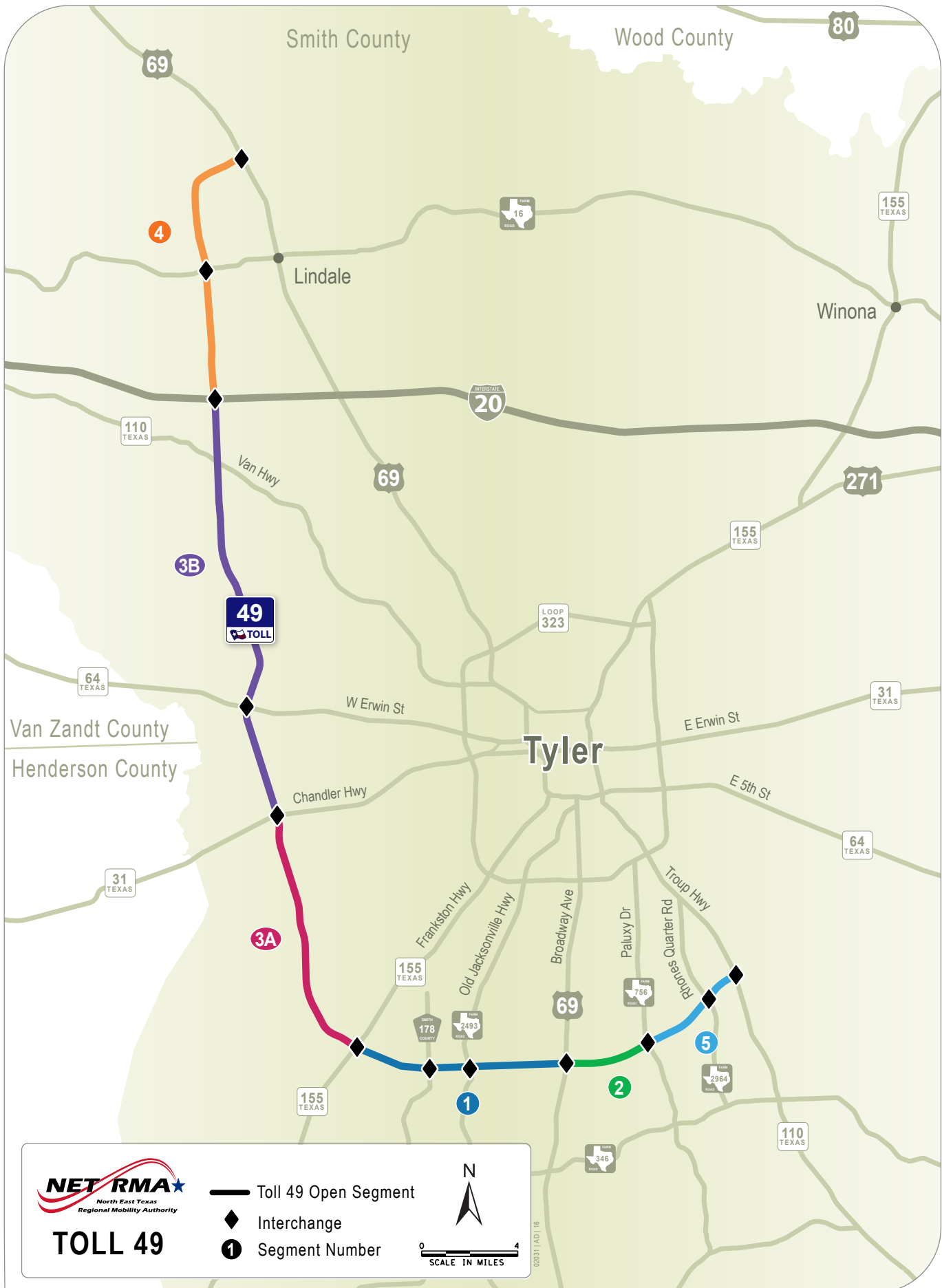


# TOLL 49 ANNUAL INSPECTION REPORT FY 2020

July 1, 2020







Member of the SNC-Lavalin Group

**Atkins North America, Inc.**  
909 E. Southeast Loop 323, Suite 520  
Tyler, Texas 75701-0521

Phone: +1 903.509.1552 Fax: +1 903.509.1599

July 1, 2020

Everett Owen  
Interim Executive Director  
North East Texas Regional Mobility Authority  
1001 ESE Loop 323, Suite 420  
Tyler, Texas 75701

Subject: Toll 49 Annual System Inspection for FY 2020

Dear Mr. Owen:

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 2020.

Atkins completed the System field inspections in April 2020 and reports that Toll 49 has been maintained in good repair, working order and condition. This observation was based on extensive 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 the 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:	\$ 3,544,680
Annual Maintenance Budget:	\$ 1,982,965
Annual Capital Budget:	\$ 2,202,411

The overall condition of Toll 49, along with the appropriate funding levels for the System budgets, exemplifies the 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: Mark McClanahan, NET RMA (w /1 copy)  
Colleen Colby, NET RMA (w/1 copy)

## TABLE OF CONTENTS

	Page
GEC Letter to NET RMA Interim Executive Director .....	i
List of Figures .....	iii
List of Tables .....	iii
Executive Summary .....	iv
Introduction .....	1
Background .....	1
Description of Corridor .....	1
Inspection Process .....	2
Maintenance Program Overview.....	2
Inspection Results .....	2
Overview .....	2
Roadway .....	2
Retaining Walls.....	4
Bridges.....	5
Toll Gantries .....	5
Roadway Rating Results .....	5
Recommendations.....	6
Overview .....	6
Maintenance Recommendations.....	6
Budget Recommendations .....	7
Summary .....	7
Appendix A: Master Trust Indenture Requirements	
Appendix B: Long-Term Renewal and Replacement Table	
Appendix C: TxCAP Roadway Ranking Criteria and Methodology	



# LIST OF FIGURES

	Page
Figure 1: Location of Standard TxDOT Mile Markers on Toll 49 .....	1
Figure 2: Pavement Cracking on SB SH 64 On-Ramp .....	3
Figure 3: Pavement Cracking on NB Mainlane .....	3
Figure 4: Pavement Cracking EB IH 20 Frontage.....	3
Figure 5: Edge Drop-Off NB SH 64 Off-Ramp .....	3
Figure 6: Erosion and Edge Drop-Off EB IH 20 Frontage .....	3
Figure 7: Worn Sign.....	4
Figure 8: Sign Missing .....	4
Figure 9: Faded Striping.....	4
Figure 10: Faded Striping.....	4
Figure 11: Culvert Partially Blocked .....	5
Figure 12: Structure Silted Up .....	5
Figure 13: Hazmat Trap Silted Up .....	5
Figure 14: Slope Erosion.....	5
Figure 15: Slope Erosion.....	6
Figure 16: Ditch Erosion.....	6

# LIST OF TABLES

Table 1: Toll 49 Rankings for 2020 .....	8
--	---

# EXECUTIVE SUMMARY

Toll 49 is a 2-lane, limited-access, all-electronic toll road located near Tyler, Texas, and 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 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 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). The NET RMA elected to conduct the 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.

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 the 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 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 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 SH 110 near Whitehouse.

Atkins North America, Inc. (Atkins), as GEC, completed the FY 2020 Inspection of the System in April 2020 and is pleased to report that the System has been maintained in good repair, working order, and condition. This observation was based on an extensive, non-invasive visual inspection of the roadway pavement, retaining walls, bridges and toll gantries, resulting in an overall condition score of 96.1.

Atkins recommends that the 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 2021, the following budgets are recommended:

Annual Operating Budget:	\$3,544,680
Annual Maintenance Budget:	\$1,982,965
Annual Capital Budget:	\$2,202,411

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 2020, Atkins completed the Annual Inspection of Toll 49 for FY 2020. 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 System and submit a report with their findings. The Annual Inspection is also used in the evaluation of refinements to the 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. 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 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. Roadway inspection data is collected and organized in real-time by means of computer tablets pre-loaded with a GIS-based collection application for visualization and analysis. The GIS base maps and output data are spot-checked to verify accuracy and consistency. Prior to

submitting, the observations are linked to the existing mile markers established on the System (Figure 1). These inspections provide a basis to plan funding levels needed to maintain NET RMA's assets for ensuing fiscal years.

### Description of Corridor

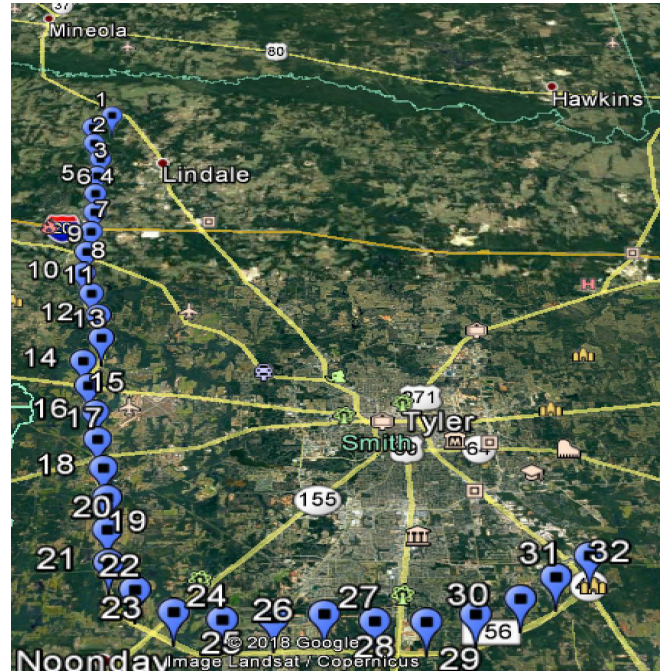


Figure 1: Location of Standard TxDOT Mile Markers on Toll 49

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 mainline 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 roads 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 categories: 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 process were linked to standard TxDOT mile markers established on Toll 49 (Figure 1).

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 an extensive 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 2021 for Toll 49.

## Maintenance Program Overview

On January 1, 2020, NET RMA entered into a contract with DBI Services, LLC, to provide routine and preventive maintenance services on Toll 49. TxDOT will continue to provide Toll 49 incident response services to NET RMA through an Interagency Agreement.

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 the 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 an extensive visual examination of element features.

### Roadway

Roadway elements have improved since last year's inspection. Pavement scores increased from 95.4 in FY 2019 to 98.4 in FY 2020 and Traffic Operations scores increased from 86.7 in FY 2019 to 89.7. Observations related to roadways included pavement cracking, faded pavement markings, pavement edge drop offs, and deteriorating signs.

There were only a few areas with pavement cracking, primarily on the entrance and exit ramps as shown on Figures 2, 3 and 4. Also noted were several areas with pavement edge drop-offs as shown on Figures 5 and 6.

In summer 2019, a One Course Surface Treatment (OCST) was applied to Segments 2 and 5 and ramps on Segments 1, 3A and 3B to





Figure 2: Pavement Cracking on SB SH 64 On-Ramp



Figure 5: Edge Drop-Off NB SH 64 Off-Ramp



Figure 3: Pavement Cracking on NB Mainlane



Figure 6: Erosion and Edge Drop-Off EB IH 20 Frontage



Figure 4: Pavement Cracking EB IH 20 Frontage

seal the existing pavement structure and extend its service life.

Signs along Toll 49 were in good condition due to a large sign replacement, which occurred in the 2017 Improvement Project. A few signs not included in the 2017 sign replacement showed wear as illustrated on Figure 7. There was also a missing “Slower Traffic Keep Right” sign as illustrated on Figure 8.

A night inspection was performed to observe the reflectivity of pavement striping and raised pavement markers, and safety illumination at ramps and intersections. There was noted faded and missing striping and graphics on ramps as shown





**Figure 7: Worn Sign**



**Figure 9: Faded Striping**



**Figure 8: Sign Missing**

on Figures 9 and 10. Those areas are scheduled to be restriped following an OCST in summer 2021.

Roadway drainage structures throughout the System are in need of maintenance due to the large amount of rainfall received in spring 2020. Many are silted up as illustrated on 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.

Back slopes lacking vegetative cover have



**Figure 10: Faded Striping**

developed erosion as illustrated on Figures 14 and 15. The erosion is causing sediment to collect in some ditches, thereby reducing their capacity. An example of ditch erosion is illustrated on Figure 16. Several areas noted in last year's inspection have been repaired and as of the date of this inspection, the Toll 49 maintenance contractor was working on additional areas of erosion repair.

### **Retaining Walls**

The ten retaining walls on Toll 49 are in good condition. Two of these walls are located at the SH 31 interchange (Segment 3A); the third is west of the SH 110 east interchange (Segment 5). The remaining seven are located on Segment 4.





**Figure 11: Culvert Partially Blocked**



**Figure 12: Structure Silted Up**

## 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. As of the date of the inspection, TxDOT's 2020 bridge inspection data was not available.

## Toll Gantries

Toll gantries are inspected and repaired periodically by Kapsch, NET RMA's toll integrator. The Kapsch staff routinely repair or replace strobe lights, cameras, servers and other computer



**Figure 13: Hazmat Trap Silted Up**



**Figure 14: Slope Erosion**

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 roadway inspections were complete, all roadway observations were tabulated for





**Figure 15: Slope Erosion**



**Figure 16: Ditch Erosion**

evaluation and rating. As mentioned previously, the visual inspection provides an assessment of three major system components: pavement, traffic operations and roadside. 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 indicated in Table 1, Toll 49 in FY 2020 received a pavement score of 98.5, which is an increase from the FY 2019 pavement score of 95.4; a traffic operations score of 89.7, which is an increase from the FY 2019 traffic operations score of 86.7; and a roadside score of 97.5, which is an increase from the FY 2019 roadside score of 96.0, for an overall score of 96.1, which is an increase from the FY 2019 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.

## RECOMMENDATIONS

### Overview

Several observations have been identified in this year’s inspection that require attention. On behalf of NET RMA, Atkins will continue to work in conjunction with NET RMA’s Maintenance Director, NET RMA’s Maintenance Contractor (DBI Services, LLC), 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 on ramps.
3. Faded striping and graphics on 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 prevents 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 2021 as Phase 5 of the scheduled erosion repair on all segments. The cleaning of drainage structures and ditches will be conducted by the NET RMA Maintenance Contractor.

**Observation 2 – Pavement Cracking on Ramps**

The second area of concern is the pavement cracking on entrance and exits ramps. This cracking will be addressed by an OCST project in summer FY 2021. As part of the OCST project, areas with faded and missing striping will be addressed.

**Observation 3 – Faded Striping and Graphics on Ramps**

Faded striping and graphics were observed on entrance and exit ramps. This worn striping and graphics are scheduled to be replaced following application of an OCST in summer 2021.

**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 the 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 NET RMA Director of Maintenance, along with a review of the anticipated major maintenance repairs scheduled for FY 2021, the following budgets are recommended:

Annual Operating Budget <sup>1</sup> :	\$3,544,680
Annual Maintenance Budget <sup>2</sup> :	\$1,982,965
Annual Capital Budget <sup>3</sup> :	\$2,202,411

<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> R&R Projects budgeted for 2021.

**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 region.

Table 1: Toll 49 Rankings for 2020

Roadway	Item	Count of Ratings	Sum of Ratings	Maximum Score	Average Score	Rating Weight Value	Component Subtotal	Component Score	"Sub Item Weighed Value"	TxCAP Weighted Value	Weighted Score	Category Score
<b>Pavement</b>												
Rutting												
Toll 49	Rutting (Asphalt)	108	540	540	5.00	20	100.00	100.0		21.28%	21.3	
Cracking												
Toll 49	Cracking	108	527	540	4.88	20	97.60	97.6		21.28%	20.8	
Failures												
Toll 49	Failures	108	532	540	4.93	20	98.60	98.6		25.53%	25.2	
Ride												
Toll 49	Ride (Settlement)	108	538	540	4.98	20	99.60	99.6		14.89%	14.8	
Edges												
Toll 49	Edges	108	523	540	4.84	20	96.80	96.8		17.02%	16.5	98.5
<b>Traffic Operations</b>												
Raised Pavement Markers												
Toll 49	Raised Pavement Markers	105	467	525	4.45	20	89.00	89.0		18.18%	16.2	
Striping, Pavement Graphics												
Toll 49	Graphics	27	115	135	4.26	20	85.20	85.2	20%			
Toll 49	Striping	108	447	540	4.14	20	82.80	82.8	80%	22.73%	18.9	
Delineators												
Toll 49	Object Marker	97	451	485	4.65	20	93.00	93.0	47%			
Toll 49	Delineators	108	453	540	4.19	20	83.80	83.8	53%	13.64%	12.0	
Signs - Large												
Toll 49	Signs - Large (>32 SF)	57	259	285	4.54	20	90.88	90.8		18.18%	16.5	
Signs - Small												
Toll 49	Signs - Small	108	509	540	4.71	20	94.26	94.2		18.18%	17.1	
Lighting												
Toll 49	Lighting	46	227	230	4.93	20	98.70	98.6		9.09%	9.0	89.7
<b>Roadside</b>												
Vegetation Management												
Toll 49	Herbicide	108	520	540	4.81	20	96.30	96.2	50%			
Toll 49	Turf Condition	108	525	540	4.86	20	97.22	97.2	50%	18.75%	18.1	
Litter												
Toll 49	Litter & Debris	108	505	540	4.68	20	93.52	93.5		12.50%	11.7	
Trees and Brush												
Toll 49	Trees and Brush	108	540	540	5.00	20	100.00	100.0		12.50%	12.5	
Drainage												
Toll 49	Drainage Pipe	108	506	540	4.69	20	93.70	93.7	29%			
Toll 49	"Drainage- Other (Bridges, Ditches, Riprap,etc)"	108	505	540	4.68	20	93.52	93.5	29%			
Toll 49	Inlets	51	255	255	5.00	20	100.00	100.0	14%			
Toll 49	Slopes (Erosion)	108	525	540	4.86	20	97.22	97.2	29%	18.75%	18.1	
Encroachments												
Toll 49	Encroachments	108	538	540	4.98	20	99.63	99.6		6.25%	6.2	
Guard Rails												
Toll 49	Safety Barrier	74	370	370	5.00	20	100.00	100.0		18.75%	18.8	
Guardrail End Treatments												
Toll 49	Guardrail End Treatments	74	360	370	4.86	20	97.30	97.2		12.50%	12.2	97.5
<b>Pavement</b>										98.5	55.00%	54.2
<b>Traffic Operations</b>										89.7	25.00%	22.4
<b>Roadside</b>										97.5	20.00%	19.5
<b>Total Score</b>												96.1

## **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)

6/19/2020

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	\$ 1,345,000
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%

ATKINS  
909 E SE Loop 323 #520  
Tyler, TX 75701  
Tel: 888.792.7275

[www.atkinsglobal.com/northamerica](http://www.atkinsglobal.com/northamerica)