

Final Report Executive Summary



March 2014

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Executive Summary

The purpose of the I-24 Multimodal Corridor Study is to examine potential multimodal transportation improvements that would address existing and emerging transportation system issues associated with this strategic corridor through central Tennessee connecting the Clarksville, Nashville and Chattanooga urban areas. The corridor extends from the Kentucky border to where it meets I-75 in Hamilton County, a distance of approximately 185 miles.

The analysis of corridor needs has gone through a structured process of characterizing existing and projected corridor conditions, describing the purpose and need for corridor improvements, defining a set of performance measures against which to evaluate improvement options, and evaluating potential corridor improvements against these performance measures to develop a set of recommended and prioritized projects and strategies.

The Final Report now concludes with the prioritized planning-level recommended projects and strategies for the I-24 Multimodal Corridor Study. It should be noted that this study makes recommendations for projects and strategies that are at the planning level. This means that further study and design will be required before the recommended projects and strategies developed in this report should be implemented or constructed.

While this study recommends a number of capacity improvements on I-24, the project team realizes that TDOT cannot afford to keep adding lanes to its interstates as the only solution to reduce congestion in the urban areas. That is why freight, transit and managed lane strategies will be critical to help manage and maintain the current utility of the interstate facilities in the State. Also, lower-cost solutions are needed to maximize the operations of the current interstate facilities.

Strategies should also be pursued that will help divert freight from trucks to rail where and when possible. While auto travel demand in the urban areas will likely 'fill the gap' left by any diversion of truck traffic, there will still be some benefit in slightly increased speed and less delay when trucks are diverted from I-24.

Improving safety on I-24 is also a critical goal of this study. Several types of projects ranging from interchange modifications to ITS improvements are recommended in this study that will improve safety in areas along I-24 that have exhibited higher than average crash rates.

As part of the prioritization process, projects that are generally located in the same place were coordinated as much as possible so that construction on the various projects could be completed at the same time. Also, in some areas along I-24, lower cost projects are recommended to be implemented earlier than some of the more expensive improvements, realizing that funding may not be as readily available for the larger, more expensive projects. The recommended projects were also prioritized based on the type of project, the status of the project in the MPO planning process (if applicable), and how well the project performed in the benefit-cost ratio analysis.

Table ES.1 provides a summary of the cost, in year of expenditure (YOE), of each type of project by study subarea/region and by the horizon year. Three horizon years were used to prioritize the recommended projects: 2020 (short-term), 2030 (mid-term) and 2040 (long-term).

As seen in Table ES.1, the capacity projects 'On I-24' and 'Off I-24' have the highest costs while the operational projects such as ITS projects, bridge improvements, truck lanes, rock fall/mitigation projects, and miscellaneous improvements account for a much smaller portion of the total costs. The Nashville subarea has 53% to 67% of the total costs for the various horizon years, followed by the Chattanooga subarea which has between 17% and 46%, and Clarksville, which has between 0% and 21%.

The prioritized projects in Section 1 of this document are organized into three distinct types of projects: 'Capacity Projects On I-24,' 'Capacity Projects Off I-24,' and 'Operational' projects. Section 1 will present the individual projects for these three general types of projects and will provide the recommended 'build year' and associated year of expenditure (YOE) cost. Section 1 also includes a subsection that presents the recommended multimodal strategies for freight, transit and managed lanes in the I-24 Corridor.

It should also be noted that while the I-24 Multimodal Corridor Study provides recommendations based on input from stakeholders and on technical analysis, it is not a commitment on the part of TDOT to implement any of the projects or strategies. The Study is a set of recommendations that are not fiscally constrained. There is no need for the MPOs to amend their Long Range Transportation Plans or Transportation Improvement Programs until such time as TDOT is ready to begin implementing a project(s).

Table ES.1: Summary of Year of Expenditure Costs by Subarea and by Horizon Year

Category of Recommended Projects	Subarea 1 - Clarksville			Subarea 2 - Nashville			Subarea 3 - Chattanooga			Total		
	2020 YOE Cost (millions)	2030 YOE Cost (millions)	2040 YOE Cost (millions)	2020 YOE Cost (millions)	2030 YOE Cost (millions)	2040 YOE Cost (millions)	2020 YOE Cost (millions)	2030 YOE Cost (millions)	2040 YOE Cost (millions)	2020 YOE Cost (millions)	2030 YOE Cost (millions)	2040 YOE Cost (millions)
Capacity Projects On I-24	\$ -	\$ 264.3	\$ 199.0	\$ 290.6	\$ 247.1	\$ 1,328.0	\$ -	\$ 313.2	\$ 969.3	\$ 290.6	\$ 824.6	\$ 2,496.3
Capacity Projects Off I-24	\$ -	\$ 236.9	\$ -	\$ -	\$ 1,170.9	\$ 1,045.7	\$ -	\$ 116.1	\$ -	\$ -	\$ 1,523.8	\$ 1,045.7
New and Modified Interstate Access	\$ -	\$ -	\$ -	\$ 111.4	\$ 192.5	\$ 189.3	\$ 287.0	\$ -	\$ -	\$ 398.4	\$ 192.5	\$ 189.3
Ramp Improvements	\$ -	\$ 24.8	\$ 8.8	\$ 106.5	\$ -	\$ 57.5	\$ 21.8	\$ -	\$ 125.7	\$ 128.3	\$ 24.8	\$ 192.0
ITS Projects	\$ 0.04	\$ -	\$ -	\$ 12.1	\$ -	\$ -	\$ 3.2	\$ -	\$ -	\$ 15.3	\$ -	\$ -
Truck Lanes	\$ -	\$ -	\$ -	\$ 6.5	\$ -	\$ -	\$ 66.9	\$ -	\$ -	\$ 73.4	\$ -	\$ -
Bridge Improvements	\$ 0.9	\$ -	\$ -	\$ 6.4	\$ -	\$ -	\$ 0.1	\$ -	\$ -	\$ 7.5	\$ -	\$ -
Rock Fall/Slide Mitigation Improvements	\$ -	\$ -	\$ -	\$ 23.1	\$ -	\$ -	\$ 31.2	\$ -	\$ -	\$ 54.3	\$ -	\$ -
Miscellaneous Projects	\$ 3.3	\$ -	\$ -	\$ 21.9	\$ -	\$ -	\$ 92.7	\$ -	\$ -	\$ 117.9	\$ -	\$ -
Total	\$ 4.3	\$ 526.0	\$ 207.9	\$ 578.4	\$ 1,610.5	\$ 2,620.4	\$ 503.0	\$ 429.3	\$ 1,095.0	\$ 1,085.7	\$ 2,565.8	\$ 3,923.3
Percentage of Horizon Year	0%	21%	5%	53%	63%	67%	46%	17%	28%	100%	100%	100%

Note:

YOE = Year of Expenditure

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1.0 Recommendations and Prioritization of Projects and Strategies

1.1 Capacity Projects On I-24

The LRTP and Non-LRTP capacity projects ‘On I-24’ that are recommended for the I-24 Corridor were given a recommended ‘build year’ based on the screening analysis summarized in Section 5 of the final report and then an associated year of expenditure total cost using an annual inflation rate of 3.6%, per TDOT’s guidelines. The recommended LRTP and Non-LRTP ‘Capacity Projects On I-24’ are presented in Tables 1.1 and 1.2, respectively, and are also shown on Figures 1.1 and 1.2, respectively. (A description and evaluation of the ‘Capacity Projects On I-24’ is explained in detail in Sections 3 and 5 of the final report.)

Table 1.1: Recommended Capacity Projects On I-24 (LRTP)

Project ID	County of Project	Name of Project	Description of Project	Length of Project (miles)	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
169	Montgomery	I-24 Additional Lanes	I-24 Additional Lanes (4 to 6) between TN State Line to SR-76 (Exit 11), 10.6 miles	10.6	MP 0 - Exit 11	1	2030	\$ 264,332,856
170	Montgomery / Robertson	I-24 Additional Lanes	I-24 Additional Lanes (4 to 6) between SR-76 (Exit 11) to SR-256 (Exit 19) in Robertson County, 8.6 miles	8.6	Exit 11 - Exit 19	1	2040	\$ 199,041,647
173	Davidson	I-24 Additional Lanes	I-24 Additional Lanes (4 to 6) from I-65 to Old Hickory Boulevard (SR-45), Exit 40 - Exit 44, 4.5 miles	4.5	Exit 40 - Exit 44	2	2030	\$ 127,400,656
177	Davidson	I-24 Additional Lanes	I-24 Additional Lanes from I-24/I-65 junction (S of Fern Ave.) to Trinity Lane. Replace underpass to acc. 6 lanes in each direction. Exit 46 - Exit 87 (I-65), MP 45 for I-24, 1.1 miles	1.1	MP 45 - Exit 46	2	2020	\$ 17,508,450
181	Hamilton / Georgia	I-24 Additional Lanes	Widen I-24 from 4 to 6 lanes from I-59 to US-27; fix structurally deficient bridge at I-24 and I-124, 10.4 miles	10.4	Exit 169 - Exit 178	3	2040	\$ 581,476,747
183	Hamilton	I-24 Additional Lanes	Widen I-24 from 6 to 8 lanes from US-27 to I-75; fix S. Seminole Dr. structurally deficient bridge over I-24 at top of Missionary Ridge, 5.5 miles	5.5	Exit 178 - Exit 185	3	2030	\$ 313,215,672

Table 1.2: Recommended Capacity Projects On I-24 (Non-LRTP)

Project ID	County of Project	Name of Project	Description of Project	Length of Project (miles)	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
315	Robertson	I-24 Additional Lanes	Add General Purpose Lanes, 4 to 6, SR-256 (Exit 19) to SR-49 (Exit 24), 5.3 miles	5.3	Exit 19 - Exit 24	2	2040	\$ 188,242,947
314	Robertson / Cheatham / Davidson	I-24 Additional Lanes	Add General Purpose Lanes, 4 to 6, SR-49 (Exit 24) to US-431/Whites Creek Pike (Exit 35), 10.4 miles	10.4	Exit 24 - Exit 35	2	2040	\$ 369,382,382
313	Davidson	I-24 Additional Lanes	Add General Purpose Lanes, 4 to 6, US-431/Whites Creek Pike (Exit 35) to SR-45/Old Hickory Boulevard (Exit 40), 3.3 miles	3.3	Exit 35 - Exit 40	2	2040	\$ 251,806,206
306	Davidson	I-24 Additional Lanes	Add General Purpose Lanes, 8 to 10, SR-155/Briley Parkway (Exit 54) to Haywood Lane (Exit 57), 3.4 miles	3.4	Exit 54 - Exit 57	2	2020	\$ 59,528,734
307	Davidson	I-24 Additional Lanes	Add General Purpose Lanes, 6 to 8, Haywood Lane (Exit 57) to SR-171/Old Hickory Boulevard (Exit 62), 5.4 miles	5.4	Exit 57 - Exit 62	2	2020	\$ 94,545,629
308	Davidson / Rutherford	I-24 Additional Lanes	Add General Purpose Lanes, 6 to 8, SR-171/Old Hickory Boulevard (Exit 62) to SR-102/Nissan Drive (Exit 70), 6.8 miles	6.8	Exit 62 - Exit 70	2	2020	\$ 119,057,468
309	Rutherford	I-24 Additional Lanes	Add General Purpose Lanes, 6 to 8, SR-102/Nissan Drive (Exit 70) to SR-840 (Exit 74), 4.8 miles	4.8	Exit 70 - Exit 74	2	2030	\$ 119,698,082
310	Rutherford	I-24 Additional Lanes	Add General Purpose Lanes, 8 to 10, SR-840 (Exit 74) to SR-96 (Exit 78), 3.7 miles	3.7	Exit 74 - Exit 78	2	2040	\$ 131,414,887
311	Rutherford	I-24 Additional Lanes	Add General Purpose Lanes, 6 to 8, SR-96 (Exit 78) to US-231/Shelbyville Highway (Exit 81), 3.3 miles	3.3	Exit 78 - Exit 81	2	2040	\$ 117,207,869
312	Rutherford	I-24 Additional Lanes	Add General Purpose Lanes, 4 to 6, US-231/Shelbyville Highway (Exit 81) to Epps Mill Road (Exit 89), 7.6 miles	7.6	Exit 81 - Exit 89	2	2040	\$ 269,933,278
318	Marion	I-24 Additional Lanes	Add General Purpose Lanes, 4 to 6, US-72/Lee Highway (Exit 152) to SR-27 (Exit 158), 6.7 miles	6.7	Exit 152 - Exit 158	3	2040	\$ 155,067,329
317	Marion	I-24 Additional Lanes	Add General Purpose Lanes, 4 to 6, SR-27 (Exit 158) to SR-156 (Exit 161), 2.7 miles	2.7	Exit 158 - Exit 161	3	2040	\$ 84,630,101
316	Marion / Hamilton	I-24 Additional Lanes	Add General Purpose Lanes, 4 to 6, SR-156 (Exit 161) to GA Border (MP 167), 5.6 miles	5.6	Exit 161 - MP 167	3	2040	\$ 148,122,428

Figure 1.1: Recommended Capacity Projects On I-24 (LRTP)

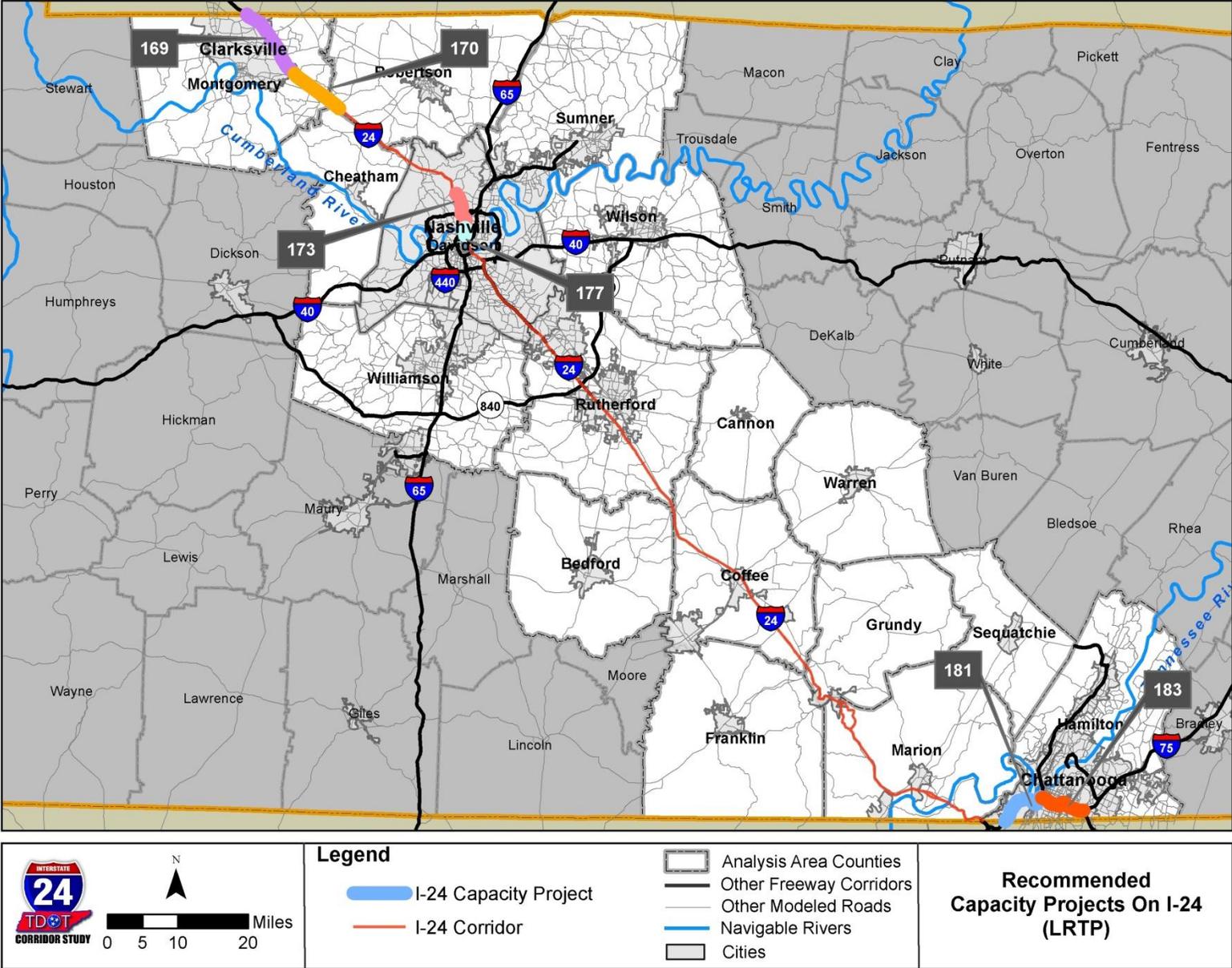
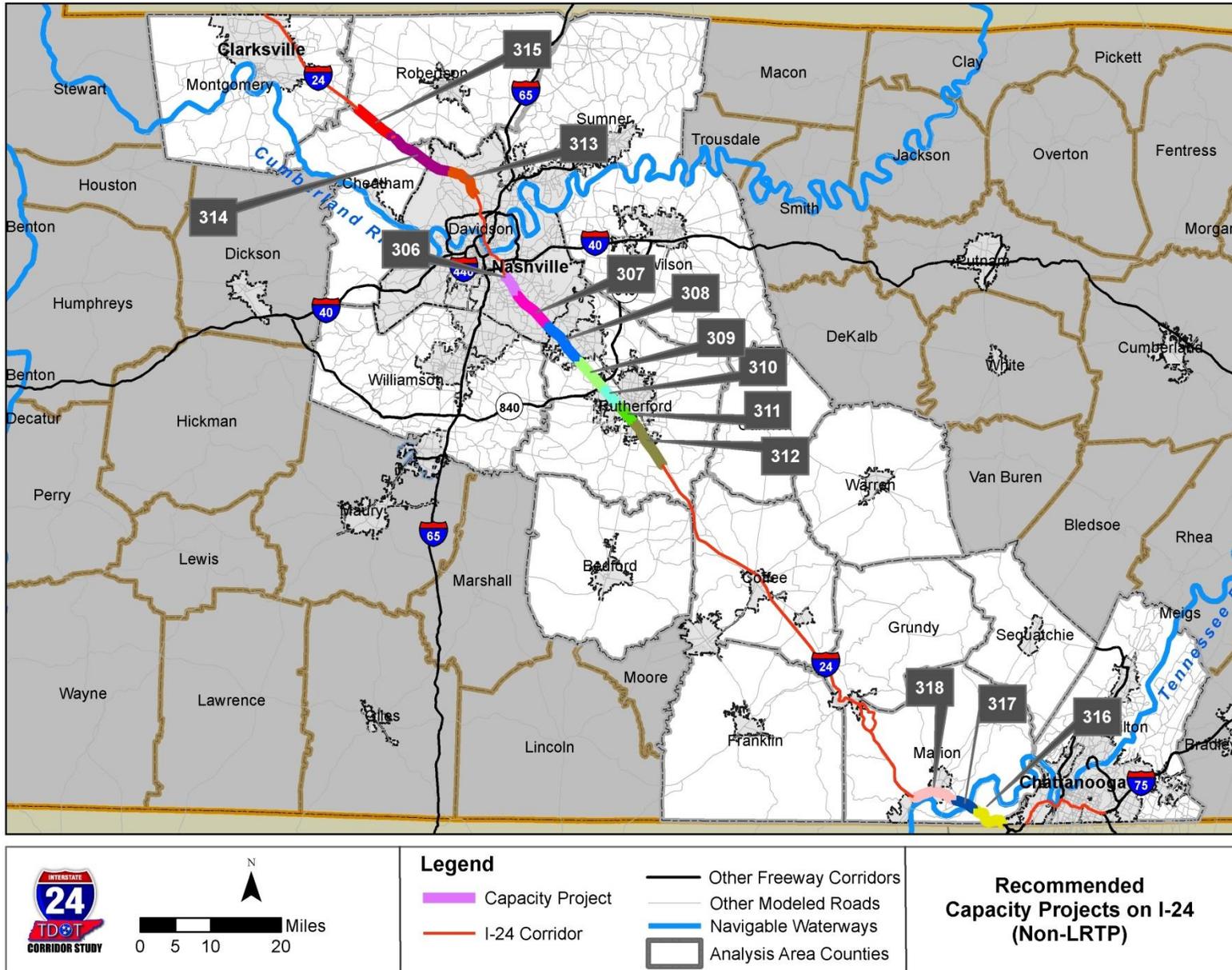


Figure 1.2: Recommended Capacity Projects On I-24 (Non-LRTP)



1.2 Capacity Projects Off I-24

The LRTP and Non-LRTP capacity projects ‘Off I-24’ (i.e., roadways generally parallel to I-24) that are recommended for the I-24 Corridor were given a recommended ‘build year’ based on the screening analysis summarized in Section 5 of the final report and then an associated year of expenditure total cost using an annual inflation rate of 3.6%, per TDOT’s guidelines. The recommended LRTP and Non-LRTP ‘Capacity Projects Off I-24’ are presented in Tables 1.3 and 1.4, respectively, and are also shown on Figures 1.3 and 1.4, respectively. (A description and evaluation of the ‘Capacity Projects Off I-24’ is explained in detail in Sections 3 and 5 of the final report.) It is also recommended that the ‘Off I-24’ projects that involve non-interstate improvements should accommodate bicyclists and pedestrians when implemented.

Table 1.3: Recommended Capacity Projects Off I-24 (LRTP)

Project ID	County of Project	Name of Project	Description of Project	Length of Project (miles)	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
206	Montgomery	SR-48 (Trenton Rd)	Widening from 2 to 4 lanes between Hazelwood Road and Tylertown Road, 0.9 miles	0.9	1	2030	\$ 27,448,077
203	Montgomery	East-West Connector Phase 1	New 4-Lane road between US-79 (Wilma Rudolph Blvd) and SR-48 (Trenton Rd), 2.5 miles	2.5	1	2030	\$ 70,461,064
205	Montgomery	SR-374/ Warfield Blvd (North Pkwy)	Widening from 2 to 4/5 lanes between Dunbar Cave Road and US-79/SR-13 (Stokes Road), 2.6 miles	2.6	1	2030	\$ 78,452,391
204	Montgomery	SR-374/ Richview Rd/ Warfield Blvd	Widening from 2 to 4 lanes between Memorial Drive and Dunbar Cave Road, 2.0 miles	2.0	1	2030	\$ 60,490,085
271	Davidson	Ellington Parkway Widening	Widen Ellington Parkway (SR 6) from 4 to 6 lanes from North 1st Street to Boardmoor Drive, 4.85 miles	4.9	2	2030	\$ 111,685,428
302	Davidson	I-65 Widening	Widen I-65 from 6 to 8 lanes from Harding Place (SR-255) to I-40, 4.3 miles	4.3	2	2030	\$ 320,072,761
303	Davidson	SR-1 (Murfreesboro Road) Widening	Widen SR-1 (Murfreesboro Road) from 4 to 6 lanes from Donelson Pike to Smith Springs Road, 1.2 miles	1.2	2	2030	\$ 37,485,871
207	Hamilton	Wauhatchie Pike (parallel to I-24)	Widening Wauhatchie Pike from 2 lanes to 4 lanes from US-11 to US-41/US64, parallel to I-24 just west of Moccasin Bend, 2.8 miles	2.8	2	2040	\$ 94,347,171

Table 1.4: Recommended Capacity Projects Off I-24 (Non-LRTP)

Project ID	County of Project	Name of Project	Description of Project	Length of Project (miles)	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
153	Davidson / Rutherford	Murfreesboro Pike Widening	Widen Murfreesboro Pike from 4 to 6 lanes to handle traffic diversion from Murfreesboro into Nashville, 28.6 miles	28.6	2	2030	\$ 656,770,413
277	Davidson	Antioch Pike/Una-Antioch Pike Widening	Road Widening, 2 to 4 lanes Haywood Lane to Murfreesboro Pike, 3.7 miles	3.7	2	2040	\$ 123,514,187
287	Davidson	Mt. View Road widening	Road Widening, 2 to 4 lanes from Smith Springs Pkwy to Hickory Hollow Pkwy, 4.4 miles	4.4	2	2040	\$ 147,910,746
289	Davidson	Hickory Hollow Parkway widening	Road Widening, 2 to 4 lanes from Bell Road to Una Antioch Pike, 1.3 miles	1.3	2	2040	\$ 43,689,202
279	Davidson	Cane Ridge Road Widening	Road Widening, 2 to 4 lanes Old Hickory Blvd to Southeast Parkway (Nolensville Pike to I-24)/Old Franklin Road, 2.3 miles	2.3	2	2040	\$ 77,363,739
280	Davidson	Cane Ridge Road Widening	Road Widening, 2 to 4 lanes from Southeast Parkway (Nolensville Pike to I-24)/Old Franklin Road to Bell Rd, 1.4 miles	1.4	2	2040	\$ 47,027,423
291	Davidson	Crossings Boulevard Extension	New Road (4-lane divided) from Old Hickory Blvd to Crossings Blvd, 1.6 miles	1.6	2	2030	\$ 44,906,257
272	Davidson / Rutherford	SR-11 (Nolensville Rd)	Road Widening, 2 to 4 lanes from SR-840 to Burkitt Road, 10.5 miles	10.5	2	2040	\$ 424,234,328
273	Rutherford	Old Nashville Highway Widening Phase I	Road Widening, 2 to 4 lanes, from Sam Ridley Pkwy to Murfreesboro Road, Phase I (US-41/Murfreesboro Pike to Jefferson Pike), 1.1 miles	1.1	2	2040	\$ 34,819,867
274	Rutherford	Old Nashville Highway Widening Phase II	Road Widening, 2 to 4 lanes, from Sam Ridley Pkwy to Murfreesboro Road, Phase II (Jefferson Pike to SR-266/Sam Ridley Parkway), 1.7 miles	1.7	2	2040	\$ 52,749,522
208	Hamilton	Cummings Highway Widening	Ensure 4 lanes on Cummings Hwy (parallel to I-24 at Moccasin Bend) throughout including through two RR underpasses; add median, turn lanes and shoulders, 2.7 miles	2.7	3	2030	\$ 116,052,867

Figure 1.3: Recommended Capacity Projects Off I-24 (LRTP)

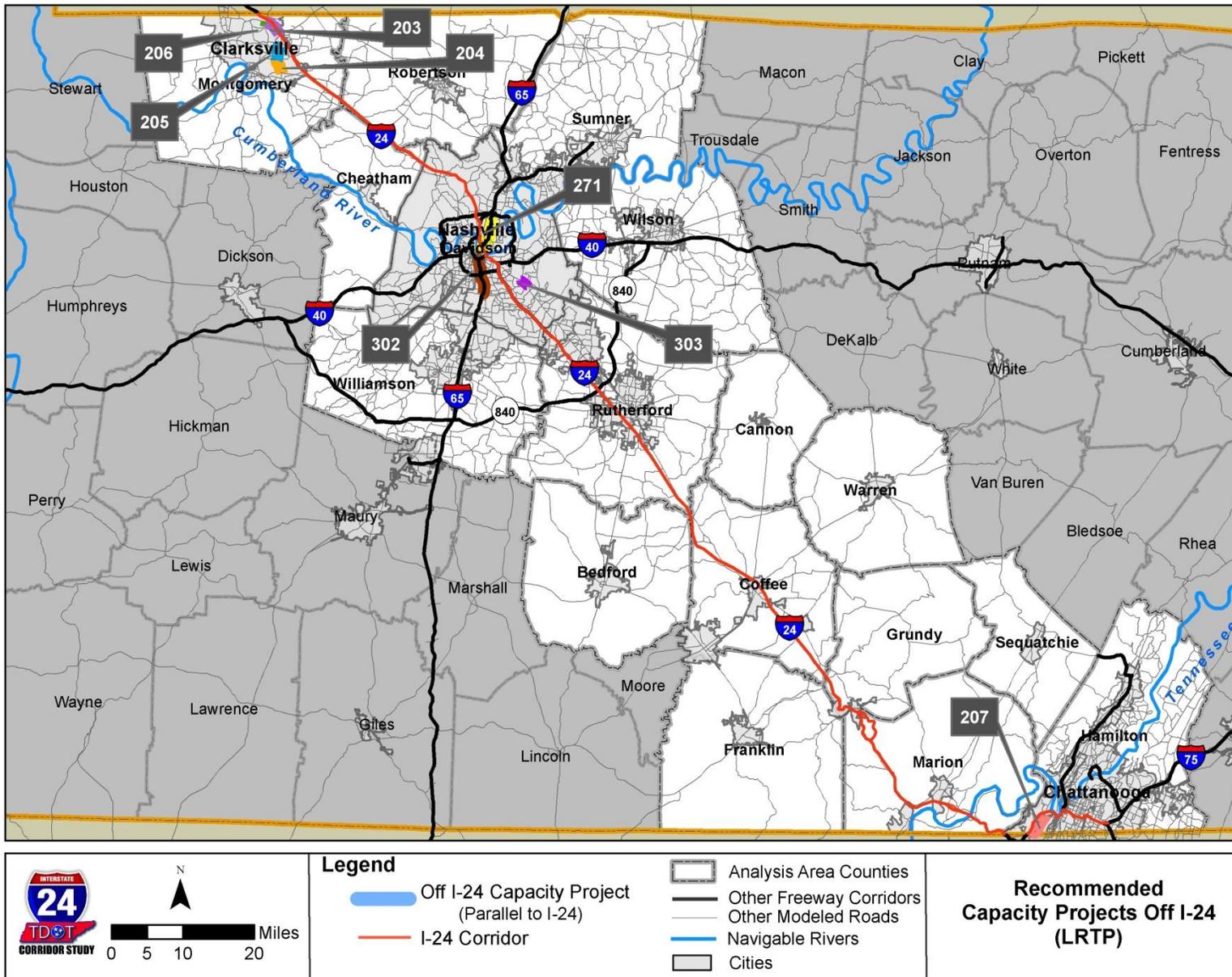
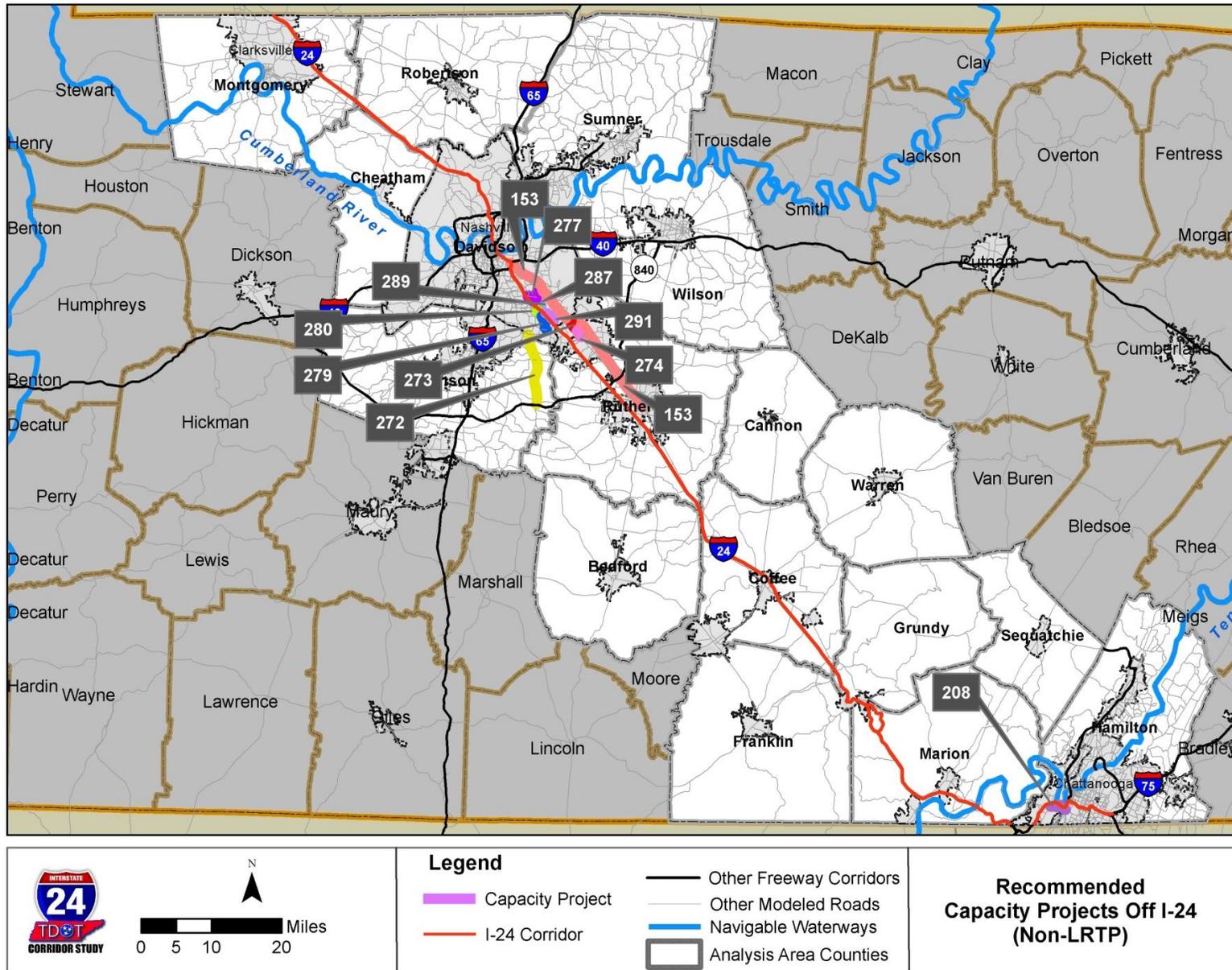


Figure 1.4: Recommended Capacity Projects Off I-24 (Non-LRTP)



1.3 Operational Projects

Several types of operational projects are recommended for the I-24 Corridor and are shown separately on the tables and figures. A description and evaluation of the different types of operational projects is presented in detail in Sections 3 and 5 of the final report.

The LRTP and Non-LRTP interchange projects (including new access and modified access) that are recommended for the I-24 Corridor were given a recommended 'build year' based on the screening analysis summarized in Section 5 of the final report and then an associated year of expenditure total cost using an annual inflation rate of 3.6%, per TDOT's guidelines. The recommended LRTP and Non-LRTP interchange projects are presented in Tables 1.5 and 1.6, respectively, and are also shown on Figures 1.5 and 1.6, respectively.

Table 1.5: Recommended Interchange Projects (LRTP)

Project ID	County of Project	Name of Project	Description of Project	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
178	Davidson	Modify Access at I-24/Hickory Hollow Pkwy Interchange	Modify interchange to allow access to/from Cane Ridge Road at I-24/Hickory Hollow Parkway Interchange	Exit 60	2	2020	\$ 17,292,272
172	Rutherford	New I-24/Rocky Fork Road Interchange	Construct a new interchange at I-24 and Rocky Fork Road (MP 68)	MP 68 (Rocky Fork Road)	2	2030	\$ 83,921,584
180	Hamilton	I-24 at Market & Broad Streets Interchange Modification	Modify Market Street and Broad Street I-24 interchanges to improve safety and operation characteristics	Exit 178	3	2020	\$ 61,643,747
182	Hamilton	I-24 and I-75 Interchange Modification	Modification of the interchange of I-75 and I-24	Exit 185	3	2020	\$ 145,062,948
176	Davidson	I-24 at North 1st Street Interchange	Construct HOV ramps to and from I-24 and CBD at North 1st Street, Exit 47	Exit 47	2	2020	\$ 29,460,908
175	Davidson	I-24 at Shelby Avenue Interchange	Construct HOV ramps to and from I-24 and CBD at Shelby Avenue, Exit 49	Exit 49	2	2020	\$ 29,460,908
174	Davidson	I-24 at Harding Place Drive Interchange	Construct urban diamond interchange (Phase I) on I-24 at Harding Place Drive, Exit 56	Exit 56	2	2020	\$ 13,129,318
179	Rutherford	Interchange Improvements at Epps Mill Road and I-24	Widen Epps Mill Road from a 2-Lane to a 3-Lane Cross Section and redesign/improve Exit 89 to better accommodate truck traffic	Exit 89	2	2030	\$ 24,629,161

Table 1.6: Recommended Interchange Projects (Non-LRTP)

Project ID	County of Project	Name of Project	Description of Project	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
286	Davidson	New Interchange in SE Nashville	Add a new interchange at Old Franklin Road (MP 61). (Not included in this project but part of future project: New Road from Nolensville Road to I-24)	MP 61	2	2030	\$ 83,921,584
118	Rutherford	New Interchange in Murfreesboro	Add new interchange in Murfreesboro (between Exit 74 and 89) - Modeled at Elam Road (MP 85)	MP 85	2	2040	\$ 70,807,605
253	Davidson	Exit 47 - Exit 48 Interchange Modifications - New C-D Roads	Implement New Collector-Distributor Roads at Exit 47-Exit 47A-Exit 48 (Downtown Nashville) EB and WB to remove weaving sections from the mainline and to remove exit points	Exit 47 - Exit 48	2	2020	\$ 19,469,817
254	Rutherford	Exit 74 Interchange Modifications - New C-D Roads	Implement New Collector-Distributor Roads at Exit 74A-74B (SR 840) EB and WB to remove weaving section from the mainline and to remove exit points	Exit 74	2	2040	\$ 39,496,352
255	Rutherford	Exit 78 Interchange Modifications - New C-D Roads	Implement New Collector-Distributor Roads at Exit 78A-78B (SR 96) EB and WB to remove exit points	Exit 78	2	2040	\$ 39,496,352
256	Rutherford	Exit 80 Interchange Modifications - New C-D Roads	Implement New Collector-Distributor Roads at Exit 80 (SR 99) EB and WB to remove entrance points	Exit 80	2	2040	\$ 39,496,352
94	Coffee	Exit 111 Upgrade to Standard Interchange	Modify the I-24 interchange at SR 55 (Exit 111) to convert to diamond interchange and remove loop ramp	Exit 111	2	2020	\$ 2,593,841
257	Hamilton	Exit 180 Interchange Modifications - New C-D Roads	Implement New Collector-Distributor Roads at Exit 180B-Exit 180 (Rossville Blvd) EB and WB to remove weaving section from the mainline and to remove exit points	Exit 180	3	2020	\$ 19,469,817
258	Hamilton	Exit 183B - Exit 184 Interchange Modifications	Redesign ramp sequencing and lengths from S. Germantown Road to McBrien Road (currently Exit 183B-Exit 183A-Exit 184) to remove weaving sections and to remove exit points	Exit 183B - Exit 184	3	2020	\$ 60,821,083

Figure 1.5: Recommended Interchange Projects (LRTP)

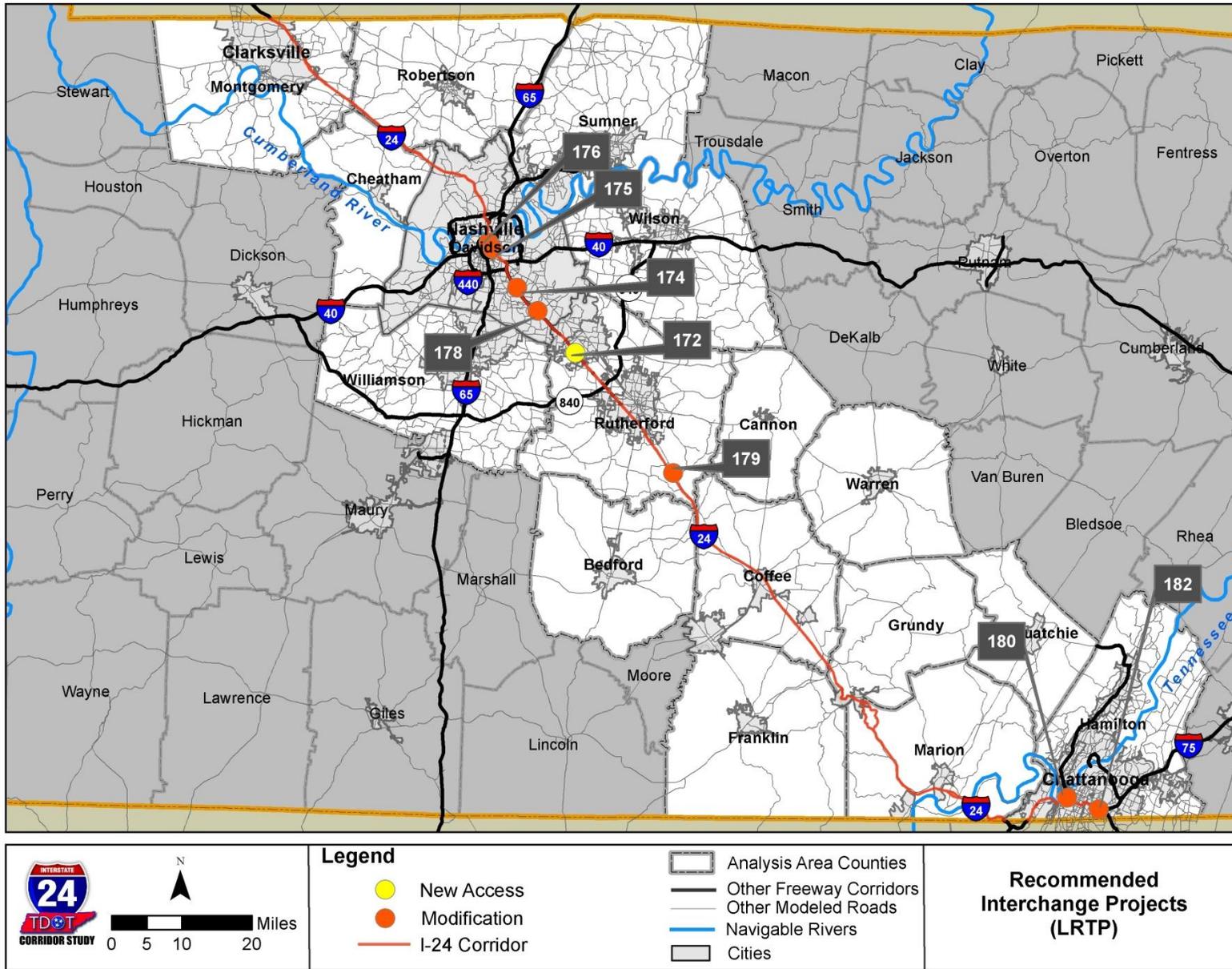
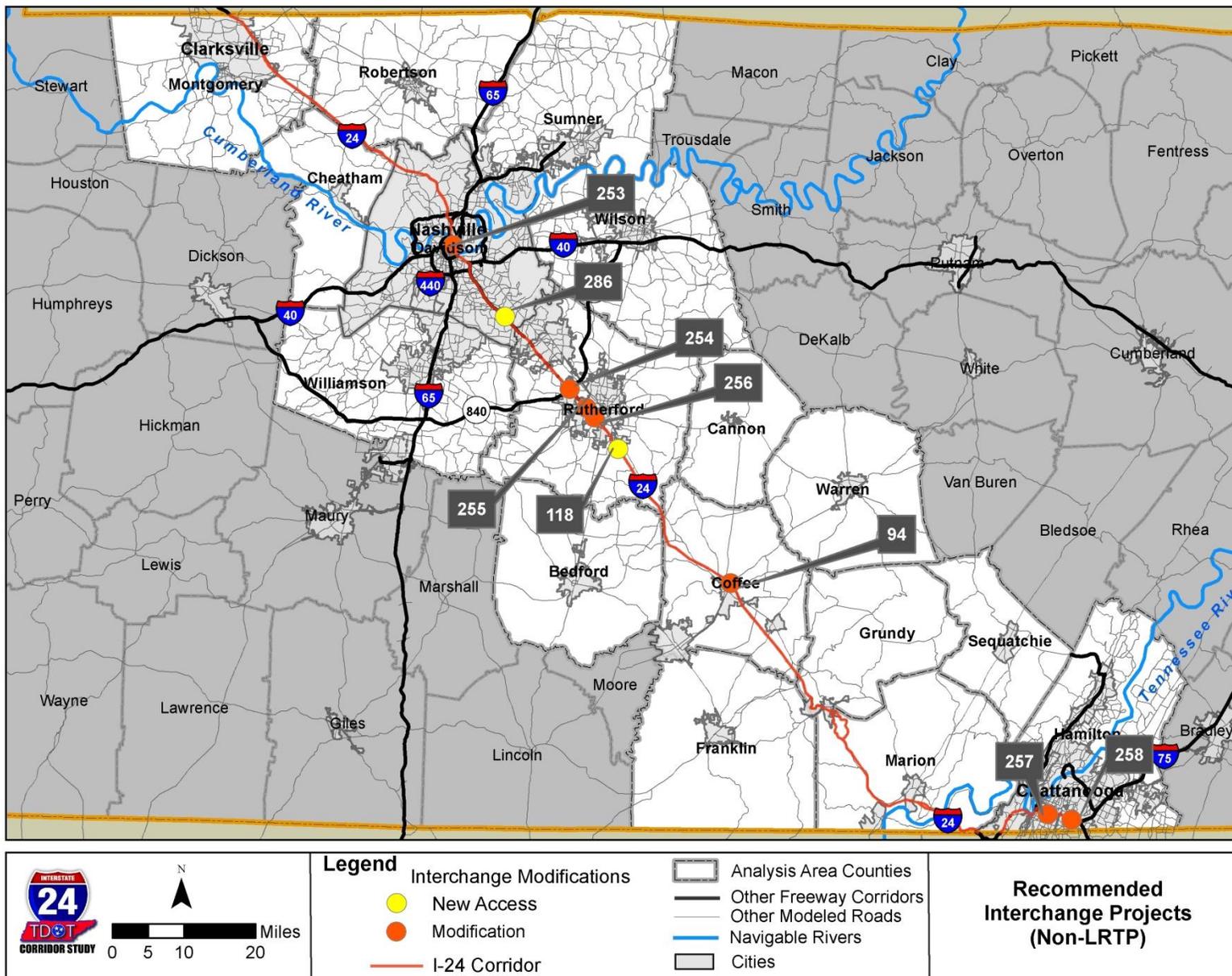


Figure 1.6: Recommended Interchange Projects (Non-LRTP)

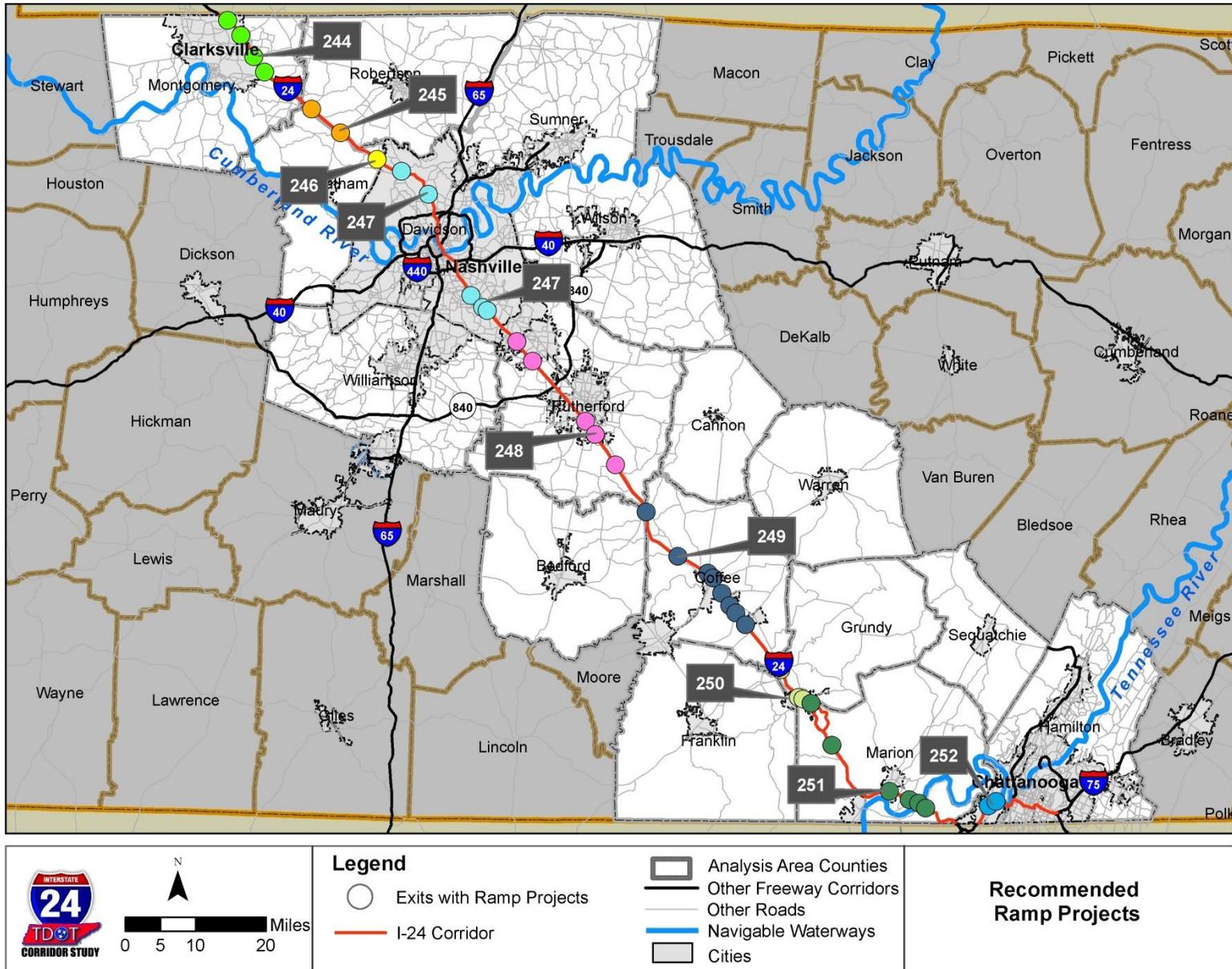


The 'Ramp Improvement' projects that are recommended for the I-24 Corridor were given a recommended 'build year' based on the screening analysis summarized in Section 5 of the final report and then an associated year of expenditure total cost using an annual inflation rate of 3.6%, per TDOT's guidelines. The ramp improvement projects are presented in Table 1.7 and are also shown on Figure 1.7.

Table 1.7: Recommended Ramp Projects

Project ID	County of Project	Name of Project	Description of Project	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3 - Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
244	Montgomery	Montgomery County Ramp Improvements	Lengthen/Redesign Short Ramps at Exit 1 (2 ramps), Exit 4 (2), Exit 8 (2), Exit 11 (2)	Exit 1 - Exit 11	1	2030	\$ 24,835,042
245	Robertson	Robertson County Ramp Improvements	Lengthen/Redesign Short Ramps at Exit 19 (2 ramps), Exit 24 (2)	Exit 19 - Exit 24	2	2020	\$ 8,718,411
246	Cheatham	Cheatham County Ramp Improvements	Lengthen/Redesign Short Ramps at Exit 31 (2 ramps)	Exit 31	1	2040	\$ 8,843,059
247	Davidson	Davidson County Ramp Improvements	Lengthen/Redesign Short Ramps at Exit 35 (2 ramps), Exit 40 (2), Exit 57 (1), Exit 59 (4), Exit 60 (1)	Exit 35 - Exit 60	2	2020	\$ 32,374,762
248	Rutherford	Rutherford County Ramp Improvements	Lengthen/Redesign Short Ramps at Exit 66 (1 ramp), Exit 70 (4), Exit 81 (2), Exit 84 (2), Exit 89 (4)	Exit 66 - Exit 89	2	2040	\$ 57,479,875
249	Coffee	Coffee County Ramp Improvements	Lengthen/Redesign Short Ramps at Exit 97 (3 ramps), Exit 105 (3), Exit 110 (4), Exit 111 (4), Exit 114 (4), MP 116-Weigh Station (4), Exit 117 (4), MP 119-Truck Rest Area (4)	Exit 97 - MP 119	2	2020	\$ 65,388,085
250	Grundy	Grundy County Ramp Improvements	Lengthen/Redesign Short Ramps at Exit 127 (4 ramps), MP 133-Rest Area (3), Exit 134 (3)	Exit 127 - Exit 134	3	2020	\$ 21,796,029
251	Marion	Marion County Ramp Improvements	Lengthen/Redesign Short Ramps at Exit 135 (4 ramps), Exit 143 (4), Exit 155 (2), Exit 158 (4), MP 159-Welcome Center (4), Exit 161 (3)	Exit 135 - Exit 161	3	2040	\$ 92,852,109
252	Hamilton	Hamilton County Ramp Improvements	Lengthen/Redesign Short Ramps at Exit 174 (4 ramps), Exit 175 (1)	Exit 174 - Exit 175	3	2040	\$ 32,836,703

Figure 1.7: Recommended Ramp Projects



The 'ITS' projects that are recommended for the I-24 Corridor were given a recommended 'build year' based on the screening analysis summarized in Section 5 of the final report and then an associated year of expenditure total cost using an annual inflation rate of 3.6%, per TDOT's guidelines. The ITS projects are presented in Table 1.8 and are also shown on Figure 1.8.

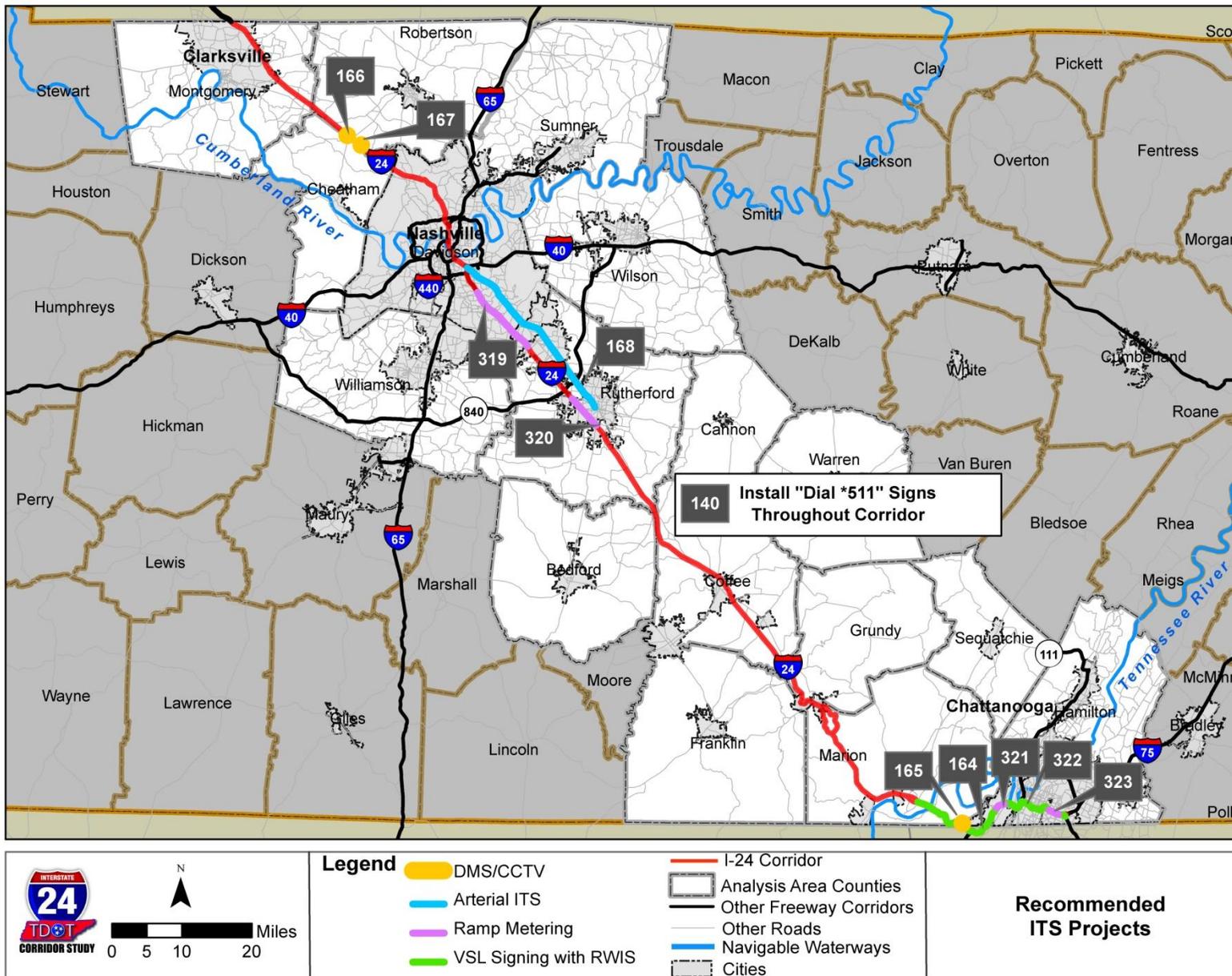
Table 1.8: Recommended ITS Projects

Project ID	County of Project	Name of Project	Description of Project	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost (1)
140	All Counties	Install "Dial *511" Signs	Install "Dial *511" signs throughout corridor	Entire I-24 Corridor	1	2020	\$ 120,085
166	Robertson	MP 23 DMS/CCTV	Install dynamic message sign (DMS) with closed-circuit television (CCTV) and communications at MP 23 (EB) (approximately)	MP 23	2	2020	\$ 800,568
167	Robertson	MP 25 DMS/CCTV	Install dynamic message sign (DMS) with closed-circuit television (CCTV) and communications at MP 25 (WB) (approximately)	MP 25	2	2020	\$ 800,568
168	Davidson / Rutherford	SR 1 Arterial ITS	Install arterial ITS instrumentation and communications on SR 1 between I-440 interchange and SR 96 (Murfreesboro)	Exit 52 - Exit 78	2	2020	\$ 8,405,966
319	Davidson / Rutherford	Exit 66 - Exit 56 Ramp Metering	Install ramp metering components and system software from Exit 66 to Exit 56 (8 ramps)	Exit 66 - Exit 56	2	2020	\$ 1,280,909
320	Rutherford	Exit 81 - Exit 76 Ramp Metering	Install ramp metering components and system software from Exit 81 to Exit 76	Exit 81 - Exit 76	2	2020	\$ 760,540
164	Marion / Hamilton	Exit 158 - Exit 174 VSL with RWIS	Install variable speed limit (VSL) signing with road weather information system (RWIS) and system software from Exit 158 to Exit 174	Exit 158 - Exit 174	3	2020	\$ 440,312
165	Marion	MP 166 DMS/CCTV	Install dynamic message sign (DMS) with closed-circuit television (CCTV) and communications at MP 166 (WB) (approximately)	MP 166	3	2020	\$ 800,568
321	Hamilton	Exit 174 - Exit 175 Ramp Metering	Install ramp metering components and system software from Exit 174 to Exit 175	Exit 174 - Exit 175	3	2020	\$ 600,426
322	Hamilton	Exit 185 - Exit 174 VSL with RWIS	Install variable speed limit (VSL) signing with road weather information system (RWIS) and system software from Exit 185 to Exit 174	Exit 185 - Exit 174	3	2020	\$ 720,511
323	Hamilton	Exit 184 - Exit 183 Ramp Metering	Install ramp metering components and system software from Exit 184 to Exit 183	Exit 184 - Exit 183	3	2020	\$ 600,426

Note:

(1) Cost for ramp metering projects includes system software. The cost does not include reconstruction or modification of the ramp or adjacent surface street.

Figure 1.8: Recommended ITS Projects

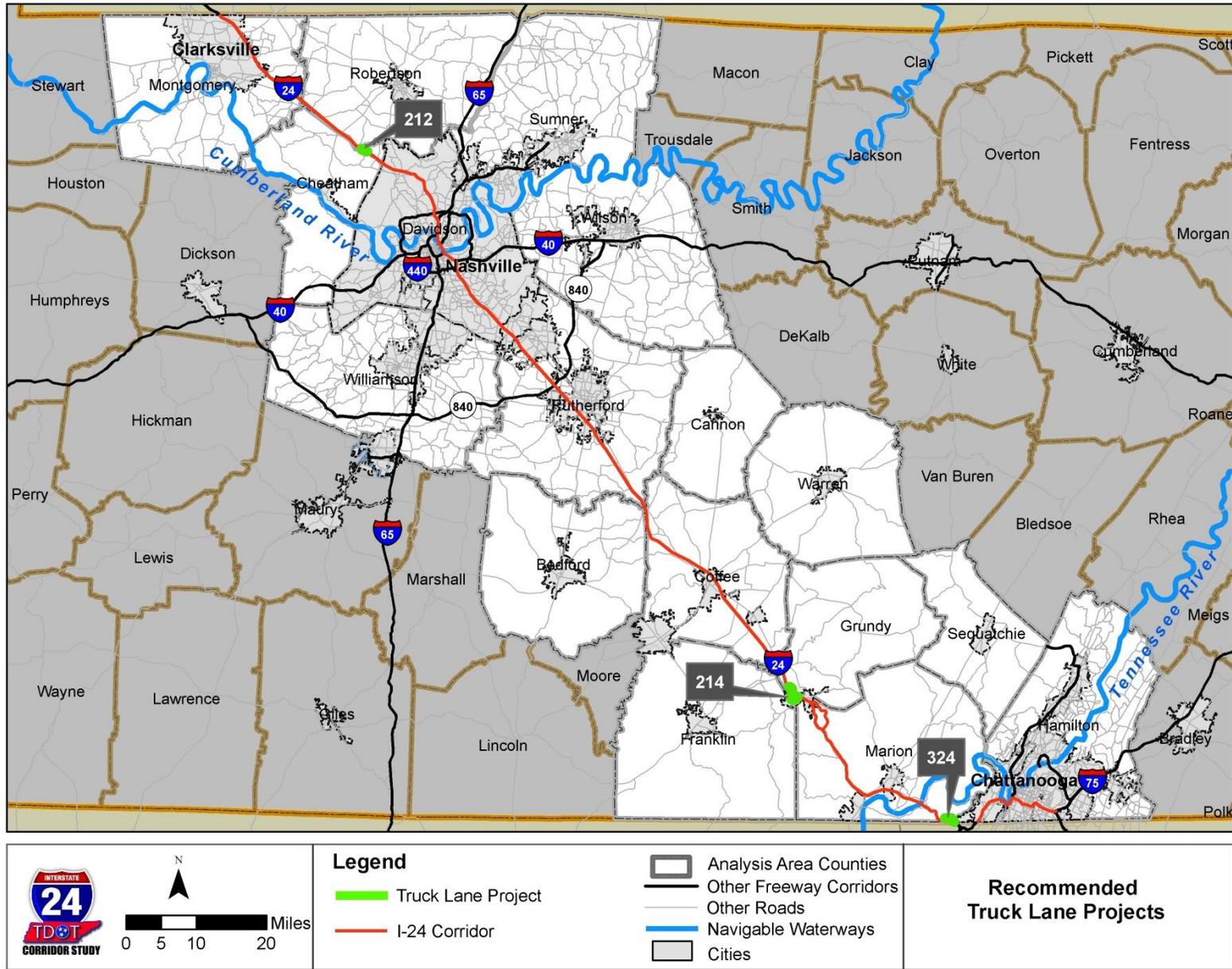


The 'Truck Lane' projects that are recommended for the I-24 Corridor were given a recommended 'build year' based on the screening analysis summarized in Section 5 of the final report and then an associated year of expenditure total cost using an annual inflation rate of 3.6%, per TDOT's guidelines. The truck lane projects are presented in Table 1.9 and are also shown on Figure 1.9.

Table 1.9: Recommended Truck Lane Projects

Project ID	County of Project	Name of Project	Description of Project	Length of Project (miles)	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
212	Cheatham	Cheatham County - Extend Existing EB Truck Lane	Extend existing EB Truck Lane on I-24 in Cheatham County, Log Mile (2) 0.05 to 0.569 (MP 28)	0.5	MP 28 (Cheatham County Log Mile (2) 0.05 - 0.569)	2	2020	\$ 6,452,579
214	Grundy	Grundy County - New EB Truck Lane	Add new EB Truck Lane on I-24 in Grundy County, Log Mile 3.40 to 6.55 (MP 130 to MP 133)	3.2	MP 130 - MP 133 (Grundy County Log Mile 3.40 - 6.55)	3	2020	\$ 39,122,164
324	Marion	Marion County - New EB Truck Lane	Add new EB Truck Lane on I-24 in Marion County, Log Mile 30.50 to 32.10 (MP 165 to MP 167)	1.6	MP 165 - MP 167 (Marion County Log Mile 30.50 - 32.10)	3	2020	\$ 27,816,477

Figure 1.9: Recommended Truck Lane Projects

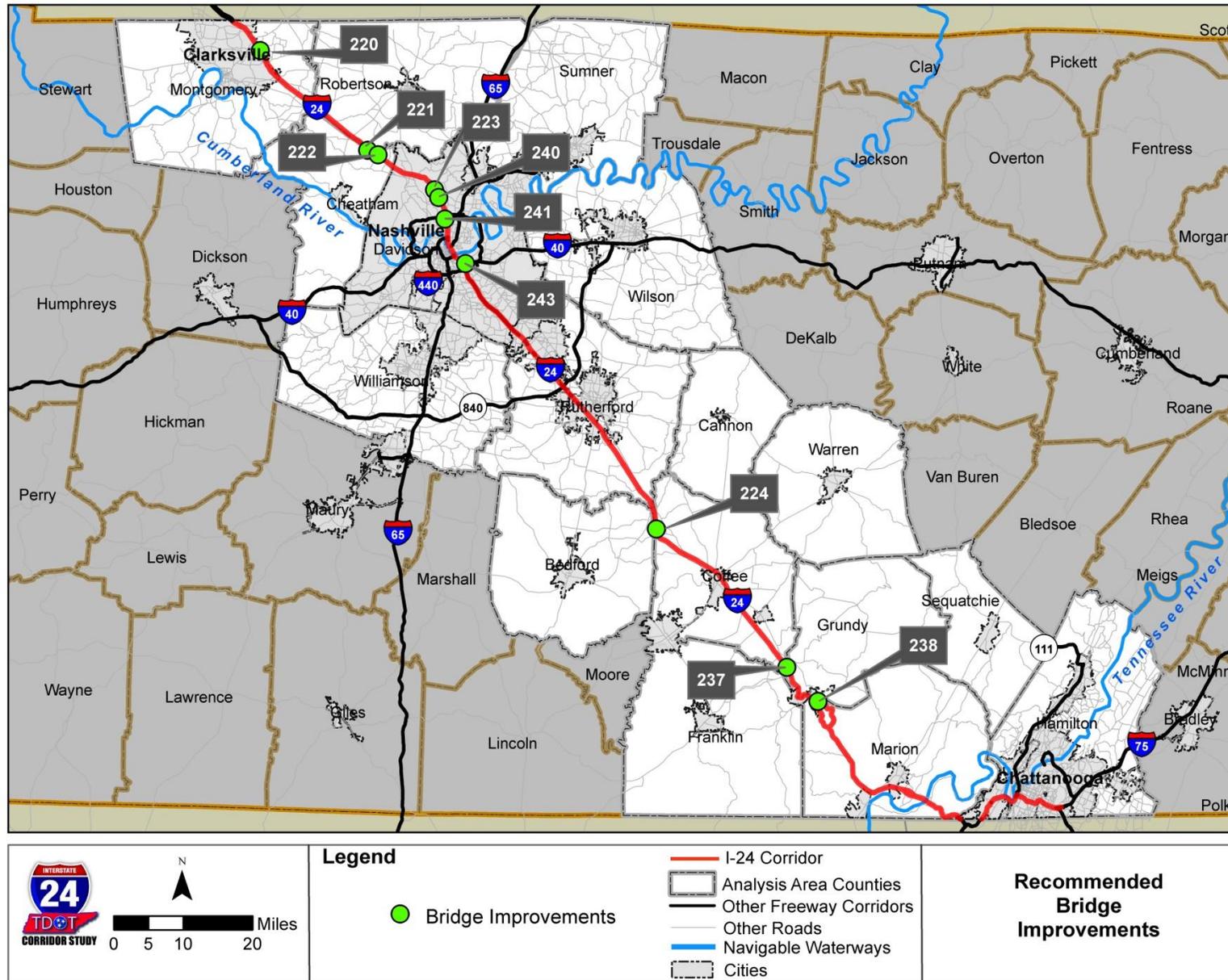


The 'Bridge Improvement' projects that are recommended for the I-24 Corridor were given a recommended 'build year' based on the screening analysis summarized in Section 5 of the final report and then an associated year of expenditure total cost using an annual inflation rate of 3.6%, per TDOT's guidelines. The bridge improvement projects are presented in Table 1.10 and are also shown on Figure 1.10.

Table 1.10: Recommended Bridge Improvement Projects

Project ID	County of Project	Name of Project	Description of Project	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
220	Montgomery	Montgomery County Bridge Railing Replacements	Replace pipe bridge railings for 6 bridges in Montgomery County between MP 3 and MP 15 which do not conform to current Report 350 crash test standards	MP 3 - MP 15	1	2020	\$ 858,465
221	Robertson	Robertson County Bridge Railing Replacements	Replace pipe bridge railings for 2 bridges in Robertson County between MP 27 and MP 28 which do not conform to current Report 350 crash test standards	MP 27 - MP 28	2	2020	\$ 188,550
222	Cheatham	Cheatham County Bridge Railing Replacement	Replace pipe bridge railings for 1 bridge in Cheatham County at MP 29 which does not conform to current Report 350 crash test standards	MP 29	1	2020	\$ 81,850
223	Davidson	Davidson County Bridge Railing Replacements	Replace pipe bridge railings for 8 bridges in Davidson County between MP 34 and MP 45 which do not conform to current Report 350 crash test standards	MP 34 - MP 45	2	2020	\$ 992,192
240	Davidson	MP 40 Bridge Rehabilitation	Davidson County Log Mile 8.51 (MP 40), I-24 RL (EB) at Old Hickory Boulevard, BIN# 19I00240071. Sufficiency Rating is 70.0. Rehabilitate existing bridge.	MP 40 (Davidson County Log Mile 8.51)	2	2020	\$ 1,601,136
241	Davidson	MP 44 Bridge Rehabilitation	Davidson County Log Mile 11.86 (MP 44), I-24 RL (EB) at Ewing Drive, BIN# 19I00240081. Sufficiency Rating is 62.6. Rehabilitate existing bridge.	MP 44 (Davidson County Log Mile 11.86)	2	2020	\$ 1,601,136
243	Davidson	MP 52 Bridge Rehabilitation	Davidson County Log Mile for I-40 is 21.58 (MP 52 for I-24), I-40 Structure 5B at I-24, BIN# 19I00240067. Sufficiency Rating is 67.0. Rehabilitate existing bridge.	MP 52 for I-24 (Davidson County Log Mile for I-40 is 21.58)	2	2020	\$ 1,601,136
224	Coffee	Coffee County Bridge Railing Replacements	Replace pipe bridge railings for 4 bridges in Coffee County between MP 97 and MP 100 which do not conform to current Report 350 crash test standards	MP 97 - MP 100	2	2020	\$ 404,255
237	Grundy	MP 127 Bridge Modification	Grundy County Log Mile 0.55 (MP 127), US 64/SR 50 at I-24, BIN# 31I00240001. Vertical clearance is 15.94'. Raise bridge or lower profile to restore minimum clearance.	MP 127 (Grundy County Log Mile 0.55)	3	2020	\$ 70,050
238	Marion	MP 135 Bridge Modification	Marion County Log Mile 0.77 (MP 135), Trussell Road at I-24, BIN# 58I00240063. Vertical clearance is 15.94'. Raise bridge or lower profile to restore minimum clearance.	MP 135 (Marion County Log Mile 0.77)	3	2020	\$ 70,050

Figure 1.10: Recommended Bridge Improvement Projects

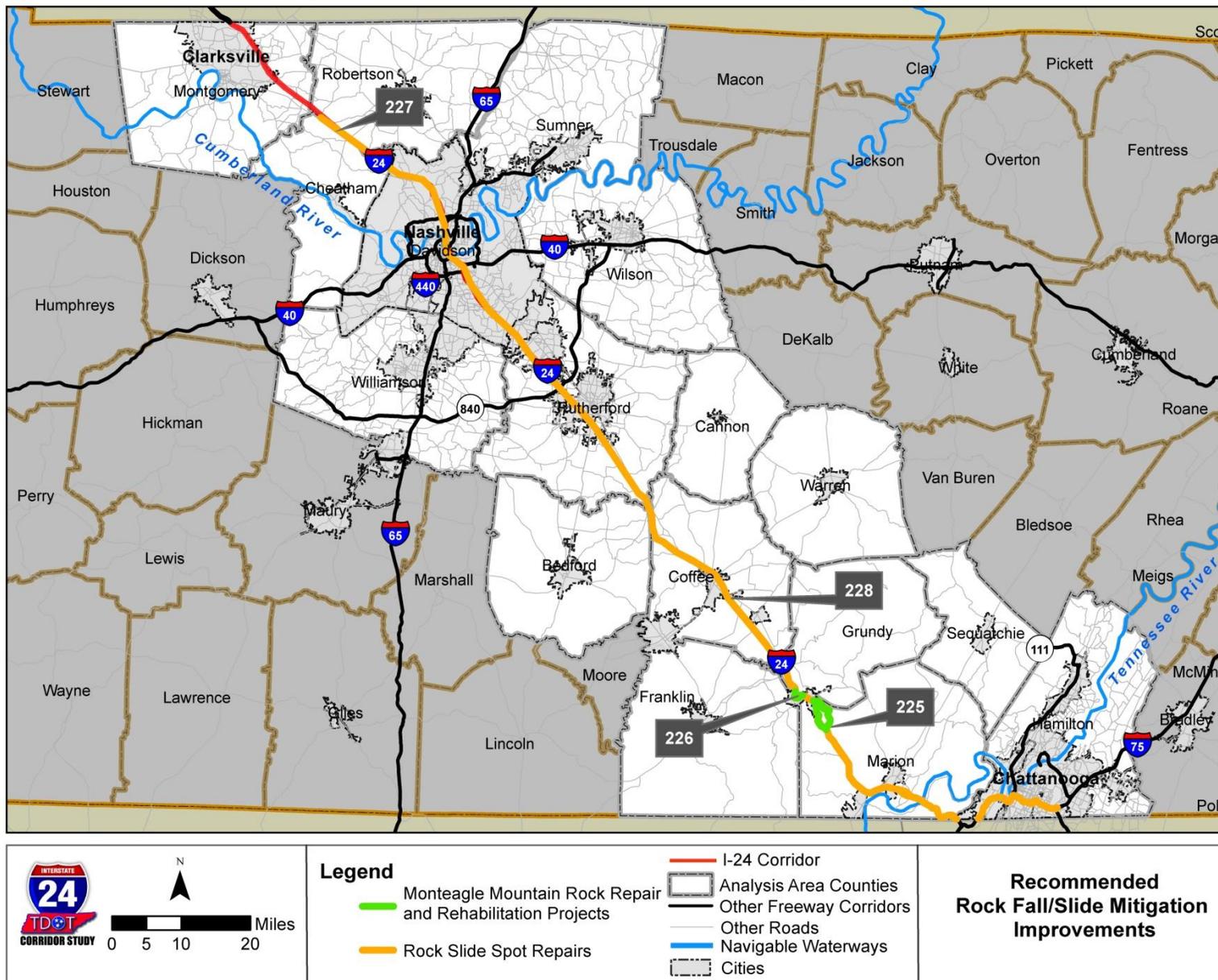


The 'Rock Fall/Slide Mitigation' projects that are recommended for the I-24 Corridor were given a recommended 'build year' based on the screening analysis summarized in Section 5 of the final report and then an associated year of expenditure total cost using an annual inflation rate of 3.6%, per TDOT's guidelines. The rock fall/slide mitigation projects are presented in Table 1.11 and are also shown on Figure 1.11.

Table 1.11: Recommended Rock Fall/Slide Mitigation Projects

Project ID	County of Project	Name of Project	Description of Project	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
227	Robertson / Cheatham / Davidson / Rutherford / Bedford	West I-24 Geotechnical Projects	Perform detailed geotechnical review of rock slide areas and develop repair program for up to 15 locations between MP 27 and MP 97	MP 27 - MP 97	2	2020	\$ 23,056,363
228	Coffee / Grundy / Marion / Hamilton	East I-24 Geotechnical Projects	Perform detailed geotechnical review of rock slide areas and develop repair program for up to 12 locations between MP 97 and MP 185	MP 97 - MP 185	3	2020	\$ 20,654,658
226	Grundy	West Monteagle Mountain Geotechnical Projects	West of Monteagle MP 131 to MP 133 - Repair rock slides and rehabilitate existing/previous rock anchor and gunite repair to the weathering shale layers in the vertical rock cuts	MP 131 - MP 133	3	2020	\$ 3,842,727
225	Marion	East Monteagle Mountain Geotechnical Projects	East of Monteagle MP 135 to MP 140 - Repair rock slides and rehabilitate existing/previous rock anchor and gunite repair to the weathering shale layers in the vertical rock cuts	MP 135 - MP 140	3	2020	\$ 6,724,772

Figure 1.11: Recommended Rock Fall/Slide Mitigation Projects



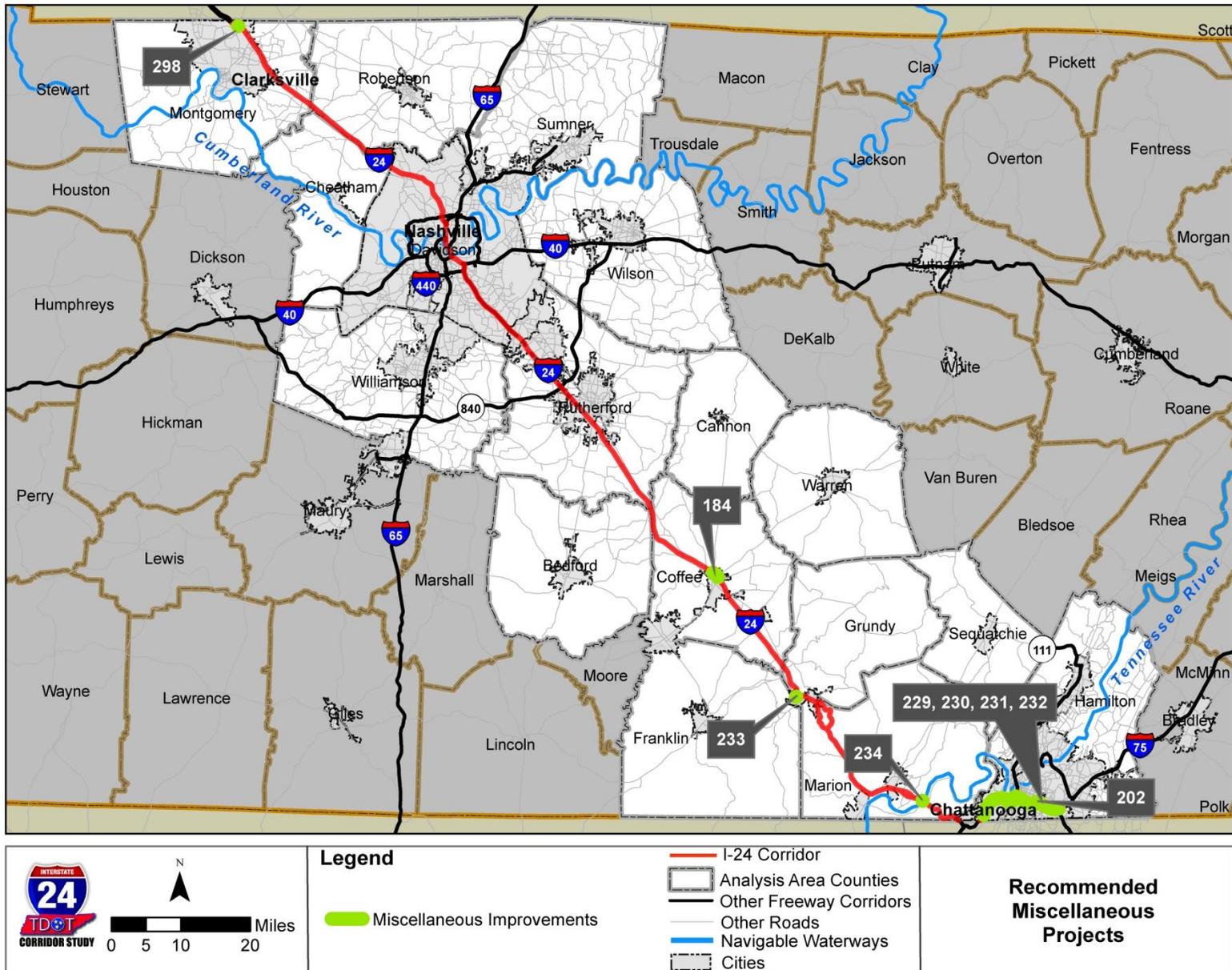
The 'Miscellaneous Improvement' projects that are recommended for the I-24 Corridor were given a recommended 'build year' based on the screening analysis summarized in Section 5 of the final report and then an associated year of expenditure total cost using an annual inflation rate of 3.6%, per TDOT's guidelines. The safety improvement projects are presented in Table 1.12 and are also shown on Figure 1.12.

Table 1.12: Recommended Miscellaneous Projects

Project ID	County of Project	Name of Project	Description of Project	Limits of Project	MPO Region (1 - Clarks., 2 - Nash., 3- Chatt.)	Recommended Build Year (2020, 2030 or 2040)	Year of Expenditure (YOE) Total Cost
298	Montgomery	Exit 1 Ramp Termini Improvement	Modify right-turn at termini on Exit 1 southbound exit ramp.	Exit 1	1	2020	\$ 3,301,432
184	Coffee	Exit 111 Drainage Correction	Correction for I-24 westbound sheet flow during rain. Rain draining across three westbound lanes toward median.	Exit 111 - Exit 110	2	2020	\$ 21,906,215
233	Grundy	MP 132 Barrier Improvement	MP 132, Replace cable barrier in narrow bifurcated median section with concrete barrier	MP 132	3	2020	\$ 400,284
234	Marion	MP 160 Barrier Improvement	MP 160, Extend barrier on the west side of the Tennessee River bridge	MP 160	3	2020	\$ 640,455
232	Hamilton	MP 173 - MP 185 Barrier Improvement	MP 173 to MP 185, Add roadway barriers to replace curb and gutter	MP 173 - MP 185	3	2020	\$ 2,065,466
231	Hamilton	MP 173 - MP 185 Lighting Improvements	MP 173 to MP 185, Eliminate lighting in clear zone and upgrade continuous lighting	MP 173 - MP 185	3	2020	\$ 48,034,089
229	Hamilton	MP 173 - MP 185 Pavement Improvements	MP 173 to MP 185, Upgrade pavement surface for improved drainage and friction factors	MP 173 - MP 185	3	2020	\$ 28,820,453
230	Hamilton	MP 173 - MP 185 Signing and Marking Improvements	MP 173 to MP 185, Upgrade signing and marking	MP 173 - MP 185	3	2020	\$ 12,008,522
202	Hamilton	I-24 Missionary Ridge Glare Screen Improvement	Add glare screens on I-24 on either side of Missionary Ridge	Exit 181 - Exit 183	3	2020	\$ 720,511

With respect to project 184 in Coffee County, some lower cost strategies such as utilizing an Open Graded Friction Course (OGFC) or milling transverse drainage grooves in the pavement may provide some improvement in the drainage. However, these would be interim measures and should not be substituted for improving the geometry by reconstructing the roadway.

Figure 1.12: Recommended Miscellaneous Projects



1.4 Multimodal Strategies

1.4.1 Freight Strategies

Tennessee's freight system, including manufacturers and retailers, comprises a significant share of the state's economy. Within the state, more than 800,000 jobs or 36% of the total non-government employment base was highly inter-related to producing, receiving, storing or transporting goods according to the 2011 US Census Bureau's County Business Pattern statistics. For this reason, the State of Tennessee and TDOT are constantly looking for ways to improve performance of its freight system to the extent its resources allow. On the other hand, growing volumes of cargo place a strain on the road system as trucks and autos share the same road facilities. Local governments face difficult land use decisions that are needed to balance residential interests against the goal of supporting economic development.

TDOT's resources are channeled to accomplish a broad spectrum of objectives. Two of their guiding principles reported in its 25-Year Vision, *Plan Go*, are re-stated below.

"Build new and stronger partnerships, public and private, to develop and finance transportation projects that maximize public investments and support community and regional growth strategies"

and

"Promote competitive freight options by improving existing transportation facilities in strategic corridors"

TDOT provides or supports a wide array of programs that support freight industry interests and balance the impacts that affect quality of life in communities as espoused in their guiding principles. A list of improvement strategies that will improve freight mobility in the I-24 Corridor are presented in Table 1.13 and brief descriptions of them are included below. Freight strategies that can be mapped are shown in Figure 1.13. 'FS' represents 'Freight Strategies.'

Road improvements are not explicitly referenced in the freight strategies table, as they are already listed and mapped in other parts of this section. In light of the heavy reliance on trucks to ship freight within, into and out of the I-24 Corridor, nearly all repairs and capital investments that TDOT allocates for roads, bridges and rail-highway crossings will improve the efficient and safe movement of goods as well as provide more mobility for residents. I-24, itself, is one of the state's primary freight assets.

Notwithstanding, TDOT's authorized responsibilities for preserving and building the state's primary road system, TDOT's influence and resources for other forms of transportation are smaller. TDOT, for example, does not dictate how private Class I rail carriers, air cargo businesses or barge companies make capital investments. They do, however, have a program to sustain and improve shortline rail carriers who provide vital service to businesses in communities not directly serviced by a Class I railroads.

Table 1.13: Recommended Freight Strategies

Strategy ID	Primary Mode	County of Strategy	Name of Strategy	Description of Strategy	Status of Strategy
FS-1	Rail/Truck	Davidson	Intermodal Rail Facility Relocation/Expansion	Relocate existing Radnor Yard in south Nashville. Long range Nashville MPO freight strategy to better distribute freight on regional freight network.	Unfunded MPO Project
FS-2	Barge	Hamilton	Chicamauga Lock and Dam	Reconstruct to address structural needs and increase capacity	Ongoing TVA/USACE Project
FS-3	Barge	Near Paducah, KY	Kentucky Lock Addition	Increase lock capacity	Ongoing TVA/USACE Project
FS-4	Barge	West Central Tennessee	Ten-Tom Intermodal Container Project	Bi-state barge/waterway project to attract intermodal container freight to Tennessee River/Ten-Tom Waterway	Ongoing USACE/Ten-Tom Waterway Authority Project
FS-5	Truck	Rutherford/Davidson	SR-840 - signage & communication	Design a cost-effective signage and notification program to maximize utilization of SR-840 by trucks	I-24 Corridor Study Recommendation
FS-6	Truck	West Tennessee	New multi-state Interstate, I-69	Continue supporting completion of new Interstate Corridor connecting Michigan to Texas/Mexico border. Possible freight diversion strategy.	Ongoing TDOT Program
FS-7	Truck	Statewide	Truck Parking	Monitor supply of truck parking facilities around perimeters of the large metropolitan areas. (Welcome centers, rest areas and large truck stops.)	I-24 Corridor Study Recommendation
FS-8	Truck	Statewide	ITS and Incident Management	Metropolitan area incident management and surveillance system programs that reduce duration of queuing and delay from non-recurring incidents	Ongoing TDOT Program & I-24 Corridor Study Recommendation
FS-9	Rail	Statewide	Provided Support for Shortline Railroads	Monitor and continue funding, as needed, to support operations of Shortline railroads and capital improvements to interline rail freight with Class I rail carriers	Ongoing TDOT Program
FS-10	All	Statewide	Tennessee Freight Advisory Committee	Provide a framework for public and private freight stakeholders to share concerns and find opportunities that will maximize the value of public investments in freight system	Ongoing TDOT Program
FS-11	All	Statewide	Multi-State Planning & Cooperation	Include interests of border-state DOT's in formulating freight projects and strategies	Ongoing TDOT Program
FS-12	All	Statewide	Environmental and Community Impacts of Freight	Provide assistance to local governments in efforts to mitigate intrusive impacts from freight and warehousing industry	Ongoing TDOT Program

Intermodal rail-truck facilities, at-grade highway-rail crossings, logistics parks and barge services can benefit from selected repair, gateway access, and operational and safety investments TDOT makes to the road system. ITS architecture, variable message signs and incident management programs enhance the driving experience for all users. Despite TDOT's lighter role in non-highway freight modes, they are and will continue to be significant partners with private sector freight providers. TDOT and State government have a role in influencing and implementing federal regulatory agencies that affect private sector freight carriers.

Unstable funding streams have slowed progress on waterway-barge strategies. Even if these projects were completed, there is uncertainty about the volume of freight movements currently shipped by truck that might divert to barge. Barges mostly haul bulk commodity like sand, gravel, grains and fuels. The impact that the ongoing waterway projects listed in Table 6.14 are likely to have on the I-24 Corridor is a slight diversion from rail transport to barge but virtually none from truck to barge.

There is broad interest in relocating CSX's existing, intermodal rail-truck facility at Radnor Yard to a different location in the Nashville region where more space is available to increase its capacity. Both CSX and the Nashville MPO are proponents but it is not a funded project even though intermodal rail is a fast-growing sector of CSX's freight business. CSX Corporation is currently committed to investing in its National Gateway project, designed to grow its intermodal and other rail services between the northeast and upper midwest. It has not transpired yet, but a similar CSX project could someday be planned between the Gulf of Mexico ports and the upper midwest through Nashville. This kind of multi-state, public-private rail investment could possibly produce the kind of mode shift from truck to rail that would improve traffic conditions in the I-24 Corridor.

As a land-locked state that shares its border with eight other states, Tennessee's Interstate system is besieged by long-haul truckers who pass-through with their loads. Due to competition in the truck industry, customer delivery specifications and a lack of adequate parking at rest areas and private truck stops, many truckers park their rigs alongside the Interstate system or ramps leading to and from the Interstate. Motor carrier regulations designed to reduce driver fatigue and improve road safety also contribute to the problem according to a 15-year old study done for TDOT.¹ The investigation determined there was a 133-space shortage at rest areas and welcome centers in the I-24 Corridor.

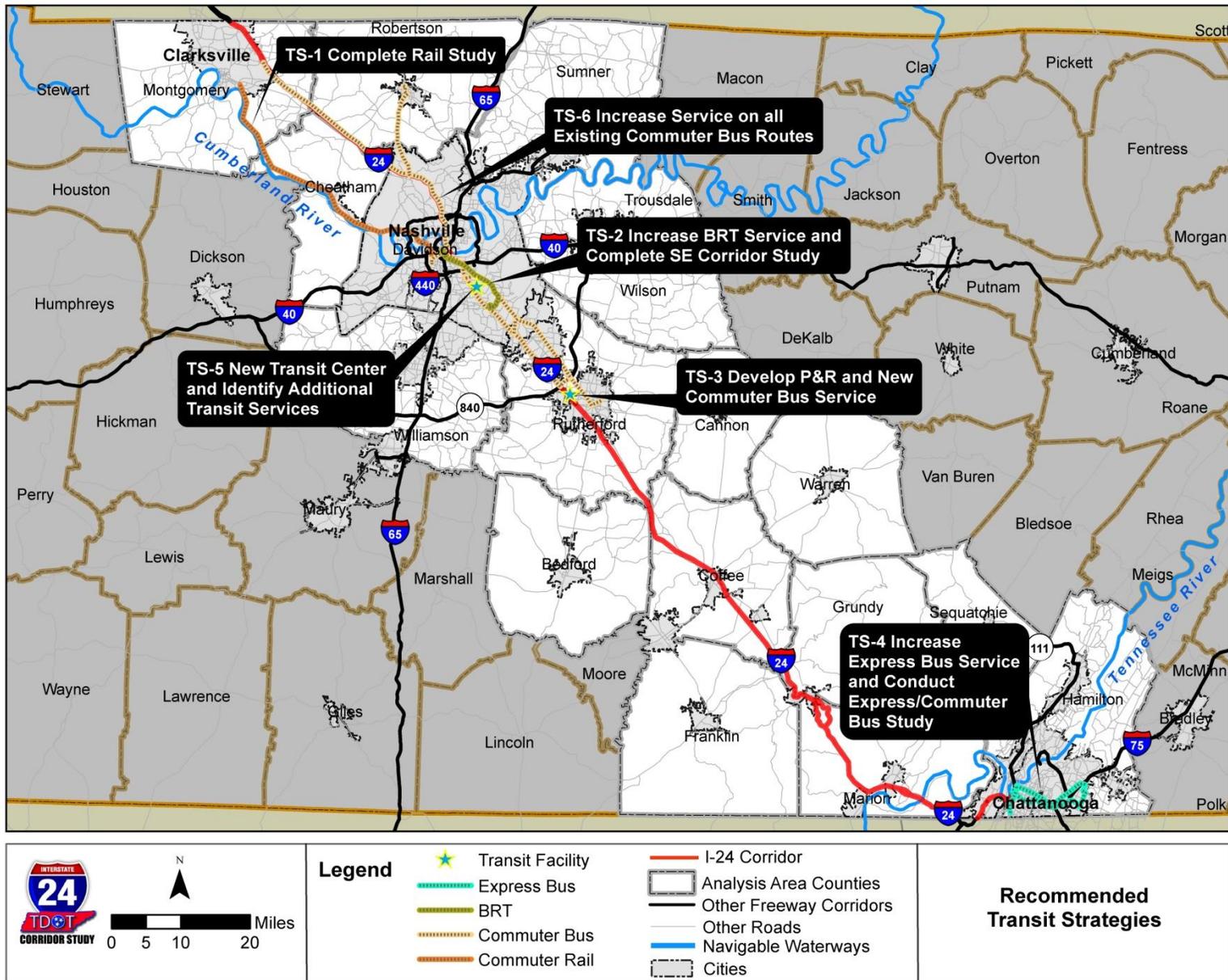
¹ *Truck Parking and Safety in Rest Areas in Tennessee*, White Paper memorandum prepared for Tennessee DOT in 1999 by University of Tennessee Environmental Engineering Department

1.4.2 Transit Strategies

A number of transit and Park-and-Ride (P&R) Lot strategies were identified from existing plans or assessment of corridor conditions that may benefit operations of the I-24 Corridor in addition to providing mobility and access benefits. These recommended strategies are listed below and those that are able to be mapped are also shown graphically on Figure 1.14. 'TS' represents 'Transit Strategy' in the list below and on Figure 1.14.

- TS-1 Complete New Starts Assessment of Commuter Rail from Clarksville to Nashville.
- TS-2 Increase BRT Service on MTA Route #55 and complete the Southeast Area Transportation and Land Use Study to determine long range transit preferred alternative and FTA New Starts potential.
- TS-3 Develop a P&R Lot with associated express bus service at I-24 Exit 76, Medical Center Parkway/Fortress Boulevard.
- TS-4 Increase service on existing CARTA express bus routes and conduct an Express/Commuter Bus Study to identify additional routes.
- TS-5 Evaluate transit center near the terminus of existing HOV system at Harding Place in Nashville and options to provide increased transit service between Harding Place and downtown Nashville.
- TS-6 Increase Express Transit Services between Clarksville and Nashville, and Murfreesboro and Nashville during peak periods.
- TS-7 Evaluate ramp volumes for potential new P&R lots to serve Express Transit Routes. (Included in this evaluation should be if the Exit 8 P&R lot may need to be relocated in order to accommodate the need for future growth.)
- TS-8 Evaluate options to provide exclusive access/egress for transit to the HOV system.
- TS-9 Consider transit operations on I-24 shoulders during peak hours in selected locations.
- TS-10 Support and promote paratransit and rural transit systems in the Nashville area.
- TS-11 Support and promote additional vanpool services in the Nashville area.

Figure 1.14: Recommended Transit Strategies



1.4.3 Managed Lane Strategies

The I-24 HOV system is approximately 50 miles in length, for the combined mileage of the northbound and southbound lanes. The I-24 HOV system runs from US-231 in Rutherford County to Harding Place in Davidson County, approximately 8 miles south of downtown Nashville. The HOV lanes are signed and striped but not barrier separated from the general travel lanes on I-24. The current I-24 HOV lanes do not have separate access or egress from the general travel lanes. There are no HOV lanes in either the Clarksville or Chattanooga metropolitan areas.

A number of managed lane strategies were identified from existing plans or assessment of corridor conditions that may benefit operations of the I-24 corridor in addition to providing mobility and access benefits. These recommended strategies are listed below.

- Increase enforcement of HOV lane restrictions and associated fines for violators.
- Evaluate options for transition to daily rather than peak hour HOV operation.
- Evaluate options for providing direct HOV lane access and egress at selected locations.
- Evaluate queue bypass for HOVs and transit at potential future ramp metering locations.
- Encourage legislation that allows for implementation of managed lanes at the State level including additional allowable access restrictions, express lanes, and variable pricing.
- Investigate tag systems that allow some measure of automated enforcement.