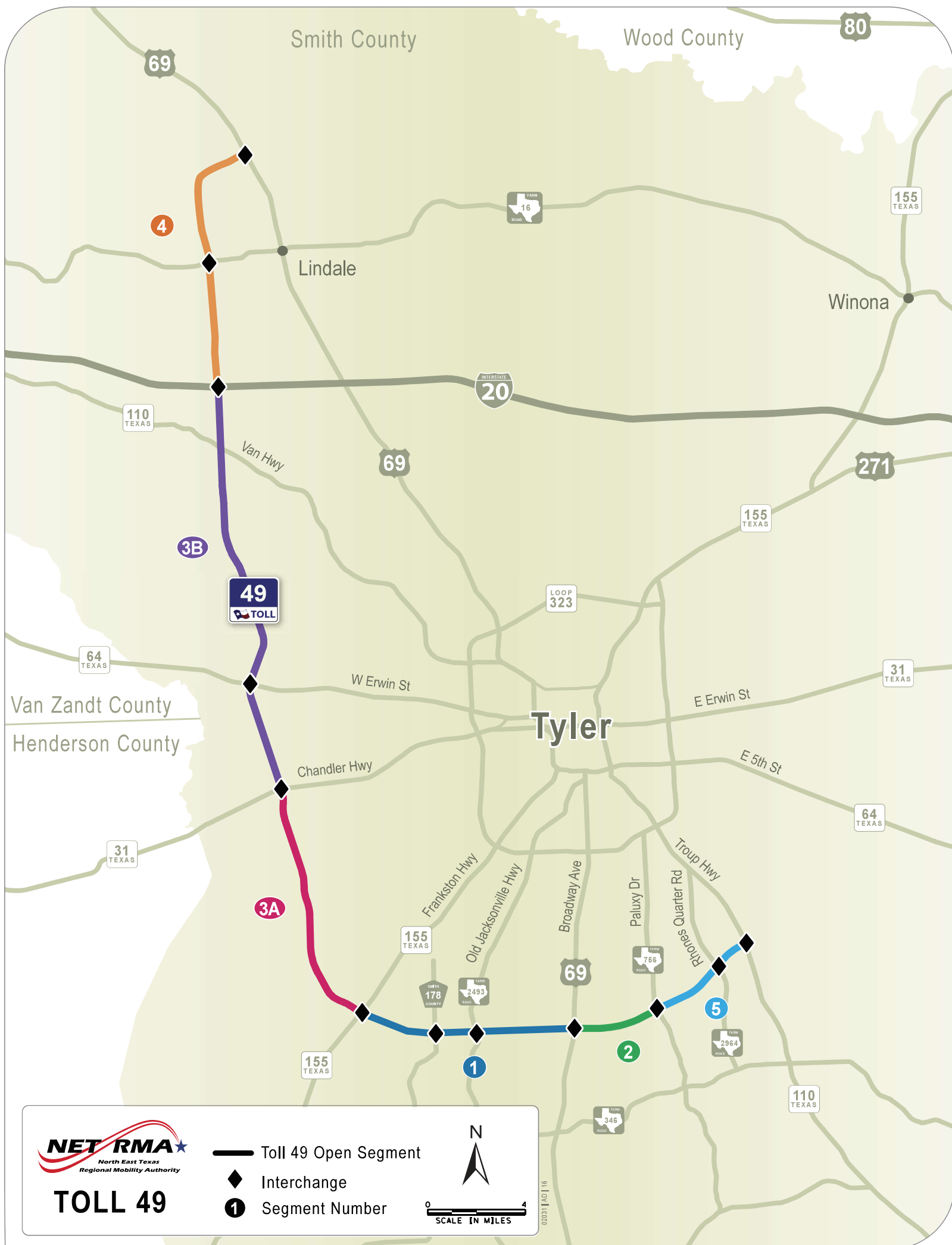


# TOLL 49 ANNUAL INSPECTION REPORT FY 2019

July 1, 2019





# TOLL 49

- Toll 49 Open Segment
- Interchange
- Segment Number



02031 AD 16

July 1, 2019

Chris Miller  
Executive Director  
North East Texas Regional Mobility Authority  
1001 ESE Loop 323, Suite 420  
Tyler, Texas 75701

RE: Toll 49 Annual System Inspection for FY 2019

Dear Mr. Miller:

As General Engineering Consultant (GEC) to the North East Texas Regional Mobility Authority (NET RMA), and in accordance with the requirements set forth in the Segment 4 Bond Master Trust Agreement, Section 712, Atkins North America, Inc. (Atkins) is pleased to submit the Toll 49 Annual System Inspection Report for FY 2019.

Atkins completed the System field inspections in April 2019 and reports that Toll 49 has been maintained in good repair, working order and condition. This observation was based on general visual inspections of the roadway, retaining walls, bridges, and toll gantries. Results of the inspections are presented in greater detail within this report.

Atkins recommends that NET RMA continue to implement the routine maintenance as budgeted and scoped, and to also implement major maintenance projects and renewal/replacement funding planned for the ensuing fiscal year. Through coordination with the staff, the following budgets are recommended:

Annual Operating Budget:	\$ 3,766,503
Annual Maintenance Budget:	\$ 2,101,597
Annual Capital Budget:	\$ 2,950,000

The overall condition of Toll 49, along with the appropriate funding levels for the System budgets, exemplifies NET RMA's commitment to maintain and operate a safe and reliable toll road around Tyler, Texas.

Respectfully submitted,



Tammy B. Sims, PE  
GEC Project Director

cc: Everett Owen, NET RMA (w /1 copy)  
Mark McClanahan, NET RMA (w /1 copy)  
Colleen Colby, NET RMA (w/1 copy)

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# EXECUTIVE SUMMARY

Toll 49 is a 2-lane limited access all electronic toll road located near Tyler, Texas, that is owned, operated and maintained by the North East Texas Regional Mobility Authority (NET RMA). Previously, a State Infrastructure Bank (SIB) Loan between NET RMA and the Texas Department of Transportation (TxDOT), associated with construction of Toll 49 Segment 3B, required the NET RMA's General Engineering Consultant (GEC) to conduct an annual inspection of all operating segments of Toll 49, termed the Toll 49 System (System). After the Annual Inspection for 2015, this inspection requirement ended when the SIB loan was paid off in early 2016. A new financial document associated with Bond Financing of Toll 49 Segment 4, the Master Trust Indenture, has a similar requirement for annual inspections beginning with completion of construction of Segment 4 (see Appendix A). NET RMA elected to conduct an Annual Inspection for 2016 through 2018 for the sake of consistency and as a good operation and maintenance policy, following the requirements listed in the Master Trust Indenture. This will be the first Annual Inspection to include Segment 4 after final acceptance on March 7, 2019.

These requirements state that, following each inspection and on or before the 90th day prior to the end of each Fiscal Year, the GEC must submit to NET RMA a report setting forth:

- (i) its findings as to whether the System has been maintained in good repair, working order, and condition.
- (ii) its advice and recommendations as to the proper maintenance, repair, and operation of the System during the ensuing Fiscal Year.
- (iii) an estimate of the amount of money necessary for such purposes, including its recommendations as to the total amounts and classifica-

tions of items and amounts that should be provided for in the Annual Operating Budget, the Annual Maintenance Budget and Annual Capital Budget for the next ensuing Fiscal Year.

The current System open to traffic includes Toll 49 in Smith County. Toll 49 extends from US 69 north of Lindale south and east to State Highway 110 (SH 110) near Whitehouse.

Atkins North America, Inc. (Atkins), as General Engineering Consultant (GEC), completed the FY 2019 Inspection of the System in April 2019 and is pleased to report that the System has been maintained in good repair, working order, and condition. This observation was based on a general, non-invasive visual inspection of the roadway pavement, drainage structures, retaining walls, and bridges and resulted in an overall condition score of 93.4.

Atkins recommends that NET RMA continue to implement the routine maintenance of Toll 49 as budgeted and scoped, and to also implement the major maintenance projects and renewal/replacement funding planned for the ensuing fiscal year. Through coordination with NET RMA staff, and in review of the anticipated Major Maintenance Projects scheduled for FY 2020, the following budgets are recommended:

Annual Operating Budget:	\$ 3,766,503
Annual Maintenance Budget:	\$ 2,101,597
Annual Capital Budget:	\$ 2,950,000

The overall condition of Toll 49 and funding levels for the budgets exemplifies NET RMA's commitment to maintain and operate a safe and reliable toll road for the North East Texas region.

# INTRODUCTION

## Background

In April 2019, Atkins completed the annual inspection of Toll 49 for FY 2019. The inspection was done in accordance with the Master Trust Indenture which requires the NET RMA's GEC to perform a condition assessment of the project and submit a report with their findings. The annual inspection is also used in the evaluation of refinements to NET RMA's planned Renewal and Replacement (R&R) funding program (see Appendix B). The annual inspection of Toll 49 was conducted based on four major categories of the system: roadways, retaining walls, bridges, and toll gantries. The roadway inspection featured three general categories of roadway elements: pavement, traffic operations, and roadside, and was performed by Atkins staff. Retaining wall inspections featured visual observations of those elements performed by Atkins staff. Bridge inspections were based on observations made by TxDOT staff for the TxDOT Bridge Inventory, Inspection and Appraisal Program (BRINSAP) in 2017 and 2018.

Inspection and repair of the toll gantries was conducted periodically throughout the year by maintenance staff employed by Kapsch, the NET RMA's toll integrator. Additional visual inspections of the toll gantries were made by Atkins staff while conducting the annual inspection.

Scoring for all categories was conducted on a 5-point scale, ranging from 1 (Emergency) to 5 (Excellent), using methodology contained in the TxDOT Texas Condition Assessment Program (TxCAP) (see Appendix C).

All inspections were conducted in accordance with standard procedures developed by the Federal Highway Administration (FHWA) and TxDOT

and involve an extensive visual examination of all elements relative to the category of inspection. A detailed tabulation of the conditions observed on the date of the field inspection was prepared in the form of inspection worksheets or databases located on laptop computers. The worksheets/databases were spot-checked to verify accuracy and consistency, and the results were reviewed and summarized. These inspections provide a basis to plan funding levels needed to maintain NET RMA's assets for ensuing fiscal years.

## Description of Corridor

Toll 49 is a 2-lane limited access all electronic toll road, extending from US 69 north of Lindale 32 miles south and east to SH 110 near Whitehouse. Interchanges are located at US 69N, FM 16, IH-20, SH 110N, SH 64, SH 31, SH 155, CR 178, FM 2493, US 69, FM 756, FM 2964, and SH 110S. There are 40 total bridges, 5 main lane gantries and 8 ramp gantries on Toll 49. With ramps and passing lanes included, Toll 49 consists of 99 lane miles of roadway.

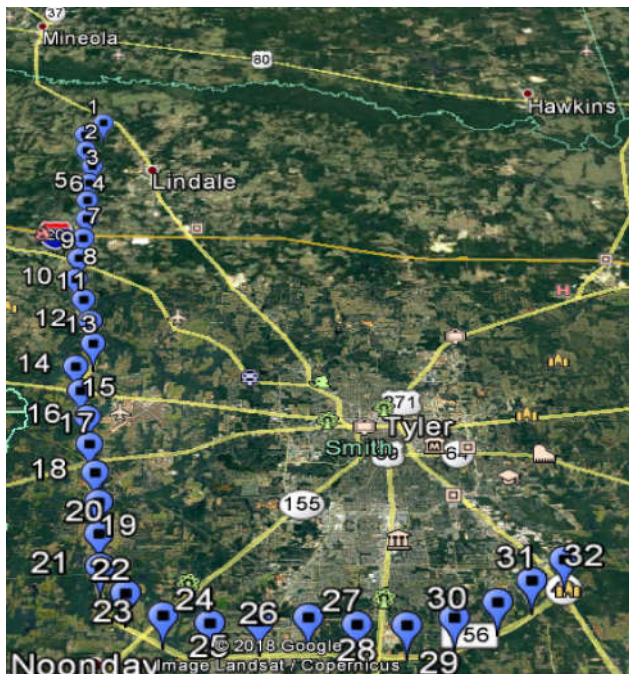
Toll 49 was constructed in six segments with five additional segments in various levels of development. Segments 1, 2, 3A, and 5 were constructed under the direction of TxDOT. Segment 1, which opened in November 2006 as one of the first all electronic collection toll road in Texas, extends 5.1 miles from SH 155 east to US 69. Segment 2, opened in January 2008, extends 2.0 miles from US 69 east to FM 756. Segment 5, opened in June 2012, extends 2.6 miles from FM 756 northeast to SH 110. Segment 3A, opened in November 2012, extends 5.9 miles from SH 155 northwest to SH 31. Segment 3B was administered by NET RMA under a design build contract and was opened in March 2013. Segment 3B extends 10.0 miles from SH 31 North to IH-20. Segment 4 was administered by NET RMA under a design-bid-build contract and

was opened to traffic in November 2018. Segment 4 extends 6.7 miles from US 69 north of Lindale to IH 20.

## Inspection Process

The GEC Annual Inspection assessed four main elements: roadways, retaining walls, bridges, and toll gantries. The roadway portion of the inspection focused on pavement, traffic operations, and roadside. The Annual Inspection was performed on Segments 1, 2, 3A, 3B, 4 and 5.

Observations made during the inspection pro-



**Figure 1: Location of Standard TxDOT Mile Markers on Toll 49**

cess were linked to standard TxDOT mile markers established on Toll 49 (Figure 1).

The NET RMA Board passed a resolution to widen strategic areas along the Toll 49 corridor to improve safety on Toll 49 by increasing raised pavement markers and widening of centerline striping, adding rumble strips to centerline and edge lines, and allowing passing opportunities in all Toll 49 Segments by improving the corridor to

a Super 2 configuration. At the time of inspection, the overlay operations were completed.

The inspection of roadway drainage structures focused on slopes, ditches, erosion issues, culverts, hazardous material (hazmat) traps, and flumes. These facilities were inspected for structural issues, as well as needed general cleanings.

The retaining wall inspection focused on panels, joints, coping, flumes, mow strips, inlets, rails, slope paving, weep holes, sound walls, and adjacent elements. The bridge inspection addressed the deck, superstructure, substructure, and abutments. Inspections involved a general visual examination of element features. No detailed in-place or destructive testing was performed. The opinions, statements, and recommendations made in this report are based solely on conditions as revealed by these visual inspections. No representation or warranty is made that all defects have been discovered or that a defect will not appear later. Nothing contained herein shall be deemed to give any third party a claim or right of action against NET RMA, its employees, or the GEC, nor create a duty on behalf of NET RMA, its employees, or the GEC. A detailed inspection photo log including pictures of noted observations has been prepared and will be used to develop work requests for routine maintenance and preventive maintenance projects during FY 2020 for Toll 49.

## Maintenance Program Overview

Previously, NET RMA and TxDOT entered into an Inter Local Agreement (ILA), wherein TxDOT agreed to provide routine maintenance, incident response, and preventative maintenance of Toll 49. During FY 2017, the GEC and NET RMA worked together to identify needed maintenance repairs, and TxDOT completed the repairs utilizing in-house and outsourced resources.



On August 29, 2017, NET RMA signed a maintenance contract with IIPL USA, LLC, for routine maintenance and preventative maintenance on Toll 49. The contract began in August 2018 and was extended by Board Resolution 18-49 through the end of FY 2019. TxDOT will continue to provide Toll 49 incident response services to NET RMA.

TxDOT Tyler District is responsible for bridge inspections as required by the National Bridge Inspection Program as part of their BRINSAP program. Kapsch is responsible for conducting periodic inspection and repair of the toll gantries, including the gantry structures, electronics, and support equipment, as part of their toll integration contract with NET RMA.

## INSPECTION RESULTS

### Overview

Toll 49 has been maintained in good repair, working order, and condition. The findings presented here include notable and general observations within each of the four elements inspected. Inspections were conducted in accordance with TxDOT condition assessment standards and involve a general visual examination of element features.

### Roadway

Roadway elements were generally in good condition. Observations related to roadways included: pavement cracking, faded pavement markings, pavement edge drop offs, and deteriorating signs.

There were several areas with pavement cracking primarily on the entrance and exit ramps as shown in Figures 2 and 3. There were also areas of cracking on crossings as shown in Figure 4. Also noted were several areas with pavement edge drop offs as shown in Figures 5 and 6.

A major Toll 49 Improvement project began in



Figure 2: Pavement Cracking Frontage Road



Figure 3: Pavement Cracking on Frontage Road



Figure 4: Pavement Cracking on Cross Street





Figure 5: Pavement Drop-Off



Figure 6: Pavement Drop-Off

2017 to improve safety of the roadway, pavement widening plus construction of a 4-ft-wide flush median and additional passing lanes for Segments 1, 2, 3A, 3B and 5. This work was complete as of the date of inspection. For these Segments, much of the roadway surface received a one-course surface treatment (OCST) and full maintenance overlays, prior to constructing the new flush median and lane striping. Small areas not paved in the current

Improvement contract will receive a OCST and new striping in Summer 2019.

Signs along Toll 49 were in good condition due to sign replacement which occurred in the Improvement project. A few signs showed wear as illustrated in Figure 7. There was also noted sign damage as illustrated in Figure 8.

A night inspection was performed to observe the



Figure 7: Worn Sign



Figure 8: Damaged Sign





**Figure 9: Faded Striping**



**Figure 11: Box Culvert Partially Blocked**



**Figure 10: Faded Striping**

reflectivity of pavement striping and raised pavement markers, and safety illumination at ramps and intersections. There was noted faded and missing striping on entrance and exit ramps as noted in Figures 9 and 10. Those areas are scheduled to be restriped following a OCST in Summer 2019.

### **Drainage Structures**

Roadway drainage structures throughout the



**Figure 12: Structure Silted Up**

System are in need of maintenance due to the large amount of rainfall received in Spring 2019. Many are silted up as illustrated in Figures 11, 12, and 13. There are multiple locations of slope and ditch erosion throughout the corridor primarily caused by lack of vegetation. Erosion was noted under elevated roadway sections and around drainage structures. Some level of erosion was noted on all Segments of Toll 49.





Figure 13: Box Culvert Silted Up



Figure 15: Slope Erosion

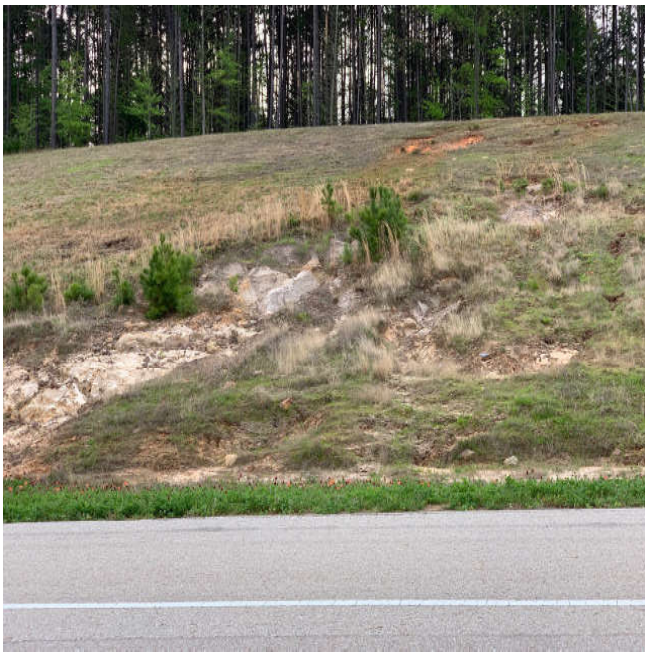


Figure 14: Slope Erosion



Figure 16: Ditch Erosion

Back slopes lacking vegetative cover have developed erosion as illustrated in Figures 14 and 15. The erosion is causing sediment to collect in some ditches, thereby reducing their capacity. An example of ditch erosion noted in multiple areas is illustrated in Figure 16. Several areas noted in last years inspection have been repaired and as of the date of this inspection, the Toll 49 maintenance contractor was working on additional areas of ero-

sion repair.

### Retaining Walls

The three retaining walls on Toll 49 are in good condition. Two of these walls are located at the SH 31 interchange (Segment 3A), and the third is west of the SH 110 east interchange (Segment 5) (Figure 17).





Figure 17: Debris in Retaining Wall Flume

## Bridges

The majority of bridge elements are also in like-new condition with few observations.

The Toll 49 bridges were inspected through TxDOT's biannual BRINSAP program in 2017 on bridges south of IH 20, and in 2018 on bridges north of IH 20, with results made available in 2018.

## Toll Gantries

Toll gantries are inspected and repaired periodically by Kapsch, the NET RMA's toll integrator. The Kapsch staff routinely repair or replace strobe lights, cameras, servers and other computer equipment, backup generators and other items located at the toll gantries. At the time of the annual inspection, the toll gantry structures, electronics, antennas and wiring, computer equipment and cabinets, backup generators and other systems appeared to be in good operating condition.

The concrete equipment support pads and lighting support piers, guardrails, and access drive pavement also appeared to be in good condition, with no noteworthy observations.

## Roadway Rating Results

Once the field inspections were complete, all roadway observations were tabulated for evaluation and rating. As mentioned previously, the visual inspection provides an assessment of three major system components: pavement, traffic operations and roadside. Ratings conducted by Atkins used a system for the rating of pavement, traffic operations, and roadside systems similar to the rating system TxDOT uses for the condition assessment of the State highway system.

The pavement evaluations for Toll 49 had scorings provided for pavement distresses. Traffic operations and roadside scorings were made in conformance with TxDOT condition assessment method as presented in Table 1.

As is indicated in Table 1, Toll 49 in 2019 had a pavement score of 95.4, a traffic operations score of 86.7, and a roadside score of 96.0, for an overall score of 93.4 out of a possible 100. This overall score indicates that the Toll 49 roadway is in "good" condition. NET RMA continues to provide a high-quality infrastructure to its customers. Maintenance activities continue to be proactive and effective and NET RMA's asset management approach clearly identifies the right maintenance strategy at the right time. This score will be compared to similar scores in future annual inspections, providing a means of determining how the condition of the Toll 49 roadway is changing over time.

Table 1: Toll 49 Rankings for 2019

Roadway	Item	Count of Ratings	Sum of Ratings	Maximum Score	Average Score	Rating Weight Value	Component Subtotal	Component Score	Sub Item Weighted Value	TxCAP Weighted Value	Weighted Score	Category Score
Pavement												
Rutting												
Toll 49	Rutting (Asphalt)	108	540	540	5.00	20	100.00	100.0		21.28%	21.3	
Cracking												
Toll 49	Cracking	108	468	540	4.33	20	86.60	86.6		21.28%	18.4	
Failures												
Toll 49	Failures	108	538	540	4.98	20	99.60	99.6		25.53%	25.4	
Ride												
Toll 49	Ride (Settlement)	108	523	540	4.84	20	96.80	96.8		14.89%	14.4	
Edges												
Toll 49	Edges	106	495	530	4.67	20	93.40	93.4		17.02%	15.9	95.4
Traffic Operations												
Raised Pavement Markers												
Toll 49	Raised Pavement Markers	104	436	520	4.19	20	83.80	83.8		18.18%	15.2	
Striping, Pavement Graphics												
Toll 49	Striping / Pavement Graphics	108	448	540	4.15	20	83.00	83.0		22.73%	18.9	
Delineators												
Toll 49	Object Marker	96	429	480	4.47	20	89.40	89.4	48%			
Toll 49	Delineators	106	413	530	3.90	20	78.00	78.0	52%	13.64%	11.4	
Signs - Large												
Toll 49	Signs - Large (>32 SF)	56	256	280	4.57	20	91.43	91.4		18.18%	16.6	
Signs - Small												
Toll 49	Signs - Small	108	475	540	4.40	20	87.96	87.9		18.18%	16.0	
Lighting												
Toll 49	Lighting	47	223	235	4.74	20	94.89	94.8		9.09%	8.6	86.7
Roadside												
Vegetation Management												
Toll 49	Herbicide	106	522	530	4.92	20	98.49	98.4	50%			
Toll 49	Turf Condition	106	487	530	4.59	20	91.89	94.8	50%	18.75%	18.1	
Litter												
Toll 49	Litter & Debris	108	498	540	4.61	20	92.22	92.2		12.50%	11.5	
Trees and Brush												
Toll 49	Trees and Brush	106	527	530	4.97	20	99.43	99.4		12.50%	12.4	
Drainage												
Toll 49	Drainage Pipe	93	398	465	4.28	20	85.59	85.5	26%			
Toll 49	Drainage- Other (Bridges, Ditches, Riprap,etc)	106	455	530	4.29	20	85.85	85.8	30%			
Toll 49	Inlets	51	250	255	4.90	20	98.04	98.0	14%			
Toll 49	Slopes	105	500	525	4.76	20	95.24	95.2	30%	18.75%	16.9	
Encroachments												
Toll 49	Encroachments	106	526	530	4.96	20	99.25	99.2		6.25%	6.2	
Guard Rails												
Toll 49	Safety Barrier	77	384	385	4.99	20	99.74	99.7		18.75%	18.7	
Guardrail End Treatments												
Toll 49	Guardrail End Treatments	74	359	370	4.85	20	97.03	97.0		12.50%	12.1	96.0
								Pavement		95.4	55.00%	52.5
								Traffic Operations		86.7	25.00%	21.7
								Roadside		96.0	20.00%	19.2
												93.4

## RECOMMENDATIONS

### Overview

Several observations have been identified in this year's inspection that require attention. On behalf of NET RMA, Atkins as GEC will continue to work in conjunction with the NET RMA's Maintenance Director, the NET RMA's Maintenance Contractor (IIPL USA), TxDOT, and Kapsch to identify and address routine and preventative maintenance issues.

### Maintenance Recommendations

Observations that require attention include:

1. Slope/ditch erosion.

2. Pavement cracking in Segments 2 and 5 and ramps.

### Observation 1 – General Slope/Ditch Erosion

Lack of vegetation on some slopes and ditches, coupled with heavy localized rainfall, has caused erosion throughout the System. This erosion has deposited sediment in the ditches and drainage structures which prevent them from functioning as designed. Slope and ditch erosion was observed in some capacity on all segments of Toll 49. This erosion should be repaired in FY 2020 as Phase 4 of the scheduled erosion repair on all Segments.

**Observation 2 – Pavement Cracking on Segments 2 and 5 and on Ramps**

The second area of concern is the pavement cracking on Segments 2 and 5 and on entrance and exits ramps that were left off the 2017/2018 Improvement Project. This cracking will be addressed by an OCST project in the summer of FY 2019. As part of the OCST project, areas with faded and missing striping will be addressed.

**Observation 3 – Paving and/or Striping Wear on Ramps**

Pavement and striping wear was observed on entrance and exit ramps that were not part of the Improvement Project. This worn striping is scheduled to be replaced following application of a one course surface treatment in Summer 2019.

**BUDGET RECOMMENDATIONS**

As required by the Master Trust Indenture, the GEC also provides recommendations for the annual routine roadway maintenance budget, the Electronic Toll Collection (gantry) maintenance budget, and the major maintenance expenses. The funding levels are set such that NET RMA can

maintain the overall asset conditions of Toll 49. A long-term renewal and replacement funding plan was completed and included in the Master Trust Indenture’s 2016 Official Statement (see Appendix B). Through coordination with the maintenance consultants, along with a review of the anticipated major maintenance repairs scheduled for FY 2020, the following budgets are recommended.

Annual Operating Budget <sup>1</sup> :	\$ 3,766,503
Annual Maintenance Budget <sup>2</sup> :	\$ 2,101,597
Annual Capital Budget <sup>3</sup> :	\$ 2,950,000

**SUMMARY**

Overall the System has been maintained in good repair, working order, and condition. The overall condition of the corridor shows NET RMA’s commitment to funding, maintaining, and operating Toll 49 in a safe and sustainable manner.

Continued routine maintenance and safety improvements, coupled with a long-term Pavement Management Plan, will ensure that the System provides a reliable mobility option for the North East Texas area.

**FOOTNOTE**

- <sup>1</sup> Includes Administration, General Engineering, Toll Collections and Toll Operations.
- <sup>2</sup> Includes Roadway Maintenance Contract and Toll Maintenance.
- <sup>3</sup> Includes General Fund Project costs, Construction Fund Project costs and R&R Projects budgeted for 2020.

## **APPENDIX A:**

### **MASTER TRUST INDENTURE REQUIREMENTS**



## OFFICIAL STATEMENT DATED MAY 24, 2016

### NEW ISSUES — BOOK-ENTRY-ONLY

See “RATINGS” herein

In the opinion of Bond Counsel, under existing law interest on the Series 2016 Obligations excludable from gross income for federal income tax purposes and is not included in the alternative minimum taxable income of individuals. See “TAX MATTERS — Tax Exemption” for a discussion of the opinions of Bond Counsel, including a description of alternative minimum tax consequences for corporations.

### NORTH EAST TEXAS REGIONAL MOBILITY AUTHORITY

\$124,735,000

SENIOR LIEN REVENUE BONDS, SERIES 2016A

\$56,615,000

SUBORDINATE LIEN REVENUE BONDS, SERIES 2016B

Dated Date: June 1, 2016

Interest Accrual: as described herein

Due: As shown

The captioned Senior Lien Revenue Bonds, Series 2016A (the “*Series 2016A Senior Lien Bonds*”) and Subordinate Lien Revenue Bonds, Series 2016B (the “*Series 2016B Subordinate Lien Bonds*”) and, together with the Series 2016A Senior Lien Bonds, the “*Series 2016 Obligations*”) will be issued as fully-registered obligations by the North East Texas Regional Mobility Authority (the “*Authority*”). The Authority is issuing the Series 2016A Senior Lien Bonds pursuant to the Master Trust Indenture, dated as of June 1, 2016 (the “*Master Trust Indenture*”), and the First Supplemental Trust Indenture, dated as of June 1, 2016 (the “*First Supplemental Indenture*”), each by and between the Authority and Amegy Bank, a division of ZB, National Association, as trustee and paying agent (the “*Trustee*”). The Series 2016A Senior Lien Bonds, together with any Additional Senior Lien Obligations, constitute special, limited obligations of the Authority secured by and payable solely from a first lien on, pledge of, and security interest in the Trust Estate described herein. The Authority is issuing the Series 2016B Subordinate Lien Bonds pursuant to the Master Trust Indenture and the Second Supplemental Trust Indenture, dated as of June 1, 2016 (the “*Second Supplemental Indenture*”), by and between the Authority and the Trustee. The Series 2016B Subordinate Lien Bonds, together with any Additional Subordinate Lien Obligations, constitute special, limited obligations of the Authority secured by and payable solely from a third lien on, pledge of, and security interest in the Trust Estate that is subordinate and junior to the lien securing the payment of Senior Lien Obligations and Junior Lien Obligations, if any, issued by the Authority. Capitalized terms used on the front cover page hereof and not otherwise defined shall have the meaning assigned thereto in “APPENDIX B — SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE — Definitions.”

The Series 2016 Obligations are initially issuable only to Cede & Co., the nominee of The Depository Trust Company, New York, New York (“*DTC*”), pursuant to the Book-Entry-Only System described herein. Beneficial ownership of the Series 2016 Obligations may be acquired in principal denominations of \$5,000, or any integral multiple thereof. Debt service payments on the Series 2016 Obligations will be payable by the Trustee to DTC, which will make distribution of the amounts so paid to the beneficial owners thereof. See “THE SERIES 2016 OBLIGATIONS — Book-Entry-Only System” herein.

The Series 2016 Obligations are further described in this Official Statement. See pages ii and iii hereof for additional information relating to the Series 2016A Senior Lien Bonds and the Series 2016B Subordinate Lien Bonds, respectively, including provisions relating to the maturities, interest rates, redemption provisions, initial yields and CUSIP numbers.

A portion of the proceeds of the Series 2016 Obligations, together with other sources of funding described herein, will be used to finance and refinance certain Costs of the System, including the Costs of designing, engineering, developing and constructing the Segment 4 Project, an approximately 6.6-mile tolled highway, located in Smith County, Texas, between U.S. Highway 69 and IH 20, being a northerly extension of Existing Toll 49, as more particularly described in the Toll 49 Engineering Report included as APPENDIX C hereto. See “THE SEGMENT 4 PROJECT.” The remaining proceeds of the Series 2016 Obligations will be used to (i) prepay in whole the Authority’s outstanding Interim Loan (as defined herein), (ii) pay capitalized interest with respect to the Series 2016A Senior Lien Bonds, (iii) make deposits to the Senior Lien Debt Service Reserve Fund and the Subordinate Lien Debt Service Reserve Fund, and (iv) pay certain Issuance Costs of the Series 2016 Obligations, all as more fully described herein. See “ESTIMATED SOURCES AND USES OF BOND PROCEEDS” and “ESTIMATED SOURCES AND USES OF FUNDS FOR SEGMENT 4 PROJECT.”

This cover page contains information for quick reference only. It is not a summary of the Series 2016 Obligations. Potential investors must read the entire Official Statement to obtain information essential to making an informed investment decision. Investment in the Series 2016 Obligations is subject to certain investment considerations. See “RISK FACTORS” herein.

NONE OF THE STATE OF TEXAS OR ANY OTHER AGENCY OR POLITICAL SUBDIVISION OF THE STATE OF TEXAS OTHER THAN THE AUTHORITY IS OBLIGATED TO PAY THE PRINCIPAL OF, PREMIUM, IF ANY, OR INTEREST ON THE SERIES 2016 OBLIGATIONS. THE SERIES 2016 OBLIGATIONS ARE PAYABLE SOLELY FROM THE TRUST ESTATE. NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE STATE OF TEXAS OR ANY POLITICAL SUBDIVISION THEREOF IS PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF, PREMIUM, IF ANY, OR INTEREST ON THE SERIES 2016 OBLIGATIONS. THE AUTHORITY HAS NO TAXING POWER. THE INDENTURE DOES NOT CREATE A MORTGAGE ON THE SYSTEM.

The Series 2016 Obligations are offered for delivery when, as, and if issued and received by the Underwriters named below and subject, among other things, to the approval of legality and certain other matters by the Attorney General of the State of Texas and Andrews Kurth LLP, Houston, Texas (“*Bond Counsel*”). Certain legal matters will be passed upon for the Authority by Locke Lord LLP, general counsel to the Authority, and for the Underwriters by their counsel, Bracewell LLP, Austin, Texas. It is expected that delivery of the Series 2016 Obligations will be made through DTC in New York, New York on or about June 16, 2016.

### BofA Merrill Lynch

Citigroup

Estrada Hinojosa & Company, Inc.

Jefferies

Raymond James

RBC Capital Markets

The Authority has also agreed in the Indenture that on or before September 30 in each Fiscal Year (or such other date as is consistent with the Authority's policies then in effect) it will adopt an Annual Maintenance Budget for the System for the ensuing Fiscal Year and that it will prepare each such Annual Maintenance Budget on the basis of monthly requirements, so that it will be possible to determine the estimated Maintenance Expenses for each month during the Fiscal Year. If for any reason the Authority has not adopted the Annual Maintenance Budget before the first day of any Fiscal Year, the budget for the preceding Fiscal Year, will, until the adoption of the new Annual Maintenance Budget, be deemed to be in force and be treated as the Annual Maintenance Budget. The Authority may adopt an amended or supplemental Annual Maintenance Budget at any time for the remainder of the then current Fiscal Year.

The Authority has also agreed in the Indenture that on or before September 30 of each Fiscal Year (or such other date as is consistent with the Authority's policies then in effect) it will adopt an Annual Capital Budget for the System for the ensuing Fiscal Year. The Annual Capital Budget will detail the Authority's planned capital expenditures during the ensuing Fiscal Year and the portion of capital expenditures expected to be funded from the Renewal and Replacement Fund. If for any reason the Authority has not adopted the Annual Capital Budget before the first day of any Fiscal Year, the budget for the preceding Fiscal Year will, until the adoption of the new Annual Capital Budget, be deemed to be in force and be treated as the Annual Capital Budget. The Authority may adopt amendments or supplements to the Annual Capital Budget at any time.

***Use and Operation of System.*** The Authority has covenanted in the Indenture that it will (i) maintain and operate the System in an efficient and economical manner, (ii) maintain the System in good repair and will make all necessary repairs, renewals and replacements, to the extent funds are available therefor hereunder, and (iii) comply with laws and all rules, regulations, orders and directions of any legislative, executive, administrative or judicial body applicable to such System, subject to the right of the Authority to contest the same in good faith and by appropriate legal proceedings.

***Inspection of the System and Duties of the General Engineering Consultant.*** The Authority has covenanted in the Indenture to cause a General Engineering Consultant to make an inspection of the System at least once in each Fiscal Year following the Substantial Completion of the initial Project funded with Obligations issued under the Indenture and in each Fiscal Year thereafter; provided, however, the obligations of a General Engineering Consultant required by the Indenture may be modified or lessened by the Authority to the extent that such inspections have been performed by other parties in accordance with the National Bridge Inspection Program in accordance with applicable Federal law and as permitted by the Indenture. Following each inspection and on or before the 90th day prior to the end of each Fiscal Year, a General Engineering Consultant must submit to the Authority a report setting forth (i) its findings as to whether the System has been maintained in good repair, working order and condition, (ii) its advice and recommendations as to the proper maintenance, repair and operation of the System during the ensuing Fiscal Year, and (iii) an estimate of the amount of money necessary for such purposes, including its recommendations as to the total amounts and classifications of items and amounts that should be provided for in the Annual Operating Budget, the Annual Maintenance Budget and Annual Capital Budget for the next ensuing Fiscal Year.

***Employment of General Engineering Consultant and Traffic Consultant.*** The Authority has agreed in the Indenture to employ an independent engineer or engineering firm or corporation having a national reputation for skill and experience in such work to perform any functions of a General Engineering Consultant. The Authority has further covenanted in the Indenture to employ an independent engineer or engineering firm or corporation having a national reputation for skill and experience in such work to perform any functions of a Traffic Consultant. The General Engineering Consultant and the Traffic Consultant will be independent of one another.

## **APPENDIX B:**

### **LONG TERM RENEWAL AND REPLACEMENT TABLE**

# NORTH EAST TEXAS REGIONAL MOBILITY AUTHORITY

## TOLL 49 SYSTEM - TOTAL ANNUAL OM&A and RR COSTS (SEGS 1, 2, 3A, 3B, 4 and 5)

6/19/2018

Year	NET RMA Administrative Costs	Toll Operations	Operations (Admin + Toll Ops)	Annual Routine Maintenance	Total O&M (Ops + Maint)	R&R Costs
2019	\$ 2,060,000	\$ 1,836,000	\$ 3,896,000	\$ 1,030,000	\$ 4,926,000	\$ 1,653,000
2020	\$ 2,122,000	\$ 1,959,000	\$ 4,081,000	\$ 1,061,000	\$ 5,142,000	\$ 1,488,000
2021	\$ 2,186,000	\$ 2,103,000	\$ 4,289,000	\$ 1,093,000	\$ 5,382,000	\$ 225,000
2022	\$ 2,252,000	\$ 2,171,000	\$ 4,423,000	\$ 1,126,000	\$ 5,549,000	\$ -
2023	\$ 2,320,000	\$ 2,312,000	\$ 4,632,000	\$ 1,160,000	\$ 5,792,000	\$ 1,879,000
2024	\$ 2,390,000	\$ 2,382,000	\$ 4,772,000	\$ 1,195,000	\$ 5,967,000	\$ -
2025	\$ 2,462,000	\$ 2,542,000	\$ 5,004,000	\$ 1,231,000	\$ 6,235,000	\$ 1,061,000
2026	\$ 2,536,000	\$ 2,623,000	\$ 5,159,000	\$ 1,268,000	\$ 6,427,000	\$ 6,619,000
2027	\$ 2,612,000	\$ 2,805,000	\$ 5,417,000	\$ 1,306,000	\$ 6,723,000	\$ 4,110,000
2028	\$ 2,690,000	\$ 2,893,000	\$ 5,583,000	\$ 1,345,000	\$ 6,928,000	\$ -
2029	\$ 2,771,000	\$ 3,084,000	\$ 5,855,000	\$ 1,385,000	\$ 7,240,000	\$ 285,000
2030	\$ 2,854,000	\$ 3,142,000	\$ 5,996,000	\$ 1,427,000	\$ 7,423,000	\$ 7,041,000
2031	\$ 2,940,000	\$ 3,356,000	\$ 6,296,000	\$ 1,470,000	\$ 7,766,000	\$ -
2032	\$ 3,028,000	\$ 3,452,000	\$ 6,480,000	\$ 1,514,000	\$ 7,994,000	\$ 6,293,000
2033	\$ 3,119,000	\$ 3,681,000	\$ 6,800,000	\$ 1,559,000	\$ 8,359,000	\$ 1,936,000
2034	\$ 3,213,000	\$ 3,782,000	\$ 6,995,000	\$ 1,606,000	\$ 8,601,000	\$ 1,593,000
2035	\$ 3,309,000	\$ 4,239,000	\$ 7,548,000	\$ 1,654,000	\$ 9,202,000	\$ -
2036	\$ 3,408,000	\$ 4,342,000	\$ 7,750,000	\$ 1,704,000	\$ 9,454,000	\$ 350,000
2037	\$ 3,510,000	\$ 4,622,000	\$ 8,132,000	\$ 1,755,000	\$ 9,887,000	\$ 2,842,000
2038	\$ 3,615,000	\$ 4,731,000	\$ 8,346,000	\$ 1,808,000	\$ 10,154,000	\$ -
2039	\$ 3,723,000	\$ 5,028,000	\$ 8,751,000	\$ 1,862,000	\$ 10,613,000	\$ 1,604,000
2040	\$ 3,835,000	\$ 5,143,000	\$ 8,978,000	\$ 1,918,000	\$ 10,896,000	\$ 11,762,000
2041	\$ 3,950,000	\$ 5,450,000	\$ 9,400,000	\$ 1,976,000	\$ 11,376,000	\$ 7,188,000
2042	\$ 4,069,000	\$ 5,546,000	\$ 9,615,000	\$ 2,035,000	\$ 11,650,000	\$ -
2043	\$ 4,191,000	\$ 5,879,000	\$ 10,070,000	\$ 2,096,000	\$ 12,166,000	\$ 430,000
2044	\$ 4,317,000	\$ 5,981,000	\$ 10,298,000	\$ 2,159,000	\$ 12,457,000	\$ 12,290,000
2045	\$ 4,447,000	\$ 6,333,000	\$ 10,780,000	\$ 2,224,000	\$ 13,004,000	\$ -
2046	\$ 4,580,000	\$ 6,445,000	\$ 11,025,000	\$ 2,291,000	\$ 13,316,000	\$ 11,463,000
2047	\$ 4,717,000	\$ 6,820,000	\$ 11,537,000	\$ 2,360,000	\$ 13,897,000	\$ 2,928,000
2048	\$ 4,859,000	\$ 6,939,000	\$ 11,798,000	\$ 2,431,000	\$ 14,229,000	\$ 2,409,000
2049	\$ 5,005,000	\$ 7,356,000	\$ 12,361,000	\$ 2,504,000	\$ 14,865,000	\$ -
2050	\$ 5,155,000	\$ 7,483,000	\$ 12,638,000	\$ 2,579,000	\$ 15,217,000	\$ 529,000
2051	\$ 5,310,000	\$ 7,889,000	\$ 13,199,000	\$ 2,656,000	\$ 15,855,000	\$ 4,299,000
2052	\$ 5,469,000	\$ 7,993,000	\$ 13,462,000	\$ 2,736,000	\$ 16,198,000	\$ -
2053	\$ 5,633,000	\$ 8,432,000	\$ 14,065,000	\$ 2,818,000	\$ 16,883,000	\$ 2,427,000
2054	\$ 5,802,000	\$ 8,542,000	\$ 14,344,000	\$ 2,903,000	\$ 17,247,000	\$ 15,144,000
2055	\$ 5,976,000	\$ 9,022,000	\$ 14,998,000	\$ 2,990,000	\$ 17,988,000	\$ 9,404,000
2056	\$ 6,155,000	\$ 9,141,000	\$ 15,296,000	\$ 3,080,000	\$ 18,376,000	\$ -
2057	\$ 6,340,000	\$ 9,647,000	\$ 15,987,000	\$ 3,172,000	\$ 19,159,000	\$ 651,000
2058	\$ 6,530,200	\$ 9,936,410	\$ 16,466,610	\$ 3,267,160	\$ 19,733,770	\$ 1,908,000



## **APPENDIX C:**

### **TxCAP ROADWAY RANKING SYSTEM**

## Texas Condition Assessment Program (TxCAP)

### 2009 Report

August 2009

Welcome to the second annual TxCAP report. TxCAP combines data from three different reports compiled by three different TxDOT divisions: the Texas Maintenance Assessment Program (MNT), the Pavement Management Information System (CST) and the Texas Traffic Assessment Program (TRF).

### TxCAP Scoring Calculations

#### Pavement Score

Rutting (PMIS.....	17.5%
Cracking (PMIS .....	17.5%
Failures (PMIS.....	24%
Ride (PMIS .....	16%
Edges (TxMAP.....	12%
Shoulders (TxMAP.....	13%

#### Traffic Operations Score

Raised Pavement Markers (TxMAP) .....	10%
Striping, Pavement Graphics (TxMAP) .....	20%
Attenuators (TxMAP) .....	5%
Delineators (TxMAP) .....	15%
Shoulder Texturing (TxMAP).....	5%
Roadside Signs (TxTAP).....	30%
Railroad Xings (TxTAP) .....	5%
Signals (TxTAP).....	10%
Work Zones (TxTAP) .....	0%

#### Roadside Score

Vegetation Management (TxMAP) .....	13%
Litter (TxMAP).....	6%
Sweeping (TxMAP).....	11%
Trees and Brush (TxMAP) .....	8%
Drainage (TxMAP).....	12%
Encroachments (TxMAP) .....	8%
Guard Rails (TxMAP) .....	7%
Guardrail End Treatments (TxMAP).....	5%
Mailboxes (TxMAP) .....	7%
General Public Rating (TxMAP).....	23%

#### Overall Score

Pavement.....	50%
Traffic Operations .....	25%
Roadside.....	25%

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