Sections 3 and 4, plus a portion of Section 5 to be open in 2023. Scenario 3 assumed only Sections 3 through 6 to be open in 2025. Scenario 4 assumed Sections 3 through 6 open in 2025, similar to Scenario 3, and expanding to add Sections 7 and 8 in 2030.

In addition to the four scenarios, Section 8 of the Project (I-4, from the I-4 Connector to Mango Road) was also evaluated as a sensitivity test for potential extension to the east of Branch Forbes Road. **Table 1-2** summarizes each of the Scenarios 1 through 4, showing the assumed first full year of operation of the various sections in each scenario.

The sub-area toll diversion model provided a forecast that represents a 50% likelihood that actual revenue would exceed or fall below the forecast value. This is referred to as the P50 case. Using the P50 forecast and additional analyses, a P75 forecast was developed for each scenario. A P75 forecast represents a 75% likelihood that actual revenue will meet or exceed the forecast.

P50 T&R results were developed in Phase 1 of this study based on a preliminary sub-area travel demand model, which was calibrated to the traffic counts and travel speed data collected along the TBX corridors. P50 T&R results developed in Phase 2 were developed using a sub-area model with a calibration that was refined to reflect the additional benefit of the extensive Phase 1 data collection efforts, including the Bluetooth Origin-Destination and Stated Preference Survey data. The sub-area model was further refined between Phases 1 and 2 to better reflect specific queuing patterns in the corridor following completion of major road reconstruction efforts along portions of I-275 west of Downtown Tampa. Using these data and model refinements, a P75 forecast was developed under the Phase 2 of this study.

Table 1-2: TBX Project Scenarios

Project Section	Section Description	Interim Project	Scenario 1	Scenario 2	Scenario 3	Scenario 4
1	Gateway Expressway	2021	2021	2021	2021	2021
2	I-275 Pinellas County Section	2021	2021	2021	2021	2021
3	I-275 Howard Frankland Bridge Section	N/A	2025	2023	2025	2025
4	I-275 at SR 60 Junction Section	N/A	2025	2023	2025	2025
5A	I-275 from Lois Avenue to East of Rome Avenue (Partial)	N/A	N/A	2023	N/A	N/A
5	I-275 from Lois Avenue to East of Rome Avenue Section (Full)	N/A	2025	N/A	2025	2025
6	I-275/I-4/Downtown Section	N/A	2025	N/A	2025	2025
7	I-275 North Section	N/A	2025	N/A	N/A	2030
8	I-4 East Section	N/A	2025	N/A	N/A	2030

Notes:
1. Project Section 1 (Gateway Expressway) is not a part of the TBX project system.
2. "N/A" indicates that the project section will not be implemented or in operation.
3. The express lanes on Section 8 (I-4 East Section) are assumed to end east of Mango Road, i.e., the table above does not include the sensitivity test extending Section 8 to east of Branch Forbes Road.

1.4 Study Documentation

This report for the TBX planning level T&R study summarizes all previously submitted technical memoranda (TM) prepared as part of study development. These chapters will minimize the amount of overlap, while simultaneously streamlining the presentation of data and results. The full details of analysis can still be found in the technical memoranda, which correspond to the chapters listed below:

Chapter 1: Introduction and Project Background (No corresponding TM)

Chapter 2: Data Collection Efforts

- Technical Memorandum 1.2: Project Data Collection Summary
- Technical Memorandum 1.3: Traffic and Operations Profile
- Technical Memorandum 1.4: Bluetooth O-D Survey Report
- Technical Memorandum 1.5: Stated Preference Survey Report

Chapter 3: Model Development and Calibration

- Technical Memorandum 1.3: Traffic and Operations Profile
- Technical Memorandum 2.2: Project Area Model Validation
- Technical Memorandum 2.3 Update: Sub-area Model Calibration

Chapter 4: Phase 1 Preliminary Traffic and Revenue Results

- Technical Memorandum 3.1: Preliminary Traffic and Revenue Results

Chapter 5: Phase 2 Refined P50 Traffic and Revenue Results

- Technical Memorandum 3.2: Refined Base Case Traffic and Revenue Results

Chapter 6: Phase 2 P75 Traffic and Revenue Estimates

- Technical Memorandum 3.3: Sensitivity Testing and Risk Analysis

Chapter 7: Conclusion (No corresponding TM)

Chapter 2 Data Collection Efforts

This chapter summarizes the results of the TBX data collection program and encompasses material previously presented in more detail in **Technical Memorandum 1.2: Project Data Collection Summary, Technical Memorandum 1.3: Traffic and Operations Profile, Technical Memorandum 1.4: Bluetooth O-D Survey Report,** and **Technical Memorandum 1.5: Stated Preference Survey Report**. All of the data collection efforts were performed during Phase 1 of the study, but much of the collected data was used in the refined traffic and revenue analysis conducted in Phase 2.

2.1 Traffic and Speed Data Collection

A comprehensive traffic and operations profile was developed for the TBX project corridors, including major portions of I-275, I-4, and a limited portion of SR 60. This included the assembly and review of traffic counts at every interchange in the TBX project corridors, collection of speed data, and review of historical speed profiles from third party sources. The traffic and operations profile is critical to the analysis of express lanes such as the TBX project, since traffic and revenue potential is based heavily on hourly traffic variations and congestion levels in the adjacent toll-free general purpose lanes.

This section describes traffic counts data, field collected speed data and INRIX congestion scan data. The purpose of this effort was to support the 2014 base year sub-area travel demand model validation efforts. **Appendix A** at the end of this report provides information on the several data sources utilized, as well as the existing and newly collected field data.

2.1.1 Traffic Data

This section provides a summary of the traffic data collected and assembled for the study. These data included traffic counts received from FDOT, field collected project traffic counts, and Tampa Downtown Interchange (Section 6) project related traffic counts. Traffic counts were also collected along with the Bluetooth Origin-Destination (O-D) data collection, which is described below in **Section 2.2**.

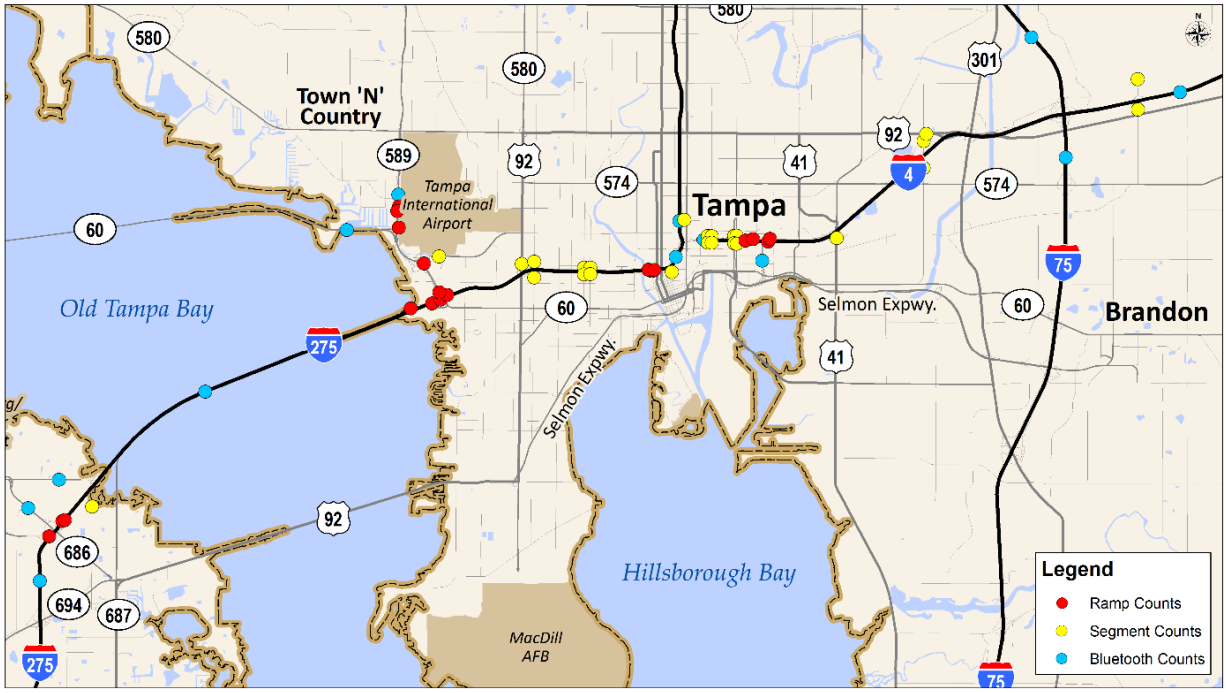
Traffic count synopsis reports from years 2010 through 2013 were extracted from the FDOT Traffic Information DVD. The District 7 staff provided 2014 synopsis reports from their annual count program along with 2014 counts from the ongoing traffic studies on I-275 from Floribraska Avenue to Bearss Avenue, and I-4 from 50th Street to Polk Parkway. The counts from the FDOT and the ongoing studies contain 15-minute

interval data. In addition to these counts, hourly traffic count data on the Selmon Expressway, the I-4 Connector, and the SR 589/Veterans Expressway were received.

After reviewing available FDOT section counts, 19 locations for additional ramp counts were identified. Besides additional ramp counts, 25 side street section count locations were also identified to support the travel demand calibration needs. Lastly, as requested by District 7, additional counts were collected to support the Tampa Downtown Interchange project. These included 11 ramp counts (one-way, 48 hour), four mainline counts (two-way, 72 hour), and seven four-hour turning movement counts (TMC).

All of the aforementioned counts were collected during a typical interior weekday (Tuesday, Wednesday and Thursday) between May 5, 2015 through May 7, 2015, and between May 19, 2015 and May 21, 2015. Additional counts were also collected as part of the Bluetooth O-D data collection between May 15, 2015 and May 21, 2015. **Figure 2-1** shows the locations where traffic counts were collected as part of this study.

Figure 2-1: Field Collected Traffic Count Locations



The field collected traffic counts were reviewed and adjusted, as needed, by applying the appropriate seasonal factors and axle correction factors. Construction activity along I-275 was completed during the course of the study. Therefore, adjustments were made to some counts in the vicinity of that corridor after reviewing historical counts prior to the construction activity along I-275. Balanced traffic profiles were

developed for several analysis periods throughout the TBX project corridors, using certain mainline traffic "control points" together with entering and exiting volumes at each ramp along the TBX project corridors. The profile was used in the sub-area model calibration process, as described in more detail in **Chapter 3**.

2.1.2 Speed Data

To determine travel times along the TBX project corridors and major alternate routes in the region, speed data collection was also performed. Speed data collection runs were performed between Monday May 4, 2015 and Thursday May 7, 2015. For the TBX project corridor routes, a total of nine runs were performed on each route, in each direction; three during each of the morning, Mid-Day, and afternoon periods. For the non-TBX project corridor routes, only one run was performed on each route (between 6:30 A.M. and 6:30 P.M.) These speed data collection runs were performed using the floating car method, which aimed to place the speed of the data collection vehicle at the 50th percentile by aiming to pass a number of vehicles equal to the number of vehicles that pass the data collection vehicle. The detailed schedule of each route and tables with a summary of the field collected speed data are documented in **Technical Memorandum 1.3**. **Figure 2-2** shows the speed data collection routes. For illustrative purposes, the I-275 speeds (expressed as miles per hour) based on averages of the field collected speeds during the morning peak, Mid-Day, and afternoon peak periods are shown in **Table 2-1**.

Figure 2-2: Field Collected Speed Routes

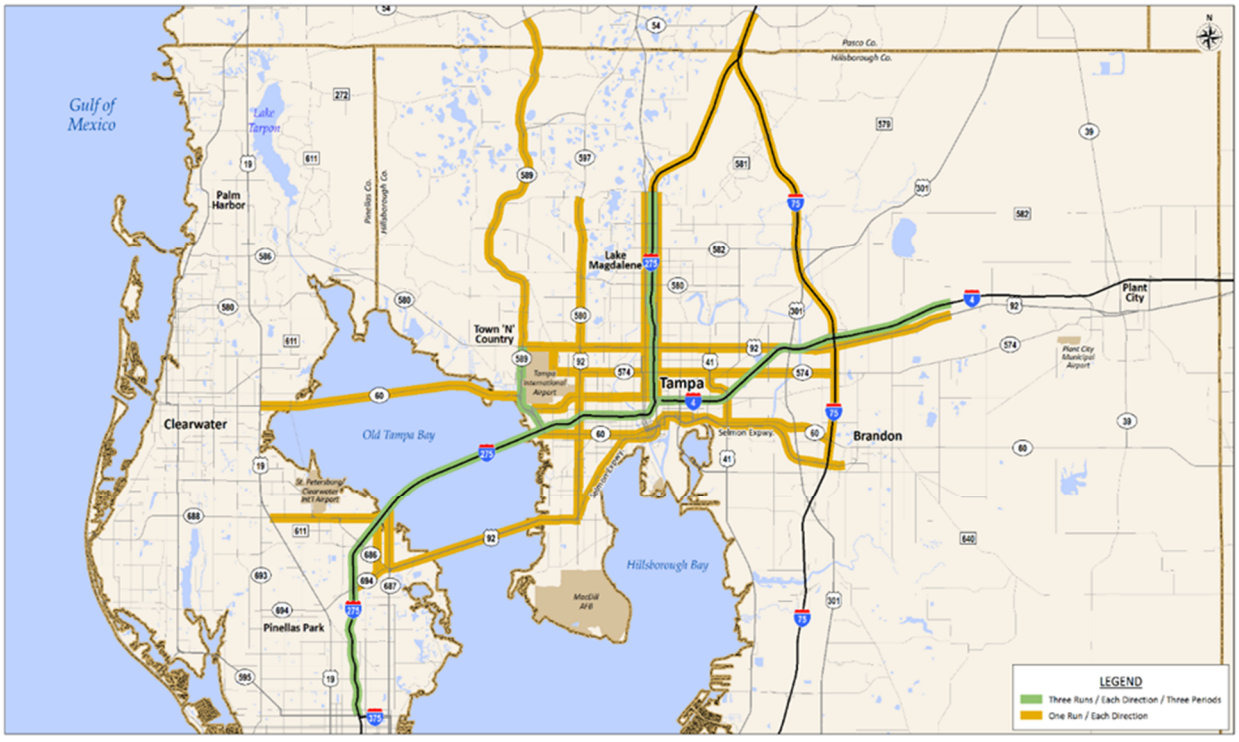


Table 2-1: I-275 Field Collected Average Speeds

Segment Limits		Northbound/Eastbound			Southbound/Westbound		
North Cross Street	South Cross Street	AM Peak	Midday	PM Peak	AM Peak	Midday	PM Peak
22nd Avenue North	Interstate 375	58.1	64.5	65.5	64.5	65.3	66.6
38th Avenue North	22nd Avenue North	56.8	63.1	66.3	65.0	61.9	63.5
54th Avenue North	38th Avenue North	51.6	62.4	69.5	66.5	66.1	66.5
Gandy Boulevard	54th Avenue North	55.5	65.7	67.8	68.5	60.7	67.4
Roosevelt Boulevard	Gandy Boulevard	64.8	67.3	67.9	67.3	60.8	65.8
Ulmerton Road/MLK Street	Roosevelt Boulevard	70.7	72.1	72.9	74.8	71.3	70.7
North of Ulmerton Road ramps	Ulmerton Road/MLK Street	70.5	70.7	72.3	74.4	71.9	70.5
4th Street North	North of Ulmerton Road ramps	71.5	70.3	72.7	74.0	71.3	69.2
SR 60/Airport ramps	4th Street North	47.6	65.8	32.0	73.2	69.8	70.8
SR 60 Overpass	SR 60/Airport ramps	38.5	39.2	17.6	64.6	61.5	63.0
North of SR 60	SR 60 Overpass	38.4	44.8	12.2	55.9	54.8	56.7
Westshore Boulevard	North of SR 60	47.8	56.2	27.5	56.8	53.9	54.7
Lois Avenue	Westshore Boulevard	48.8	49.9	21.6	60.0	54.7	56.9
Dale Mabry Highway	Lois Avenue	50.2	46.5	40.3	61.8	57.8	61.2
Himes Avenue	Dale Mabry Highway	40.8	45.2	42.2	52.6	51.5	49.5
Macdill Avenue	Himes Avenue	57.0	57.7	47.4	49.2	46.8	46.8
Armenia Avenue	Macdill Avenue	65.0	64.6	47.4	25.9	46.9	41.8
Howard Avenue	Armenia Avenue	65.6	57.6	47.3	30.3	46.9	45.1
Ashley Drive	Howard Avenue	61.4	62.8	45.9	24.7	44.6	29.9
Orange Avenue	Ashley Drive	56.4	54.0	39.5	21.9	41.7	30.2
South of Interstate 4	Orange Avenue	55.1	55.1	40.0	29.0	42.6	30.9
North of Interstate 4	South of Interstate 4	56.8	51.9	9.1	47.3	70.3	52.8
Floribraska Avenue	North of Interstate 4	61.6	45.6	20.0	47.2	32.0	39.3
North of Floribraska ramps	Floribraska Avenue	61.0	49.8	24.3	42.3	68.2	36.0
Lake Avenue	North of Floribraska ramps	63.5	70.6	27.1	48.8	55.9	36.9
MLK Boulevard	Lake Avenue	44.9	32.4	21.3	41.3	36.8	33.3
Hillsborough Avenue	MLK Boulevard	60.6	58.2	35.9	45.0	57.2	44.3
Sligh Avenue	Hillsborough Avenue	60.9	59.9	40.5	36.2	56.1	47.9
Bird Street	Sligh Avenue	62.3	60.5	46.0	35.3	56.4	43.0
Busch Boulevard	Bird Street	62.0	58.5	55.0	32.5	56.7	54.7
Fowler Avenue	Busch Boulevard	60.4	62.5	56.7	20.9	58.2	64.1
Fletcher Avenue	Fowler Avenue	62.3	63.0	57.5	26.4	60.9	62.7
Bearss Avenue	Fletcher Avenue	61.1	46.8	54.4	30.3	49.9	61.5
Interstate 275	Bearss Avenue	67.3	60.2	57.6	66.8	63.0	61.8
Start Interstate 75							
SR 56	Interstate 275	69.6	67.6	75.3	62.9	64.0	70.7
SR 54	SR 56	64.0	65.3	72.2	64.8	66.9	71.7

Legend <20 MPH | 20 to 30 | 30 to 40 | 40 to 50 | 50 to 60 | >60 MPH | No Data

In addition to field collected data, INRIX congestion scan data (years 2010 and 2014) was utilized to fill in any gaps in data collection, to provide additional insight into localized congestion issues and validate the field collected data. INRIX data assisted in identifying the duration, location, and area of any congestion events along the TBX project corridors. This INRIX speed data was aggregated spatially (Traffic Message Channel level) and temporally (5-minute intervals), and the final speeds reported were calculated by INRIX's proprietary algorithms. The month of March was selected to analyze the INRIX data as it most closely aligns with the middle of the peak season for the TBX project corridors. A summary of the average speed between INRIX Traffic Message Channel (TMC) locations along Northbound and Southbound I-275 and, Eastbound and Westbound I-4 within the project corridor during typical weekdays are documented in **Technical Memorandum 1.3: Traffic and Operations Profile**.

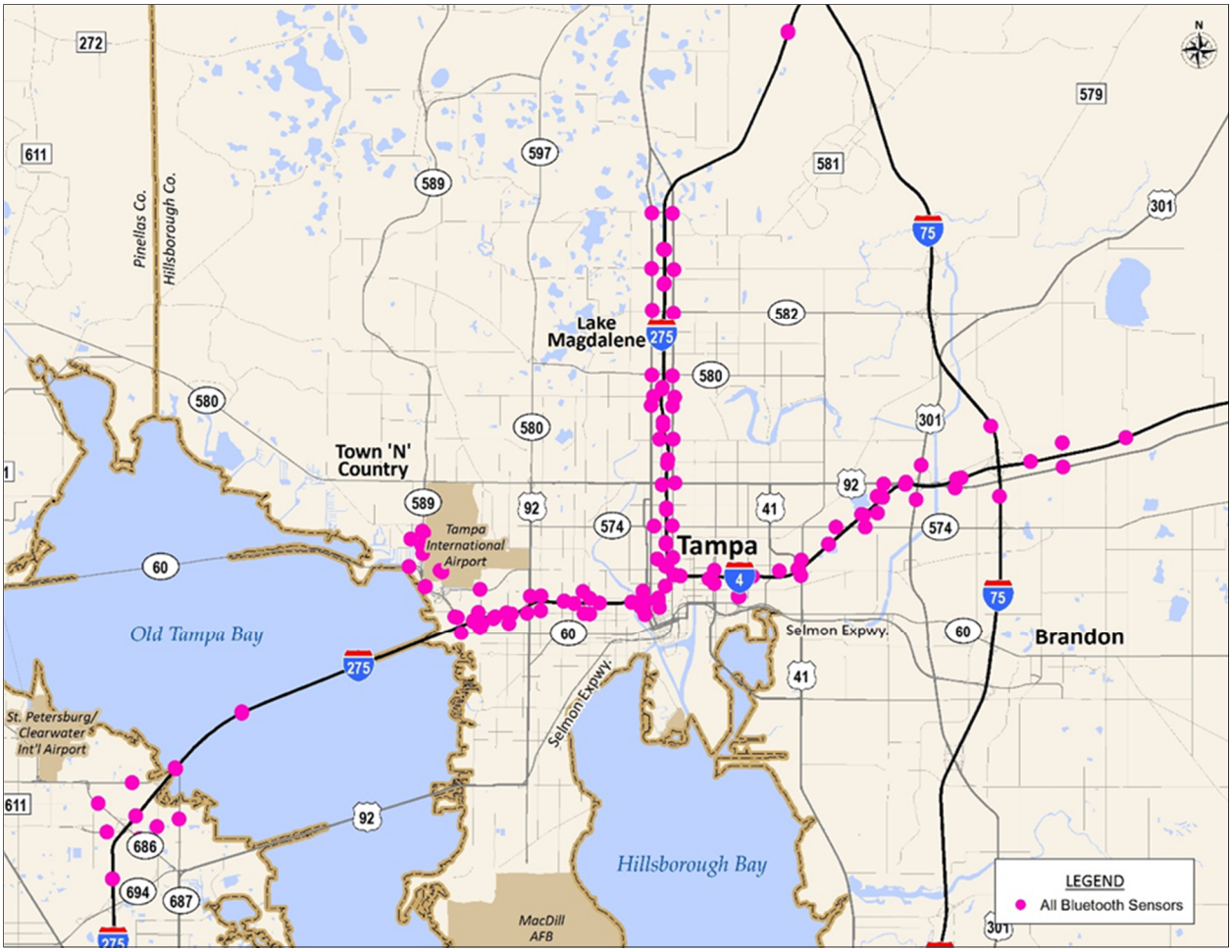
2.2 Bluetooth Origin-Destination Data Collection

Travel pattern data was collected throughout the TBX project corridors using a Bluetooth Origin-Destination (O-D) Survey. This relied on the collection of Bluetooth identification codes on devices in vehicles that passed various locations along the TBX project. No data was collected regarding vehicle owners or operators, and the data was only used to establish estimates of the interchange to interchange distribution of traffic along the TBX project corridors. This section summarizes the Bluetooth survey operation, and includes a discussion of the survey methodology. Information was presented in greater detail in **Technical Memorandum 1.4: Bluetooth O-D Survey Report**.

The Bluetooth O-D survey started on May 15, 2015 and ended on May 22, 2015. A total of 147 Bluetooth Monitoring Technology (BMT) sensors were deployed along I-4, I-275 and SR-60 corridors. Vehicle counts were also collected on selected mainline locations during the survey period.

The Bluetooth O-D survey was conducted using the Bluetooth traffic monitoring device called BluFAX. The BluFAX sensor locations were chosen with careful consideration to the layout of an interchange and the associated topography. Sensors were placed along the TBX project corridor mainlines to determine vehicle paths as well as the travel times. BluFAX sensors were placed at all interchanges on I-275 and I-4 to monitor all entrances and exits to/from the mainlines. The interchange sensors were installed with the objective of creating a closed study area accounting for all paths and ramps. The overall layout of the sensors is shown in **Figure 2-3**.

Figure 2-3: Bluetooth O-D Data Collection Sensor Locations



Since not every vehicle on the road has a Bluetooth device, the data collected is a sample of the total traffic on the road. Further, is was assumed that the discoverable Bluetooth devices were distributed randomly among the vehicles. Traffic counts were collected at a few TBX corridor mainline locations along with the Bluetooth O-D data collection to determine the sampling percentage. This traffic count information was utilized to scale up the raw Bluetooth data collected to eventually produce the Bluetooth O-D matrices used for the sub-area toll diversion model calibration.

2.2.1 Interchange O-D Matrices

The data from the BluFax sensors was used to create an interchange to interchange O-D matrix. The interchange O-D matrix combined the sensors that were associated with a particular interchange and treated them as a single location. The interchange O-D matrices were developed for a number of time periods such as daily, weekday morning peak hours (6:00 AM to 10:00 AM), and weekday afternoon peak hours (3:00 PM

to 7:00 PM). A raw interchange matrix was first developed using the sample Bluetooth O-D data, which was scaled up using a sampling percentage, which was based on the traffic counts collected along with the Bluetooth O-D data.

Trip length distributions were created using distances between the interchanges and the collected Bluetooth O-D data. The average travel times between the interchanges were also computed and summarized as travel time matrices.

The details of the scaled interchange O-D matrices, trip length distributions and travel time matrices are documented in **Technical Memorandum 1.4: Bluetooth O-D Survey Report**.

2.3 Stated Preference Survey

A Stated Preference (SP) survey of motorists currently traveling in the TBX project corridors was undertaken to assess the typical values of time and willingness to use express lanes. The value of time provides an estimate of the toll amount that travelers would be willing to pay for a given travel-time savings offered by using the express lanes compared to any existing toll-free lanes in the proposed network. The survey was undertaken in July and August 2015, using multiple sampling techniques and an adaptive computer assisted survey approach. This information was later used in the modeling process to estimate the share of traffic expected to use the express lanes at different price levels.

The survey approach employed a computer-assisted self-interview technique. The SP survey instrument was customized for each respondent by presenting questions with modified wording based on respondents' previous answers. These dynamic survey features provided an accurate and efficient means of data collection and allowed for the presentation of realistic future conditions in the SP exercises that corresponded to respondents' reported trip details. The questionnaire collected data on current travel behaviors, presented respondents with information about the proposed improvements, and engaged the travelers in a series of SP questions to measure their propensity to use the proposed express lanes under different conditions.

The survey was administered over the Internet to travelers using three recruitment methods: in-person intercepts at sites along or near the TBX project corridors; e-mail distribution to members of an online research panel residing in the Tampa Bay area, and public outreach through businesses, websites, and other targeted e-mail lists in the region. The complete set of survey questions as they appeared to respondents on screen and a complete set of survey tabulations for each question are documented in **Technical Memorandum 1.5: Stated Preference Survey Report**. **Figure 2-4** shows a screenshot of a trip related question asked as part of the SP Survey, and **Figure 2-5** shows an example of a SP survey question related to travel time versus toll rate trade-offs.

Figure 2-4: Sample Screenshot – Survey Screening Question

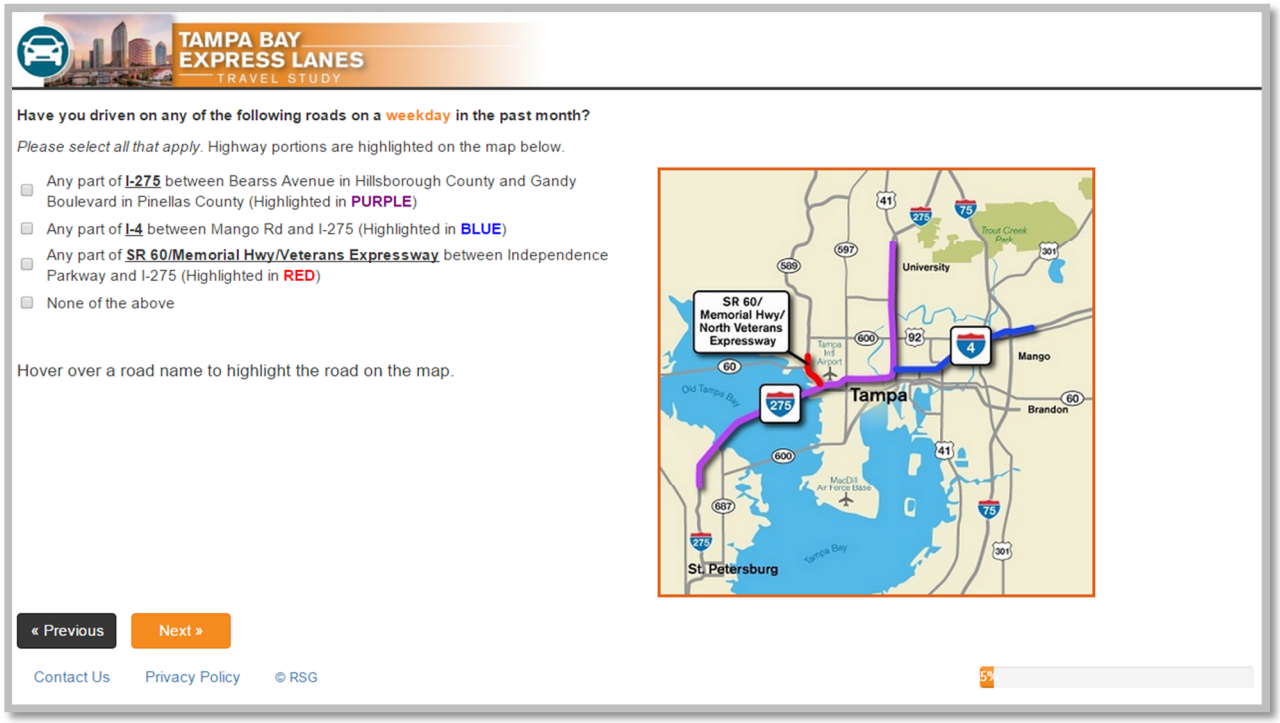
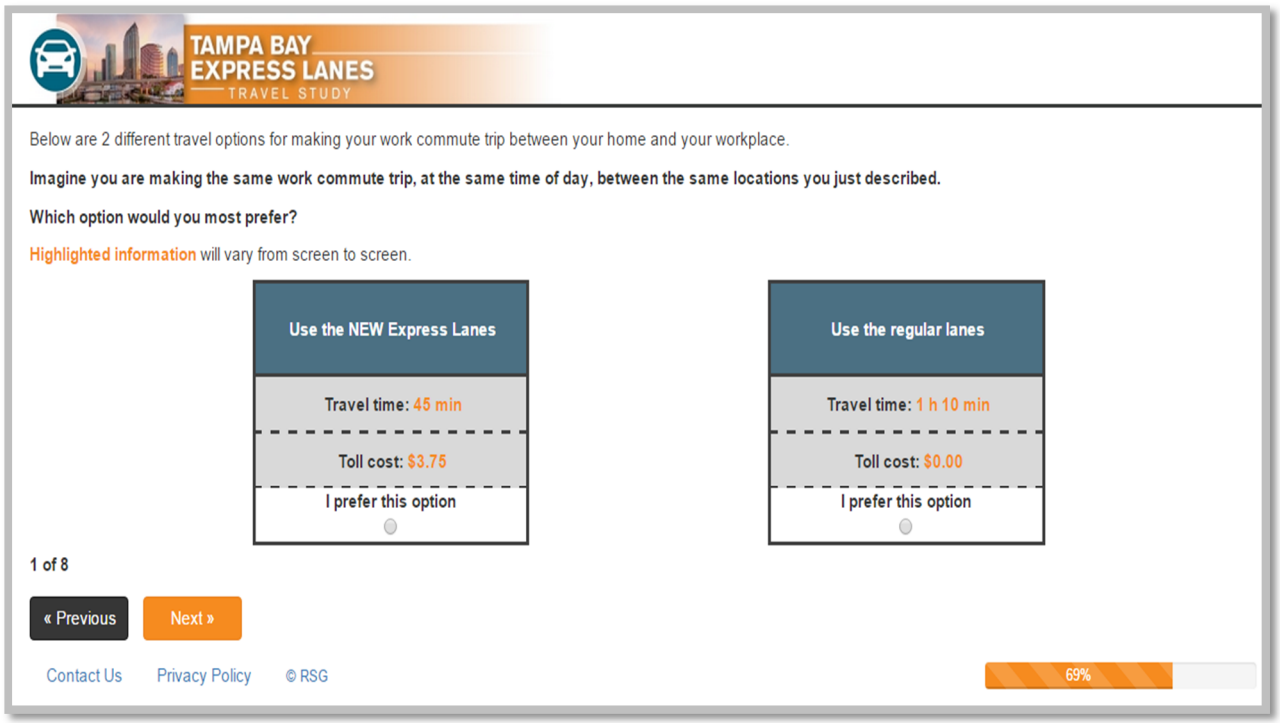


Figure 2-5: Sample Screenshot – SP Survey Toll versus Time Savings Trade-off Question



A total of 2,532 respondents completed the SP survey. After reviewing reasonableness (e.g. trip origins-destinations were outside of the project corridor, implied speed over 100 mph, survey completion time less than 4 minutes, irrational SP choice behavior) of the responses from these respondents, 265 respondents were excluded from the final analysis. Responses from 2,267 respondents were further analyzed using accepted statistical techniques to estimate the associated values of time.

Overall, the SP Survey showed that VOT for respondents traveling in the TBX project corridors ranged from $8.25 per hour to $17.58 per hour depending on facility used, household income, and trip purpose. A regional average VOT of $13.53 per hour was eventually used in the toll diversion models for in this study. The values of time that were estimated were found to be within the range of other similar studies conducted in the Tampa region and other parts of Florida over the past 10 years.

Chapter 3 Model Development and Calibration

The Tampa Bay Regional Planning Model version 8.0 (TBRPM v8.0) was updated to reflect 2014 base year conditions in the TBX corridors project area. A sub-area toll diversion model was extracted from the updated regional model and was further refined. This sub-area included all of the TBX project sections, and the surrounding areas in Hillsborough, Pinellas, and Pasco counties. This chapter describes and summarizes the model development process for this study. A more detailed documentation of the model development for this study is contained in **Technical Memorandum 1.3: Traffic and Operations Profile, Technical Memorandum 2.2: Project Area Model Validation,** and **Technical Memorandum 2.3 Update: Sub-area Model Calibration**.

3.1 Refinement of Regional Model

This section corresponds to **Technical Memorandum 2.2: Project Area Model Validation.** It describes the changes made to the regional travel demand model and summarizes the model's validation performance. The regional model refinement conducted as part of this study was not complex as the TBRPM v8.0 model for year 2010 itself was already previously validated for 2010 conditions to a high degree of accuracy by FDOT District 7. The purpose of this regional model enhancement was to update the TBRPM v8.0 model to reflect the 2014 base year, since the traffic counts and travel speeds documented in **Chapter 2** represent the 2014 conditions.

3.1.1 Model Development for 2014

The TBRPM v8.0 model for 2014 was developed by updating the 2010 validated model with data reflecting 2014 conditions. The socioeconomic (SE) data for 2014 was developed by interpolating the population and employment from the 2010 and 2030 models in TBRPM v8.0. **Table 3-1** summarizes the household population and employment data from the TBRPM v8.0 for the three counties in the project area. This population/employment data was used as an input to the regional model and sub-area toll diversion models. The compounded annual growth rates (CAGR) between the years 2010 and 2040 by county are also displayed in the table. The analysis shows that Pinellas County's household population and employment growth rates at less than 0.5% are much lower than the growth rates seen in Hillsborough and Pasco counties. Pasco County shows the highest annual growth among the three counties, with 2.3% in household population growth and 3.7% in employment growth. Hillsborough County's projected household population and employment growth are approximately 1.3% and 1.5%, respectively. It was observed that the forecasted

rates of growth in Pinellas and Hillsborough counties over the next 30 years shown below were generally lower than the historical growth rates in these counties between 1980 and 2014, and were deemed reasonable for the purposes of T&R forecasting for the TBX project.

Additional details regarding the SE data for all of the counties in the Tampa Bay region are documented in **Technical Memorandum 2.2: Project Area Model Validation**.

Table 3-1: Regional Socioeconomic Growth

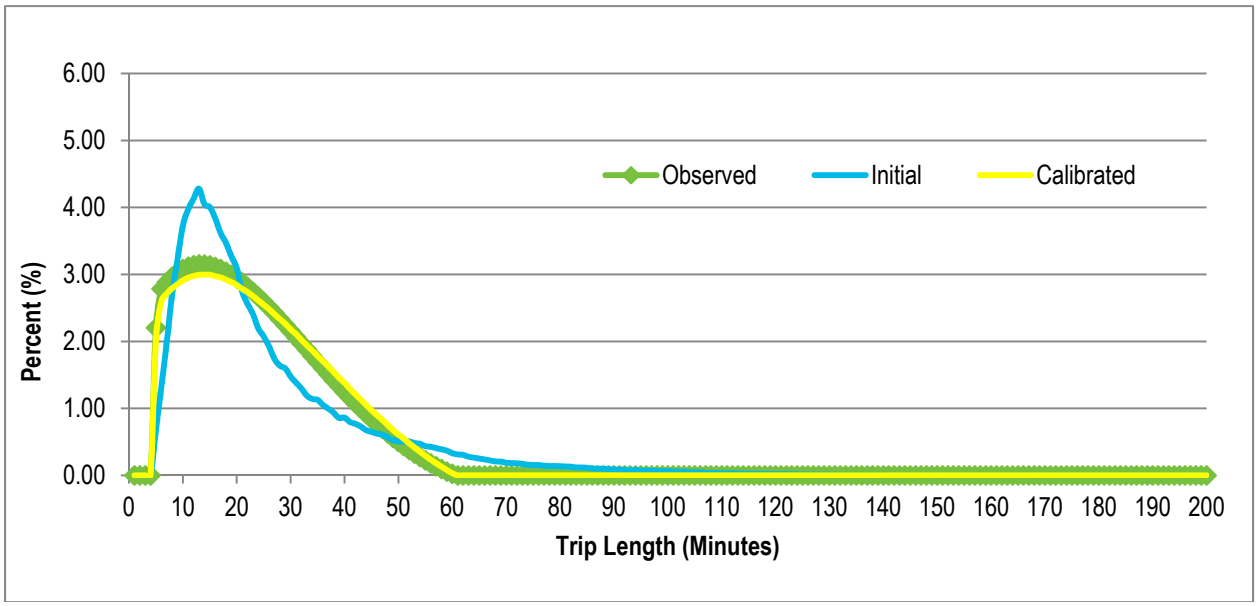
Year	County	Household Population	Employment
2010	Hillsborough	1,207,161	711,400
	Pinellas	896,864	516,900
	Pasco	459,023	125,400
2030	Hillsborough	1,613,897	986,046
	Pinellas	937,807	594,003
	Pasco	710,430	261,465
2040	Hillsborough	1,783,146	1,112,059
	Pinellas	959,368	566,366
	Pasco	905,211	374,964
Compounded Annual Growth Rate by County (2010-2040)			
Hillsborough		1.31%	1.50%
Pinellas		0.22%	0.31%
Pasco		2.29%	3.72%

Besides the SE data update, roadway network and transit network files were also updated to reflect 2014 conditions. The 2019 roadway and transit networks from the TBRPM v8.0 model were edited to reflect the roadway and transit network conditions in 2014. These changes were only made in Hillsborough and Pinellas counties, and the rest of the regional model was maintained at the 2019 network conditions.

During the review of the regional travel demand model, the trip lengths calculated from the TBRPM v8.0 model were compared to observed trip length data from the 2009 National Household Travel Survey (NHTS). The TBRPM v8.0 originally was not calibrated using the 2009 NHTS due to a concern over the number of samples available in the Tampa Bay Region. While this concern is reasonable for preparing a regional model for long range regional planning purposes, the number of samples available in the 2009 NHTS were deemed adequate for adjusting the regional model for the purposes of traffic and revenue forecasting for the TBX

project. The friction factors[1] in the model were recalibrated using trip end data from the 2009 NHTS and travel times derived from the TBRPM v8.0 network. Comparisons of the trip length distributions for Home-Based work trips during peak periods are shown in **Figure 3-1**. The "observed" curves refer to the curves from the 2009 NHTS. The "initial" curves show the trip length distributions resulting from the 2010 friction factors from the original TBRPM v8.0. The "calibrated" curves show the trip length distributions after re-calibrating the friction factors. As shown, the calibrated friction factors fit the observed curves better than the initial friction factors. More details of the calibration process and similar comparisons for other trip purposes are included in **Technical Memorandum 2.2**.

Figure 3-1: Calibration of Trip Length Distributions of Home-Based Work (HBW) in Peak Periods



Before assessing the refined regional model's performance along the TBX corridors project area, it was necessary to ensure that adjustments to the model's base year and revalidation did not adversely affect the performance of the model at a regional level. Model outputs to observed ratios of vehicle-miles-traveled (VMT) and vehicle-hours-traveled (VHT) were observed to be within acceptable limits at both daily and time-of-day levels, with values ranging from 0.95 to 1.02. The percent root-mean-square-error (RMSE) results for a majority of the locations in the regional model were also observed to fall within acceptable tolerances. **Table 3-2** summarizes these percent RMSE comparisons.

[1] The friction factors in the travel demand model capture the impact of travel times on the number of trips between trip origins and destinations. As the distance or the travel times between origins and destinations increase, there is less likelihood for travelers to make such longer trips.

Table 3-2: 2014 Base Year Daily RMSE Percentages

Volume Range	Preferable	Acceptable	Hillsborough	Pinellas	Pasco
<=5K	45	100	91.94	76.42	73.76
5K - 10K	35	45	51.30	44.21	39.10
10K - 15K	27	35	35.66	27.93	34.33
15K - 20K	25	35	25.26	25.02	29.45
20K-30K	15	27	22.89	28.18	17.87
30K-50K	15	25	21.57	23.26	13.10
50K-60K	10	20	7.02	9.02	21.36
60K+	10	19	12.16	19.32	0.00
All Links	35	45	31.12	35.22	40.01

The year 2014 refined regional model's traffic assignments were also assessed for the TBX project sections. It was found that the model volumes on TBX Sections 2, 3, and 4 matched observed traffic reasonably well. The western end of Section 5 showed some under-assignment. The eastern end of Section 5 was over-assigned, and the parallel section of the Selmon Expressway was under-assigned. Section 6 performed well, with the exception of some over-assignment just north of the I-4 Junction and under-assignment north of Bird Street. Volumes on Section 7 also matched the counts well. Section 8 showed significant over-assignment near 40th Street, but volumes in the rest of the Section 8 were replicated well by the model.

Congested speeds along the TBX project in the four TBRPM v8.0 model periods were compared to INRIX 2010 and 2014 data. Comparisons for I-275 eastbound/northbound directions and westbound/southbound directions showed that bottleneck locations (locations with heavy congestion) in the model roughly matched with INRIX bottleneck locations in the peak periods. The model did, however, show congestion in some locations where INRIX data showed near free-flow speeds. This was also observed on I-4, where a reduction of speeds occurred westbound in the AM peak and eastbound in the PM peak, though minimal or no speed reduction was observed in the INRIX data for that area. In addition, free-flow speeds in the refined regional model along the TBX corridors were significantly lower when compared to observed free-flow speeds, with most free-flow speeds within the model set at approximately 50 miles per hour.

The aforementioned traffic volume and speed differences in the regional model were improved after the sub-area model was calibrated, as will be described in the next section.

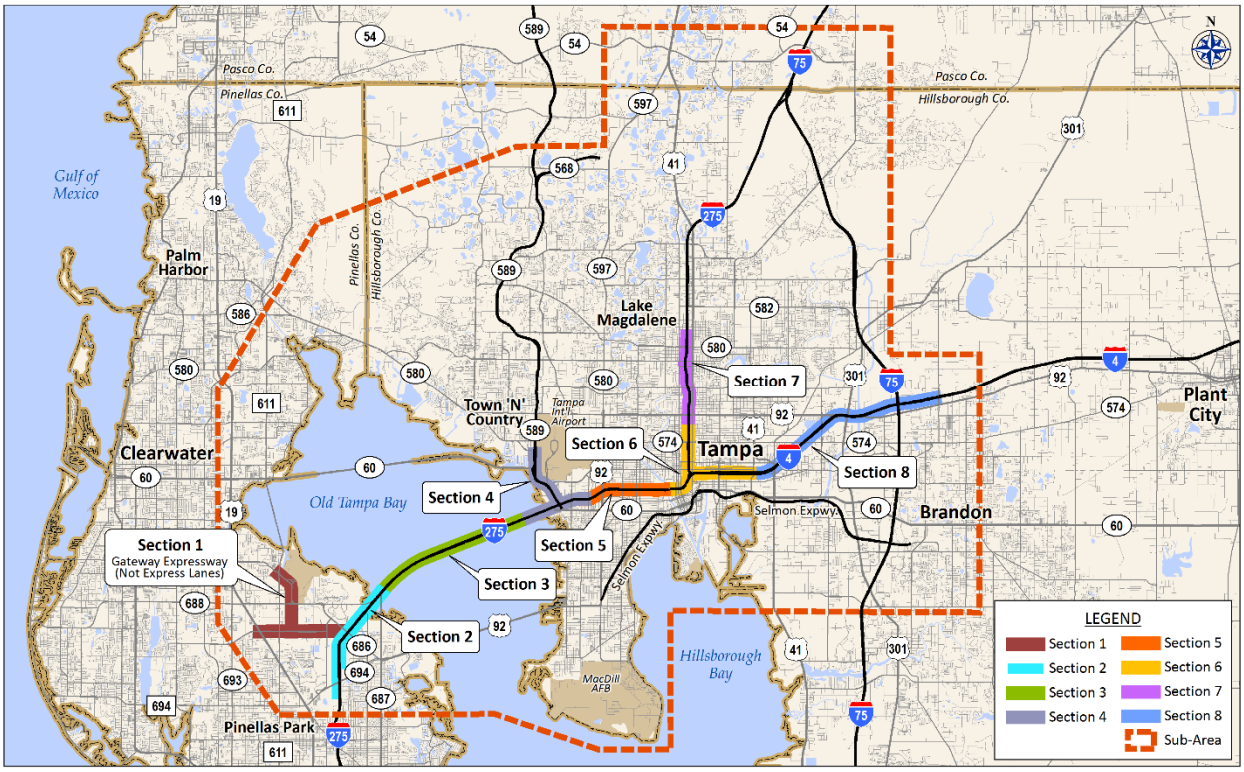
3.2 Sub-Area Model Development and Refinement

This section corresponds to **Technical Memorandum 2.3 Update: Sub-area Model Calibration**, which documents the modeling steps undertaken to calibrate the sub-area model to a 2014 level and the results of the model refinements. The process of calibrating the sub-area model included efforts made to match existing network and traffic conditions as closely as possible to provide an accurate starting point for the estimation of future year travel patterns and traffic volumes on the proposed TBX express lanes. For this study, traffic counts and travel time data presented in **Chapter 2** were used to quantify current observed conditions. In addition, the Bluetooth Origin-Destination (O-D) data also documented in **Chapter 2** were utilized to further refine the origin-destination movements in the sub-area travel demand model.

3.2.1 Sub-Area Extraction

The TBRPM v8.0 regional model was updated to reflect the 2014 conditions as described in the previous section. The 2014 regional model was then used to develop a sub-area model. The 2014 regional model consisted of 3,029 zones within Hillsborough, Pinellas, Pasco, Hernando, and Citrus counties, and this version of the regional model consisted of the AM, PM, Mid-Day, and Evening/Overnight periods. The sub-area network was extracted from the 2014 regional model, and model boundaries were as far north as the junction between I-275 and I-75, and as far west as US 19 in Pinellas County. The sub-area model also included the entire reach of the express lanes network plus the Gateway Expressway toll facility, as well as major competing routes such as the lower portion of the Veterans Expressway and the Selmon Expressway, as shown in **Figure 3-2**. The extracted sub-area network contained 908 zones and 12,403 links within the parts of Hillsborough, Pinellas and Pasco counties.

Figure 3-2: Sub-Area Model Boundaries



3.2.2 Sub-Area Model Time Period Development

A sub-area network along with period trip tables were extracted from the 2014 regional model for further refinement purposes. The trip tables in the 2014 regional model represent four (4) time periods: AM Peak (6:30 AM to 9:00 AM), Mid-Day Off-Peak (9:00 AM to 3:30 PM), PM Peak (3:30 PM to 6:30 PM), and Evening/Overnight Off-Peak (6:30 PM to 6:30 AM). Based on peaking data observed in the balanced traffic profile and the speed and delay runs, it was determined that these original model periods should be adjusted and split to further distinguish peak periods from non-peak periods. The analyses showed that the highest AM volumes occurred between 6:30 AM and 9:30 AM. Therefore, an additional half-hour was added to the end of the original AM Peak period to more accurately reflect the AM peak period. The new Mid-Day (MD) period was adjusted from the shifts made in the AM period to begin at 9:30 AM and end at 3:30 P.M (6 hours). On the other hand, the PM volumes were observed to peak during the same periods as those in the TBRPM v8.0. Thus, the PM period in the sub-area model was kept the same as the PM period in the regional model, running from 3:30 PM to 6:30 PM (3.0 hours). The sub-area model's Evening/Overnight period was also kept the same as the regional Evening/Overnight period, running from 6:30 PM to 6:30 AM (12 hours).

Once the period shifts were performed, these new periods were then broken down into finer time slices. While the AM and PM peak periods were split into three one-hour periods, pre-peak, peak, and post-peak, no changes were made to the Evening/Overnight time period, running from 6:30 PM to 6:30 AM. On the other hand, the new Mid-Day period was split into two time periods; MD1, a five-hour period and MD2, a one-hour period. The nine time periods used in the sub-area model are listed below:

- AM1: 6:30 A.M to 7:30 AM
- AM2: 7:30 AM to 8:30 AM
- AM3: 8:30 AM to 9:30 AM
- MD1: 9:30 AM to 2:30 PM
- MD2: 2:30 PM to 3:30 PM
- PM1: 3:30 PM to 4:30 PM
- PM2: 4:30 PM to 5:30 PM
- PM3: 5:30 PM to 6:30 PM
- NT: 6:30 PM to 6:30 AM

The trip tables for each of the new time periods were also prepared by splitting the adjusted four-time period 2014 regional model trip tables by using the factors presented in **Table 3-3**. The column labeled in Table 3-3 "split factor" represents the proportion of the shifted period that was used in each finalized period. For example, the AM1 period (6:30 AM – 7:30 AM) represents 34.1% of the shifted morning period (6:30 AM – 9:30 AM), and the MD1 period (9:30 AM – 2:30 PM) represents 81.4% of the shifted Mid-Day period (9:30 AM – 3:30 PM).

Table 3-3: Factors for Period Splitting

Beginning Hour	Ending Hour	Shifted Period	Final Period	Split Factor
12:00 AM	6:30 AM	Evening/Overnight	NT	--
6:30 AM	7:30 AM	Morning	AM1	0.341
7:30 AM	8:30 AM	Morning	AM2	0.349
8:30 AM	9:30 AM	Morning	AM3	0.31
9:30 AM	2:30 PM	Mid-Day	MD1	0.814
2:30 PM	3:30 PM	Mid-Day	MD2	0.186
3:30 PM	4:30 PM	Evening	PM1	0.335
4:30 PM	5:30 PM	Evening	PM2	0.345
5:30 PM	6:30 PM	Evening	PM3	0.319
6:30 PM	6:30 AM	Evening/Overnight	NT	--

3.2.3 Balanced Traffic Profile

A balanced traffic profile of 2014 Annual Average Weekday Daily Traffic (AAWDT) volumes for I-275 and I-4 ramp and mainline sections along the TBX corridors was developed. The balanced profile, in addition to giving a robust estimate of traffic demand within the study corridor, served as an important input to the sub-area model calibration process. The traffic counts used to develop the traffic profile include synopsis reports from the 2010 through 2013 Florida Traffic Information (FTI) DVD's, 2014 early release traffic counts provided by District 7, 2014 traffic counts from the on-going traffic studies on I-275 and I-4, and newly collected ramp and mainline counts. Fifteen minute counts from these sources were extracted by direction from approximately 200 count locations. Using the FDOT Traffic Forecasting Handbook procedures, seasonal factors and axle correction factors were applied to each of the count data. As most of the counts were collected during the typical weekday (Tuesday through Thursday) and range from one to three days, seasonal factors were applied to all the counts. The axle correction factors were applied to only count sites that did not provide classification data and field collected axle counts. The detailed information about developing balanced traffic profiles, as well as figures illustrating the balanced traffic profile along the TBX project corridors, are documented in **Technical Memorandum 1.3: Traffic and Operations Profile.**

3.2.4 Sub-Area Model Calibration

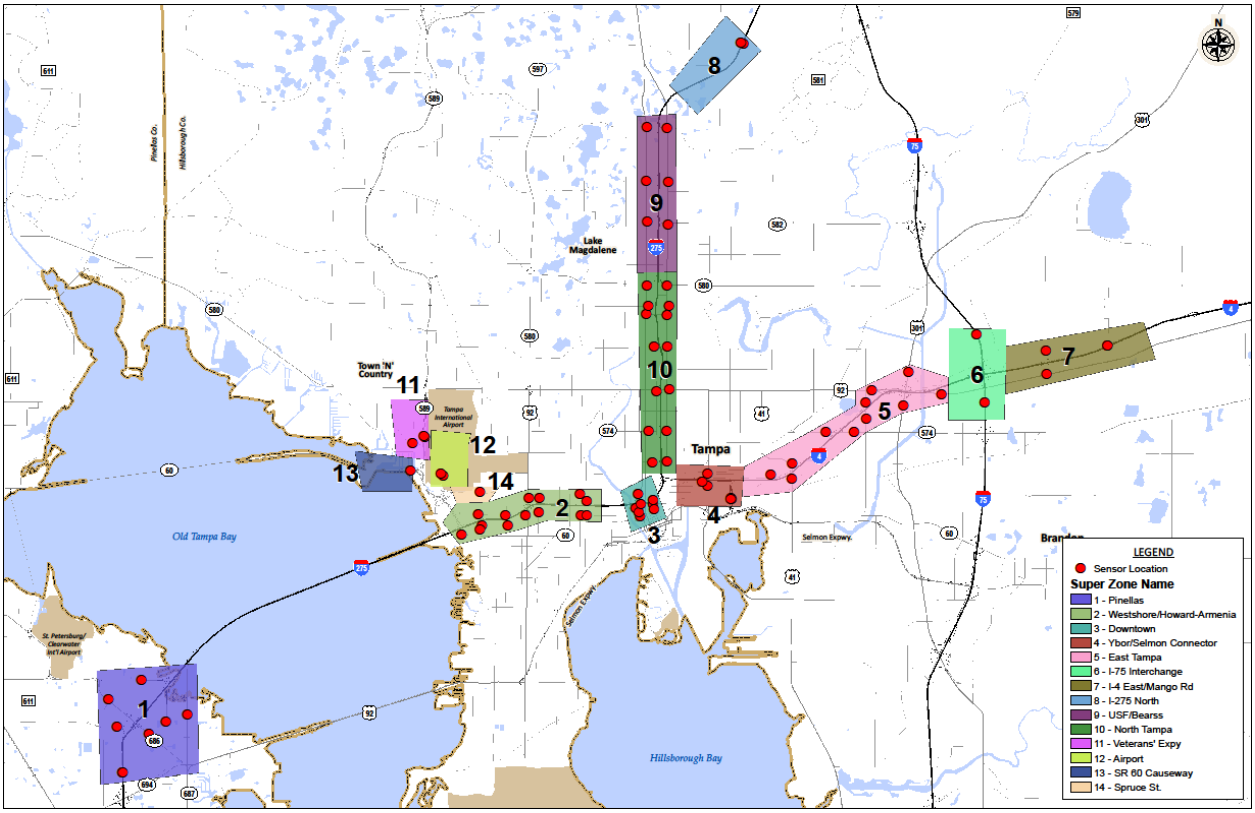
As part of the calibration efforts, close attention was also paid to the existing toll roads in the region. For this purpose, the tolling algorithm was reviewed and modified in order to reflect the proper traffic entering the toll roads with specific emphasis on the I-4 Connector ramps feeding directly into the I-4. Toll costs for all existing toll roads (I-4 Connector, Selmon Expressway, and Veterans Expressway) were reviewed and updated to reflect the 2014 toll pricing and gantry configuration. In addition, the coefficient of toll (CTOLL) algorithm, originally in place within the TBRPM v8.0, was converted into a pre-assignment time penalty and adjusted to replicate traffic counts, and toll point deceleration and acceleration calculations were removed to reflect all-electronic tolling (AET) conditions. The time penalties on the non-project toll roads were ultimately calibrated to 45% of the time cost reflected in the original CTOLL algorithm to achieve a good replication of the toll road volumes in the sub-area model.

The calibration efforts also involved an Origin-Destination Matrix Estimation (ODME) process to adjust the base year trip tables to more closely replicate the observed traffic. Several ODME tests were completed using the original trip tables generated for the nine time periods based on the split factors shown in **Table 3-3**. As noted in the previous section, free-flow speeds in the 2014 regional model along the TBX project corridor mainlines were low compared to the observed free-flow speeds. Prior to ODME process at the network level,

free flow speeds from the observed INRIX speed data were applied on all mainlines along the TBX project corridors. In addition, a corresponding upward adjustment of the free-flow speed was applied to all the other links in the 2014 sub-area model. To assess the calibration of the model, comparisons were made between the final calibrated sub-area model and the sub-area model before any calibration steps were undertaken. The latter model will subsequently be referred to as the "non-calibrated sub-area model" on the basis of not being calibrated as a nine time period model for the year 2014. This comparison helps to emphasize the improvements as a result of the ODME process.

The sub-area calibration efforts also involved incorporation of the Bluetooth Origin-Destination data into the model. For this purpose, Bluetooth data was collected by Bluetooth Monitoring Technology (BMT). Along with the Bluetooth data, vehicle counts were also collected and used to scale up the raw Bluetooth data to produce the O-D matrices. To simplify the analysis process, Bluetooth sensors were aggregated into fourteen 'super zones' as illustrated in **Figure 3-3**.

Figure 3-3: Bluetooth Sensor Placement and Super Zones



Another calibration effort involved modification of speed-flow curves (Volume-Delay Functions (VDF)) in the sub-area model. Traditional traffic assignment models assign traffic iteratively based on link-level volume versus capacity (V/C) conditions. Links with low V/C ratios may still have high delay if the traffic is in stop-and-go conditions due to downstream bottlenecks. Traditional traffic assignment models usually do not recognize this type of delay. Thus, after the total volumes along the study corridor were reasonably well-calibrated, the sub-area model output speeds and bottleneck locations of the general purpose lanes were compared against observed speeds in each model period. Then the VDFs were modified, where the sub-area model output speeds did not match well with the observed speeds, to better reflect the impact of merging and weaving maneuvers, and queuing from downstream bottlenecks. The details of VDF modifications are documented in **Technical Memorandum 2.3 Update: Sub-area Model Calibration**.

The calibration of link volumes within the ODME-adjusted sub-area model were also fine-tuned by adjusting volumes on project mainlines and ramps, where volume calibration through ODME was inadequate in localized areas or when VDF curve adjustments caused adverse changes in volume.

In order to compare and incorporate the Bluetooth O-D data into the travel demand model, a corridor model (with just the TBX mainlines and ramps) was extracted from the non-calibrated and the calibrated sub-area models. The trip table of the corridor models was then compared to the super zone level Bluetooth O-D trip table. Select link adjustments were performed to also adjust Bluetooth O-D data patterns that were identified to be much different from the corridor level model O-D patterns.

3.2.5 Calibration Results

The calibration results of the TBX project links are presented in this sub-section. Comparisons are made between the final calibrated model (after the ODME process was applied) and the non-calibrated sub-area model (defined above as the original 2014 sub-area model split into 9 time periods). For comparison purposes, the results from an earlier phase of the sub-area model calibration performed as part of the Phase 1 of this T&R study are also presented. This earlier phase is referred to as Phase 1 and the latest calibration is referred to as Phase 2. It should be noted that the Phase 1 calibration did not incorporate the Bluetooth O-D data. These comparisons are intended to show improvements and consistencies between trip tables used before and after ODME with the additional calibration refinements.

An analysis of trip length distribution was conducted to determine whether the matrix estimation process and any subsequent calibration changes produced a significant change for trips using the project corridors. **Table 3-4** shows a comparison of trip length means and percentiles between the non-calibrated and the calibrated

sub-area models for users traveling the project corridors. **Table 3-4** also shows that the non-calibrated and the Phase 2 calibrated sub-area models have minimal differences in trip lengths. The comparison of results from the Phase 1 study shows that Phase 2 calibration had a very minimal impact on the trip length mean and the associated distribution.

Table 3-4: Sub-Area Trip Length Comparisons

Value/ Percentile	Trip Length (miles)				
	Non-Calibrated	Phase 1 Calibrated	Phase 2 Calibrated	Difference (Phase 2 and Non-Calibrated)	Percent Difference
1%	0.08	0.08	0.08	0.00	0%
5%	0.35	0.35	0.35	0.00	0%
25%	1.74	1.69	1.70	-0.04	-2%
50%	4.70	4.38	4.40	-0.30	-6%
75%	9.80	8.94	8.94	-0.85	-9%
95%	19.24	19.51	19.66	0.42	2%
99%	29.48	29.49	29.80	0.32	1%
Mean	6.98	6.72	6.75	-0.23	-3%

On a total basis, accuracy of counts and volumes was measured in terms of percent RMSE. Averages of the squared difference between traffic counts and model volumes were taken, and compared against average traffic levels to find a reasonable measure of absolute percent difference between count and model calibration.

Table 3-5 shows the percent RMSE summary for the project links by model period comparing the non-calibrated and the Phase 2 calibrated model numbers. The daily RMSE value in the non-calibrated sub-area model is 44.1%, which ranges between 38.9% and 71.6% for individual model periods. These values represent fairly high RMSEs.

On the other hand, the results in the Phase 2 calibrated model show significant improvement compared to the non-calibrated model RMSE results. For the Phase 2 calibrated model, the RMSE for full day is 5%, and varying between 4.6% and 14.8% for individual model periods. When the Phase 2 calibrated model RMSE values are compared with the Phase 1 calibrated counterparts, it is observed that the periods MD1, MD2, PM1, and NT had slight improvements in terms of RMSE, while the periods AM1, AM2, AM3, PM2, and PM3 got slightly worse. This is due to the ODME application in Phase 2, which tried to find a more constrained optimal solution by balancing the available counts with the Bluetooth O-D related adjustments as a starting

point. In addition, the Phase 2 calibration involved additional manual select link adjustments to also obtain closer replication to the observed Bluetooth O-D patterns.

Table 3-5: RMSE Summary: Non-Calibrated versus Calibrated Models

Period	RMSE (Non-Calibrated Model)	RMSE (Phase 1 Calibrated Model)	RMSE (Phase 2 Calibrated Model)
Daily	44.1%	4.7%	5.0%
AM1	46.0%	8.0%	8.1%
AM2	48.0%	11.4%	14.2%
AM3	50.7%	10.0%	12.7%
MD1	64.0%	6.8%	5.0%
MD2	49.6%	9.1%	6.9%
PM1	61.3%	7.8%	5.8%
PM2	58.9%	11.4%	12.8%
PM3	71.6%	13.9%	14.8%
NT	38.9%	7.0%	4.6%

Travel speed calibration in the model was also done by utilizing observed INRIX speed data and field collected GPS data along with additional comments from FDOT staff. Overall, the calibrated sub-area model speeds were close to observed speed data, with 81% of corridor model speeds calibrated to within 10 miles per hour of observed data across all mainline locations. In contrast, the non-calibrated sub-area model speeds were within 10 miles per hour of the observed data on 27% of project links.

In summary, the calibrated sub-area model replicated the observed traffic counts and the observed traffic speeds reasonably well along the TBX corridors, while retaining the trip length distributions that were previously refined as part of the regional model update process. These changes to the calibrated model were carried forward to the future year model to develop future projections.

Chapter 4 Phase 1 Preliminary Traffic and Revenue Results

This chapter corresponds to **Technical Memorandum 3.1: Preliminary Traffic and Revenue Results** and will provide a summary of the preliminary Phase 1 traffic and revenue (T&R) estimates. These estimates were developed using a sub-area model, that was calibrated to the traffic counts and travel speeds collected along the TBX corridors. However, the subarea model did not utilize the Bluetooth Origin-Destination and Stated Preference Survey data that were collected for use in developing the final T&R forecasts developed in Phase 2 of the study.

This chapter provides a brief overview of the project scenarios, a discussion of methodology and modeling assumptions, and a comparison of transaction and revenue forecasts for each of the four scenarios analyzed.

4.1 Project Scenarios

The Phase 1 traffic and revenue analysis included a preliminary assessment of four alternative scenarios, each with varying assumptions regarding which TBX project Sections will be included. **Table 4-1** presents a summary of the four scenarios analyzed as part of the Phase 1 analysis, as well as the "interim project", which will include only the Gateway Expressway (Section 1) and Section 2 of the express lanes network.

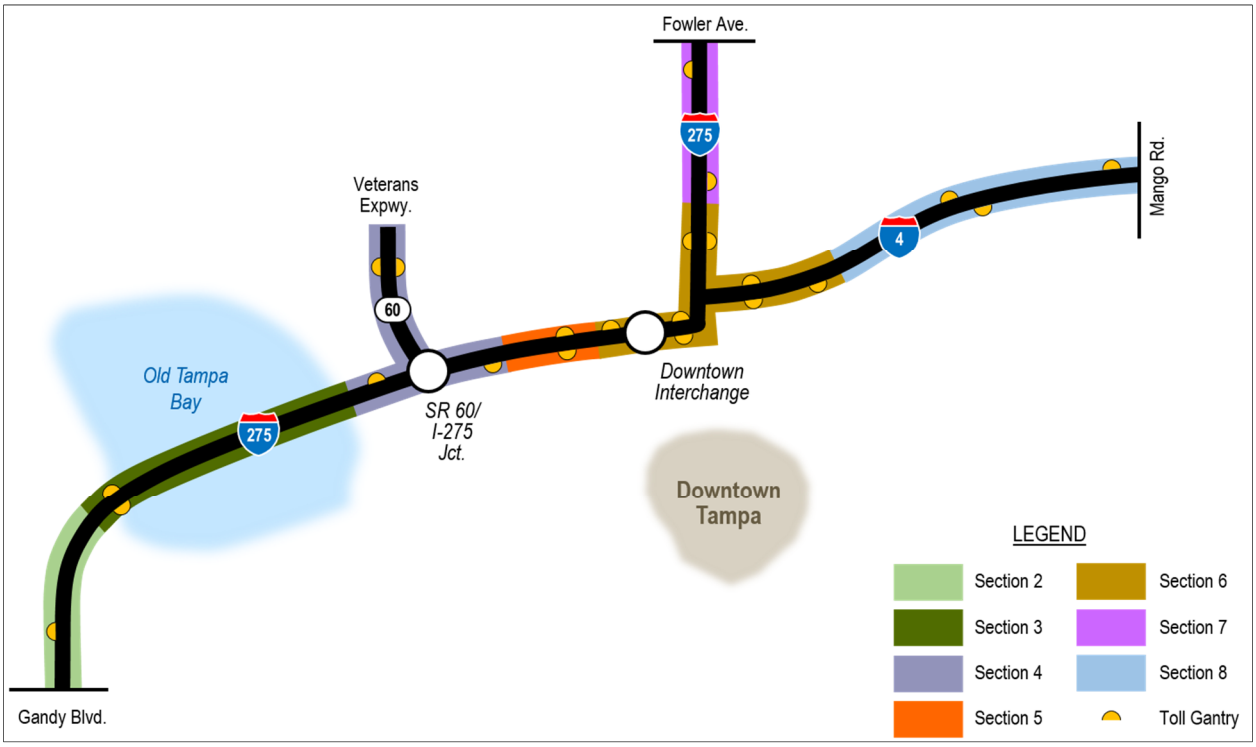
Scenario 1 will be the full project configuration and include all 8 sections. Except for Sections 1 and 2, all remaining sections were assumed to be open in the year 2025 for the purposes of this preliminary analysis under Scenario 1. Scenario 2 is a partial project scenario, which assumed all of Sections 6, 7, and 8 would be deferred indefinitely, and only a portion of Section 5, referred to as Section 5A, would be constructed. In this case, Sections 3, 4, and 5A were assumed to be open in the year 2023. This configuration did not address congestion levels in the immediate vicinity of the Downtown and the I-4/I-275 Junction. Scenarios 3 and 4 were similar to Scenario 1, except that Scenario 3 assumed Section 8 (the eastern portion of I-4) was not constructed, and Scenario 4 assumed that Section 7 (the I-275 north section) was not constructed. The TBX project Sections and the associated toll gantry locations under Scenario 1 are shown in **Figure 4-1**. The sub-area toll diversion model used for the Phase 1 T&R analysis utilized these gantry locations, and a $0.50 minimum toll was assumed at each of these toll gantry locations, consistent with current FDOT policy.

Table 4-1: TBX Project Phase 1 Scenarios

Project Section	Section Description	Scenario 1	Scenario 2	Scenario 3	Scenario 4
1	Gateway Expressway	2021	2021	2021	2021
2	I-275 Pinellas County Section	2021	2021	2021	2021
3	I-275 Howard Frankland Bridge Section	2025	2023	2025	2025
4	I-275 at SR 60 Junction Section	2025	2023	2025	2025
5A	I-275 from Lois Avenue to East of Rome Avenue (Partial)	N/A	2023	N/A	N/A
5	I-275 from Lois Avenue to East of Rome Avenue Section (Full)	2025	N/A	2025	2025
6	I-275/I-4 /Downtown Section	2025	N/A	2025	2025
7	I-275 North Section	2025	N/A	2025	N/A
8	I-4 East Section	2025	N/A	N/A	2025

Notes:
1. Project Section 1 (Gateway Expressway) is not a part of the TBX project system.
2. "N/A" indicates that the project section will not be implemented or in operation.
3. The express lanes on Section 8 (I-4 East Section) are assumed to end east of Mango Road, i.e., the above table does not include the sensitivity test extending Section 8 to east of Branch Forbes Road.

Figure 4-1: TBX Phase 1 Toll Gantries and Project Sections



4.2 Methodology and Assumptions

Traffic and revenue estimates were developed based on numerous traffic and revenue assignments performed for each of the scenarios. For Scenarios 1 through 4, model runs were made at both 2025 and 2040 levels. In each case, a limited number of alternative toll rates were tested with a focus on optimizing the distribution of traffic and attaining maximum utilization of express lanes while still preserving free-flow conditions. Limited traffic assignments were also conducted at 2021 and 2025 levels assuming only the "interim project" was constructed. The "interim project" is a relatively short section (Section 2 only) on the express lanes network, but included the assumed full completion of the Gateway Expressway (Section 1) in Pinellas County. While development of formal traffic and revenue forecasts for the Gateway Expressway was not within the scope of this study, static tolls on that facility were included in the background sub-area toll diversion model network and estimates of traffic and revenue for Section 1 were also developed.

For each analysis year and scenario, assignments were run at nine discrete time intervals, covering morning peak, afternoon peak, and off-peak hours. For each of these periods, toll rates at each of the different toll gantry locations were identified and period level revenue was calculated. All traffic assignments were made on a weekday basis; no specific modeling analysis was undertaken for weekend conditions. Annual transaction and revenue forecasts were developed by using "annualization factors" applied to weekday traffic assignment results. Specifically, weekday transactions were multiplied by 285 effective weekdays to get annual transactions. Revenue was multiplied by an annualization equivalent of 265 days. The annualization of revenue used a lower factor than transactions since toll rates on weekends tend to be lower than toll rates on weekdays. Each of these factors were derived based on information regarding annualization factors from other existing express lane facilities.

A toll diversion model was used in this analysis, which estimates the share of traffic willing to pay a toll at any given rate based on a comparison of travel times for a routing along express lanes versus the best toll-free alternative routing (normally the general purpose lanes). The proportion of motorists willing to pay a toll depends on the amount of the time savings and the toll charged. The toll is converted to an equivalent "cost per minute saved", by dividing the toll rate by the computed time savings of using the express lanes. This "cost per minute saved" is then compared with the median value of time, and the distribution of value of time around the median, to estimate the share of eligible traffic which would be willing to pay the toll and use the express lanes.

Downward adjustment factors were applied to the sub-area toll diversion model forecasts in the early years to reflect the effect of "ramp-up". Ramp-up refers to the pattern normally seen on new toll facilities where

there is high growth in the first few years of operation. This reflects the time it takes the driving public to become familiar with a new toll facility, and, in the case of express lanes, the time it takes to enroll and equip vehicles with toll transponders. Ramp-up was assumed to occur over the first three years of operation with the factors 0.7, 0.8 and 0.9 applied respectively to each of the years for both transactions and revenues.

To avoid overestimating off-peak period T&R, the final model results for the first Mid-Day analysis period (MD1) from 9:30 AM to 2:30 PM were factored down by 30%, and the Evening/Overnight period (between 6:30 PM and 6:30 AM) volumes were factored down by 50%. These post-model factors were applied to both transactions and revenue calculations, and were based on a review of actual operating experience on other express lanes projects in Florida and across the United States. In general, the proportion of express lane transactions and revenue occurring in off-peak and overnight hours tends to be lower than modeled results. Hence, the reduction factors used were intended to reduce the likelihood of overestimation of off-peak period express lanes usage.

For purposes of the analysis, it was assumed that about 75% of all non-truck vehicles would be equipped with transponders in 2025, gradually increasing to 88% by 2040. All users are required to pay a toll on the TBX express lanes, except for certain vehicles that are exempt by Florida Statute or Administrative Rule. These exempt vehicles (also referred to as “non-revenue” vehicles) include express transit buses, school buses, and authorized emergency and law enforcement vehicles, and were assumed to be 1% of the express lane traffic for this study. In addition, since all of the sub-area toll diversion modeling during Phase 1 was done in 2015 dollars, the toll rates and revenues in future year (nominal) dollars were estimated by applying a 2.5% per year inflation assumption. The major modeling assumptions for Phase 1 of the study and the post-model adjustments that were performed are shown in **Table 4-2**.

Table 4-2: Phase 1 Modeling Assumptions

Project Location	Pinellas and Hillsborough counties, Florida (FDOT District 7)
Study Area	Interstate 275, Interstate 4, and SR 60 / SR 589
Project Limits	I-275 from south of Gandy Blvd to north of Busch Blvd I-4 from I-275 to McIntosh Rd SR 60 from I-275 to SR 589
Model and Version	TBRPM v8.0; subarea model extracted and calibrated.
Base Year Calibration	Year 2014, in project corridors in full model and more detail in subarea.
Model Years	2021 (Interim), 2025 (Opening), and 2040 (Future)
Project Opening Year by Section	Section 2: 2021, Other Sections: 2025. Except in Scenario 2 when Sections 3,4, and 5A are assumed to be open in 2023.
Number of General Use Lanes (GU), Auxiliary Lanes (AUX), and Express Lanes (EL) per Section	Section 2: 3 GUL, 1 AUX, 1 EL (per direction) Section 3: 3 GUL, 1 EL (per direction) Section 4: 3 GUL, 1 to 2 AUX, 1-2 EL (per direction) Section 5: 4 GUL, 1 AUX, 2 to 3 EL (per direction) Section 6: 3 to 4 GUL, 1 to 2 AUX, 1 to 3 EL (per direction) Section 7: 3 GUL, 1 AUX, 1 EL (per direction) Section 8: 3-4 GUL, 1 AUX, 1 and 2 EL (per direction)
Percent Share of Non-Revenue	1% of total traffic on TBX assumed to be public transit buses operating in express mode, school buses, and authorized emergency vehicles.
Uncollected Toll-By-Plate Transactions	No toll by plate transactions; Non-transponder vehicles not allowed on the TBX express lanes
Value of Time	Regional 2015 average of $13.20/hour. Computed by traffic zone, using income data from Activity Based Model now under development by District 7. VOT relationship to income adjusted based on a Stated Preference survey conducted in 2015.
Inflation Rate	2.5% per Year
Ramp-Up Factors	First year: 0.7 Second year: 0.8 Third year: 0.9
Annualization Factors	Transactions: 285 Weekdays Revenue: 265 Weekdays
Other Selected Model Assumptions	
Vehicles with more than two axles are not allowed in the Express Lanes.	
Proportion of non-truck traffic assumed to be equipped with transponders: o 2021 – 72% o 2025 – 75% o 2040 – 88%	
Minimum toll (per gantry): $ 0.50 in year of estimate dollars per FDOT. The value was not assumed to be inflated. Hence, in each future year assignment this value was adjusted to 2015 levels for model purposes as follows: o $0.43 in 2015 dollars used for year 2021 o $0.39 in 2015 dollars used for year 2025 o $0.27 in 2015 dollars used for year 2040	
T&R modeled results in first Mid-Day (MD1) period (9:30 AM - 2:30 PM) factored by 0.70. T&R modeled results in Evening/Overnight period (6:30 PM - 6:30 AM) factored by 0.50.	
Targeted maximum usage on Express Lanes: 1,600 vehicles per hour per lane	

4.3 Comparative Summary of Phase 1 Forecasts by Scenario

As mentioned earlier, a traffic and revenue analysis was conducted for four, discrete scenarios. Scenario 1 assumed the ultimate implementation of all seven sections of the express lane network. Detailed results of Scenario 1, as well as each of the other three scenarios, are documented in **Technical Memorandum 3.1: Preliminary Traffic and Revenue Results** and in **Appendix B**.

Table 4-3 provides a comparative summary of estimated annual transactions and revenue for Scenarios 1 and 2. They show annual revenue forecasts, adjusted for ramp-up and inflation, in "future dollars". In Scenario 1, annual revenue is estimated at approximately $23.8 million in 2025 in nominal future year dollars, which are expected to grow to $47.8 million by 2030 and to $161.1 million by 2050. Between 2030 and 2050, transactions are expected to increase at about 2.5% per year, while revenue growth, after inflation, will average about 6.3% per year. Under Scenario 2, where Sections 1 through 4 and a portion of Section 5 were assumed to be implemented, revenues were approximately 32% and 47% lower than the revenues under Scenario 1 in 2025 and 2040, respectively.

Table 4-3: Estimated Annual Transactions and Revenue - Scenarios 1 and 2

Fiscal Year	Scenario 1		Scenario 2	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	845	$387	845	$387
2025	44,542	$23,738	28,780	$16,111
2030	73,523	$47,799	35,206	$25,400
2035	86,407	$68,492	39,052	$36,339
2040	101,874	$98,560	43,374	$52,146
2045	110,754	$125,946	45,735	$66,522
2050	120,506	$161,099	48,243	$84,923
Compounded Annual Growth Rate (2030-2050)				
	2.5%	6.3%	1.6%	6.2%

Table 4-4 provides a comparative summary of estimated annual transactions and revenue for Scenarios 3 and 4. Under Scenario 3, which is similar to Scenario 1 except that Scenario 3 assumed Section 8 (eastern portion of I-4) was not constructed, the annual revenues from 2025 onwards were approximately 5% to 6% lower than the revenues under Scenario 1. Under Scenario 4, which is same as Scenario 1 except that

Scenario 4 assumed that Section 7 (I-275 north section) was not constructed, the annual revenues from 2025 onwards were approximately 11% to 12% lower than the revenues under Scenario 1.

Table 4-4: Estimated Annual Transactions and Revenue - Scenarios 3 and 4

Fiscal Year	Scenario 3		Scenario 4	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	845	$387	845	$387
2025	41,626	$22,474	38,933	$20,884
2030	68,100	$45,188	63,882	$42,117
2035	79,359	$64,692	74,773	$60,534
2040	92,729	$92,971	87,850	$87,376
2045	100,336	$118,709	95,362	$111,834
2050	108,643	$151,709	103,623	$143,270
Compounded Annual Growth Rate (2030-2050)				
	2.4%	6.2%	2.4%	6.3%

Chapter 5 Phase 2 Refined P50 Traffic and Revenue Results

This chapter corresponds to **Technical Memorandum 3.2: Refined Base Case Traffic and Revenue Results** and, will provide a summary of Phase 2 P50 traffic and revenue (T&R) estimates, which are near the median of the possible range of the T&R estimate values. These were developed using a calibrated sub-area model, but with additional data collection efforts, in particular the Bluetooth data, which was used to further calibrate the sub-area model beyond what was done in Phase 1. The results from the Stated Preference survey were also fully utilized in Phase 2.

This chapter also provides a brief overview of the project scenarios, a discussion of methodology and important modeling assumptions, an analytical result summary of the Scenario 1 (full project configuration), a comparison of T&R forecasts for each of the four scenarios, and an annual revenue comparison of Scenario 1 between Phase 1 and Phase 2.

5.1 Project Scenarios

The Phase 2 traffic and revenue analysis included an assessment of four alternative scenarios, each with varying assumptions regarding which TBX Sections were included. **Table 5-1** presents a summary of the four scenarios, as well as the "interim project", which will only include the Gateway Expressway and Section 2 of the express lanes network. Scenario 1 will be the full project configuration and included all 8 Sections from 2025 onwards.

Scenarios 1 and 2 in Phase 2 were same as the Scenarios 1 and 2 considered in Phase 1. Scenario 3 in Phase 2 assumed both Sections 7 and 8 will not be constructed. Scenario 4 in Phase 2 assumed a staggered phasing process where Sections 7 and 8 will not be completed until 2030 (resulting in the same configuration as Scenario 1 from 2030 onwards).

In addition to the four scenarios presented above, Section 8 of the project (I-4, from the I-4 Connector to Mango Road) was also evaluated using a sensitivity test for potential extension to the east of Branch Forbes Road.

Table 5-1: TBX Project Phase 2 Scenarios

Project Section	Section Description	Interim Project	Scenario 1	Scenario 2	Scenario 3	Scenario 4
1	Gateway Expressway	2021	2021	2021	2021	2021
2	I-275 Pinellas County Section	2021	2021	2021	2021	2021
3	I-275 Howard Frankland Bridge Section	N/A	2025	2023	2025	2025
4	I-275 at SR 60 Junction Section	N/A	2025	2023	2025	2025
5A	I-275 from Lois Avenue to East of Rome Avenue (Partial)	N/A	N/A	2023	N/A	N/A
5	I-275 from Lois Avenue to East of Rome Avenue Section (Full)	N/A	2025	N/A	2025	2025
6	I-275/I-4/Downtown Section	N/A	2025	N/A	2025	2025
7	I-275 North Section	N/A	2025	N/A	N/A	2030
8	I-4 East Section	N/A	2025	N/A	N/A	2030

Notes:
1. Project Section 1 (Gateway Expressway) is not a part of the TBX project system.
2. "N/A" indicates that the project section will not be implemented or in operation.
3. The express lanes on Section 8 (I-4 East Section) are assumed to end east of Mango Road, i.e., the above table does not include the sensitivity test extending Section 8 to east of Branch Forbes Road.

5.2 Methodology and Assumptions

For Scenarios 1 through 4, model runs were performed for model years 2021, 2025, 2030, and 2040. Most of methodology and assumptions described in **Chapter 4** for Phase 1 of the study remained the same in Phase 2. Future year minimum toll per gantry value that was adjusted to 2015 levels was updated and adjusted to 2016 levels in Phase 2, and the value of time was also updated to year 2016 in Phase 2 toll diversion models. Other than these parameter updates, several minor network improvements were also made to reflect updated TBX configuration related information received from FDOT District 7 in June 2016. The network updates included some changes to the tolling locations along the express lanes, some changes to the express lane access points, and some changes to the number of express lanes especially in the Downtown section. The modeling assumptions for the Phase 2 of the study are presented in **Table 5-2**.

Table 5-2: Phase 2 Modeling Assumptions

Project Location	Pinellas and Hillsborough counties, Florida (FDOT District 7)
Study Area	Interstate 275, Interstate 4, and SR 60/589
Project Limits	I-275 from south of Gandy Blvd to north of Busch Blvd. I-4 from I-275 to East of Mango Road SR 60 from I-275 to SR 589
Model and Version	TBRPM v8.0; sub-area model extracted and calibrated.
Base Year Calibration	Year 2014, in project corridors in full model and more detail in subarea.
Model Years	2021 (Interim), 2025 (Opening), 2030 and 2040 (Future)
Project Opening Year by Section	Section 1, 2: 2021, Other Sections: 2025. In Scenario 2, Sections 3, 4 and 5A were assumed to be open in 2023. In Scenario 4, Sections 7 and 8 were assumed to be open in 2030.
Number of General Use Lanes (GUL), Auxiliary Lanes (AUX), and Express Lanes (EL) per Section	Section 2: 3 GUL, up to 1 AUX, 1 EL (per direction) Section 3: 3 GUL, 1 EL (per direction) Section 4: 3 GUL, 1 to 2 AUX, 1 to 2 EL (per direction) Section 5: 4 GUL, up to 1 AUX, 2 to 3 EL (per direction) Section 6: 3 to 4 GUL, 1 to 2 AUX, 2 to 3 EL (per direction) Section 7: 3 GUL, up to 1 AUX, 1 EL (per direction) Section 8: 3 to 4 GUL, up to 1 AUX, 1 to 2 EL (per direction)
Percent Share of Non-Revenue Vehicles	1% of total traffic on TBX express lanes assumed to be public transit buses operating in express mode, school buses, and authorized emergency vehicles.
Uncollected Toll-By-Plate Transactions	No toll by plate transactions; Non-transponder vehicles not allowed on the TBX express lanes
Value of Time	Regional 2016 average of $13.53/hour. Computed by traffic zone, using income data from Activity Based Model (ABM) now under development by District 7. VOT relationship to income adjusted based on new Stated Preference survey conducted in 2015.
Inflation Rate	2.5% per year
Ramp-Up Factors	First Year: 0.7 Second Year: 0.8 Third Year: 0.9
Annualization Factors	Transactions: 285 Weekdays Revenue: 265 Weekdays
Other Selected Model Assumptions	
Vehicles with more than two axles are not allowed on express lanes.	
Proportion of non-truck traffic assumed to be equipped with transponders: o 2021 – 72% o 2025 – 75% o 2030 – 80% o 2040 – 88%	
Minimum toll (per gantry): $0.50 in year of estimate dollars per FDOT. The value was not assumed to be inflated. Hence, in each future year assignment this value was adjusted to 2016 levels for model purposes as follows: o $0.44 in 2016 dollars used for year 2021 o $0.42 in 2016 dollars used for year 2023 o $0.40 in 2016 dollars used for year 2025 o $0.35 in 2016 dollars used for year 2030 o $0.28 in 2016 dollars used for year 2040	
T&R modeled results in Mid-Day (MD1) period (9:30 AM-2:30 PM) factored by 0.70 to avoid overestimation. T&R modeled results in Evening/Overnight (NT) period (6:30 PM-6:30 AM) factored by 0.50 to avoid overestimation.	
Targeted maximum usage on Express Lanes: 1,600 vehicles per hour per lane	

Similar to Phase 1, while development of formal traffic and revenue forecasts for the Gateway Expressway (Section 1) was not within the scope of this study, static tolls on that facility were included in the background network and estimates of traffic and revenues for Section 1 are included in **Appendix C**. With changes made during the Phase 2 model update, an additional gantry has been located on the Gateway Expressway's connection to the northbound TBX Express Lanes.

5.3 Subarea Modifications – Queue Accumulator

In order to properly reflect bottleneck conditions and queue building within a travel demand modeling framework, volume-delay functions in the sub-area toll diversion model were modified on a link-by-link basis. Recognizing that congestion conditions change as a result of network improvements, assumptions on bottleneck locations and queue conditions by scenario, year and model time period were refined through the use of a queue accumulator tool.

For each scenario that was tested, an initial test model was run assuming no tolls on the TBX Express Lanes. Through capacity restrictions, the express lanes were limited to approximately 1,600 vehicles per lane per hour. This run, which represented demand patterns along the TBX project corridors with default volume-delay functions, served as the initial input for the queue accumulator. Based on bottleneck throughput and link capacity, expected delays were calculated from the lengths of the queues, which were subsequently used to calculate updated congested travel times. Then, an updated volume-delay function was determined for each link based on the demand observed and the newly calculated congested travel time. In addition to calculating delay within time periods, the queue accumulator allowed propagation of queues across time periods within a peak period. Specifically, the morning peak periods (AM1, AM2, and AM3), the early afternoon shoulder (MD2) and the afternoon peak periods (PM1, PM2, and PM3) allowed the accumulation of queues and metered conditions in later hours. Due to the static nature of the queue accumulator, modified volume-delay functions were preferred to fixed time penalties, as differing toll conditions may alter the demand on general purpose and express lanes. Modified volume-delay functions allowed for this altered demand to increase or decrease congestion accordingly.

Also, a toll sensitivity analysis was conducted at 2030 and 2040 levels under Scenario 1 for the nine time periods that were outlined in **Chapter 3**. Eight different toll rates were tested for each tolling section in each of the aforementioned nine analytical periods. These were typically based on a progression of per-mile rates, converted to fixed payment amounts based on the approximate toll segment distances along the TBX corridors. The toll gantries along the project were aggregated into five different sections as shown below, for

the purposes of calculating price elasticity[2] of toll transactions (sum of the traffic passing through all of the toll gantry locations):

1. I-275 South Corridor – Gandy Boulevard to SR 60
2. I-275 Central Corridor – SR 60 to Downtown Tampa
3. I-275 North Corridor – Downtown Tampa to Fowler Avenue
4. I-4 Corridor – I-275 to Mango Road
5. SR 60 Corridor – I-275 to Veterans Expressway

Analysis of price elasticities of toll transactions between 15 cents/mile and 40 cents/mile shows that the I-275 South section and the I-275 Central section have average magnitudes of elasticity of about 0.23 and 0.26, respectively (these are averages of elasticities observed in morning and afternoon peak hours in 2030 and 2040). The SR 60 Corridor and the I-4 corridors are relatively more elastic, with average magnitudes of elasticity being about 0.33 and 0.39 during peak periods, respectively. The I-275 North corridor sees the greatest impact of directionality, where the southbound AM and northbound PM elasticity magnitudes (average of 0.17) are much lower than the southbound PM and northbound AM counterparts (average of 0.37). The details of toll sensitivity analysis and the related graphics are documented in **Technical Memorandum 3.2: Refined Base Case Traffic and Revenue Results**.

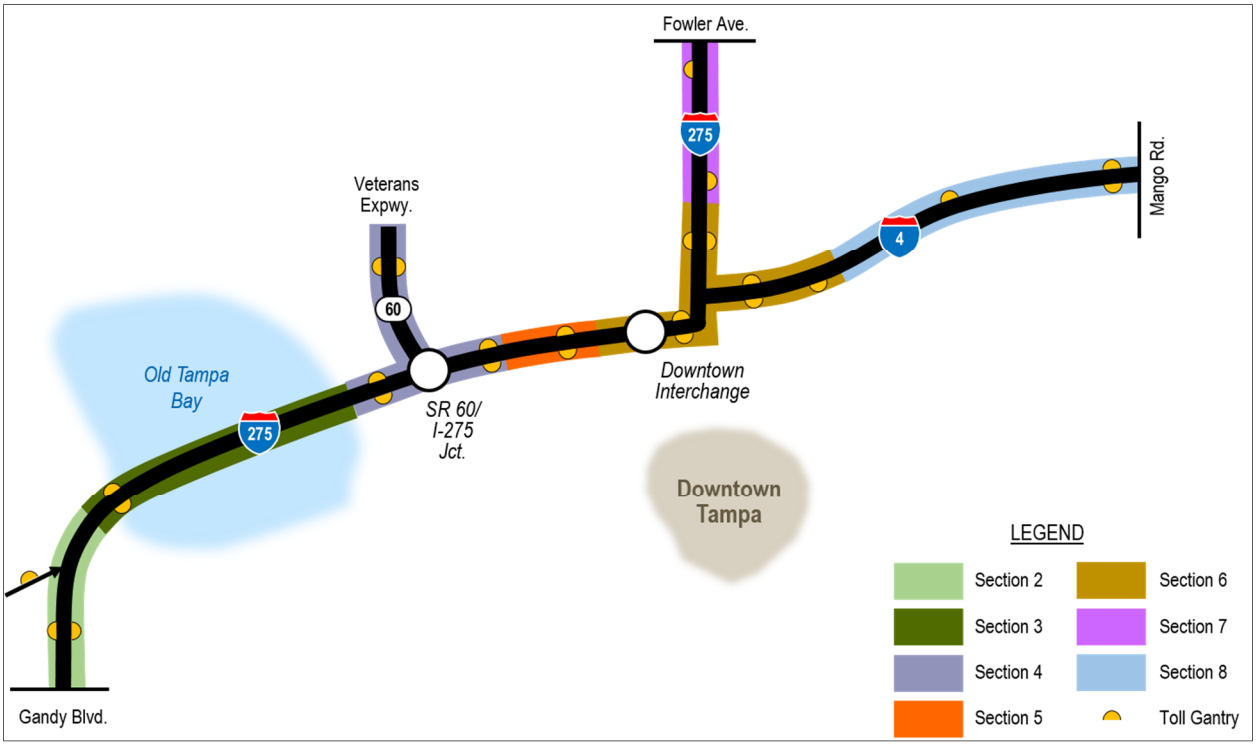
5.4 Overview of Analytical Results – Full Project – Scenario 1

The traffic and revenue analysis was conducted for four discrete scenarios. Scenario 1 assumed the ultimate implementation of all sections of the express lane network. Since this is the most comprehensive project configuration, this portion of the chapter will discuss results by toll gantry and section. Detailed T&R results of Scenario 1, as well as each of the other three scenarios, are included in detailed tables located in the **Appendix C.**

The locations of the toll gantries on the TBX system used in the Phase 2 of this study as shown in **Figure 5-1.**

[2] Elasticity is a ratio of percent change in the traffic to the corresponding percent change in toll rates. If a small change in toll rate results in a large change in the toll traffic, the facility is said to be elastic to price changes. Conversely, a facility is inelastic if a large change in toll rate results in a small change in toll traffic.

Figure 5-1: TBX Sections and Toll Gantry Locations



Optimal toll rates by time interval were determined for each model year, for a typical weekday condition, as a result of the toll sensitivity analysis described earlier. Rates during these time intervals were varied from point to point for each individual travel movement based on time of day, length of trip, and amount of traffic in the express lanes. For illustrative purposes, **Table 5-3** provides a summary of estimated peak hour toll rates to and from Downtown Tampa from the TBX express lane endpoints on I-275, I-4, and SR 60. For example, a typical inbound morning peak movement in the express lanes from the north end of the project near Fowler Avenue to Downtown Tampa would pay $2.37 in 2025 dollars. A similar movement from St. Petersburg to Downtown Tampa would be about $3.00 in 2025 dollars. In 2040, higher toll rates are necessary in order to properly manage congestion in the express lanes. In 2040, $6.96 is the toll for the inbound morning movement from Fowler Avenue to Downtown Tampa and $8.37 is the toll for the inbound morning movement from St. Petersburg to Downtown Tampa. Values modeled at 2025 and 2040 levels are presented in inflation adjusted future dollar levels. The assumption for nominal inflation of 2.5% per year was provided by Central Office Project Finance.

Table 5-3: Weekday Peak Hour Toll Rates to/from Downtown Tampa (P50 for Scenario 1)

Trip Origin/Destination	2025 Toll Rates		2040 Toll Rates	
	AM Peak	PM Peak	AM Peak	PM Peak
Downtown Tampa to St. Petersburg (I-275 South end)	$2.50	$4.75	$5.59	$11.81
St. Petersburg (I-275 South end) to Downtown Tampa	$3.00	$3.18	$8.37	$9.15
Downtown Tampa to Veterans Expressway	$1.50	$2.87	$2.37	$7.14
Veterans Expressway to Downtown Tampa	$1.50	$1.94	$4.07	$5.43
Downtown Tampa to Fowler Ave (I-275 North end)	$1.50	$2.25	$1.52	$6.33
Fowler Avenue (I-275 North end) to Downtown Tampa	$2.37	$1.62	$6.96	$4.97
Downtown Tampa to Mango Road (I-4 East end)	$1.50	$1.50	$1.52	$3.17
Mango Road (I-4 East end) to Downtown Tampa	$1.50	$1.50	$2.71	$1.52

Note: The toll amounts shown are outputs of the travel demand models that utilize all of the information available to date. Actual toll rates could be different when the facility opens.

Figure 5-2 shows average toll rates per trip per direction on a typical weekday in 2025, 2030 and 2040 for each of the nine analysis intervals, plus the overall weekday average. These rates reflect average tolls per express lane trip (a trip can span multiple toll gantry locations). All values in this figure include inflation adjustments to future year prices. The average weekday user of the express lanes would pay about $2.01 per trip per direction in 2025, the first year of assumed full system operation. The weekday average toll per trip per direction increases to about $2.44 in 2030 and to $3.72 in 2040. In the first full year of operation, 2025, toll rates by time of day vary only a small amount, with the largest increase being seen in the afternoon peak hour. In later years, especially as shown for 2040, there is much more variation by time period in a typical weekday in all peak periods, due to the increased congestion levels on the general purpose lanes during the morning and afternoon peak periods.

Figure 5-2: Estimated Average Toll Per Directional Trip by Weekday Period

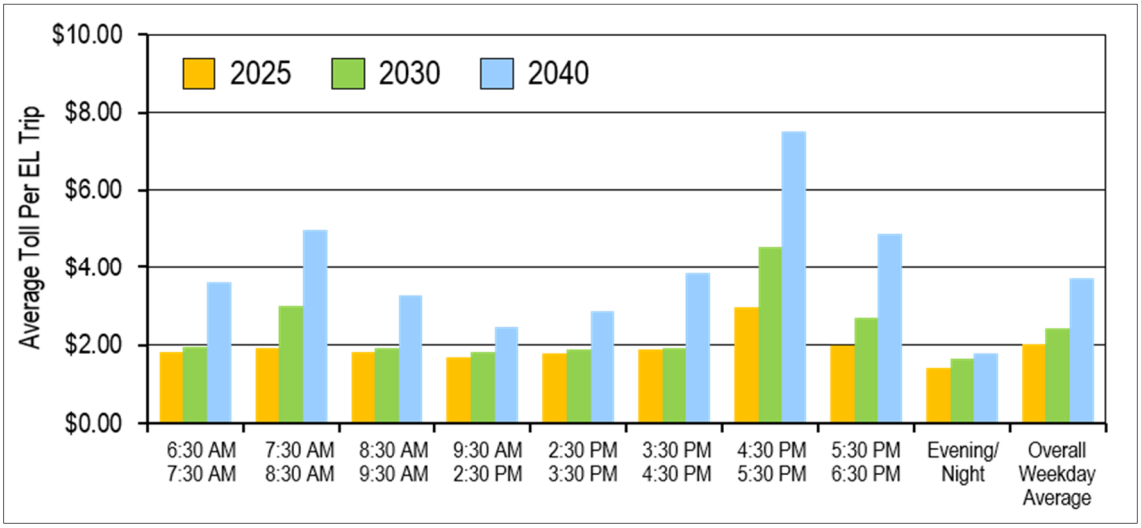
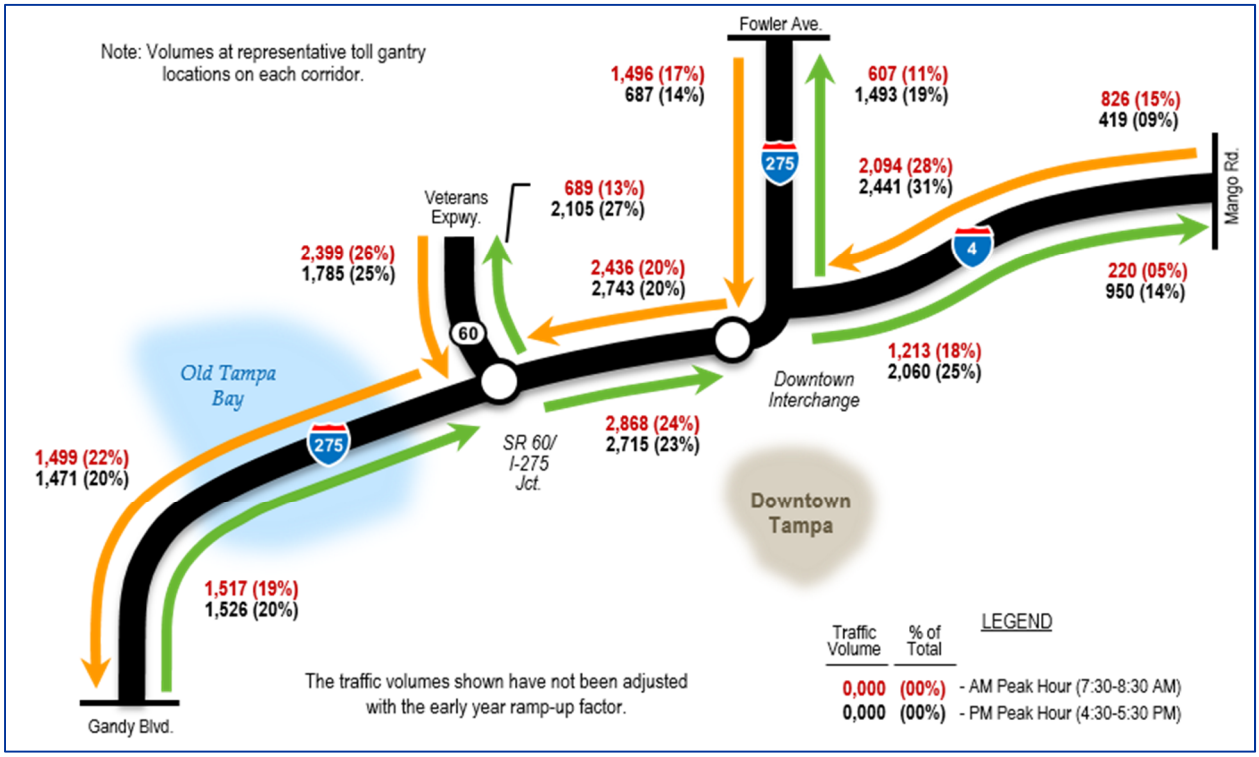


Figure 5-3 provides a representation of estimated AM and PM peak hour traffic in the express lanes in 2025. This assumes the full project (Scenario 1), and reflects traffic assignment results from the model before downward adjustments for "ramp-up" in the first few years of operation. Estimates are shown for each of the major movements within the overall TBX network. The red numbers reflect the AM peak hour (7:30 AM to 8:30 AM), while the black numbers reflect the PM peak hour (4:30 PM to 5:30 PM), in each travel direction. The values represent traffic levels at representative locations within each corridor. The numbers in parentheses adjacent to each traffic estimate show the approximate percent share of the express lane traffic in relation to the total traffic on each section in a given direction. For example, AM Peak eastbound traffic in the express lanes between the I-275/SR 60 Junction and Downtown Tampa is estimated at 2,868 vehicles, which represents about 24% of the total eastbound traffic demand on I-275 at that location.

Figure 5-3: Peak Weekday Traffic in Express Lanes in 2025 – P50 for Scenario 1



Average weekday express lanes and general purpose lanes traffic estimates, and the associated express lanes shares for selected segments along the project are listed in **Table 5-4**.

Table 5-4: Average Weekday Traffic and Express Lane Shares - P50 for Scenario 1

Corridor	2025			2040		
	EL Volume	GP Volume	EL Share	EL Volume	GP Volume	EL Share
I-275: South end to SR 60	18,834	166,700	10.2%	28,253	191,292	12.9%
I-275: SR 60 to Downtown	28,559	244,739	10.4%	46,781	271,885	14.7%
I-275: Downtown to Fowler	17,202	174,849	9.0%	30,233	195,295	13.4%
SR 60: I-275 to Veterans	20,574	155,228	11.7%	30,871	165,815	15.7%
I-4: I-75 to I-4 Connector	12,802	154,827	7.6%	21,933	169,727	11.4%
I-4: I-4 Connector to I-275	22,821	177,338	11.4%	41,776	195,745	17.6%

Note: The volumes and shares shown are at representative locations along the sections shown above. The 2025 volumes shown above have not been adjusted for ramp-up.

Table 5-5 shows estimated average weekday transactions, trips, and revenue estimates for some selected years under the P50 condition. Toll transactions reflect the estimated number of vehicle passages beneath the various toll collection gantries along the system. This is estimated at 244,712 transactions per weekday in 2025, the assumed first year of operation of the full TBX network. This represents an overall 10.3% of weekday total traffic passing across all tolling points. Higher proportions of traffic would use the express lanes in the more congested peak periods. The estimated number of one-way express lanes trips on a typical weekday in 2025 is 66,354. The typical one-way express lanes trip would pass through three to four toll collection gantries. Therefore, in any given year the toll transactions are greater than the number of trips shown. After adjusting for inflation, the average toll per weekday trip in 2025 is $2.01 and the average weekday revenue is $133,330. On average, annual transactions increase by 2.5% while annual revenues grow by 6.2% between 2025 and 2050. The estimates for fiscal year (FY) 2021 are much lower than the other years because only Section 2 of the express lanes are assumed to be operating at that time.

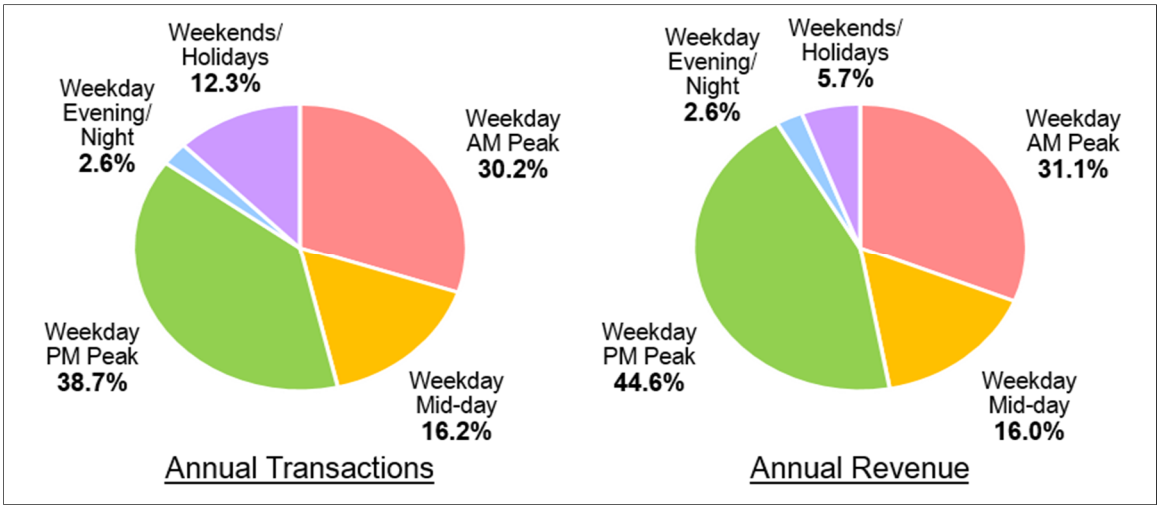
Table 5-5: Estimated Weekday Traffic and Revenue – P50 for Scenario 1

Fiscal Year	Estimated Weekday Toll Transactions	Percent Share of Total Traffic	Estimated Weekday Express Lane Trips	In Nominal Future Year Dollars	
				Estimated Weekday Revenue	Average Toll Per Trip
2021	5,787	1.8%	5,787	$2,896	$0.50
2025	244,712	10.3%	66,354	$133,330	$2.01
2030	331,318	13.4%	87,410	$213,422	$2.44
2035	366,372	14.7%	95,418	$286,589	$3.00
2040	405,721	16.1%	104,159	$387,712	$3.72
2045	427,179	16.8%	108,826	$480,896	$4.42
2050	449,931	17.6%	113,702	$597,846	$5.26
Compounded Annual Growth Rate (2025-2050)					
	2.5%		2.2%	6.2%	3.9%

Note: Estimates for 2021 include only Section 2 of the project. Full TBX system opens by 2025.

Figure 5-4 shows the relative distribution of annual transactions and revenue at 2025 for Scenario 1. Like most express lanes projects, the majority of traffic and revenue will occur in peak periods, represented by three hours in the morning and three hours in the afternoon. These periods will account for an estimated 68.9% of 2025 transactions and about 75.7% of annual revenue. The fact that toll rates in the express lanes are higher in the peak periods results in a higher share of annual revenue during these hours. Off-peak periods in the weekdays represent about 18.6% of revenue, while weekends and holidays account for about 5.7% of annual revenue.

Figure 5-4: Estimated Express Lanes 2025 Annual Distribution of Transactions and Revenue



5.5 P50 Annual Traffic and Revenue Estimates

Estimated annual P50 traffic and revenue estimates are provided for Scenarios 1 and 2 in **Table 5-6**. In these tables all figures are presented in thousands. The detailed estimated annual transactions and revenue streams are documented in **Technical Memorandum 3.2** and **Appendix C**.

In Scenario 1, annual revenue is estimated at over $25.0 million in 2025 in nominal future year dollars. Both transactions and revenue reflect "annualization" of the weekday modeling results meaning that weekends were not separately modeled in the analysis. Based on experience on other express lane projects in Florida and elsewhere, traffic on weekends would be expected to be lower than weekdays, and toll rates would also typically be lower. Between 2030 and 2050, transactions are expected to increase at about 1.5% per year, while revenue growth, after inflation, will average about 5.3% per year. Under Scenario 2, where Sections 1 through 4 and a portion of Section 5 were assumed to be implemented, revenues are approximately 38% and 49% lower than the revenues under Scenario 1 in 2025 and 2040, respectively.

Table 5-6: Estimated P50 Annual Transactions and Revenue - Scenarios 1 and 2

Fiscal Year	Scenario 1		Scenario 2	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	1,155	$532	1,155	$532
2025	50,090	$25,067	31,070	$15,619
2030	94,425	$55,993	43,511	$26,178
2035	104,417	$75,170	47,097	$36,527
2040	115,629	$101,698	51,085	$51,410
2045	121,746	$126,186	53,246	$65,067
2050	128,230	$156,866	55,527	$82,512
Compounded Annual Growth Rate (2030-2050)				
	1.5%	5.3%	1.2%	5.9%

Notes: Revenue results include a one percent reduction to account for non-revenue vehicles.
Estimates for 2021 include only Section 2 of the project. Full TBX system opens by 2025.

Table 5-7 presents the P50 results for Scenarios 3 and 4. Under Scenario 3, where Sections 1 through 6 were assumed to be implemented, the annual revenues in all years are approximately 20% lower than the revenues under Scenario 1. Under Scenario 4, which is same as Scenario 3 until 2029 and same as Scenario 1 from 2030 onwards, the 2025 revenue is approximately 20% lower than Scenario 1 revenue, but the revenue from 2035 onwards is same as the revenue under Scenario 1.

Table 5-7: Estimated P50 Annual Transactions and Revenue - Scenarios 3 and 4

Fiscal Year	Scenario 3		Scenario 4	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	1,155	$532	1,155	$532
2025	40,214	$20,057	40,214	$20,057
2030	74,083	$44,674	89,551	$53,272
2035	81,783	$59,995	104,417	$75,170
2040	90,447	$81,222	115,629	$101,698
2045	95,180	$100,826	121,746	$126,186
2050	100,203	$125,415	128,230	$156,866
Compounded Annual Growth Rate (2030-2050)				
	1.5%	5.3%	1.8%	5.6%

Notes: Revenue results include a one percent reduction to account for non-revenue vehicles.
Estimates for 2021 include only Section 2 of the project. Full TBX system opens by 2025.

5.6 Phase 1 and Phase 2 Annual Revenue Comparisons

Table 5-8 shows the annual revenues under Scenario 1 developed as part of the Phase 1 and those developed as part of Phase 2 of this T&R Study.

Table 5-8: Annual Revenue Comparisons – Phase 1 versus Phase 2

Fiscal Year	Phase 1 Annual Revenue (1,000's)	Phase 2 Annual Revenue (1,000's)
2021	$387	$532
2025	$23,738	$25,067
2030	$47,799	$55,993
2035	$68,492	$75,170
2040	$98,560	$101,698
2045	$125,946	$126,186
2050	$161,099	$156,866

One of the biggest refinements in Phase 2 was the incorporation of the queue accumulator, which simulated the general purpose lane congestion characteristics in a more realistic way than how it was modeled in the Phase 1. In addition, the Bluetooth O-D data was incorporated and SP Survey results were also fully

incorporated in Phase 2. Overall, P50 annual revenue estimates developed in Phase 2 were slightly greater than those in Phase 1 (Phase 2 estimates being 5.6% and 3.2% greater in 2025 and 2040, respectively), except in the later years of the forecast period (Phase 2 estimates being 2.6% lower in 2050).

5.7 I-4 East Extension Traffic and Revenue Impacts

An alternate configuration scenario that extends the I-4 express lanes approximately seven miles east of Mango Road to east of Branch Forbes Road was analyzed as an additional sensitivity test. The traffic and revenue impacts associated with this extension were evaluated using a separate spreadsheet-based toll diversion model. This model took inputs from the TBRPM v8.0 regional model and from baseline scenario toll assignment runs from the sub-area model. The process involved the following steps:

Estimation of Total General Purpose and Express Lane Volume by Period: Future year traffic projections between I-75 and the end of the proposed extension to the east of Branch Forbes Road within the regional model were extracted for the future model years. This traffic data was split and factored in order to remain consistent with the calibrated 9-time period sub-area model future year estimates.

Calculation of Spreadsheet Model Speed and Diversion: A spreadsheet model was developed for the I-4 between the I-4 Connector and east of Brach Forbes Road using the roadway configuration information for the I-4 extension section and the estimated total corridor traffic along the I-4 extension. Calibration was performed by separating the segment between the I-4 Connector and Mango Road, and modifying model parameters to replicate speed degradation and toll diversion decisions present in this segment. Then, toll diversion calculations were performed for the entire segment between the I-4 Connector and east of Branch Forbes Road.

Calculation of Annual T&R and Extension Impacts: The spreadsheet model output included weekday traffic and revenue for the I-4 extension segment. This weekday traffic and revenue output was factored to an annual level by utilizing the baseline scenario annualization assumptions.

Compared to the total TBX revenue under the baseline configuration (where the I-4 express lanes ended east of Mango Road), the I-4 express lanes extension to east of Branch Forbes Road resulted in 2.1% additional annual revenue in 2030 ($1.2 million additional revenue) and 3.0% additional annual revenue in 2050 ($4.7 million additional revenue).

It should be noted that the revenue impacts associated with this extension were evaluated using a separate spreadsheet-based toll diversion model and was not based on detailed modeling utilized to generate the T&R estimates for the I-4 Section express lanes until east of Mango Road (presented earlier in this chapter).

Chapter 6 Phase 2 P75 Traffic and Revenue Estimates

The traffic and revenue estimates presented in **Chapter 5** represented results that are near the median range of possible outcomes, and are termed the P50 traffic and revenue (T&R) estimates. These P50 T&R estimates are based on the results of the sub-area toll diversion model. Using the P50 forecast and additional analyses, a P75 forecast was developed in Phase 2. This P75 forecast represents a 75 percent likelihood that actual T&R will meet or exceed the forecast.

This chapter corresponds to **Technical Memorandum 3.3: Sensitivity Testing and Risk Analysis** and presents the sensitivity test results and the P75 T&R estimates.

6.1 Sensitivity Tests

The sensitivity of the forecasted revenues to the changes in inputs of socioeconomic (SE) growth and value of time (VOT) were tested as part of this effort. Traditionally, SE growth and VOT variables have been used in the T&R sensitivity/risk analyses, as these are known to be important contributors to overall uncertainty of the T&R estimates. The SE growth is reflected directly in the trip tables used in the modeling process. The SE/trip table growth and the VOT are input variables used in both the regional travel demand model and sub-area toll diversion model used to generate the P50 T&R estimates included in **Chapter 5**. In these sensitivity tests, toll rates for each period were verified and adjusted, to the extent necessary, to ensure at least 45 mph travel speeds on the express lanes. It should be noted that when the VOT values were altered from the P50 condition, the P50 SE growth was used, and when the SE growth was altered from the P50 condition, the P50 VOT values were used. The sensitivity tests showed that the Value of Time had less of an impact on toll revenue than the SE growth. **Table 6-1** displays the factors used for VOT and SE growth for the sensitivity tests performed, and the percent difference between the sensitivity revenue results and the P50 revenue results (that are based on the sub-area toll diversion model outputs) for the model years 2025 and 2040.

Table 6-1: Sensitivity Test Input Multipliers and Average Weekday Revenue Results

Sensitivity Test	Value of Time (VOT)		Socioeconomic Growth		Revenue Results	
	VOT Multiplier	VOT Value	Regional Trip Table Growth Compared to 2015	Growth Multiplier	Revenue (2016 Dollars)	Percent Revenue Change
2025						
P50	**100%**	**$11.96**	**1.50%**	**100%**	**$106,749**	**0.0%**
Low VOT	90%	$10.74	1.50%	100%	$96,695	-9.4%
High VOT	110%	$13.18	1.50%	100%	$116,803	9.4%
Low Growth	100%	$11.96	1.24%	83%	$93,843	-12.1%
High Growth	100%	$11.96	1.76%	117%	$119,655	12.1%
2040						
P50	**100%**	**$11.96**	**1.50%**	**100%**	**$214,324**	**0.0%**
Low VOT	90%	$10.74	1.50%	100%	$203,181	-5.2%
High VOT	110%	$13.18	1.50%	100%	$225,467	5.2%
Low Growth	100%	$11.96	1.24%	83%	$167,655	-21.8%
High Growth	100%	$11.96	1.76%	117%	$260,993	21.8%

Note: P50 results are shown in bold, and represent results corresponding to the P50 input values for VOT and SE growth.

The results of these sensitivity tests were then used as inputs to the Monte Carlo simulation model, which will be described in the next section.

6.2 Risk Analysis Model and P75 Results

A risk analysis, conducted via a Monte Carlo simulation model, was performed using the results from the sensitivity tests described in the previous section. This Monte Carlo analysis evaluated the effects of input variables in combination, and in this regard the simulation model was run using 5,000 iterations for the model years 2025 and 2040.

The historical observations of annual population growth rates in Pinellas and Hillsborough counties were used to fit a normal distribution curve for the socioeconomic growth variable. This distribution had a coefficient of variation (ratio of the standard deviation to the mean) of about 26 percent.

The VOT distribution was developed based on the results of the Stated Preference (SP) survey collected along the TBX project corridors in 2015. The relationship between income and VOT was determined by the data collected from the SP survey. In addition to the income to VOT relationship, known distributions of income for Pinellas and Hillsborough counties, which were taken from 2014 US Census data, were utilized

to calculate an uncertainty distribution of the values of time. This resulting distribution was fitted to a normal curve for use within the Monte Carlo simulation model. This resulting VOT distribution had a coefficient of variation of about 15 percent.

The resulting distributions were then used as probability variation inputs for socioeconomic growth and VOT in the Monte Carlo simulation model. The simulation model, run using random values within the selected distributions of socioeconomic growth and VOT for both 2025 and 2040, provided output distributions for revenue for the TBX project. From these resulting output revenue distributions, factors for the P75 condition were calculated that were used to convert the P50 revenue results into P75 revenue results. Because the Monte Carlo simulation model was only run for two years, P75 factors for all years between 2025 and 2040 were obtained through interpolation. P75 factors for 2021 to 2024 were assumed to be same as the factor for 2025, and factors for 2041 to 2070 were assumed to be the same as the 2040 factor. Once the P75 revenues were estimated, the associated toll rates were derived ensuring that the toll rates were above the minimum segment level tolls ($0.50 in future year dollars), and then the associated traffic levels were obtained.

Figures 6-1 and **6-2** show the cumulative distribution functions associated with the revenue outputs in 2025 and 2040, respectively. It should be noted that the Monte Carlo analysis was performed to mainly derive the P75 estimates, revenues greater than the mean revenue outputs are shown here just for reference purposes, and additional analysis will be needed to refine those revenues. These figures show that the P75 estimates correspond to an average weekday revenue of approximately $91,000 in 2025 and an average weekday revenue of $171,000 in 2040. The P25 forecasts for revenue (25 percent likelihood of actual revenue values being equal to or greater than the presented results) correspond to an average weekday revenue of $126,000 in 2025 and an average weekday revenue of $278,000 in 2040. Since the Monte Carlo simulation modeling was performed in 2016 dollars, the revenues shown in **Figures 6-1** and **6-2** are also in 2016 dollars.

Figure 6-1: Cumulative Probability Distribution of Revenue in 2025 (in 2016 dollars)

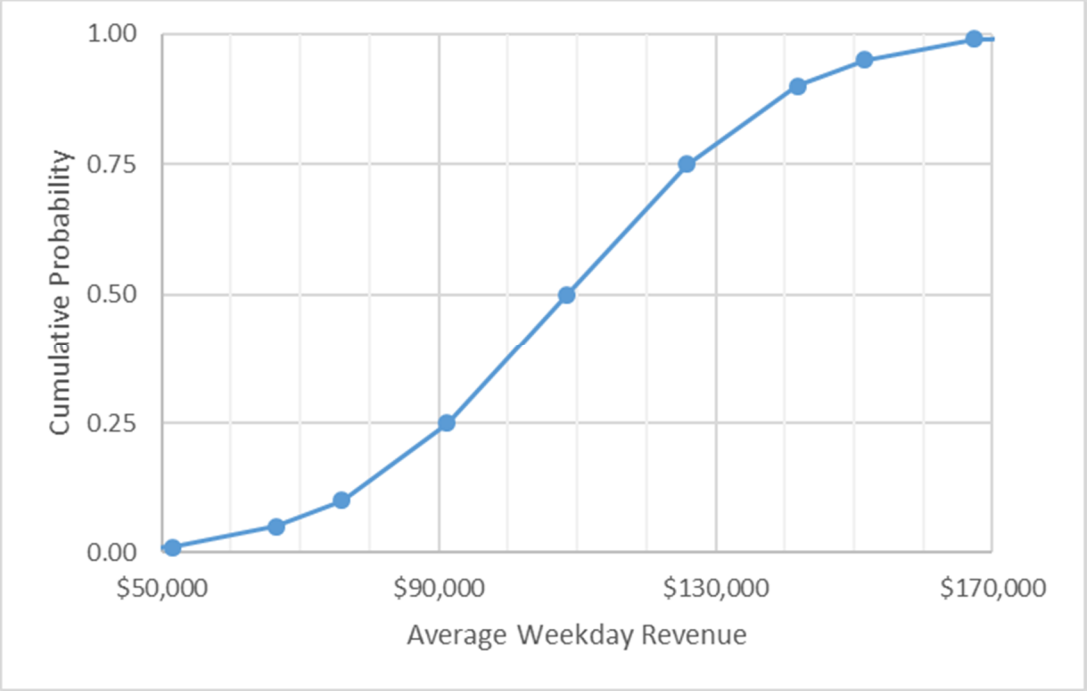


Figure 6-2: Cumulative Probability Distribution of Revenue in 2040 (in 2016 dollars)

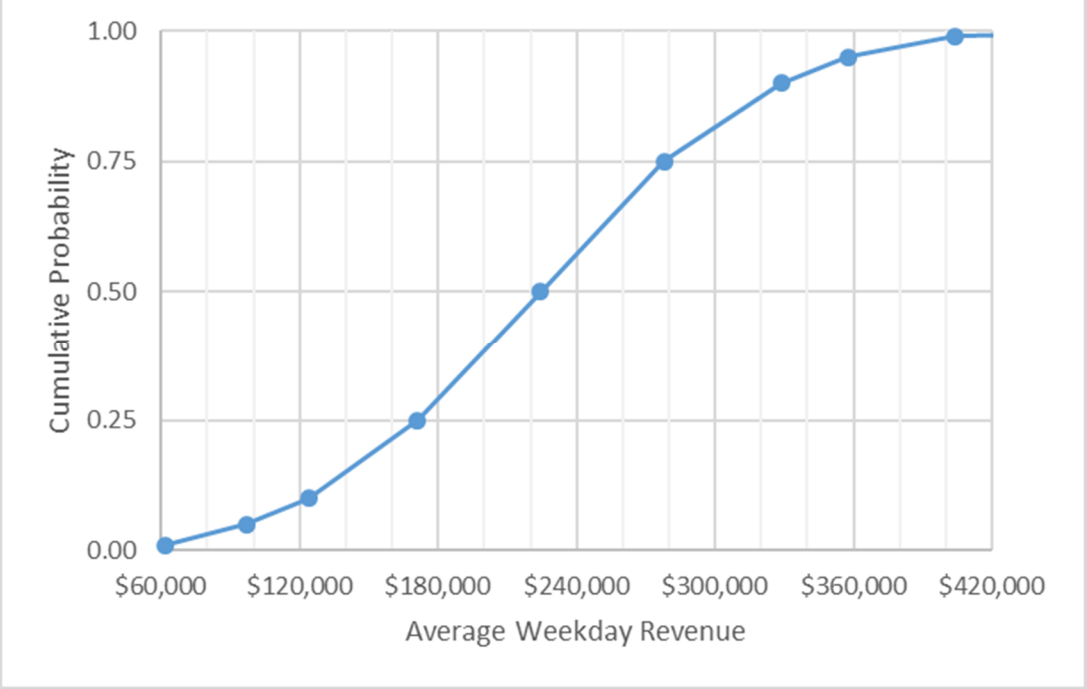


Table 6-2 presents the estimates of total annual transactions and total annual revenue generated by TBX under the P50 condition presented in **Chapter 5** in comparison to the P75 forecasts. It displays annual transactions, annual revenue, and the percent delta between the P50 forecasts and the P75 forecasts. As might be expected, revenue estimates under the P75 condition are lower than the P50 condition revenues. The P75 estimates were 15% and 21% lower than P50 estimates in 2025 and 2040, respectively. The revenues shown here are in nominal future year dollars, with an assumed 2.5% assumed inflation rate.

Table 6-2: Annual Traffic and Revenue Results – P50 versus P75 – Scenario 1

Year	Transactions (1,000's)			Revenue in Future Dollars (1,000's)		
	P50	P75	% Delta	P50	P75	% Delta
2021	1,155	998	-13.6%	$532	$455	-14.5%
2025	**50,090**	**43,345**	**-13.5%**	**$25,067**	**$21,429**	**-14.5%**
2030	94,425	82,592	-12.5%	$55,992	$46,726	-16.5%
2035	104,417	92,327	-11.6%	$75,170	$61,238	-18.5%
2040	**115,629**	**103,355**	**-10.6%**	**$101,697**	**$80,877**	**-20.5%**
2045	121,746	108,823	-10.6%	$126,188	$100,345	-20.5%
2050	128,230	114,619	-10.6%	$156,865	$124,739	-20.5%

Note: **Bold** indicates the years for which the Monte Carlo simulation was run.

Also, consistent with the P50 T&R estimates, P75 T&R estimates were developed for the baseline configuration where the I-4 express lanes end just east of Mango Road. The Monte Carlo simulation model was run for Scenario 1, which resulted in the expected variability in the T&R for all sections of the TBX project. The P75 results from Scenario 1 were then used to estimate appropriate factors to apply to the P50 results for Scenarios 2, 3 and 4.

Table 6-3 presents the P75 annual transaction and gross revenue estimates for Scenarios 1 and 2. Under Scenario 1, annual revenue is estimated at $21.4 million in 2025 in future dollars, which increases to $46.7 million in 2030 and to $124.7 million by 2050. Between 2030 and 2050, transactions are expected to increase about 1.7% per year, while revenue growth is expected to average about 5.0% per year. Under Scenario 2, where Sections 3 and 4, plus a portion of Section 5 were assumed to be implemented, revenues are approximately 38% and 50% lower than the revenues under Scenario 1 in 2025 and 2040, respectively.

Table 6-3: Annual P75 Transactions and Revenue - Scenarios 1 and 2

Fiscal Year	Scenario 1		Scenario 2	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	998	$455	998	$455
2025	43,345	$21,429	26,862	$13,351
2030	82,592	$46,726	38,034	$21,835
2035	92,327	$61,238	41,625	$29,730
2040	103,355	$80,877	45,650	$40,832
2045	108,823	$100,345	47,581	$51,682
2050	114,619	$124,739	49,619	$65,537
Compounded Annual Growth Rate (2030-2050)				
	1.7%	5.0%	1.3%	5.6%

Note: Revenue results include a 1% reduction to account for non-revenue vehicles. Results shown assumed EL on I-4 to end just east of Mango Road.

Table 6-4 presents the P75 annual transaction and gross revenue estimates for Scenarios 3 and 4. Under Scenario 3, where Sections 3 through 6 were assumed to be open, the annual revenues in all years are approximately 20% lower than the revenues under Scenario 1. Under Scenario 4, where Sections 3 through 6 are assumed open in 2025, similar to Scenario 3, and expanding to add Sections 7 and 8 assumed to open in 2030, the 2025 revenue is approximately 20% lower than Scenario 1 revenue, but the revenue from 2035 onwards is same as the revenue under Scenario 1.

Table 6-4: Annual P75 Transactions and Revenue - Scenarios 3 and 4

Fiscal Year	Scenario 3		Scenario 4	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	998	$455	998	$455
2025	34,805	$17,146	34,805	$17,146
2030	64,808	$37,285	78,328	$44,457
2035	72,322	$48,887	92,327	$61,238
2040	80,852	$64,606	103,355	$80,877
2045	85,083	$80,198	108,823	$100,345
2050	89,573	$99,754	114,619	$124,739
Compounded Annual Growth Rate (2030-2050)				
	1.6%	5.0%	1.9%	5.3%

Note: Revenue results include a 1% reduction to account for non-revenue vehicles. Results shown assumed EL on I-4 to end just east of Mango Road.

Chapter 7 Conclusion

This report summarized a "planning level" evaluation of a network of proposed express lanes (EL) in the Tampa Bay Region, referred to as the Tampa Bay Express (TBX) project. The study was conducted in two phases. Phase 1 of this study included a preliminary T&R analysis and simultaneous data collection processes, which were completed in late 2015/early 2016 to develop gross revenue forecasts to support FDOT's planning efforts. The Bluetooth Origin-Destination (O-D) data collection and the Stated Preference (SP) Survey were performed in parallel with the preliminary T&R analysis. As part of the Phase 2 of this study, a refined T&R analysis was performed and the Bluetooth O-D data and SP Survey results were incorporated. Also for the development of the Phase 2 T&R estimates, assumptions on bottleneck locations and queue conditions by scenario, year, and model time period were refined through the use of a queue accumulator tool.

The Tampa Bay Regional Planning Model version 8.0 (TBRPM v8.0) was validated and updated to reflect 2014 base year conditions in the TBX corridors project area. A calibrated sub-area toll diversion model was then developed to estimate the share of traffic expected to choose the express lanes versus the non-tolled general use lanes considering varying congestion levels and toll rates. This sub-area model included all seven of the TBX project sections and the surrounding areas in Hillsborough, Pinellas and Pasco counties.

The sub-area toll diversion model developed from the TBRPM v8.0 provided a forecast that represented a 50 percent likelihood that actual revenue would exceed or fall below the forecast value. This is referred to as the P50 case. Using the P50 forecast and additional analyses, a P75 forecast was developed. A P75 forecast represented a 75 percent likelihood that actual revenue will meet or exceed the forecast. The P75 forecast is being utilized by FDOT for TBX project's financial evaluation.

The study included analysis of four alternative implementation scenarios. Scenario 2 assumed only Sections 1 through 4, plus a portion of Section 5 will be implemented. Scenario 3 assumed only Sections 1 through 6 will be implemented. Scenario 4 assumed Sections 7 and 8 will open in 2030, and prior to 2030 Scenario 4 was assumed to be same as Scenario 3.

The Phase 1 preliminary T&R estimates were based on optimizing the distribution of traffic and attaining maximum utilization of express lanes while preserving the free-flow conditions, consistent with FDOT policy to optimize traffic for congestion management. The final Phase 1 preliminary results for the P50 condition under Scenario 1 (all TBX sections are operational) show that the annual revenue is expected to be $23.7 million in 2025, $47.8 million in 2030, and $98.6 million in 2040 in nominal dollars.

The Phase 2 estimates were developed using a more refined sub-area model and all of the data collected during Phase 1 of the study was also utilized. The Phase 2 results for the P50 condition under Scenario 1 show that the annual revenue is expected to be $25.1 million in 2025, $56.0 million in 2030, and $101.7 million in 2040 in future year (nominal) dollars.

The P75 estimates were then developed in Phase 2 of the study by utilizing the Phase 2 P50 estimates and the results of sensitivity tests on key input parameters used for toll diversion modeling purposes. The sensitivity tests included changes to the population/employment data and the value of time (VOT), and assessing the associated impacts to the resulting T&R. Then, a risk analysis was performed by using a Monte Carlo risk simulation model using the results from the sensitivity tests. The risk analysis allowed alternating multiple variables to measure the combined effects on the resulting T&R estimates.

The results of the Monte Carlo simulation model were used to adjust the P50 results to the P75 conditions, which correspond to a 75 percent likelihood of actual T&R results being equal to or greater than the presented results. The P75 results under Scenario 1 show the annual revenue is $21.4 million in 2025, $46.7 million in 2030, and $80.9 million in 2040 in nominal dollars.

Table 7-1 provides a concise comparative summary of P50 annual revenue estimates developed in the Phase 1, as well as both the P50 and P75 estimates developed in Phase 2. In general, P50 annual revenue estimates developed in Phase 2 were slightly greater than those in Phase 1 (Phase 2 estimates being 5.6% and 3.2% greater in 2025 and 2040, respectively), except in the later years of the forecast period (Phase 2 estimates being 2.6% lower in 2050). As might be expected, the P75 estimates from Phase 2 were 15% and 21% lower than Phase 2 P50 estimates in 2025 and 2040, respectively.

Table 7-1: Comparative Summary of Annual Revenue Estimates

Fiscal Year	Scenario 1 - Annual Revenue Estimates (1,000's)		
	Phase 1 "P50"	Phase 2 "P50"	Phase 2 "P75"
2021	$387	$532	$455
2025	$23,738	$25,067	$21,429
2030	$47,799	$55,993	$46,726
2035	$68,492	$75,170	$61,238
2040	$98,560	$101,698	$80,877
2045	$125,946	$126,186	$100,345
2050	$161,099	$156,866	$124,739
Compounded Annual Growth Rate (2030-2050)			
	6.3%	5.3%	5.0%

Note: Revenue results include a 1% reduction to account for non-revenue vehicles. Results shown assumed EL on I-4 to end just east of Mango Road.

Table 7-2 summarizes the P75 annual transaction and gross revenue estimates for Scenarios 1 and 2. Under Scenario 1, annual revenue is estimated at $21.4 million in 2025 in future dollars, which increases to $46.7 million in 2030 and to $124.7 million by 2050. Between 2030 and 2050, transactions are expected to increase about 1.7% per year, while revenue growth is expected to average about 5.0% per year. Under Scenario 2, where Sections 3 and 4, plus a portion of Section 5 were assumed to be open, revenues are approximately 38% and 50% lower than the revenues under Scenario 1 in 2025 and 2040, respectively.

Table 7-2: Annual P75 Transactions and Revenue - Scenarios 1 and 2

Fiscal Year	Scenario 1		Scenario 2	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	998	$455	998	$455
2025	43,345	$21,429	26,862	$13,351
2030	82,592	$46,726	38,034	$21,835
2035	92,327	$61,238	41,625	$29,730
2040	103,355	$80,877	45,650	$40,832
2045	108,823	$100,345	47,581	$51,682
2050	114,619	$124,739	49,619	$65,537
Compounded Annual Growth Rate (2030-2050)				
	1.7%	5.0%	1.3%	5.6%

Note: Revenue results include a 1% reduction to account for non-revenue vehicles. Results shown assumed EL on I-4 to end just east of Mango Road.

Table 7-3 summarizes the P75 annual transaction and gross revenue estimates for Scenarios 3 and 4. Under Scenario 3, where Sections 3 through 6 were assumed to be open, the annual revenues in all years are approximately 20% lower than the revenues under Scenario 1. Under Scenario 4, where Sections 3 through 6 are assumed open in 2025, similar to Scenario 3, and expanding to add Sections 7 and 8 assumed to open in 2030, the 2025 revenue is approximately 20% lower than Scenario 1 revenue, but the revenue from 2035 onwards is same as the revenue under Scenario 1.

Table 7-3: Annual P75 Transactions and Revenue - Scenarios 3 and 4

Fiscal Year	Scenario 3		Scenario 4	
	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)	Toll Gantry Transactions (1,000's)	Toll Revenue Future Dollars (1,000's)
2021	998	$455	998	$455
2025	34,805	$17,146	34,805	$17,146
2030	64,808	$37,285	78,328	$44,457
2035	72,322	$48,887	92,327	$61,238
2040	80,852	$64,606	103,355	$80,877
2045	85,083	$80,198	108,823	$100,345
2050	89,573	$99,754	114,619	$124,739
Compounded Annual Growth Rate (2030-2050)				
	1.6%	5.0%	1.9%	5.3%

Note: Revenue results include a 1% reduction to account for non-revenue vehicles. Results shown assumed EL on I-4 to end just east of Mango Road.

Currently accepted professional practices and procedures were used in the development of these T&R estimates. However, as with any forecast, it should be understood that differences between forecasted and actual results may occur, as caused by events and circumstances beyond the control of the forecasters. These projections are based on reasonable assumptions as of the date of the estimate, such forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. It is also important to note that the T&R estimates developed as part of this study were developed to support FDOT's future planning efforts. A more detailed comprehensive study (also termed as an investment grade T&R study) is needed for project bond financing purposes. As part of a detailed future T&R study, it is recommended that a detailed independent socioeconomic review be conducted to refine the population and the employment growth assumptions along the TBX project corridors.

Disclaimer

CDM Smith used currently accepted professional practices and procedures in the development of these traffic and revenue estimates. However, as with any forecast, it should be understood that differences between forecasted and actual results may occur, as caused by events and circumstances beyond the control of the forecasters. In formulating the estimates, CDM Smith reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the Florida Department of Transportation (FDOT) and Florida's Turnpike Enterprise (FTE). CDM Smith also relied upon the reasonable assurances of independent parties and is not aware of any material facts that would make such information misleading.

CDM Smith made qualitative judgments related to several key variables in the development and analysis of the traffic and revenue estimates that must be considered as a whole; therefore, selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit of partial information extracted from these traffic and revenue estimates.

All estimates and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple agencies, including FDOT and FTE. These estimates and projections may not be indicative of actual or future values, and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and may affect these estimates or projections, such that CDM Smith does not specifically guarantee or warrant any estimate or projection included herein.

While CDM Smith believes that these projections are based on reasonable assumptions as of the date of the estimate, such forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this estimate, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions, as they pertain to socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.

CDM Smith is not, and has not been, a municipal advisor as defined in federal law (the Dodd Frank Bill) to FDOT and FTE and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to FDOT and FTE with respect to the information and material contained herein. CDM Smith is not recommending and has not recommended any action to FDOT and FTE. FDOT and FTE should discuss the information and material contained herein with any and all internal and external advisors that it deems appropriate before acting on this information.

Appendix A – Existing Data Master, Count Locations Master and Field Data Collection Tracking List

Title/Description	Date Source	Date Received
Traffic counts from the Florida Transportation Information DVD or the FDOT Florida Traffic Online	FDOT CO	April 2015
Additional Counts for 2014 (early release) and 2013	FDOT D-7	April 2015
I-275 PD&E Study from Floribraska Avenue to Bearss Avenue – 2014 cross streets and ramp counts (PB)	FDOT D-7	April 2015
I-4 PD&E Study from east of I-4 Connector to Polk Parkway – 2014 cross streets and ramp counts (HNTB)	FDOT D-7	April 2015
Time-of-day counts for validating time-of-day model:		
2006 Base Year time-of-day counts for mainlines	FDOT D-7	April 2015
2010 Base Year time of day counts (700 of 2400 count stations)	FDOT D-7	January 2015
District 7 Express Lane Study models – 2012 AADT and smoothed AM/PM DDHVs for Mainlines and Ramps	FDOT D-7	April 2015
Weekday and/or Weekend traffic counts along the study corridor for corridor validation	FDOT	April 2015
Traffic data from I-4 Connector	FTE	April 2015
Toll traffic count data on THEA facilities	THEA	May 2015
Toll traffic count data on Veterans Expressway	FTE	May 2015
2014 I-4 Travel Time/Speed runs from 40th St. to Polk Parkway	FDOT D-7	January 2015
2014 I-275 Travel Time/Speed runs from Gandy Boulevard. to 4th Street	FDOT D-7	January 2015
2014 I-275 Travel Time/Speed runs from Floribraska Avenue to Bearss Avenue	FDOT D-7	January 2015
High Speed Rail Project (2009) I-275 from I-4 to Bearss Avenue I-275 from Westshore to I-4 I-4 from I-275 to MLK	FDOT D-7	January 2015
INRIX 2010 data	FDOT D-7	April 2015
TBRPM 8.0 Model Documentation	FDOT D-7	April 2015
TBRPM 8.0 (Year 2010)	FDOT D-7	January 2015
TBRPM 8.0 (Year 2019)	FDOT D-7	April 2015
TBRPM 8.0 (Year 2030)	FDOT D-7	April 2015

Title/Description	Date Source	Date Received
TBRPM 8.0 (Year 2040)	FDOT D-7	January 2015
ABM Income Data	FDOT D-7	January 2015
Project Configuration - Segment 1	FDOT D-7	Nov 2015/June 2016
Project Configuration - Segment 2	FDOT D-7	Nov 2015/June 2016
Project Configuration - Segment 3	FDOT D-7	Nov 2015/June 2016
Project Configuration - Segment 4	FDOT D-7	Nov 2015/June 2016
Project Configuration - Segment 5	FDOT D-7	Nov 2015/June 2016
Project Configuration - Segment 6	FDOT D-7	Nov 2015/June 2016
Project Configuration - Segment 7 - Interim	FDOT D-7	Nov 2015/June 2016
Project Configuration - Segment 8 - Interim	FDOT D-7	Nov 2015/June 2016
Project Configuration - Veterans Expressway	FTE	May 2015
Hillsborough MPO TIP	Hillsborough MPO	April 2015
Pinellas MPO TIP	Pinellas MPO	April 2015
FDOT D7 5 Yr Work Program	FDOT D-7	April 2015
SIS 5 Yr Work Program	CO	April 2015
HART Work Program	HART	April 2015
PSTA Work Program	PSTA	April 2015
Summary of LRTP Improvements	FDOT D-7	April 2015
Statewide Express Lanes Handbook	FDOT CO	May 2015
Tampa Bay Express Master Plan	FDOT D-7	May 2015
Tampa Bay Regional Transportation Concept of Operations	FDOT D-7	May 2015
Detailed express lane operating assumptions and requirements	FDOT D-7	May 2015
Express lane vehicle eligibility limitations	FDOT D-7	May 2015
Selmon Expressway	THEA	May 2015
Selmon Expressway/I-4 Connector	FTE	May 2015
Gateway Expressway (Future project)	FTE	April 2015
Sketch Level T&R Analysis for the D-7 Managed Lanes Projects, 2013	FDOT D-7/FTE	April 2015
Bus Rapid Transit Study in the Tampa area, 2014	FDOT D-7	February 2015
“The Interstate Study”, earlier study of the Bay Area freeway system	FDOT D-7	April 2015

Title/Description	Date Source	Date Received
Several Existing Counts (Mainline and Ramp)	FDOT	April 2015
Several Existing Counts (Mainline and Ramp)	FDOT (HNTB-2014)	April 2015
Several Existing Counts (Mainline and Ramp)	FDOT (PB-2014)	April 2015
Several Existing Counts (Mainline and Ramp)	Peggy Malone	June 2015
Several New Counts (Mainline and Ramp)	Peggy Malone	June 2015
Travel Time and Speed runs in the entire corridor	GPS Speed/Delay	May 2015
Ramp to ramp O-D matrices (AM peak, PM peak, Mid-Day, Evening/Overnight)	Traffax	August 2015
Ramp to ramp travel time matrices (AM peak, PM peak, Mid-Day, Evening/Overnight)	Traffax	August 2015
Ramp to ramp trip length matrices (AM peak, PM peak, Mid-Day, Evening/Overnight)	Traffax	August 2015
SP Survey Questionnaire Design	RSG	May 2015
SP Survey Instrument Online	RSG	September 2015
SP Survey Data Analysis and Modeling	RSG	September 2015
SP Survey Model Report	RSG	September 2015

Appendix B – Detailed Phase I Traffic and Revenue Results

Table B-1: Scenario 1 – Annual Traffic Stream (Phase 1), Section Based Traffic (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	845	0	0	0	0	0	0	845	4,660	5,505
2022	1,140	0	0	0	0	0	0	1,140	5,532	6,672
2023	1,515	0	0	0	0	0	0	1,515	6,463	7,978
2024	1,988	0	0	0	0	0	0	1,988	7,457	9,445
2025	2,041	5,413	8,205	6,832	14,088	2,947	5,016	44,542	7,742	52,284
2026	2,124	6,303	9,614	8,045	16,688	3,510	5,950	52,234	8,032	60,266
2027	2,209	7,224	11,088	9,325	19,462	4,115	6,949	60,372	8,332	68,704
2028	2,299	8,178	12,631	10,676	22,421	4,765	8,016	68,986	8,642	77,628
2029	2,391	8,333	12,950	11,002	23,250	4,966	8,323	71,215	8,962	80,177
2030	2,488	8,490	13,276	11,337	24,113	5,176	8,643	73,523	9,292	82,815
2031	2,588	8,650	13,612	11,684	25,012	5,395	8,977	75,918	9,634	85,552
2032	2,693	8,813	13,956	12,041	25,948	5,624	9,325	78,400	9,987	88,387
2033	2,801	8,979	14,308	12,411	26,924	5,862	9,687	80,972	10,351	91,323
2034	2,914	9,149	14,670	12,792	27,940	6,110	10,065	83,640	10,727	94,367
2035	3,032	9,322	15,041	13,185	28,998	6,370	10,459	86,407	11,115	97,522
2036	3,154	9,498	15,422	13,592	30,101	6,640	10,870	89,277	11,515	100,792
2037	3,282	9,677	15,812	14,011	31,251	6,923	11,299	92,255	11,927	104,182
2038	3,414	9,860	16,212	14,444	32,450	7,217	11,746	95,343	12,353	107,696
2039	3,552	10,046	16,623	14,891	33,699	7,524	12,213	98,548	12,791	111,339
2040	3,695	10,236	17,044	15,353	35,001	7,845	12,700	101,874	13,242	115,116
2041	3,769	10,333	17,259	15,590	35,673	8,011	12,951	103,586	13,455	117,041
2042	3,844	10,430	17,476	15,830	36,359	8,180	13,208	105,327	13,670	118,997
2043	3,921	10,528	17,696	16,074	37,060	8,353	13,470	107,102	13,890	120,992
2044	3,999	10,627	17,919	16,322	37,776	8,529	13,738	108,910	14,112	123,022
2045	4,079	10,727	18,145	16,575	38,507	8,709	14,012	110,754	14,339	125,093
2046	4,161	10,828	18,374	16,831	39,253	8,894	14,291	112,632	14,569	127,201
2047	4,244	10,930	18,606	17,091	40,015	9,082	14,577	114,545	14,802	129,347
2048	4,329	11,033	18,840	17,356	40,794	9,274	14,869	116,495	15,040	131,535
2049	4,415	11,137	19,078	17,625	41,589	9,470	15,167	118,481	15,281	133,762
2050	4,503	11,242	19,318	17,899	42,401	9,671	15,472	120,506	15,526	136,032
2051	4,557	11,305	19,464	18,065	42,896	9,793	15,658	121,738	15,675	137,413
2052	4,612	11,369	19,611	18,233	43,398	9,917	15,847	122,987	15,825	138,812
2053	4,667	11,433	19,759	18,402	43,907	10,043	16,038	124,249	15,977	140,226
2054	4,722	11,498	19,909	18,573	44,422	10,170	16,232	125,526	16,131	141,657
2055	4,779	11,563	20,059	18,746	44,943	10,299	16,428	126,817	16,285	143,102
2056	4,836	11,628	20,211	18,920	45,471	10,430	16,626	128,122	16,442	144,564
2057	4,893	11,694	20,363	19,097	46,006	10,562	16,828	129,443	16,599	146,042
2058	4,952	11,760	20,517	19,274	46,548	10,696	17,031	130,778	16,759	147,537
2059	5,011	11,826	20,672	19,454	47,097	10,832	17,238	132,130	16,919	149,049
2060	5,071	11,893	20,828	19,636	47,653	10,969	17,447	133,497	17,082	150,579
2061	5,091	11,915	20,881	19,696	47,840	11,015	17,518	133,956	17,136	151,092
2062	5,111	11,938	20,933	19,757	48,028	11,062	17,588	134,417	17,191	151,608
2063	5,131	11,960	20,986	19,819	48,216	11,108	17,659	134,879	17,246	152,125
2064	5,152	11,982	21,039	19,880	48,405	11,155	17,731	135,344	17,301	152,645
2065	5,172	12,005	21,091	19,942	48,596	11,202	17,802	135,810	17,356	153,166
2066	5,193	12,027	21,144	20,004	48,786	11,249	17,874	136,277	17,411	153,688
2067	5,213	12,050	21,198	20,066	48,978	11,297	17,947	136,749	17,467	154,216
2068	5,234	12,073	21,251	20,128	49,171	11,344	18,019	137,220	17,522	154,742
2069	5,255	12,095	21,304	20,190	49,364	11,392	18,092	137,692	17,578	155,270
2070	5,276	12,118	21,358	20,253	49,558	11,440	18,165	138,168	17,634	155,802

Table B-2: Scenario 1 – Annual Revenue Stream (Phase 1), Section Based Revenue

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$387	$0	$0	$0	$0	$0	$0	$387	$3,900	$4,287
2022	$523	$0	$0	$0	$0	$0	$0	$523	$4,737	$5,260
2023	$696	$0	$0	$0	$0	$0	$0	$696	$5,663	$6,359
2024	$913	$0	$0	$0	$0	$0	$0	$913	$6,685	$7,598
2025	$966	$4,046	$4,048	$3,689	$7,116	$1,568	$2,305	$23,738	$7,102	$30,840
2026	$1,014	$5,046	$4,969	$4,540	$8,690	$1,934	$2,774	$28,967	$7,539	$36,506
2027	$1,065	$6,196	$6,002	$5,499	$10,448	$2,347	$3,286	$34,843	$8,001	$42,844
2028	$1,118	$7,513	$7,163	$6,578	$12,411	$2,814	$3,843	$41,440	$8,490	$49,930
2029	$1,173	$8,199	$7,692	$7,083	$13,269	$3,036	$4,048	$44,500	$9,009	$53,509
2030	$1,231	$8,949	$8,263	$7,627	$14,189	$3,276	$4,264	$47,799	$9,556	$57,355
2031	$1,292	$9,767	$8,874	$8,212	$15,175	$3,535	$4,492	$51,347	$10,135	$61,482
2032	$1,356	$10,659	$9,533	$8,844	$16,233	$3,813	$4,732	$55,170	$10,747	$65,917
2033	$1,424	$11,633	$10,239	$9,522	$17,365	$4,114	$4,985	$59,282	$11,393	$70,675
2034	$1,493	$12,696	$10,999	$10,252	$18,583	$4,439	$5,253	$63,715	$12,078	$75,793
2035	$1,568	$13,856	$11,816	$11,039	$19,886	$4,790	$5,537	$68,492	$12,798	$81,290
2036	$1,646	$15,123	$12,694	$11,888	$21,287	$5,168	$5,835	$73,641	$13,559	$87,200
2037	$1,728	$16,505	$13,638	$12,800	$22,788	$5,576	$6,151	$79,186	$14,363	$93,549
2038	$1,814	$18,013	$14,653	$13,783	$24,401	$6,017	$6,485	$85,166	$15,211	$100,377
2039	$1,905	$19,661	$15,745	$14,842	$26,131	$6,493	$6,837	$91,614	$16,103	$107,717
2040	$1,999	$21,458	$16,917	$15,983	$27,987	$7,006	$7,210	$98,560	$17,045	$115,605
2041	$2,073	$22,695	$17,754	$16,791	$29,327	$7,367	$7,497	$103,504	$17,749	$121,253
2042	$2,150	$24,005	$18,633	$17,641	$30,732	$7,748	$7,793	$108,702	$18,481	$127,183
2043	$2,232	$25,389	$19,556	$18,533	$32,205	$8,150	$8,104	$114,169	$19,244	$133,413
2044	$2,314	$26,853	$20,523	$19,472	$33,751	$8,570	$8,427	$119,910	$20,038	$139,948
2045	$2,402	$28,403	$21,540	$20,455	$35,371	$9,013	$8,762	$125,946	$20,867	$146,813
2046	$2,492	$30,040	$22,605	$21,491	$37,073	$9,479	$9,112	$132,292	$21,728	$154,020
2047	$2,585	$31,774	$23,726	$22,580	$38,854	$9,970	$9,474	$138,963	$22,624	$161,587
2048	$2,681	$33,607	$24,902	$23,722	$40,727	$10,486	$9,853	$145,978	$23,558	$169,536
2049	$2,781	$35,545	$26,135	$24,922	$42,690	$11,028	$10,245	$153,346	$24,531	$177,877
2050	$2,886	$37,596	$27,432	$26,184	$44,747	$11,598	$10,656	$161,099	$25,543	$186,642
2051	$2,980	$39,268	$28,519	$27,237	$46,488	$12,073	$11,017	$167,582	$26,429	$194,011
2052	$3,077	$41,016	$29,651	$28,334	$48,299	$12,566	$11,392	$174,335	$27,350	$201,685
2053	$3,177	$42,841	$30,829	$29,477	$50,178	$13,083	$11,779	$181,364	$28,299	$209,663
2054	$3,280	$44,748	$32,053	$30,665	$52,132	$13,617	$12,181	$188,676	$29,282	$217,958
2055	$3,386	$46,739	$33,324	$31,901	$54,163	$14,174	$12,596	$196,283	$30,298	$226,581
2056	$3,495	$48,818	$34,647	$33,186	$56,274	$14,754	$13,023	$204,197	$31,350	$235,547
2057	$3,608	$50,989	$36,024	$34,523	$58,468	$15,360	$13,467	$212,439	$32,441	$244,880
2058	$3,724	$53,259	$37,454	$35,913	$60,748	$15,987	$13,926	$221,011	$33,568	$254,579
2059	$3,847	$55,628	$38,941	$37,362	$63,117	$16,642	$14,401	$229,938	$34,733	$264,671
2060	$3,971	$58,103	$40,486	$38,867	$65,582	$17,325	$14,892	$239,226	$35,941	$275,167
2061	$4,079	$59,932	$41,698	$40,035	$67,527	$17,849	$15,308	$246,428	$36,955	$283,383
2062	$4,194	$61,817	$42,944	$41,240	$69,531	$18,391	$15,738	$253,855	$37,997	$291,852
2063	$4,309	$63,761	$44,227	$42,480	$71,593	$18,948	$16,178	$261,496	$39,071	$300,567
2064	$4,426	$65,768	$45,548	$43,757	$73,715	$19,519	$16,632	$269,365	$40,176	$309,541
2065	$4,547	$67,835	$46,910	$45,074	$75,905	$20,111	$17,100	$277,482	$41,311	$318,793
2066	$4,672	$69,971	$48,311	$46,430	$78,155	$20,723	$17,576	$285,838	$42,477	$328,315
2067	$4,803	$72,172	$49,754	$47,826	$80,474	$21,349	$18,070	$294,448	$43,676	$338,124
2068	$4,934	$74,442	$51,242	$49,262	$82,863	$21,997	$18,577	$303,317	$44,909	$348,226
2069	$5,069	$76,781	$52,773	$50,744	$85,322	$22,661	$19,099	$312,449	$46,176	$358,625
2070	$5,207	$79,199	$54,349	$52,273	$87,851	$23,348	$19,634	$321,861	$47,482	$369,343

Table B-3: Scenario 2 – Annual Traffic Stream (Phase 1), Section Based Traffic (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	845	0	0	0	0	0	0	845	4,660	5,505
2022	1,140	0	0	0	0	0	0	1,140	5,532	6,672
2023	1,482	5,331	8,261	6,612	0	0	0	21,686	6,463	28,149
2024	1,723	6,195	9,631	7,705	0	0	0	25,254	7,457	32,711
2025	1,802	7,086	11,052	8,840	0	0	0	28,780	7,742	36,522
2026	1,885	8,005	12,527	10,015	0	0	0	32,432	8,032	40,464
2027	1,972	8,139	12,779	10,213	0	0	0	33,103	8,332	41,435
2028	2,063	8,275	13,036	10,415	0	0	0	33,789	8,642	42,431
2029	2,158	8,413	13,298	10,620	0	0	0	34,489	8,962	43,451
2030	2,257	8,554	13,565	10,830	0	0	0	35,206	9,292	44,498
2031	2,361	8,697	13,838	11,044	0	0	0	35,940	9,634	45,574
2032	2,470	8,843	14,116	11,263	0	0	0	36,692	9,987	46,679
2033	2,584	8,991	14,400	11,485	0	0	0	37,460	10,351	47,811
2034	2,703	9,142	14,689	11,713	0	0	0	38,247	10,727	48,974
2035	2,828	9,295	14,985	11,944	0	0	0	39,052	11,115	50,167
2036	2,958	9,451	15,286	12,181	0	0	0	39,876	11,515	51,391
2037	3,095	9,609	15,593	12,422	0	0	0	40,719	11,927	52,646
2038	3,237	9,770	15,907	12,668	0	0	0	41,582	12,353	53,935
2039	3,387	9,934	16,227	12,920	0	0	0	42,468	12,791	55,259
2040	3,543	10,101	16,554	13,176	0	0	0	43,374	13,242	56,616
2041	3,624	10,185	16,720	13,306	0	0	0	43,835	13,455	57,290
2042	3,706	10,270	16,887	13,437	0	0	0	44,300	13,670	57,970
2043	3,791	10,356	17,056	13,570	0	0	0	44,773	13,890	58,663
2044	3,877	10,443	17,227	13,704	0	0	0	45,251	14,112	59,363
2045	3,966	10,530	17,399	13,840	0	0	0	45,735	14,339	60,074
2046	4,056	10,618	17,574	13,976	0	0	0	46,224	14,569	60,793
2047	4,149	10,707	17,750	14,115	0	0	0	46,721	14,802	61,523
2048	4,243	10,796	17,928	14,254	0	0	0	47,221	15,040	62,261
2049	4,340	10,887	18,107	14,395	0	0	0	47,729	15,281	63,010
2050	4,439	10,978	18,289	14,537	0	0	0	48,243	15,526	63,769
2051	4,500	11,033	18,398	14,624	0	0	0	48,555	15,675	64,230
2052	4,561	11,088	18,509	14,710	0	0	0	48,868	15,825	64,693
2053	4,623	11,143	18,620	14,797	0	0	0	49,183	15,977	65,160
2054	4,686	11,199	18,731	14,885	0	0	0	49,501	16,131	65,632
2055	4,750	11,255	18,844	14,973	0	0	0	49,822	16,285	66,107
2056	4,815	11,312	18,957	15,062	0	0	0	50,146	16,442	66,588
2057	4,880	11,368	19,071	15,151	0	0	0	50,470	16,599	67,069
2058	4,947	11,425	19,185	15,241	0	0	0	50,798	16,759	67,557
2059	5,014	11,483	19,300	15,331	0	0	0	51,128	16,919	68,047
2060	5,082	11,540	19,416	15,422	0	0	0	51,460	17,082	68,542
2061	5,105	11,559	19,455	15,453	0	0	0	51,572	17,136	68,708
2062	5,128	11,579	19,494	15,483	0	0	0	51,684	17,191	68,875
2063	5,152	11,598	19,533	15,514	0	0	0	51,797	17,246	69,043
2064	5,175	11,617	19,572	15,544	0	0	0	51,908	17,301	69,209
2065	5,198	11,637	19,611	15,575	0	0	0	52,021	17,356	69,377
2066	5,222	11,656	19,650	15,606	0	0	0	52,134	17,411	69,545
2067	5,246	11,676	19,689	15,637	0	0	0	52,248	17,467	69,715
2068	5,269	11,695	19,728	15,668	0	0	0	52,360	17,522	69,882
2069	5,293	11,715	19,768	15,698	0	0	0	52,474	17,578	70,052
2070	5,317	11,734	19,807	15,729	0	0	0	52,587	17,634	70,221

Table B-4: Scenario 2 – Annual Revenue Stream (Phase 1), Section Based Revenue

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$387	$0	$0	$0	$0	$0	$0	$387	$3,900	$4,287
2022	$523	$0	$0	$0	$0	$0	$0	$523	$4,737	$5,260
2023	$691	$3,437	$3,687	$3,162	$0	$0	$0	$10,977	$5,663	$16,640
2024	$811	$4,277	$4,500	$3,849	$0	$0	$0	$13,437	$6,685	$20,122
2025	$855	$5,239	$5,406	$4,611	$0	$0	$0	$16,111	$7,102	$23,213
2026	$903	$6,339	$6,415	$5,457	$0	$0	$0	$19,114	$7,539	$26,653
2027	$952	$6,902	$6,851	$5,811	$0	$0	$0	$20,516	$8,001	$28,517
2028	$1,005	$7,516	$7,316	$6,190	$0	$0	$0	$22,027	$8,490	$30,517
2029	$1,061	$8,184	$7,814	$6,593	$0	$0	$0	$23,652	$9,009	$32,661
2030	$1,120	$8,913	$8,344	$7,023	$0	$0	$0	$25,400	$9,556	$34,956
2031	$1,182	$9,704	$8,911	$7,480	$0	$0	$0	$27,277	$10,135	$37,412
2032	$1,248	$10,568	$9,518	$7,969	$0	$0	$0	$29,303	$10,747	$40,050
2033	$1,316	$11,507	$10,164	$8,488	$0	$0	$0	$31,475	$11,393	$42,868
2034	$1,389	$12,530	$10,856	$9,042	$0	$0	$0	$33,817	$12,078	$45,895
2035	$1,467	$13,645	$11,595	$9,632	$0	$0	$0	$36,339	$12,798	$49,137
2036	$1,549	$14,858	$12,384	$10,261	$0	$0	$0	$39,052	$13,559	$52,611
2037	$1,635	$16,179	$13,225	$10,930	$0	$0	$0	$41,969	$14,363	$56,332
2038	$1,726	$17,618	$14,126	$11,645	$0	$0	$0	$45,115	$15,211	$60,326
2039	$1,821	$19,185	$15,087	$12,406	$0	$0	$0	$48,499	$16,103	$64,602
2040	$1,923	$20,892	$16,114	$13,217	$0	$0	$0	$52,146	$17,045	$69,191
2041	$2,001	$22,072	$16,859	$13,811	$0	$0	$0	$54,743	$17,749	$72,492
2042	$2,082	$23,319	$17,641	$14,433	$0	$0	$0	$57,475	$18,481	$75,956
2043	$2,164	$24,637	$18,458	$15,084	$0	$0	$0	$60,343	$19,244	$79,587
2044	$2,253	$26,028	$19,312	$15,763	$0	$0	$0	$63,356	$20,038	$83,394
2045	$2,343	$27,499	$20,208	$16,472	$0	$0	$0	$66,522	$20,867	$87,389
2046	$2,438	$29,051	$21,143	$17,215	$0	$0	$0	$69,847	$21,728	$91,575
2047	$2,534	$30,694	$22,124	$17,989	$0	$0	$0	$73,341	$22,624	$95,965
2048	$2,638	$32,428	$23,146	$18,800	$0	$0	$0	$77,012	$23,558	$100,570
2049	$2,744	$34,260	$24,221	$19,648	$0	$0	$0	$80,873	$24,531	$105,404
2050	$2,855	$36,194	$25,341	$20,533	$0	$0	$0	$84,923	$25,543	$110,466
2051	$2,951	$37,780	$26,298	$21,292	$0	$0	$0	$88,321	$26,429	$114,750
2052	$3,052	$39,432	$27,292	$22,079	$0	$0	$0	$91,855	$27,350	$119,205
2053	$3,156	$41,159	$28,322	$22,896	$0	$0	$0	$95,533	$28,299	$123,832
2054	$3,264	$42,961	$29,389	$23,744	$0	$0	$0	$99,358	$29,282	$128,640
2055	$3,375	$44,843	$30,500	$24,622	$0	$0	$0	$103,340	$30,298	$133,638
2056	$3,490	$46,807	$31,650	$25,532	$0	$0	$0	$107,479	$31,350	$138,829
2057	$3,611	$48,857	$32,845	$26,478	$0	$0	$0	$111,791	$32,441	$144,232
2058	$3,733	$50,995	$34,085	$27,458	$0	$0	$0	$116,271	$33,568	$149,839
2059	$3,862	$53,227	$35,373	$28,473	$0	$0	$0	$120,935	$34,733	$155,668
2060	$3,992	$55,560	$36,707	$29,528	$0	$0	$0	$125,787	$35,941	$161,728
2061	$4,104	$57,295	$37,780	$30,382	$0	$0	$0	$129,561	$36,955	$166,516
2062	$4,219	$59,082	$38,884	$31,263	$0	$0	$0	$133,448	$37,997	$171,445
2063	$4,338	$60,928	$40,023	$32,172	$0	$0	$0	$137,461	$39,071	$176,532
2064	$4,460	$62,830	$41,192	$33,104	$0	$0	$0	$141,586	$40,176	$181,762
2065	$4,585	$64,793	$42,397	$34,062	$0	$0	$0	$145,837	$41,311	$187,148
2066	$4,714	$66,814	$43,636	$35,051	$0	$0	$0	$150,215	$42,477	$192,692
2067	$4,846	$68,900	$44,911	$36,068	$0	$0	$0	$154,725	$43,676	$198,401
2068	$4,982	$71,052	$46,223	$37,110	$0	$0	$0	$159,367	$44,909	$204,276
2069	$5,122	$73,272	$47,576	$38,186	$0	$0	$0	$164,156	$46,176	$210,332
2070	$5,265	$75,559	$48,967	$39,296	$0	$0	$0	$169,087	$47,482	$216,569

Table B-5: Scenario 3 – Annual Traffic Stream (Phase 1), Section Based Traffic (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	845	0	0	0	0	0	0	845	4,660	5,505
2022	1,140	0	0	0	0	0	0	1,140	5,532	6,672
2023	1,515	0	0	0	0	0	0	1,515	6,463	7,978
2024	1,988	0	0	0	0	0	0	1,988	7,457	9,445
2025	2,043	5,458	8,226	6,875	13,732	2,964	2,328	41,626	7,742	49,368
2026	2,126	6,352	9,631	8,088	16,252	3,529	2,741	48,719	8,032	56,751
2027	2,212	7,277	11,100	9,367	18,937	4,136	3,178	56,207	8,332	64,539
2028	2,301	8,233	12,635	10,714	21,795	4,787	3,638	64,103	8,642	72,745
2029	2,394	8,384	12,944	11,030	22,580	4,988	3,749	66,069	8,962	75,031
2030	2,491	8,537	13,261	11,355	23,396	5,197	3,863	68,100	9,292	77,392
2031	2,592	8,693	13,585	11,691	24,244	5,414	3,981	70,200	9,634	79,834
2032	2,697	8,853	13,918	12,037	25,127	5,642	4,102	72,376	9,987	82,363
2033	2,806	9,015	14,259	12,393	26,045	5,879	4,227	74,624	10,351	84,975
2034	2,919	9,180	14,608	12,761	27,001	6,126	4,356	76,951	10,727	87,678
2035	3,037	9,349	14,966	13,140	27,995	6,383	4,489	79,359	11,115	90,474
2036	3,160	9,520	15,332	13,531	29,030	6,652	4,625	81,850	11,515	93,365
2037	3,288	9,695	15,708	13,934	30,107	6,933	4,766	84,431	11,927	96,358
2038	3,421	9,873	16,093	14,349	31,228	7,225	4,911	87,100	12,353	99,453
2039	3,560	10,054	16,487	14,777	32,395	7,530	5,061	89,864	12,791	102,655
2040	3,704	10,239	16,892	15,219	33,611	7,849	5,215	92,729	13,242	105,971
2041	3,778	10,332	17,097	15,445	34,237	8,013	5,294	94,196	13,455	107,651
2042	3,853	10,427	17,306	15,674	34,876	8,181	5,374	95,691	13,670	109,361
2043	3,931	10,522	17,517	15,907	35,528	8,352	5,455	97,212	13,890	111,102
2044	4,009	10,619	17,730	16,144	36,194	8,527	5,537	98,760	14,112	112,872
2045	4,090	10,716	17,946	16,384	36,873	8,706	5,621	100,336	14,339	114,675
2046	4,172	10,814	18,165	16,628	37,566	8,888	5,706	101,939	14,569	116,508
2047	4,255	10,913	18,386	16,875	38,273	9,075	5,792	103,569	14,802	118,371
2048	4,340	11,013	18,611	17,127	38,995	9,265	5,880	105,231	15,040	120,271
2049	4,427	11,114	18,838	17,382	39,732	9,460	5,969	106,922	15,281	122,203
2050	4,516	11,215	19,067	17,642	40,485	9,659	6,059	108,643	15,526	124,169
2051	4,570	11,277	19,206	17,799	40,943	9,780	6,114	109,689	15,675	125,364
2052	4,625	11,339	19,347	17,959	41,408	9,903	6,169	110,750	15,825	126,575
2053	4,680	11,401	19,488	18,119	41,878	10,027	6,225	111,818	15,977	127,795
2054	4,736	11,464	19,630	18,281	42,354	10,153	6,281	112,899	16,131	129,030
2055	4,793	11,527	19,774	18,445	42,836	10,281	6,338	113,994	16,285	130,279
2056	4,850	11,590	19,918	18,610	43,324	10,410	6,395	115,097	16,442	131,539
2057	4,908	11,654	20,063	18,776	43,818	10,541	6,453	116,213	16,599	132,812
2058	4,967	11,718	20,210	18,944	44,318	10,674	6,511	117,342	16,759	134,101
2059	5,027	11,782	20,357	19,114	44,824	10,808	6,570	118,482	16,919	135,401
2060	5,087	11,847	20,506	19,286	45,337	10,944	6,629	119,636	17,082	136,718
2061	5,107	11,868	20,556	19,343	45,509	10,990	6,649	120,022	17,136	137,158
2062	5,127	11,890	20,606	19,401	45,682	11,036	6,669	120,411	17,191	137,602
2063	5,148	11,912	20,656	19,458	45,856	11,082	6,689	120,801	17,246	138,047
2064	5,168	11,933	20,706	19,516	46,030	11,128	6,709	121,190	17,301	138,491
2065	5,189	11,955	20,756	19,575	46,206	11,175	6,730	121,586	17,356	138,942
2066	5,209	11,977	20,807	19,633	46,381	11,222	6,750	121,979	17,411	139,390
2067	5,230	11,999	20,857	19,691	46,558	11,268	6,770	122,373	17,467	139,840
2068	5,251	12,021	20,908	19,750	46,735	11,316	6,790	122,771	17,522	140,293
2069	5,272	12,043	20,959	19,809	46,914	11,363	6,811	123,171	17,578	140,749
2070	5,293	12,065	21,010	19,868	47,092	11,410	6,831	123,569	17,634	141,203

Table B-6: Scenario 3 – Annual Revenue Stream (Phase 1), Section Based Revenue

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$387	$0	$0	$0	$0	$0	$0	$387	$3,900	$4,287
2022	$523	$0	$0	$0	$0	$0	$0	$523	$4,737	$5,260
2023	$696	$0	$0	$0	$0	$0	$0	$696	$5,663	$6,359
2024	$913	$0	$0	$0	$0	$0	$0	$913	$6,685	$7,598
2025	$968	$4,135	$4,062	$3,715	$6,946	$1,578	$1,070	$22,474	$7,102	$29,576
2026	$1,016	$5,149	$4,981	$4,566	$8,475	$1,946	$1,279	$27,412	$7,539	$34,951
2027	$1,066	$6,312	$6,012	$5,523	$10,181	$2,360	$1,506	$32,960	$8,001	$40,961
2028	$1,119	$7,642	$7,166	$6,599	$12,081	$2,830	$1,752	$39,189	$8,490	$47,679
2029	$1,174	$8,327	$7,688	$7,096	$12,906	$3,052	$1,834	$42,077	$9,009	$51,086
2030	$1,233	$9,075	$8,248	$7,631	$13,789	$3,292	$1,920	$45,188	$9,556	$54,744
2031	$1,293	$9,888	$8,849	$8,206	$14,735	$3,551	$2,010	$48,532	$10,135	$58,667
2032	$1,357	$10,776	$9,495	$8,825	$15,747	$3,831	$2,104	$52,135	$10,747	$62,882
2033	$1,426	$11,743	$10,189	$9,491	$16,833	$4,133	$2,202	$56,017	$11,393	$67,410
2034	$1,496	$12,797	$10,933	$10,206	$17,998	$4,459	$2,305	$60,194	$12,078	$72,272
2035	$1,571	$13,946	$11,731	$10,975	$19,246	$4,809	$2,414	$64,692	$12,798	$77,490
2036	$1,649	$15,197	$12,588	$11,804	$20,583	$5,188	$2,526	$69,535	$13,559	$83,094
2037	$1,732	$16,562	$13,509	$12,695	$22,017	$5,597	$2,644	$74,756	$14,363	$89,119
2038	$1,818	$18,048	$14,498	$13,653	$23,558	$6,038	$2,767	$80,380	$15,211	$95,591
2039	$1,908	$19,670	$15,559	$14,685	$25,206	$6,513	$2,898	$86,439	$16,103	$102,542
2040	$2,004	$21,437	$16,698	$15,794	$26,979	$7,026	$3,033	$92,971	$17,045	$110,016
2041	$2,079	$22,657	$17,513	$16,582	$28,257	$7,390	$3,141	$97,619	$17,749	$115,368
2042	$2,156	$23,946	$18,370	$17,411	$29,601	$7,770	$3,253	$102,507	$18,481	$120,988
2043	$2,236	$25,310	$19,266	$18,280	$31,008	$8,172	$3,370	$107,642	$19,244	$126,886
2044	$2,321	$26,749	$20,208	$19,193	$32,483	$8,593	$3,491	$113,038	$20,038	$133,076
2045	$2,408	$28,271	$21,196	$20,153	$34,029	$9,036	$3,616	$118,709	$20,867	$139,576
2046	$2,498	$29,881	$22,231	$21,160	$35,651	$9,503	$3,745	$124,669	$21,728	$146,397
2047	$2,592	$31,582	$23,318	$22,218	$37,354	$9,992	$3,879	$130,935	$22,624	$153,559
2048	$2,688	$33,381	$24,459	$23,329	$39,137	$10,508	$4,018	$137,520	$23,558	$161,078
2049	$2,788	$35,281	$25,654	$24,496	$41,007	$11,049	$4,163	$144,438	$24,531	$168,969
2050	$2,893	$37,290	$26,910	$25,718	$42,969	$11,619	$4,310	$151,709	$25,543	$177,252
2051	$2,987	$38,933	$27,967	$26,746	$44,632	$12,095	$4,447	$157,807	$26,429	$184,236
2052	$3,084	$40,647	$29,065	$27,813	$46,359	$12,589	$4,585	$164,142	$27,350	$191,492
2053	$3,184	$42,437	$30,206	$28,925	$48,152	$13,103	$4,731	$170,738	$28,299	$199,037
2054	$3,288	$44,307	$31,393	$30,081	$50,016	$13,640	$4,880	$177,605	$29,282	$206,887
2055	$3,394	$46,258	$32,626	$31,281	$51,953	$14,196	$5,034	$184,742	$30,298	$215,040
2056	$3,504	$48,295	$33,910	$32,531	$53,965	$14,777	$5,191	$192,173	$31,350	$223,523
2057	$3,619	$50,422	$35,243	$33,829	$56,059	$15,383	$5,354	$199,909	$32,441	$232,350
2058	$3,736	$52,643	$36,627	$35,181	$58,232	$16,010	$5,523	$207,952	$33,568	$241,520
2059	$3,856	$54,964	$38,067	$36,585	$60,491	$16,665	$5,696	$216,324	$34,733	$251,057
2060	$3,983	$57,383	$39,563	$38,047	$62,839	$17,346	$5,878	$225,039	$35,941	$260,980
2061	$4,092	$59,182	$40,739	$39,185	$64,696	$17,870	$6,038	$231,802	$36,955	$268,757
2062	$4,203	$61,035	$41,952	$40,359	$66,611	$18,413	$6,201	$238,774	$37,997	$276,771
2063	$4,322	$62,947	$43,200	$41,568	$68,584	$18,968	$6,370	$245,959	$39,071	$285,030
2064	$4,440	$64,916	$44,485	$42,815	$70,613	$19,543	$6,542	$253,354	$40,176	$293,530
2065	$4,561	$66,948	$45,810	$44,095	$72,702	$20,135	$6,720	$260,971	$41,311	$302,282
2066	$4,686	$69,044	$47,170	$45,415	$74,854	$20,744	$6,902	$268,815	$42,477	$311,292
2067	$4,814	$71,208	$48,573	$46,778	$77,068	$21,374	$7,089	$276,904	$43,676	$320,580
2068	$4,949	$73,436	$50,021	$48,177	$79,350	$22,020	$7,281	$285,234	$44,909	$330,143
2069	$5,084	$75,738	$51,506	$49,621	$81,698	$22,688	$7,478	$293,813	$46,176	$339,989
2070	$5,223	$78,106	$53,039	$51,110	$84,118	$23,372	$7,684	$302,652	$47,482	$350,134

Table B-7: Scenario 4 – Annual Traffic Stream (Phase 1), Section Based Traffic Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	845	0	0	0	0	0	0	845	4,660	5,505
2022	1,140	0	0	0	0	0	0	1,140	5,532	6,672
2023	1,515	0	0	0	0	0	0	1,515	6,463	7,978
2024	1,988	0	0	0	0	0	0	1,988	7,457	9,445
2025	1,977	5,376	8,141	6,506	11,787	0	5,146	38,933	7,742	46,675
2026	2,059	6,260	9,541	7,665	13,968	0	6,094	45,587	8,032	53,619
2027	2,144	7,175	11,006	8,889	16,297	0	7,104	52,615	8,332	60,947
2028	2,233	8,123	12,540	10,181	18,784	0	8,182	60,043	8,642	68,685
2029	2,326	8,277	12,859	10,496	19,490	0	8,481	61,929	8,962	70,891
2030	2,422	8,433	13,187	10,822	20,226	0	8,792	63,882	9,292	73,174
2031	2,523	8,593	13,522	11,158	20,994	0	9,117	65,907	9,634	75,541
2032	2,627	8,755	13,867	11,504	21,796	0	9,454	68,003	9,987	77,990
2033	2,736	8,921	14,220	11,863	22,634	0	9,805	70,179	10,351	80,530
2034	2,850	9,090	14,582	12,233	23,508	0	10,171	72,434	10,727	83,161
2035	2,968	9,262	14,954	12,615	24,422	0	10,552	74,773	11,115	85,888
2036	3,091	9,437	15,335	13,010	25,377	0	10,948	77,198	11,515	88,713
2037	3,219	9,616	15,726	13,417	26,375	0	11,361	79,714	11,927	91,641
2038	3,353	9,799	16,128	13,838	27,418	0	11,792	82,328	12,353	94,681
2039	3,492	9,984	16,539	14,274	28,508	0	12,240	85,037	12,791	97,828
2040	3,637	10,174	16,961	14,723	29,648	0	12,707	87,850	13,242	101,092
2041	3,711	10,270	17,177	14,953	30,237	0	12,948	89,296	13,455	102,751
2042	3,788	10,367	17,395	15,187	30,840	0	13,194	90,771	13,670	104,441
2043	3,865	10,465	17,615	15,425	31,457	0	13,445	92,272	13,890	106,162
2044	3,945	10,564	17,839	15,667	32,087	0	13,701	93,803	14,112	107,915
2045	4,026	10,663	18,065	15,913	32,732	0	13,963	95,362	14,339	109,701
2046	4,108	10,764	18,295	16,163	33,392	0	14,230	96,952	14,569	111,521
2047	4,193	10,866	18,527	16,417	34,067	0	14,503	98,573	14,802	113,375
2048	4,279	10,969	18,763	16,675	34,757	0	14,781	100,224	15,040	115,264
2049	4,367	11,072	19,001	16,938	35,464	0	15,066	101,908	15,281	117,189
2050	4,456	11,177	19,242	17,205	36,187	0	15,356	103,623	15,526	119,149
2051	4,511	11,240	19,389	17,367	36,628	0	15,533	104,668	15,675	120,343
2052	4,566	11,304	19,536	17,531	37,076	0	15,713	105,726	15,825	121,551
2053	4,622	11,368	19,685	17,696	37,530	0	15,895	106,796	15,977	122,773
2054	4,679	11,432	19,834	17,863	37,990	0	16,079	107,877	16,131	124,008
2055	4,737	11,497	19,985	18,032	38,457	0	16,265	108,973	16,285	125,258
2056	4,795	11,562	20,137	18,202	38,930	0	16,454	110,080	16,442	126,522
2057	4,854	11,628	20,291	18,374	39,410	0	16,645	111,202	16,599	127,801
2058	4,913	11,693	20,445	18,548	39,897	0	16,839	112,335	16,759	129,094
2059	4,973	11,760	20,601	18,724	40,390	0	17,035	113,483	16,919	130,402
2060	5,034	11,826	20,758	18,901	40,890	0	17,234	114,643	17,082	131,725
2061	5,055	11,849	20,810	18,960	41,058	0	17,300	115,032	17,136	132,168
2062	5,076	11,871	20,863	19,020	41,227	0	17,367	115,424	17,191	132,615
2063	5,096	11,893	20,916	19,080	41,397	0	17,435	115,817	17,246	133,063
2064	5,117	11,916	20,968	19,140	41,568	0	17,502	116,211	17,301	133,512
2065	5,138	11,938	21,022	19,200	41,739	0	17,570	116,607	17,356	133,963
2066	5,159	11,961	21,075	19,261	41,911	0	17,639	117,006	17,411	134,417
2067	5,180	11,983	21,128	19,321	42,085	0	17,707	117,404	17,467	134,871
2068	5,201	12,006	21,182	19,382	42,258	0	17,776	117,805	17,522	135,327
2069	5,222	12,029	21,235	19,443	42,433	0	17,845	118,207	17,578	135,785
2070	5,243	12,051	21,289	19,505	42,608	0	17,914	118,610	17,634	136,244

Table B-8: Scenario 4 – Annual Revenue Stream (Phase 1), Section Based Revenue

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$387	$0	$0	$0	$0	$0	$0	$387	$3,900	$4,287
2022	$523	$0	$0	$0	$0	$0	$0	$523	$4,737	$5,260
2023	$696	$0	$0	$0	$0	$0	$0	$696	$5,663	$6,359
2024	$913	$0	$0	$0	$0	$0	$0	$913	$6,685	$7,598
2025	$937	$4,043	$4,022	$3,534	$5,984	$0	$2,364	$20,884	$7,102	$27,986
2026	$985	$5,040	$4,937	$4,351	$7,329	$0	$2,842	$25,484	$7,539	$33,023
2027	$1,034	$6,185	$5,966	$5,272	$8,839	$0	$3,362	$30,658	$8,001	$38,659
2028	$1,088	$7,498	$7,121	$6,308	$10,529	$0	$3,929	$36,473	$8,490	$44,963
2029	$1,142	$8,178	$7,651	$6,795	$11,291	$0	$4,132	$39,189	$9,009	$48,198
2030	$1,201	$8,922	$8,219	$7,320	$12,109	$0	$4,346	$42,117	$9,556	$51,673
2031	$1,260	$9,734	$8,831	$7,884	$12,988	$0	$4,572	$45,269	$10,135	$55,404
2032	$1,325	$10,618	$9,489	$8,492	$13,933	$0	$4,811	$48,668	$10,747	$59,415
2033	$1,393	$11,584	$10,195	$9,147	$14,951	$0	$5,063	$52,333	$11,393	$63,726
2034	$1,463	$12,637	$10,954	$9,852	$16,044	$0	$5,328	$56,278	$12,078	$68,356
2035	$1,537	$13,787	$11,770	$10,613	$17,220	$0	$5,607	$60,534	$12,798	$73,332
2036	$1,616	$15,041	$12,649	$11,431	$18,485	$0	$5,904	$65,126	$13,559	$78,685
2037	$1,697	$16,408	$13,594	$12,314	$19,846	$0	$6,215	$70,074	$14,363	$84,437
2038	$1,784	$17,902	$14,607	$13,265	$21,309	$0	$6,543	$75,410	$15,211	$90,621
2039	$1,876	$19,531	$15,700	$14,289	$22,886	$0	$6,889	$81,171	$16,103	$97,274
2040	$1,971	$21,306	$16,873	$15,391	$24,581	$0	$7,254	$87,376	$17,045	$104,421
2041	$2,047	$22,532	$17,709	$16,173	$25,795	$0	$7,538	$91,794	$17,749	$109,543
2042	$2,123	$23,825	$18,588	$16,995	$27,069	$0	$7,832	$96,432	$18,481	$114,913
2043	$2,204	$25,196	$19,510	$17,859	$28,404	$0	$8,138	$101,311	$19,244	$120,555
2044	$2,288	$26,644	$20,478	$18,766	$29,810	$0	$8,456	$106,442	$20,038	$126,480
2045	$2,374	$28,175	$21,496	$19,717	$31,285	$0	$8,787	$111,834	$20,867	$132,701
2046	$2,464	$29,795	$22,562	$20,720	$32,833	$0	$9,131	$117,505	$21,728	$139,233
2047	$2,559	$31,507	$23,682	$21,771	$34,460	$0	$9,489	$123,468	$22,624	$146,092
2048	$2,654	$33,318	$24,859	$22,878	$36,169	$0	$9,862	$129,740	$23,558	$153,298
2049	$2,755	$35,235	$26,094	$24,040	$37,964	$0	$10,250	$136,338	$24,531	$160,869
2050	$2,860	$37,259	$27,389	$25,260	$39,851	$0	$10,651	$143,270	$25,543	$168,813
2051	$2,956	$38,913	$28,478	$26,281	$41,436	$0	$11,010	$149,074	$26,429	$175,503
2052	$3,052	$40,639	$29,611	$27,345	$43,083	$0	$11,380	$155,110	$27,350	$182,460
2053	$3,151	$42,442	$30,788	$28,450	$44,796	$0	$11,761	$161,388	$28,299	$189,687
2054	$3,256	$44,326	$32,011	$29,599	$46,579	$0	$12,155	$167,926	$29,282	$197,208
2055	$3,362	$46,293	$33,284	$30,795	$48,433	$0	$12,563	$174,730	$30,298	$205,028
2056	$3,471	$48,348	$34,609	$32,038	$50,362	$0	$12,988	$181,816	$31,350	$213,166
2057	$3,585	$50,493	$35,985	$33,333	$52,369	$0	$13,422	$189,187	$32,441	$221,628
2058	$3,704	$52,733	$37,416	$34,681	$54,453	$0	$13,874	$196,861	$33,568	$230,429
2059	$3,823	$55,073	$38,903	$36,081	$56,627	$0	$14,342	$204,849	$34,733	$239,582
2060	$3,949	$57,517	$40,453	$37,539	$58,884	$0	$14,825	$213,167	$35,941	$249,108
2061	$4,060	$59,325	$41,660	$38,671	$60,645	$0	$15,239	$219,600	$36,955	$256,555
2062	$4,172	$61,188	$42,906	$39,836	$62,462	$0	$15,662	$226,226	$37,997	$264,223
2063	$4,286	$63,110	$44,191	$41,034	$64,331	$0	$16,099	$233,051	$39,071	$272,122
2064	$4,406	$65,094	$45,511	$42,268	$66,257	$0	$16,548	$240,084	$40,176	$280,260
2065	$4,527	$67,140	$46,872	$43,541	$68,240	$0	$17,010	$247,330	$41,311	$288,641
2066	$4,650	$69,249	$48,273	$44,852	$70,285	$0	$17,485	$254,794	$42,477	$297,271
2067	$4,781	$71,424	$49,718	$46,204	$72,388	$0	$17,973	$262,488	$43,676	$306,164
2068	$4,912	$73,669	$51,205	$47,596	$74,557	$0	$18,474	$270,413	$44,909	$315,322
2069	$5,046	$75,981	$52,736	$49,029	$76,789	$0	$18,989	$278,570	$46,176	$324,746
2070	$5,188	$78,370	$54,314	$50,503	$79,090	$0	$19,518	$286,983	$47,482	$334,465

Appendix C – Detailed Phase 2 P50 Traffic and Revenue Results

Table C-1: Scenario 1 – Annual Section Based Traffic, Phase 2 (P50)

(Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	1,155	0	0	0	0	0	0	1,155	4,145	5,300
2022	1,508	0	0	0	0	0	0	1,508	4,938	6,446
2023	1,941	0	0	0	0	0	0	1,941	5,794	7,735
2024	2,472	0	0	0	0	0	0	2,472	6,718	9,190
2025	4,234	5,031	10,985	6,116	15,664	2,952	5,108	50,090	6,950	57,040
2026	4,487	5,987	13,277	7,432	19,111	3,599	6,268	60,161	7,250	67,411
2027	4,755	7,013	15,796	8,891	22,955	4,320	7,571	71,301	7,565	78,866
2028	5,040	8,113	18,562	10,505	27,237	5,121	9,032	83,610	7,897	91,507
2029	5,342	8,448	19,631	11,172	29,092	5,464	9,699	88,848	8,246	97,094
2030	5,662	8,796	20,762	11,881	31,079	5,830	10,415	94,425	8,614	103,039
2031	5,811	8,921	21,083	12,144	31,782	5,987	10,606	96,334	8,838	105,172
2032	5,963	9,046	21,412	12,413	32,500	6,150	10,801	98,285	9,068	107,353
2033	6,120	9,174	21,748	12,689	33,236	6,316	10,999	100,282	9,304	109,586
2034	6,281	9,304	22,092	12,971	33,989	6,487	11,201	102,325	9,548	111,873
2035	6,447	9,435	22,444	13,259	34,760	6,663	11,408	104,416	9,798	114,214
2036	6,617	9,568	22,805	13,554	35,549	6,844	11,618	106,555	10,055	116,610
2037	6,793	9,703	23,174	13,857	36,357	7,031	11,833	108,748	10,319	119,067
2038	6,973	9,840	23,551	14,166	37,184	7,222	12,051	110,987	10,591	121,578
2039	7,158	9,979	23,938	14,483	38,031	7,419	12,275	113,283	10,870	124,153
2040	7,349	10,120	24,334	14,807	38,897	7,621	12,502	115,630	11,157	126,787
2041	7,447	10,191	24,535	14,972	39,339	7,724	12,617	116,825	11,304	128,129
2042	7,546	10,263	24,739	15,139	39,785	7,829	12,734	118,035	11,452	129,487
2043	7,646	10,335	24,945	15,308	40,236	7,935	12,852	119,257	11,603	130,860
2044	7,748	10,408	25,154	15,479	40,693	8,043	12,970	120,495	11,756	132,251
2045	7,851	10,481	25,365	15,652	41,156	8,152	13,090	121,747	11,911	133,658
2046	7,956	10,555	25,578	15,826	41,624	8,263	13,212	123,014	12,068	135,082
2047	8,062	10,629	25,794	16,003	42,097	8,375	13,334	124,294	12,227	136,521
2048	8,169	10,704	26,013	16,182	42,576	8,489	13,457	125,590	12,389	137,979
2049	8,278	10,779	26,235	16,364	43,061	8,604	13,582	126,903	12,553	139,456
2050	8,389	10,855	26,458	16,547	43,551	8,721	13,708	128,229	12,719	140,948
2051	8,456	10,901	26,594	16,658	43,848	8,792	13,784	129,033	12,820	141,853
2052	8,524	10,946	26,731	16,770	44,148	8,864	13,861	129,844	12,922	142,766
2053	8,593	10,993	26,868	16,882	44,449	8,936	13,938	130,659	13,024	143,683
2054	8,662	11,039	27,007	16,996	44,753	9,009	14,016	131,482	13,128	144,610
2055	8,731	11,085	27,147	17,110	45,058	9,083	14,094	132,308	13,232	145,540
2056	8,801	11,132	27,287	17,225	45,366	9,157	14,172	133,140	13,337	146,477
2057	8,872	11,179	27,429	17,341	45,676	9,231	14,251	133,979	13,443	147,422
2058	8,943	11,226	27,571	17,457	45,988	9,307	14,331	134,823	13,550	148,373
2059	9,015	11,274	27,715	17,575	46,303	9,383	14,410	135,675	13,658	149,333
2060	9,088	11,321	27,860	17,693	46,619	9,459	14,491	136,531	13,767	150,298
2061	9,112	11,337	27,908	17,733	46,725	9,485	14,518	136,818	13,803	150,621
2062	9,137	11,353	27,957	17,772	46,832	9,511	14,545	137,107	13,840	150,947
2063	9,161	11,369	28,005	17,812	46,938	9,536	14,572	137,393	13,877	151,270
2064	9,186	11,385	28,054	17,852	47,045	9,562	14,599	137,683	13,913	151,596
2065	9,210	11,401	28,103	17,892	47,152	9,588	14,626	137,972	13,950	151,922
2066	9,235	11,417	28,152	17,932	47,260	9,614	14,653	138,263	13,987	152,250
2067	9,260	11,433	28,201	17,972	47,367	9,641	14,680	138,554	14,024	152,578
2068	9,285	11,449	28,251	18,013	47,475	9,667	14,707	138,847	14,061	152,908
2069	9,310	11,465	28,300	18,053	47,583	9,693	14,735	139,139	14,099	153,238
2070	9,335	11,481	28,350	18,093	47,691	9,719	14,762	139,431	14,136	153,567

Table C-2: Scenario 1 – Annual Section Based Revenue, Phase 2 (P50)

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$532	$0	$0	$0	$0	$0	$0	$532	$2,584	$3,116
2022	$693	$0	$0	$0	$0	$0	$0	$693	$3,196	$3,889
2023	$893	$0	$0	$0	$0	$0	$0	$893	$3,891	$4,784
2024	$1,137	$0	$0	$0	$0	$0	$0	$1,137	$4,679	$5,816
2025	$1,947	$2,759	$5,052	$3,875	$7,282	$1,803	$2,349	$25,067	$4,995	$30,062
2026	$2,063	$3,505	$6,189	$5,097	$9,080	$2,280	$2,883	$31,097	$5,316	$36,413
2027	$2,187	$4,384	$7,468	$6,600	$11,151	$2,837	$3,484	$38,111	$5,658	$43,769
2028	$2,320	$5,415	$8,900	$8,439	$13,539	$3,487	$4,157	$46,257	$6,020	$52,277
2029	$2,459	$6,019	$9,549	$9,713	$14,805	$3,858	$4,465	$50,868	$6,405	$57,273
2030	$2,607	$6,692	$10,247	$11,178	$16,203	$4,270	$4,796	$55,993	$7,335	$63,328
2031	$2,685	$7,297	$10,839	$11,896	$17,019	$4,593	$5,023	$59,352	$7,747	$67,099
2032	$2,766	$7,955	$11,469	$12,661	$17,881	$4,942	$5,260	$62,934	$8,180	$71,114
2033	$2,848	$8,676	$12,139	$13,477	$18,789	$5,317	$5,508	$66,754	$8,635	$75,389
2034	$2,935	$9,461	$12,852	$14,343	$19,747	$5,719	$5,771	$70,828	$9,115	$79,943
2035	$3,025	$10,316	$13,609	$15,266	$20,757	$6,152	$6,044	$75,169	$9,619	$84,788
2036	$3,115	$11,251	$14,417	$16,249	$21,823	$6,618	$6,333	$79,806	$10,150	$89,956
2037	$3,211	$12,269	$15,276	$17,293	$22,948	$7,120	$6,636	$84,753	$10,707	$95,460
2038	$3,309	$13,380	$16,191	$18,405	$24,136	$7,659	$6,953	$90,033	$11,294	$101,327
2039	$3,411	$14,593	$17,164	$19,591	$25,391	$8,241	$7,286	$95,677	$11,908	$107,585
2040	$3,514	$15,915	$18,203	$20,851	$26,717	$8,865	$7,635	$101,700	$12,554	$114,254
2041	$3,613	$16,828	$18,979	$21,778	$27,748	$9,309	$7,914	$106,169	$13,048	$119,217
2042	$3,713	$17,792	$19,790	$22,747	$28,820	$9,775	$8,202	$110,839	$13,562	$124,401
2043	$3,818	$18,812	$20,637	$23,759	$29,936	$10,265	$8,502	$115,729	$14,096	$129,825
2044	$3,925	$19,891	$21,522	$24,816	$31,095	$10,779	$8,813	$120,841	$14,650	$135,491
2045	$4,033	$21,033	$22,445	$25,920	$32,300	$11,321	$9,135	$126,187	$15,227	$141,414
2046	$4,147	$22,238	$23,411	$27,073	$33,557	$11,887	$9,468	$131,781	$15,828	$147,609
2047	$4,263	$23,515	$24,418	$28,279	$34,862	$12,483	$9,815	$137,635	$16,452	$154,087
2048	$4,383	$24,863	$25,471	$29,537	$36,221	$13,108	$10,175	$143,758	$17,101	$160,859
2049	$4,506	$26,289	$26,571	$30,851	$37,635	$13,765	$10,547	$150,164	$17,775	$167,939
2050	$4,633	$27,798	$27,721	$32,225	$39,103	$14,455	$10,933	$156,868	$18,474	$175,342
2051	$4,756	$29,029	$28,716	$33,405	$40,413	$15,032	$11,285	$162,636	$19,097	$181,733
2052	$4,885	$30,314	$29,750	$34,630	$41,764	$15,634	$11,645	$168,622	$19,740	$188,362
2053	$5,017	$31,658	$30,820	$35,899	$43,162	$16,259	$12,018	$174,833	$20,403	$195,236
2054	$5,150	$33,060	$31,931	$37,216	$44,609	$16,908	$12,403	$181,277	$21,089	$202,366
2055	$5,289	$34,526	$33,080	$38,581	$46,105	$17,585	$12,799	$187,965	$21,800	$209,765
2056	$5,432	$36,058	$34,272	$39,994	$47,652	$18,288	$13,211	$194,907	$22,533	$217,440
2057	$5,576	$37,655	$35,509	$41,462	$49,253	$19,018	$13,632	$202,105	$23,292	$225,397
2058	$5,727	$39,325	$36,789	$42,981	$50,908	$19,778	$14,068	$209,576	$24,074	$233,650
2059	$5,881	$41,065	$38,119	$44,558	$52,617	$20,570	$14,521	$217,331	$24,884	$242,215
2060	$6,040	$42,886	$39,496	$46,191	$54,389	$21,393	$14,985	$225,380	$25,723	$251,103
2061	$6,194	$44,235	$40,629	$47,525	$55,903	$22,034	$15,396	$231,916	$26,439	$258,355
2062	$6,352	$45,624	$41,794	$48,897	$57,463	$22,694	$15,818	$238,642	$27,178	$265,820
2063	$6,517	$47,055	$42,995	$50,308	$59,062	$23,373	$16,249	$245,559	$27,934	$273,493
2064	$6,684	$48,533	$44,231	$51,762	$60,712	$24,075	$16,694	$252,691	$28,714	$281,405
2065	$6,854	$50,058	$45,501	$53,253	$62,404	$24,797	$17,152	$260,019	$29,516	$289,535
2066	$7,032	$51,629	$46,807	$54,791	$64,143	$25,538	$17,619	$267,559	$30,336	$297,895
2067	$7,212	$53,251	$48,149	$56,376	$65,934	$26,307	$18,101	$275,330	$31,182	$306,512
2068	$7,396	$54,921	$49,534	$58,002	$67,770	$27,094	$18,597	$283,314	$32,052	$315,366
2069	$7,584	$56,646	$50,957	$59,678	$69,660	$27,905	$19,107	$291,537	$32,946	$324,483
2070	$7,781	$58,426	$52,421	$61,401	$71,607	$28,743	$19,630	$300,009	$33,865	$333,874

Table C-3: Scenario 2 – Annual Section Based Traffic, Phase 2 (P50)

(Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	1,155	0	0	0	0	0	0	1,155	4,145	5,300
2022	1,508	0	0	0	0	0	0	1,508	4,938	6,446
2023	3,244	4,550	9,679	4,886	0	0	0	22,359	5,756	28,115
2024	3,816	5,407	11,616	5,886	0	0	0	26,725	6,666	33,391
2025	4,042	6,325	13,723	6,980	0	0	0	31,070	6,950	38,020
2026	4,280	7,308	16,012	8,176	0	0	0	35,776	7,250	43,026
2027	4,534	7,599	16,816	8,619	0	0	0	37,568	7,565	45,133
2028	4,802	7,902	17,660	9,086	0	0	0	39,450	7,897	47,347
2029	5,088	8,216	18,547	9,578	0	0	0	41,429	8,246	49,675
2030	5,390	8,544	19,479	10,097	0	0	0	43,510	8,614	52,124
2031	5,536	8,662	19,709	10,292	0	0	0	44,199	8,838	53,037
2032	5,685	8,782	19,943	10,490	0	0	0	44,900	9,068	53,968
2033	5,840	8,904	20,182	10,692	0	0	0	45,618	9,304	54,922
2034	5,998	9,027	20,426	10,898	0	0	0	46,349	9,548	55,897
2035	6,162	9,152	20,675	11,108	0	0	0	47,097	9,798	56,895
2036	6,331	9,279	20,929	11,322	0	0	0	47,861	10,055	57,916
2037	6,505	9,407	21,189	11,541	0	0	0	48,642	10,319	58,961
2038	6,685	9,538	21,454	11,763	0	0	0	49,440	10,591	60,031
2039	6,870	9,670	21,724	11,990	0	0	0	50,254	10,870	61,124
2040	7,060	9,804	22,001	12,221	0	0	0	51,086	11,157	62,243
2041	7,158	9,872	22,141	12,338	0	0	0	51,509	11,304	62,813
2042	7,257	9,940	22,283	12,456	0	0	0	51,936	11,452	63,388
2043	7,358	10,008	22,426	12,575	0	0	0	52,367	11,603	63,970
2044	7,460	10,077	22,571	12,696	0	0	0	52,804	11,756	64,560
2045	7,564	10,147	22,718	12,818	0	0	0	53,247	11,911	65,158
2046	7,669	10,217	22,866	12,941	0	0	0	53,693	12,068	65,761
2047	7,776	10,288	23,015	13,065	0	0	0	54,144	12,227	66,371
2048	7,884	10,359	23,166	13,190	0	0	0	54,599	12,389	66,988
2049	7,995	10,430	23,319	13,316	0	0	0	55,060	12,553	67,613
2050	8,107	10,502	23,473	13,444	0	0	0	55,526	12,719	68,245
2051	8,175	10,546	23,567	13,521	0	0	0	55,809	12,820	68,629
2052	8,243	10,589	23,661	13,599	0	0	0	56,092	12,922	69,014
2053	8,313	10,633	23,755	13,677	0	0	0	56,378	13,024	69,402
2054	8,383	10,677	23,851	13,756	0	0	0	56,667	13,128	69,795
2055	8,453	10,721	23,946	13,835	0	0	0	56,955	13,232	70,187
2056	8,524	10,766	24,043	13,914	0	0	0	57,247	13,337	70,584
2057	8,596	10,810	24,140	13,994	0	0	0	57,540	13,443	70,983
2058	8,669	10,855	24,238	14,074	0	0	0	57,836	13,550	71,386
2059	8,742	10,900	24,336	14,155	0	0	0	58,133	13,658	71,791
2060	8,816	10,945	24,435	14,236	0	0	0	58,432	13,767	72,199
2061	8,841	10,960	24,468	14,264	0	0	0	58,533	13,803	72,336
2062	8,866	10,975	24,501	14,291	0	0	0	58,633	13,840	72,473
2063	8,891	10,990	24,534	14,318	0	0	0	58,733	13,877	72,610
2064	8,916	11,006	24,568	14,345	0	0	0	58,835	13,913	72,748
2065	8,941	11,021	24,601	14,373	0	0	0	58,936	13,950	72,886
2066	8,966	11,036	24,635	14,400	0	0	0	59,037	13,987	73,024
2067	8,991	11,051	24,668	14,428	0	0	0	59,138	14,024	73,162
2068	9,017	11,066	24,702	14,455	0	0	0	59,240	14,061	73,301
2069	9,042	11,082	24,735	14,483	0	0	0	59,342	14,099	73,441
2070	9,067	11,097	24,769	14,511	0	0	0	59,444	14,136	73,580

Table C-4: Scenario 2 – Annual Section Based Revenue, Phase 2 (P50)

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$532	$0	$0	$0	$0	$0	$0	$532	$2,584	$3,116
2022	$693	$0	$0	$0	$0	$0	$0	$693	$3,196	$3,889
2023	$1,491	$2,174	$4,349	$2,499	$0	$0	$0	$10,513	$3,964	$14,477
2024	$1,755	$2,755	$5,281	$3,192	$0	$0	$0	$12,983	$4,691	$17,674
2025	$1,858	$3,437	$6,311	$4,014	$0	$0	$0	$15,620	$4,995	$20,615
2026	$1,969	$4,235	$7,450	$4,985	$0	$0	$0	$18,639	$5,316	$23,955
2027	$2,086	$4,696	$7,917	$5,571	$0	$0	$0	$20,270	$5,658	$25,928
2028	$2,210	$5,207	$8,415	$6,227	$0	$0	$0	$22,059	$6,020	$28,079
2029	$2,342	$5,776	$8,945	$6,960	$0	$0	$0	$24,023	$6,405	$30,428
2030	$2,483	$6,405	$9,511	$7,780	$0	$0	$0	$26,179	$7,335	$33,514
2031	$2,558	$7,000	$10,061	$8,341	$0	$0	$0	$27,960	$7,747	$35,707
2032	$2,636	$7,648	$10,648	$8,944	$0	$0	$0	$29,876	$8,180	$38,056
2033	$2,718	$8,357	$11,271	$9,589	$0	$0	$0	$31,935	$8,635	$40,570
2034	$2,803	$9,130	$11,931	$10,283	$0	$0	$0	$34,147	$9,115	$43,262
2035	$2,890	$9,977	$12,634	$11,024	$0	$0	$0	$36,525	$9,619	$46,144
2036	$2,981	$10,902	$13,381	$11,821	$0	$0	$0	$39,085	$10,150	$49,235
2037	$3,075	$11,912	$14,174	$12,674	$0	$0	$0	$41,835	$10,707	$52,542
2038	$3,171	$13,015	$15,017	$13,590	$0	$0	$0	$44,793	$11,294	$56,087
2039	$3,273	$14,221	$15,913	$14,572	$0	$0	$0	$47,979	$11,908	$59,887
2040	$3,377	$15,541	$16,866	$15,624	$0	$0	$0	$51,408	$12,554	$63,962
2041	$3,472	$16,446	$17,583	$16,380	$0	$0	$0	$53,881	$13,048	$66,929
2042	$3,573	$17,405	$18,328	$17,171	$0	$0	$0	$56,477	$13,562	$70,039
2043	$3,674	$18,420	$19,106	$18,002	$0	$0	$0	$59,202	$14,096	$73,298
2044	$3,779	$19,494	$19,919	$18,871	$0	$0	$0	$62,063	$14,650	$76,713
2045	$3,888	$20,630	$20,767	$19,783	$0	$0	$0	$65,068	$15,227	$80,295
2046	$3,998	$21,834	$21,651	$20,739	$0	$0	$0	$68,222	$15,828	$84,050
2047	$4,113	$23,106	$22,575	$21,743	$0	$0	$0	$71,537	$16,452	$87,989
2048	$4,231	$24,453	$23,538	$22,793	$0	$0	$0	$75,015	$17,101	$92,116
2049	$4,353	$25,880	$24,545	$23,894	$0	$0	$0	$78,672	$17,775	$96,447
2050	$4,478	$27,388	$25,596	$25,049	$0	$0	$0	$82,511	$18,474	$100,985
2051	$4,602	$28,618	$26,506	$26,027	$0	$0	$0	$85,753	$19,097	$104,850
2052	$4,726	$29,901	$27,454	$27,040	$0	$0	$0	$89,121	$19,740	$108,861
2053	$4,855	$31,242	$28,432	$28,093	$0	$0	$0	$92,622	$20,403	$113,025
2054	$4,989	$32,644	$29,449	$29,186	$0	$0	$0	$96,268	$21,089	$117,357
2055	$5,124	$34,109	$30,500	$30,324	$0	$0	$0	$100,057	$21,800	$121,857
2056	$5,263	$35,639	$31,590	$31,504	$0	$0	$0	$103,996	$22,533	$126,529
2057	$5,408	$37,237	$32,718	$32,732	$0	$0	$0	$108,095	$23,292	$131,387
2058	$5,555	$38,907	$33,889	$34,004	$0	$0	$0	$112,355	$24,074	$136,429
2059	$5,708	$40,655	$35,103	$35,329	$0	$0	$0	$116,795	$24,884	$141,679
2060	$5,865	$42,477	$36,357	$36,707	$0	$0	$0	$121,406	$25,723	$147,129
2061	$6,015	$43,819	$37,397	$37,792	$0	$0	$0	$125,023	$26,439	$151,462
2062	$6,172	$45,204	$38,465	$38,914	$0	$0	$0	$128,755	$27,178	$155,933
2063	$6,329	$46,631	$39,567	$40,065	$0	$0	$0	$132,592	$27,934	$160,526
2064	$6,494	$48,101	$40,697	$41,253	$0	$0	$0	$136,545	$28,714	$165,259
2065	$6,660	$49,622	$41,862	$42,476	$0	$0	$0	$140,620	$29,516	$170,136
2066	$6,833	$51,189	$43,060	$43,734	$0	$0	$0	$144,816	$30,336	$175,152
2067	$7,007	$52,803	$44,292	$45,028	$0	$0	$0	$149,130	$31,182	$180,312
2068	$7,190	$54,474	$45,558	$46,363	$0	$0	$0	$153,585	$32,052	$185,637
2069	$7,377	$56,191	$46,860	$47,737	$0	$0	$0	$158,165	$32,946	$191,111
2070	$7,565	$57,967	$48,202	$49,150	$0	$0	$0	$162,884	$33,865	$196,749

Table C-5: Scenario 3 – Annual Section Based Traffic, Phase 2 (P50)

(Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	1,155	0	0	0	0	0	0	1,155	4,145	5,300
2022	1,508	0	0	0	0	0	0	1,508	4,938	6,446
2023	1,941	0	0	0	0	0	0	1,941	5,794	7,735
2024	2,472	0	0	0	0	0	0	2,472	6,718	9,190
2025	4,136	4,942	10,852	5,832	14,453	0	0	40,215	6,950	47,165
2026	4,387	5,885	13,125	7,066	17,564	0	0	48,027	7,250	55,277
2027	4,654	6,898	15,626	8,428	21,014	0	0	56,620	7,565	64,185
2028	4,937	7,986	18,375	9,928	24,836	0	0	66,062	7,897	73,959
2029	5,238	8,321	19,447	10,527	26,421	0	0	69,954	8,246	78,200
2030	5,558	8,671	20,581	11,162	28,112	0	0	74,084	8,614	82,698
2031	5,709	8,801	20,867	11,417	28,757	0	0	75,551	8,838	84,389
2032	5,864	8,933	21,160	11,679	29,418	0	0	77,054	9,068	86,122
2033	6,025	9,067	21,461	11,947	30,094	0	0	78,594	9,304	87,898
2034	6,190	9,203	21,769	12,221	30,787	0	0	80,170	9,548	89,718
2035	6,360	9,341	22,084	12,502	31,496	0	0	81,783	9,798	91,581
2036	6,535	9,482	22,408	12,789	32,222	0	0	83,436	10,055	93,491
2037	6,715	9,624	22,739	13,083	32,965	0	0	85,126	10,319	95,445
2038	6,901	9,769	23,079	13,384	33,725	0	0	86,858	10,591	97,449
2039	7,093	9,915	23,427	13,692	34,504	0	0	88,631	10,870	99,501
2040	7,290	10,064	23,784	14,007	35,301	0	0	90,446	11,157	101,603
2041	7,391	10,140	23,966	14,168	35,707	0	0	91,372	11,304	102,676
2042	7,494	10,216	24,150	14,330	36,117	0	0	92,307	11,452	103,759
2043	7,598	10,292	24,337	14,494	36,533	0	0	93,254	11,603	104,857
2044	7,703	10,369	24,525	14,660	36,953	0	0	94,210	11,756	105,966
2045	7,810	10,447	24,717	14,828	37,378	0	0	95,180	11,911	107,091
2046	7,919	10,525	24,910	14,998	37,809	0	0	96,161	12,068	108,229
2047	8,030	10,604	25,106	15,171	38,244	0	0	97,155	12,227	109,382
2048	8,142	10,683	25,304	15,345	38,685	0	0	98,159	12,389	110,548
2049	8,256	10,763	25,505	15,521	39,131	0	0	99,176	12,553	111,729
2050	8,371	10,843	25,708	15,699	39,582	0	0	100,203	12,719	112,922
2051	8,441	10,892	25,832	15,807	39,855	0	0	100,827	12,820	113,647
2052	8,512	10,941	25,956	15,916	40,130	0	0	101,455	12,922	114,377
2053	8,584	10,990	26,081	16,025	40,408	0	0	102,088	13,024	115,112
2054	8,656	11,039	26,207	16,135	40,687	0	0	102,724	13,128	115,852
2055	8,729	11,089	26,334	16,246	40,968	0	0	103,366	13,232	116,598
2056	8,802	11,138	26,462	16,358	41,251	0	0	104,011	13,337	117,348
2057	8,876	11,188	26,591	16,471	41,536	0	0	104,662	13,443	118,105
2058	8,951	11,239	26,720	16,584	41,823	0	0	105,317	13,550	118,867
2059	9,026	11,289	26,851	16,698	42,113	0	0	105,977	13,658	119,635
2060	9,103	11,340	26,983	16,813	42,404	0	0	106,643	13,767	120,410
2061	9,128	11,356	27,027	16,852	42,501	0	0	106,864	13,803	120,667
2062	9,154	11,373	27,072	16,890	42,599	0	0	107,088	13,840	120,928
2063	9,179	11,390	27,116	16,929	42,697	0	0	107,311	13,877	121,188
2064	9,205	11,407	27,160	16,968	42,795	0	0	107,535	13,913	121,448
2065	9,231	11,424	27,205	17,007	42,894	0	0	107,761	13,950	121,711
2066	9,257	11,441	27,250	17,046	42,993	0	0	107,987	13,987	121,974
2067	9,283	11,459	27,295	17,085	43,092	0	0	108,214	14,024	122,238
2068	9,309	11,476	27,339	17,124	43,191	0	0	108,439	14,061	122,500
2069	9,335	11,493	27,385	17,163	43,290	0	0	108,666	14,099	122,765
2070	9,361	11,510	27,430	17,202	43,390	0	0	108,893	14,136	123,029

Table C-6: Scenario 3 – Annual Section Based Revenue, Phase 2 (P50)

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$532	$0	$0	$0	$0	$0	$0	$532	$2,584	$3,116
2022	$693	$0	$0	$0	$0	$0	$0	$693	$3,196	$3,889
2023	$893	$0	$0	$0	$0	$0	$0	$893	$3,891	$4,784
2024	$1,137	$0	$0	$0	$0	$0	$0	$1,137	$4,679	$5,816
2025	$1,902	$2,703	$4,990	$3,743	$6,720	$0	$0	$20,058	$4,995	$25,053
2026	$2,017	$3,437	$6,121	$4,907	$8,350	$0	$0	$24,832	$5,316	$30,148
2027	$2,141	$4,302	$7,394	$6,331	$10,222	$0	$0	$30,390	$5,658	$36,048
2028	$2,272	$5,319	$8,821	$8,069	$12,374	$0	$0	$36,855	$6,020	$42,875
2029	$2,411	$5,918	$9,475	$9,257	$13,494	$0	$0	$40,555	$6,405	$46,960
2030	$2,559	$6,586	$10,179	$10,618	$14,732	$0	$0	$44,674	$7,335	$52,009
2031	$2,639	$7,195	$10,757	$11,308	$15,459	$0	$0	$47,358	$7,747	$55,105
2032	$2,721	$7,862	$11,368	$12,042	$16,224	$0	$0	$50,217	$8,180	$58,397
2033	$2,806	$8,590	$12,018	$12,826	$17,030	$0	$0	$53,270	$8,635	$61,905
2034	$2,895	$9,384	$12,707	$13,659	$17,877	$0	$0	$56,522	$9,115	$65,637
2035	$2,986	$10,254	$13,440	$14,548	$18,768	$0	$0	$59,996	$9,619	$69,615
2036	$3,081	$11,203	$14,218	$15,493	$19,706	$0	$0	$63,701	$10,150	$73,851
2037	$3,179	$12,241	$15,044	$16,500	$20,692	$0	$0	$67,656	$10,707	$78,363
2038	$3,280	$13,375	$15,923	$17,574	$21,731	$0	$0	$71,883	$11,294	$83,177
2039	$3,385	$14,613	$16,856	$18,717	$22,825	$0	$0	$76,396	$11,908	$88,304
2040	$3,494	$15,967	$17,849	$19,936	$23,976	$0	$0	$81,222	$12,554	$93,776
2041	$3,595	$16,899	$18,595	$20,829	$24,880	$0	$0	$84,798	$13,048	$97,846
2042	$3,698	$17,882	$19,375	$21,764	$25,819	$0	$0	$88,538	$13,562	$102,100
2043	$3,804	$18,925	$20,189	$22,739	$26,794	$0	$0	$92,451	$14,096	$106,547
2044	$3,913	$20,029	$21,039	$23,758	$27,807	$0	$0	$96,546	$14,650	$111,196
2045	$4,025	$21,195	$21,925	$24,825	$28,858	$0	$0	$100,828	$15,227	$116,055
2046	$4,141	$22,431	$22,849	$25,939	$29,949	$0	$0	$105,309	$15,828	$121,137
2047	$4,259	$23,738	$23,813	$27,101	$31,085	$0	$0	$109,996	$16,452	$126,448
2048	$4,381	$25,123	$24,821	$28,316	$32,263	$0	$0	$114,904	$17,101	$132,005
2049	$4,509	$26,587	$25,871	$29,586	$33,485	$0	$0	$120,038	$17,775	$137,813
2050	$4,638	$28,136	$26,967	$30,914	$34,758	$0	$0	$125,413	$18,474	$143,887
2051	$4,765	$29,399	$27,923	$32,055	$35,897	$0	$0	$130,039	$19,097	$149,136
2052	$4,897	$30,718	$28,913	$33,236	$37,074	$0	$0	$134,838	$19,740	$154,578
2053	$5,029	$32,094	$29,938	$34,463	$38,290	$0	$0	$139,814	$20,403	$160,217
2054	$5,168	$33,533	$31,000	$35,734	$39,547	$0	$0	$144,982	$21,089	$166,071
2055	$5,307	$35,039	$32,100	$37,051	$40,844	$0	$0	$150,341	$21,800	$172,141
2056	$5,453	$36,611	$33,241	$38,418	$42,185	$0	$0	$155,908	$22,533	$178,441
2057	$5,603	$38,253	$34,422	$39,832	$43,573	$0	$0	$161,683	$23,292	$184,975
2058	$5,758	$39,968	$35,646	$41,302	$45,003	$0	$0	$167,677	$24,074	$191,751
2059	$5,913	$41,759	$36,916	$42,826	$46,481	$0	$0	$173,895	$24,884	$198,779
2060	$6,076	$43,633	$38,230	$44,404	$48,011	$0	$0	$180,354	$25,723	$206,077
2061	$6,234	$45,013	$39,320	$45,690	$49,339	$0	$0	$185,596	$26,439	$212,035
2062	$6,393	$46,434	$40,440	$47,013	$50,700	$0	$0	$190,980	$27,178	$218,158
2063	$6,559	$47,898	$41,594	$48,373	$52,101	$0	$0	$196,525	$27,934	$224,459
2064	$6,729	$49,413	$42,781	$49,772	$53,541	$0	$0	$202,236	$28,714	$230,950
2065	$6,901	$50,973	$44,002	$51,215	$55,021	$0	$0	$208,112	$29,516	$237,628
2066	$7,080	$52,581	$45,256	$52,698	$56,540	$0	$0	$214,155	$30,336	$244,491
2067	$7,261	$54,241	$46,550	$54,223	$58,102	$0	$0	$220,377	$31,182	$251,559
2068	$7,450	$55,954	$47,876	$55,792	$59,706	$0	$0	$226,778	$32,052	$258,830
2069	$7,643	$57,719	$49,243	$57,405	$61,358	$0	$0	$233,368	$32,946	$266,314
2070	$7,838	$59,546	$50,649	$59,068	$63,055	$0	$0	$240,156	$33,865	$274,021

Table C-7: Scenario 4 – Annual Section Based Traffic, Phase 2 (P50)

(Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	1,155	0	0	0	0	0	0	1,155	4,145	5,300
2022	1,508	0	0	0	0	0	0	1,508	4,938	6,446
2023	1,941	0	0	0	0	0	0	1,941	5,794	7,735
2024	2,472	0	0	0	0	0	0	2,472	6,718	9,190
2025	4,136	4,942	10,852	5,832	14,453	0	0	40,215	6,950	47,165
2026	4,387	5,885	13,125	7,066	17,564	0	0	48,027	7,250	55,277
2027	4,654	6,898	15,626	8,428	21,014	0	0	56,620	7,565	64,185
2028	4,937	7,986	18,375	9,928	24,836	0	0	66,062	7,897	73,959
2029	5,238	8,321	19,447	10,527	26,421	0	0	69,954	8,246	78,200
2030	5,662	8,796	20,762	11,881	31,079	4,081	7,290	89,551	8,614	98,165
2031	5,811	8,921	21,083	12,144	31,782	4,790	8,485	93,016	8,838	101,854
2032	5,963	9,046	21,412	12,413	32,500	5,535	9,721	96,590	9,068	105,658
2033	6,120	9,174	21,748	12,689	33,236	6,316	10,999	100,282	9,304	109,586
2034	6,281	9,304	22,092	12,971	33,989	6,487	11,201	102,325	9,548	111,873
2035	6,447	9,435	22,444	13,259	34,760	6,663	11,408	104,416	9,798	114,214
2036	6,617	9,568	22,805	13,554	35,549	6,844	11,618	106,555	10,055	116,610
2037	6,793	9,703	23,174	13,857	36,357	7,031	11,833	108,748	10,319	119,067
2038	6,973	9,840	23,551	14,166	37,184	7,222	12,051	110,987	10,591	121,578
2039	7,158	9,979	23,938	14,483	38,031	7,419	12,275	113,283	10,870	124,153
2040	7,349	10,120	24,334	14,807	38,897	7,621	12,502	115,630	11,157	126,787
2041	7,447	10,191	24,535	14,972	39,339	7,724	12,617	116,825	11,304	128,129
2042	7,546	10,263	24,739	15,139	39,785	7,829	12,734	118,035	11,452	129,487
2043	7,646	10,335	24,945	15,308	40,236	7,935	12,852	119,257	11,603	130,860
2044	7,748	10,408	25,154	15,479	40,693	8,043	12,970	120,495	11,756	132,251
2045	7,851	10,481	25,365	15,652	41,156	8,152	13,090	121,747	11,911	133,658
2046	7,956	10,555	25,578	15,826	41,624	8,263	13,212	123,014	12,068	135,082
2047	8,062	10,629	25,794	16,003	42,097	8,375	13,334	124,294	12,227	136,521
2048	8,169	10,704	26,013	16,182	42,576	8,489	13,457	125,590	12,389	137,979
2049	8,278	10,779	26,235	16,364	43,061	8,604	13,582	126,903	12,553	139,456
2050	8,389	10,855	26,458	16,547	43,551	8,721	13,708	128,229	12,719	140,948
2051	8,456	10,901	26,594	16,658	43,848	8,792	13,784	129,033	12,820	141,853
2052	8,524	10,946	26,731	16,770	44,148	8,864	13,861	129,844	12,922	142,766
2053	8,593	10,993	26,868	16,882	44,449	8,936	13,938	130,659	13,024	143,683
2054	8,662	11,039	27,007	16,996	44,753	9,009	14,016	131,482	13,128	144,610
2055	8,731	11,085	27,147	17,110	45,058	9,083	14,094	132,308	13,232	145,540
2056	8,801	11,132	27,287	17,225	45,366	9,157	14,172	133,140	13,337	146,477
2057	8,872	11,179	27,429	17,341	45,676	9,231	14,251	133,979	13,443	147,422
2058	8,943	11,226	27,571	17,457	45,988	9,307	14,331	134,823	13,550	148,373
2059	9,015	11,274	27,715	17,575	46,303	9,383	14,410	135,675	13,658	149,333
2060	9,088	11,321	27,860	17,693	46,619	9,459	14,491	136,531	13,767	150,298
2061	9,112	11,337	27,908	17,733	46,725	9,485	14,518	136,818	13,803	150,621
2062	9,137	11,353	27,957	17,772	46,832	9,511	14,545	137,107	13,840	150,947
2063	9,161	11,369	28,005	17,812	46,938	9,536	14,572	137,393	13,877	151,270
2064	9,186	11,385	28,054	17,852	47,045	9,562	14,599	137,683	13,913	151,596
2065	9,210	11,401	28,103	17,892	47,152	9,588	14,626	137,972	13,950	151,922
2066	9,235	11,417	28,152	17,932	47,260	9,614	14,653	138,263	13,987	152,250
2067	9,260	11,433	28,201	17,972	47,367	9,641	14,680	138,554	14,024	152,578
2068	9,285	11,449	28,251	18,013	47,475	9,667	14,707	138,847	14,061	152,908
2069	9,310	11,465	28,300	18,053	47,583	9,693	14,735	139,139	14,099	153,238
2070	9,335	11,481	28,350	18,093	47,691	9,719	14,762	139,431	14,136	153,567

Table C-8: Scenario 4 – Annual Section Based Revenue, Phase 2 (P50)

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$532	$0	$0	$0	$0	$0	$0	$532	$2,584	$3,116
2022	$693	$0	$0	$0	$0	$0	$0	$693	$3,196	$3,889
2023	$893	$0	$0	$0	$0	$0	$0	$893	$3,891	$4,784
2024	$1,137	$0	$0	$0	$0	$0	$0	$1,137	$4,679	$5,816
2025	$1,902	$2,703	$4,990	$3,743	$6,720	$0	$0	$20,058	$4,995	$25,053
2026	$2,017	$3,437	$6,121	$4,907	$8,350	$0	$0	$24,832	$5,316	$30,148
2027	$2,141	$4,302	$7,394	$6,331	$10,222	$0	$0	$30,390	$5,658	$36,048
2028	$2,272	$5,319	$8,821	$8,069	$12,374	$0	$0	$36,855	$6,020	$42,875
2029	$2,411	$5,918	$9,475	$9,257	$13,494	$0	$0	$40,555	$6,405	$46,960
2030	$2,607	$6,692	$10,247	$11,178	$16,203	$2,988	$3,357	$53,272	$7,335	$60,607
2031	$2,685	$7,297	$10,839	$11,896	$17,019	$3,674	$4,018	$57,428	$7,747	$65,175
2032	$2,766	$7,955	$11,469	$12,661	$17,881	$4,448	$4,734	$61,914	$8,180	$70,094
2033	$2,848	$8,676	$12,139	$13,477	$18,789	$5,317	$5,508	$66,754	$8,635	$75,389
2034	$2,935	$9,461	$12,852	$14,343	$19,747	$5,719	$5,771	$70,828	$9,115	$79,943
2035	$3,025	$10,316	$13,609	$15,266	$20,757	$6,152	$6,044	$75,169	$9,619	$84,788
2036	$3,115	$11,251	$14,417	$16,249	$21,823	$6,618	$6,333	$79,806	$10,150	$89,956
2037	$3,211	$12,269	$15,276	$17,293	$22,948	$7,120	$6,636	$84,753	$10,707	$95,460
2038	$3,309	$13,380	$16,191	$18,405	$24,136	$7,659	$6,953	$90,033	$11,294	$101,327
2039	$3,411	$14,593	$17,164	$19,591	$25,391	$8,241	$7,286	$95,677	$11,908	$107,585
2040	$3,514	$15,915	$18,203	$20,851	$26,717	$8,865	$7,635	$101,700	$12,554	$114,254
2041	$3,613	$16,828	$18,979	$21,778	$27,748	$9,309	$7,914	$106,169	$13,048	$119,217
2042	$3,713	$17,792	$19,790	$22,747	$28,820	$9,775	$8,202	$110,839	$13,562	$124,401
2043	$3,818	$18,812	$20,637	$23,759	$29,936	$10,265	$8,502	$115,729	$14,096	$129,825
2044	$3,925	$19,891	$21,522	$24,816	$31,095	$10,779	$8,813	$120,841	$14,650	$135,491
2045	$4,033	$21,033	$22,445	$25,920	$32,300	$11,321	$9,135	$126,187	$15,227	$141,414
2046	$4,147	$22,238	$23,411	$27,073	$33,557	$11,887	$9,468	$131,781	$15,828	$147,609
2047	$4,263	$23,515	$24,418	$28,279	$34,862	$12,483	$9,815	$137,635	$16,452	$154,087
2048	$4,383	$24,863	$25,471	$29,537	$36,221	$13,108	$10,175	$143,758	$17,101	$160,859
2049	$4,506	$26,289	$26,571	$30,851	$37,635	$13,765	$10,547	$150,164	$17,775	$167,939
2050	$4,633	$27,798	$27,721	$32,225	$39,103	$14,455	$10,933	$156,868	$18,474	$175,342
2051	$4,756	$29,029	$28,716	$33,405	$40,413	$15,032	$11,285	$162,636	$19,097	$181,733
2052	$4,885	$30,314	$29,750	$34,630	$41,764	$15,634	$11,645	$168,622	$19,740	$188,362
2053	$5,017	$31,658	$30,820	$35,899	$43,162	$16,259	$12,018	$174,833	$20,403	$195,236
2054	$5,150	$33,060	$31,931	$37,216	$44,609	$16,908	$12,403	$181,277	$21,089	$202,366
2055	$5,289	$34,526	$33,080	$38,581	$46,105	$17,585	$12,799	$187,965	$21,800	$209,765
2056	$5,432	$36,058	$34,272	$39,994	$47,652	$18,288	$13,211	$194,907	$22,533	$217,440
2057	$5,576	$37,655	$35,509	$41,462	$49,253	$19,018	$13,632	$202,105	$23,292	$225,397
2058	$5,727	$39,325	$36,789	$42,981	$50,908	$19,778	$14,068	$209,576	$24,074	$233,650
2059	$5,881	$41,065	$38,119	$44,558	$52,617	$20,570	$14,521	$217,331	$24,884	$242,215
2060	$6,040	$42,886	$39,496	$46,191	$54,389	$21,393	$14,985	$225,380	$25,723	$251,103
2061	$6,194	$44,235	$40,629	$47,525	$55,903	$22,034	$15,396	$231,916	$26,439	$258,355
2062	$6,352	$45,624	$41,794	$48,897	$57,463	$22,694	$15,818	$238,642	$27,178	$265,820
2063	$6,517	$47,055	$42,995	$50,308	$59,062	$23,373	$16,249	$245,559	$27,934	$273,493
2064	$6,684	$48,533	$44,231	$51,762	$60,712	$24,075	$16,694	$252,691	$28,714	$281,405
2065	$6,854	$50,058	$45,501	$53,253	$62,404	$24,797	$17,152	$260,019	$29,516	$289,535
2066	$7,032	$51,629	$46,807	$54,791	$64,143	$25,538	$17,619	$267,559	$30,336	$297,895
2067	$7,212	$53,251	$48,149	$56,376	$65,934	$26,307	$18,101	$275,330	$31,182	$306,512
2068	$7,396	$54,921	$49,534	$58,002	$67,770	$27,094	$18,597	$283,314	$32,052	$315,366
2069	$7,584	$56,646	$50,957	$59,678	$69,660	$27,905	$19,107	$291,537	$32,946	$324,483
2070	$7,781	$58,426	$52,421	$61,401	$71,607	$28,743	$19,630	$300,009	$33,865	$333,874

Appendix D – Detailed Phase 2 P75 Traffic and Revenue Results

Table D-1: Scenario 1 – Annual Section Based Traffic, Phase 2 (P75)

(Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	998	0	0	0	0	0	0	998	3,580	4,578
2022	1,303	0	0	0	0	0	0	1,303	4,266	5,569
2023	1,678	0	0	0	0	0	0	1,678	5,005	6,683
2024	2,137	0	0	0	0	0	0	2,137	5,804	7,941
2025	3,663	4,354	9,497	5,290	13,562	2,555	4,423	43,344	6,005	49,349
2026	3,890	5,193	11,504	6,443	16,580	3,122	5,438	52,170	6,278	58,448
2027	4,132	6,096	13,718	7,724	19,958	3,755	6,583	61,966	6,566	68,532
2028	4,389	7,067	16,155	9,145	23,731	4,462	7,871	72,820	6,869	79,689
2029	4,662	7,375	17,123	9,747	25,400	4,771	8,469	77,547	7,189	84,736
2030	4,952	7,696	18,149	10,388	27,192	5,101	9,114	82,592	7,527	90,119
2031	5,093	7,821	18,470	10,641	27,867	5,250	9,301	84,443	7,740	92,183
2032	5,238	7,948	18,799	10,901	28,558	5,404	9,492	86,340	7,959	94,299
2033	5,387	8,078	19,137	11,168	29,267	5,562	9,687	88,286	8,185	96,471
2034	5,541	8,210	19,482	11,441	29,995	5,725	9,887	90,281	8,418	98,699
2035	5,700	8,344	19,836	11,721	30,741	5,893	10,091	92,326	8,658	100,984
2036	5,864	8,480	20,199	12,009	31,507	6,066	10,299	94,424	8,905	103,329
2037	6,032	8,618	20,571	12,304	32,292	6,244	10,512	96,573	9,159	105,732
2038	6,206	8,758	20,953	12,606	33,098	6,428	10,729	98,778	9,421	108,199
2039	6,385	8,901	21,344	12,916	33,924	6,617	10,951	101,038	9,691	110,729
2040	6,569	9,046	21,744	13,234	34,772	6,812	11,178	103,355	9,969	113,324
2041	6,656	9,110	21,924	13,381	35,167	6,905	11,281	104,424	10,100	114,524
2042	6,745	9,174	22,106	13,531	35,566	6,998	11,385	105,505	10,233	115,738
2043	6,834	9,238	22,291	13,682	35,969	7,093	11,490	106,597	10,368	116,965
2044	6,925	9,303	22,477	13,834	36,378	7,189	11,596	107,702	10,504	118,206
2045	7,018	9,369	22,666	13,989	36,791	7,287	11,704	108,824	10,643	119,467
2046	7,111	9,435	22,856	14,145	37,209	7,386	11,812	109,954	10,783	120,737
2047	7,206	9,501	23,050	14,304	37,633	7,486	11,922	111,102	10,926	122,028
2048	7,302	9,568	23,245	14,464	38,061	7,588	12,032	112,260	11,070	123,330
2049	7,400	9,635	23,443	14,626	38,494	7,691	12,144	113,433	11,217	124,650
2050	7,499	9,703	23,643	14,789	38,933	7,796	12,256	114,619	11,365	125,984
2051	7,559	9,744	23,764	14,889	39,198	7,859	12,325	115,338	11,455	126,793
2052	7,620	9,785	23,886	14,989	39,466	7,923	12,393	116,062	11,546	127,608
2053	7,681	9,826	24,009	15,089	39,735	7,988	12,462	116,790	11,638	128,428
2054	7,742	9,868	24,133	15,191	40,006	8,053	12,531	117,524	11,730	129,254
2055	7,805	9,909	24,258	15,293	40,280	8,118	12,601	118,264	11,824	130,088
2056	7,867	9,951	24,383	15,396	40,555	8,185	12,671	119,008	11,918	130,926
2057	7,931	9,993	24,510	15,499	40,832	8,251	12,742	119,758	12,013	131,771
2058	7,994	10,035	24,637	15,603	41,111	8,319	12,813	120,512	12,108	132,620
2059	8,059	10,077	24,766	15,708	41,392	8,387	12,884	121,273	12,205	133,478
2060	8,124	10,120	24,895	15,814	41,675	8,455	12,956	122,039	12,302	134,341
2061	8,145	10,134	24,938	15,850	41,770	8,478	12,980	122,295	12,334	134,629
2062	8,167	10,148	24,982	15,885	41,865	8,501	13,004	122,552	12,367	134,919
2063	8,189	10,163	25,025	15,921	41,960	8,524	13,028	122,810	12,400	135,210
2064	8,211	10,177	25,069	15,956	42,056	8,547	13,053	123,069	12,433	135,502
2065	8,233	10,191	25,113	15,992	42,152	8,570	13,077	123,328	12,466	135,794
2066	8,255	10,205	25,156	16,028	42,248	8,594	13,101	123,587	12,499	136,086
2067	8,277	10,220	25,200	16,064	42,344	8,617	13,126	123,848	12,532	136,380
2068	8,300	10,234	25,244	16,100	42,440	8,640	13,150	124,108	12,565	136,673
2069	8,322	10,248	25,288	16,136	42,537	8,664	13,174	124,369	12,599	136,968
2070	8,344	10,263	25,333	16,172	42,634	8,687	13,199	124,632	12,632	137,264

Table D-2: Scenario 1 – Annual Section Based Revenue, Phase 2 (P75)

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$455	$0	$0	$0	$0	$0	$0	$455	$2,210	$2,665
2022	$594	$0	$0	$0	$0	$0	$0	$594	$2,732	$3,326
2023	$763	$0	$0	$0	$0	$0	$0	$763	$3,326	$4,089
2024	$972	$0	$0	$0	$0	$0	$0	$972	$4,000	$4,972
2025	$1,665	$2,358	$4,319	$3,313	$6,226	$1,541	$2,008	$21,430	$4,270	$25,700
2026	$1,756	$2,981	$5,265	$4,337	$7,724	$1,939	$2,453	$26,455	$4,523	$30,978
2027	$1,853	$3,711	$6,322	$5,588	$9,442	$2,401	$2,950	$32,267	$4,789	$37,056
2028	$1,954	$4,562	$7,498	$7,112	$11,409	$2,939	$3,502	$38,976	$5,070	$44,046
2029	$2,062	$5,047	$8,004	$8,144	$12,416	$3,235	$3,744	$42,652	$5,369	$48,021
2030	$2,176	$5,584	$8,547	$9,328	$13,525	$3,562	$4,003	$46,725	$6,118	$52,843
2031	$2,230	$6,060	$8,997	$9,880	$14,138	$3,815	$4,171	$49,291	$6,430	$55,721
2032	$2,286	$6,575	$9,473	$10,466	$14,784	$4,084	$4,348	$52,016	$6,756	$58,772
2033	$2,343	$7,135	$9,977	$11,085	$15,461	$4,372	$4,533	$54,906	$7,098	$62,004
2034	$2,402	$7,744	$10,511	$11,743	$16,172	$4,681	$4,726	$57,979	$7,457	$65,436
2035	$2,464	$8,404	$11,077	$12,437	$16,920	$5,012	$4,925	$61,239	$7,830	$69,069
2036	$2,525	$9,121	$11,675	$13,174	$17,704	$5,366	$5,137	$64,702	$8,223	$72,925
2037	$2,590	$9,898	$12,311	$13,954	$18,529	$5,744	$5,356	$68,382	$8,631	$77,013
2038	$2,656	$10,743	$12,984	$14,780	$19,397	$6,151	$5,585	$72,296	$9,061	$81,357
2039	$2,725	$11,659	$13,697	$15,656	$20,309	$6,586	$5,825	$76,457	$9,508	$85,965
2040	$2,794	$12,654	$14,452	$16,582	$21,267	$7,050	$6,076	$80,875	$9,975	$90,850
2041	$2,874	$13,378	$15,069	$17,321	$22,088	$7,403	$6,296	$84,429	$10,367	$94,796
2042	$2,953	$14,146	$15,712	$18,091	$22,942	$7,774	$6,526	$88,144	$10,777	$98,921
2043	$3,037	$14,955	$16,385	$18,896	$23,829	$8,163	$6,765	$92,030	$11,200	$103,230
2044	$3,121	$15,812	$17,086	$19,737	$24,753	$8,573	$7,012	$96,094	$11,642	$107,736
2045	$3,209	$16,719	$17,820	$20,616	$25,713	$9,002	$7,267	$100,346	$12,100	$112,446
2046	$3,297	$17,678	$18,587	$21,532	$26,713	$9,454	$7,534	$104,795	$12,577	$117,372
2047	$3,391	$18,692	$19,387	$22,491	$27,752	$9,927	$7,809	$109,449	$13,072	$122,521
2048	$3,486	$19,763	$20,222	$23,490	$28,834	$10,424	$8,094	$114,313	$13,588	$127,901
2049	$3,583	$20,897	$21,095	$24,536	$29,959	$10,946	$8,392	$119,408	$14,125	$133,533
2050	$3,684	$22,095	$22,007	$25,628	$31,132	$11,496	$8,699	$124,741	$14,681	$139,422
2051	$3,783	$23,075	$22,797	$26,568	$32,174	$11,954	$8,978	$129,329	$15,174	$144,503
2052	$3,885	$24,097	$23,617	$27,541	$33,250	$12,433	$9,266	$134,089	$15,685	$149,774
2053	$3,989	$25,165	$24,467	$28,551	$34,363	$12,931	$9,562	$139,028	$16,214	$155,242
2054	$4,097	$26,280	$25,347	$29,597	$35,514	$13,448	$9,867	$144,150	$16,760	$160,910
2055	$4,207	$27,443	$26,259	$30,683	$36,705	$13,986	$10,182	$149,465	$17,323	$166,788
2056	$4,320	$28,660	$27,205	$31,807	$37,937	$14,545	$10,509	$154,983	$17,907	$172,890
2057	$4,437	$29,930	$28,188	$32,971	$39,210	$15,126	$10,846	$160,708	$18,508	$179,216
2058	$4,556	$31,257	$29,203	$34,182	$40,529	$15,730	$11,194	$166,651	$19,132	$185,783
2059	$4,678	$32,642	$30,257	$35,436	$41,892	$16,360	$11,552	$172,817	$19,778	$192,595
2060	$4,804	$34,087	$31,351	$36,733	$43,301	$17,012	$11,923	$179,211	$20,444	$199,655
2061	$4,927	$35,158	$32,250	$37,795	$44,508	$17,523	$12,249	$184,410	$21,013	$205,423
2062	$5,054	$36,261	$33,178	$38,886	$45,749	$18,048	$12,583	$189,759	$21,598	$211,357
2063	$5,183	$37,400	$34,129	$40,008	$47,023	$18,588	$12,930	$195,261	$22,201	$217,462
2064	$5,316	$38,574	$35,110	$41,162	$48,336	$19,148	$13,282	$200,928	$22,822	$223,750
2065	$5,452	$39,787	$36,118	$42,352	$49,682	$19,721	$13,644	$206,756	$23,456	$230,212
2066	$5,592	$41,036	$37,155	$43,572	$51,069	$20,313	$14,020	$212,757	$24,111	$236,868
2067	$5,736	$42,326	$38,221	$44,831	$52,493	$20,920	$14,402	$218,929	$24,785	$243,714
2068	$5,883	$43,655	$39,318	$46,125	$53,957	$21,548	$14,795	$225,281	$25,473	$250,754
2069	$6,033	$45,024	$40,445	$47,459	$55,462	$22,194	$15,202	$231,819	$26,184	$258,003
2070	$6,188	$46,438	$41,608	$48,828	$57,008	$22,858	$15,616	$238,544	$26,914	$265,458

Table D-3: Scenario 2 – Annual Section Based Traffic, Phase 2 (P75)

(Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	998	0	0	0	0	0	0	998	3,580	4,578
2022	1,303	0	0	0	0	0	0	1,303	4,266	5,569
2023	2,806	3,938	8,368	4,220	0	0	0	19,332	5,005	24,337
2024	3,301	4,680	10,042	5,084	0	0	0	23,107	5,804	28,911
2025	3,496	5,474	11,863	6,029	0	0	0	26,862	6,005	32,867
2026	3,711	6,338	13,873	7,078	0	0	0	31,000	6,278	37,278
2027	3,939	6,605	14,601	7,478	0	0	0	32,623	6,566	39,189
2028	4,182	6,883	15,368	7,901	0	0	0	34,334	6,869	41,203
2029	4,440	7,172	16,175	8,348	0	0	0	36,135	7,189	43,324
2030	4,714	7,474	17,026	8,820	0	0	0	38,034	7,527	45,561
2031	4,852	7,594	17,264	9,011	0	0	0	38,721	7,740	46,461
2032	4,994	7,716	17,508	9,205	0	0	0	39,423	7,959	47,382
2033	5,141	7,840	17,757	9,403	0	0	0	40,141	8,185	48,326
2034	5,292	7,965	18,011	9,606	0	0	0	40,874	8,418	49,292
2035	5,449	8,093	18,271	9,813	0	0	0	41,626	8,658	50,284
2036	5,610	8,223	18,536	10,024	0	0	0	42,393	8,905	51,298
2037	5,777	8,355	18,808	10,241	0	0	0	43,181	9,159	52,340
2038	5,949	8,489	19,085	10,461	0	0	0	43,984	9,421	53,405
2039	6,127	8,625	19,368	10,687	0	0	0	44,807	9,691	54,498
2040	6,311	8,764	19,658	10,917	0	0	0	45,650	9,969	55,619
2041	6,398	8,824	19,784	11,022	0	0	0	46,028	10,100	56,128
2042	6,487	8,885	19,910	11,127	0	0	0	46,409	10,233	56,642
2043	6,577	8,946	20,038	11,234	0	0	0	46,795	10,368	57,163
2044	6,668	9,008	20,168	11,342	0	0	0	47,186	10,504	57,690
2045	6,761	9,070	20,299	11,451	0	0	0	47,581	10,643	58,224
2046	6,855	9,133	20,431	11,560	0	0	0	47,979	10,783	58,762
2047	6,951	9,196	20,565	11,671	0	0	0	48,383	10,926	59,309
2048	7,048	9,260	20,700	11,783	0	0	0	48,791	11,070	59,861
2049	7,146	9,324	20,836	11,896	0	0	0	49,202	11,217	60,419
2050	7,247	9,388	20,974	12,010	0	0	0	49,619	11,365	60,984
2051	7,307	9,427	21,057	12,079	0	0	0	49,870	11,455	61,325
2052	7,369	9,466	21,141	12,149	0	0	0	50,125	11,546	61,671
2053	7,431	9,505	21,226	12,218	0	0	0	50,380	11,638	62,018
2054	7,493	9,544	21,311	12,288	0	0	0	50,636	11,730	62,366
2055	7,556	9,584	21,396	12,359	0	0	0	50,895	11,824	62,719
2056	7,620	9,624	21,483	12,430	0	0	0	51,157	11,918	63,075
2057	7,684	9,663	21,569	12,501	0	0	0	51,417	12,013	63,430
2058	7,749	9,703	21,657	12,573	0	0	0	51,682	12,108	63,790
2059	7,815	9,744	21,744	12,645	0	0	0	51,948	12,205	64,153
2060	7,881	9,784	21,833	12,718	0	0	0	52,216	12,302	64,518
2061	7,903	9,797	21,862	12,742	0	0	0	52,304	12,334	64,638
2062	7,925	9,811	21,892	12,767	0	0	0	52,395	12,367	64,762
2063	7,948	9,824	21,922	12,791	0	0	0	52,485	12,400	64,885
2064	7,970	9,838	21,952	12,815	0	0	0	52,575	12,433	65,008
2065	7,992	9,852	21,981	12,840	0	0	0	52,665	12,466	65,131
2066	8,015	9,865	22,011	12,864	0	0	0	52,755	12,499	65,254
2067	8,037	9,879	22,041	12,889	0	0	0	52,846	12,532	65,378
2068	8,060	9,892	22,071	12,914	0	0	0	52,937	12,565	65,502
2069	8,083	9,906	22,101	12,938	0	0	0	53,028	12,599	65,627
2070	8,106	9,920	22,132	12,963	0	0	0	53,121	12,632	65,753

Table D-4: Scenario 2 – Annual Section Based Revenue, Phase 2 (P75)

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$455	$0	$0	$0	$0	$0	$0	$455	$2,210	$2,665
2022	$594	$0	$0	$0	$0	$0	$0	$594	$2,732	$3,326
2023	$1,274	$1,858	$3,718	$2,136	$0	$0	$0	$8,986	$3,326	$12,312
2024	$1,500	$2,355	$4,514	$2,729	$0	$0	$0	$11,098	$4,000	$15,098
2025	$1,589	$2,937	$5,394	$3,431	$0	$0	$0	$13,351	$4,270	$17,621
2026	$1,674	$3,602	$6,338	$4,240	$0	$0	$0	$15,854	$4,523	$20,377
2027	$1,766	$3,976	$6,701	$4,716	$0	$0	$0	$17,159	$4,789	$21,948
2028	$1,861	$4,387	$7,088	$5,245	$0	$0	$0	$18,581	$5,070	$23,651
2029	$1,963	$4,843	$7,498	$5,834	$0	$0	$0	$20,138	$5,369	$25,507
2030	$2,071	$5,345	$7,932	$6,488	$0	$0	$0	$21,836	$6,118	$27,954
2031	$2,125	$5,812	$8,351	$6,921	$0	$0	$0	$23,209	$6,430	$29,639
2032	$2,179	$6,320	$8,794	$7,385	$0	$0	$0	$24,678	$6,756	$31,434
2033	$2,235	$6,872	$9,262	$7,879	$0	$0	$0	$26,248	$7,098	$33,346
2034	$2,294	$7,472	$9,757	$8,407	$0	$0	$0	$27,930	$7,457	$35,387
2035	$2,355	$8,126	$10,281	$8,970	$0	$0	$0	$29,732	$7,830	$37,562
2036	$2,417	$8,835	$10,835	$9,570	$0	$0	$0	$31,657	$8,223	$39,880
2037	$2,481	$9,609	$11,421	$10,210	$0	$0	$0	$33,721	$8,631	$42,352
2038	$2,546	$10,448	$12,041	$10,894	$0	$0	$0	$35,929	$9,061	$44,990
2039	$2,615	$11,362	$12,696	$11,623	$0	$0	$0	$38,296	$9,508	$47,804
2040	$2,686	$12,355	$13,390	$12,401	$0	$0	$0	$40,832	$9,975	$50,807
2041	$2,762	$13,076	$13,958	$13,000	$0	$0	$0	$42,796	$10,367	$53,163
2042	$2,841	$13,838	$14,551	$13,629	$0	$0	$0	$44,859	$10,777	$55,636
2043	$2,922	$14,644	$15,168	$14,287	$0	$0	$0	$47,021	$11,200	$58,221
2044	$3,005	$15,497	$15,812	$14,980	$0	$0	$0	$49,294	$11,642	$60,936
2045	$3,092	$16,402	$16,486	$15,702	$0	$0	$0	$51,682	$12,100	$63,782
2046	$3,180	$17,357	$17,187	$16,462	$0	$0	$0	$54,186	$12,577	$66,763
2047	$3,272	$18,370	$17,920	$17,258	$0	$0	$0	$56,820	$13,072	$69,892
2048	$3,365	$19,442	$18,686	$18,093	$0	$0	$0	$59,586	$13,588	$73,174
2049	$3,463	$20,574	$19,483	$18,968	$0	$0	$0	$62,488	$14,125	$76,613
2050	$3,563	$21,773	$20,317	$19,884	$0	$0	$0	$65,537	$14,681	$80,218
2051	$3,659	$22,750	$21,041	$20,659	$0	$0	$0	$68,109	$15,174	$83,283
2052	$3,758	$23,771	$21,793	$21,462	$0	$0	$0	$70,784	$15,685	$86,469
2053	$3,862	$24,836	$22,570	$22,298	$0	$0	$0	$73,566	$16,214	$89,780
2054	$3,966	$25,950	$23,374	$23,167	$0	$0	$0	$76,457	$16,760	$93,217
2055	$4,076	$27,115	$24,210	$24,069	$0	$0	$0	$79,470	$17,323	$96,793
2056	$4,189	$28,333	$25,076	$25,006	$0	$0	$0	$82,604	$17,907	$100,511
2057	$4,302	$29,603	$25,972	$25,981	$0	$0	$0	$85,858	$18,508	$104,366
2058	$4,420	$30,929	$26,901	$26,991	$0	$0	$0	$89,241	$19,132	$108,373
2059	$4,540	$32,319	$27,863	$28,042	$0	$0	$0	$92,764	$19,778	$112,542
2060	$4,665	$33,767	$28,859	$29,134	$0	$0	$0	$96,425	$20,444	$116,869
2061	$4,785	$34,836	$29,683	$29,999	$0	$0	$0	$99,303	$21,013	$120,316
2062	$4,911	$35,934	$30,534	$30,886	$0	$0	$0	$102,265	$21,598	$123,863
2063	$5,036	$37,068	$31,406	$31,802	$0	$0	$0	$105,312	$22,201	$127,513
2064	$5,166	$38,240	$32,303	$32,744	$0	$0	$0	$108,453	$22,822	$131,275
2065	$5,298	$39,448	$33,228	$33,714	$0	$0	$0	$111,688	$23,456	$135,144
2066	$5,434	$40,692	$34,179	$34,715	$0	$0	$0	$115,020	$24,111	$139,131
2067	$5,577	$41,977	$35,156	$35,741	$0	$0	$0	$118,451	$24,785	$143,236
2068	$5,720	$43,304	$36,162	$36,801	$0	$0	$0	$121,987	$25,473	$147,460
2069	$5,867	$44,672	$37,195	$37,891	$0	$0	$0	$125,625	$26,184	$151,809
2070	$6,017	$46,081	$38,258	$39,013	$0	$0	$0	$129,369	$26,914	$156,283

Table D-5: Scenario 3 – Annual Section Based Traffic, Phase 2 (P75)

(Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	998	0	0	0	0	0	0	998	3,580	4,578
2022	1,303	0	0	0	0	0	0	1,303	4,266	5,569
2023	1,678	0	0	0	0	0	0	1,678	5,005	6,683
2024	2,137	0	0	0	0	0	0	2,137	5,804	7,941
2025	3,578	4,277	9,383	5,044	12,523	0	0	34,805	6,005	40,810
2026	3,804	5,104	11,373	6,125	15,250	0	0	41,656	6,278	47,934
2027	4,044	5,996	13,570	7,321	18,284	0	0	49,215	6,566	55,781
2028	4,299	6,957	15,992	8,644	21,654	0	0	57,546	6,869	64,415
2029	4,571	7,264	16,962	9,185	23,084	0	0	61,066	7,189	68,255
2030	4,861	7,585	17,991	9,760	24,612	0	0	64,809	7,527	72,336
2031	5,004	7,716	18,281	10,005	25,230	0	0	66,236	7,740	73,976
2032	5,152	7,849	18,579	10,257	25,865	0	0	67,702	7,959	75,661
2033	5,304	7,984	18,884	10,515	26,515	0	0	69,202	8,185	77,387
2034	5,461	8,121	19,197	10,780	27,183	0	0	70,742	8,418	79,160
2035	5,623	8,261	19,518	11,052	27,867	0	0	72,321	8,658	80,979
2036	5,791	8,403	19,848	11,331	28,570	0	0	73,943	8,905	82,848
2037	5,964	8,548	20,186	11,617	29,290	0	0	75,605	9,159	84,764
2038	6,142	8,695	20,533	11,910	30,029	0	0	77,309	9,421	86,730
2039	6,326	8,845	20,889	12,211	30,788	0	0	79,059	9,691	88,750
2040	6,516	8,997	21,254	12,519	31,566	0	0	80,852	9,969	90,821
2041	6,607	9,064	21,416	12,663	31,929	0	0	81,679	10,100	91,779
2042	6,698	9,132	21,581	12,808	32,296	0	0	82,515	10,233	92,748
2043	6,791	9,200	21,747	12,954	32,667	0	0	83,359	10,368	93,727
2044	6,886	9,269	21,916	13,103	33,043	0	0	84,217	10,504	94,721
2045	6,982	9,338	22,086	13,253	33,423	0	0	85,082	10,643	95,725
2046	7,079	9,408	22,259	13,405	33,808	0	0	85,959	10,783	96,742
2047	7,178	9,479	22,434	13,559	34,197	0	0	86,847	10,926	97,773
2048	7,278	9,550	22,612	13,715	34,591	0	0	87,746	11,070	98,816
2049	7,380	9,621	22,791	13,872	34,990	0	0	88,654	11,217	99,871
2050	7,483	9,693	22,973	14,032	35,393	0	0	89,574	11,365	100,939
2051	7,546	9,737	23,083	14,128	35,638	0	0	90,132	11,455	101,587
2052	7,609	9,780	23,194	14,225	35,884	0	0	90,692	11,546	102,238
2053	7,673	9,824	23,305	14,323	36,132	0	0	91,257	11,638	102,895
2054	7,737	9,868	23,418	14,422	36,381	0	0	91,826	11,730	103,556
2055	7,803	9,912	23,532	14,521	36,633	0	0	92,401	11,824	104,225
2056	7,868	9,957	23,646	14,621	36,886	0	0	92,978	11,918	104,896
2057	7,934	10,002	23,761	14,721	37,141	0	0	93,559	12,013	105,572
2058	8,001	10,046	23,877	14,823	37,398	0	0	94,145	12,108	106,253
2059	8,069	10,091	23,994	14,925	37,656	0	0	94,735	12,205	106,940
2060	8,137	10,137	24,112	15,028	37,917	0	0	95,331	12,302	107,633
2061	8,160	10,152	24,151	15,062	38,004	0	0	95,529	12,334	107,863
2062	8,183	10,167	24,191	15,097	38,091	0	0	95,729	12,367	108,096
2063	8,206	10,182	24,230	15,131	38,179	0	0	95,928	12,400	108,328
2064	8,229	10,197	24,270	15,166	38,267	0	0	96,129	12,433	108,562
2065	8,252	10,213	24,310	15,201	38,355	0	0	96,331	12,466	108,797
2066	8,275	10,228	24,350	15,235	38,443	0	0	96,531	12,499	109,030
2067	8,298	10,243	24,390	15,270	38,532	0	0	96,733	12,532	109,265
2068	8,322	10,258	24,430	15,305	38,620	0	0	96,935	12,565	109,500
2069	8,345	10,274	24,470	15,340	38,709	0	0	97,138	12,599	109,737
2070	8,368	10,289	24,511	15,375	38,798	0	0	97,341	12,632	109,973

Table D-6: Scenario 3 – Annual Section Based Revenue, Phase 2 (P75)

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$455	$0	$0	$0	$0	$0	$0	$455	$2,210	$2,665
2022	$594	$0	$0	$0	$0	$0	$0	$594	$2,732	$3,326
2023	$763	$0	$0	$0	$0	$0	$0	$763	$3,326	$4,089
2024	$972	$0	$0	$0	$0	$0	$0	$972	$4,000	$4,972
2025	$1,626	$2,310	$4,266	$3,200	$5,744	$0	$0	$17,146	$4,270	$21,416
2026	$1,717	$2,924	$5,207	$4,174	$7,103	$0	$0	$21,125	$4,523	$25,648
2027	$1,813	$3,642	$6,259	$5,360	$8,657	$0	$0	$25,731	$4,789	$30,520
2028	$1,914	$4,481	$7,431	$6,800	$10,430	$0	$0	$31,056	$5,070	$36,126
2029	$2,022	$4,963	$7,943	$7,762	$11,320	$0	$0	$34,010	$5,369	$39,379
2030	$2,135	$5,496	$8,491	$8,862	$12,300	$0	$0	$37,284	$6,118	$43,402
2031	$2,191	$5,976	$8,927	$9,392	$12,848	$0	$0	$39,334	$6,430	$45,764
2032	$2,249	$6,498	$9,389	$9,955	$13,421	$0	$0	$41,512	$6,756	$48,268
2033	$2,308	$7,065	$9,877	$10,551	$14,022	$0	$0	$43,823	$7,098	$50,921
2034	$2,369	$7,681	$10,394	$11,183	$14,650	$0	$0	$46,277	$7,457	$53,734
2035	$2,433	$8,353	$10,938	$11,852	$15,309	$0	$0	$48,885	$7,830	$56,715
2036	$2,497	$9,083	$11,515	$12,563	$15,998	$0	$0	$51,656	$8,223	$59,879
2037	$2,565	$9,876	$12,123	$13,316	$16,722	$0	$0	$54,602	$8,631	$63,233
2038	$2,634	$10,737	$12,769	$14,113	$17,479	$0	$0	$57,732	$9,061	$66,793
2039	$2,705	$11,676	$13,450	$14,960	$18,273	$0	$0	$61,064	$9,508	$70,572
2040	$2,778	$12,695	$14,171	$15,857	$19,104	$0	$0	$64,605	$9,975	$74,580
2041	$2,859	$13,436	$14,765	$16,569	$19,824	$0	$0	$67,453	$10,367	$77,820
2042	$2,940	$14,218	$15,383	$17,310	$20,573	$0	$0	$70,424	$10,777	$81,201
2043	$3,025	$15,047	$16,028	$18,087	$21,350	$0	$0	$73,537	$11,200	$84,737
2044	$3,113	$15,924	$16,703	$18,897	$22,155	$0	$0	$76,792	$11,642	$88,434
2045	$3,201	$16,852	$17,407	$19,746	$22,993	$0	$0	$80,199	$12,100	$92,299
2046	$3,293	$17,834	$18,140	$20,632	$23,864	$0	$0	$83,763	$12,577	$96,340
2047	$3,388	$18,873	$18,905	$21,556	$24,768	$0	$0	$87,490	$13,072	$100,562
2048	$3,486	$19,975	$19,704	$22,522	$25,707	$0	$0	$91,394	$13,588	$104,982
2049	$3,587	$21,138	$20,537	$23,533	$26,682	$0	$0	$95,477	$14,125	$109,602
2050	$3,691	$22,371	$21,410	$24,589	$27,696	$0	$0	$99,757	$14,681	$114,438
2051	$3,790	$23,374	$22,166	$25,495	$28,602	$0	$0	$103,427	$15,174	$118,601
2052	$3,894	$24,423	$22,953	$26,434	$29,541	$0	$0	$107,245	$15,685	$122,930
2053	$4,002	$25,517	$23,767	$27,409	$30,509	$0	$0	$111,204	$16,214	$127,418
2054	$4,110	$26,661	$24,609	$28,419	$31,512	$0	$0	$115,311	$16,760	$132,071
2055	$4,223	$27,857	$25,483	$29,468	$32,546	$0	$0	$119,577	$17,323	$136,900
2056	$4,339	$29,106	$26,389	$30,553	$33,614	$0	$0	$124,001	$17,907	$141,908
2057	$4,459	$30,412	$27,324	$31,680	$34,719	$0	$0	$128,594	$18,508	$147,102
2058	$4,578	$31,776	$28,297	$32,848	$35,858	$0	$0	$133,357	$19,132	$152,489
2059	$4,705	$33,200	$29,303	$34,059	$37,037	$0	$0	$138,304	$19,778	$158,082
2060	$4,834	$34,688	$30,346	$35,317	$38,257	$0	$0	$143,442	$20,444	$163,886
2061	$4,958	$35,787	$31,211	$36,339	$39,314	$0	$0	$147,609	$21,013	$168,622
2062	$5,088	$36,915	$32,101	$37,391	$40,399	$0	$0	$151,894	$21,598	$173,492
2063	$5,218	$38,080	$33,018	$38,473	$41,514	$0	$0	$156,303	$22,201	$178,504
2064	$5,352	$39,284	$33,958	$39,585	$42,660	$0	$0	$160,839	$22,822	$183,661
2065	$5,493	$40,524	$34,928	$40,732	$43,841	$0	$0	$165,518	$23,456	$188,974
2066	$5,633	$41,802	$35,925	$41,909	$45,050	$0	$0	$170,319	$24,111	$194,430
2067	$5,778	$43,122	$36,950	$43,122	$46,296	$0	$0	$175,268	$24,785	$200,053
2068	$5,926	$44,485	$38,003	$44,370	$47,576	$0	$0	$180,360	$25,473	$205,833
2069	$6,081	$45,890	$39,087	$45,657	$48,892	$0	$0	$185,607	$26,184	$211,791
2070	$6,237	$47,337	$40,204	$46,976	$50,243	$0	$0	$190,997	$26,914	$217,911

Table D-7: Scenario 4 – Annual Section Based Traffic, Phase 2 (P75)

(Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	998	0	0	0	0	0	0	998	3,580	4,578
2022	1,303	0	0	0	0	0	0	1,303	4,266	5,569
2023	1,678	0	0	0	0	0	0	1,678	5,005	6,683
2024	2,137	0	0	0	0	0	0	2,137	5,804	7,941
2025	3,578	4,277	9,383	5,044	12,523	0	0	34,805	6,005	40,810
2026	3,804	5,104	11,373	6,125	15,250	0	0	41,656	6,278	47,934
2027	4,044	5,996	13,570	7,321	18,284	0	0	49,215	6,566	55,781
2028	4,299	6,957	15,992	8,644	21,654	0	0	57,546	6,869	64,415
2029	4,571	7,264	16,962	9,185	23,084	0	0	61,066	7,189	68,255
2030	4,952	7,696	18,149	10,388	27,192	3,571	6,380	78,328	7,527	85,855
2031	5,093	7,821	18,470	10,641	27,867	4,200	7,441	81,533	7,740	89,273
2032	5,238	7,948	18,799	10,901	28,558	4,863	8,543	84,850	7,959	92,809
2033	5,387	8,078	19,137	11,168	29,267	5,562	9,687	88,286	8,185	96,471
2034	5,541	8,210	19,482	11,441	29,995	5,725	9,887	90,281	8,418	98,699
2035	5,700	8,344	19,836	11,721	30,741	5,893	10,091	92,326	8,658	100,984
2036	5,864	8,480	20,199	12,009	31,507	6,066	10,299	94,424	8,905	103,329
2037	6,032	8,618	20,571	12,304	32,292	6,244	10,512	96,573	9,159	105,732
2038	6,206	8,758	20,953	12,606	33,098	6,428	10,729	98,778	9,421	108,199
2039	6,385	8,901	21,344	12,916	33,924	6,617	10,951	101,038	9,691	110,729
2040	6,569	9,046	21,744	13,234	34,772	6,812	11,178	103,355	9,969	113,324
2041	6,656	9,110	21,924	13,381	35,167	6,905	11,281	104,424	10,100	114,524
2042	6,745	9,174	22,106	13,531	35,566	6,998	11,385	105,505	10,233	115,738
2043	6,834	9,238	22,291	13,682	35,969	7,093	11,490	106,597	10,368	116,965
2044	6,925	9,303	22,477	13,834	36,378	7,189	11,596	107,702	10,504	118,206
2045	7,018	9,369	22,666	13,989	36,791	7,287	11,704	108,824	10,643	119,467
2046	7,111	9,435	22,856	14,145	37,209	7,386	11,812	109,954	10,783	120,737
2047	7,206	9,501	23,050	14,304	37,633	7,486	11,922	111,102	10,926	122,028
2048	7,302	9,568	23,245	14,464	38,061	7,588	12,032	112,260	11,070	123,330
2049	7,400	9,635	23,443	14,626	38,494	7,691	12,144	113,433	11,217	124,650
2050	7,499	9,703	23,643	14,789	38,933	7,796	12,256	114,619	11,365	125,984
2051	7,559	9,744	23,764	14,889	39,198	7,859	12,325	115,338	11,455	126,793
2052	7,620	9,785	23,886	14,989	39,466	7,923	12,393	116,062	11,546	127,608
2053	7,681	9,826	24,009	15,089	39,735	7,988	12,462	116,790	11,638	128,428
2054	7,742	9,868	24,133	15,191	40,006	8,053	12,531	117,524	11,730	129,254
2055	7,805	9,909	24,258	15,293	40,280	8,118	12,601	118,264	11,824	130,088
2056	7,867	9,951	24,383	15,396	40,555	8,185	12,671	119,008	11,918	130,926
2057	7,931	9,993	24,510	15,499	40,832	8,251	12,742	119,758	12,013	131,771
2058	7,994	10,035	24,637	15,603	41,111	8,319	12,813	120,512	12,108	132,620
2059	8,059	10,077	24,766	15,708	41,392	8,387	12,884	121,273	12,205	133,478
2060	8,124	10,120	24,895	15,814	41,675	8,455	12,956	122,039	12,302	134,341
2061	8,145	10,134	24,938	15,850	41,770	8,478	12,980	122,295	12,334	134,629
2062	8,167	10,148	24,982	15,885	41,865	8,501	13,004	122,552	12,367	134,919
2063	8,189	10,163	25,025	15,921	41,960	8,524	13,028	122,810	12,400	135,210
2064	8,211	10,177	25,069	15,956	42,056	8,547	13,053	123,069	12,433	135,502
2065	8,233	10,191	25,113	15,992	42,152	8,570	13,077	123,328	12,466	135,794
2066	8,255	10,205	25,156	16,028	42,248	8,594	13,101	123,587	12,499	136,086
2067	8,277	10,220	25,200	16,064	42,344	8,617	13,126	123,848	12,532	136,380
2068	8,300	10,234	25,244	16,100	42,440	8,640	13,150	124,108	12,565	136,673
2069	8,322	10,248	25,288	16,136	42,537	8,664	13,174	124,369	12,599	136,968
2070	8,344	10,263	25,333	16,172	42,634	8,687	13,199	124,632	12,632	137,264

Table D-8: Scenario 4 – Annual Section Based Revenue, Phase 2 (P75)

Future Dollars (Thousands)

Year	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	EL Total	Section 1	Total
2021	$455	$0	$0	$0	$0	$0	$0	$455	$2,210	$2,665
2022	$594	$0	$0	$0	$0	$0	$0	$594	$2,732	$3,326
2023	$763	$0	$0	$0	$0	$0	$0	$763	$3,326	$4,089
2024	$972	$0	$0	$0	$0	$0	$0	$972	$4,000	$4,972
2025	$1,626	$2,310	$4,266	$3,200	$5,744	$0	$0	$17,146	$4,270	$21,416
2026	$1,717	$2,924	$5,207	$4,174	$7,103	$0	$0	$21,125	$4,523	$25,648
2027	$1,813	$3,642	$6,259	$5,360	$8,657	$0	$0	$25,731	$4,789	$30,520
2028	$1,914	$4,481	$7,431	$6,800	$10,430	$0	$0	$31,056	$5,070	$36,126
2029	$2,022	$4,963	$7,943	$7,762	$11,320	$0	$0	$34,010	$5,369	$39,379
2030	$2,176	$5,584	$8,547	$9,328	$13,525	$2,494	$2,802	$44,456	$6,118	$50,574
2031	$2,230	$6,060	$8,997	$9,880	$14,138	$3,052	$3,337	$47,694	$6,430	$54,124
2032	$2,286	$6,575	$9,473	$10,466	$14,784	$3,676	$3,913	$51,173	$6,756	$57,929
2033	$2,343	$7,135	$9,977	$11,085	$15,461	$4,372	$4,533	$54,906	$7,098	$62,004
2034	$2,402	$7,744	$10,511	$11,743	$16,172	$4,681	$4,726	$57,979	$7,457	$65,436
2035	$2,464	$8,404	$11,077	$12,437	$16,920	$5,012	$4,925	$61,239	$7,830	$69,069
2036	$2,525	$9,121	$11,675	$13,174	$17,704	$5,366	$5,137	$64,702	$8,223	$72,925
2037	$2,590	$9,898	$12,311	$13,954	$18,529	$5,744	$5,356	$68,382	$8,631	$77,013
2038	$2,656	$10,743	$12,984	$14,780	$19,397	$6,151	$5,585	$72,296	$9,061	$81,357
2039	$2,725	$11,659	$13,697	$15,656	$20,309	$6,586	$5,825	$76,457	$9,508	$85,965
2040	$2,794	$12,654	$14,452	$16,582	$21,267	$7,050	$6,076	$80,875	$9,975	$90,850
2041	$2,874	$13,378	$15,069	$17,321	$22,088	$7,403	$6,296	$84,429	$10,367	$94,796
2042	$2,953	$14,146	$15,712	$18,091	$22,942	$7,774	$6,526	$88,144	$10,777	$98,921
2043	$3,037	$14,955	$16,385	$18,896	$23,829	$8,163	$6,765	$92,030	$11,200	$103,230
2044	$3,121	$15,812	$17,086	$19,737	$24,753	$8,573	$7,012	$96,094	$11,642	$107,736
2045	$3,209	$16,719	$17,820	$20,616	$25,713	$9,002	$7,267	$100,346	$12,100	$112,446
2046	$3,297	$17,678	$18,587	$21,532	$26,713	$9,454	$7,534	$104,795	$12,577	$117,372
2047	$3,391	$18,692	$19,387	$22,491	$27,752	$9,927	$7,809	$109,449	$13,072	$122,521
2048	$3,486	$19,763	$20,222	$23,490	$28,834	$10,424	$8,094	$114,313	$13,588	$127,901
2049	$3,583	$20,897	$21,095	$24,536	$29,959	$10,946	$8,392	$119,408	$14,125	$133,533
2050	$3,684	$22,095	$22,007	$25,628	$31,132	$11,496	$8,699	$124,741	$14,681	$139,422
2051	$3,783	$23,075	$22,797	$26,568	$32,174	$11,954	$8,978	$129,329	$15,174	$144,503
2052	$3,885	$24,097	$23,617	$27,541	$33,250	$12,433	$9,266	$134,089	$15,685	$149,774
2053	$3,989	$25,165	$24,467	$28,551	$34,363	$12,931	$9,562	$139,028	$16,214	$155,242
2054	$4,097	$26,280	$25,347	$29,597	$35,514	$13,448	$9,867	$144,150	$16,760	$160,910
2055	$4,207	$27,443	$26,259	$30,683	$36,705	$13,986	$10,182	$149,465	$17,323	$166,788
2056	$4,320	$28,660	$27,205	$31,807	$37,937	$14,545	$10,509	$154,983	$17,907	$172,890
2057	$4,437	$29,930	$28,188	$32,971	$39,210	$15,126	$10,846	$160,708	$18,508	$179,216
2058	$4,556	$31,257	$29,203	$34,182	$40,529	$15,730	$11,194	$166,651	$19,132	$185,783
2059	$4,678	$32,642	$30,257	$35,436	$41,892	$16,360	$11,552	$172,817	$19,778	$192,595
2060	$4,804	$34,087	$31,351	$36,733	$43,301	$17,012	$11,923	$179,211	$20,444	$199,655
2061	$4,927	$35,158	$32,250	$37,795	$44,508	$17,523	$12,249	$184,410	$21,013	$205,423
2062	$5,054	$36,261	$33,178	$38,886	$45,749	$18,048	$12,583	$189,759	$21,598	$211,357
2063	$5,183	$37,400	$34,129	$40,008	$47,023	$18,588	$12,930	$195,261	$22,201	$217,462
2064	$5,316	$38,574	$35,110	$41,162	$48,336	$19,148	$13,282	$200,928	$22,822	$223,750
2065	$5,452	$39,787	$36,118	$42,352	$49,682	$19,721	$13,644	$206,756	$23,456	$230,212
2066	$5,592	$41,036	$37,155	$43,572	$51,069	$20,313	$14,020	$212,757	$24,111	$236,868
2067	$5,736	$42,326	$38,221	$44,831	$52,493	$20,920	$14,402	$218,929	$24,785	$243,714
2068	$5,883	$43,655	$39,318	$46,125	$53,957	$21,548	$14,795	$225,281	$25,473	$250,754
2069	$6,033	$45,024	$40,445	$47,459	$55,462	$22,194	$15,202	$231,819	$26,184	$258,003
2070	$6,188	$46,438	$41,608	$48,828	$57,008	$22,858	$15,616	$238,544	$26,914	$265,458