

APPENDIX A: Detailed Modeling Process and Results – Stantec Memo to HNTB

Appendix A Table of Contents:

Introduction and Overview	1
Modeling Methodology.....	1
Model Regions and Merging Process	2
Trip Table Merging Process.....	4
Network Development and Verification	5
Model Calibration Process	6
Highway Assignment Process	9
Calibration Introduction.....	10
Future Year Demand Conditions	15
Traffic and Revenue Forecasting Process	17
Phase I Traffic and Revenue Forecasts	20
Phase II Traffic and Revenue Forecasts	23

Appendix A Figures:

Figure 1 – MPO Model Regions.....	1
Figure 2 – Integrated Model Regions.....	3
Figure 3 – Interstate Tolling Analysis Corridors.....	13

Appendix A Tables:

Table 1 – Zone Type by Model Regions	3
Table 2 – Renumbered Zones by Model Region.....	4

Table 3 – Annual Weekday Traffic Counts by Facility Type and Area Type	7
Table 4 – Annual Weekday Traffic Classification County and Corridor Truck Percentages	8
Table 5 – Annualization Factors by Interstate Corridor	8
Table 6 – Input Freeflow Speeds and Capacity Values	9
Table 7 – Estimated/Observed Vehicle Miles Traveled by Facility and Area Types - Tot Veh.....	11
Table 8 – Estimated/Observed Vehicle Miles Traveled by Facility and Area Types - Med Trucks...	11
Table 9 – Estimated/Observed Vehicle Miles Traveled by Facility and Area Types - Heavy Trucks.....	12
Table 10 – Estimated/Observed Vehicle Miles Traveled by Corridor - Total Vehicles.....	13
Table 11 – Estimated/Observed Vehicle Miles Traveled by Corridor - Medium Trucks.....	14
Table 12 – Estimated/Observed Vehicle Miles Traveled by Corridor - Heavy Trucks	14
Table 13 – Future Year Growth Scaling Process	16
Table 14 – Trip Tables by Model Year	16
Table 15 – Future Year Network Improvement Projects.....	17
Table 16 – Toll Diversion Coefficients and Value of Time	18
Table 17 – 2014 Median Income by County.....	19
Table 18 – Existing System Toll Rates by Payment Method	20

Appendix A List of Attachments:

Annual Revenue Stream.....	A-1, A-2
Total Average Weekday Daily Traffic Transactions.....	A-3, A-4
Corridor Diversion Phase I.....	A-5
South Central Corridor Phase I Revenue Estimates	A-6, A-7
Central Corridor Phase I Revenue Estimates	A-8, A-9
Northwest 1 Corridor Phase I Revenue Estimates	A-10, A-11
Northwest 2 Corridor Phase I Revenue Estimates	A-12, A-13

North Central Corridor Phase I Revenue Estimates	A-14, A-15
Southeast 1 Corridor Phase I Revenue Estimates	A-16, A-17
Southeast 2 Corridor Phase I Revenue Estimates	A-18, A-19
South Milwaukee Corridor Phase I Revenue Estimates	A-20, A-21
Metro Milwaukee Corridor Phase I Revenue Estimates	A-22, A-23
Northeast 1 Corridor Phase I Revenue Estimates.....	A-24, A-25
Northeast 2 Corridor Phase I Revenue Estimates.....	A-26, A-27
Phase II South Milwaukee (I-94 N-S) Closed Tolling Plan	B-1
Phase II South Milwaukee (I-94 N-S) Partial Tolling Plan	B-2
Phase II I-90 Tolling Plan.....	B-3
Phase II I-90 Tolling Plan.....	B-4
Phase II Metro Milwaukee Tolling Plan I-94 Corridor	B-5
Phase II Metro Milwaukee Tolling Plan I-94 Corridor	B-6
Phase II Metro Milwaukee Tolling Plan I-41 and I-43 Corridor	B-7
Phase II Metro Milwaukee Tolling Plan I-894 and I-94 Corridor	B-8
Phase II Metro Milwaukee Tolling Plan I-43 Corridor	B-9
Phase II Metro Milwaukee Tolling Plan I-94 Corridor	B-10
Phase II Total Annual Revenue Stream Closed Systems	C-1
Phase II Total AWDT Transactions Closed Systems	C-2
Phase II Corridor Diversion Closed Systems	C-3
Phase II Total Annual Revenue Stream Partial Systems	C-4
Phase II Total AWDT Transactions Partial Systems	C-5
Phase II Corridor Diversion Partial Systems	C-6
Phase II I-90 Corridor Summary 30-Year Results	C-7

Phase II I-90 Auto Trip Distribution By Cents per Mile Rate– Closed System C-8

Phase II I-90 Truck Trip Distribution By Cents/Mile Rate– Closed System..... C-9

Phase II I-90 Corridor Revenue Results – Closed System..... C-10

Phase II I-90 Corridor Diversion Results – Closed System C-11

Phase II I-90 Corridor Revenue Results – Partial System..... C-12

Phase II I-90 Corridor Diversion Results – Partial System C-13

Phase II I-94 N-S Corridor Summary 30-year Results..... C-14

Phase II I-94 N-S Auto Trip Distribution By Cents/Mile Rate – Closed System C-15

Phase II I-94 N-S Corridor Revenue Results – Closed System..... C-16

Phase II I-94 N-S Corridor Diversion Results – Closed System C-17

Phase II I-94 N-S Corridor Revenue Results – Partial System..... C-18

Phase II I-94 N-S Corridor Diversion Results – Partial System C-19

Phase II Metro Milwaukee Corridor Summary 30-year Results C-20

Phase II Metro Milwaukee Auto Trip Distribution by Cents/Mile Rate..... C-21

Phase II Combined Auto Trip Distribution by Cents/Mile Rate, I-94 N-S and Milwaukee Metro
Corridors..... C-22

Phase II Metro Milwaukee Corridor Revenue Results – Partial System C-23

Phase II Metro Milwaukee Corridor Diversion Results – Partial System..... C-24



FEASIBILITY OF INTERSTATE TOLLING

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Traffic and Revenue Forecasting Summary

Date:
September 8, 2016

Reference: **Traffic and Revenue Forecasting Summary**

Introduction & Overview

This memorandum summarizes the Traffic and Revenue Forecasting process and estimates of transactions, revenue and toll diversion for each of the Phase 1 and Phase 2 Corridors. The objective of the forecasting process was to develop a procedure sufficient to provide estimates of traffic and revenue consistent with the needs of providing a preliminary feasibility evaluation of converting WisDOT's interstate roadway network to a series of tolled facilities. Thus, the forecasting process is typically what is described as a Level 1 traffic and revenue analysis that generates order-of-magnitude forecasts suitable to provide forecasts for screening analysis and preliminary financial feasibility evaluations.

Included in the document are descriptions of the modeling process developed to estimate the forecasts along with the data sources and calibration results. The discussion of the forecasts includes the adoption of the key tolling assumptions for each phase along with the resulting estimates. The description of the modeled region and networks is provided in pages 2-5. The model calibration is provided in pages 6-14. The Future year trip tables and networks are described within pages 15-17. The toll revenue and transaction forecasts for both Phase 1 and Phase 2 are described in pages 17 – 27.

Modeling Methodology

The modeling methodology was developed specifically to meet the project objectives of producing order-of-magnitude traffic and revenue forecasts as well as indicating diversion impacts. Typically, Level 1 traffic and revenue forecasts utilize spreadsheet based methods, but in order to estimate the impacts of diversion and evaluate other policy issues, it was necessary to utilize a model-based approach.

In order to forecast traffic and revenue for the entire interstate system, it was necessary to develop a modeling process that was as detailed as possible for the urbanized regions of Wisconsin while also encompassing the vast rural regions outside of the major urbanized areas. The modeling process utilized the urban area models maintained by the MPOs and the latest version of the WisDOT Statewide Model to meet this requirement. These models were essentially merged into a single integrated model that encompassed all of the corridors served by the



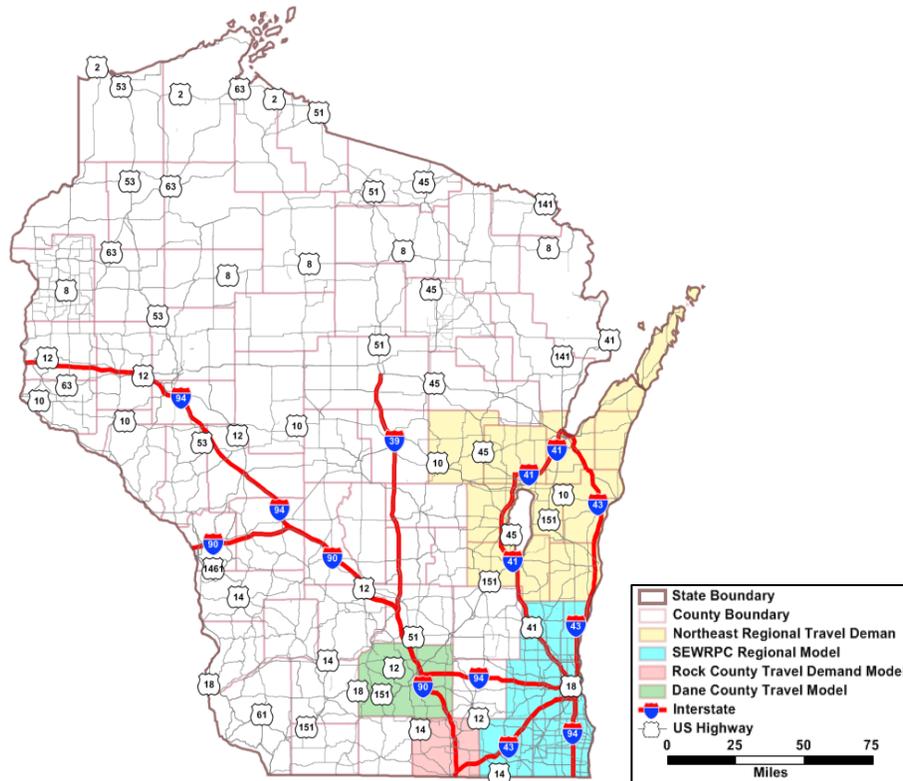
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interstate roadway network. By leveraging all of the existing regional models available for this study, the integrated model was able to incorporate all of the latest planning information and assumptions throughout Wisconsin.

Model Regions and Merging Process

After reviewing the available models against the WiSDOT interstate network, a decision was made to utilize models for Dane and Rock Counties as well as the larger MPO models developed for the NERPM and SEWRPC regions. The latest available version of the recently updated Wisconsin Statewide Model was utilized to cover the rural areas outside of the individual MPO models. These models are depicted in Figure 1.

Figure 1 – MPO Model Regions

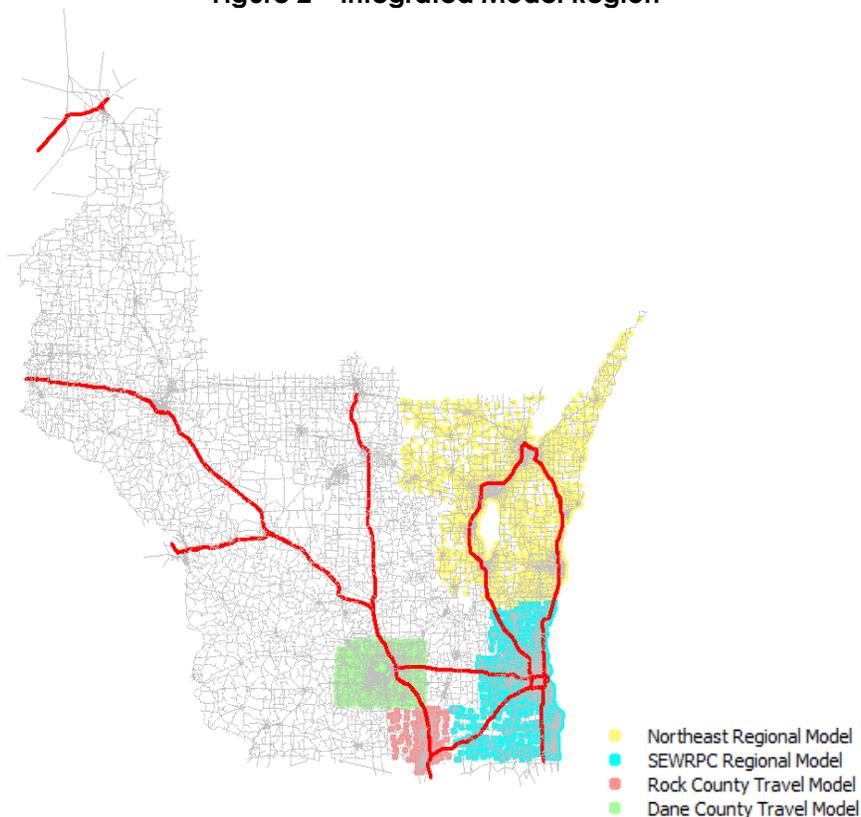


In order to create the final integrated model it was necessary to merge the vehicle trip tables into a single trip matrix file with various purposes and vehicle types. Since the SEWRPC model overlapped some counties in the Statewide Model it was necessary to perform a subarea extraction of the core SEWRPC counties from the SEWRPC Model. The northern tier of the Statewide Model was also removed from the modeled area as no interstate facilities were in that region. These changes increased the model's efficiency and reduced execution time and storage requirements. The map of the final modeled region is shown in Figure 2.



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Figure 2 – Integrated Model Region



Following the subarea extractions for the SEWRPC and Statewide Models, the zonal system of the integrated model was prepared. Each model has both internal zones and selected external zones that are retained in the final integrated model. The remaining external zones in each model that are border zones with any of the other models are removed from the final integrated model since customized weaving process automatically passes trips across the common model borders. Table 1 lists number of zones in each model or extracted subarea portion along with the final Integrated Model which has a total of 11,279 zones. Table 2 provides a listing of final renumbered internal and external zones for covering each model within the final integrated model.

Table 1 – Zone Type by Model Region

ZONE TYPE	MODEL					
	NE	DANE	ROCK	SEWRPC	Statewide	MERGED
INTERNAL	2,743	1,109	399	1,995	4,907	11,153
EXTERNAL - WEAVE BORDER	42	42	21	43	115	263
EXTERNAL - RETAINED	17	-	6	11	92	126
TOTAL	2,802	1,151	426	2,049	5,114	11,279



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Table 2 – Renumbered Zones by Model Region

ZONE TYPE	MODEL					
	NE	DANE	ROCK	SEWRPC	Statewide	MERGED
INTERNAL	3504 - 6246	400 - 1508	1 - 399	1509 - 3503	6247 - 11153	11,153
EXTERNAL - RETAINED	11171 - 11187	-	11154 - 11159	11160 - 11170	11188 - 11279	126
TOTAL	2,760	1,109	405	2,006	4,999	11,279

Trip Table Merging Process

Stantec utilized a customized trip table weaving process to merge the adjacent trip tables into a single trip table spanning the entire integrated model region. The toll diversion model required trips by purpose and vehicle types for each time period being modeled. For these forecasts, a decision was made to model each of the peak periods and one general off-peak period covering the remaining portions of the day. The two peak periods were each 3 hours in duration with the a.m. peak period from 6:00-9:00 am and the p.m. peak period from 3:00-6:00 pm. Each of the regional models had some variation in the modeling of time of day. So, it was necessary to standardize trip purposes, vehicle types and time periods prior to the trip table merging process.

There were five trip matrices, three of which are auto-based purposes and two truck trip types. The truck trips were categorized separately in anticipation of potential restrictions to the heavy truck trips that might not be applicable to the medium trucks. The trip matrices are defined as follows:

- 1) Home-Based Work (HBW)
- 2) Home-Based Other (HBO)
- 3) Non home-Based (NHB)
- 4) Medium Trucks 2-Axle 6-Tire / Buses
- 5) Heavy Trucks

Note that auto trips were retained as purposes since each purpose has a separate value of time for modeling toll diversion. All auto trips and the medium trucks will use auto-eligible paths, while heavy trucks will have separate paths created that will permit the modeling of weight and height restrictions, if any.

Trip Matrix Preparation

As noted above, each of the regional model trip matrices required some processing prior to the weaving process. The initial processing for trips in each of the regional models is described in the following sections:

Dane County Model – The HBW and NHB trips were retained, and other home-based trips were consolidated into a single HBO trip purpose. For time-of-day (TOD) modeling, AM and PM factors were retained, while the mid-day and night factors were merged to obtain off-peak period factors. 75 percent of single unit trucks were categorized as medium trucks and the remaining percentage were merged into the heavy truck purpose along with the multi-unit trucks.



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Rock County Model – The HBW and NHB trips were retained, and other home-based trips were consolidated into a single HBO trip purpose. 75 percent of single unit trucks were categorized as medium trucks and the remaining percentage were merged into the heavy truck purpose. The TOD factors were adopted from Dane County Model to create time-of-day trips for each individual auto trip purpose.

NERPM – The HBW and NHB trips were retained while the other home-based trips and casino trips were consolidated into a single HBO trip purpose. For time-of-day (TOD) modeling, AM and PM factors were retained, while the mid-day and night factors were merged to obtain off-peak period factors. Medium trucks were 75 percent of single unit trucks. The remaining single unit trucks and combination trucks were combined into heavy trucks.

SEWRPC – These trips were provided initially from a subarea extraction by time of day, which required additional processing to convert to the five main trip purposes. The existing assignment process controlling the subarea extraction provided 4 vehicle types (Auto, Light Truck, Medium Truck and Heavy Truck). Using the final NERPM trip matrices by time period, three separate lookup tables were created to allocate auto trips into 3 standard purposes as a function of distance. The light truck trips were combined with the NHB purpose and 75% of medium trucks were retained as that designation with the remaining medium trucks merged into the heavy truck purpose.

Statewide Model – These trips were provided initially from a subarea extraction by time of day, which required additional processing to convert to the five main trip purposes. The existing assignment process controlling the subarea extraction provided 8 vehicle types (Auto HBW, Auto HBO, Auto NHB, Long-Distance Auto, Light Truck, Medium Truck, Heavy Truck and Heavy Truck-Freight). The long-distance auto trips were assumed to be HBW trips, in order to assign an appropriately high value of time to these trips. Light trucks were defined as medium trucks and the original medium trucks and all heavy trucks were merged into a consolidated heavy truck purpose.

The externally-oriented auto trips in each of the five models were also partitioned into separate auto trip purposes using the relationships extracted from the NERPM model. Externally-oriented truck trips were grouped into the appropriate medium and heavy truck purposes.

The trip weaving program used to merge the trip tables requires traffic flows at the boundaries of adjacent models. The weaving program essentially uses the 'external' trip volumes from the MPO models at each of the external zones along common boundaries between the models as control totals for trips passing through model boundaries into adjacent models.

Network Development & Verification

After reviewing the available networks for each regional model and checking for consistency with the Statewide Network, a decision was made to use the Statewide Model network as the basis for the Integrated Model. As an initial task, the relevant sections of the Statewide Model were extracted and the centroids were renumbered to be consistent with the final zone system of the integrated model, as described previously.



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The final network was also subjected to a detailed review and a series of diagnostic routines to identify any inconsistencies. The review focused initially on the interstate roadways, verifying that all interchanges were properly coded and checking any related turning penalties. The interstates were also reviewed to ensure that internal zones were not loaded directly to interchanges and that all interstate links have proper facility type coding and proper number of lanes. The diagnostic routines were also applied to verify link connectivity and symmetry.

Model Calibration Process

The calibration of the modeling process included several individual tasks. The first task was the preparation of observed data for traffic counts. The second task was the refinements to the existing highway assignment process to improve the model's assignment results and the final task was the use of a customized trip table refinement process to minimize any variation between the observed counts and the estimated traffic by vehicle type.

Traffic Count Data Preparation

WisDOT provided several sources of count data. Some of the data was provided directly via the Statewide Network while other data was provided separately via spreadsheets and other data files. Stantec reviewed all of the data, resolved any conflicts and coded the final values to the highway network. The count data from permanent count stations was also used to create annualization factors for each of the individual interstate corridors. For the 2010 AWT counts provided directly from the Statewide Model network, it was necessary to convert those AADT values to 2014 AWT values.

Table 3 provides a summary of all the links with traffic counts stratified by facility type and area type. The upper section of the table provides the number of links with counts and the lower section of the table shows the percentage of links in each of the facility type–area type combinations that have counts. As an example, for the full network there are 35,042 links with daily AWT counts, which represent approximately 13.9 percent of the total links in the network. Stated another way, there is 13.9 percent of all links with counts (referred to as percent coverage). As expected, the individual facility type categories have significant variation in the percentages, but there is an acceptable level of coverage for all of the higher capacity facility types that compete with the interstate system. For the interstate facilities, we have percent coverages ranging from 29.1 to 40.7 percent.

Table 4 provides a summary of the links where more detailed classification data is available. Upper section of the table has two rows of data. The first row of the table lists the number of permanent count stations at which data was provided by WisDOT and the subset of those locations where actual classification data is available. Most of these locations are count stations which have data for both directions of the roadway but there were several locations where counts were available in only one direction. The second row of the table is locations of count data and classification data on the Statewide Model network. Again, most of these locations had data provided for both directions of the links. While the source data for the counts posted on the links is not clear, the data was provided in enough specificity to enable Stantec to group the truck counts into the categories required for the specifications of the truck trips being used in the toll diversion model.



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Table 3 – AWT Traffic Counts by Facility Type and Area Type

Facility Type	Area Type				Total
	Rural	Suburban	Urban	CBD	
Interstates	212	38	242	24	516
Freeways	110	24	139	3	276
Expressways	258	96	112	6	472
Urban Major Arterials	302	187	4,744	506	5,739
Urban Minor Arterials	344	397	6,285	756	7,782
Urban Major Collectors	283	373	4,572	476	5,704
Local Streets	16	7	47	3	73
Rural Major Arterials	1,439	44	40	0	1,523
Rural Minor Arterials	2,639	65	134	0	2,838
Rural Major Collectors	5,340	51	91	0	5,482
Rural Minor Collectors	2,760	28	106	0	2,894
Ramps	635	172	903	33	1,743
Total	14,338	1,482	17,415	1,807	35,042

Facility Type	Area Type				Total
	Rural	Suburban	Urban	CBD	
Interstates	29.1%	33.9%	27.0%	40.7%	28.7%
Freeways	24.0%	19.0%	24.6%	27.3%	23.8%
Expressways	17.3%	26.4%	24.8%	20.7%	20.2%
Urban Major Arterials	22.9%	14.2%	21.0%	25.5%	21.1%
Urban Minor Arterials	14.4%	10.8%	17.0%	25.7%	16.9%
Urban Major Collectors	8.3%	6.3%	12.3%	13.5%	11.4%
Local Streets	0.4%	0.4%	0.8%	0.4%	0.6%
Rural Major Arterials	17.4%	13.3%	10.9%	0.0%	17.0%
Rural Minor Arterials	15.0%	12.3%	16.9%	0.0%	15.0%
Rural Major Collectors	11.7%	5.3%	9.3%	0.0%	11.5%
Rural Minor Collectors	9.1%	4.3%	13.3%	0.0%	9.1%
Ramps	52.5%	39.1%	44.6%	57.9%	46.7%
Total	12.2%	9.1%	15.9%	19.4%	13.9%

As a final step, WisDOT provided some supplemental classification count data based on radar-based shape classification that was used to provide truck shares for interstate corridors where classification data was limited. While radar data was not axle-based, this data was used to verify that the model estimated truck traffic was reasonable. The final truck shares by corridor are listed in bottom of Table 4.

Table 5 provides a summary of the annualization factors derived for each of the interstate corridors. For most of the corridors, there were multiple permanent count stations in each corridor. Note that many of the annualization factor values approach or exceed 365, implying that the weekend traffic is nearly equal or exceeds the average weekday traffic.



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Table 4 – AWT Classification Counts & Corridor Truck Percentages

Traffic Count Type	Total Traffic	By Vehicle Class
Permanent ATR Stations	139	46
SWM Network Counts	18,846	1,998
Accepted Network Counts	18,798	1,999

Corridor	Observed Truck Share		Estimated Truck Share
	Shape-based	Axle-based	
Northwest Corridor (I-94/I-90)	18.0-36.6%	24.0%	21.0-36.0%
Northwest Corridor (I-90)	19.4%	23.7%	22.0-37.0%
North Central Corridor (I-39)	13.8-17.1%	16.6%	11.0-25.0%
Central Corridor	25.3-28.6%	17.2%	20.0%
Northeast Corridor (I-41)	10.3-21.6%	13.9-15.0%	7.0-28.0%
Northeast Corridor (I-43)	14.5-17.9%	11.9-15.2%	6.0-20.0%
Southeast Corridor (I-94)	12.3-13.3%	-	7.0-10.0%
South Central Corridor (I-39/I-90)	28.0-29.2%	-	20.0-27.0%
Southeast Corridor (I-43)	19.0%	8.3%	8.0-18.0%
Milwaukee Metro Corridor	6.5-6.8%	-	5.0-14.0%

Table 5 – Annualization Factors by Interstate Corridor

Corridor Name	Annualization Factor Range	Average
I-41/94 South of Milwaukee	355-362	359
I-90/39 Wisc/Illinois State Line to US 12	349-362	361
I-39/90 From US 12 to Portage	364-376	371
I-39 from Portage to Wausau	349-385	363
I-94 from Portage to Wisc/Minn State Line	353-381	370
I-90 from Wisc/Minn State Line to I-94	360	360
I-94 from I-39/90 to Milwaukee	352-374	366
I-41 from Milwaukee to Green Bay	336-363	348
I-43 from Milwaukee to Green Bay	339-368	351
I-43 from I-39 to Milwaukee	344-352	348
Milwaukee Urban Area	339-347	343



FEASIBILITY OF INTERSTATE TOLLING

Highway Assignment Process

The highway assignment process was adopted directly from the WisDOT Statewide Model. Volume Delay Functions (VDFs) as well as initial estimates for free flow speeds and capacities were utilized directly from the Statewide Model. During the calibration process, slight modifications to input capacities and speeds were implemented to improve the assignment process estimates. The final free-flow speeds and capacities are listed in Table 6.

Table 6 –Input Freeflow Speeds and Capacity Values

Facility Type	Speed (mph)			
	Rural	Suburban	Urban	CBD
Interstates	75	75	75	60
Freeways	72	72	68 - 70	55
Expressways	60 - 65	55	40 - 50	40
Urban Major Arterials	55 - 60	50	40	30
Urban Minor Arterials	50	47	40	28
Urban Major Collectors	45	40	30	25
Local Streets	30	25	25	20
Rural Major Arterials	60	55	45	35
Rural Minor Arterials	46	43 - 45	35	30
Rural Major Collectors	43	40 - 43	30 - 35	25
Rural Minor Collectors	40	35 - 40	30	25
Ramps	35	35	35	30
Facility Type	Capacity (veh/lane)			
	Rural	Suburban	Urban	CBD
Interstates	1,890 - 2,100	1,890 - 2,100	1,890 - 2,100	1,890 - 2,100
Freeways	1,890 - 2,100	1,890 - 2,100	1,798 - 1,999	1,712 - 1,901
Expressways	1,881 - 1,980	1,748 - 1,901	1,710 - 1,901	1,663 - 1,750
Urban Major Arterials	1,301 - 1,524	1,245 - 1,300	1,200 - 1,300	1,000
Urban Minor Arterials	1,290	1,200	1,100	900
Urban Major Collectors	1,290	1,100	1,100	800
Local Streets	800	800	800	800
Rural Major Arterials	1,251 - 1,385	1,245 - 1,286	1,200 - 1,267	1,000
Rural Minor Arterials	1,250 - 1,290	1,200	1,100	900
Rural Major Collectors	1,251 - 1,290	1,100	1,100	800
Rural Minor Collectors	1,251 - 1,290	1,100	1,100	800
Ramps	1,200	1,200	1,200	1,200



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The highway assignment process assigned three general vehicle classifications (auto, medium trucks and heavy trucks). The assignment process creates auto paths which are utilized to load auto and medium truck trips and separate paths for heavy trucks. The assignment process also permitted a provision for turn penalties and truck prohibitions under the assumption that these restrictions would be included within the Statewide Model highway network in future version.

Calibration Introduction

The calibration process focused on maximizing the ability of the highway assignment to replicate observed traffic by vehicle type. Implicit in this approach is the assumption that the trip distribution patterns from the individual regional models and the Statewide Model provide an adequate representation of the origins and destinations of the vehicle trips. In addition, it was assumed that the volume delay functions from the Statewide Model provided a logical and reasonable estimation of congested speeds. These assumptions, therefore, focused the calibration process on refinements to the input speed and capacity values for the individual facility types. As noted previously, during the calibration process slight modifications to input capacities and speeds were implemented initially to minimize the variation between the observed and estimated traffic volumes. These minor adjustments were applied separately to the links in each of the five model areas. These refinements tended to minimize the variation of total traffic since the speeds and capacities affect all vehicle types, but variation by individual vehicle types (autos and trucks) was still evident. While the variation between observed and estimated traffic by vehicle type would be acceptable for typical planning needs, the variation for truck traffic was significant when considering that toll revenue is heavily influenced by percentage of traffic that is represented by trucks as those vehicles are charged much higher toll rates than autos.

To minimize the variation between the counts and estimates by vehicle type, Stantec utilized a customized trip table refinement routine (Modtable) that revised trips as a function of the differences between counts and volumes encountered along the path between the trip origin and destination. This routine adjusts the trip matrices separately by vehicle type and essentially creates a 'layer' of trips representing the differences between the initial trip table and the final adjusted trip table. This layer of trip adjustments is first used in the calibration year and is then carried forward to the horizon year for use in the forecasting process.

Regional Level Calibration

Table 7, 8 and 9 provide a summary of the model calibration statistics by facility type and area type. Table 7 lists the ratio of estimated to observed VMT for total traffic, while Tables 8 and 9 provide those same ratios for medium trucks and heavy trucks, respectively. Note the aggregate estimated / observed VMT ratio for total vehicles is 1.00 indicating a close replication of overall VMT. Truck VMT shows a minor difference between the estimated and observed values, with medium trucks within 5% and heavy trucks within 2% of the observed aggregate targets. As expected, individual combinations of facility type and area type show more variation. However, focusing on the interstate facility type in each table, the variation is generally within 1% – 2% of the observed values for each area type and vehicle type. This level of variation is deemed more than adequate for the purposes of this project.



FEASIBILITY OF INTERSTATE TOLLING

Table 7 – Estimated /Observed VMT by Facility & Area Types - Total Vehicles

Total Traffic VMT					
Facility Type	Area Type				Total
	Rural	Suburban	Urban	CBD	
Interstates	0.99	0.98	1.00	0.97	1.00
Freeways	1.04	0.98	1.03	1.31	1.03
Expressways	1.01	1.01	0.94	0.97	0.99
Urban Major Arterials	1.02	0.94	0.90	0.88	0.91
Urban Minor Arterials	1.13	0.95	1.04	0.79	1.02
Urban Major Collectors	1.15	0.93	0.93	0.70	0.93
Local Streets	1.07	1.07	0.88	0.99	0.94
Rural Major Arterials	1.15	0.97	1.10	-	1.15
Rural Minor Arterials	1.03	0.95	0.98	-	1.02
Rural Major Collectors	1.07	0.91	0.86	-	1.07
Rural Minor Collectors	1.26	1.05	0.94	-	1.24
Ramps	1.08	0.93	1.06	0.84	1.05
Total	1.04	0.97	0.98	0.89	1.00

Table 8 – Estimated /Observed VMT by Facility & Area Types – Medium Trucks

Medium Truck VMT					
Facility Type	Area Type				Total
	Rural	Suburban	Urban	CBD	
Interstates	1.02	1.00	1.00	-	1.01
Freeways	1.01	1.00	1.17	-	1.05
Expressways	1.22	0.91	0.89	-	1.11
Urban Major Arterials	0.99	1.00	0.95	1.08	0.96
Urban Minor Arterials	1.09	1.02	0.96	0.90	0.99
Urban Major Collectors	1.24	0.96	0.85	1.06	0.90
Local Streets	2.36	0.00	1.06	-	1.26
Rural Major Arterials	1.16	1.10	0.65	-	1.15
Rural Minor Arterials	1.07	0.94	0.93	-	1.06
Rural Major Collectors	1.05	1.03	0.80	-	1.04
Rural Minor Collectors	1.03	-	0.98	-	1.02
Ramps	1.17	-	0.89	0.93	0.94
Total	1.09	1.00	0.95	1.00	1.05



FEASIBILITY OF INTERSTATE TOLLING

Table 9 – Estimated /Observed VMT by Facility & Area Types – Heavy Trucks

Heavy Truck VMT					
Facility Type	Area Type				Total
	Rural	Suburban	Urban	CBD	
Interstates	1.00	0.99	1.00	-	1.00
Freeways	0.92	1.00	1.24	-	1.03
Expressways	0.92	1.00	0.83	-	0.92
Urban Major Arterials	0.95	0.99	1.00	1.34	0.99
Urban Minor Arterials	1.14	1.11	1.10	0.96	1.10
Urban Major Collectors	1.88	1.27	1.30	1.63	1.31
Local Streets	6.67	0.00	1.04	-	1.58
Rural Major Arterials	1.03	1.52	1.03	-	1.04
Rural Minor Arterials	1.04	0.99	1.04	-	1.04
Rural Major Collectors	1.18	1.03	1.12	-	1.17
Rural Minor Collectors	1.20	-	1.09	-	1.19
Ramps	1.40	-	1.00	0.90	1.11
Total	1.02	1.04	1.03	1.16	1.02

Corridor Level Calibration

In addition to the regional level calibration, the estimated traffic was also calibrated along each of the interstate corridors being defined for tolling feasibility analysis. This calibration was also performed with our MODTABLE assignment which adjusted the auto and truck trips separately by corridor. Figure 3 displays the locations of these corridors. Table 10 provides the estimated / observed ratios for total traffic for each of the interstate corridors by the various areas types. While there is some variation by corridor, the ratios indicate that estimated traffic is generally within 1%-3% of the observed traffic. Within each corridor there is slightly more variation by area type, but the level of replication is consistent with expectations and acceptable for this project.

Tables 10 and 11 list the same statistics for the medium and heavy trucks respectively. Note that there are fewer counts available for comparison, but the model generally matches the observed truck traffic in each corridor where data is available.



FEASIBILITY OF INTERSTATE TOLLING

Figure 3 – Interstate Tolling Analysis Corridors



Table 10 – Estimated /Observed VMT by Corridor - Total Vehicles

Total Traffic VMT					
Corridor	Area Type				Total
	Rural	Suburban	Urban	CBD	
Northwest Corridor (I-94/I-90)	0.98	0.91	0.96	-	0.97
Northwest Corridor (I-90)	1.01	-	0.99	-	1.01
North Central Corridor (I-39)	1.04	1.10	1.02	-	1.03
Central Corridor	1.00	-	0.96	-	0.98
Northeast Corridor (I-41)	1.00	1.00	1.00	-	1.00
Northeast Corridor (I-43)	0.99	0.96	1.01	-	1.00
Southeast Corridor (I-94)	0.95	-	0.94	-	0.95
South Central Corridor (I-39/I-90)	1.01	-	1.03	0.92	1.01
Southeast Corridor (I-43)	1.09	-	1.03	-	1.07
Milwaukee Metro Corridors	-	-	1.00	1.01	1.00
South Milwaukee Corridor (I-94 N-S)	0.99	-	0.95	-	0.98
Total	0.99	0.98	1.00	1.01	1.00



FEASIBILITY OF INTERSTATE TOLLING

Table 11 – Estimated /Observed VMT by Corridor – Medium Trucks

Medium Truck VMT					
Corridor	Area Type				Total
	Rural	Suburban	Urban	CBD	
Northwest Corridor (I-94/I-90)	1.04	-	-	-	1.04
Northwest Corridor (I-90)	1.01	-	-	-	1.01
North Central Corridor (I-39)	1.02	-	-	-	1.02
Central Corridor	-	-	1.00	-	1.00
Northeast Corridor (I-41)	0.94	1.00	-	-	0.98
Northeast Corridor (I-43)	1.00	1.01	-	-	1.00
Southeast Corridor (I-94)	-	-	-	-	-
South Central Corridor (I-39/I-90)	-	-	-	-	-
Southeast Corridor (I-43)	-	-	1.01	-	1.01
Milwaukee Metro Corridors	-	-	-	-	-
South Milwaukee Corridor (I-94 N-S)	-	-	-	-	-
Total	1.02	1.00	1.00	-	1.01

Table 12 – Estimated /Observed VMT by Corridor – Heavy Trucks

Heavy Truck VMT					
Corridor	Area Type				Total
	Rural	Suburban	Urban	CBD	
Northwest Corridor (I-94/I-90)	1.01	-	-	-	1.01
Northwest Corridor (I-90)	1.00	-	-	-	1.00
North Central Corridor (I-39)	1.00	-	-	-	1.00
Central Corridor	-	-	1.00	-	1.00
Northeast Corridor (I-41)	0.88	0.99	-	-	0.95
Northeast Corridor (I-43)	1.01	1.00	-	-	1.01
Southeast Corridor (I-94)	-	-	-	-	-
South Central Corridor (I-39/I-90)	-	-	-	-	-
Southeast Corridor (I-43)	-	-	1.02	-	1.02
Milwaukee Metro Corridors	-	-	-	-	-
South Milwaukee Corridor (I-94 N-S))	-	-	-	-	-
Total	1.00	0.99	1.00	-	1.00



FEASIBILITY OF INTERSTATE TOLLING

Future Year Demand Conditions

The section of the memorandum provides a description of the future year trip tables and networks for the Phase 1 and Phase 2 traffic and revenue forecasts. The discussion includes the procedures used to achieve the anticipated growth in each corridor and preparation of the relevant 2020 and 2040 build networks.

Initial Future Year Trip Table Development

The initial future year auto and truck trip tables were prepared using the same methods that were used for the base year trip tables. Each of the MPO models and the Statewide Model were executed for the available horizon years (2040, 2045, and 2050) and interpolated to the common 2040 model year. Similar to the base year trip table processing, the trip weaving program used the future year external trip volumes from the MPO models at each of the external zones along common boundaries as control totals for trips passing through model boundaries into adjacent models. As a final step, the layer of additional trips developed from the base year calibration was added to the trips tables.

Future Year Growth Control Process

To ensure consistency with the WisDOT's general planning assumptions for the interstate corridors, it was necessary to further adjust the future year trip tables. WisDOT had established specific 2020 and 2040 traffic volume forecasts for various locations in each of the interstate corridors. Using the initial future traffic counts at each location, composite growth factors to create 2040 horizon year demand for individual interstate corridors were developed. These factors were developed based on the WisDOT-approved traffic forecasts. Note that most corridors had forecasted traffic growth rates for several locations. Therefore Stantec developed an average for each corridor. The composite growth factor is the product of the 2014-2020 assumed growth compounded across 6 years (*called factor 1*) which is multiplied by *factor 2* representing the compounded growth for the 20-year period from 2020-2040. These factors are provided in Table 13.

The final composite factor for each interstate corridor was applied to the calibrated base year estimated traffic for all vehicle types, thus creating future year 'targets' for the future year ModTable application. In the case of the future year growth scaling process, the targets were estimated only for interstate links. As a result, traffic growth on the remaining portions of the network was based solely on the trip growth from the individual demand models. Note that since one factor is being applied to all base year estimated volumes within an individual corridor, the relationships and percentage shares by vehicle type remain relatively constant and therefore match base year shares.



FEASIBILITY OF INTERSTATE TOLLING

Table 13 – Future Year Growth Scaling Process

Corridor Name	Corridor Description	Growth Rate from Count Year	Average	Growth Rate from 2020 to 2040	Average	Factor 1	Factor 2	Composite Growth	2014-40 CAGR	Estimated Growth
Northwest 1	I-94 from Portage to Wisc/Minn State Line	0.5%-1.4%	0.95%	0.5%-1.2%	0.85%	1.0585	1.1844	1.2538	0.87%	0.86%
Northwest 2	I-90 from Wisc/Minn State Line to I-94	0.9%-0.9%	0.88%	0.8%-0.8%	0.79%	1.0540	1.1709	1.2342	0.81%	0.83%
North Central	I-39 from Portage to Wausau	1.3%-1.8%	1.59%	1.1%-1.4%	1.31%	1.0995	1.2968	1.4258	1.37%	1.38%
Central	I-39/90 From US 12 to Portage	1.4%-2.3%	1.75%	1.2%-1.7%	1.38%	1.1096	1.3148	1.4590	1.46%	1.41%
Northeast 1	I-41 from Milwaukee to Green Bay	1.0%-1.1%	1.08%	0.9%-1.0%	0.93%	1.0663	1.2044	1.2843	0.97%	0.97%
Northeast 2	I-43 from Milwaukee to Green Bay	0.5%-1.9%	1.13%	0.5%-1.5%	0.95%	1.0697	1.2086	1.2928	0.99%	1.02%
Southeast 1	I-94 from I-39/90 to Milwaukee	0.6%-1.3%	0.98%	0.6%-1.1%	0.86%	1.0604	1.1876	1.2594	0.89%	1.04%
South Central	I-90/39 Wisc/Illinois State Line to US 12	1.1%-1.4%	1.24%	1.0%-1.2%	1.07%	1.0765	1.2367	1.3313	1.11%	1.16%
Southeast 2	I-43 from I-39 to Milwaukee	0.9%-1.6%	1.25%	0.8%-1.2%	1.03%	1.0773	1.2273	1.3222	1.08%	1.34%
Milwaukee Metro Area	Milwaukee Urban Area	0.2%-1.9%	1.05%	0.2%-1.4%	0.83%	1.0644	1.1796	1.2556	0.88%	0.70%
South Milwaukee	I-41/94 South of Milwaukee	0.8%-1.3%	0.96%	0.7%-1.1%	0.84%	1.0593	1.1823	1.2524	0.87%	0.94%

The ModTable process was performed to adjust the initial future trip tables to align with the target values along each specific interstate corridor. The adjusted trip tables were then assigned to the network and the estimated 2040 assigned traffic volumes were compared to the target values in each corridor to ensure that the growth was properly scaled. Note that the highway assignment was performed with the *No-Build* Network, consistent with assumptions used to create the WisDOT-provided traffic forecasts. Note also that each corridor had independent growth factors and since a certain portion of trips may traverse more than one interstate corridor, the ModTable process essentially creates a balanced value of growth for these trips. It is also important to remember that the assignment process cannot ensure that all of the factored trips will remain only on the interstate roadways, but it is expected that most of the factored trip growth should materialize on the interstates.

The final columns on the right side of Table 13 compare the targeted compounded annual growth rate (CAGR) and model-estimated CAGR from the assignment. Most of the corridors have estimated growth that is very close to the targeted values. For those corridors in the Southeast Region with some variation, the cumulative variation between the targets and the estimated value is approximately 5 percent over the 24-year period from 2014 to 2040. That level of variation is well within the acceptable tolerance level for Level 1 T&R feasibility analysis that is being conducted for this project.

Future Year Trip Tables by Horizon Year

After the year 2040 growth scaling was completed, interpolation of the 2014 and 2040 trip tables were used to create 2020 trips. Table 14 summarizes the trips for the 2014 calibration year and both horizon years. Note these trip tables are used for both *No Build* and *Build* analysis.

Table 14 – Trip Tables by Model Year

Purpose	2014				2020				2040			
	AM	PM	OP	DAILY	AM	PM	OP	DAILY	AM	PM	OP	DAILY
HBW	1,198,411	1,137,968	1,506,118	3,842,497	1,270,427	1,207,541	1,602,010	4,079,978	1,492,433	1,422,296	1,898,889	4,813,617
HBO	1,357,062	2,212,192	4,557,901	8,127,155	1,425,689	2,321,949	4,785,604	8,533,242	1,634,187	2,654,806	5,476,612	9,765,606
NHB	579,684	1,254,932	3,192,785	5,027,401	609,910	1,319,093	3,359,787	5,288,790	701,996	1,514,222	3,868,721	6,084,939
MT	86,644	94,116	273,458	454,218	91,280	98,859	286,687	476,826	105,434	113,264	326,712	545,409
HT	52,041	50,162	222,418	324,621	56,556	54,442	241,277	352,274	70,805	67,936	300,713	439,454
TOTAL	3,273,841	4,749,370	9,752,680	17,775,891	3,453,862	5,001,883	10,275,365	18,731,110	4,004,856	5,772,523	11,871,646	21,649,025



FEASIBILITY OF INTERSTATE TOLLING

Future Year Network Assumptions

Year 2020 and 2040 *Build* networks were prepared using the guidance and instructions from WisDOT and information provided from research of the proposed improvements. Note that only those selected improvement projects were included and the remaining network is consistent with the 2014 base year coding. Stantec conducted another round of symmetry analysis and connectivity checks for each of the horizon years. Table 15 provides a list of the projects for the 2020 and 2040 networks.

Table 15 – Future Year Network Improvement Projects (Current as of January 2016)

Region	Highway	Project Termini	County	Statewide Model Network Coding
Complete by 2020				
NE	US 10/SH441	CTH CB to Oneida Street: Add ramps+8 LN W of Racine Rd; 6 LN E of Racine Rd (ramps need correcting)	Winnebago	Add 2 new ramps: I-41NB to US 10 WB; US 10EB to I-41NB; + widening
SW	US 12	Lake Delton to Ski Hi Road (south of Baraboo in Sauk County)	Sauk	Four lane freeway
SW	US 18	Prairie du Chien to STH 60	Crawford	Four lane divided urban arterial
SW	US 18/SH151	US 12/14 with US 18/151 Verona Road Interchange Modification	Dane	Verona 8 lanes in 2050+ramp widening
NE	SH 23	STH 67 to USH 41	Fond du Lac	Four lane expressway
NE	US 41	Depere to Suamico (6 LN W of Onieda; 8 LN E of Onieda)	Brown	Six to eight lane freeway
SE	94/41/894	Zoo Interchange: new ramps coded in 2040 SEWRPC model	Milwaukee	Code per future yr SEWRPC net.
Complete by 2030				
NE	SH 15	STH 76 to New London	Outagamie	Four lane expressway
SW	I-39/I-90	US 12 to Illinois State Line: 6 LN in Dane 2050; 6-8 LN in Rock 2050	Dane, Rock	Code per future yr Dane/Rock nets
SW	I-39/I-90	US 12 /18 Beltline Interchange: Add thru lanes on I-90/I-39	Dane	Code per future yr Dane network
SE	SH 50	IH 94 to 43rd Avenue: 6 LN coded in 2040 SEWRPC model	Kenosha	Code per future yr SEWRPC net.
SW	US 53	LaCrosse corridor	LaCrosse	Widened to 4 or 6 lanes
SE	I-94	North-South Freeway; 8 LN, Howard Ave to Illinois State Line	Milwaukee, Racine, Kenosha	Code per future yr SEWRPC net.

Traffic and Revenue Forecasting Process

The objective of the project was to evaluate the feasibility of tolling the interstate systems, a critical element of which was determining the net revenue that could be generated. The traffic and revenue forecasts were conducted in two phases. The forecasts from Phase 1 were used to provide comparative estimates of revenue for individual corridors of the interstate roadway. Phase 2 produced refined forecasts for selected corridors based on the results of the Phase 1 estimates. Note that the forecasts in both phases are considered order-of-magnitude forecasts consistent with expected precision for Level 1 feasibility analysis.

Toll Diversion Process

Stantec utilizes a customized toll diversion model (TDM) embedded directly within the equilibrium assignment process. This process creates both tolled and non-tolled paths by vehicle type during each assignment iteration. Thus during each iteration, trips between a given origin and destination are partitioned with a logit-based choice model between the tolled path and the non-tolled path. The toll diversion model creates shares of tolled trips and non-tolled trips based on the time savings of the toll road, toll costs and the value of time. The structure of the toll diversion model is a basic binary logit equation and is defined as follows:

$$\text{Toll Share} = 1 / (1 + e^U)$$

where:



FEASIBILITY OF INTERSTATE TOLLING

Toll Share	= Probability of selecting a toll road
e	= Base of natural logarithm (ln)
U (work)	= $a * (Time_{TR} - Time_{FR}) + b * (Cost) / \ln(Inc) + C_{TR} + C_{ETC}$
U (nonwork)	= $a * (Time_{TR} - Time_{FR}) + b * (Cost) + C_{TR} + C_{ETC}$
Time _{TR}	= Toll road travel time in minutes
Time _{FR}	= Nontoll road travel time in minutes
Cost	= Toll in dollars
Inc	= Median Annual income / 1000
C _{TR}	= Constant for toll road bias
C _{ETC}	= Constant for ETC bias
a,b	= Coefficients

The TDM utilizes a separate value of time for each trip purpose. This model and initial coefficients were adopted from a recently calibrated model in Austin Texas and were adjusted for the income levels of Wisconsin residents. Table 16 displays the time and cost coefficients used for this project. Note that the relationship between these coefficients implies an individual value of time for each purpose. Note that the Home Based Work (HBW) purpose utilizes a special cost term (Cost/LN(Income/1000)). For this cost variable, the income term is the median household income of the zone where the traveler resides. Thus while the Home-Based Other (HBO) and Non-Home Based (NHB) trips have single values of time (Shown as \$10.95 and \$14.79, per hour respectively in the table), the value of time for HBW trips varies. As a reference point, the HBW trip purpose value of time would be \$18.54 per hour using the Wisconsin 2014 median household income value of \$52,622. Values of time for medium and heavy truck trips were adopted from recent analysis performed in Illinois.

Table 16 – Toll Diversion Model Coefficients and Value of Time

TRIP PURPOSE	Coefficients		
	TIME (MIN)	COST (\$)	VOT (\$/HR)
HBW	0.1053	1.3505	\$18.54
HBO	0.0441	0.2417	\$10.95
NHB	0.0872	0.3537	\$14.79
MEDIUM TRUCK	0.1396	0.4227	\$19.82
HEAVY TRUCK	0.0575	0.0782	\$44.14

The diversion equation for the home based work (HBW) purpose is sensitive to income. The formula uses median household income to represent all trips originating from zones within each county. Median household income was obtained from the Census Bureau for all of the Wisconsin counties and the counties of adjacent states were external roadways entered into Wisconsin. For trips entering into the state, the income of those adjacent counties was assumed to be a reasonable estimate of all trips entering Wisconsin from roads. Table 17 provides the income values for each county by state. Lastly, note that the values of time used for toll diversion estimates are inherently different than the values of time used for other cost-benefit type analysis.



FEASIBILITY OF INTERSTATE TOLLING

Table 17 – 2014 Median Income by County

County	2014 Median Income	County	2014 Median Income	County	2014 Median Income
Wisconsin		La Crosse	\$50,769	Vilas	\$40,501
Adams	\$45,366	Lafayette	\$50,154	Walworth	\$53,998
Ashland	\$39,172	Langlade	\$40,994	Washburn	\$41,749
Barron	\$44,709	Lincoln	\$49,189	Washington	\$67,650
Bayfield	\$45,158	Manitowoc	\$48,629	Waukesha	\$76,319
Brown	\$53,254	Marathon	\$53,779	Waupaca	\$52,007
Buffalo	\$48,585	Marinette	\$41,364	Waushara	\$43,982
Burnett	\$40,722	Marquette	\$46,875	Winnebago	\$51,949
Calumet	\$66,250	Menominee	\$37,740	Wood	\$48,241
Chippewa	\$51,428	Milwaukee	\$43,385	Illinois	
Clark	\$43,515	Monroe	\$49,752	Jo Daviess	\$52,065
Columbia	\$58,703	Oconto	\$51,695	Stephenson	\$44,631
Crawford	\$43,638	Oneida	\$45,736	Winnebago	\$47,523
Dane	\$62,303	Outagamie	\$58,421	McHenry	\$76,345
Dodge	\$53,189	Ozaukee	\$75,643	Lake	\$77,873
Door	\$50,078	Pepin	\$49,321	Boone	\$60,166
Douglas	\$44,956	Pierce	\$61,613	Iowa	
Dunn	\$49,897	Polk	\$49,679	Allamakee	\$47,886
Eau Claire	\$48,209	Portage	\$50,837	Clayton	\$47,725
Florence	\$49,703	Price	\$43,581	Dubuque	\$53,410
Fond du Lac	\$54,529	Racine	\$55,055	Minnesota	
Forest	\$40,331	Richland	\$44,785	Pine	\$44,680
Grant	\$47,266	Rock	\$49,645	Chisago	\$70,223
Green	\$54,868	Rusk	\$38,728	Carlton	\$53,429
Green Lake	\$46,502	St. Croix	\$70,313	Goodhue	\$57,229
Iowa	\$54,390	Sauk	\$50,982	Houston	\$53,359
Iron	\$41,900	Sawyer	\$40,658	Lake	\$46,850
Jackson	\$44,699	Shawano	\$46,903	St. Louis	\$47,138
Jefferson	\$54,522	Sheboygan	\$53,029	Wabasha	\$55,994
Juneau	\$45,135	Taylor	\$45,424	Washington	\$83,182
Kenosha	\$54,653	Trempealeau	\$49,493	Winona	\$48,476
Kewaunee	\$53,023	Vernon	\$47,075		



FEASIBILITY OF INTERSTATE TOLLING

Phase 1 Traffic and Revenue Forecasts

Overview

The objective of the Phase 1 forecasts was to provide comparative estimates of revenue and transactions for individual corridors of the interstate roadway. These estimates were used to provide initial order-of-magnitude revenue values indicating the potential revenue that could be generated for each corridor. At this stage estimates were established using generalized tolling assumption and simplified toll rates per mile. In order to establish feasible per mile rates, values from well-established, long-distance toll roads in the Midwest area and other nearby states were obtained. The selected toll roads included:

- Ohio Turnpike
- Pennsylvania Turnpike
- Illinois Toll Roads
- Indiana Turnpike
- Kansas Turnpike
- Oklahoma Turnpikes
- West Virginia Turnpike

Table 18 provides a summary of the auto rates for both cash and transponder-based payment methods. As shown in the table, the rates for transponder-based payments generally within a rate of 4 to 8 cents per mile for these mature toll roads.

Table 18 – Existing System Toll Rates by Payment Method

Toll Facility	Facility Length (miles)	2-Axle Vehicles				Effective Truck Multiplier	
		Full-Length Toll		Toll Per Mile		5-Axle Truck	
		ETC	Cash	ETC	Cash	ETC	Cash
Indiana Toll Road	157	\$ 4.65	\$ 10.20	\$ 0.03	\$ 0.06	7.7	3.5
Kansas Turnpike	236	\$ 10.20	\$ 12.00	\$ 0.04	\$ 0.05	2.9	2.6
West Virginia Turnpike	88	\$ 3.90	\$ 6.00	\$ 0.04	\$ 0.07	4.2	3.4
Ohio Turnpike	241	\$ 12.25	\$ 17.75	\$ 0.05	\$ 0.07	2.7	2.4
Oklahoma Turnpike				\$ 0.05	\$ 0.05	3.5	3.5
Will Rogers Turnpike	87	\$ 3.90	\$ 4.00	\$ 0.05	\$ 0.05	4.0	4.1
Turner Turnpike	86	\$ 3.90	\$ 4.00	\$ 0.05	\$ 0.05	4.0	4.1
Cimarron Turnpike	59	\$ 2.85	\$ 3.00	\$ 0.05	\$ 0.05	3.8	3.8
Indian Nation Turnpike	105	\$ 5.30	\$ 5.50	\$ 0.05	\$ 0.05	3.3	3.3
HE Bailey Turnpike	86	\$ 4.45	\$ 5.30	\$ 0.05	\$ 0.06	3.0	3.0
Muskogee Turnpike	53	\$ 2.80	\$ 3.00	\$ 0.05	\$ 0.06	3.2	3.1
Illinois Toll Roads				\$ 0.07	\$ 0.14	7.3	3.6
Jane Addams Memorial Tollway (I-90)	76	\$ 3.95	\$ 7.90	\$ 0.05	\$ 0.10	8.0	4.0
Reagan Memorial Tollway (I-88)	96	\$ 5.10	\$ 10.20	\$ 0.05	\$ 0.11	7.9	4.0
Tri-State Tollway (I-94/I-294/I-80)	78	\$ 4.40	\$ 8.80	\$ 0.06	\$ 0.11	8.0	4.0
Veterans Memorial Tollway (I-355)	33	\$ 3.80	\$ 7.60	\$ 0.12	\$ 0.23	6.3	3.2
Pennsylvania Turnpike	360	\$ 30.02	\$ 42.30	\$ 0.08	\$ 0.12	5.6	5.6
Northeast Extension	110	\$ 9.58	\$ 14.10	\$ 0.09	\$ 0.13	5.6	5.6



FEASIBILITY OF INTERSTATE TOLLING

Tolling Assumptions

A series of assumptions were required to create final gross revenue estimates. These assumptions were based on professional judgement and were developed in consultation with WisDOT staff. The primary assumptions are summarized as follows:

- Payment Methods – All Electronic Tolling (AET) was assumed for all corridors which permitted transponder-based payments and video license plate imaging (video tolling). A surcharge of 50% was applied to patrons using video tolling to cover the additional processing costs and expected percentage of non-collectible transactions.
- Truck Toll Rates – Truck tolls were based on number of axles and smaller trucks (3 & 4 axles) were charged a rate as a function of the *per axle* auto toll value. Thus a 3-axle truck paid 50% more than a 2-axle auto. For larger trucks with 5 or more axles, truck tolls were based on the full auto toll multiplied by the number of truck axle minus one. As an example, a 5-axle truck would be charged 4 times the full auto toll value. The higher toll charge for the larger trucks reflects the increased share of maintenance costs imposed by heavy trucks.
- Toll Escalation - Toll rates were held constant, with no escalation over the duration of the forecast period.
- Tolling at State Boundary – where applicable, the first section of interstate within Wisconsin was toll free thus permitting traveler to exit at the first available interchange with being charged tolls.

Transactions and Diversion Process

For the Phase 1 analysis, tolls were estimated based on miles of the interstate network traveled by each trip since precise toll collection plans with ramp and mainline pay points were not developed at this initial level of analysis. This toll estimation technique therefore required a separate process to estimate the number of transactions that would likely occur if a conventional toll collection plan had been established. For Phase 1, a decision was made to assume 1 transaction would occur for every 6 toll links traversed by a traveler. Thus the number of transactions for each corridor was estimated by dividing the total number of trips using toll links in the corridor by 6.0. The preliminary estimates of transactions were used to estimate O&M costs for the Phase 1 feasibility evaluations.

The diversion of traffic was also impacted by the uniform manner that tolls were assessed to trips. Since each trip was charged an equal toll rate per mile, the diversion was relatively smooth across each corridor and did not account the higher effective toll rate per mile that short distance trips would be assessed in an actual toll road system. Under Phase 2, where actual toll collection plans were developed for selected corridors, the diversion for shorter distance trips was more evident.



FEASIBILITY OF INTERSTATE TOLLING

Revenue Assumptions and Forecasts

The Phase 1 traffic and revenue forecasts are provided in Attachment A. The forecasts were developed using the AWT traffic estimates developed with the toll diversion modeling process and those estimates were annualized using the values for each corridor, as discussed previously and presented in Table 5. The first five pages of the attachment provide a comparative summary of the revenue, transactions and diversion, in terms of vehicle miles of travel (VMT) for all 11 corridors using each of the per mile toll rates (4 cents/8 cents/12 cents) that were analyzed. The remaining pages provide a concise summary of each corridor.



FEASIBILITY OF INTERSTATE TOLLING

Phase 2 Traffic and Revenue Forecasts

Overview

The objective of the Phase 2 forecasts was to provide a more refined transaction and revenue estimates for a selected set of corridors. The three corridors selected included a short corridor (I-94 South Milwaukee) with significant external traffic, a long-distance corridor (I-90) with significant truck traffic and significant seasonal variation, and broad group of interstates tolling an urban area (Metro Milwaukee). To get precise estimates of transactions and refined diversion impacts it was necessary to create toll collection plans for each corridor. These tolling plans were designed as fully-closed systems where all travelers using the toll road would be assessed tolls. For two of the corridors, WisDOT also wanted to investigate options for partially closed tolling schemes that permitted some toll-free movements.

Toll Collection Plan Development

As discussed during the traffic and revenue workshop, the toll collection plans for the Phase 2 T&R forecasts were based on a traditional ramp-barrier system that is best suited for all electronic tolling (AET) that includes both transponders and video recognition options. The ramp-barrier system assesses tolls at specific locations in each corridor and tends to minimize transaction processing costs. Tolls at mainline paypoints represent the cost of traveling for an entire section of a toll facility, while the ramp tolls represent the cost of traveling only a portion of a tolled section. Due to the costs of processing transactions, a minimum toll cost will be applied to locations where the tolled distance results in a charge of less than \$0.35. Note that while the ramp-barrier system is efficient from a transaction processing perspective, it does not provide an equitable toll rate for all travelers. Shorter trips that happen to traverse a mainline gantry will pay a higher per mile rate than long distance trips that utilize the full length of a segment. The minimum charge at particular ramps may also result in higher per miles rates for shorter distance trips on the facility.

The development of toll collection plans for each of the Phase 2 corridors was based on general concepts for optimizing toll revenue and minimizing the potential for diversion in the vicinity of the mainline gantry paypoints. The tolling plans also included objectives provided by WisDOT that included optimizing revenue from long-distance travel and the provision for non-tolled sections within the corridors.

Corridor Toll Collection Plans

The I-90 Corridor and I-94 South Milwaukee Corridor were designed to operate as closed systems where all vehicles using the toll facilities are required to pay tolls. An option for the I-90 corridor was provided to allow selected urbanized areas near Wisconsin Dells, Madison, and Janesville to have localized toll-free movements. The I-94 Corridor also has an option that permits a limited number of toll free movements. The third corridor covering the Milwaukee metropolitan area was designed to assess tolls at limited locations thus leaving significant areas of each corridor untolled. This decision was based on the large number of interchanges in the urbanized area and capital costs required for tolling all potential interchanges. The specific tolling plans for each corridor are discussed in the remaining sections of the memorandum and toll collection plan diagrams are shown in Attachment B.



FEASIBILITY OF INTERSTATE TOLLING

I-94 South Milwaukee Corridor

The I-94 South Milwaukee Corridor is approximately 24 miles in length extending from 7 Mile Road southward to the Illinois state line. Given the relatively low toll rates being evaluated for this study, for the closed system option it is appropriate to utilize a single mainline gantry to intercept traffic traveling the full length of the corridor. Localized trips in the corridor are tolled primarily at ramp gantries. Assuming 6 cents per mile, the toll for 2-axle vehicles traveling the full length of the corridor would be approximately \$1.50. The placement of the mainline barrier was oriented towards the south end of the corridor to intercept long-distance trips near the Illinois state line.

For the partially closed option, the use of two mainline gantries was deemed the most efficient approach to capture long-distance trips leaving the state as well as provide some equity by tolling sections in both Racine and Kenosha Counties. The southern mainline gantry was located north of 104th Street, with the toll plan designed to cover an 8.5 mile section from Somers Road southward to the Illinois state line. The northern mainline gantry was located north of Northwestern Avenue with the tolled section extending from 7 Mile Road southward 11.7 miles to Durand Avenue (STH 11). Assuming a 6-cent per mile toll rate, the northern gantry would have a \$0.70 toll and the shorter distance southern section having a \$0.50 toll at the southern mainline gantry. The 4-mile section between STH 11 & Somers road would not be tolled.

I-90 Corridor

This corridor begins at the I-90/I-94 Interchange near Tomah and extends southward 142 miles to the Illinois state line. The toll collection plan includes six mainline gantries each of which cover segments which average approximately 24 miles. With a toll rate of 6 cents per mile, the overall toll charge for traveling the entire corridor is approximately \$8.52, where if rounded upward to \$9.00 would provide for a \$1.50 toll being assessed at each mainline gantry, if the segment distances were equal. The \$9.00 amount would imply a charge of 6.3 cents per mile. Since the segment distances are not precisely the same length, the mainline gantry charges will vary slightly in accordance with the distance of each segment. As discussed previously, the effective toll rate per mile for trips will not be equal due to the use of the ramp-barrier toll system and the locations of the mainline gantries that are influenced for the provision of selected non-tolled sections near the three urbanized areas.

The locations of mainline gantries and the associated ramp gantries were based on the option for certain sections of this corridor to permit toll-free movements near urbanized areas. Mainline Gantry 1 is located at the northern end of the corridor just south of the I-90/I-94 interchange. Mainline Gantry 2 is located just south of US 12 just below Wisconsin Dells and this gantry effectively intercepts long-distance travelers to the nearby recreational areas. Note the toll collection plan for interchanges in the Wisconsin Dells area between US 12 (north) and US 12 (south) is designed to permit an option for toll-free operations in this 7-mile segment. Mainline Gantry 3 is located just north County Road CS. Mainline Gantry 4 is located just north of the US 151 interchange above Madison. Note that the 6-mile section from this interchange south to the US 18 Interchange is configured to permit an option for toll-free operations. Mainline Gantry 5 is located just south of the STH 59 Interchange which is above the last section of optional toll-free movements between the STH 26 and US 14 Business Interchanges. The final mainline gantry (Mainline Gantry 6) is located just north of the Illinois state line to intercept long-distance travel using either the I-90 corridor or I-43 northward towards Milwaukee.



FEASIBILITY OF INTERSTATE TOLLING

Milwaukee Metro Corridor

The Milwaukee Metro Corridor includes a series of radially-oriented interstates converging on the Milwaukee CBD. Near the CBD, these roadways essentially form a 'loop' roadway around the urbanized core of the city. The toll collection plan for each of the radial routes was developed independently and the tolling locations in the loop segments were established to complement the tolling schemes of the radial routes. It should be noted that all of the radial routes and each of the loop sections in the downtown area have tolls at a limited number of selected locations and that there are significant sections with toll-free movements on each roadway. Each of the radial roadways is described below:

I-94 South of I-43 - This facility is 9 miles in length and potentially connects to a separate toll corridor (I-94 South Milwaukee) at its southern terminus near 7 Mile Road. At 6 cents per mile, a single mainline gantry south of College Avenue would assess a \$0.60 toll. Ramp barriers to and from the north at College Avenue and STH 119 (Airport Access Road) would effectively intercept all travel to the airport from I-94. South of Rawson Avenue, all movements would be toll free, thereby providing a significant section of toll free travel prior to connecting to the potential I-94 South Milwaukee Corridor, which is being modeled as a closed system where all travelers would pay tolls.

I-43 West of I-894 – This facility is only 4 miles in length covered by a single mainline gantry with a minimum toll charge of \$0.35 to cover the costs of video-based transaction processing. The mainline gantry is located just to the east of South Moorland Road.

I-94 West of I-894 – The length of this facility is 22.8 miles and will have two mainline gantries each with tolls at \$0.70 assuming 6 cents per mile. The eastern mainline gantry is located east of Redford Blvd. and together with ramp tolls at South Barker Road is configured to intercept long distance travel to the east of STH 16. The western mainline gantry is located just to the west of STH 83 with ramp paypoints to and from the east at the STH 83 Interchange. This location intercepts long distance travel in the western section of the corridor and its placement west of STH 83 avoids competition with the frontage roads that exist east of the STH 83 interchange.

I-41 North of I-94 – This facility is 13.8 miles in length and will have a single mainline gantry with a toll of \$0.80. The mainline gantry will be placed north of STH 145, with ramp tolls to/from the north at North 124 Street and STH 100. South of the mainline gantry, ramp gantries will be placed at ramps for movements to/from the south at West Good Hope Road, STH 175, West Silver Spring Drive, West Hampton Road, STH 190, and West Burleigh Street. This configuration permits toll free movements near the complex Watertown Plank Road interchange and addresses the multiple access points from STH 100 which is immediately adjacent to I-41 south of STH 175. The \$0.80 toll is consistent with the total cost for full length travel on the competing I-43 facility north of I-94.

I-43 North of I-94 – This facility is 13.1 miles in length and will have two mainline gantries each with tolls of \$0.40. At the northern end of the facility, a mainline gantry will be placed north of West Good Hope Road, with ramp tolls to/from the north at STH 100. South of the mainline gantry, ramp gantries will be placed for movements to/from the south at West Good Hope Road. At the southern end of the facility, a mainline gantry will be placed south of West Locust Street with ramp tolls to/from the north at West Locust Street. South of the mainline gantry, ramp gantries will be placed for movements to/from the south at West North Avenue.



FEASIBILITY OF INTERSTATE TOLLING

I-794 East of I-94 – This facility is approximately 2.0 miles in length extending eastward to the Kinnickinnic River and will have a single mainline gantry near the Bridge over the Milwaukee River. The toll charge will be \$0.35. Due to the directional street system on either side of the river and the adjacent ramp connections, it will be difficult and time consuming to attempt to divert around the mainline gantry at the river crossing. For the level of analysis being performed for Phase 2, it is assumed that ramp pay points are not required to minimize diversion.

Within the downtown area, the remaining sections of roadways effectively form a loop system connecting with all of the radial facilities. Each section of the loop system is approximately 5 miles in length and would require a minimum toll of \$0.35 at each pay point to cover cost of processing video-based transactions. Note that each of the loop segments will also have multiple toll-free movements. Tolling for each section of the loop system is described as follows:

I-94 Between I-41 & I-43 – This facility is 5.7 miles in length and will have two mainline gantries to intercept traffic on either side of high volume STH 175 Interchange. On the eastern side, the mainline gantry will be located east of South 35th Street and toll gantries will be placed on the ramps to/from the west at South 35th Street. On the western side, the mainline gantry will be placed west of North Hawley Road, with supporting ramp gantries to/from the east at North Hawley Road.

I-94 Between I-794 & I-43 – This facility is 5.9 miles in length and will have a single mainline gantry south of West Becher Street. Ramp pay points will be placed to/from the north at West Lapham Blvd. and to/from the south at West Morgan Street.

I-43 Between I-94 & I-894 – This facility is 5.2 miles in length and will have a single mainline gantry east of South 60th Street. Ramp pay points will be placed to/from the west at South 60th Street and to/from the east at STH 36/West Loomis Road.

I-894 Between I-43 & I-94 – This facility is 4.5 miles in length and will have a single mainline gantry south of West National Avenue. Ramp pay points will be placed to/from the north at West National Avenue. Since ramps to/from the south are not available at the partial interchange at West Oklahoma Avenue, ramp paypoints are not required at this interchange.

Tolling Assumptions

Tolling assumptions for Phase 2 were retained from the Phase 1 analysis. These assumptions were unchanged except that tolling was also applied to trips at the Wisconsin state line. The primary assumptions are summarized as follows:

- Payment Methods – All Electronic Tolling (AET) was assumed for all corridors which permitted transponder-based payments and video license plate imaging (video tolling). A surcharge of 50% was applied to patrons using video tolling to cover the additional processing costs and expected percentage of non-collectible transactions.
- Truck Toll Rates – Truck tolls were based on number of axles and smaller trucks (3 & 4 axles) were charged a rate as a function of the per axle auto toll value. Thus a 3-axle truck paid 50% more than a 2-axle auto. For larger trucks with 5 or more axles, truck tolls were based on the full auto toll multiplied by the number of truck axle minus one. As an



FEASIBILITY OF INTERSTATE TOLLING

example, a 5-axle truck would be charged 4 times the full auto toll value. The higher toll charge for the larger trucks reflects the increased share of maintenance costs imposed by heavy trucks.

- Toll Escalation - Toll rates were held constant, with no escalation over the duration of the forecast period.
- Tolling at State Boundary – where applicable, trips crossing the state line are also tolled.

Transactions and Diversion Process

For the Phase 2 estimates, tolls were estimated based the paypoints established for each corridors' toll plan. In addition, minimum toll charges were established to ensure that the costs for processing transactions for short distance trips were fully recovered. The use of detailed toll collection plans did provide precise estimates of the number of transactions for each corridor and those improved estimates were used to provide more realistic O&M costs for the feasibility evaluation.

The diversion of traffic was significantly different that Phase 1 as tolls in Phase 2 are assessed at specific paypoint locations and minimum toll charges were assessed. While the Phase 2 toll plans were still based on system-wide toll rates of 4 cents and 6 cents, the effective toll rate varied significantly depending on where a trip entered and exited the toll facility. For longer-distance trips that used the entire length of the roadway, the toll rates assessed were largely consistent with the 4 cent or 6 cent rates. Shorter distance trips had higher effective toll rates per mile, particularly if a trip crossed through a mainline gantry where the highest toll values are charged.

Revenue Assumptions and Forecasts

The Phase 2 traffic and revenue forecasts are provided in Attachment C. The forecasts were developed using the AWT traffic estimates developed with the toll diversion modeling process and those estimates were annualized using the values for each corridor, as discussed previously and presented in Table 5. The first five pages of the attachment provide a comparative summary of the revenue, transactions and diversion, in terms of vehicle miles of travel (VMT) for the three corridors for both the 4 and 6 cent cases that were analyzed. The remaining pages provide a concise summary of each corridor.



FEASIBILITY OF INTERSTATE TOLLING

Attachment A

Annual Revenue Stream - 4 cent/mile Case

Year	CORRIDOR																						System Total	
	Northwest 1		Northwest 2		North Central		Central		Northeast 1		Northeast 2		Southeast 1		South Central		Southeast 2		Milwaukee Metro		South Milwaukee			
	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth
2020	\$ 89,097		\$ 12,095		\$ 22,468		\$ 26,647		\$ 69,431		\$ 33,136		\$ 14,464		\$ 28,254		\$ 13,386		\$ 101,208		\$ 22,790		\$ 432,974	
2021	\$ 95,321	7.0%	\$ 12,955	7.1%	\$ 24,200	7.7%	\$ 28,674	7.6%	\$ 74,509	7.3%	\$ 35,527	7.2%	\$ 15,533	7.4%	\$ 30,339	7.4%	\$ 14,423	7.7%	\$ 108,202	6.9%	\$ 24,551	7.7%	\$ 464,234	7.2%
2022	\$ 101,679	6.7%	\$ 13,834	6.8%	\$ 25,984	7.4%	\$ 30,759	7.3%	\$ 79,716	7.0%	\$ 37,977	6.9%	\$ 16,630	7.1%	\$ 32,478	7.0%	\$ 15,491	7.4%	\$ 115,341	6.6%	\$ 26,364	7.4%	\$ 496,253	6.9%
2023	\$ 103,020	1.3%	\$ 14,032	1.4%	\$ 26,493	2.0%	\$ 31,335	1.9%	\$ 81,002	1.6%	\$ 38,556	1.5%	\$ 16,910	1.7%	\$ 33,019	1.7%	\$ 15,800	2.0%	\$ 116,785	1.3%	\$ 26,884	2.0%	\$ 503,837	1.5%
2024	\$ 104,361	1.3%	\$ 14,230	1.4%	\$ 27,003	1.9%	\$ 31,911	1.8%	\$ 82,288	1.6%	\$ 39,136	1.5%	\$ 17,190	1.7%	\$ 33,561	1.6%	\$ 16,109	2.0%	\$ 118,229	1.2%	\$ 27,405	1.9%	\$ 511,423	1.5%
2025	\$ 105,703	1.3%	\$ 14,428	1.4%	\$ 27,513	1.9%	\$ 32,486	1.8%	\$ 83,573	1.6%	\$ 39,716	1.5%	\$ 17,470	1.6%	\$ 34,103	1.6%	\$ 16,418	1.9%	\$ 119,673	1.2%	\$ 27,926	1.9%	\$ 519,008	1.5%
2026	\$ 107,044	1.3%	\$ 14,626	1.4%	\$ 28,022	1.9%	\$ 33,062	1.8%	\$ 84,859	1.5%	\$ 40,295	1.5%	\$ 17,750	1.6%	\$ 34,645	1.6%	\$ 16,727	1.9%	\$ 121,117	1.2%	\$ 28,447	1.9%	\$ 526,593	1.5%
2027	\$ 108,385	1.3%	\$ 14,824	1.4%	\$ 28,532	1.8%	\$ 33,638	1.7%	\$ 86,145	1.5%	\$ 40,875	1.4%	\$ 18,029	1.6%	\$ 35,187	1.6%	\$ 17,036	1.8%	\$ 122,561	1.2%	\$ 28,967	1.8%	\$ 534,178	1.4%
2028	\$ 109,726	1.2%	\$ 15,022	1.3%	\$ 29,042	1.8%	\$ 34,213	1.7%	\$ 87,430	1.5%	\$ 41,455	1.4%	\$ 18,309	1.6%	\$ 35,729	1.5%	\$ 17,345	1.8%	\$ 124,005	1.2%	\$ 29,488	1.8%	\$ 541,764	1.4%
2029	\$ 111,068	1.2%	\$ 15,220	1.3%	\$ 29,551	1.8%	\$ 34,789	1.7%	\$ 88,716	1.5%	\$ 42,035	1.4%	\$ 18,589	1.5%	\$ 36,270	1.5%	\$ 17,654	1.8%	\$ 125,449	1.2%	\$ 30,009	1.8%	\$ 549,350	1.4%
2030	\$ 112,409	1.2%	\$ 15,417	1.3%	\$ 30,061	1.7%	\$ 35,365	1.7%	\$ 90,001	1.4%	\$ 42,614	1.4%	\$ 18,869	1.5%	\$ 36,812	1.5%	\$ 17,963	1.8%	\$ 126,893	1.2%	\$ 30,530	1.7%	\$ 556,934	1.4%
2031	\$ 113,750	1.2%	\$ 15,615	1.3%	\$ 30,571	1.7%	\$ 35,941	1.6%	\$ 91,287	1.4%	\$ 43,194	1.4%	\$ 19,149	1.5%	\$ 37,354	1.5%	\$ 18,272	1.7%	\$ 128,337	1.1%	\$ 31,050	1.7%	\$ 564,520	1.4%
2032	\$ 115,091	1.2%	\$ 15,813	1.3%	\$ 31,080	1.7%	\$ 36,516	1.6%	\$ 92,573	1.4%	\$ 43,774	1.3%	\$ 19,429	1.5%	\$ 37,896	1.5%	\$ 18,581	1.7%	\$ 129,781	1.1%	\$ 31,571	1.7%	\$ 572,105	1.3%
2033	\$ 116,433	1.2%	\$ 16,011	1.3%	\$ 31,590	1.6%	\$ 37,092	1.6%	\$ 93,858	1.4%	\$ 44,353	1.3%	\$ 19,708	1.4%	\$ 38,438	1.4%	\$ 18,890	1.7%	\$ 131,225	1.1%	\$ 32,092	1.6%	\$ 579,690	1.3%
2034	\$ 117,774	1.2%	\$ 16,209	1.2%	\$ 32,100	1.6%	\$ 37,668	1.6%	\$ 95,144	1.4%	\$ 44,933	1.3%	\$ 19,988	1.4%	\$ 38,980	1.4%	\$ 19,199	1.6%	\$ 132,668	1.1%	\$ 32,613	1.6%	\$ 587,275	1.3%
2035	\$ 119,115	1.1%	\$ 16,407	1.2%	\$ 32,609	1.6%	\$ 38,244	1.5%	\$ 96,429	1.4%	\$ 45,513	1.3%	\$ 20,268	1.4%	\$ 39,521	1.4%	\$ 19,508	1.6%	\$ 134,112	1.1%	\$ 33,133	1.6%	\$ 594,861	1.3%
2036	\$ 120,456	1.1%	\$ 16,605	1.2%	\$ 33,119	1.6%	\$ 38,819	1.5%	\$ 97,715	1.3%	\$ 46,092	1.3%	\$ 20,548	1.4%	\$ 40,063	1.4%	\$ 19,817	1.6%	\$ 135,556	1.1%	\$ 33,654	1.6%	\$ 602,445	1.3%
2037	\$ 121,798	1.1%	\$ 16,802	1.2%	\$ 33,629	1.5%	\$ 39,395	1.5%	\$ 99,001	1.3%	\$ 46,672	1.3%	\$ 20,828	1.4%	\$ 40,605	1.4%	\$ 20,126	1.6%	\$ 137,000	1.1%	\$ 34,175	1.5%	\$ 610,031	1.3%
2038	\$ 123,139	1.1%	\$ 17,000	1.2%	\$ 34,139	1.5%	\$ 39,971	1.5%	\$ 100,286	1.3%	\$ 47,252	1.2%	\$ 21,108	1.3%	\$ 41,147	1.3%	\$ 20,435	1.5%	\$ 138,444	1.1%	\$ 34,696	1.5%	\$ 617,616	1.2%
2039	\$ 124,480	1.1%	\$ 17,198	1.2%	\$ 34,648	1.5%	\$ 40,546	1.4%	\$ 101,572	1.3%	\$ 47,831	1.2%	\$ 21,387	1.3%	\$ 41,689	1.3%	\$ 20,744	1.5%	\$ 139,888	1.0%	\$ 35,216	1.5%	\$ 625,201	1.2%
2040	\$ 125,821	1.1%	\$ 17,396	1.2%	\$ 35,158	1.5%	\$ 41,122	1.4%	\$ 102,858	1.3%	\$ 48,411	1.2%	\$ 21,667	1.3%	\$ 42,231	1.3%	\$ 21,054	1.5%	\$ 141,332	1.0%	\$ 35,737	1.5%	\$ 632,786	1.2%
2041	\$ 127,026	1.0%	\$ 17,574	1.0%	\$ 35,620	1.3%	\$ 41,644	1.3%	\$ 104,014	1.1%	\$ 48,931	1.1%	\$ 21,919	1.2%	\$ 42,719	1.2%	\$ 21,334	1.3%	\$ 142,621	0.9%	\$ 36,209	1.3%	\$ 639,610	1.1%
2042	\$ 128,231	0.9%	\$ 17,751	1.0%	\$ 36,082	1.3%	\$ 42,166	1.3%	\$ 105,171	1.1%	\$ 49,451	1.1%	\$ 22,171	1.1%	\$ 43,207	1.1%	\$ 21,614	1.3%	\$ 143,909	0.9%	\$ 36,682	1.3%	\$ 646,434	1.1%
2043	\$ 129,436	0.9%	\$ 17,928	1.0%	\$ 36,544	1.3%	\$ 42,688	1.2%	\$ 106,327	1.1%	\$ 49,971	1.1%	\$ 22,422	1.1%	\$ 43,695	1.1%	\$ 21,894	1.3%	\$ 145,198	0.9%	\$ 37,154	1.3%	\$ 653,257	1.1%
2044	\$ 130,640	0.9%	\$ 18,106	1.0%	\$ 37,006	1.3%	\$ 43,210	1.2%	\$ 107,484	1.1%	\$ 50,491	1.0%	\$ 22,674	1.1%	\$ 44,183	1.1%	\$ 22,175	1.3%	\$ 146,486	0.9%	\$ 37,626	1.3%	\$ 660,081	1.0%
2045	\$ 131,845	0.9%	\$ 18,283	1.0%	\$ 37,468	1.2%	\$ 43,732	1.2%	\$ 108,640	1.1%	\$ 51,011	1.0%	\$ 22,925	1.1%	\$ 44,672	1.1%	\$ 22,455	1.3%	\$ 147,775	0.9%	\$ 38,099	1.3%	\$ 666,905	1.0%
2046	\$ 133,050	0.9%	\$ 18,461	1.0%	\$ 37,930	1.2%	\$ 44,254	1.2%	\$ 109,797	1.1%	\$ 51,531	1.0%	\$ 23,177	1.1%	\$ 45,160	1.1%	\$ 22,735	1.2%	\$ 149,063	0.9%	\$ 38,571	1.2%	\$ 673,728	1.0%
2047	\$ 134,254	0.9%	\$ 18,638	1.0%	\$ 38,392	1.2%	\$ 44,776	1.2%	\$ 110,953	1.1%	\$ 52,051	1.0%	\$ 23,428	1.1%	\$ 45,648	1.1%	\$ 23,015	1.2%	\$ 150,352	0.9%	\$ 39,043	1.2%	\$ 680,552	1.0%
2048	\$ 135,459	0.9%	\$ 18,816	1.0%	\$ 38,854	1.2%	\$ 45,298	1.2%	\$ 112,110	1.0%	\$ 52,571	1.0%	\$ 23,680	1.1%	\$ 46,136	1.1%	\$ 23,296	1.2%	\$ 151,640	0.9%	\$ 39,516	1.2%	\$ 687,376	1.0%
2049	\$ 136,664	0.9%	\$ 18,993	0.9%	\$ 39,316	1.2%	\$ 45,820	1.2%	\$ 113,267	1.0%	\$ 53,091	1.0%	\$ 23,932	1.1%	\$ 46,624	1.1%	\$ 23,576	1.2%	\$ 152,929	0.8%	\$ 39,988	1.2%	\$ 694,199	1.0%
2050	\$ 137,869	0.9%	\$ 19,171	0.9%	\$ 39,778	1.2%	\$ 46,342	1.1%	\$ 114,423	1.0%	\$ 53,611	1.0%	\$ 24,183	1.1%	\$ 47,113	1.0%	\$ 23,856	1.2%	\$ 154,217	0.8%	\$ 40,460	1.2%	\$ 701,023	1.0%
Total	\$ 3,670,142		\$ 505,459		\$ 1,004,502		\$ 1,178,123		\$ 2,970,577		\$ 1,402,057		\$ 624,333		\$ 1,217,477		\$ 600,933		\$ 4,131,995		\$ 1,020,643		\$ 18,326,240	

Annual Revenue Stream - 8 cent/mile Case

Year	CORRIDOR																						System Total	
	Northwest 1		Northwest 2		North Central		Central		Northeast 1		Northeast 2		Southeast 1		South Central		Southeast 2		Milwaukee Metro		South Milwaukee			
	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth																
2020	\$ 144,312		\$ 19,542		\$ 37,291		\$ 42,128		\$ 119,043		\$ 54,336		\$ 23,677		\$ 45,997		\$ 22,556		\$ 185,922		\$ 41,104		\$ 735,908	
2021	\$ 156,219	8.3%	\$ 21,146	8.2%	\$ 40,545	8.7%	\$ 45,972	9.1%	\$ 128,616	8.0%	\$ 58,790	8.2%	\$ 25,639	8.3%	\$ 49,967	8.6%	\$ 24,486	8.6%	\$ 199,583	7.3%	\$ 44,465	8.2%	\$ 795,428	8.1%
2022	\$ 168,536	7.9%	\$ 22,805	7.8%	\$ 43,922	8.3%	\$ 49,974	8.7%	\$ 138,499	7.7%	\$ 63,395	7.8%	\$ 27,670	7.9%	\$ 54,086	8.2%	\$ 26,488	8.2%	\$ 213,594	7.0%	\$ 47,940	7.8%	\$ 856,909	7.7%
2023	\$ 172,631	2.4%	\$ 23,351	2.4%	\$ 45,166	2.8%	\$ 51,557	3.2%	\$ 141,614	2.2%	\$ 64,906	2.4%	\$ 28,351	2.5%	\$ 55,575	2.8%	\$ 27,200	2.7%	\$ 217,101	1.6%	\$ 49,075	2.4%	\$ 876,526	2.3%
2024	\$ 176,725	2.4%	\$ 23,898	2.3%	\$ 46,410	2.8%	\$ 53,140	3.1%	\$ 144,728	2.2%	\$ 66,417	2.3%	\$ 29,032	2.4%	\$ 57,064	2.7%	\$ 27,913	2.6%	\$ 220,608	1.6%	\$ 50,209	2.3%	\$ 896,143	2.2%
2025	\$ 180,820	2.3%	\$ 24,444	2.3%	\$ 47,654	2.7%	\$ 54,722	3.0%	\$ 147,842	2.2%	\$ 67,928	2.3%	\$ 29,713	2.3%	\$ 58,554	2.6%	\$ 28,625	2.6%	\$ 224,115	1.6%	\$ 51,344	2.3%	\$ 915,759	2.2%
2026	\$ 184,915	2.3%	\$ 24,990	2.2%	\$ 48,898	2.6%	\$ 56,305	2.9%	\$ 150,957	2.1%	\$ 69,439	2.2%	\$ 30,394	2.3%	\$ 60,043	2.5%	\$ 29,338	2.5%	\$ 227,621	1.6%	\$ 52,478	2.2%	\$ 935,376	2.1%
2027	\$ 189,010	2.2%	\$ 25,536	2.2%	\$ 50,142	2.5%	\$ 57,887	2.8%	\$ 154,071	2.1%	\$ 70,950	2.2%	\$ 31,075	2.2%	\$ 61,532	2.5%	\$ 30,050	2.4%	\$ 231,128	1.5%	\$ 53,613	2.2%	\$ 954,993	2.1%
2028	\$ 193,104	2.2%	\$ 26,082	2.1%	\$ 51,386	2.5%	\$ 59,470	2.7%	\$ 157,186	2.0%	\$ 72,461	2.1%	\$ 31,756	2.2%	\$ 63,021	2.4%	\$ 30,763	2.4%	\$ 234,635	1.5%	\$ 54,747	2.1%	\$ 974,610	2.1%
2029	\$ 197,199	2.1%	\$ 26,628	2.1%	\$ 52,630	2.4%	\$ 61,053	2.7%	\$ 160,300	2.0%	\$ 73,971	2.1%	\$ 32,437	2.1%	\$ 64,510	2.4%	\$ 31,475	2.3%	\$ 238,142	1.5%	\$ 55,882	2.1%	\$ 994,227	2.0%
2030	\$ 201,294	2.1%	\$ 27,174	2.1%	\$ 53,874	2.4%	\$ 62,635	2.6%	\$ 163,414	1.9%	\$ 75,482	2.0%	\$ 33,118	2.1%	\$ 65,999	2.3%	\$ 32,188	2.3%	\$ 241,649	1.5%	\$ 57,016	2.0%	\$ 1,013,844	2.0%
2031	\$ 205,389	2.0%	\$ 27,720	2.0%	\$ 55,118	2.3%	\$ 64,218	2.5%	\$ 166,529	1.9%	\$ 76,993	2.0%	\$ 33,799	2.1%	\$ 67,488	2.3%	\$ 32,901	2.2%	\$ 245,156	1.5%	\$ 58,151	2.0%	\$ 1,033,461	1.9%
2032	\$ 209,483	2.0%	\$ 28,266																					

Annual Revenue Stream - 12 cent/mile Case

Year	CORRIDOR																						System Total	
	Northwest 1		Northwest 2		North Central		Central		Northeast 1		Northeast 2		Southeast 1		South Central		Southeast 2		Milwaukee Metro		South Milwaukee		Revenue (000)	Percent Growth
	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth																		
2020	\$ 146,663		\$ 22,225		\$ 42,096		\$ 44,341		\$ 142,430		\$ 61,157		\$ 27,449		\$ 48,799		\$ 26,138		\$ 247,494		\$ 51,977		\$ 860,768	
2021	\$ 162,745	11.0%	\$ 24,336	9.5%	\$ 46,538	10.6%	\$ 49,519	11.7%	\$ 155,623	9.3%	\$ 67,147	9.8%	\$ 30,097	9.6%	\$ 54,165	11.0%	\$ 28,769	10.1%	\$ 267,463	8.1%	\$ 56,750	9.2%	\$ 943,151	9.6%
2022	\$ 179,663	10.4%	\$ 26,539	9.1%	\$ 51,201	10.0%	\$ 54,984	11.0%	\$ 169,372	8.8%	\$ 73,411	9.3%	\$ 32,862	9.2%	\$ 59,811	10.4%	\$ 31,524	9.6%	\$ 288,086	7.7%	\$ 61,720	8.8%	\$ 1,029,173	9.1%
2023	\$ 188,016	4.6%	\$ 27,460	3.5%	\$ 53,415	4.3%	\$ 57,842	5.2%	\$ 174,931	3.3%	\$ 76,141	3.7%	\$ 34,044	3.6%	\$ 62,606	4.7%	\$ 32,765	3.9%	\$ 294,632	2.3%	\$ 63,704	3.2%	\$ 1,065,554	3.5%
2024	\$ 196,368	4.4%	\$ 28,382	3.4%	\$ 55,629	4.1%	\$ 60,700	4.9%	\$ 180,490	3.2%	\$ 78,870	3.6%	\$ 35,225	3.5%	\$ 65,401	4.5%	\$ 34,006	3.8%	\$ 301,178	2.2%	\$ 65,687	3.1%	\$ 1,101,936	3.4%
2025	\$ 204,720	4.3%	\$ 29,304	3.2%	\$ 57,843	4.0%	\$ 63,558	4.7%	\$ 186,048	3.1%	\$ 81,600	3.5%	\$ 36,407	3.4%	\$ 68,196	4.3%	\$ 35,247	3.6%	\$ 307,724	2.2%	\$ 67,671	3.0%	\$ 1,138,319	3.3%
2026	\$ 213,073	4.1%	\$ 30,226	3.1%	\$ 60,057	3.8%	\$ 66,417	4.5%	\$ 191,607	3.0%	\$ 84,329	3.3%	\$ 37,589	3.2%	\$ 70,991	4.1%	\$ 36,488	3.5%	\$ 314,270	2.1%	\$ 69,654	2.9%	\$ 1,174,701	3.2%
2027	\$ 221,425	3.9%	\$ 31,148	3.0%	\$ 62,271	3.7%	\$ 69,275	4.3%	\$ 197,166	2.9%	\$ 87,059	3.2%	\$ 38,770	3.1%	\$ 73,785	3.9%	\$ 37,729	3.4%	\$ 320,816	2.1%	\$ 71,638	2.8%	\$ 1,211,082	3.1%
2028	\$ 229,778	3.8%	\$ 32,070	3.0%	\$ 64,485	3.6%	\$ 72,133	4.1%	\$ 202,724	2.8%	\$ 89,789	3.1%	\$ 39,952	3.0%	\$ 76,580	3.8%	\$ 38,970	3.3%	\$ 327,362	2.0%	\$ 73,622	2.8%	\$ 1,247,464	3.0%
2029	\$ 238,130	3.6%	\$ 32,991	2.9%	\$ 66,700	3.4%	\$ 74,991	4.0%	\$ 208,283	2.7%	\$ 92,518	3.0%	\$ 41,134	3.0%	\$ 79,375	3.6%	\$ 40,211	3.2%	\$ 333,908	2.0%	\$ 75,605	2.7%	\$ 1,283,846	2.9%
2030	\$ 246,482	3.5%	\$ 33,913	2.8%	\$ 68,914	3.3%	\$ 77,849	3.8%	\$ 213,841	2.7%	\$ 95,248	3.0%	\$ 42,315	2.9%	\$ 82,170	3.5%	\$ 41,452	3.1%	\$ 340,455	2.0%	\$ 77,589	2.6%	\$ 1,320,228	2.8%
2031	\$ 254,835	3.4%	\$ 34,835	2.7%	\$ 71,128	3.2%	\$ 80,708	3.7%	\$ 219,400	2.6%	\$ 97,977	2.9%	\$ 43,497	2.8%	\$ 84,965	3.4%	\$ 42,693	3.0%	\$ 347,001	1.9%	\$ 79,573	2.6%	\$ 1,356,610	2.8%
2032	\$ 263,187	3.3%	\$ 35,757	2.6%	\$ 73,342	3.1%	\$ 83,566	3.5%	\$ 224,959	2.5%	\$ 100,707	2.8%	\$ 44,678	2.7%	\$ 87,760	3.3%	\$ 43,934	2.9%	\$ 353,547	1.9%	\$ 81,556	2.5%	\$ 1,392,992	2.7%
2033	\$ 271,540	3.2%	\$ 36,679	2.6%	\$ 75,556	3.0%	\$ 86,424	3.4%	\$ 230,517	2.5%	\$ 103,437	2.7%	\$ 45,860	2.6%	\$ 90,555	3.2%	\$ 45,175	2.8%	\$ 360,093	1.9%	\$ 83,540	2.4%	\$ 1,429,374	2.6%
2034	\$ 279,892	3.1%	\$ 37,600	2.5%	\$ 77,770	2.9%	\$ 89,282	3.3%	\$ 236,076	2.4%	\$ 106,166	2.6%	\$ 47,042	2.6%	\$ 93,350	3.1%	\$ 46,416	2.7%	\$ 366,639	1.8%	\$ 85,523	2.4%	\$ 1,465,756	2.5%
2035	\$ 288,244	3.0%	\$ 38,522	2.5%	\$ 79,984	2.8%	\$ 92,140	3.2%	\$ 241,635	2.4%	\$ 108,896	2.6%	\$ 48,223	2.5%	\$ 96,145	3.0%	\$ 47,658	2.7%	\$ 373,185	1.8%	\$ 87,507	2.3%	\$ 1,502,138	2.5%
2036	\$ 296,597	2.9%	\$ 39,444	2.4%	\$ 82,198	2.8%	\$ 94,999	3.1%	\$ 247,193	2.3%	\$ 111,625	2.5%	\$ 49,405	2.5%	\$ 98,939	2.9%	\$ 48,899	2.6%	\$ 379,731	1.8%	\$ 89,491	2.3%	\$ 1,538,520	2.4%
2037	\$ 304,949	2.8%	\$ 40,366	2.3%	\$ 84,412	2.7%	\$ 97,857	3.0%	\$ 252,752	2.2%	\$ 114,355	2.4%	\$ 50,586	2.4%	\$ 101,734	2.8%	\$ 50,140	2.5%	\$ 386,277	1.7%	\$ 91,474	2.2%	\$ 1,574,902	2.4%
2038	\$ 313,301	2.7%	\$ 41,288	2.3%	\$ 86,626	2.6%	\$ 100,715	2.9%	\$ 258,311	2.2%	\$ 117,084	2.4%	\$ 51,768	2.3%	\$ 104,529	2.7%	\$ 51,381	2.5%	\$ 392,823	1.7%	\$ 93,458	2.2%	\$ 1,611,284	2.3%
2039	\$ 321,654	2.7%	\$ 42,210	2.2%	\$ 88,840	2.6%	\$ 103,573	2.8%	\$ 263,869	2.2%	\$ 119,814	2.3%	\$ 52,950	2.3%	\$ 107,324	2.7%	\$ 52,622	2.4%	\$ 399,369	1.7%	\$ 95,441	2.1%	\$ 1,647,666	2.3%
2040	\$ 330,006	2.6%	\$ 43,131	2.2%	\$ 91,054	2.5%	\$ 106,431	2.8%	\$ 269,428	2.1%	\$ 122,544	2.3%	\$ 54,131	2.2%	\$ 110,119	2.6%	\$ 53,863	2.4%	\$ 405,915	1.6%	\$ 97,425	2.1%	\$ 1,684,048	2.2%
2041	\$ 338,258	2.5%	\$ 44,005	2.0%	\$ 93,173	2.3%	\$ 109,230	2.6%	\$ 274,595	1.9%	\$ 125,108	2.1%	\$ 55,238	2.0%	\$ 112,825	2.5%	\$ 55,036	2.2%	\$ 411,847	1.5%	\$ 99,262	1.9%	\$ 1,718,577	2.1%
2042	\$ 346,510	2.4%	\$ 44,880	2.0%	\$ 95,292	2.3%	\$ 112,028	2.6%	\$ 279,762	1.9%	\$ 127,673	2.0%	\$ 56,345	2.0%	\$ 115,530	2.4%	\$ 56,210	2.1%	\$ 417,778	1.4%	\$ 101,100	1.9%	\$ 1,753,106	2.0%
2043	\$ 354,762	2.4%	\$ 45,754	1.9%	\$ 97,410	2.2%	\$ 114,826	2.5%	\$ 284,929	1.8%	\$ 130,237	2.0%	\$ 57,452	2.0%	\$ 118,236	2.3%	\$ 57,383	2.1%	\$ 423,709	1.4%	\$ 102,937	1.8%	\$ 1,787,636	2.0%
2044	\$ 363,014	2.3%	\$ 46,628	1.9%	\$ 99,529	2.2%	\$ 117,625	2.4%	\$ 290,097	1.8%	\$ 132,801	2.0%	\$ 58,559	1.9%	\$ 120,942	2.3%	\$ 58,557	2.0%	\$ 429,640	1.4%	\$ 104,775	1.8%	\$ 1,822,165	1.9%
2045	\$ 371,266	2.3%	\$ 47,502	1.9%	\$ 101,648	2.1%	\$ 120,423	2.4%	\$ 295,264	1.8%	\$ 135,366	1.9%	\$ 59,666	1.9%	\$ 123,647	2.2%	\$ 59,731	2.0%	\$ 435,571	1.4%	\$ 106,612	1.8%	\$ 1,856,695	1.9%
2046	\$ 379,518	2.2%	\$ 48,376	1.8%	\$ 103,766	2.1%	\$ 123,221	2.3%	\$ 300,431	1.8%	\$ 137,930	1.9%	\$ 60,773	1.9%	\$ 126,353	2.2%	\$ 60,904	2.0%	\$ 441,502	1.4%	\$ 108,450	1.7%	\$ 1,891,224	1.9%
2047	\$ 387,770	2.2%	\$ 49,250	1.8%	\$ 105,885	2.0%	\$ 126,020	2.3%	\$ 305,598	1.7%	\$ 140,495	1.9%	\$ 61,880	1.8%	\$ 129,059	2.1%	\$ 62,078	1.9%	\$ 447,433	1.3%	\$ 110,287	1.7%	\$ 1,925,754	1.8%
2048	\$ 396,022	2.1%	\$ 50,124	1.8%	\$ 108,004	2.0%	\$ 128,818	2.2%	\$ 310,765	1.7%	\$ 143,059	1.8%	\$ 62,987	1.8%	\$ 131,764	2.1%	\$ 63,251	1.9%	\$ 453,364	1.3%	\$ 112,124	1.7%	\$ 1,960,283	1.8%
2049	\$ 404,274	2.1%	\$ 50,998	1.7%	\$ 110,123	2.0%	\$ 131,616	2.2%	\$ 315,932	1.7%	\$ 145,623	1.8%	\$ 64,094	1.8%	\$ 134,470	2.1%	\$ 64,425	1.9%	\$ 459,295	1.3%	\$ 113,962	1.6%	\$ 1,994,812	1.8%
2050	\$ 412,526	2.0%	\$ 51,872	1.7%	\$ 112,241	1.9%	\$ 134,415	2.1%	\$ 321,100	1.6%	\$ 148,188	1.8%	\$ 65,201	1.7%	\$ 137,176	2.0%	\$ 65,599	1.8%	\$ 465,226	1.3%	\$ 115,799	1.6%	\$ 2,029,342	1.7%
Total	\$ 8,905,188		\$ 1,187,813		\$ 2,467,128		\$ 2,845,523		\$ 7,445,127		\$ 3,356,352		\$ 1,486,177		\$ 2,967,301		\$ 1,469,256		\$ 11,493,329		\$ 2,695,912		\$ 46,319,105	

Total AWDT Transactions - 4 cent/mile Case

Year	CORRIDOR																				System Total			
	Northwest 1		Northwest 2		North Central		Central		Northeast 1		Northeast 2		Southeast 1		South Central		Southeast 2		Milwaukee Metro				South Milwaukee	
	Transactions (AWDT)	Percent Growth																						
2020	136,500		28,900		71,100		66,800		388,100		127,900		33,200		62,600		39,100		1,160,600		130,000		2,244,800	
2021	145,700	6.7%	30,800	6.6%	76,500	7.6%	71,800	7.5%	415,800	7.1%	137,000	7.1%	35,536	7.0%	67,200	7.3%	41,800	6.9%	1,238,100	6.7%	139,900	7.6%	2,400,136	6.9%
2022	155,100	6.5%	32,800	6.5%	82,000	7.2%	77,100	7.4%	444,200	6.8%	146,200	6.7%	37,920	6.7%	71,900	7.0%	45,000	7.7%	1,317,100	6.4%	149,800	7.1%	2,559,120	6.6%
2023	156,700	1.0%	33,200	1.2%	83,500	1.8%	78,600	1.9%	450,500	1.4%	148,200	1.4%	38,539	1.6%	73,000	1.5%	45,700	1.6%	1,331,000	1.1%	152,600	1.9%	2,591,539	1.3%
2024	158,500	1.1%	33,500	0.9%	84,900	1.7%	80,000	1.8%	457,000	1.4%	150,100	1.3%	39,058	1.3%	74,000	1.4%	46,500	1.8%	1,344,700	1.0%	155,300	1.8%	2,623,558	1.2%
2025	160,100	1.0%	33,800	0.9%	86,400	1.8%	81,500	1.9%	463,500	1.4%	152,200	1.4%	39,677	1.6%	75,000	1.4%	47,300	1.7%	1,358,700	1.0%	158,000	1.7%	2,656,177	1.2%
2026	161,800	1.1%	34,200	1.2%	87,900	1.7%	83,000	1.8%	469,800	1.4%	154,200	1.3%	40,295	1.6%	76,300	1.7%	48,200	1.9%	1,372,500	1.0%	160,800	1.8%	2,688,995	1.2%
2027	163,500	1.1%	34,600	1.2%	89,300	1.6%	84,400	1.7%	476,300	1.4%	156,100	1.2%	40,814	1.3%	77,400	1.4%	48,800	1.2%	1,386,300	1.0%	163,400	1.6%	2,720,914	1.2%
2028	165,100	1.0%	34,900	0.9%	90,800	1.7%	85,900	1.8%	482,900	1.4%	158,200	1.3%	41,433	1.5%	78,300	1.2%	49,800	2.0%	1,400,200	1.0%	166,100	1.7%	2,753,633	1.2%
2029	166,800	1.0%	35,300	1.1%	92,300	1.7%	87,400	1.7%	489,300	1.3%	160,200	1.3%	41,952	1.3%	79,500	1.5%	50,600	1.6%	1,413,900	1.0%	169,000	1.7%	2,786,252	1.2%
2030	168,400	1.0%	35,600	0.8%	93,700	1.5%	88,900	1.7%	495,700	1.3%	162,100	1.2%	42,571	1.5%	80,700	1.5%	51,300	1.4%	1,427,800	1.0%	171,700	1.6%	2,818,471	1.2%
2031	170,200	1.1%	35,900	0.8%	95,100	1.5%	90,200	1.5%	502,100	1.3%	164,200	1.3%	43,090	1.2%	81,700	1.2%	52,100	1.6%	1,441,600	1.0%	174,400	1.6%	2,850,590	1.1%
2032	171,800	0.9%	36,200	0.8%	96,600	1.6%	91,800	1.8%	508,500	1.3%	166,200	1.2%	43,708	1.4%	82,700	1.2%	52,900	1.5%	1,455,400	1.0%	177,200	1.6%	2,883,008	1.1%
2033	173,500	1.0%	36,600	1.1%	98,000	1.4%	93,300	1.6%	515,000	1.3%	168,100	1.1%	44,327	1.4%	83,900	1.5%	53,600	1.3%	1,469,100	0.9%	179,900	1.5%	2,915,327	1.1%
2034	175,200	1.0%	36,900	0.8%	99,500	1.5%	94,700	1.5%	521,600	1.3%	170,200	1.2%	44,846	1.2%	85,000	1.3%	54,600	1.9%	1,483,000	0.9%	182,500	1.4%	2,948,046	1.1%
2035	176,900	1.0%	37,200	0.8%	101,000	1.5%	96,200	1.6%	528,000	1.2%	172,200	1.2%	45,465	1.4%	86,100	1.3%	55,300	1.3%	1,496,700	0.9%	185,300	1.5%	2,980,365	1.1%
2036	178,600	1.0%	37,800	1.6%	102,400	1.4%	97,600	1.5%	534,300	1.2%	174,100	1.1%	45,984	1.1%	87,200	1.3%	56,100	1.4%	1,510,700	0.9%	188,000	1.5%	3,012,784	1.1%
2037	180,300	1.0%	38,100	0.8%	103,900	1.5%	99,100	1.5%	540,800	1.2%	176,200	1.2%	46,603	1.3%	88,200	1.1%	56,900	1.4%	1,524,400	0.9%	190,800	1.5%	3,045,303	1.1%
2038	181,900	0.9%	38,400	0.8%	105,300	1.3%	100,600	1.5%	547,200	1.2%	178,200	1.1%	47,221	1.3%	89,400	1.4%	57,700	1.4%	1,538,300	0.9%	193,500	1.4%	3,077,721	1.1%
2039	183,500	0.9%	38,800	1.0%	106,800	1.4%	102,100	1.5%	553,700	1.2%	180,000	1.0%	47,740	1.1%	90,600	1.3%	58,500	1.4%	1,552,200	0.9%	196,100	1.3%	3,110,040	1.1%
2040	185,200	0.9%	39,100	0.8%	108,300	1.4%	103,500	1.4%	560,200	1.2%	182,200	1.2%	48,459	1.5%	91,500	1.0%	59,300	1.4%	1,565,900	0.9%	198,800	1.4%	3,142,459	1.0%
2041	186,700	0.8%	39,400	0.8%	109,500	1.1%	104,800	1.3%	565,900	1.0%	184,000	1.0%	48,876	0.9%	92,600	1.2%	60,000	1.2%	1,578,100	0.8%	201,200	1.2%	3,171,076	0.9%
2042	188,200	0.8%	39,700	0.8%	110,800	1.2%	106,100	1.2%	571,700	1.0%	185,800	1.0%	49,392	1.1%	93,500	1.0%	60,800	1.3%	1,590,600	0.8%	203,700	1.2%	3,200,292	0.9%
2043	189,700	0.8%	40,000	0.8%	112,200	1.3%	107,500	1.3%	577,400	1.0%	187,500	0.9%	49,909	1.0%	94,600	1.2%	61,500	1.2%	1,602,800	0.8%	206,100	1.2%	3,229,209	0.9%
2044	191,200	0.8%	40,300	0.8%	113,600	1.2%	108,900	1.3%	583,200	1.0%	189,300	1.0%	50,426	1.0%	95,500	1.0%	62,100	1.0%	1,615,100	0.8%	208,600	1.2%	3,258,226	0.9%
2045	192,800	0.8%	40,600	0.7%	114,800	1.1%	110,300	1.3%	589,100	1.0%	191,100	1.0%	51,043	1.2%	96,500	1.0%	62,900	1.3%	1,627,400	0.8%	211,100	1.2%	3,287,643	0.9%
2046	194,300	0.8%	40,900	0.7%	116,000	1.0%	111,500	1.1%	594,800	1.0%	192,900	0.9%	51,559	1.0%	97,400	0.9%	63,500	1.0%	1,639,900	0.8%	213,500	1.1%	3,316,259	0.9%
2047	195,700	0.7%	41,300	1.0%	117,500	1.3%	112,800	1.2%	600,600	1.0%	194,700	0.9%	51,976	0.8%	98,500	1.1%	64,300	1.3%	1,652,000	0.7%	216,000	1.2%	3,345,376	0.9%
2048	197,300	0.8%	41,500	0.5%	118,800	1.1%	114,100	1.2%	606,400	1.0%	196,500	0.9%	52,493	1.0%	99,400	0.9%	65,100	1.2%	1,664,400	0.8%	218,400	1.1%	3,374,393	0.9%
2049	198,800	0.8%	41,900	1.0%	120,100	1.1%	115,400	1.1%	612,200	1.0%	198,200	0.9%	53,010	1.0%	100,400	1.0%	65,800	1.1%	1,676,700	0.7%	220,900	1.1%	3,403,410	0.9%
2050	200,300	0.8%	42,200	0.7%	121,300	1.0%	116,800	1.2%	617,900	0.9%	200,100	1.0%	53,526	1.0%	101,400	1.0%	66,400	0.9%	1,688,900	0.7%	223,200	1.0%	3,432,026	0.8%
Total	5,450,300		1,150,400		3,109,900		2,962,700		16,263,700		5,304,100		1,400,649		2,652,000		1,703,500		46,124,100		5,705,800		91,827,149	

Total AWDT Transactions - 8 cent/mile Case

Year	CORRIDOR																				System Total			
	Northwest 1		Northwest 2		North Central		Central		Northeast 1		Northeast 2		Southeast 1		South Central		Southeast 2		Milwaukee Metro				South Milwaukee	
	Transactions (AWDT)	Percent Growth																						
2020	114,600		25,000		60,600		54,600		335,300		105,400		27,300		52,400		32,900		1,070,900		116,400		1,995,400	
2021	123,200	7.5%	26,900	7.6%	65,600	8.3%	59,300	8.6%	361,300	7.8%	113,700	7.9%	29,491	8.0%	56,600	8.0%	35,600	8.2%	1,146,400	7.1%	125,500	7.8%	2,143,591	7.4%
2022	132,100	7.2%	28,700	6.7%	70,800	7.9%	64,500	8.8%	388,100	7.4%	122,400	7.7%	31,768	7.7%	61,100	8.0%	38,500	8.1%	1,223,600	6.7%	135,200	7.7%	2,296,768	7.1%
2023	134,600	1.9%	29,100	1.4%	72,600	2.5%	66,300	2.8%	395,900	2.0%	124,900	2.0%	32,398	2.0%	62,400	2.1%	39,400	2.3%	1,240,400	1.4%	138,100	2.1%	2,336,098	1.7%
2024	137,000	1.8%	29,600	1.7%	74,400	2.5%	68,200	2.9%	403,800	2.0%	127,500	2.1%	33,129	2.3%	63,800	2.2%	40,300	2.3%	1,257,300	1.4%	141,100	2.2%	2,376,129	1.7%
2025	139,400	1.8%	30,100	1.7%	76,100	2.3%	70,100	2.8%	411,600	1.9%	130,100	2.0%	33,859	2.2%	65,300	2.4%	41,200	2.2%	1,274,100	1.3%	144,100	2.1%	2,415,959	1.7%
2026	141,800	1.7%	30,500	1.3%	77,700	2.1%	71,900	2.6%	419,400	1.9%	132,800	2.1%	34,589	2.2%	66,700	2.1%	42,300	2.7%	1,291,100	1.3%	147,100	2.1%	2,455,889	1.7%
2027	144,300	1.8%	30,900	1.3%	79,600	2.4%	73,800	2.6%	427,200	1.9%	135,400	2.0%	35,319	2.1%	68,200	2.2%	43,000	1.7%	1,308,000	1.3%	150,100	2.0%	2,495,819	1.6%
2028	146,800	1.7%	31,500	1.9%	81,300	2.1%	75,700	2.6%	435,000	1.8%	138,000	1.9%	36,050	2.1%	69,500	1.9%	44,000	2.3%	1,324,700	1.3%	153,000	1.9%	2,535,550	1.6%
2029	149,100	1.6%	31,900	1.3%	83,100	2.2%	77,600	2.5%	442,800	1.8%	140,700	2.0%	36,680	1.7%	71,000	2.2%	45,100	2.5%	1,341,600	1.3%	155,900	1.9%	2,575,480	1.6%
2030	151,500	1.6%	32,300	1.3%	84,800	2.0%	79,500	2.4%	450,700	1.8%	143,300	1.8%	37,410	2.0%	72,500	2.1%	45,900	1.8%	1,358,400	1.3%	158,800	1.9%	2,615,110	1.5%
2031	154,000	1.7%	32,800	1.5%	86,600	2.1%	81,200	2.1%	458,500	1.7%	146,000	1.9%	38,140	2.0%	73,900	1.9%	46,800	2.0%	1,375,300	1.2%	161,900	2.0%	2,655,140	1.5%
2032	156,300	1.5%	33,300	1.5%	88,300	2.0%	83,200	2.5%	466,300	1.7%	148,500	1.7%	38,871	1.9%	75,200	1.8%	47,800	2.1%	1,392,200	1.2%	164,900	1.9%	2,694,871	1.5%
2033	158,700	1.5%</																						

Total AWDT Transactions - 12 cent/mile Case

Year	CORRIDOR																				System Total			
	Northwest 1		Northwest 2		North Central		Central		Northeast 1		Northeast 2		Southeast 1		South Central		Southeast 2		Milwaukee Metro				South Milwaukee	
	Transactions (AWDT)	Percent Growth																						
2020	86,800		21,300		48,700		42,000		276,500		82,100		21,200		39,300		25,800		967,200		99,400		1,710,300	
2021	94,700	9.1%	22,700	6.6%	53,300	9.4%	46,300	10.2%	300,500	8.7%	89,600	9.1%	23,294	9.9%	43,400	10.4%	28,300	9.7%	1,040,900	7.6%	108,200	8.9%	1,851,194	8.2%
2022	103,000	8.8%	24,500	7.9%	58,100	9.0%	51,000	10.2%	325,500	8.3%	97,500	8.8%	25,359	8.9%	47,400	9.2%	30,800	8.8%	1,117,000	7.3%	117,300	8.4%	1,997,459	7.9%
2023	106,200	3.1%	25,100	2.4%	60,100	3.4%	53,200	4.3%	334,600	2.8%	100,500	3.1%	26,192	3.3%	49,100	3.6%	32,000	3.9%	1,138,100	1.9%	120,700	2.9%	2,045,792	2.4%
2024	109,500	3.1%	25,500	1.6%	62,200	3.5%	55,400	4.1%	343,600	2.7%	103,500	3.0%	27,026	3.2%	51,000	3.9%	33,100	3.4%	1,159,200	1.9%	124,100	2.8%	2,094,126	2.4%
2025	112,900	3.1%	26,200	2.7%	64,200	3.2%	57,600	4.0%	352,900	2.7%	106,700	3.1%	27,860	3.1%	52,700	3.3%	34,200	3.3%	1,180,300	1.8%	127,500	2.7%	2,143,060	2.3%
2026	116,100	2.8%	26,700	1.9%	66,200	3.1%	59,800	3.8%	362,100	2.6%	109,800	2.9%	28,694	3.0%	54,600	3.6%	35,300	3.2%	1,201,600	1.8%	131,000	2.7%	2,191,894	2.3%
2027	119,400	2.8%	27,200	1.9%	68,300	3.2%	62,000	3.7%	371,300	2.5%	112,900	2.8%	29,527	2.9%	56,300	3.1%	36,500	3.4%	1,222,700	1.8%	134,400	2.6%	2,240,527	2.2%
2028	122,500	2.6%	27,800	2.2%	70,400	3.1%	64,200	3.5%	380,300	2.4%	115,900	2.7%	30,361	2.8%	58,100	3.2%	37,500	2.7%	1,243,800	1.7%	137,800	2.5%	2,288,661	2.1%
2029	125,800	2.7%	28,200	1.4%	72,200	2.6%	66,300	3.3%	389,600	2.4%	119,100	2.8%	31,195	2.7%	59,900	3.1%	38,700	3.2%	1,265,000	1.7%	141,300	2.5%	2,337,295	2.1%
2030	129,200	2.7%	28,800	2.1%	74,400	3.0%	68,500	3.3%	398,700	2.3%	122,200	2.6%	32,028	2.7%	61,600	2.8%	39,600	2.3%	1,286,200	1.7%	144,600	2.3%	2,385,828	2.1%
2031	132,500	2.6%	29,300	1.7%	76,500	2.8%	70,600	3.1%	407,800	2.3%	125,300	2.5%	32,862	2.6%	63,500	3.1%	40,800	3.0%	1,307,300	1.6%	148,000	2.4%	2,434,462	2.0%
2032	135,700	2.4%	29,900	2.0%	78,400	2.5%	72,900	3.3%	416,900	2.2%	128,400	2.5%	33,696	2.5%	65,200	2.7%	41,900	2.7%	1,328,700	1.6%	151,500	2.4%	2,483,196	2.0%
2033	139,000	2.4%	30,400	1.7%	80,600	2.8%	75,100	3.0%	426,100	2.2%	131,500	2.4%	34,430	2.2%	67,000	2.8%	43,000	2.6%	1,349,700	1.6%	154,900	2.2%	2,531,730	2.0%
2034	142,200	2.3%	30,800	1.3%	82,600	2.5%	77,300	2.9%	435,300	2.2%	134,500	2.3%	35,263	2.4%	68,900	2.8%	44,200	2.8%	1,370,900	1.6%	158,400	2.3%	2,580,363	1.9%
2035	145,600	2.4%	31,400	1.9%	84,600	2.4%	79,500	2.8%	444,400	2.1%	137,700	2.4%	36,197	2.6%	70,700	2.6%	45,200	2.3%	1,392,000	1.5%	161,800	2.1%	2,629,097	1.9%
2036	148,800	2.2%	31,900	1.6%	86,700	2.5%	81,600	2.6%	453,600	2.1%	140,800	2.3%	37,031	2.3%	72,500	2.5%	46,300	2.4%	1,413,300	1.5%	165,200	2.1%	2,677,731	1.8%
2037	152,100	2.2%	32,500	1.9%	88,800	2.4%	83,800	2.7%	462,700	2.0%	143,800	2.1%	37,865	2.3%	74,200	2.3%	47,400	2.4%	1,434,400	1.5%	168,700	2.1%	2,726,265	1.8%
2038	155,300	2.1%	33,000	1.5%	90,700	2.1%	86,000	2.6%	471,900	2.0%	147,000	2.2%	38,698	2.2%	76,000	2.4%	48,700	2.7%	1,455,500	1.5%	172,000	2.0%	2,774,798	1.8%
2039	158,700	2.2%	33,400	1.2%	92,800	2.3%	88,200	2.6%	481,100	1.9%	150,100	2.1%	39,532	2.2%	77,800	2.4%	49,700	2.1%	1,476,700	1.5%	175,400	2.0%	2,823,432	1.8%
2040	161,900	2.0%	34,000	1.8%	94,900	2.3%	90,300	2.4%	490,200	1.9%	153,100	2.0%	40,366	2.1%	79,600	2.3%	50,900	2.4%	1,497,900	1.4%	178,800	1.9%	2,871,966	1.7%
2041	165,000	1.9%	34,500	1.5%	96,700	1.9%	92,400	2.3%	498,600	1.7%	156,000	1.9%	41,198	2.1%	81,300	2.1%	51,700	1.6%	1,516,800	1.3%	182,000	1.8%	2,916,198	1.5%
2042	168,100	1.9%	35,000	1.4%	98,700	2.1%	94,600	2.4%	507,000	1.7%	159,000	1.9%	41,931	1.8%	82,900	2.0%	52,800	2.1%	1,535,800	1.3%	185,200	1.8%	2,961,031	1.5%
2043	171,200	1.8%	35,500	1.4%	100,700	2.0%	96,500	2.0%	515,300	1.6%	161,800	1.8%	42,664	1.7%	84,700	2.2%	53,900	2.1%	1,554,700	1.2%	188,300	1.7%	3,005,264	1.5%
2044	174,400	1.9%	35,800	0.8%	102,500	1.8%	98,600	2.2%	523,900	1.7%	164,600	1.7%	43,496	2.0%	86,400	2.0%	54,900	1.9%	1,573,800	1.2%	191,500	1.7%	3,049,896	1.5%
2045	177,300	1.7%	36,400	1.7%	104,400	1.9%	100,800	2.2%	532,200	1.6%	167,500	1.8%	44,329	1.9%	88,100	2.0%	55,900	1.8%	1,592,700	1.2%	194,700	1.7%	3,094,329	1.5%
2046	180,600	1.9%	36,900	1.4%	106,300	1.8%	102,800	2.0%	540,700	1.6%	170,500	1.8%	44,962	1.4%	89,800	1.9%	56,800	1.6%	1,611,700	1.2%	197,700	1.5%	3,138,762	1.4%
2047	183,600	1.7%	37,300	1.1%	108,300	1.9%	104,900	2.0%	549,100	1.6%	173,200	1.6%	45,794	1.9%	91,400	1.8%	58,000	2.1%	1,630,600	1.2%	200,800	1.6%	3,182,994	1.4%
2048	186,800	1.7%	37,900	1.6%	110,200	1.8%	107,100	2.1%	557,500	1.5%	176,200	1.7%	46,627	1.8%	93,100	1.9%	59,000	1.7%	1,649,600	1.2%	204,000	1.6%	3,228,027	1.4%
2049	189,900	1.7%	38,300	1.1%	112,100	1.7%	109,100	1.9%	565,900	1.5%	179,100	1.6%	47,460	1.8%	94,800	1.8%	60,000	1.7%	1,668,600	1.2%	207,100	1.5%	3,272,360	1.4%
2050	192,900	1.6%	38,800	1.3%	114,000	1.7%	111,200	1.9%	574,300	1.5%	181,800	1.5%	48,092	1.3%	96,500	1.8%	61,000	1.7%	1,687,500	1.1%	210,300	1.5%	3,316,392	1.3%
Total	4,487,700		967,000		2,608,600		2,449,600		13,690,100		4,241,700		1,115,230		2,177,800		1,393,900		42,870,200		4,982,600		80,984,430	

Corridor Diversion - 4 cents/mile Case

	Vehicle Type	Percent Diversion By Corridor										System Total	
		Northwest 1	Northwest 2	North Central	Central	Northeast 1	Northeast 2	Southeast 1	South Central	Southeast 2	Milwaukee Metro		South Milwaukee
2020	Auto	-16.9%	-18.3%	-17.6%	-17.3%	-17.9%	-18.7%	-21.6%	-17.3%	-19.1%	-8.4%	-15.0%	-15.1%
	Truck	-22.7%	-24.3%	-25.4%	-23.6%	-24.4%	-24.7%	-28.8%	-23.2%	-26.6%	-17.2%	-21.6%	-23.1%
	Total	-18.4%	-19.6%	-18.8%	-18.3%	-18.6%	-19.3%	-21.9%	-18.5%	-19.8%	-8.8%	-15.7%	-16.1%
2040	Auto	-13.4%	-14.7%	-13.5%	-11.2%	-11.6%	-14.1%	-15.1%	-13.3%	-12.9%	-2.6%	-9.4%	-9.9%
	Truck	-21.9%	-22.8%	-23.2%	-21.1%	-20.8%	-23.0%	-22.9%	-22.1%	-22.6%	-13.6%	-20.2%	-21.2%
	Total	-15.7%	-16.4%	-15.0%	-12.7%	-12.7%	-14.9%	-15.4%	-15.1%	-13.9%	-3.0%	-10.6%	-11.3%

Corridor Diversion - 8 cents/mile Case

	Vehicle Type	Percent Diversion By Corridor										System Total	
		Northwest 1	Northwest 2	North Central	Central	Northeast 1	Northeast 2	Southeast 1	South Central	Southeast 2	Milwaukee Metro		South Milwaukee
2020	Auto	-27.5%	-28.5%	-29.4%	-30.7%	-29.7%	-34.0%	-35.5%	-28.7%	-31.2%	-15.8%	-24.0%	-25.7%
	Truck	-45.0%	-47.6%	-44.1%	-49.3%	-37.3%	-40.3%	-50.8%	-44.5%	-42.7%	-29.1%	-29.3%	-41.6%
	Total	-31.9%	-32.4%	-31.6%	-33.7%	-30.6%	-34.6%	-36.0%	-32.0%	-32.3%	-16.3%	-24.6%	-27.7%
2040	Auto	-18.9%	-20.0%	-18.5%	-16.4%	-17.2%	-20.7%	-22.1%	-18.2%	-23.9%	-5.3%	-14.3%	-14.7%
	Truck	-23.4%	-28.3%	-28.0%	-23.8%	-24.3%	-26.6%	-28.6%	-24.6%	-28.3%	-13.6%	-22.0%	-23.8%
	Total	-20.1%	-21.8%	-19.9%	-17.5%	-18.0%	-21.2%	-22.3%	-19.5%	-24.3%	-5.6%	-15.1%	-15.8%

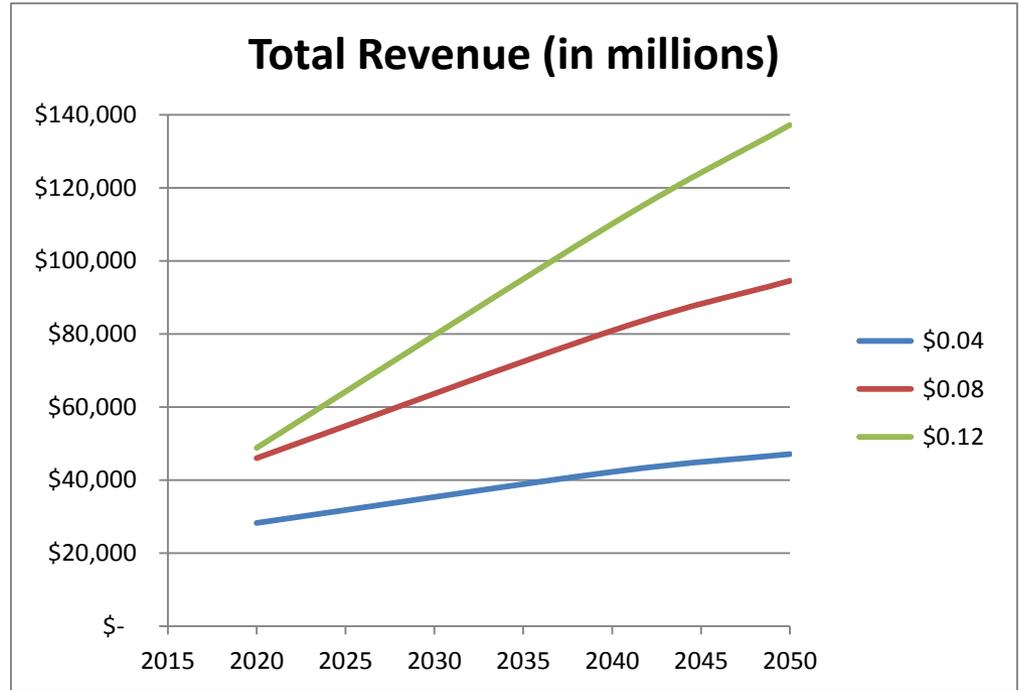
Corridor Diversion - 12 cents/mile Case

	Vehicle Type	Percent Diversion By Corridor										System Total	
		Northwest 1	Northwest 2	North Central	Central	Northeast 1	Northeast 2	Southeast 1	South Central	Southeast 2	Milwaukee Metro		South Milwaukee
2020	Auto	-41.4%	-39.3%	-43.2%	-45.5%	-42.7%	-49.4%	-49.9%	-43.8%	-44.7%	-24.1%	-34.6%	-37.9%
	Truck	-72.9%	-67.7%	-65.8%	-74.6%	-54.8%	-60.6%	-67.8%	-68.9%	-64.5%	-49.3%	-46.4%	-64.6%
	Total	-49.2%	-45.1%	-46.5%	-50.2%	-44.1%	-50.6%	-50.6%	-49.0%	-46.6%	-25.2%	-35.9%	-41.2%
2040	Auto	-23.9%	-25.0%	-24.1%	-22.4%	-23.5%	-28.7%	-29.4%	-23.8%	-29.6%	-7.2%	-18.5%	-19.6%
	Truck	-34.0%	-43.0%	-37.5%	-36.6%	-31.5%	-35.1%	-41.4%	-35.6%	-39.0%	-19.3%	-27.0%	-33.3%
	Total	-26.6%	-28.9%	-26.1%	-24.5%	-24.4%	-29.3%	-29.8%	-26.3%	-30.4%	-7.7%	-19.5%	-21.3%



SOUTH CENTRAL CORRIDOR

- I-39/90 from Beloit to South of Madison Beltline
- 10 interchanges, 4.5 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$1,217,477	\$2,262,192	\$2,967,301
Total Diversion (2020/2040)	18.5% / 15.1%	32.0% / 19.5%	49.0% / 26.3%
Auto Diversion (2020/2040)	17.3% / 13.3%	28.7% / 18.2%	43.8% / 23.8%
Truck Diversion (2020/2040)	23.2% / 22.1%	44.5% / 24.6%	68.9% / 35.6%



South Central Corridor

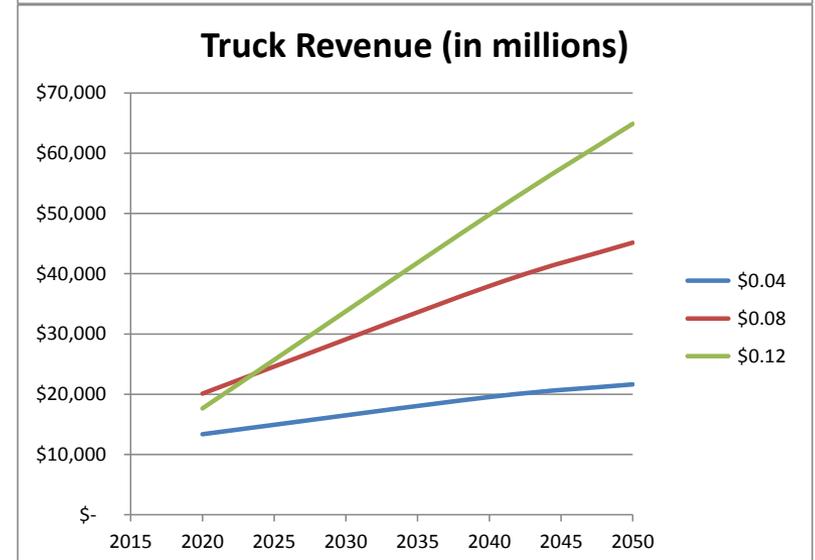
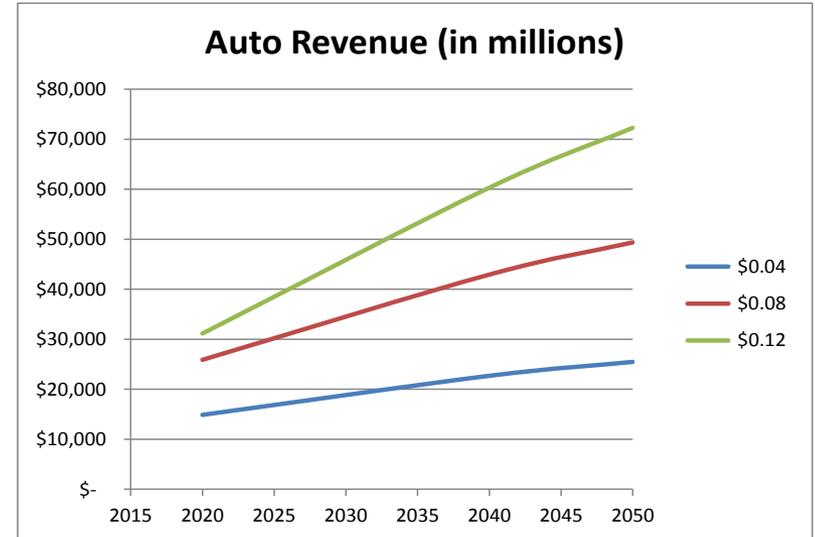
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	1,657	1,371	(286)	-17.3%
Truck	440	338	(102)	-23.2%
Total	2,097	1,709	(388)	-18.5%

Year 2040

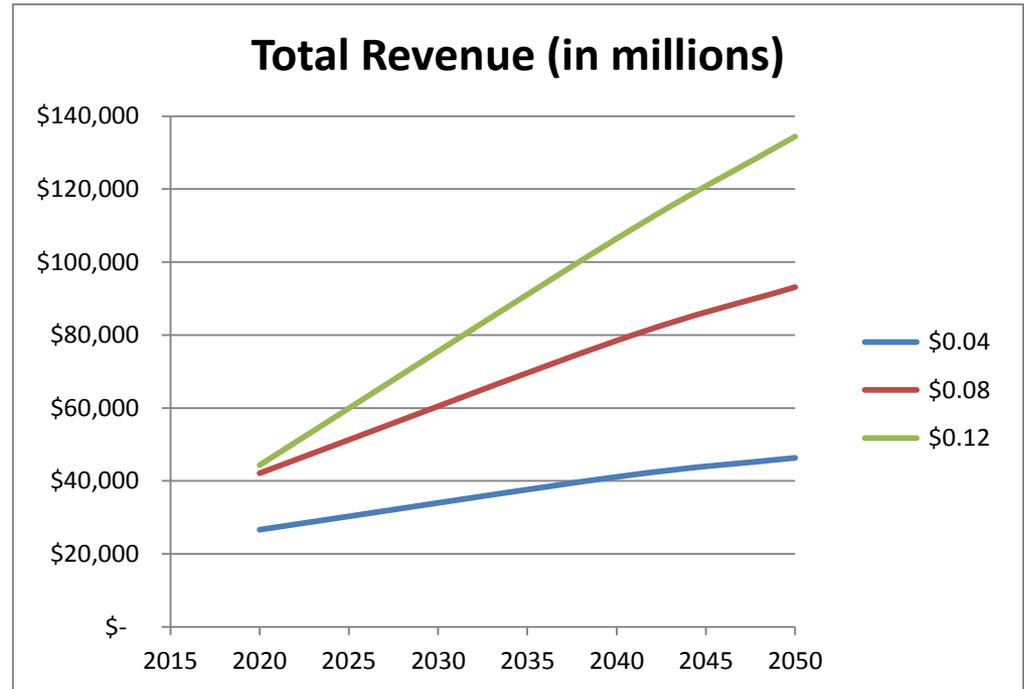
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	2,102	1,823	(279)	-13.3%
Truck	553	431	(122)	-22.1%
Total	2,655	2,254	(401)	-15.1%





CENTRAL CORRIDOR

- I-39/90 from Madison Beltline to Portage
- 10 interchanges, 3.4 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$1,178,123	\$2,173,616	\$2,845,523
Total Diversion (2020/2040)	18.3% / 12.7%	33.7% / 17.5%	50.2% / 24.5%
Auto Diversion (2020/2040)	17.3% / 11.2%	30.7% / 16.4%	45.5% / 36.6%
Truck Diversion (2020/2040)	23.6% / 21.1%	49.3% / 23.8%	74.6% / 36.6%



Central Corridor

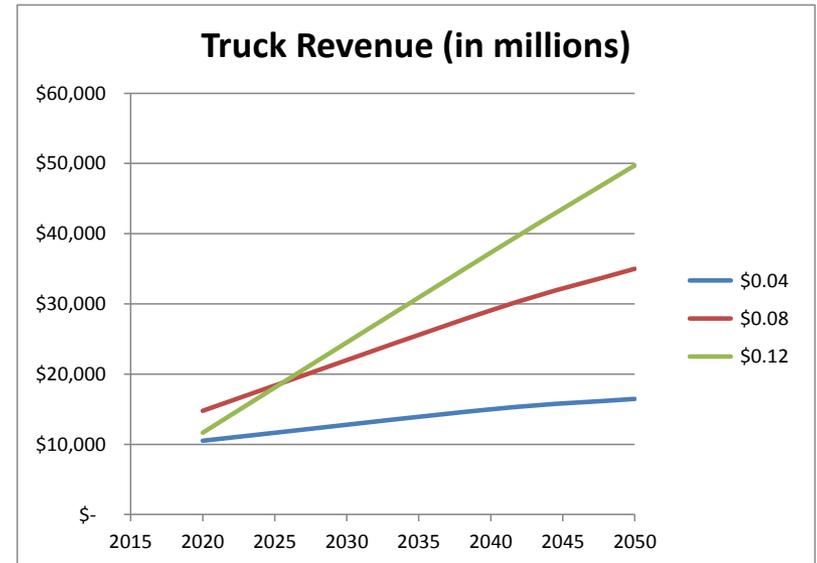
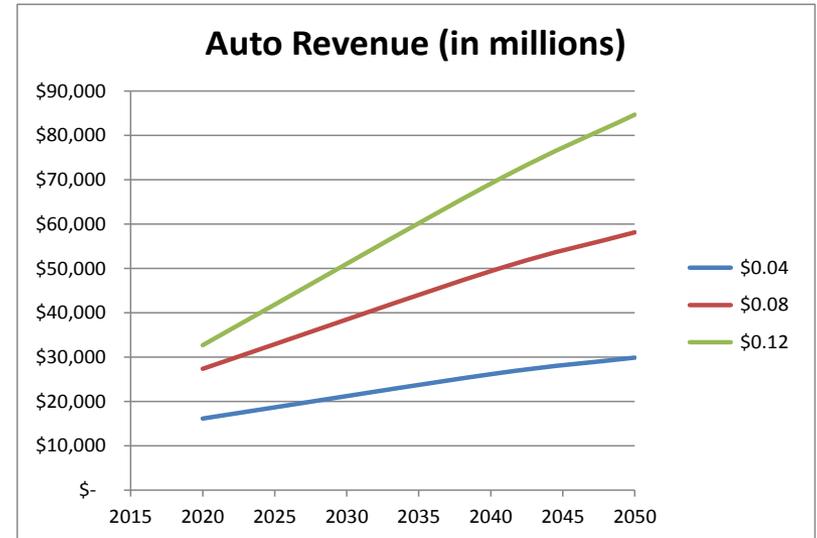
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	1,748	1,446	(302)	-17.3%
Truck	339	259	(80)	-23.6%
Total	2,087	1,705	(382)	-18.3%

Year 2040

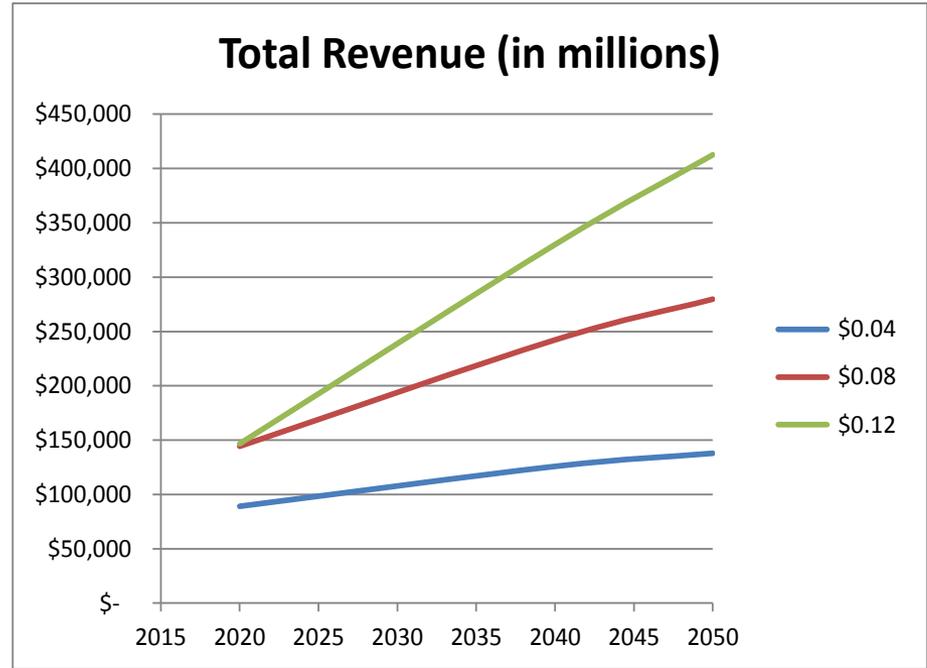
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	2,300	2,042	(258)	-11.2%
Truck	407	321	(86)	-21.1%
Total	2,707	2,363	(344)	-12.7%





NORTHWEST 1 CORRIDOR

- I-94 from Hudson to Portage
- 39 interchanges, 5.3 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue (000)	\$3,670,142	\$6,831,360	\$8,905,188
Total Diversion (2020/2040)	18.4% / 15.7%	31.9% / 20.1%	49.2% / 26.6%
Auto Diversion (2020/2040)	16.9% / 13.4%	27.5% / 18.9%	41.4% / 23.9%
Truck Diversion (2020/2040)	22.7% / 21.9%	45.0% / 23.4%	72.9% / 34.0%



Northwest 1 Corridor

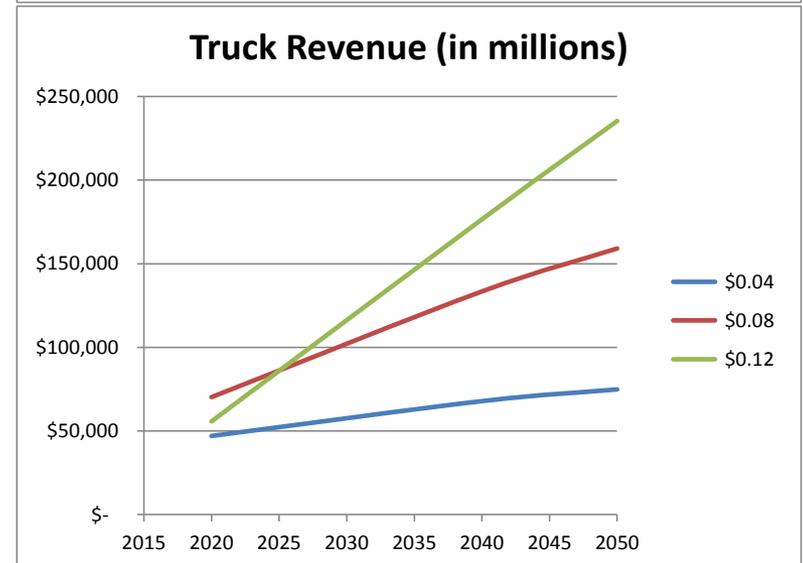
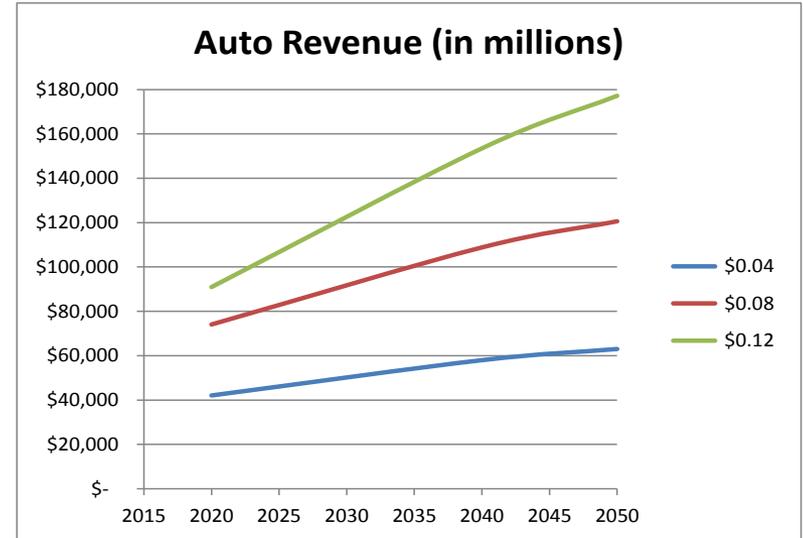
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	4,556	3,785	(771)	-16.9%
Truck	1,503	1,162	(341)	-22.7%
Total	6,059	4,947	(1,112)	-18.4%

Year 2040

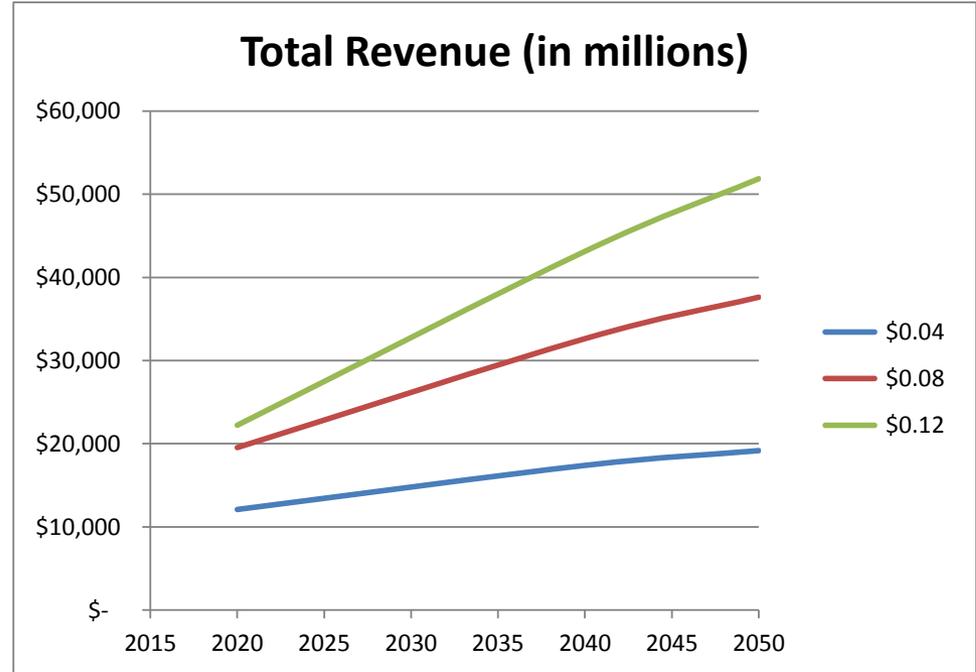
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	5,242	4,539	(703)	-13.4%
Truck	1,869	1,459	(410)	-21.9%
Total	7,111	5,998	(1,113)	-15.7%





NORTHWEST 2 CORRIDOR

- I-90 La Crosse to Tomah
- 10 interchanges, 4.5 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$505,459	\$921,165	\$1,187,813
Total Diversion (2020/2040)	19.6% / 16.4%	32.4% / 21.8%	45.1% / 28.9%
Auto Diversion (2020/2040)	18.3% / 14.7%	28.5% / 20.0%	39.3% / 25.0%
Truck Diversion (2020/2040)	24.3% / 22.8%	47.6% / 28.3%	67.7% / 43.0%



Northwest 2 Corridor

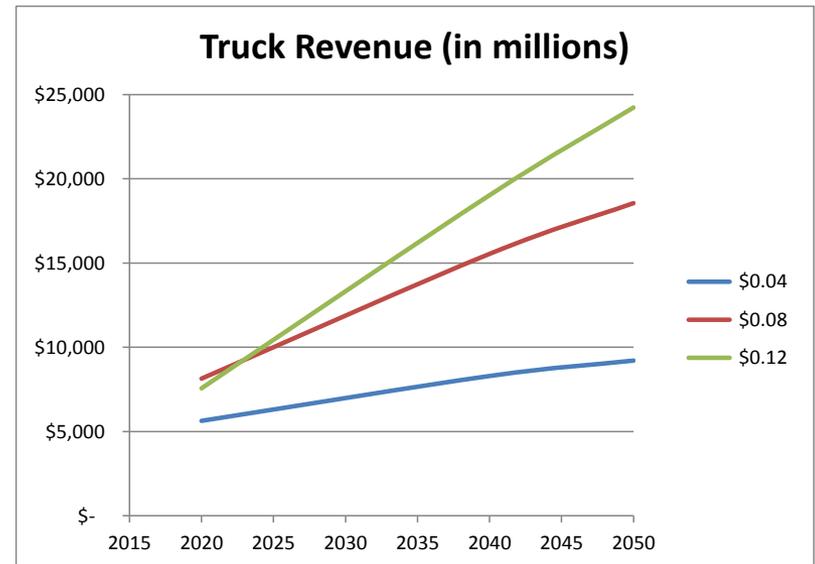
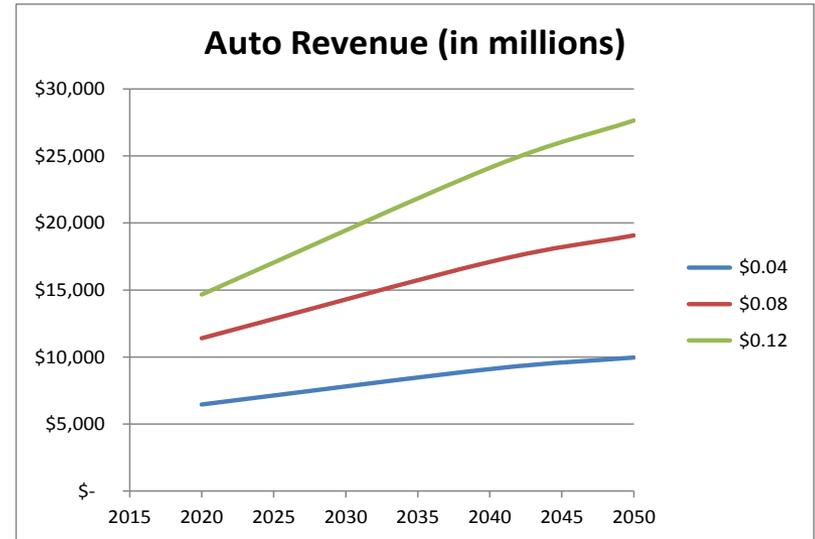
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	731	597	(134)	-18.3%
Truck	189	143	(46)	-24.3%
Total	920	740	(180)	-19.6%

Year 2040

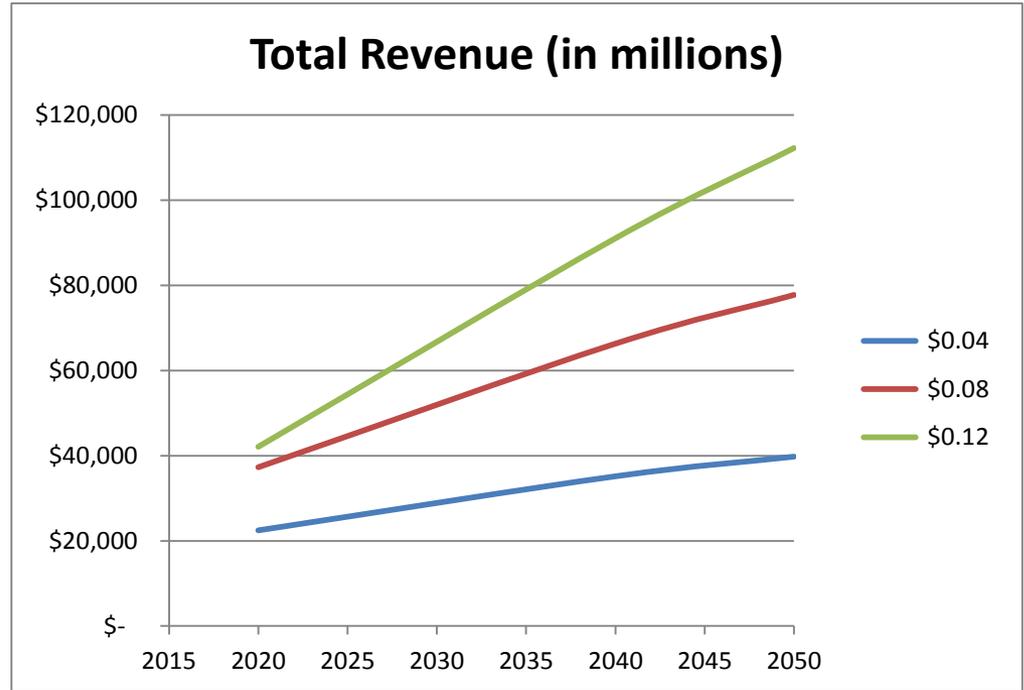
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	859	733	(126)	-14.7%
Truck	237	183	(54)	-22.8%
Total	1,096	916	(180)	-16.4%





NORTH CENTRAL CORRIDOR

- I-39 Portage to Wausau
- 34 interchanges, 3.3 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$1,004,502	\$1,851,114	\$2,467,128
Total Diversion (2020/2040)	18.8% / 15.0%	31.6% / 19.9%	46.5% / 26.1%
Auto Diversion (2020/2040)	17.6% / 13.5%	29.4% / 18.5%	43.2% / 24.1%
Truck Diversion (2020/2040)	25.4% / 23.2%	44.1% / 28.0%	65.8% / 37.5%



North Central Corridor

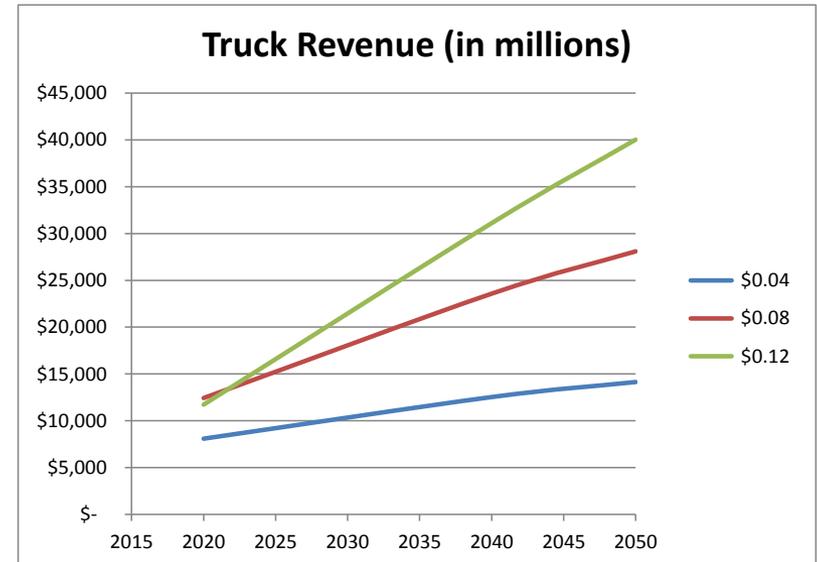
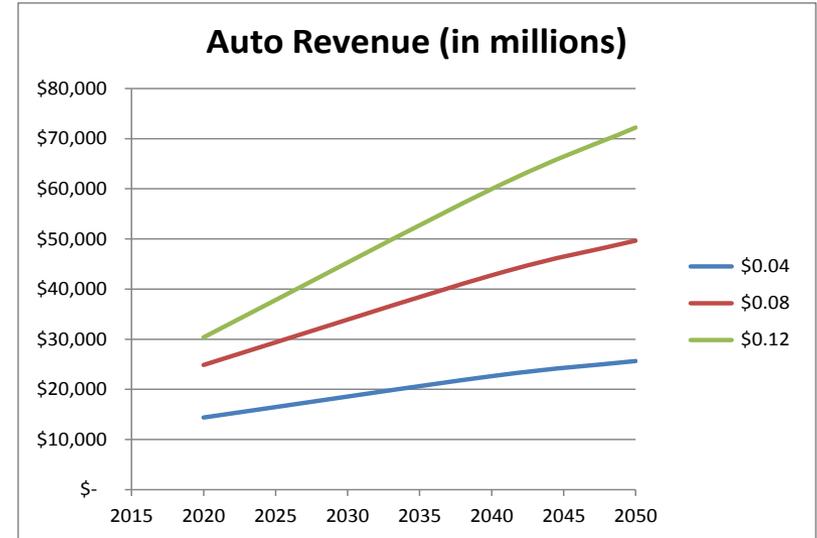
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	1,600	1,318	(282)	-17.6%
Truck	272	203	(69)	-25.4%
Total	1,872	1,521	(351)	-18.8%

Year 2040

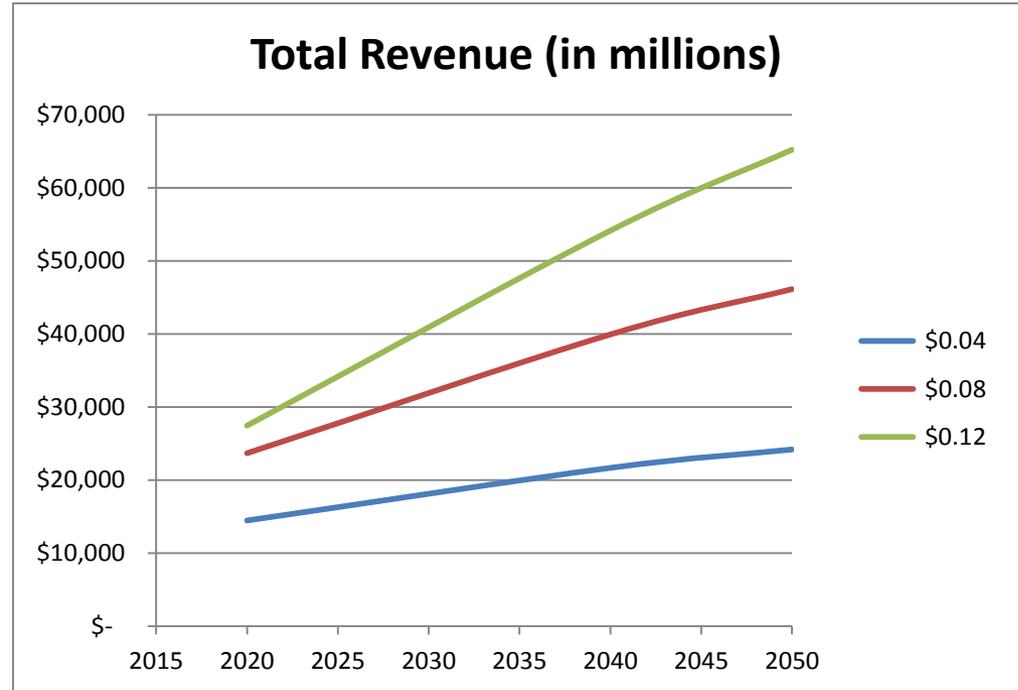
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	2,090	1,807	(283)	-13.5%
Truck	357	274	(83)	-23.2%
Total	2,447	2,081	(366)	-15.0%





SOUTHEAST 1 CORRIDOR

- I-94 Madison to Oconomowoc
- 6 interchanges, 6.3 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$624,333	\$1,124,855	\$1,486,177
Total Diversion (2020/2040)	21.9% / 15.4%	36.0% / 22.3%	50.6% / 29.8%
Auto Diversion (2020/2040)	21.6% / 15.1%	35.5% / 22.1%	49.9% / 29.4%
Truck Diversion (2020/2040)	28.8% / 22.9%	50.8% / 28.6%	67.8% / 41.4%



Southeast 1 Corridor

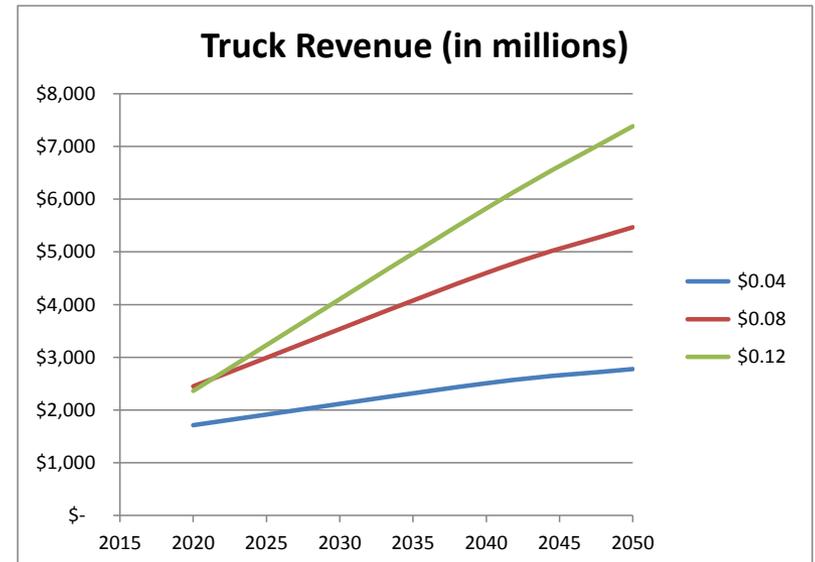
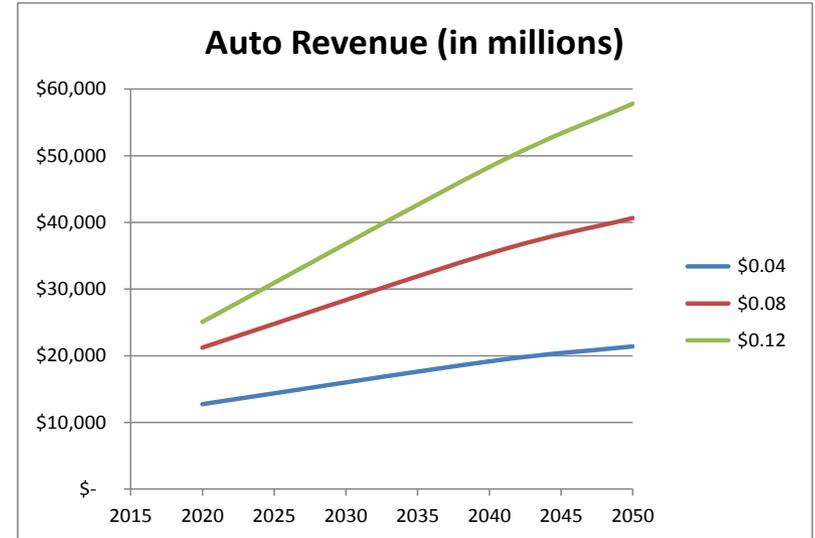
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	1,475	1,156	(319)	-21.6%
Truck	59	42	(17)	-28.8%
Total	1,534	1,198	(336)	-21.9%

Year 2040

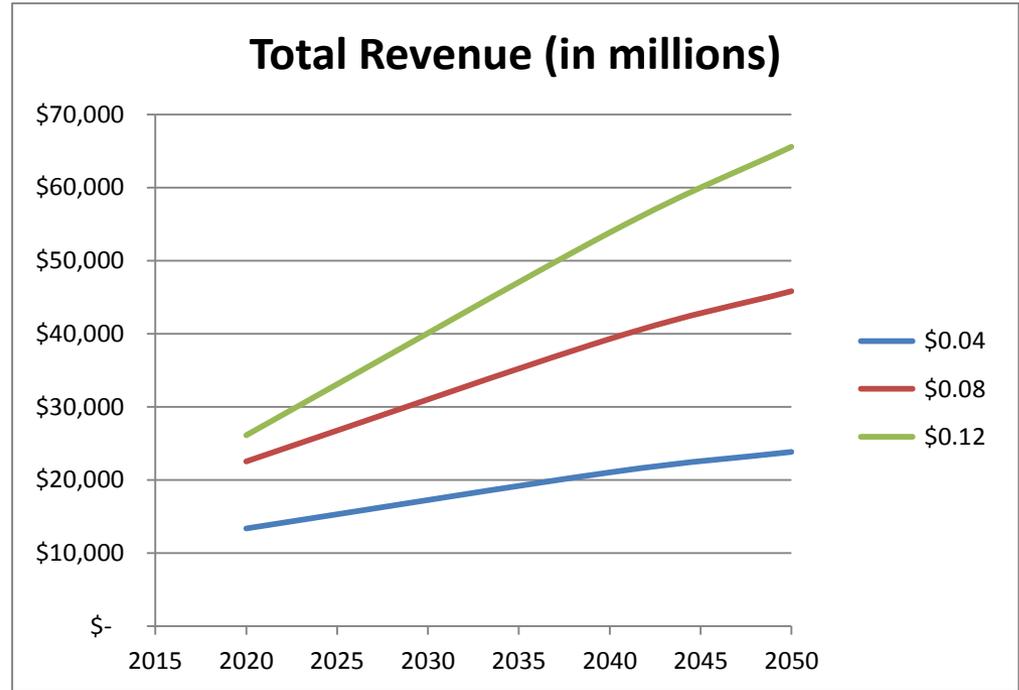
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	1,785	1,515	(270)	-15.1%
Truck	70	54	(16)	-22.9%
Total	1,855	1,569	(286)	-15.4%





SOUTHEAST 2 CORRIDOR

- I-43 Beloit to Muskego
- 14 interchanges, 4.1 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$600,933	\$1,101,213	\$1,469,256
Total Diversion (2020/2040)	19.8% / 13.9%	32.3% / 24.3%	46.6% / 30.4%
Auto Diversion (2020/2040)	19.1% / 12.9%	31.2% / 23.9%	44.7% / 29.6%
Truck Diversion (2020/2040)	26.6% / 22.6%	42.7% / 28.3%	64.5% / 39.0%



Southeast 2 Corridor

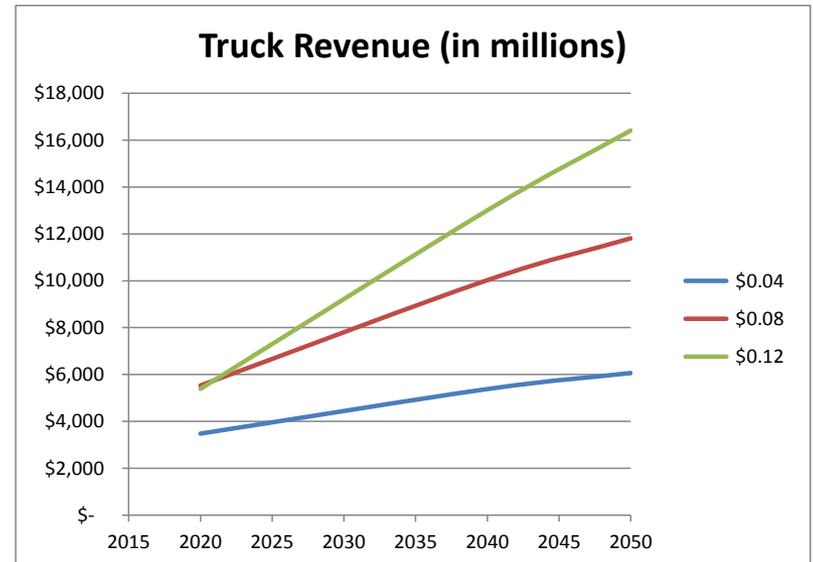
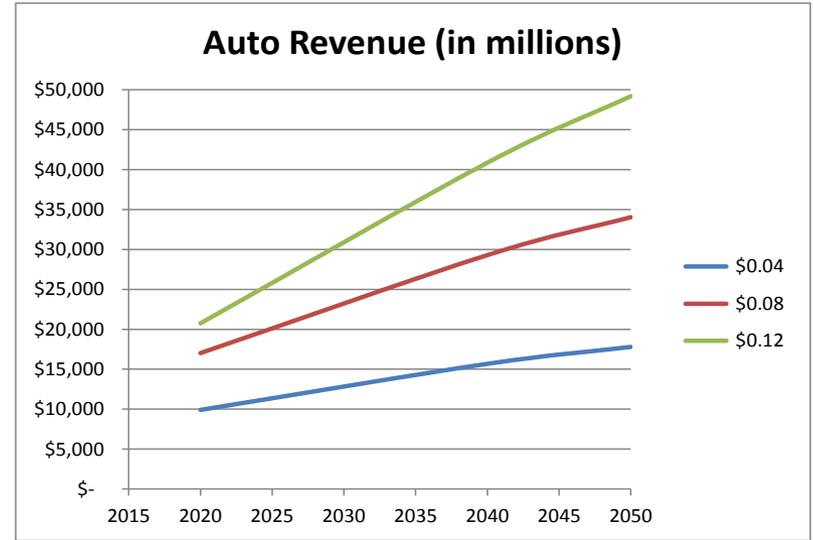
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	1,171	947	(224)	-19.1%
Truck	124	91	(33)	-26.6%
Total	1,295	1,038	(257)	-19.8%

Year 2040

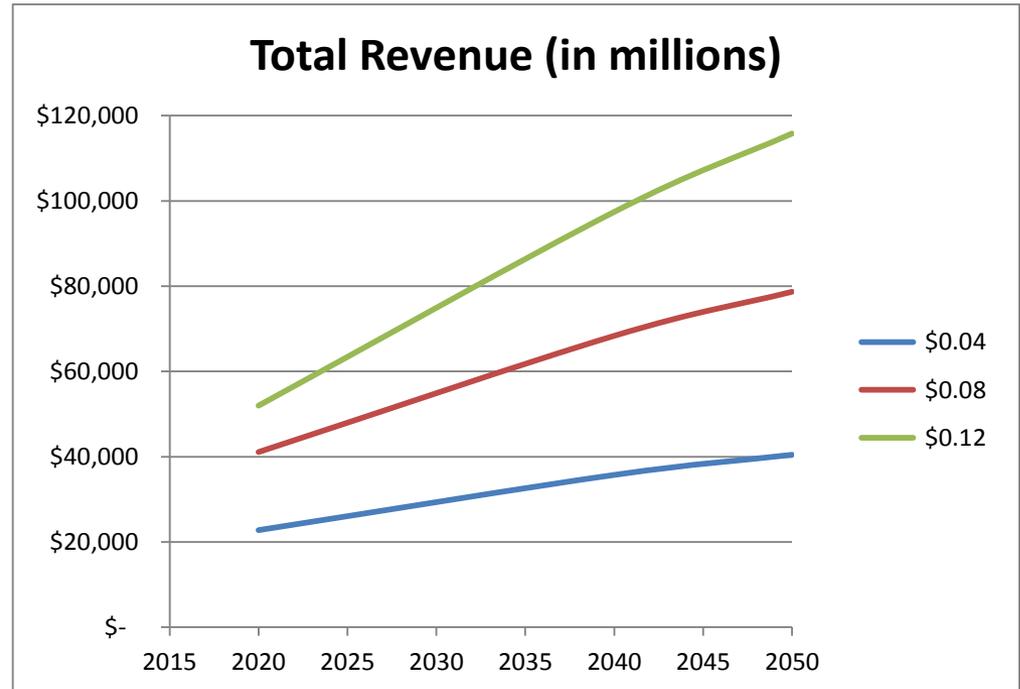
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	1,499	1,305	(194)	-12.9%
Truck	159	123	(36)	-22.6%
Total	1,658	1,428	(230)	-13.9%





SOUTH MILWAUKEE CORRIDOR

- I-94 Illinois State Line to Seven Mile Road
- 12 interchanges, 2 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$1,020,643	\$1,930,846	\$2,695,912
Total Diversion (2020/2040)	15.7% / 10.6%	24.6% / 15.1%	35.9% / 19.5%
Auto Diversion (2020/2040)	15.0% / 9.4%	24.0% / 14.3%	34.6% / 18.5%
Truck Diversion (2020/2040)	21.6% / 20.2%	29.3% / 22.0%	46.4% / 27.0%



South Milwaukee Corridor

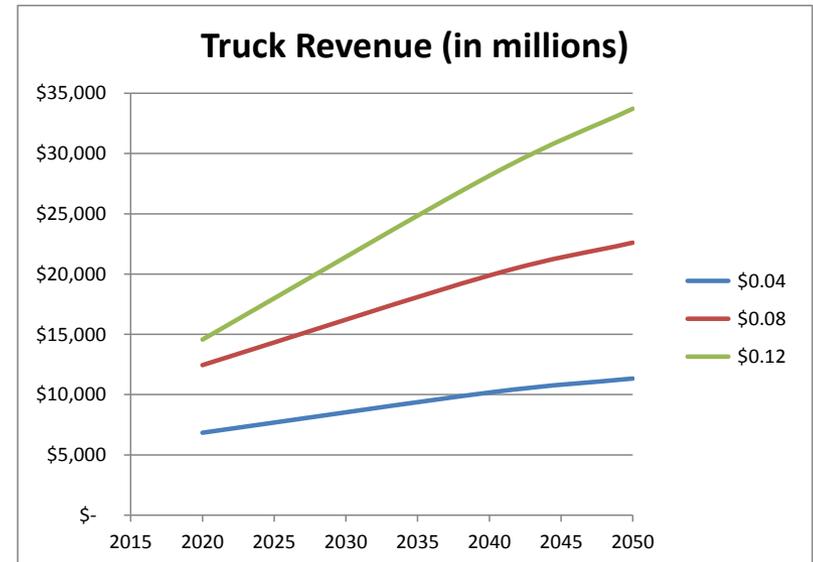
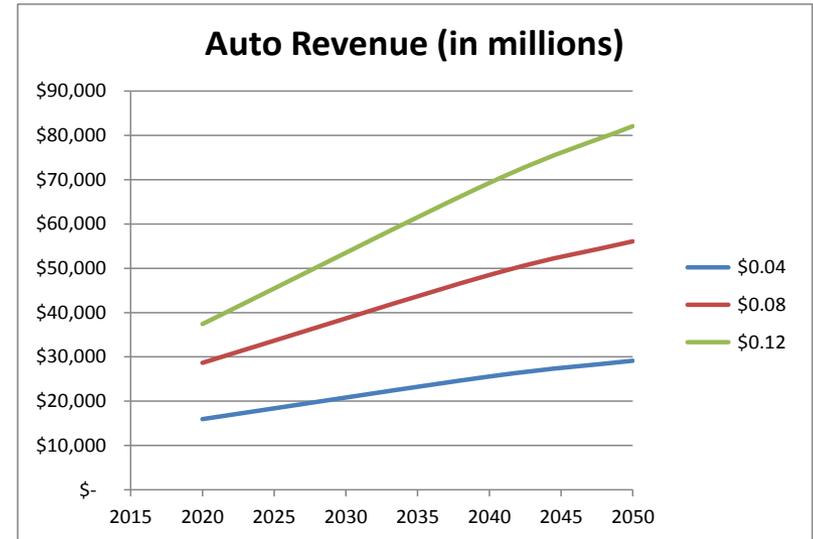
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	1,735	1,475	(260)	-15.0%
Truck	222	174	(48)	-21.6%
Total	1,957	1,649	(308)	-15.7%

Year 2040

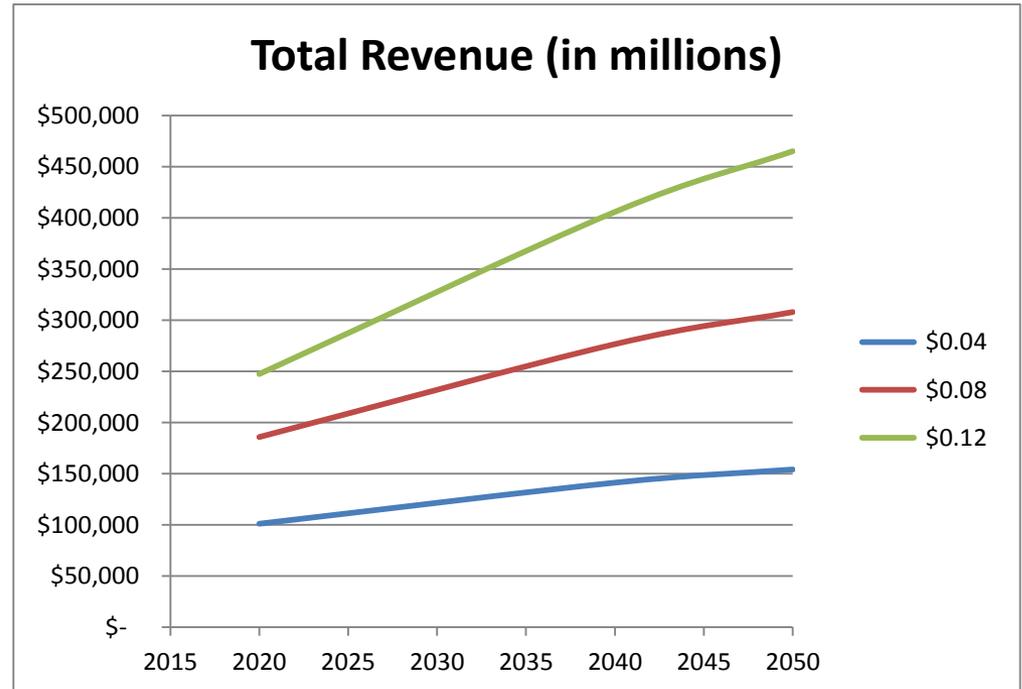
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	2,276	2,062	(214)	-9.4%
Truck	282	225	(57)	-20.2%
Total	2,558	2,287	(271)	-10.6%





METRO MILWAUKEE CORRIDOR

- I-41/43/94/894/794
Waukesha, Milwaukee, and Southern Ozaukee County
- 75 interchanges, 1.2 miles/
interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$4,131,995	\$7,982,902	\$11,493,329
Total Diversion (2020/2040)	8.8% / 3.0%	16.3% / 5.6%	25.2% / 7.7%
Auto Diversion (2020/2040)	8.4% / 2.6%	15.8% / 5.3%	24.1% / 7.2%
Truck Diversion (2020/2040)	17.2% / 13.6%	29.1% / 13.6%	49.3% / 19.3%



Metro Milwaukee Corridor

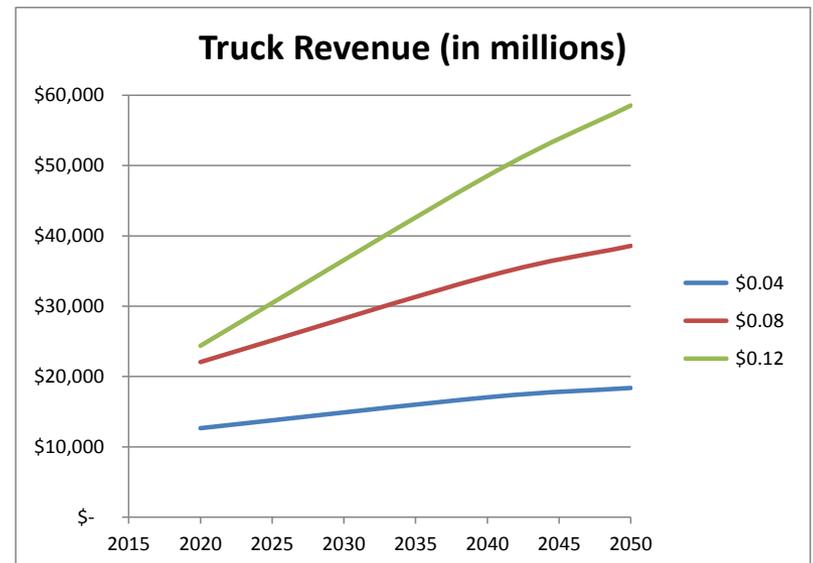
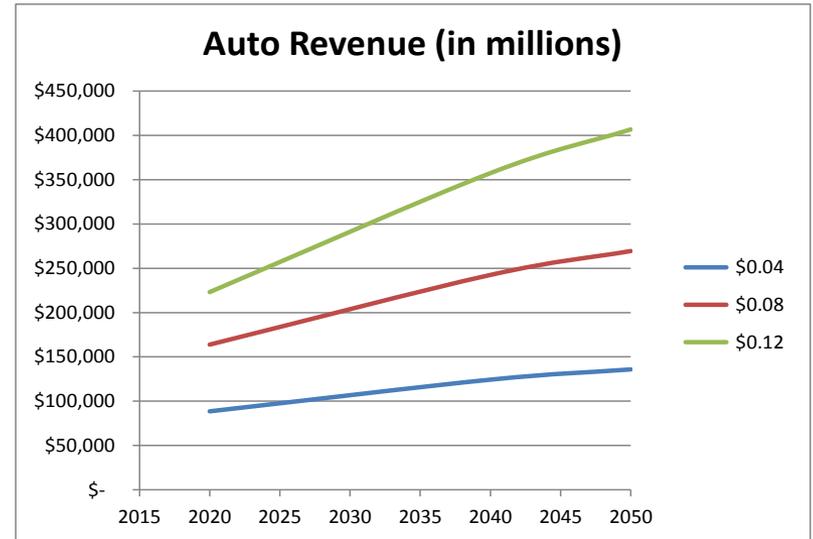
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	9,349	8,560	(789)	-8.4%
Truck	406	336	(70)	-17.2%
Total	9,755	8,896	(859)	-8.8%

Year 2040

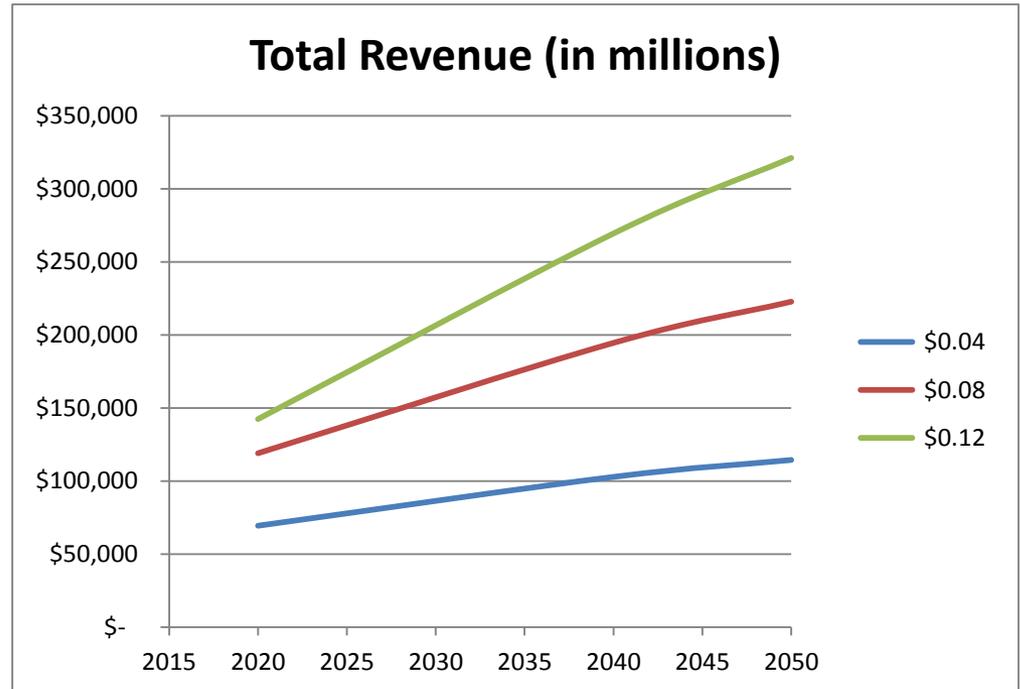
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	10,759	10,481	(278)	-2.6%
Truck	457	395	(62)	-13.6%
Total	11,216	10,876	(340)	-3.0%





NORTHEAST 1 CORRIDOR

- I-41 Germantown to Green Bay
- 53 interchanges, 2.2 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$2,970,577	\$5,512,321	\$7,445,127
Total Diversion (2020/2040)	18.6% / 12.7%	30.6% / 18.0%	44.1% / 24.4%
Auto Diversion (2020/2040)	17.9% / 11.6%	29.7% / 17.2%	42.7% / 25.3%
Truck Diversion (2020/2040)	24.4% / 20.8%	37.3% / 24.3%	54.8% / 31.5%



Northeast 1 Corridor

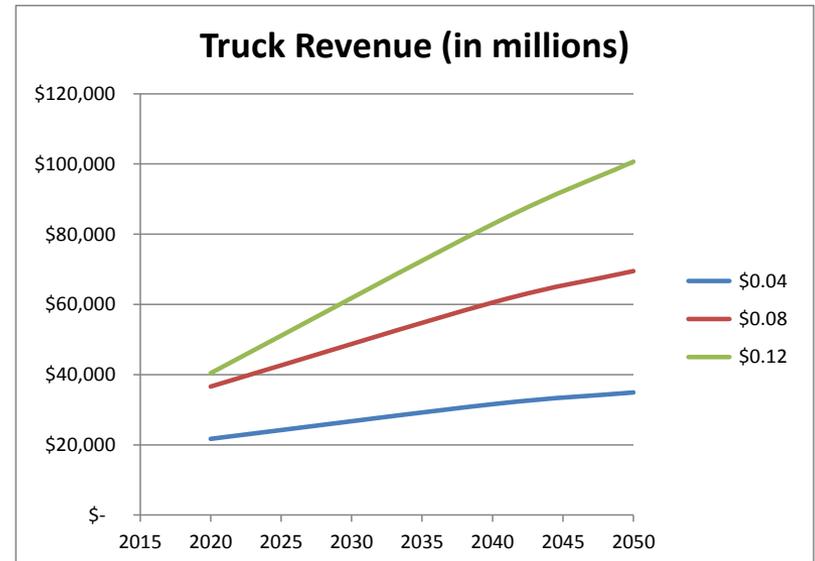
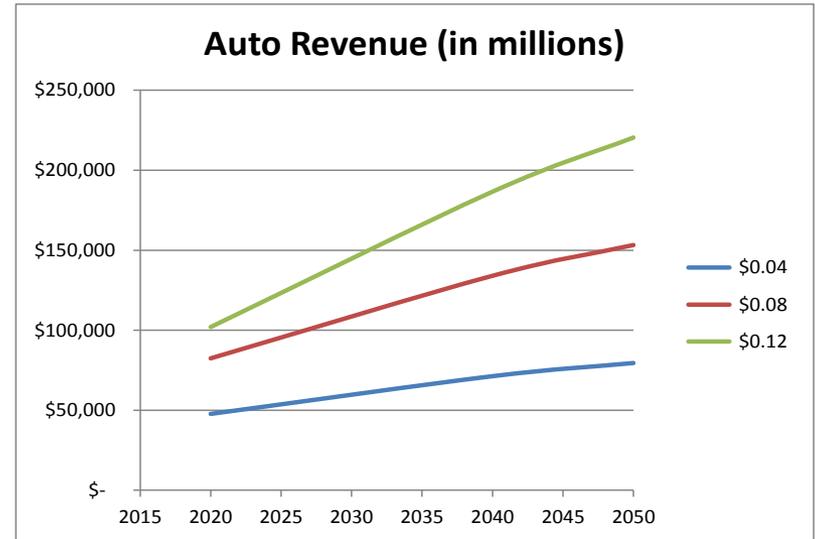
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	5,551	4,560	(991)	-17.9%
Truck	753	569	(184)	-24.4%
Total	6,304	5,129	(1,175)	-18.6%

Year 2040

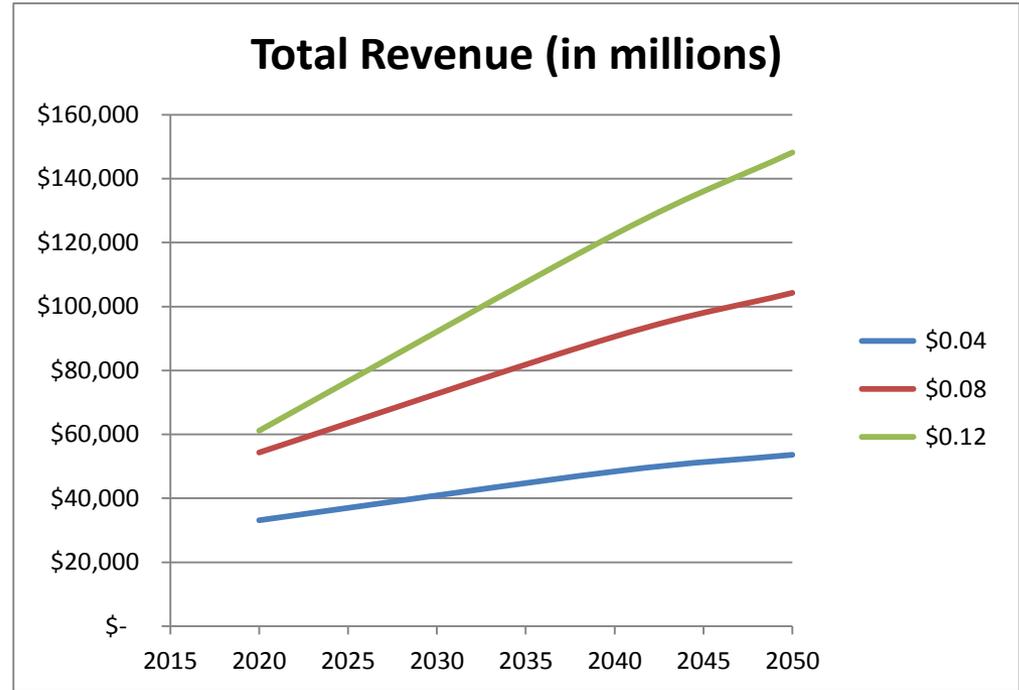
Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	6,715	5,935	(780)	-11.6%
Truck	910	721	(189)	-20.8%
Total	7,625	6,656	(969)	-12.7%





NORTHEAST 2 CORRIDOR

- I-43 Mequon to Green Bay
- 31 interchanges, 3.4 miles/interchange



30 – YR (\$M)	\$.04/mile	\$.08/mile	\$.12/mile
Gross Revenue	\$1,402,057	\$2,557,168	\$3,356,352
Total Diversion (2020/2040)	19.3% / 14.9%	34.6% / 21.2%	50.6% / 29.3%
Auto Diversion (2020/2040)	18.7% / 14.1%	34.0% / 20.7%	49.4% / 28.7%
Truck Diversion (2020/2040)	24.7% / 23.0%	40.4% / 26.6%	60.6% / 35.1%



Northeast 2 Corridor

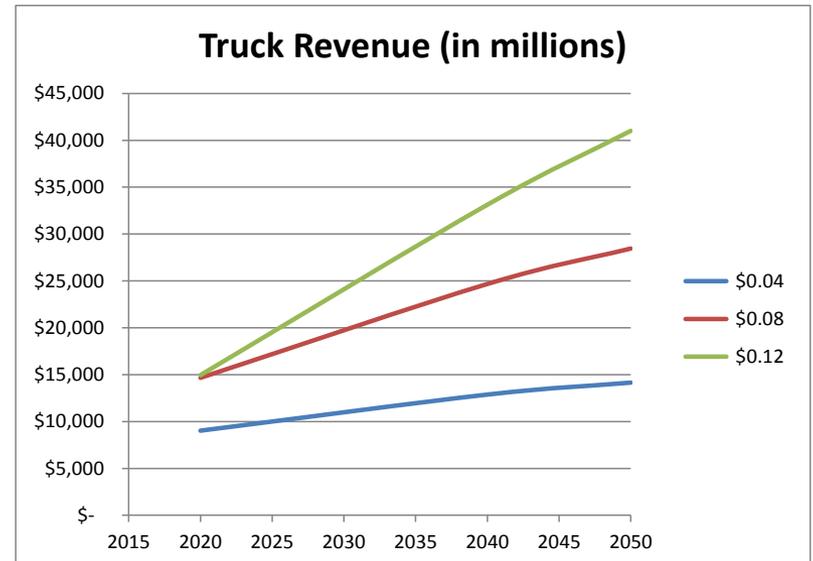
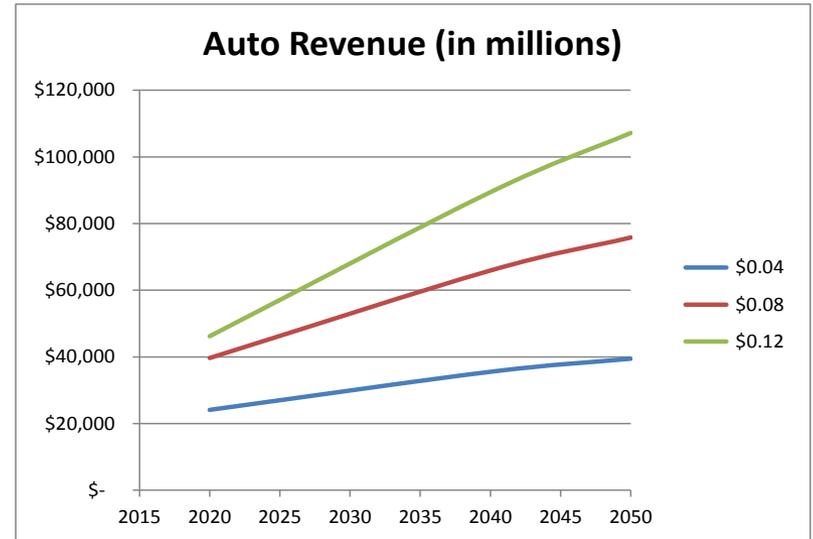
\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	2,807	2,282	(525)	-18.7%
Truck	312	235	(77)	-24.7%
Total	3,119	2,517	(602)	-19.3%

Year 2040

Vehicle Type	AWDT VMT (000)			Percent Change
	No Toll	Toll	Change	
Auto	3,414	2,934	(480)	-14.1%
Truck	379	292	(87)	-23.0%
Total	3,793	3,226	(567)	-14.9%





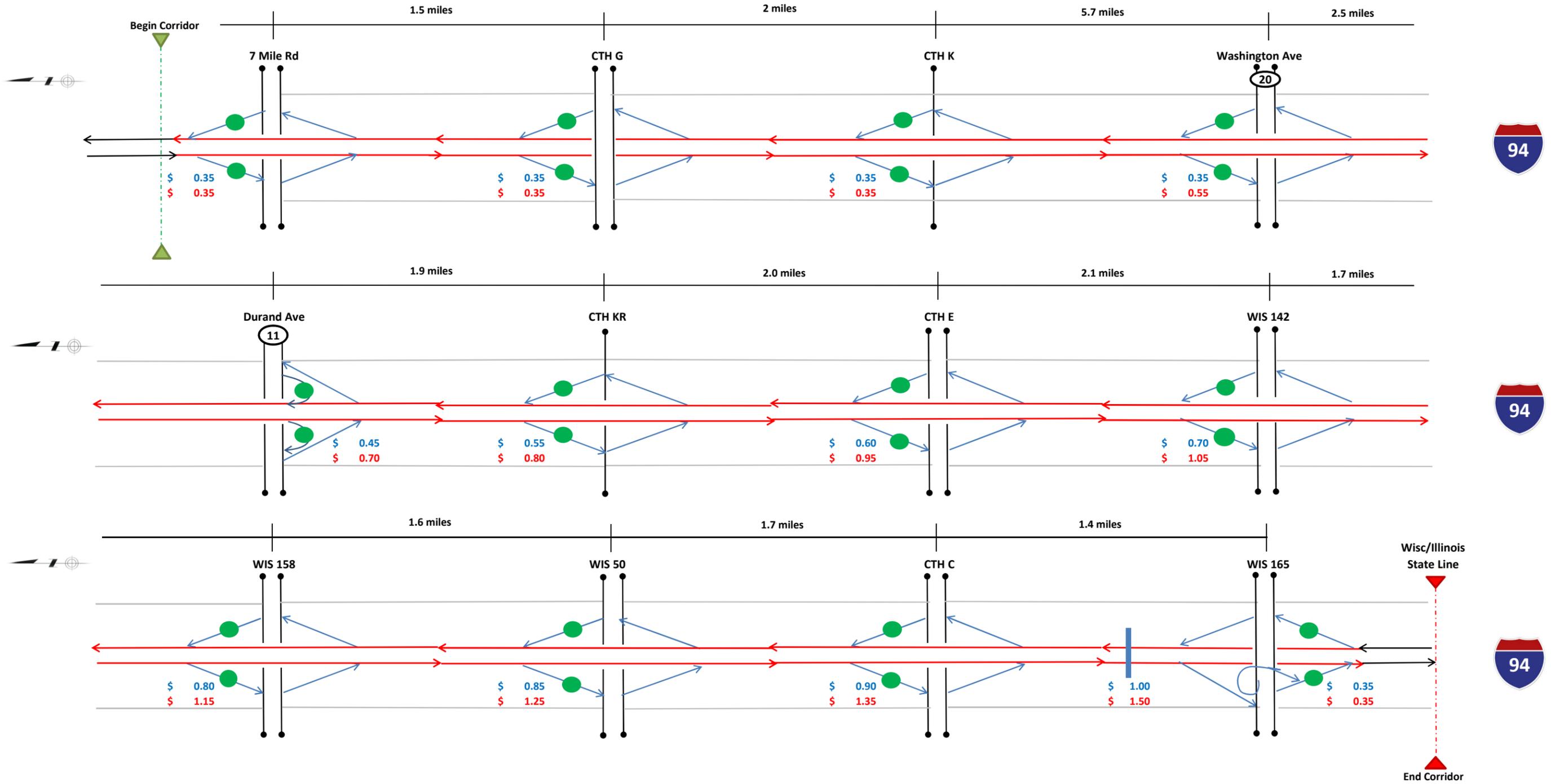
FEASIBILITY OF INTERSTATE TOLLING

Attachment B

South Milwaukee Corridor (I-94 North of 7 mile Rd to Wisc/Illinois State Line) - Closed System

\$ \$0.04/mile toll plan
\$ \$0.06/mile toll plan

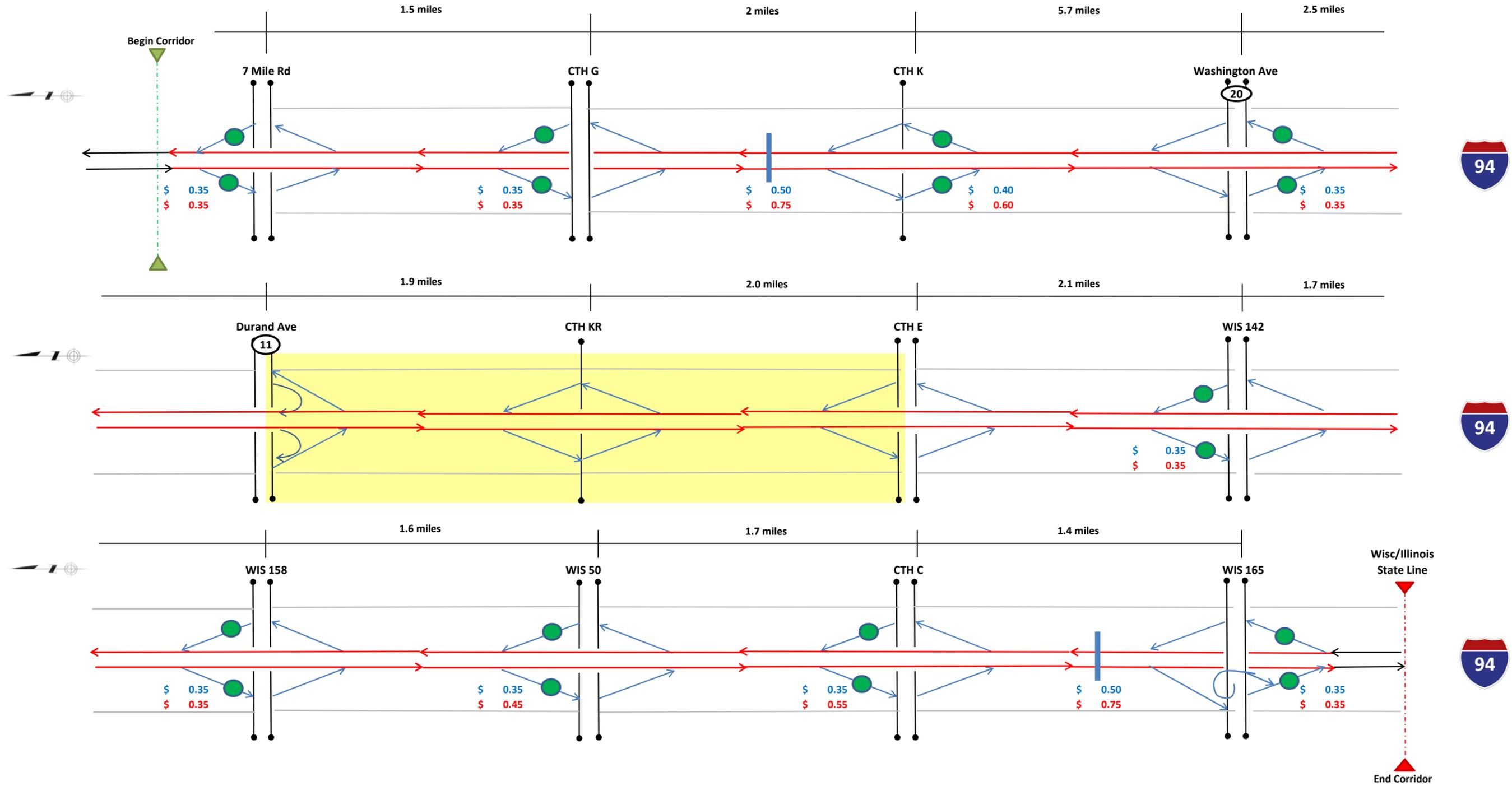
— Mainline Gantry
● Ramp Gantry



South Milwaukee Corridor (I-94 North of 7 mile Rd to Wisc/Illinois State Line) - Partial System

\$ \$0.04/mile toll plan
\$ \$0.06/mile toll plan

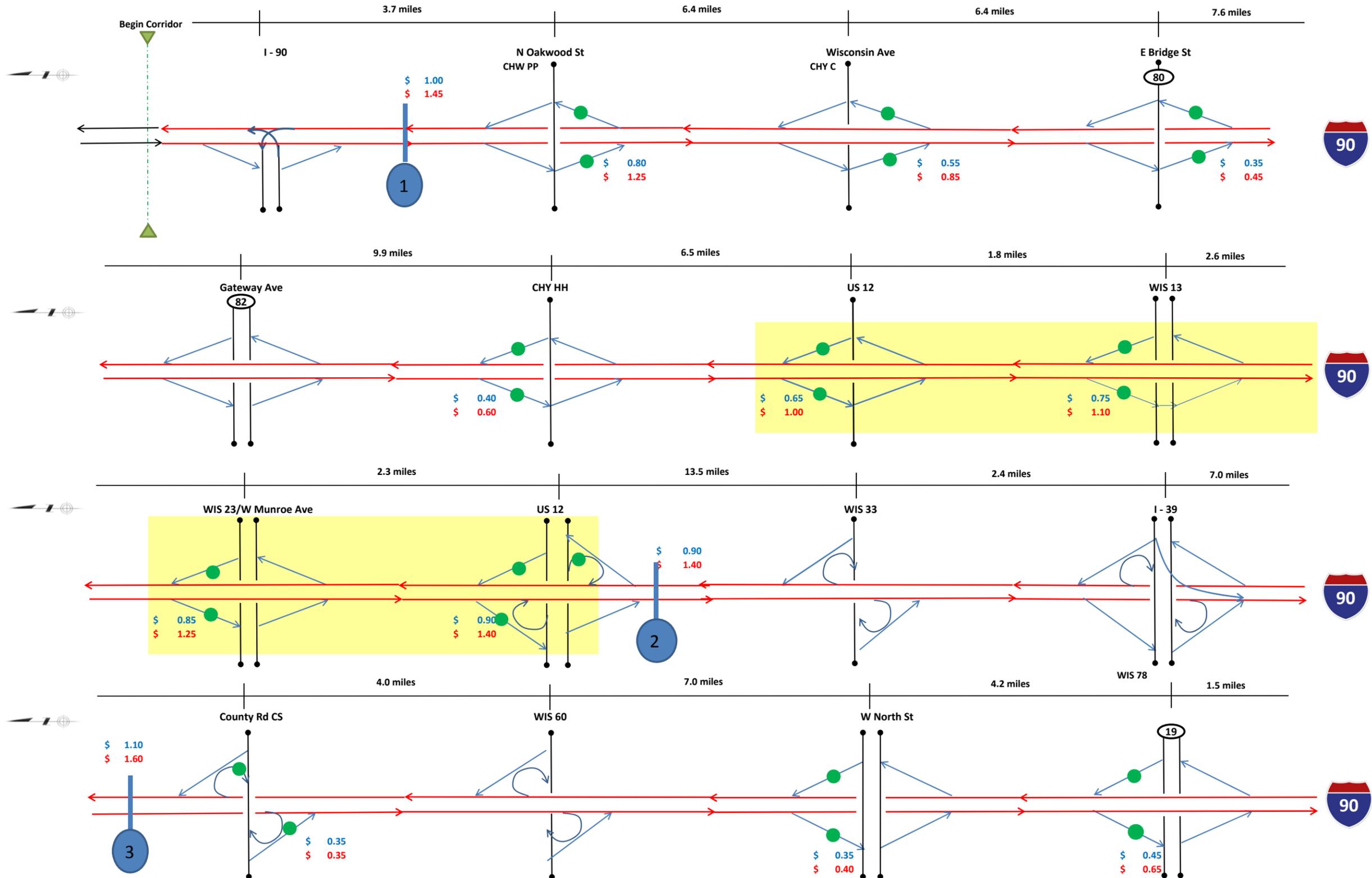
█ Mainline Gantry
● Ramp Gantry



I-90 Corridor (I-90 from Tomah to Wisc/Illinois State Line)

\$ \$0.04/mile toll plan
\$ \$0.06/mile toll plan

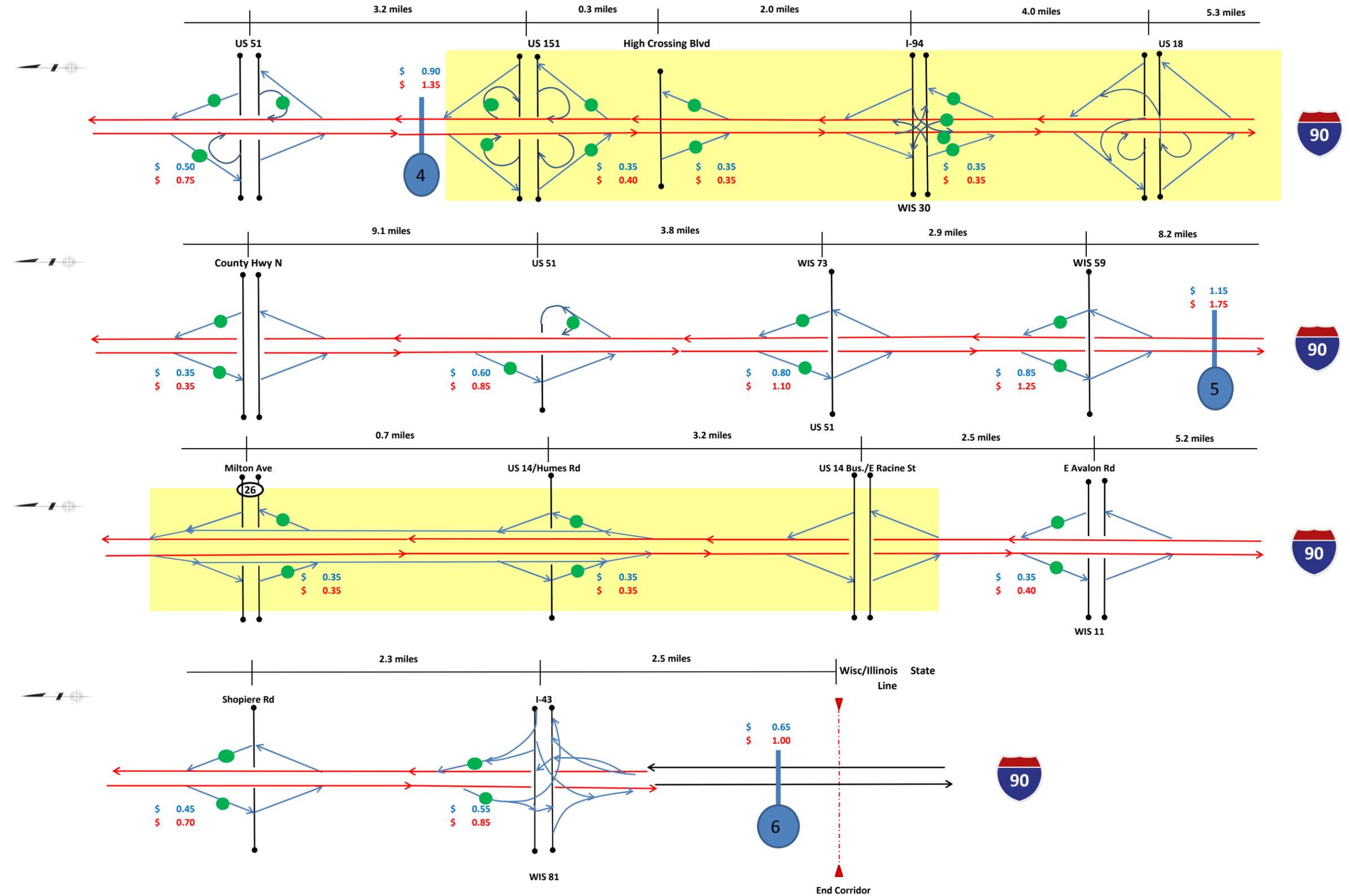
Mainline Gantry
Ramp Gantry



I-90 Corridor (I-90 from Tomah to Wisc/Illinois State Line)

\$ \$0.04/mile toll plan
\$ \$0.06/mile toll plan

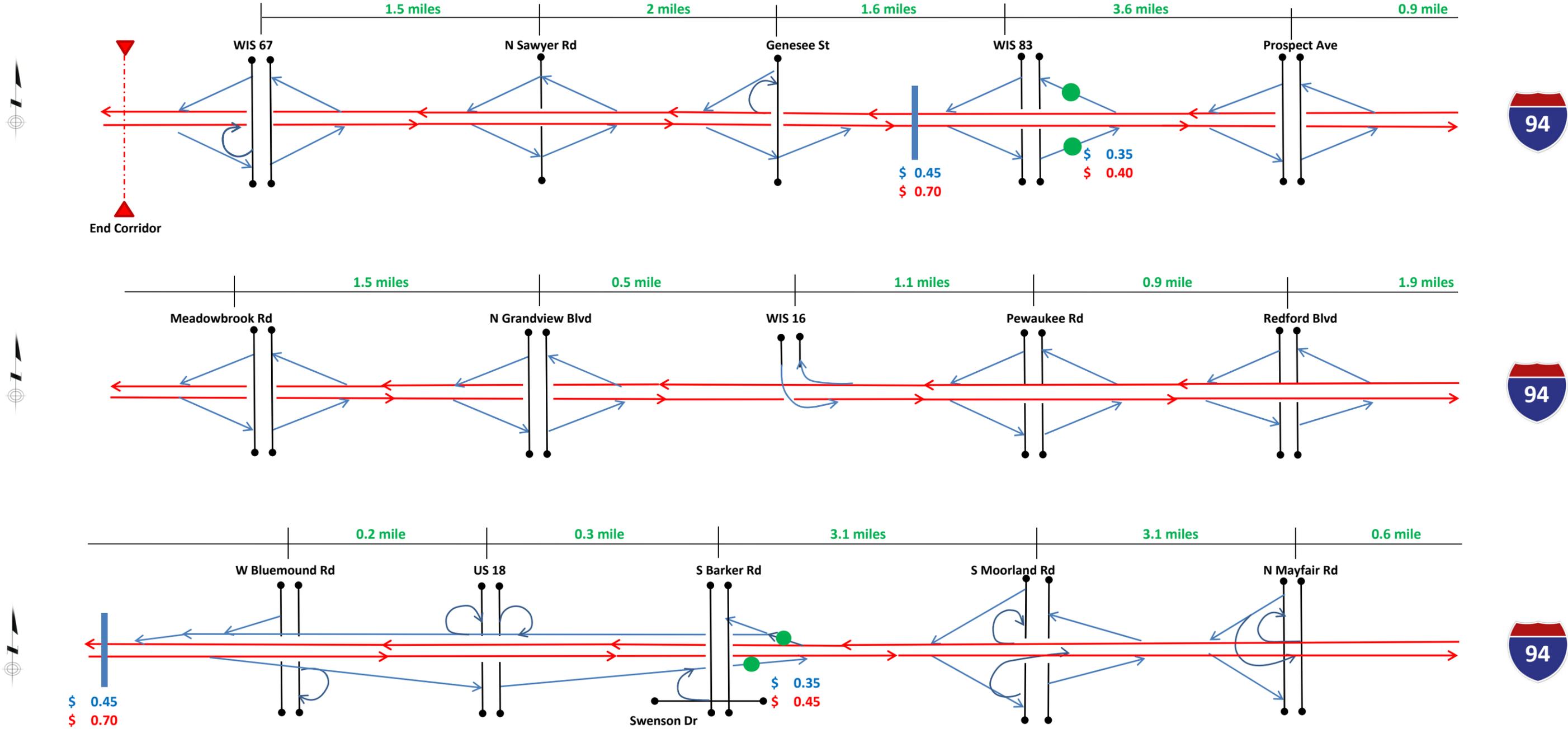
— Mainline Gantry
● Ramp Gantry



Metro Milwaukee I-94 Corridor (Wisconsin 67 to Wisconsin 100/N Mayfair Rd)

\$ --> \$0.04/mile toll plan
\$ --> \$0.06/mile toll plan

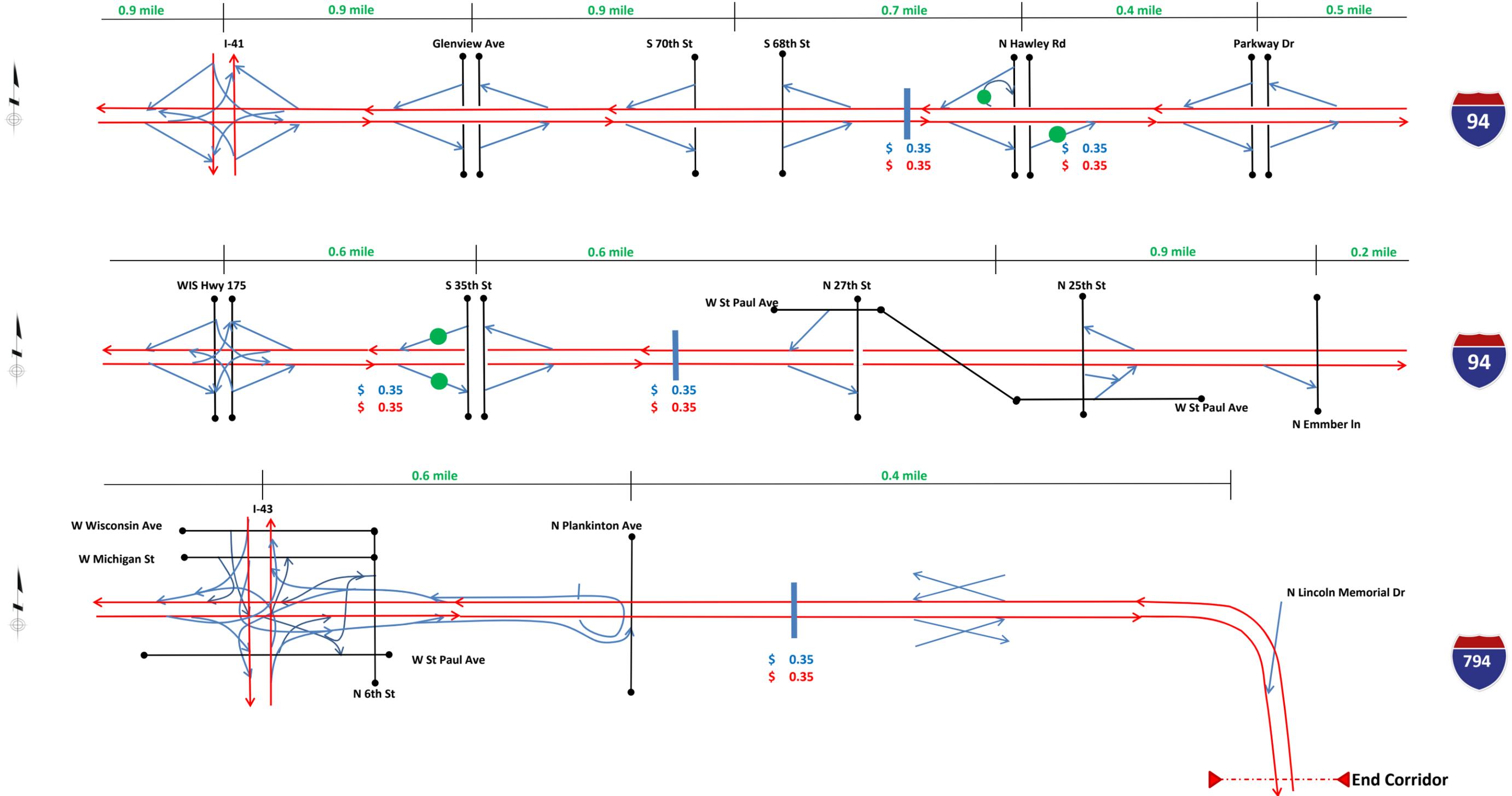
— Mainline Gantry
● Ramp Gantry



Metro Milwaukee I-94 Corridor (I-41 to I-794 Bridge)

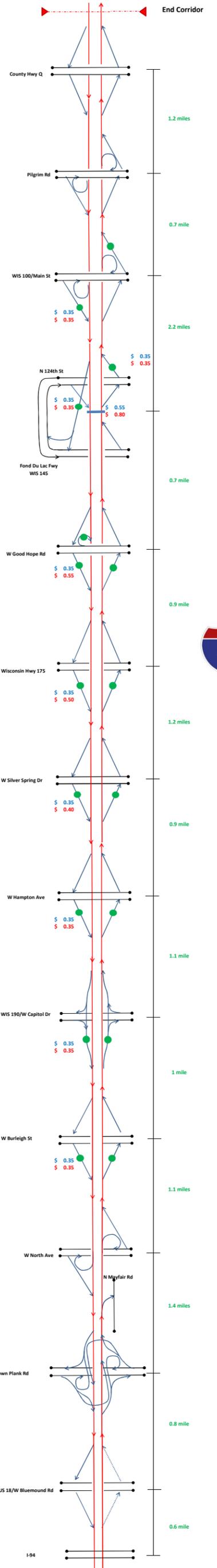
\$ --> \$0.04/mile toll plan

\$ --> \$0.06/mile toll plan



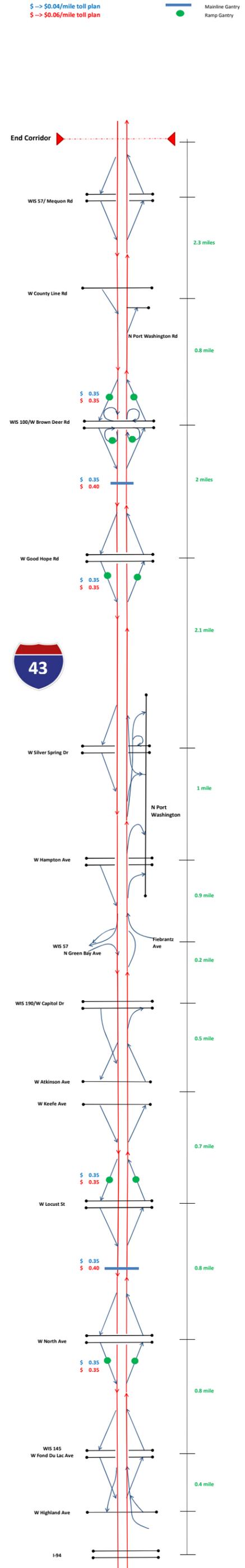
Metro Milwaukee I-41 Corridor
(US 18 to County Hwy Q)

\$ -> \$0.04/mile toll plan
 \$ -> \$0.06/mile toll plan



Metro Milwaukee I-43 Corridor (W Highland Ave to Wisconsin 57)

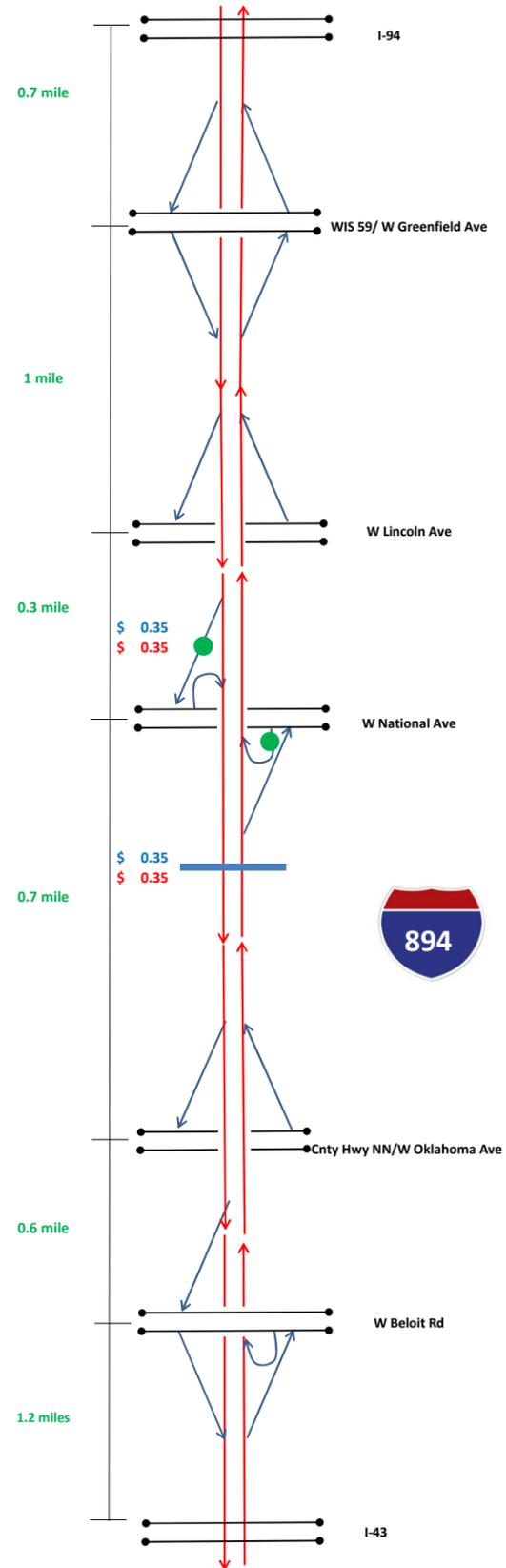
\$ -> \$0.04/mile toll plan
 \$ -> \$0.06/mile toll plan



Metro Milwaukee I-894 Corridor (Wisconsin 59 to W Beloit Rd)

\$ --> \$0.04/mile toll plan
 \$ --> \$0.06/mile toll plan

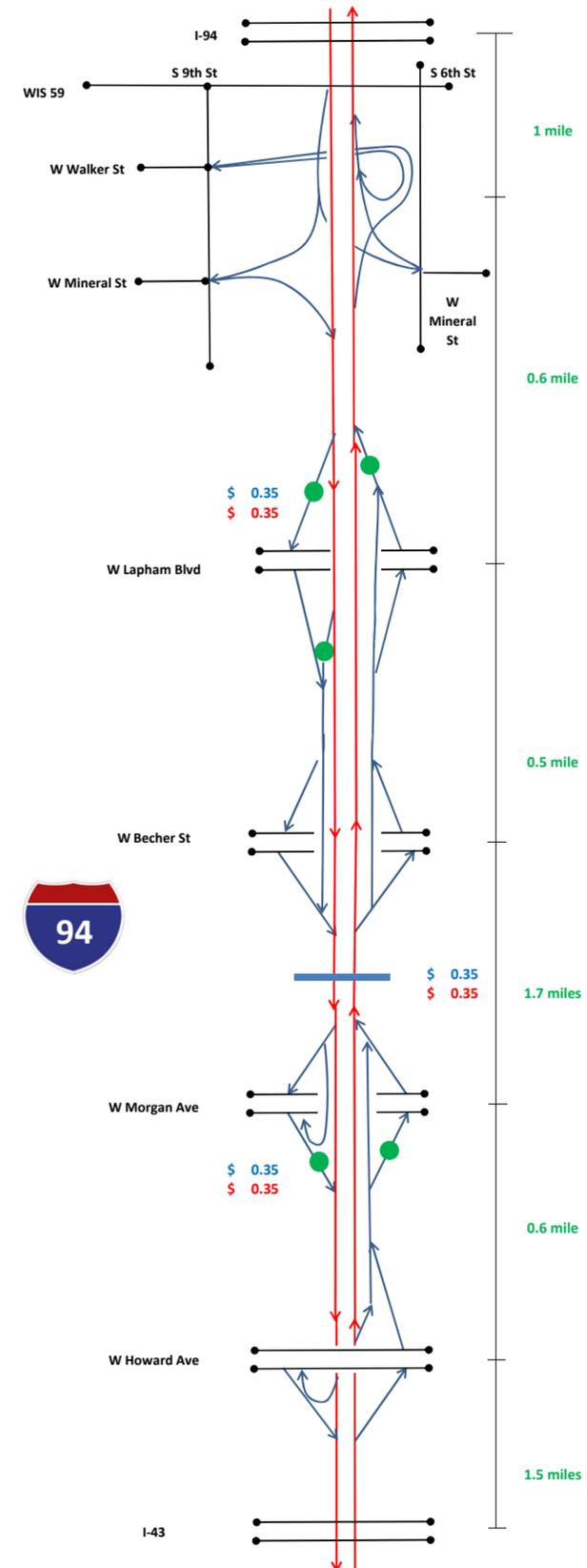
● Mainline Gantry
 ● Ramp Gantry



Metro Milwaukee I-94 Corridor (Wisconsin 59 to Howard Ave)

\$ --> \$0.04/mile toll plan
 \$ --> \$0.06/mile toll plan

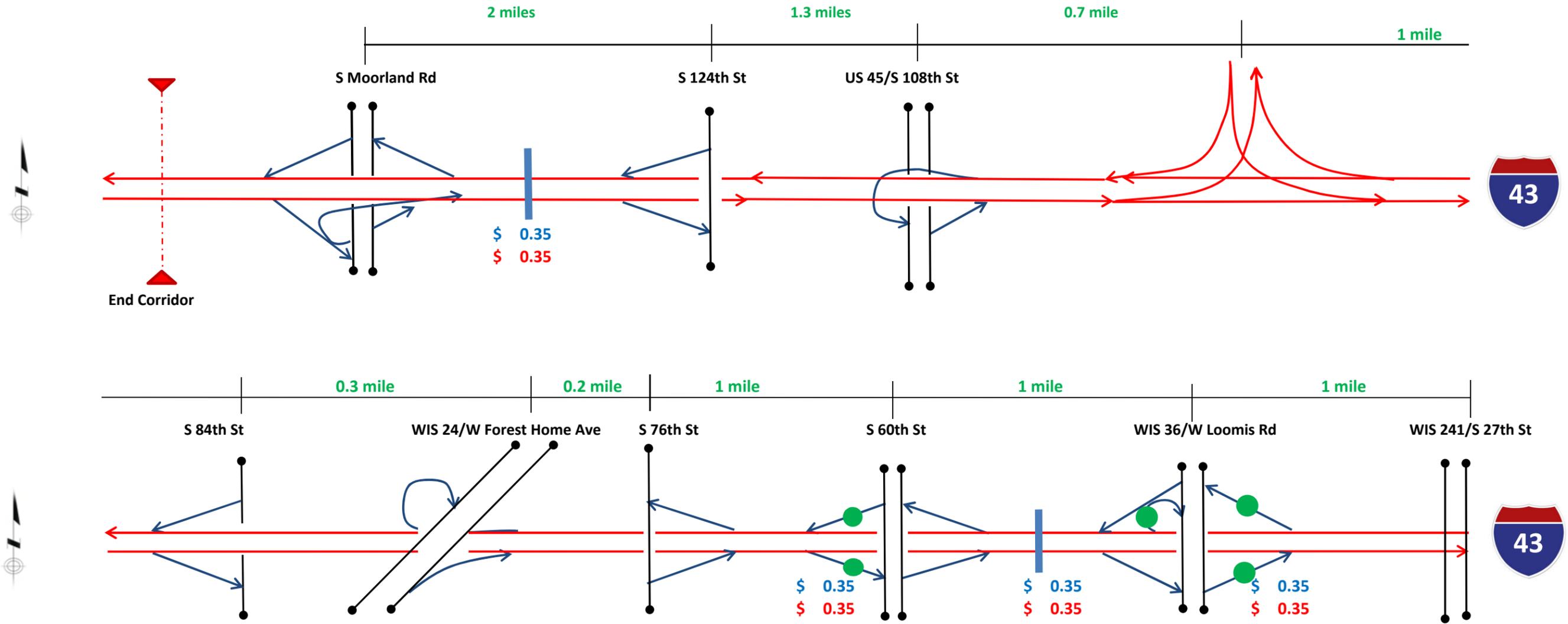
● Mainline Gantry
 ● Ramp Gantry



Metro Milwaukee I-43 Corridor (S Moorland Rd to Wisconsin 36)

\$ --> \$0.04/mile toll plan

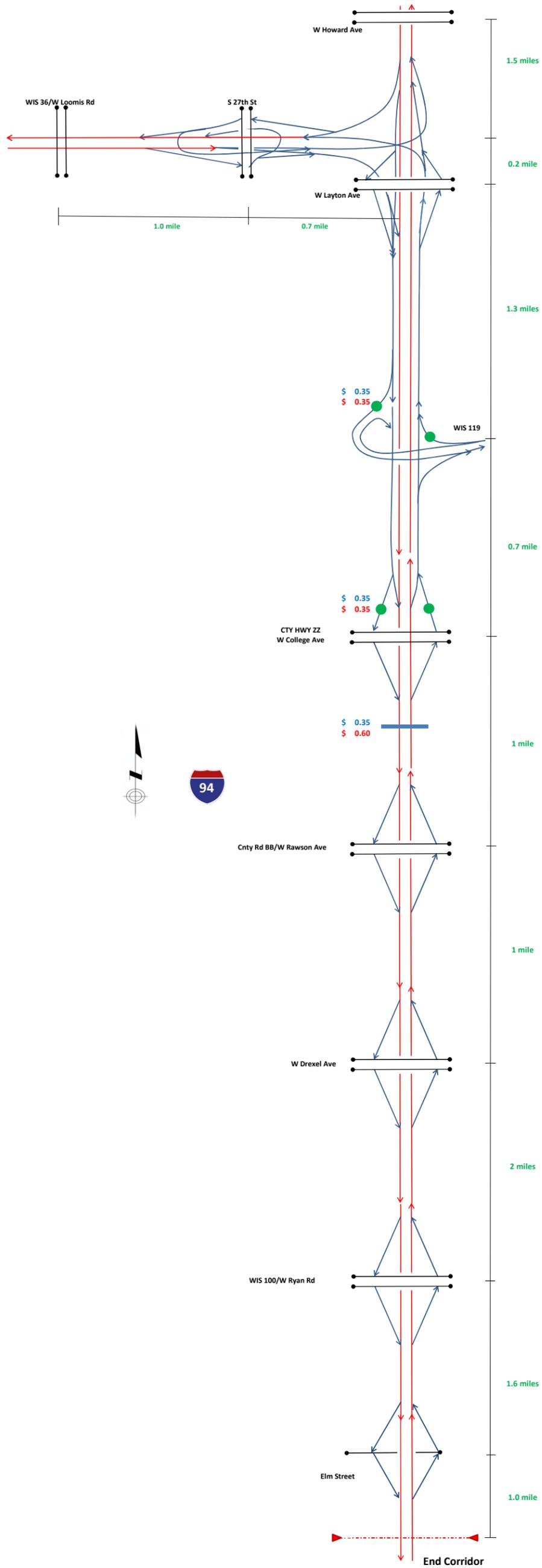
\$ --> \$0.06/mile toll plan



Metro Milwaukee I-94 Corridor (Wisconsin 241/S 27th St to Elm St)

\$ --> \$0.04/mile toll plan
\$ --> \$0.06/mile toll plan

— Mainline Gantry
● Ramp Gantry





FEASIBILITY OF INTERSTATE TOLLING

Attachment C

Phase II - Total Annual Revenue Stream - 4 cent/mile Case - Closed System

Year	CORRIDOR						System Total	
	I-90		Milwaukee Metro		South Milwaukee (I-94)		Revenue (000)	Percent Growth
	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth		
2020	\$ 93,731		\$ 139,109		\$ 29,944		\$ 262,784	
2021	\$ 100,663	7.4%	\$ 149,785	7.7%	\$ 32,195	7.5%	\$ 282,643	7.6%
2022	\$ 107,777	7.1%	\$ 160,771	7.3%	\$ 34,508	7.2%	\$ 303,056	7.2%
2023	\$ 109,592	1.7%	\$ 163,874	1.9%	\$ 35,127	1.8%	\$ 308,593	1.8%
2024	\$ 111,408	1.7%	\$ 166,977	1.9%	\$ 35,746	1.8%	\$ 314,130	1.8%
2025	\$ 113,223	1.6%	\$ 170,080	1.9%	\$ 36,365	1.7%	\$ 319,667	1.8%
2026	\$ 115,039	1.6%	\$ 173,183	1.8%	\$ 36,983	1.7%	\$ 325,204	1.7%
2027	\$ 116,854	1.6%	\$ 176,285	1.8%	\$ 37,602	1.7%	\$ 330,741	1.7%
2028	\$ 118,670	1.6%	\$ 179,388	1.8%	\$ 38,221	1.6%	\$ 336,278	1.7%
2029	\$ 120,485	1.5%	\$ 182,491	1.7%	\$ 38,840	1.6%	\$ 341,816	1.6%
2030	\$ 122,301	1.5%	\$ 185,594	1.7%	\$ 39,458	1.6%	\$ 347,353	1.6%
2031	\$ 124,116	1.5%	\$ 188,696	1.7%	\$ 40,077	1.6%	\$ 352,890	1.6%
2032	\$ 125,932	1.5%	\$ 191,799	1.6%	\$ 40,696	1.5%	\$ 358,427	1.6%
2033	\$ 127,747	1.4%	\$ 194,902	1.6%	\$ 41,315	1.5%	\$ 363,964	1.5%
2034	\$ 129,563	1.4%	\$ 198,005	1.6%	\$ 41,933	1.5%	\$ 369,501	1.5%
2035	\$ 131,378	1.4%	\$ 201,107	1.6%	\$ 42,552	1.5%	\$ 375,038	1.5%
2036	\$ 133,194	1.4%	\$ 204,210	1.5%	\$ 43,171	1.5%	\$ 380,575	1.5%
2037	\$ 135,009	1.4%	\$ 207,313	1.5%	\$ 43,790	1.4%	\$ 386,112	1.5%
2038	\$ 136,825	1.3%	\$ 210,416	1.5%	\$ 44,408	1.4%	\$ 391,649	1.4%
2039	\$ 138,640	1.3%	\$ 213,518	1.5%	\$ 45,027	1.4%	\$ 397,186	1.4%
2040	\$ 140,456	1.3%	\$ 216,621	1.5%	\$ 45,646	1.4%	\$ 402,723	1.4%
2041	\$ 142,092	1.2%	\$ 219,431	1.3%	\$ 46,205	1.2%	\$ 407,727	1.2%
2042	\$ 143,728	1.2%	\$ 222,241	1.3%	\$ 46,763	1.2%	\$ 412,732	1.2%
2043	\$ 145,363	1.1%	\$ 225,051	1.3%	\$ 47,322	1.2%	\$ 417,736	1.2%
2044	\$ 146,999	1.1%	\$ 227,861	1.2%	\$ 47,880	1.2%	\$ 422,741	1.2%
2045	\$ 148,635	1.1%	\$ 230,671	1.2%	\$ 48,439	1.2%	\$ 427,745	1.2%
2046	\$ 150,271	1.1%	\$ 233,481	1.2%	\$ 48,998	1.2%	\$ 432,750	1.2%
2047	\$ 151,907	1.1%	\$ 236,291	1.2%	\$ 49,556	1.1%	\$ 437,754	1.2%
2048	\$ 153,543	1.1%	\$ 239,101	1.2%	\$ 50,115	1.1%	\$ 442,759	1.1%
2049	\$ 155,178	1.1%	\$ 241,911	1.2%	\$ 50,674	1.1%	\$ 447,763	1.1%
2050	\$ 156,814	1.1%	\$ 244,721	1.2%	\$ 51,232	1.1%	\$ 452,767	1.1%
Total	\$ 4,047,132		\$ 6,194,885		\$ 1,310,785		\$ 11,552,802	

Phase II - Total Annual Revenue Stream - 6 cent/mile Case - Closed System

Year	CORRIDOR						System Total	
	I-90		Milwaukee Metro		South Milwaukee (I-94)		Revenue (000)	Percent Growth
	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth		
2020	\$ 122,411		\$ 160,446		\$ 40,148		\$ 323,004	
2021	\$ 131,603	7.5%	\$ 172,917	7.8%	\$ 43,194	7.6%	\$ 347,715	7.7%
2022	\$ 141,047	7.2%	\$ 185,763	7.4%	\$ 46,327	7.3%	\$ 373,137	7.3%
2023	\$ 143,564	1.8%	\$ 189,508	2.0%	\$ 47,187	1.9%	\$ 380,259	1.9%
2024	\$ 146,082	1.8%	\$ 193,253	2.0%	\$ 48,046	1.8%	\$ 387,381	1.9%
2025	\$ 148,599	1.7%	\$ 196,998	1.9%	\$ 48,906	1.8%	\$ 394,502	1.8%
2026	\$ 151,116	1.7%	\$ 200,742	1.9%	\$ 49,765	1.8%	\$ 401,624	1.8%
2027	\$ 153,634	1.7%	\$ 204,487	1.9%	\$ 50,625	1.7%	\$ 408,746	1.8%
2028	\$ 156,151	1.6%	\$ 208,232	1.8%	\$ 51,484	1.7%	\$ 415,867	1.7%
2029	\$ 158,669	1.6%	\$ 211,977	1.8%	\$ 52,343	1.7%	\$ 422,989	1.7%
2030	\$ 161,186	1.6%	\$ 215,722	1.8%	\$ 53,203	1.6%	\$ 430,111	1.7%
2031	\$ 163,703	1.6%	\$ 219,467	1.7%	\$ 54,062	1.6%	\$ 437,232	1.7%
2032	\$ 166,221	1.5%	\$ 223,212	1.7%	\$ 54,922	1.6%	\$ 444,354	1.6%
2033	\$ 168,738	1.5%	\$ 226,957	1.7%	\$ 55,781	1.6%	\$ 451,476	1.6%
2034	\$ 171,255	1.5%	\$ 230,702	1.7%	\$ 56,641	1.5%	\$ 458,598	1.6%
2035	\$ 173,773	1.5%	\$ 234,446	1.6%	\$ 57,500	1.5%	\$ 465,719	1.6%
2036	\$ 176,290	1.4%	\$ 238,191	1.6%	\$ 58,360	1.5%	\$ 472,841	1.5%
2037	\$ 178,807	1.4%	\$ 241,936	1.6%	\$ 59,219	1.5%	\$ 479,963	1.5%
2038	\$ 181,325	1.4%	\$ 245,681	1.5%	\$ 60,079	1.5%	\$ 487,084	1.5%
2039	\$ 183,842	1.4%	\$ 249,426	1.5%	\$ 60,938	1.4%	\$ 494,206	1.5%
2040	\$ 186,359	1.4%	\$ 253,171	1.5%	\$ 61,798	1.4%	\$ 501,328	1.4%
2041	\$ 188,876	1.2%	\$ 256,916	1.3%	\$ 62,657	1.3%	\$ 507,768	1.3%
2042	\$ 190,894	1.2%	\$ 259,965	1.3%	\$ 63,515	1.2%	\$ 514,209	1.3%
2043	\$ 193,161	1.2%	\$ 263,361	1.3%	\$ 64,127	1.2%	\$ 520,649	1.3%
2044	\$ 195,428	1.2%	\$ 266,758	1.3%	\$ 64,904	1.2%	\$ 527,090	1.2%
2045	\$ 197,695	1.2%	\$ 270,155	1.3%	\$ 65,680	1.2%	\$ 533,530	1.2%
2046	\$ 199,962	1.1%	\$ 273,552	1.3%	\$ 66,457	1.2%	\$ 539,971	1.2%
2047	\$ 202,229	1.1%	\$ 276,949	1.2%	\$ 67,234	1.2%	\$ 546,411	1.2%
2048	\$ 204,496	1.1%	\$ 280,346	1.2%	\$ 68,010	1.2%	\$ 552,852	1.2%
2049	\$ 206,763	1.1%	\$ 283,743	1.2%	\$ 68,787	1.1%	\$ 559,292	1.2%
2050	\$ 209,030	1.1%	\$ 287,140	1.2%	\$ 69,563	1.1%	\$ 565,733	1.2%
Total	\$ 5,352,656		\$ 7,221,769		\$ 1,771,213		\$ 14,345,638	

Phase II - Total AWDT Transactions - 4 cent/mile Case - Closed System

Year	CORRIDOR						System Total	
	I-90		Milwaukee Metro		South Milwaukee (I-94)		Transactions (AWDT)	Percent Growth
	Transactions (AWDT)	Percent Growth	Transactions (AWDT)	Percent Growth	Transactions (AWDT)	Percent Growth		
2020	269,100		1,164,400		106,700		1,540,200	
2021	288,900	7.4%	1,251,400	7.5%	114,700	7.5%	1,655,000	7.5%
2022	309,300	7.1%	1,340,800	7.1%	123,000	7.2%	1,773,100	7.1%
2023	314,400	1.6%	1,364,300	1.8%	125,100	1.7%	1,803,800	1.7%
2024	319,600	1.7%	1,388,000	1.7%	127,300	1.8%	1,834,900	1.7%
2025	324,600	1.6%	1,411,400	1.7%	129,600	1.8%	1,865,600	1.7%
2026	329,800	1.6%	1,435,000	1.7%	131,700	1.6%	1,896,500	1.7%
2027	335,000	1.6%	1,458,600	1.6%	133,900	1.7%	1,927,500	1.6%
2028	340,200	1.6%	1,482,000	1.6%	136,100	1.6%	1,958,300	1.6%
2029	345,200	1.5%	1,505,600	1.6%	138,200	1.5%	1,989,000	1.6%
2030	350,400	1.5%	1,529,200	1.6%	140,500	1.7%	2,020,100	1.6%
2031	355,600	1.5%	1,552,600	1.5%	142,600	1.5%	2,050,800	1.5%
2032	360,700	1.4%	1,576,200	1.5%	144,800	1.5%	2,081,700	1.5%
2033	365,800	1.4%	1,599,800	1.5%	147,000	1.5%	2,112,600	1.5%
2034	370,900	1.4%	1,623,300	1.5%	149,100	1.4%	2,143,300	1.5%
2035	376,000	1.4%	1,646,800	1.4%	151,300	1.5%	2,174,100	1.4%
2036	381,300	1.4%	1,670,400	1.4%	153,600	1.5%	2,205,300	1.4%
2037	386,300	1.3%	1,693,900	1.4%	155,700	1.4%	2,235,900	1.4%
2038	391,500	1.3%	1,717,400	1.4%	157,800	1.3%	2,266,700	1.4%
2039	396,700	1.3%	1,741,000	1.4%	160,000	1.4%	2,297,700	1.4%
2040	401,800	1.3%	1,764,500	1.3%	162,100	1.3%	2,328,400	1.3%
2041	412,900	2.8%	1,794,900	1.7%	165,300	2.0%	2,373,100	1.9%
2042	416,800	0.9%	1,815,100	1.1%	167,200	1.1%	2,399,100	1.1%
2043	420,700	0.9%	1,835,400	1.1%	169,100	1.1%	2,425,200	1.1%
2044	424,600	0.9%	1,855,700	1.1%	170,900	1.1%	2,451,200	1.1%
2045	428,500	0.9%	1,875,900	1.1%	172,700	1.1%	2,477,100	1.1%
2046	432,400	0.9%	1,896,100	1.1%	174,500	1.0%	2,503,000	1.0%
2047	436,300	0.9%	1,916,500	1.1%	176,400	1.1%	2,529,200	1.0%
2048	440,300	0.9%	1,936,800	1.1%	178,200	1.0%	2,555,300	1.0%
2049	444,200	0.9%	1,957,000	1.0%	180,100	1.1%	2,581,300	1.0%
2050	448,100	0.9%	1,977,200	1.0%	181,800	0.9%	2,607,100	1.0%
Total	11,617,900		50,777,200		4,667,000		67,062,100	

Phase II - Total AWDT Transactions - 6 cent/mile Case - Closed System

Year	CORRIDOR						System Total	
	I-90		Milwaukee Metro		South Milwaukee (I-94)		Transactions (AWDT)	Percent Growth
	Transactions (AWDT)	Percent Growth	Transactions (AWDT)	Percent Growth	Transactions (AWDT)	Percent Growth		
2020	243,900		1,123,600		97,900		1,465,400	
2021	262,100	7.5%	1,208,500	7.6%	105,400	7.7%	1,576,000	7.5%
2022	280,800	7.1%	1,295,800	7.2%	112,900	7.1%	1,689,500	7.2%
2023	285,900	1.8%	1,319,400	1.8%	115,000	1.9%	1,720,300	1.8%
2024	290,800	1.7%	1,343,300	1.8%	117,100	1.8%	1,751,200	1.8%
2025	295,800	1.7%	1,366,900	1.8%	119,300	1.9%	1,782,000	1.8%
2026	300,700	1.7%	1,390,600	1.7%	121,400	1.8%	1,812,700	1.7%
2027	305,800	1.7%	1,414,300	1.7%	123,500	1.7%	1,843,600	1.7%
2028	310,700	1.6%	1,438,000	1.7%	125,700	1.8%	1,874,400	1.7%
2029	315,600	1.6%	1,461,800	1.7%	127,800	1.7%	1,905,200	1.6%
2030	320,500	1.6%	1,485,500	1.6%	129,800	1.6%	1,935,800	1.6%
2031	325,600	1.6%	1,509,200	1.6%	131,900	1.6%	1,966,700	1.6%
2032	330,500	1.5%	1,533,000	1.6%	134,000	1.6%	1,997,500	1.6%
2033	335,400	1.5%	1,556,600	1.5%	136,100	1.6%	2,028,100	1.5%
2034	340,600	1.6%	1,580,400	1.5%	138,200	1.5%	2,059,200	1.5%
2035	345,400	1.4%	1,604,100	1.5%	140,300	1.5%	2,089,800	1.5%
2036	350,300	1.4%	1,627,800	1.5%	142,500	1.6%	2,120,600	1.5%
2037	355,300	1.4%	1,651,600	1.5%	144,500	1.4%	2,151,400	1.5%
2038	360,300	1.4%	1,675,300	1.4%	146,600	1.5%	2,182,200	1.4%
2039	365,200	1.4%	1,698,900	1.4%	148,800	1.5%	2,212,900	1.4%
2040	370,200	1.4%	1,722,700	1.4%	150,900	1.4%	2,243,800	1.4%
2041	374,700	1.2%	1,744,200	1.2%	152,800	1.3%	2,271,700	1.2%
2042	379,100	1.2%	1,765,700	1.2%	154,800	1.3%	2,299,600	1.2%
2043	383,800	1.2%	1,787,200	1.2%	156,700	1.2%	2,327,700	1.2%
2044	388,100	1.1%	1,808,500	1.2%	158,400	1.1%	2,355,000	1.2%
2045	392,500	1.1%	1,830,000	1.2%	160,400	1.3%	2,382,900	1.2%
2046	397,100	1.2%	1,851,500	1.2%	162,300	1.2%	2,410,900	1.2%
2047	401,600	1.1%	1,873,000	1.2%	164,300	1.2%	2,438,900	1.2%
2048	406,000	1.1%	1,894,400	1.1%	166,200	1.2%	2,466,600	1.1%
2049	410,400	1.1%	1,915,900	1.1%	168,100	1.1%	2,494,400	1.1%
2050	415,000	1.1%	1,937,400	1.1%	170,100	1.2%	2,522,500	1.1%
Total	10,639,700		49,415,100		4,323,700		64,378,500	

Phase II - Corridor Diversion - 4 cents/mile Case - Closed System

	Vehicle Type	Percent Diversion By Corridor			System Total
		I-90	Milwaukee Metro	South Milwaukee	
2020	Auto	-36.8%	-23.9%	-33.6%	-29.0%
	Truck	-31.6%	-35.5%	-41.2%	-33.5%
	Total	-35.7%	-24.4%	-34.5%	-29.4%
2040	Auto	-33.7%	-13.1%	-28.7%	-21.7%
	Truck	-29.9%	-27.3%	-40.6%	-30.7%
	Total	-32.9%	-13.7%	-30.0%	-22.6%

Phase II - Corridor Diversion - 6 cents/mile Case - Closed System

	Vehicle Type	Percent Diversion By Corridor			System Total
		I-90	Milwaukee Metro	South Milwaukee	
2020	Auto	-42.1%	-26.3%	-38.2%	-32.5%
	Truck	-40.2%	-39.4%	-46.2%	-40.7%
	Total	-41.7%	-26.8%	-39.1%	-33.3%
2040	Auto	-38.3%	-14.6%	-32.6%	-24.5%
	Truck	-36.9%	-30.6%	-45.3%	-36.7%
	Total	-38.0%	-15.3%	-34.0%	-25.7%

Phase II - Total Annual Revenue Stream - 4 cent/mile Case - Partial System

Year	CORRIDOR						System Total	
	I-90		Milwaukee Metro		South Milwaukee (I-94)		Revenue (000)	Percent Growth
	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth		
2020	\$ 80,570		\$ 138,792		\$ 26,738		\$ 246,100	
2021	\$ 86,492	7.4%	\$ 149,428	7.7%	\$ 28,782	7.6%	\$ 264,702	7.6%
2022	\$ 92,567	7.0%	\$ 160,371	7.3%	\$ 30,886	7.3%	\$ 283,824	7.2%
2023	\$ 94,089	1.6%	\$ 163,450	1.9%	\$ 31,474	1.9%	\$ 289,013	1.8%
2024	\$ 95,611	1.6%	\$ 166,529	1.9%	\$ 32,063	1.9%	\$ 294,203	1.8%
2025	\$ 97,133	1.6%	\$ 169,608	1.8%	\$ 32,652	1.8%	\$ 299,393	1.8%
2026	\$ 98,655	1.6%	\$ 172,687	1.8%	\$ 33,240	1.8%	\$ 304,582	1.7%
2027	\$ 100,177	1.5%	\$ 175,766	1.8%	\$ 33,829	1.8%	\$ 309,772	1.7%
2028	\$ 101,700	1.5%	\$ 178,845	1.8%	\$ 34,417	1.7%	\$ 314,962	1.7%
2029	\$ 103,222	1.5%	\$ 181,924	1.7%	\$ 35,006	1.7%	\$ 320,151	1.6%
2030	\$ 104,744	1.5%	\$ 185,003	1.7%	\$ 35,595	1.7%	\$ 325,341	1.6%
2031	\$ 106,266	1.5%	\$ 188,082	1.7%	\$ 36,183	1.7%	\$ 330,531	1.6%
2032	\$ 107,788	1.4%	\$ 191,161	1.6%	\$ 36,772	1.6%	\$ 335,720	1.6%
2033	\$ 109,310	1.4%	\$ 194,239	1.6%	\$ 37,360	1.6%	\$ 340,910	1.5%
2034	\$ 110,833	1.4%	\$ 197,318	1.6%	\$ 37,949	1.6%	\$ 346,100	1.5%
2035	\$ 112,355	1.4%	\$ 200,397	1.6%	\$ 38,538	1.6%	\$ 351,289	1.5%
2036	\$ 113,877	1.4%	\$ 203,476	1.5%	\$ 39,126	1.5%	\$ 356,479	1.5%
2037	\$ 115,399	1.3%	\$ 206,555	1.5%	\$ 39,715	1.5%	\$ 361,669	1.5%
2038	\$ 116,921	1.3%	\$ 209,634	1.5%	\$ 40,303	1.5%	\$ 366,858	1.4%
2039	\$ 118,443	1.3%	\$ 212,713	1.5%	\$ 40,892	1.5%	\$ 372,048	1.4%
2040	\$ 119,965	1.3%	\$ 215,792	1.4%	\$ 41,481	1.4%	\$ 377,238	1.4%
2041	\$ 121,334	1.1%	\$ 218,580	1.3%	\$ 42,014	1.3%	\$ 381,927	1.2%
2042	\$ 122,702	1.1%	\$ 221,368	1.3%	\$ 42,547	1.3%	\$ 386,616	1.2%
2043	\$ 124,070	1.1%	\$ 224,155	1.3%	\$ 43,080	1.3%	\$ 391,305	1.2%
2044	\$ 125,438	1.1%	\$ 226,943	1.2%	\$ 43,613	1.2%	\$ 395,994	1.2%
2045	\$ 126,806	1.1%	\$ 229,731	1.2%	\$ 44,146	1.2%	\$ 400,683	1.2%
2046	\$ 128,174	1.1%	\$ 232,519	1.2%	\$ 44,679	1.2%	\$ 405,372	1.2%
2047	\$ 129,542	1.1%	\$ 235,307	1.2%	\$ 45,212	1.2%	\$ 410,061	1.2%
2048	\$ 130,910	1.1%	\$ 238,094	1.2%	\$ 45,745	1.2%	\$ 414,750	1.1%
2049	\$ 132,278	1.0%	\$ 240,882	1.2%	\$ 46,278	1.2%	\$ 419,439	1.1%
2050	\$ 133,646	1.0%	\$ 243,670	1.2%	\$ 46,812	1.2%	\$ 424,128	1.1%
Total	\$ 3,461,016		\$ 6,173,019		\$ 1,187,124		\$ 10,821,158	

Phase II - Total Annual Revenue Stream - 6 cent/mile Case - Partial System

Year	CORRIDOR						System Total	
	I-90		Milwaukee Metro		South Milwaukee (I-94)		Revenue (000)	Percent Growth
	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth	Revenue (000)	Percent Growth		
2020	\$ 103,377		\$ 159,919		\$ 35,968		\$ 299,263	
2021	\$ 111,171	7.5%	\$ 172,373	7.8%	\$ 38,745	7.7%	\$ 322,288	7.7%
2022	\$ 119,181	7.2%	\$ 185,203	7.4%	\$ 41,604	7.4%	\$ 345,987	7.4%
2023	\$ 121,339	1.8%	\$ 188,961	2.0%	\$ 42,423	2.0%	\$ 352,723	1.9%
2024	\$ 123,498	1.8%	\$ 192,718	2.0%	\$ 43,243	1.9%	\$ 359,459	1.9%
2025	\$ 125,657	1.7%	\$ 196,476	1.9%	\$ 44,063	1.9%	\$ 366,195	1.9%
2026	\$ 127,816	1.7%	\$ 200,233	1.9%	\$ 44,883	1.9%	\$ 372,932	1.8%
2027	\$ 129,975	1.7%	\$ 203,991	1.9%	\$ 45,702	1.8%	\$ 379,668	1.8%
2028	\$ 132,134	1.7%	\$ 207,748	1.8%	\$ 46,522	1.8%	\$ 386,404	1.8%
2029	\$ 134,292	1.6%	\$ 211,506	1.8%	\$ 47,342	1.8%	\$ 393,140	1.7%
2030	\$ 136,451	1.6%	\$ 215,264	1.8%	\$ 48,161	1.7%	\$ 399,876	1.7%
2031	\$ 138,610	1.6%	\$ 219,021	1.7%	\$ 48,981	1.7%	\$ 406,612	1.7%
2032	\$ 140,769	1.6%	\$ 222,779	1.7%	\$ 49,801	1.7%	\$ 413,348	1.7%
2033	\$ 142,928	1.5%	\$ 226,536	1.7%	\$ 50,620	1.6%	\$ 420,084	1.6%
2034	\$ 145,087	1.5%	\$ 230,294	1.7%	\$ 51,440	1.6%	\$ 426,821	1.6%
2035	\$ 147,245	1.5%	\$ 234,051	1.6%	\$ 52,260	1.6%	\$ 433,557	1.6%
2036	\$ 149,404	1.5%	\$ 237,809	1.6%	\$ 53,080	1.6%	\$ 440,293	1.6%
2037	\$ 151,563	1.4%	\$ 241,567	1.6%	\$ 53,899	1.5%	\$ 447,029	1.5%
2038	\$ 153,722	1.4%	\$ 245,324	1.6%	\$ 54,719	1.5%	\$ 453,765	1.5%
2039	\$ 155,881	1.4%	\$ 249,082	1.5%	\$ 55,539	1.5%	\$ 460,501	1.5%
2040	\$ 158,040	1.4%	\$ 252,839	1.5%	\$ 56,358	1.5%	\$ 467,237	1.5%
2041	\$ 159,984	1.2%	\$ 256,249	1.3%	\$ 57,102	1.3%	\$ 473,334	1.3%
2042	\$ 161,928	1.2%	\$ 259,658	1.3%	\$ 57,845	1.3%	\$ 479,431	1.3%
2043	\$ 163,873	1.2%	\$ 263,067	1.3%	\$ 58,589	1.3%	\$ 485,528	1.3%
2044	\$ 165,817	1.2%	\$ 266,476	1.3%	\$ 59,332	1.3%	\$ 491,625	1.3%
2045	\$ 167,762	1.2%	\$ 269,886	1.3%	\$ 60,075	1.3%	\$ 497,723	1.2%
2046	\$ 169,706	1.2%	\$ 273,295	1.3%	\$ 60,819	1.2%	\$ 503,820	1.2%
2047	\$ 171,650	1.1%	\$ 276,704	1.2%	\$ 61,562	1.2%	\$ 509,917	1.2%
2048	\$ 173,595	1.1%	\$ 280,114	1.2%	\$ 62,305	1.2%	\$ 516,014	1.2%
2049	\$ 175,539	1.1%	\$ 283,523	1.2%	\$ 63,049	1.2%	\$ 522,111	1.2%
2050	\$ 177,484	1.1%	\$ 286,932	1.2%	\$ 63,792	1.2%	\$ 528,208	1.2%
Total	\$ 4,535,475		\$ 7,209,596		\$ 1,609,820		\$ 13,354,891	

Phase II - Total AWDT Transactions - 4 cent/mile Case - Partial System

Year	CORRIDOR						System Total	
	I-90		Milwaukee Metro		South Milwaukee (I-94)		Transactions (AWDT)	Percent Growth
	Transactions (AWDT)	Percent Growth	Transactions (AWDT)	Percent Growth	Transactions (AWDT)	Percent Growth		
2020	198,200		1,162,400		152,000		1,512,600	
2021	212,400	7.2%	1,249,200	7.5%	163,500	7.6%	1,625,100	7.4%
2022	226,900	6.8%	1,338,300	7.1%	175,100	7.1%	1,740,300	7.1%
2023	230,400	1.5%	1,361,600	1.7%	178,300	1.8%	1,770,300	1.7%
2024	233,800	1.5%	1,385,100	1.7%	181,400	1.7%	1,800,300	1.7%
2025	237,100	1.4%	1,408,500	1.7%	184,700	1.8%	1,830,300	1.7%
2026	240,500	1.4%	1,431,900	1.7%	187,700	1.6%	1,860,100	1.6%
2027	243,900	1.4%	1,455,400	1.6%	190,800	1.7%	1,890,100	1.6%
2028	247,200	1.4%	1,478,800	1.6%	194,000	1.7%	1,920,000	1.6%
2029	250,700	1.4%	1,502,200	1.6%	197,200	1.6%	1,950,100	1.6%
2030	254,100	1.4%	1,525,600	1.6%	200,200	1.5%	1,979,900	1.5%
2031	257,400	1.3%	1,549,100	1.5%	203,400	1.6%	2,009,900	1.5%
2032	260,800	1.3%	1,572,500	1.5%	206,600	1.6%	2,039,900	1.5%
2033	264,200	1.3%	1,595,900	1.5%	209,800	1.5%	2,069,900	1.5%
2034	267,600	1.3%	1,619,300	1.5%	212,800	1.4%	2,099,700	1.4%
2035	271,000	1.3%	1,642,700	1.4%	215,900	1.5%	2,129,600	1.4%
2036	274,500	1.3%	1,666,100	1.4%	219,200	1.5%	2,159,800	1.4%
2037	277,900	1.2%	1,689,600	1.4%	222,300	1.4%	2,189,800	1.4%
2038	281,200	1.2%	1,712,900	1.4%	225,300	1.3%	2,219,400	1.4%
2039	284,600	1.2%	1,736,300	1.4%	228,500	1.4%	2,249,400	1.4%
2040	288,000	1.2%	1,759,700	1.3%	231,700	1.4%	2,279,400	1.3%
2041	296,000	2.8%	1,789,900	1.7%	236,600	2.1%	2,322,500	1.9%
2042	298,400	0.8%	1,810,100	1.1%	239,200	1.1%	2,347,700	1.1%
2043	301,100	0.9%	1,830,200	1.1%	241,900	1.1%	2,373,200	1.1%
2044	303,500	0.8%	1,850,400	1.1%	244,500	1.1%	2,398,400	1.1%
2045	305,900	0.8%	1,870,500	1.1%	247,100	1.1%	2,423,500	1.0%
2046	308,500	0.8%	1,890,700	1.1%	249,700	1.1%	2,448,900	1.0%
2047	310,900	0.8%	1,910,900	1.1%	252,300	1.0%	2,474,100	1.0%
2048	313,400	0.8%	1,931,000	1.1%	254,900	1.0%	2,499,300	1.0%
2049	316,000	0.8%	1,951,200	1.0%	257,500	1.0%	2,524,700	1.0%
2050	318,500	0.8%	1,971,400	1.0%	260,200	1.0%	2,550,100	1.0%
Total	8,374,600		50,649,400		6,664,300		65,688,300	

Phase II - Total AWDT Transactions - 6 cent/mile Case - Partial System

Year	CORRIDOR						System Total	
	I-90		Milwaukee Metro		South Milwaukee (I-94)		Transactions (AWDT)	Percent Growth
	Transactions (AWDT)	Percent Growth	Transactions (AWDT)	Percent Growth	Transactions (AWDT)	Percent Growth		
2020	174,600		1,120,500		141,600		1,436,700	
2021	187,300	7.3%	1,205,400	7.6%	152,300	7.6%	1,545,000	7.5%
2022	200,500	7.0%	1,292,700	7.2%	163,400	7.3%	1,656,600	7.2%
2023	203,700	1.6%	1,316,500	1.8%	166,500	1.9%	1,686,700	1.8%
2024	206,900	1.6%	1,340,400	1.8%	169,600	1.9%	1,716,900	1.8%
2025	210,200	1.6%	1,364,300	1.8%	172,500	1.7%	1,747,000	1.8%
2026	213,500	1.6%	1,388,100	1.7%	175,700	1.9%	1,777,300	1.7%
2027	216,800	1.5%	1,411,900	1.7%	178,700	1.7%	1,807,400	1.7%
2028	220,100	1.5%	1,435,800	1.7%	181,800	1.7%	1,837,700	1.7%
2029	223,200	1.4%	1,459,600	1.7%	184,800	1.7%	1,867,600	1.6%
2030	226,600	1.5%	1,483,500	1.6%	187,800	1.6%	1,897,900	1.6%
2031	229,800	1.4%	1,507,300	1.6%	190,900	1.7%	1,928,000	1.6%
2032	233,100	1.4%	1,531,300	1.6%	193,900	1.6%	1,958,300	1.6%
2033	236,300	1.4%	1,555,000	1.5%	197,000	1.6%	1,988,300	1.5%
2034	239,700	1.4%	1,578,900	1.5%	200,000	1.5%	2,018,600	1.5%
2035	242,900	1.3%	1,602,700	1.5%	203,000	1.5%	2,048,600	1.5%
2036	246,100	1.3%	1,626,600	1.5%	206,100	1.5%	2,078,800	1.5%
2037	249,400	1.3%	1,650,400	1.5%	209,100	1.5%	2,108,900	1.4%
2038	252,600	1.3%	1,674,300	1.4%	212,100	1.4%	2,139,000	1.4%
2039	255,900	1.3%	1,698,200	1.4%	215,200	1.5%	2,169,300	1.4%
2040	259,200	1.3%	1,722,000	1.4%	218,300	1.4%	2,199,500	1.4%
2041	262,100	1.1%	1,743,500	1.2%	221,000	1.2%	2,226,600	1.2%
2042	265,000	1.1%	1,765,300	1.3%	223,800	1.3%	2,254,100	1.2%
2043	268,100	1.2%	1,786,800	1.2%	226,500	1.2%	2,281,400	1.2%
2044	270,900	1.0%	1,808,300	1.2%	229,300	1.2%	2,308,500	1.2%
2045	273,800	1.1%	1,829,900	1.2%	232,000	1.2%	2,335,700	1.2%
2046	276,900	1.1%	1,851,600	1.2%	234,800	1.2%	2,363,300	1.2%
2047	279,700	1.0%	1,873,100	1.2%	237,500	1.1%	2,390,300	1.1%
2048	282,700	1.1%	1,894,700	1.2%	240,400	1.2%	2,417,800	1.2%
2049	285,600	1.0%	1,916,300	1.1%	243,000	1.1%	2,444,900	1.1%
2050	288,500	1.0%	1,937,900	1.1%	245,800	1.2%	2,472,200	1.1%
Total	7,481,700		49,372,800		6,254,400		63,108,900	

Phase II - Corridor Diversion - 4 cents/mile Case - Partial System

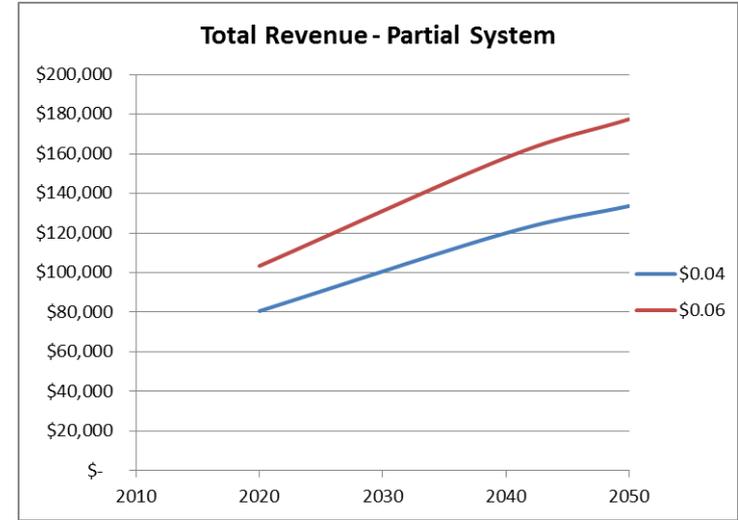
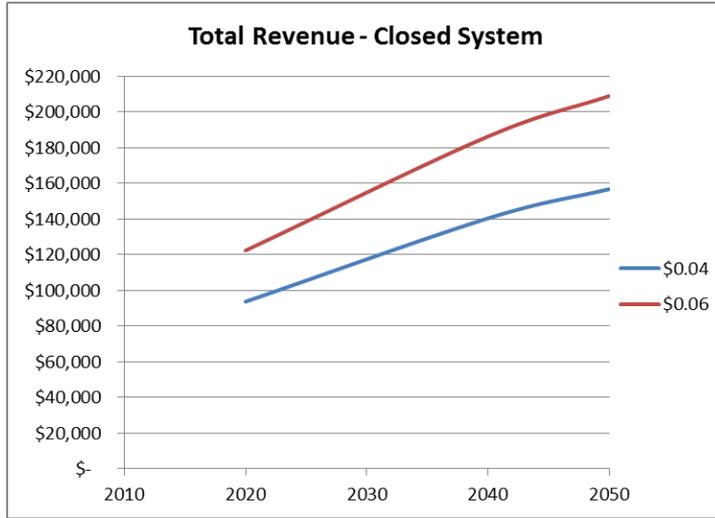
	Vehicle Type	Percent Diversion By Corridor			System Total
		I-90	Milwaukee Metro	South Milwaukee	
2020	Auto	-30.9%	-24.1%	-31.0%	-27.1%
	Truck	-29.8%	-36.0%	-39.8%	-32.2%
	Total	-30.7%	-24.6%	-32.0%	-27.5%
2040	Auto	-28.8%	-13.5%	-26.4%	-20.1%
	Truck	-27.8%	-28.6%	-39.2%	-29.3%
	Total	-28.6%	-14.1%	-27.8%	-21.0%

Phase II Corridor Diversion - 6 cents/mile Case - Partial System

	Vehicle Type	Percent Diversion By Corridor			System Total
		I-90	Milwaukee Metro	South Milwaukee	
2020	Auto	-35.7%	-26.4%	-35.1%	-30.3%
	Truck	-40.5%	-39.9%	-44.3%	-40.8%
	Total	-36.7%	-27.0%	-36.1%	-31.4%
2040	Auto	-32.8%	-14.7%	-30.0%	-22.4%
	Truck	-37.1%	-30.8%	-43.5%	-36.7%
	Total	-33.7%	-15.3%	-31.5%	-23.9%



I-90 Corridor Summary 30-year Results



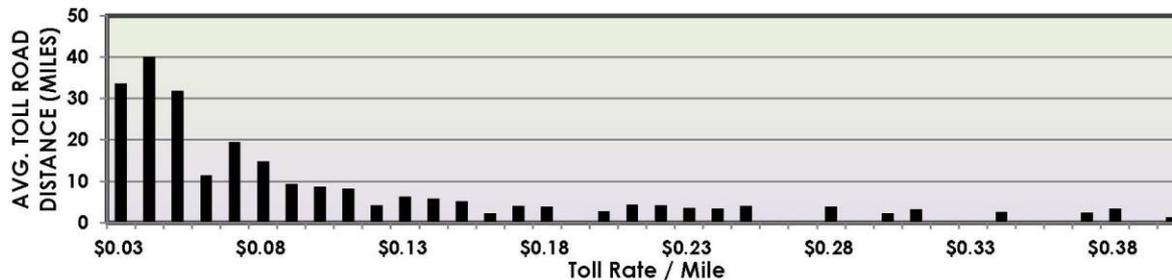
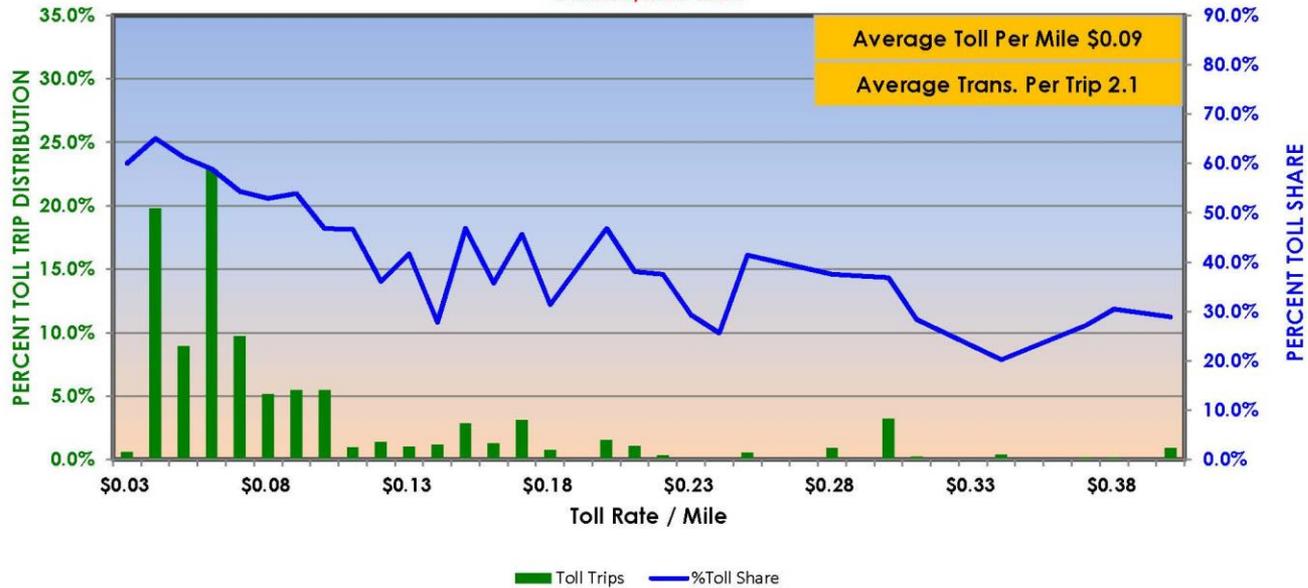
	Closed 4 Cents/Mile	Partial 4 Cents/Mile	Closed 6 Cents/Mile	Partial 6 Cents/Mile
Gross Revenue (millions)	4,047	3,461	5,353	4,535
Net Revenue (millions)	3,164	2,833	4,524	3,957
Net Revenue % of Gross	78.2%	81.8%	84.5%	87.3%
Diversion %	34.4%	29.7%	39.9%	35.2%
% Truck Gross Revenue	42.1%	45.0%	36.6%	43.4%



I-90 Auto Trip Distribution by Cents / Mile Rate – Closed System

2020 DAILY AUTO TOLL DISTRIBUTION - I-90 CORRIDOR

4 Cents/Mile Rate

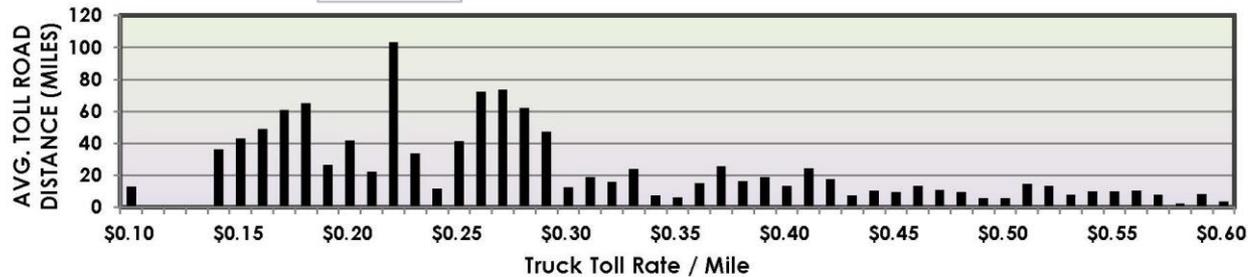
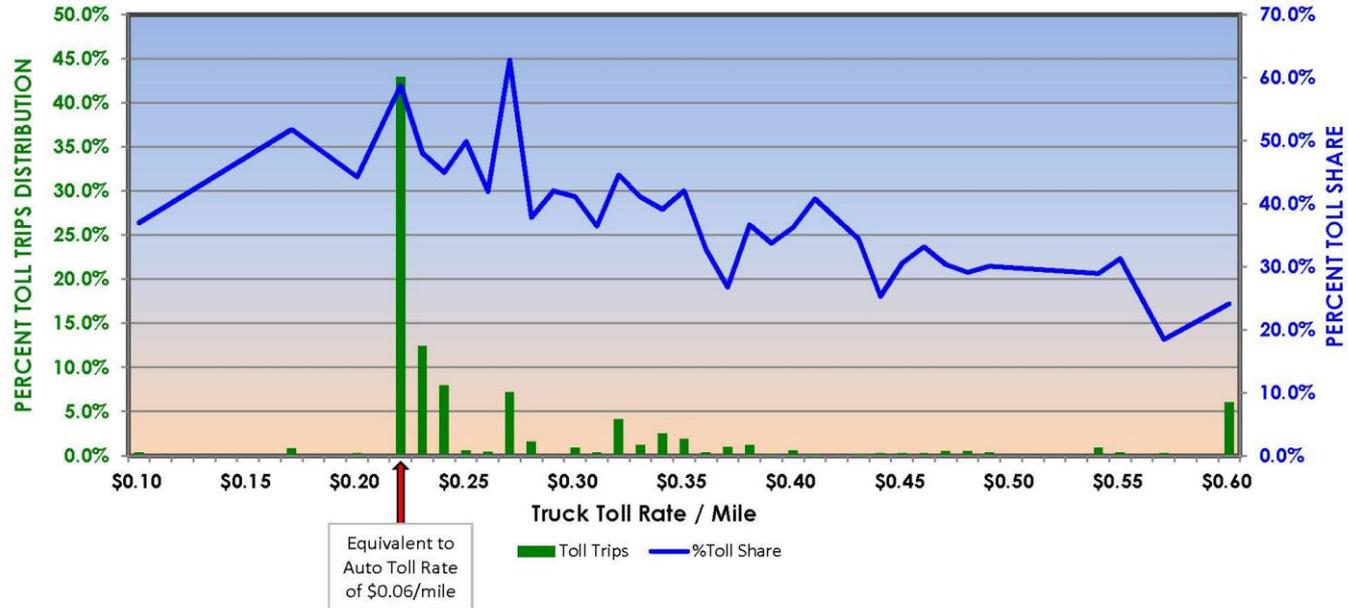




I-90 Truck Trip Distribution by Cents / Mile Rate – Closed System

2020 DAILY TRUCK TOLL DISTRIBUTION - I-90 CORRIDOR

6 Cents/Mile

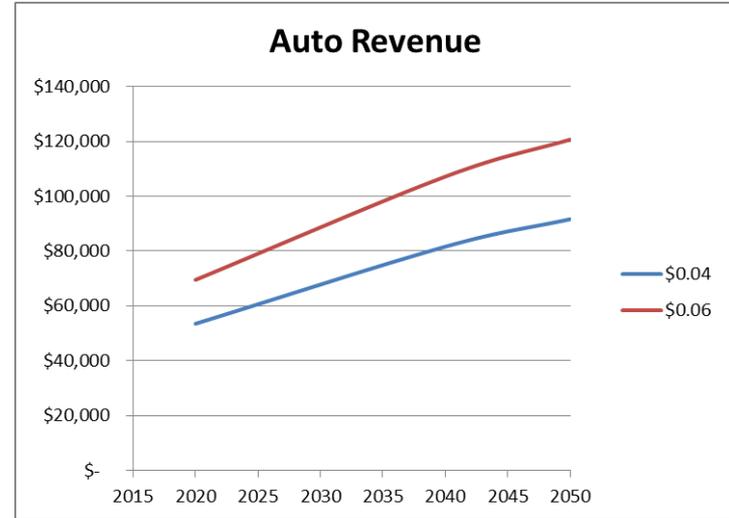




I-90 Corridor Revenue Results – Closed System

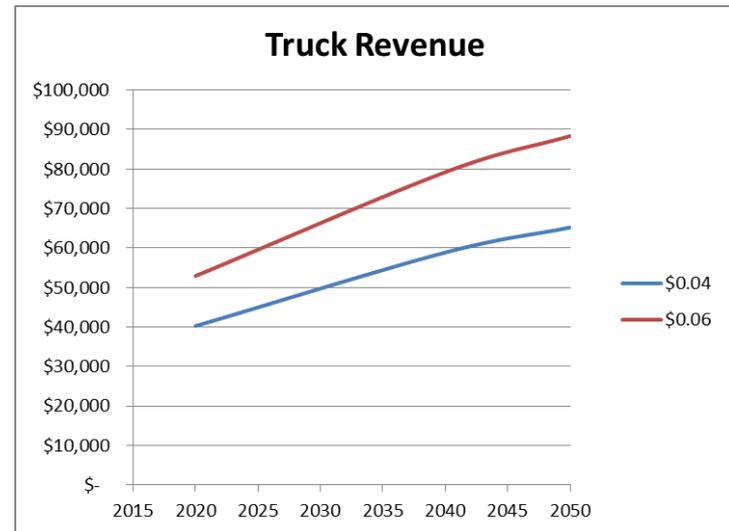
Auto Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 53,490	\$ 69,502
2040	\$ 81,607	\$ 107,152
2050	\$ 91,615	\$ 120,663



Truck Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 40,241	\$ 52,909
2040	\$ 58,849	\$ 79,207
2050	\$ 65,199	\$ 88,367





I-90 Corridor Diversion Results – Closed System

\$0.04 Per Mile Rate

\$0.06 Per Mile Rate

Year 2020

Year 2020

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	4,931	3,118	(1,813)	-36.8%
Truck	1,280	875	(405)	-31.6%
Total	6,211	3,993	(2,218)	-35.7%

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	4,931	2,853	(2,078)	-42.1%
Truck	1,280	765	(515)	-40.2%
Total	6,211	3,618	(2,593)	-41.7%

Year 2040

Year 2040

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	6,156	4,084	(2,072)	-33.7%
Truck	1,591	1,115	(476)	-29.9%
Total	7,747	5,199	(2,548)	-32.9%

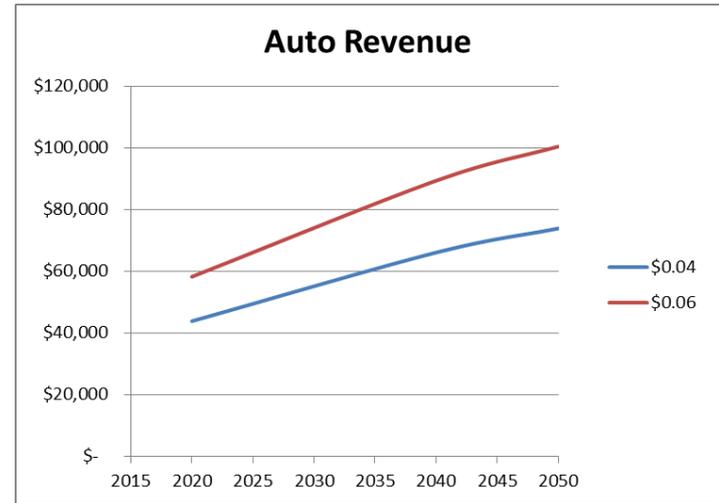
Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	6,156	3,798	(2,358)	-38.3%
Truck	1,591	1,004	(587)	-36.9%
Total	7,747	4,802	(2,945)	-38.0%



I-90 Corridor Revenue Results – Partial System

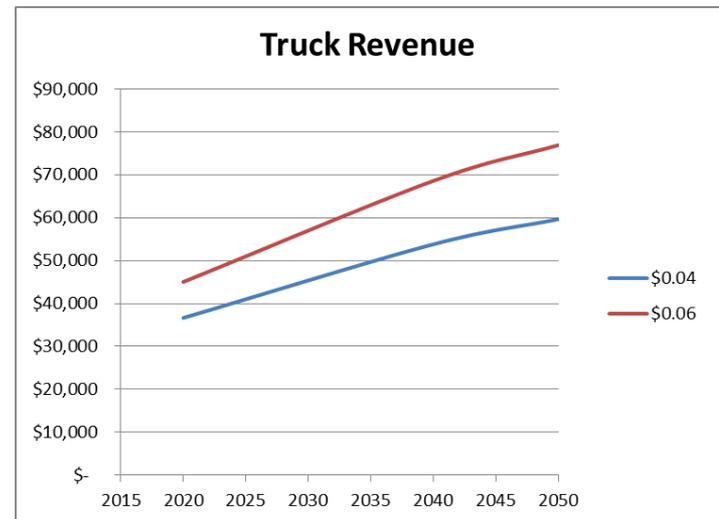
Auto Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 43,910	\$ 58,324
2040	\$ 66,160	\$ 89,440
2050	\$ 73,983	\$ 100,546



Truck Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 36,660	\$ 45,052
2040	\$ 53,806	\$ 68,599
2050	\$ 59,664	\$ 76,937





I-90 Corridor Diversion Results – Partial System

\$.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	4,931	3,408	(1,523)	-30.9%
Truck	1,280	899	(381)	-29.8%
Total	6,211	4,307	(1,904)	-30.7%

Year 2040

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	6,156	4,384	(1,772)	-28.8%
Truck	1,591	1,149	(442)	-27.8%
Total	7,747	5,533	(2,214)	-28.6%

\$.06 Per Mile Rate

Year 2020

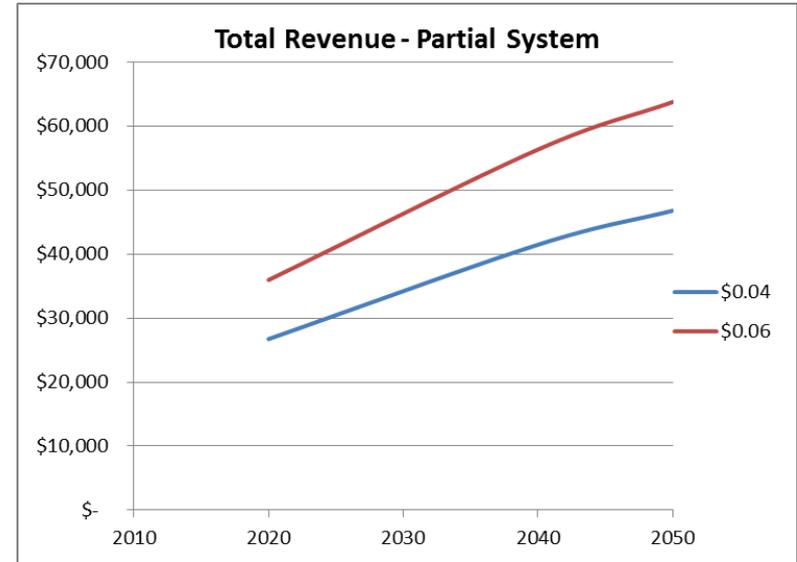
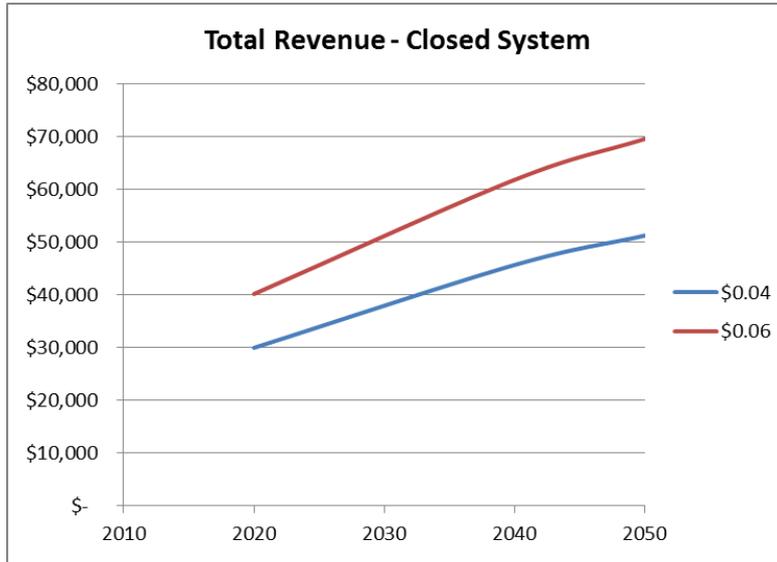
Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	4,931	3,172	(1,759)	-35.7%
Truck	1,280	761	(519)	-40.5%
Total	6,211	3,933	(2,278)	-36.7%

Year 2040

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	6,156	4,138	(2,018)	-32.8%
Truck	1,591	1,001	(590)	-37.1%
Total	7,747	5,139	(2,608)	-33.7%



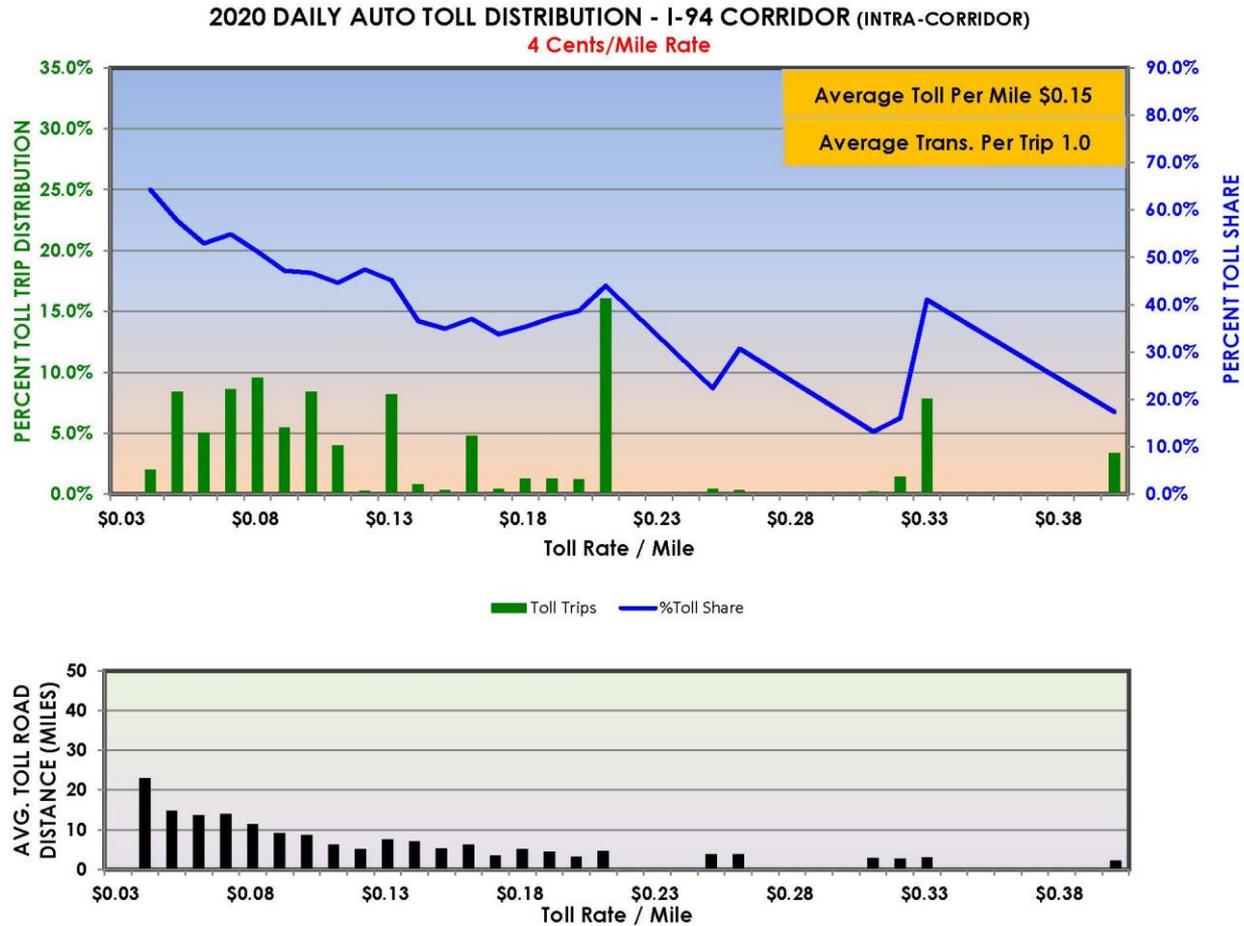
I-94 Corridor Summary 30-year Results



	Closed 4 Cents/Mile	Partial 4 Cents/Mile	Closed 6 Cents/Mile	Partial 6 Cents/Mile
Gross Revenue (millions)	1,311	1,187	1,771	1,610
Net Revenue (millions)	961	745	1,440	1,190
Net Revenue % of Gross	73.3%	62.7%	81.3%	73.9%
Diversion %	32.3%	29.9%	36.6%	33.8%
% Truck Gross Revenue	22.3%	23.1%	37.2%	37.9%



I-94 Auto Trip Distribution by Cents / Mile Rate – Closed System

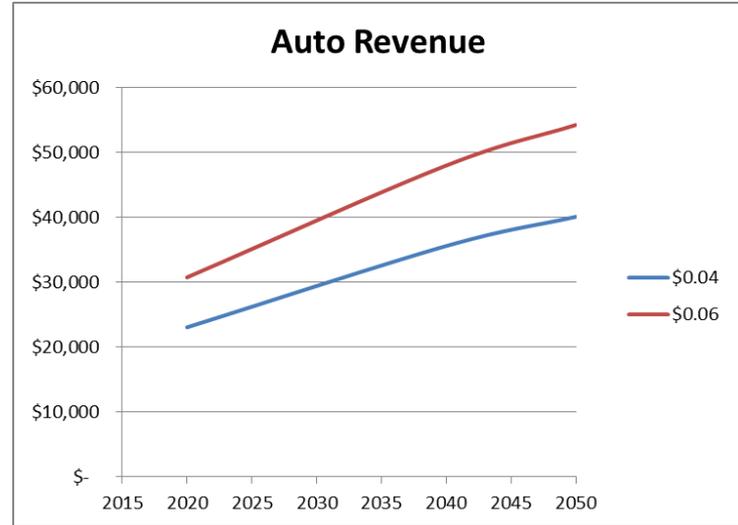




I-94 Corridor Revenue Results – Closed System

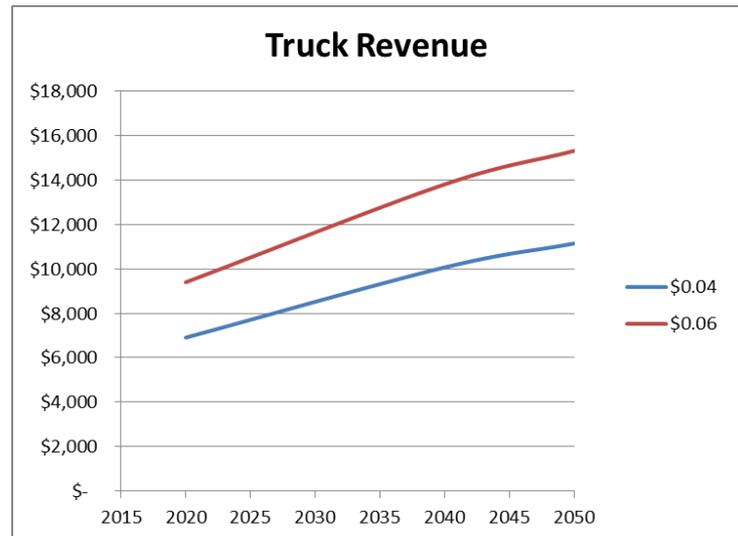
Auto Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 23,033	\$ 30,746
2040	\$ 35,577	\$ 47,994
2050	\$ 40,089	\$ 54,250



Truck Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 6,911	\$ 9,402
2040	\$ 10,069	\$ 13,804
2050	\$ 11,143	\$ 15,313





I-94 Corridor Diversion Results – Closed System

\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	1,726	1,146	(580)	-33.6%
Truck	221	130	(91)	-41.2%
Total	1,947	1,276	(671)	-34.5%

Year 2040

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	2,249	1,603	(646)	-28.7%
Truck	278	165	(113)	-40.6%
Total	2,527	1,768	(759)	-30.0%

\$0.06 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	1,726	1,067	(659)	-38.2%
Truck	221	119	(102)	-46.2%
Total	1,947	1,186	(761)	-39.1%

Year 2040

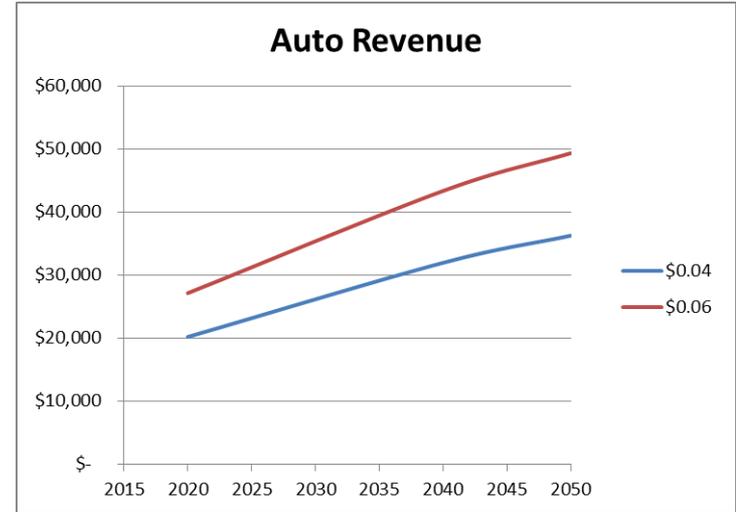
Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	2,249	1,515	(734)	-32.6%
Truck	278	152	(126)	-45.3%
Total	2,527	1,667	(860)	-34.0%



I-94 Corridor Revenue Results – Partial System

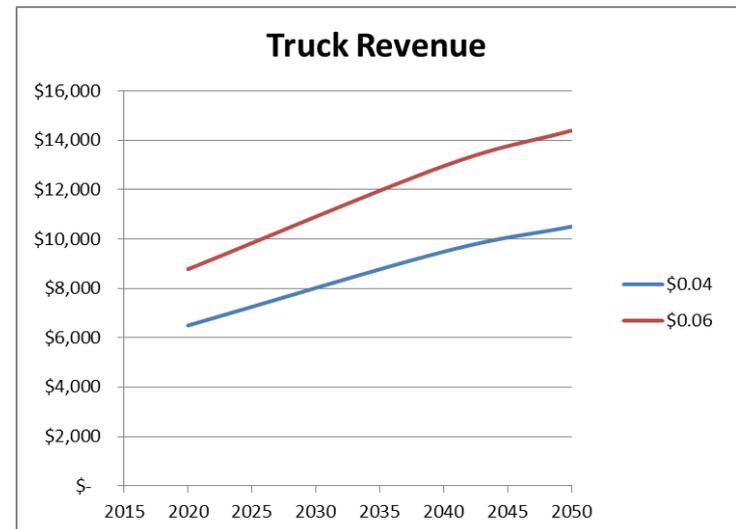
Auto Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 20,240	\$ 27,187
2040	\$ 31,994	\$ 43,400
2050	\$ 36,307	\$ 49,394



Truck Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 6,498	\$ 8,781
2040	\$ 9,487	\$ 12,958
2050	\$ 10,505	\$ 14,398





I-94 Corridor Diversion Results – Partial System

\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	1,726	1,191	(535)	-31.0%
Truck	221	133	(88)	-39.8%
Total	1,947	1,324	(623)	-32.0%

Year 2040

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	2,249	1,655	(594)	-26.4%
Truck	278	169	(109)	-39.2%
Total	2,527	1,824	(703)	-27.8%

\$0.06 Per Mile Rate

Year 2020

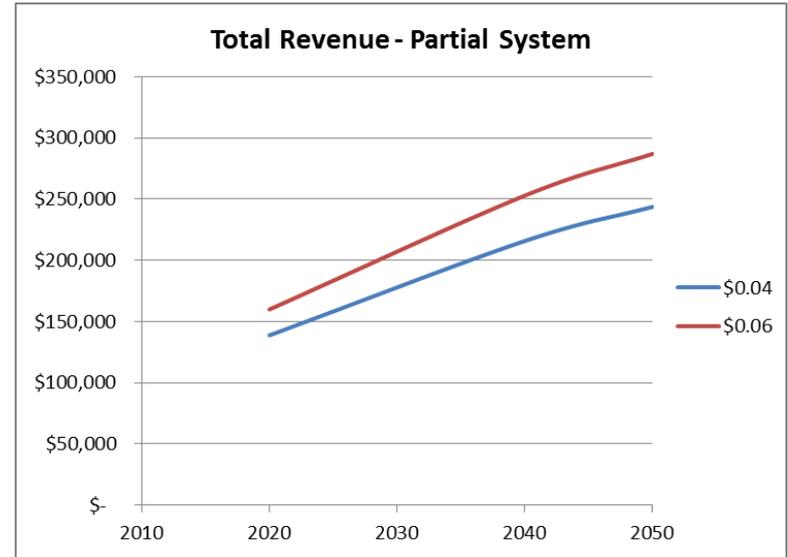
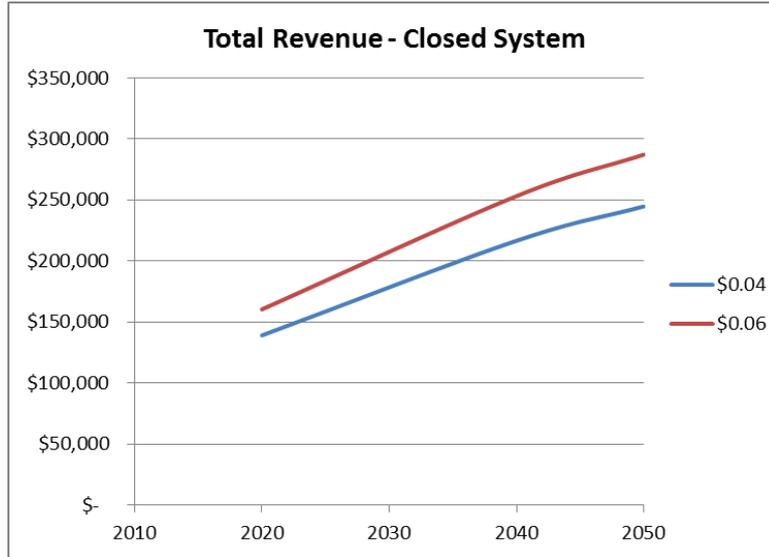
Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	1,726	1,121	(605)	-35.1%
Truck	221	123	(98)	-44.3%
Total	1,947	1,244	(703)	-36.1%

Year 2040

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	2,249	1,575	(674)	-30.0%
Truck	278	157	(121)	-43.5%
Total	2,527	1,732	(795)	-31.5%



Metro Milwaukee Corridor Summary 30-year Results

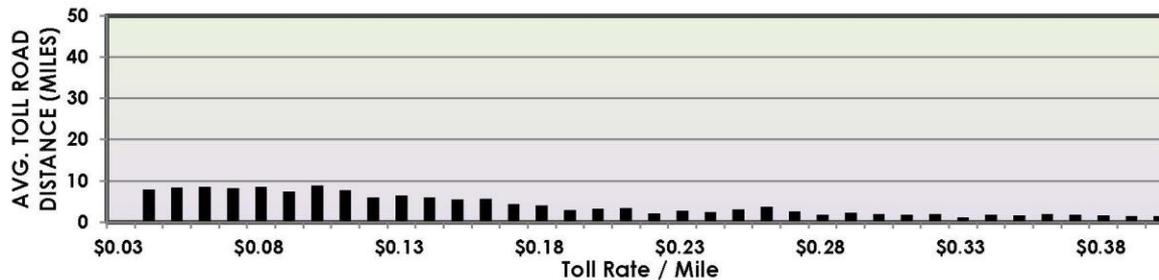


	Partial 4 Cents/Mile	Partial 6 Cents/Mile
Gross Revenue (millions)	6,173	7,210
Net Revenue (millions)	3,345	4,448
Net Revenue % of Gross	54.2%	61.7%
Diversion %	19.4%	21.1%
% Truck Gross Revenue	9.5%	9.6%



Metro Milwaukee Auto Trip Distribution by Cents / Mile Rate

2020 DAILY AUTO TOLL DISTRIBUTION - MILWAUKEE METRO CORRIDOR (INTRA-CORRIDOR)

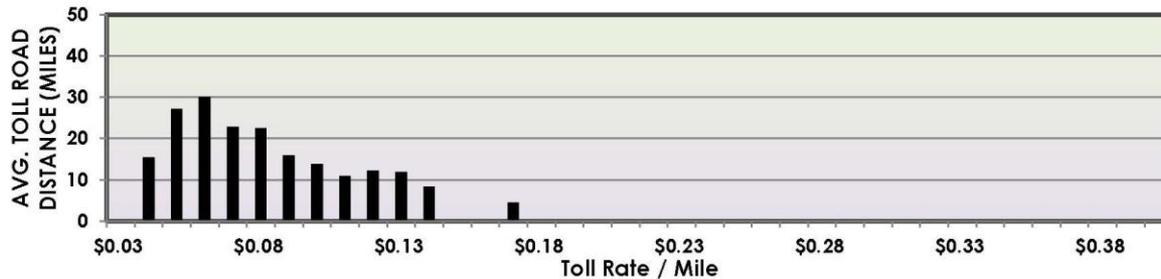
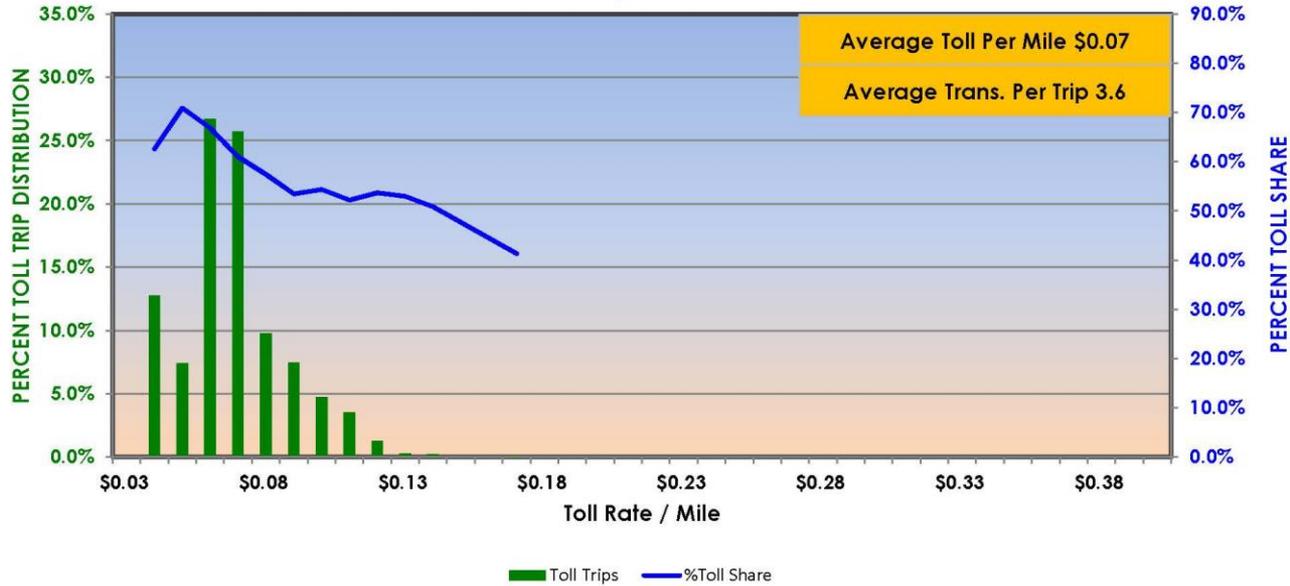




Combined Auto Trip Distribution by Cents / Mile Rate

2020 DAILY AUTO TOLL DISTRIBUTION - I-94 AND MILWAUKEE METRO CORRIDORS

4 Cents/Mile Rate

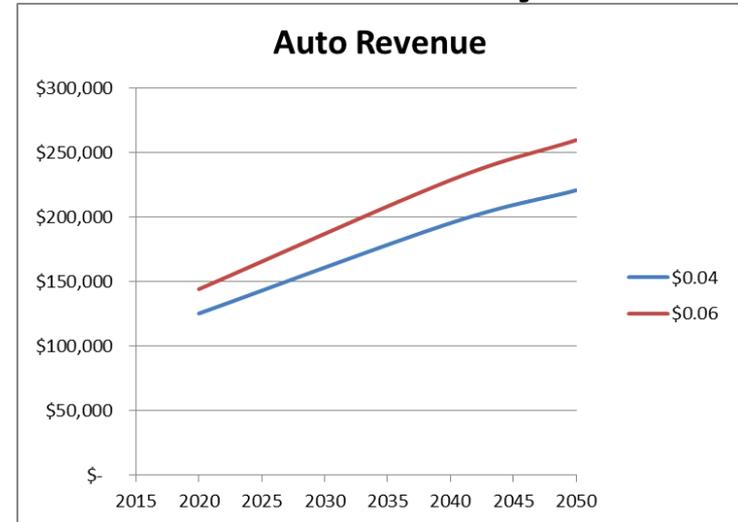




Metro Milwaukee Corridor Revenue Results – Partial System

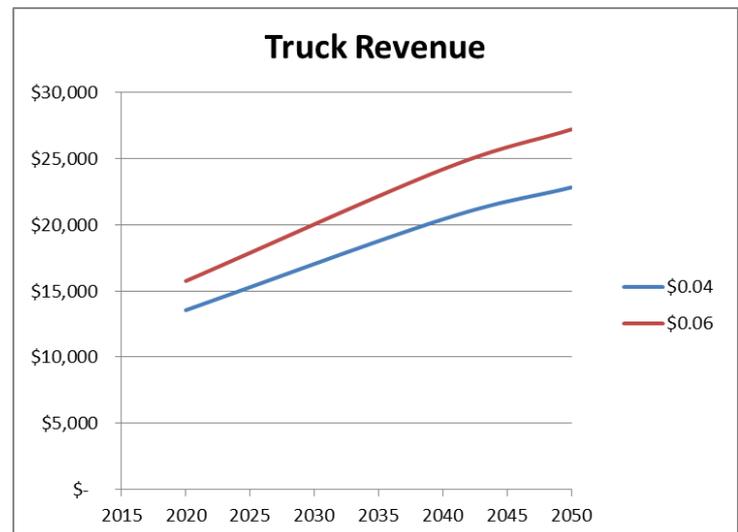
Auto Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 125,239	\$ 144,168
2040	\$ 195,374	\$ 228,648
2050	\$ 220,837	\$ 259,719



Truck Revenue (in thousands)

Year	TOLL PER MILE	
	\$0.04	\$0.06
2020	\$ 13,553	\$ 15,751
2040	\$ 20,417	\$ 24,191
2050	\$ 22,834	\$ 27,213





Metro Milwaukee Corridor Diversion Results – Partial System

\$0.04 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	9,312	7,065	(2,247)	-24.1%
Truck	406	260	(146)	-36.0%
Total	9,718	7,325	(2,393)	-24.6%

Year 2040

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	10,653	9,218	(1,435)	-13.5%
Truck	454	324	(130)	-28.6%
Total	11,107	9,542	(1,565)	-14.1%

\$0.06 Per Mile Rate

Year 2020

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	9,312	6,849	(2,463)	-26.4%
Truck	406	244	(162)	-39.9%
Total	9,718	7,093	(2,625)	-27.0%

Year 2040

Vehicle Type	AWDT VMT			Percent Change
	No Toll	Toll	Change	
Auto	10,653	9,089	(1,564)	-14.7%
Truck	454	314	(140)	-30.8%
Total	11,107	9,403	(1,704)	-15.3%