

March 31, 2015

Mike Heiligenstein
Executive Director
Central Texas Regional Mobility Authority
3300 N. IH-35, Suite 300
Austin, Texas 78705

Re: 2015 Annual Report of Conditions – 183A Turnpike / Manor Expressway

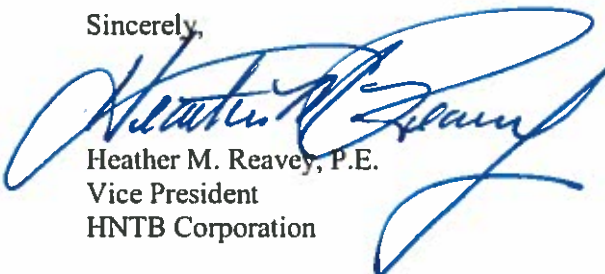
Dear Mr. Heiligenstein:

We are pleased to submit the 2015 Annual Report of Conditions for the 183A Turnpike and Manor Expressway. This joint report sets forth our findings as to the condition of the 183A Turnpike and Manor Expressway, as well as our recommendations of proper maintenance, operation, and repair of the facilities during 2015-2016.

To determine the physical condition of the roadways, structures, and related facilities and equipment, inspections of the facilities were performed. In November 2014, HNTB conducted a visual inspection of all portions of the 183A Turnpike and in November 2014, Atkins conducted a similar inspection of the Manor Expressway. Bridges are inspected by the Texas Department of Transportation (TxDOT) every two years per applicable federal requirements in accordance with the National Bridge Inspection Program (NBIP) and the findings of the most recent NBIP inspections were reviewed and are reflected in this report for both facilities. The following report summarizes the conditions observed and are fully reported in the 2015 Annual Detailed Inspection Report transmitted to the Mobility Authority's Director of Engineering.

We appreciate the opportunity to provide the services required of the General Engineering Consultants, and we wish to acknowledge the excellent cooperation of the Mobility Authority staff in the performance of these services.

Sincerely,



Heather M. Reavey, P.E.
Vice President
HNTB Corporation



Alastair Miller
Principal Project Director
Atkins

Enclosure

Copies to: W. Burford, CTRMA
B. Chapman, CTRMA
File



**CENTRAL TEXAS
Regional Mobility Authority**

**2015 Annual Report of Conditions
183A Turnpike – HNTB
Manor Expressway - Atkins**

TABLE OF CONTENTS

Page

183A Turnpike

Introduction.....	1
Inspection of Facilities	2
Annual Report of Conditions	3
1. Annual Visual Inspections	3
1.1 Roadways.....	3
1.2 Bridges	8
1.3 Buildings	9
1.4 Toll Collection System.....	11
1.5 Retaining Walls	12
2. Recommendations	12
2.1 Recommendations from Annual Visual Inspections.....	12

Manor Expressway

Introduction.....	16
Inspection of Facilities	17
Annual Report of Conditions	18
1. Annual Visual Inspections	18
1.1 Roadways	19
1.2 Bridges	20
1.3 Retaining Walls	22
1.4 Buildings.....	22
1.5 Overhead Sign Bridges.....	25
1.6 Toll Collections System.....	26
2. Recommendations	26
2.1 Recommendations from Annual Visual Inspections.....	27

On-Going Initiatives

1. Ongoing Initiatives.....	29
1.1 Maintenance Contract(s)	29
1.2 Pavement Management.....	29
1.3 Preventative Maintenance Programs	29

Budget

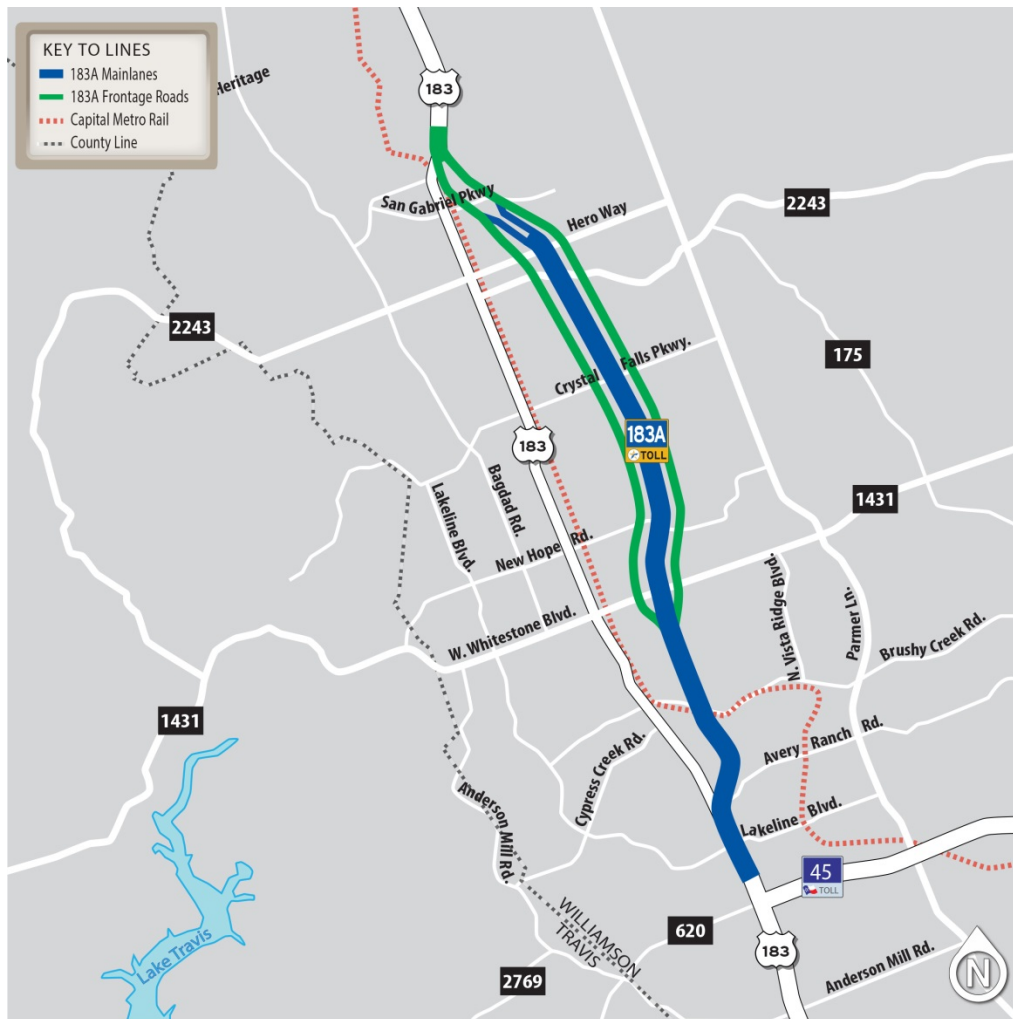
1. Annual Budget.....	30
1.1 Annual Operating Budget	30
1.2 Annual Maintenance Budget.....	30
1.3 Annual Capital Budget	31
2. Renewal and Replacement Fund.....	31

183A Turnpike



INTRODUCTION

The Central Texas Regional Mobility Authority (Mobility Authority) is responsible for the 183A Turnpike (183A) - a roadway facility stretching 10.4 miles from RM 620 to CR 276 in Williamson County. The first phase of 183A Turnpike opened to traffic on March 3, 2007, to relieve congestion, enhance mobility, and provide safer travel. The second phase opened to traffic on April 6, 2012. This project also included a 4.7 mile extension of the 183A Shared Use Path along 183A from RM 1431 to Hero Way. This extension was opened to the public on January 18, 2013. 183A is a critical link in the highway network serving an area experiencing tremendous development and economic growth. The operational demands placed on the 38 bridges, numerous ancillary structures, and miles of roadway that make up 183A require that the Mobility Authority maintain a high level of maintenance to ensure that the facility remains in sound condition and good working order. With the constant wear on the facility and the need for the prevention of deterioration due to aging, it is essential that the facility have a planned and effectively executed program of maintenance and repair.



Map of 183A Turnpike

In accordance with the terms of Section 712 of the Master Trust Indenture, the Mobility Authority shall require the General Engineering Consultant (GEC) to make an inspection of the System, at least once in the Fiscal Year following the Substantial Completion of the initial Project (183A Turnpike) funded with Bond Obligations and in each Fiscal Year thereafter. The System is currently comprised of the 183A Toll Road and the Manor Expressway Phase I Project. This report addresses only 183A.

Following each inspection and on or before the 90th day prior to the end of each Fiscal Year, the GEC shall submit to the Mobility 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.

Copies of such reports are to be provided to the Trustee by the Mobility Authority.

Inspection of Facilities



183A Turnpike Mainlanes looking North from the Scottsdale Overpass

In compliance with the requirements of the Master Trust Indenture, HNTB Corporation, as GEC, conducted a visual inspection of the entire 183A Turnpike in November and December of 2014. The inspection covered the 183A facility including: pavement; edging and curbing; various walls; cut sections and embankments; pedestrian bridges; roadway lighting; drainage structures; signs and pavement markings; interchanges, including toll plazas, Field Operations Building, ramps, and equipment; and other facilities, such as shared use path and sidewalks, within the 183A Right-of-Way. Tolling equipment was not included as it is inspected by a separate entity.

The level of inspection which forms the basis for this report is a general visual observation. The opinions, statements, and recommendations made in this report are based solely on conditions revealed by this visual inspection. No representation or warranty is made that all defects have been discovered or that defects will not appear later.

A 183A Turnpike Detailed Inspection Report of the inspection findings is transmitted separately to the Mobility Authority's Director of Engineering.

Annual Report of Conditions

The statement of conditions of the toll road facility and the recommendations in this report are based on the findings of the above-noted visual inspections and a review of current operating practices and agency organization. This report sets forth conclusions and recommendations concerning the condition, maintenance, repair, and operation of 183A and its various facilities; the amount of funding necessary for the proper maintenance, repair, and operation of the toll road during the ensuing Fiscal Year (2016); and the amount of funds available in the Renewal and Replacement Fund.

There were no major ongoing construction activities on the 183A Mainlanes during the 2014 Fall inspection period. However, there was minor construction in progress during the 2014 inspection period along the northbound and southbound frontage roads, including new asphalt pavement, new markings and graphics, and a dedicated u-turn lane at the intersection of 183A and New Hope Drive. There was also minor construction along the south bound frontage road north of RM 1431 for the adjacent Costco site.

1. ANNUAL VISUAL INSPECTIONS

The inspection of 183A facilities in November and December 2014 was conducted to evaluate the general condition of the Mobility Authority's assets and identify any deficiencies present that may require attention or repair. The inspection conducted for this report consists of general visual observations and is not based on detailed in-place testing unless noted specifically. The opinions, statements, and recommendations in this report are based solely on conditions observed during the inspection.

1.1 ROADWAYS

The visual inspections consist of general visual observations, revealing areas where the existing conditions of these roadways require attention.

For the purpose of this report, the existing roadway conditions were rated and are grouped by the following categories:



183A Turnpike at Park Street looking South

- **Pavement and Shoulders** – condition of pavement, shoulders, curbs and curb inlets, and their associated joints.
- **Riprap** – condition of riprap structures and their associated joints, including concrete slope protection, flumes, and abutment slopes.

- **Drainage** – Deficiencies associated with inadequate drainage at roadside inlets, culverts, pipes, grates, flumes, and weepholes.
- **Signs** – conditions associated with mainlane and ramp signing (not including signing at toll plazas), trailblazers, and route markers.
- **Striping & Delineation** – condition of striping, pavement graphics, raised reflective pavement markings, and delineation.
- **Concrete Barriers** – condition of concrete barriers and bridge rail.
- **Guardrail & Attenuation** – condition of metal beam guard fence (MBGF) and its components, terminal anchors, single guardrail terminals (SGT), and various crash attenuation systems.
- **Coating** – conditions such as peeling, absent, or damaged coatings on concrete traffic barrier, concrete traffic rail, or other coated surfaces.
- **Fencing** – condition of chain-link, barbed wire, and ornamental fencing at the ROW, or within maintenance limits.
- **Lighting** – conditions associated with ramp lighting structures and its components.
- **Landscape Areas** – condition of the various landscaped areas, plantings, streetscape elements and other surface treatments.
- **Shared Use Path** – condition of the sidewalk, pedestrian bridges, retaining walls, markings, and signage for the Shared Use Path.
- **Ponds** – condition of the pond berms, sedimentation basins, sand filtration basins, concrete retaining walls, block retaining walls, riser structures, inlet and outlet structures, splitter boxes, manholes, riprap, and access ramps.

A summary of the condition of 183A is described as follows:

The inspection conducted during the Fall 2014 period verifies that 183A continues to provide a well-maintained route that connects Leander and Cedar Park to the downtown Austin area. The area around 183A continues to see new developments, with more expansion planned for the future. The new growth in Williamson County and the subsequent increased traffic will require continued inspection and maintenance of 183A in the following years.

Asphalt Pavement:

Although minor issues were noted, the inspection conducted in Fall 2014 did not identify any major deficiencies in the asphalt pavement that affect the safety and operations of 183A. Longitudinal cracking along joints and lane lines, fatigue cracking and transverse cracking were identified as the most common deficiencies along northbound and southbound frontage roads (see pictures below). However, the northbound and southbound frontage roads were in the process of being repaved during the inspection, so many of these deficiencies will have been addressed at the time of this report. New asphalt pavement sections include the northbound and southbound frontage roads from RM 1431 to approximately 1000 ft. north of San Gabriel Parkway, excluding sections at 183A and Scottsdale Drive. These sections at Scottsdale drive were repaved in 2012 with the construction of 183A Phase II, and are in good condition.



Observed Longitudinal Cracking



Observed Fatigue Cracking



Observed Longitudinal Cracking



Observed Transverse Cracking

Concrete Pavement:

Concrete pavement along the mainlanes and frontage roads was found to be in good conditions, with some minor deficiencies present. The most prevalent deficiency was transverse cracking, which occurred at various locations along the mainlanes. While transverse cracking is common with concrete pavement, it is a relatively minor issue and does not affect safety and operations at this time. This issue does not require immediate attention, however it should continue to be monitored during future condition inspections.

Two small potholes were identified along the concrete pavement – one located on the southbound mainlane just north of RM 1431 and the other in the southbound entrance ramp at Brushy Creek Loop, just South of the toll gantry. These deficiencies may affect vehicles along 183A and should be repaired in a timely manner.

The northbound mainlane approach to the bridge over Lakeline Blvd is not a smooth approach and as the speeds have increased on 183A over the years the uneven pavement transition from the roadway section to the bridge section is more noticeable and may be getting worse. It is recommended in the upcoming year or two to improve this transition.

Riprap:

Concrete riprap throughout the project was in good condition with only minor cracking present and a few rust stains under the pedestrian bridges.

Drainage:

Drainage elements overall were found to be in good condition with only minor deficiencies. There was sediment buildup in some of the inlets. Minor to moderate erosion was present in several ditches and berms and at bridge drain outlets. Some examples are shown in the pictures below.



Erosion between SBML and SBFR



Erosion behind MBGR on SBML

Curb and Gutter:

The curb and gutter along 183A had no major issues, but showed signs of wear along the length of the frontage roads and mainlanes. Breaks, cracks and spalls were present in various locations. Although these issues do not affect safety and operations of the facilities, the more prominently broken curbs should be repaired eventually.

Striping and Delineation:

Some sections of frontage road striping showed signs of fading, however functionality was not affected. Pavement striping experienced isolated areas of fading along the length of the mainlanes, predominantly outside lines and markings at ramp gores. Delineation was in generally good condition. Two delineators on posts along the northbound frontage road were damaged and should be replaced. As noted in the Asphalt Paving section above, the northbound and southbound frontage roads were recently repaved and restriped, therefore the majority of the defects found during the inspection have since been addressed.



Observed Pavement Marking Cracking



Observed Pavement Marking Fading

Signage:

A reflectometer was used to test the reflectivity of a random sampling of 20 signs along the frontage roads and main lanes of 183A. Although some signs were visibly more worn than others, all that were tested greatly exceeded the minimum threshold. The signs along 183A are still in good condition and do not need to be replaced at this time. It is recommended that reflectivity testing be performed every 3-5 years to ensure compliance with requirements.

Concrete Barrier Rail:

The Single Slope Traffic Rail (SSTR) along 183A was in generally good condition; however there were various locations along the mainlanes with noticeable damage. The damage along the SSTR is more detrimental to the visual appeal of the structure than to its functionality; however the barrier should be repaired as part of facility maintenance.

Guardrail and Attenuation:

The Metal Beam Guard Fence (MBGF) and attenuators throughout the project were in good condition with minor deficiencies in the form of hairline cracks in mow strip and minor dents and scrapes to MBGF and Single Guardrail Terminal (SGT) in multiple locations.

Coating:

The overall condition of the coatings on concrete rail and other coated surfaces was generally good. Some deficiencies noted include the presence of graffiti on some walls and splitter boxes in ponds, the CTRMA logo is rusting on most of the Phase I retaining walls, and paint on SSTR has minor chips or scrapes throughout the project. These deficiencies are aesthetic in nature and do not compromise safety of the traveling public.

Fencing:

Fencing throughout the project was found to be in good condition during the 2014 Fall inspection. The only deficiencies noted were that the fencing around the toll equipment buildings does not appear to have been grounded.

Lighting:

The illumination elements were inspected for damage and proper functioning of the lights at night. The only item noted was that two of the illumination poles had minor cracks in their concrete foundations, which is not believed to pose a safety issue at this time.

Landscape Areas:

Landscaping areas, which are concentrated mainly at intersections between 183A and cross streets, were found to be in good condition during the Fall of 2014. Some common deficiencies found include minor erosion in and around planting beds, minor damage to rock walls, trash and sediment accumulation, and washing out of decorative rocks in some areas. Several small trees that were dead or dying were found flagged for removal and replacement at the time of the inspections.

Shared Use Path:

The Shared Use Path (SUP) runs along the southbound frontage road from Hero Way to RM 1431, where it crosses along the north side of RM 1431 and continues along the east side of 183A to its termination at the Brushy Creek Regional Trail at South Brushy Creek. During the 2014 Fall inspection, the SUP was found to be in very good condition with only minor wear and tear to the facility.

Detention/Water Quality Ponds:

183A has numerous detention and water quality ponds along the length of the facility. These ponds serve to provide water quality treatment of the runoff from the roadway and detain the storm water where necessary. The most common issues noted were minor erosion of some pond berms where water entered the pond, clogging of the outlet riser pipe holes, trash buildup, one outfall pipe not draining properly.

183A Phase I Project Warranty:

Many previously identified issues within the asphalt pavement sections were addressed with the recent repaving of the frontage roads. These issues were noted in previous reports and appeared to be the result of poor workmanship during the Phase I construction of 183A as well as normal wear and tear of the facility. Under the terms of the contract, the Developer was required to rectify a majority of the identified issues as part of their warranty obligations. Repairs associated with the 183A Phase I warranty items were substantially completed by the Fall 2014 inspection period, with minor ongoing work. Overall 183A continues to operate sufficiently on a daily basis, but is experiencing normal wear and tear that will require monitoring and maintenance to continue to serve as designed. With the completion of the repairs to the asphalt pavement the warranty period has ended and all warranty repairs have been made.

1.2 BRIDGES

All of the 183A bridges were last inspected and evaluated by TxDOT from October 2013 to January 2014, in accordance with the National Bridge Inspection Program (NBIP) which occurs every two years per federal requirements. The resulting reports were provided to the Mobility Authority and serve as the basis for the comments and recommendations for the Bridge portion of this report.



Scottsdale bridge over Mainlanes

The existing bridge conditions were rated and are grouped by the following categories:

- **Deck** – condition of the deck surface, its associated joints, rail, sidewalks/medians, striping, and drainage on top of the bridge structure.
- **Substructure** – condition of columns, bents, abutments, foundations, and riprap.
- **Superstructure** – condition of concrete beams, beam connections and bearings.
- **Channel** – condition of the stream or creek being crossed by the bridge
- **Culverts** – condition of culvert and associated items
- **Approaches** – condition of the approach slabs, rail leading up to the bridge, guard fence, and retaining walls at the bridge abutments
- **Miscellaneous** – information about vertical under clearances
- **Traffic Safety** – description of approach rails and impact attenuators

A summary of the TxDOT bridge inspection reports for 183A is provided in the 183A Turnpike Detailed Inspection Report.

The pedestrian bridges were not inspected by TXDOT and were thus included in the GEC's annual inspection. There are four pedestrian bridges along the Shared Use Path adjacent to 183A. These bridges were found to be in good condition.

Based on a review of the most recent inspection reports and visual observations, 183A bridges, including those for the shared use path, remain in good condition. There are no significant deficiencies noted in the 2013 and 2014 NBIP Reports.

1.3 BUILDINGS

The inspection – which consists of general visual observations – revealed areas where the existing conditions of these facilities require attention.

For the purpose of this report, the existing building conditions are grouped by the following categories:



183A Turnpike Traffic Operations Center
(formerly called Field Operations Building)

1. Architectural

- a) **Building Exterior** – condition of walls, glazing, decks, stairs, handrails, sealants, soffits, doors, paint, and signage.
 - b) **Building Interior** – conditions of the lobby, finishes, stairs, doors, restrooms, security system, and ceiling tile.
 - c) **Roof** – condition of the surface condition, seams, expansion joints, and access.
 - d) **Drainage** – condition of the roof drains, secondary drainage, gutters, downspouts, and edge flashing.
 - e) **Site** – condition of the ramps, rails, lighting, retaining walls, screen walls, landscaping, irrigation, and parking.
2. **Structural** – condition of the foundation, ground floor slab, grade beams, walls, elevated floor slabs, roof, columns, and joints.
 3. **Mechanical** – condition of cooling and heating systems, air handlers, exhaust fans, ductwork, piping and insulation.
 - a) **Plumbing** – condition of the piping, water flow and pressure, hot water source, water pumps, natural gas plumbing, sanitary sewer plumbing, fixtures, and water softening system.
 - b) **Fire Protection Systems** and backflow preventers.
 4. **Electrical** – condition of the primary transformer, step-down transformer, electrical room, wiring, conduits, emergency power, and communication systems.

With the implementation of video-tolling, conversion to an all-electronic toll collection system (ETC) on 183A, future variable tolling, and the development of Incident Management and Operations Program, the ultimate use of the existing Field Operations Building is now in transition to a Traffic Operations Center.

A summary of the Mobility Authority's building and plazas elements, together with their associated general condition, are described below. More detailed information on the facilities can be found in the 183A Detailed Inspection Report.

1.3.1. MAINLANE PLAZA AT PARK STREET

Traffic Operations Center (formerly called Field Operations Building) – Overall, the mainlane plaza facilities at Park Street generally are in very good condition. The most significant deficiency noted was expired inspection certificates for some fire extinguishers (while all extinguishers with gauges were in the range of acceptable pressure). It should be noted that the elevator inspection certificate will need to be renewed April 11, 2015.

Toll Plaza and Access Walkway – There were no significant defects noted on the toll plaza or access walkway.

1.3.2. RAMP PLAZAS AT BRUSHY CREEK ROAD

The ramp plaza facilities are in overall good condition.

The toll booths at the Brushy Creek Road Ramp Plazas remain in place. With the conversion to a "cashless" all ETC toll collection system, the toll booth at each plaza has been deactivated, some non-essential equipment removed, and the toll booth has been secured. Efforts continue to potentially remove the booths; however, until the booths are removed, they should be protected and periodically inspected.

1.3.3. LAKELINE TOLL SYSTEMS EQUIPMENT (ILP) STRUCTURES

The Lakeline ILP Enclosure Structures on both the northbound and the southbound roadways are in overall good condition. The main comment noted was that there is exposed wire at the southbound location in the ILP enclosure structure.

1.3.4. MAINLANE PLAZA AT CRYSTAL FALLS PARKWAY

Toll Plaza – There were no significant defects noted on the toll plaza.

ILP Enclosure Structures – The ILP Enclosure Structure on the northbound roadway is in overall good condition. There were no significant defects noted during inspection.

1.3.5. RAMP PLAZA TO SCOTTSDALE DRIVE

The Scottsdale Drive Ramp ILP Enclosure Structure is in overall good condition. No significant deficiencies were found.

1.3.6. RAMP PLAZAS NORTH OF CRYSTAL FALLS PKWY.

The Crystal Falls ILP Enclosure Structures on both the northbound and the southbound roadways are in overall good condition. There were no significant defects noted.

1.3.7. MAINTENANCE STORAGE YARD

The Maintenance Storage Yard at the Brushy Creek Road interchange provides a secured area for storage of various materials, including signs, lighting poles and fixtures, and other miscellaneous materials. The facility also stores a fully operational Anti-Icing Storage Tank and space for solid de-icing agents. This facility, together with the Traffic Operations Center, meets the immediate needs for storage of equipment and materials. The facility remains in generally good condition with adequate space for the orderly storage of materials.

As the Mobility Authority's Toll Road System and associated maintenance needs develop and expand, particularly with the implementation of additional toll road projects, planning has begun for a comprehensive Maintenance Program and associated facilities to best meet the Agency's future maintenance requirements. Construction has also begun on a new storage yard at the 290 East/Manor Expressway facility to provide additional storage and help meet anticipated upcoming storage needs.

1.4 TOLL COLLECTION SYSTEM

The basic components for the Toll Collection System (TCS) are the Toll Collection System Infrastructure, the Toll Collection System Operations and Maintenance, the Customer Service Center, and the Violation Processing Center. The TCS is fully interoperable with all Texas toll roads so that ETC customers from other cities, such as Houston and Dallas, can use the Mobility Authority's system and vice versa. Violation processing and collections, as well as the operation and maintenance of the toll collection systems, are provided through private contracts.

The Fall 2014 annual inspection performed by the GEC only included inspection of the Toll Infrastructure, as described in the section below. It does not include inspection of the tolling equipment itself. This equipment is inspected by a separate party.

1.4.1 TOLL COLLECTION SYSTEMS INFRASTRUCTURE

The toll system infrastructure required to accommodate the TCS consists of various components at each remote tolling location including, but not limited to:

- Special Reinforced Pavement Section;
- Retaining Walls and Copings;
- Drainage Features;
- Civil Site Work, including Grading, Access Driveways, and Fencing;
- Toll gantries, including foundations and gantry structures;
- ILP Equipment Enclosures, environmental protection and climate controls for housing the electronic equipment;
- Conduit and ground boxes providing connections between the ILP's and the ETC Lane equipment installations;
- Power and WAN communication services up to the location of the ILP enclosures;
- Emergency Generators and associated fuel tanks; and

- Signing, pavement markings, traffic barriers and other roadway appurtenances required at each remote tolling location.

The visual inspection of the toll system infrastructure indicates that, aside from the minor deficiencies noted at the ILP Equipment Enclosures in the previous year's Annual Inspection Report, the primary components remain in very good condition. The one significant item that should be addressed as soon as possible is the exposed wires in the ILP Enclosures. The remaining items noted at the ILP Equipment Enclosures are the same as in last year's report and most do not require immediate attention; however due to the small amount of effort necessary for these repairs, it is recommended that they be addressed in FY 2016. Efforts should continue to keep all components clean, well maintained, and secure for the Toll Collection System.

1.5 RETAINING WALLS

The retaining walls on the project consist of mainly Mechanically Stabilized Earth (MSE) walls. There are also concrete noise walls adjacent to neighborhoods in the Phase I segment of 183A, a concrete block subdivision wall at the Block House Creek neighborhood, and soil nail and drilled shaft wall systems at the Scottsdale Drive underpass.

The 2014 Fall visual inspection did not identify any deficiencies that affect the safety and operations of the facility. The majority of the defects noted were minor cracking of panels, water stains on the face of the walls, cracked mow strip, and minor scratches and chips at the bottom of the walls, believed to be from mowing operations. However, there were a significant number of vertical cracks on the wall panels of soil nail walls 19 and 20, at the Scottsdale Drive bridges, which had white, brown, or black stains at the crack. These walls were visually observed by two structural engineers and the consensus was that there seems to be water pressure behind these walls, possibly due to the drain pipe behind the wall being clogged. It is recommended that this drain be located and cleaned. The structural integrity of the walls is not believed to be compromised; however the walls should continue to be monitored.

2. RECOMMENDATIONS

Based on the findings of the annual visual inspections as well as the inventory and condition assessment, the current maintenance program that has been implemented is effective and should be continued to secure and maintain the overall condition of each asset. The continued efforts by the Mobility Authority contract maintenance personnel to maintain the roadways, bridges, roadside appurtenances, toll plazas, and building have kept the overall condition of the Mobility Authority assets in very good condition.

2.1 RECOMMENDATIONS FROM ANNUAL VISUAL INSPECTIONS

Based on the 2014 Fall annual visual inspections, it is recommended that the Mobility Authority continue to carry out an effective maintenance program, utilizing private contractors and partnerships with other local agencies, as necessary, to ensure that the 183A facility continues to be maintained in sound condition and good working order.

2.1.1. ROADWAYS

No major deficiencies were noted during the Fall 2014 visual inspection that would be detrimental to the safety and operations of the 183A facility. However, the following recommendations are noted for improvement of facility aesthetics or to prevent future issues.

- Two potholes were identified in the concrete pavement of the southbound mainlanes and should be repaired in a timely manner (see pictures below). The first pothole is located just north of RM 1431 and the second can be found at the Brushy Creek Loop entrance ramp, just south of the toll gantry.



Southbound Mainlanes
North of RM 1431



Southbound Entrance
Ramp at Brushy Creek Loop

- There is large break with exposed rebar in the Single Slope Traffic Rail (SSTR), located on the northbound mainlane, just north of Avery Ranch (see picture below).
- A large vertical crack in the SSTR, also on the northbound mainlane, can be found north of Park Street (see picture below). Although this damage is more detrimental to the visual appeal rather than the functionality of the SSTR, the structure should be repaired as part of facility maintenance.



Northbound Mainlanes North of
Avery Ranch



Northbound Mainlanes
North of Park Street

- Due to the recent repaving of the frontage roads, most pavement markings and graphics are new and in very good condition. Markings and graphics along old sections of asphalt pavement are in fair condition, with signs of cracking and fading. The markings along the concrete pavement are in generally good condition, with areas of fading along the mainlanes. Fading along the mainlanes is primarily on outside lines and at ramp gores. These areas should be restriped in the upcoming year.
- The northbound bridge approach to Lakeline Blvd is uneven and it is recommended in the upcoming year or two that repairs be made to improve the transition from the roadway to the bridge.
- Many of the Water Quality pond outlet riser pipes are partially clogged and could eventually lead to the ponds not being as effective as intended. It is recommended that these structures be regularly cleaned or modified to maintain proper flow from sedimentation basins to sand filtration basins.
- The outlet pipe from Bulldog Pond, under the south end of Blockhouse Creek Bridge, is not draining properly. Recommend re-grading from the pipe flowline to Blockhouse Creek to ensure positive drainage.
- The inlet pipe in the middle of Cougar Pond, North of Brushy Creek Road, is completely clogged. Recommend cleaning inlet.
- The Badger Pond does not appear to be draining properly. Recommend determining the reason the pond is not draining and repair as necessary.

2.1.2. BRIDGES

Based on a review of the results of the October 2013 and January 2014 TxDOT bridge inspections, there are no significant deficiencies which require attention or repair. There are a few instances of scour at bridge piers, but it was determined they do not warrant additional attention. Therefore there are no recommendations at this time.

2.1.3. BUILDINGS

The Traffic Operations Center (formerly Field Operations Building) and the mainlane Toll Plaza and Access Walkway facilities at Park Street are in generally good condition. Based on a review of the results of the buildings inspection, a few deficiencies deserve attention at this time.

- The most significant item that should be addressed is the exposed wires in the ILP Enclosures.
- Many of the fire extinguishers in the toll facility buildings had expired inspection certificates. Though the gauges on the extinguishers indicated adequate pressure, they need to be re-inspected and new certificates issued.
- The fencing around the toll equipment buildings does not appear to have been grounded. Recommend adding grounding to protect fence and adjacent equipment.

2.1.4. RETAINING WALLS

The 2014 Fall visual inspection did not identify any major deficiencies that affect the safety and operations of the facility. A few recommendations for retaining walls are as follows:

- There were a significant number of vertical cracks on the Walls 19 and 20 at Scottsdale Underpass, many with white, brown, or black stains at the crack. These walls were visually observed by two structural engineers and the consensus was that there seems to be water pressure behind these walls, possibly due to the drain pipe behind the wall being clogged. It is recommended that this drain be located and cleaned. The structural integrity of the walls is not believed to be compromised; however the walls should continue to be monitored.
- There is an illumination fixture attached to the coping of Wall 20, just north of the Scottsdale Bridge, which is continuously leaking water. It is recommended that a solution should be developed and implemented that drains the water from behind the wall and illumination fixture.

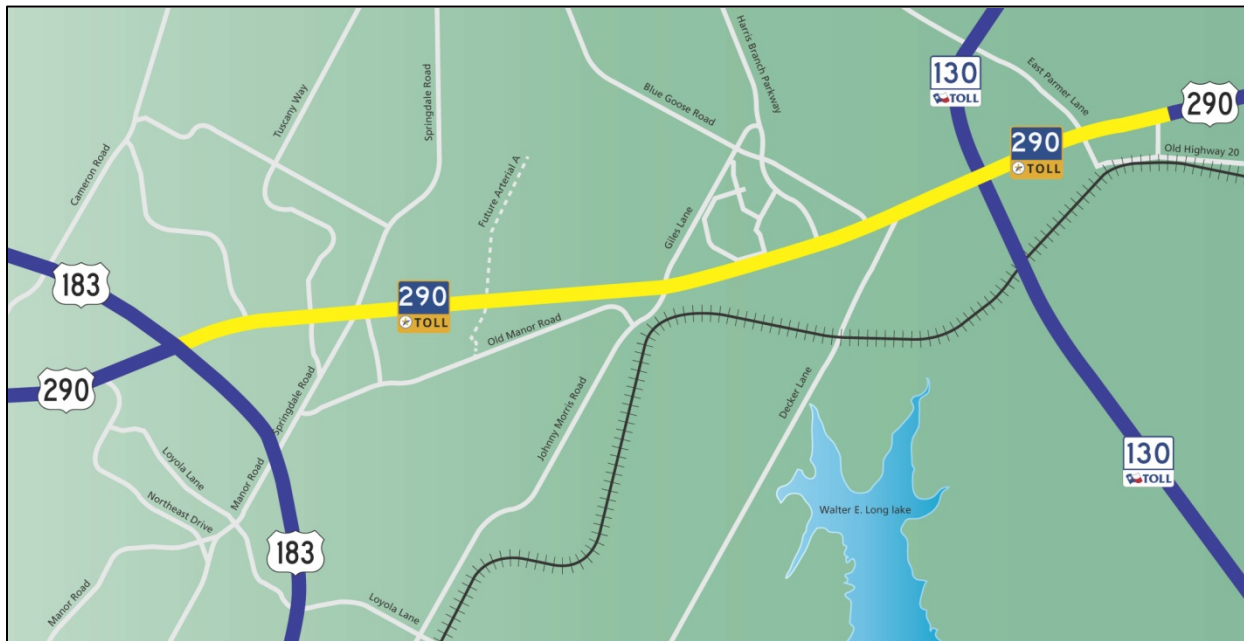
Manor Expressway



INTRODUCTION

The Manor Expressway is a 6.2-mile limited access toll road developed and constructed by the Central Texas Regional Mobility Authority (Mobility Authority) to relieve congestion on US 290 East. The all-electronic toll collection corridor, consisting of three lanes in each direction, begins at US 183 and ends just east of Parmer Lane. The first phase of Manor Expressway, which consists of four tolled direct connectors at the US 183 interchange, opened in December 2012. The second phase of Manor Expressway opened to traffic in May 2014.

The 2015 annual report describes the inspection findings for the Manor Expressway.



Map of Manor Expressway

Manor Expressway is a significant link to important roadways in the region including US 183, IH-35 and the SH 130 Toll Road and provides a critical evacuation route from the Gulf Coast. Completion of the Manor Expressway, is expected to foster economic growth opportunities in the area, generating 2,220 new jobs and supporting major employers like Samsung and Applied Materials.

In order for Manor Expressway to continue to serve as one of the region’s most critical transportation corridors, the Mobility Authority must maintain a high level of performance for the expressway. The facility must remain in good working condition, such that the safety of users is ensured. Appropriate measures need to be taken to inspect the facility on a regular basis and plan maintenance and repair activities to prevent deterioration of the facility.

As per Section 712 of the Master Trust Indenture, the Mobility Authority shall require the General Engineering Consultant (GEC) to conduct an inspection of the “System”, which is currently comprised of the 183A Turnpike and Manor Expressway, at least once in the fiscal year following substantial completion of the initial project funded with bond obligations and in each fiscal year thereafter.

Following each inspection and on or before the 90th day prior to the end of each fiscal year, the GEC shall submit to the Mobility 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.

Copies of such reports are to be provided to the Trustee by the Mobility Authority.



Direct connect flyovers at the Manor Expressway at US 183 Interchange

INSPECTION OF FACILITIES

In compliance with the requirements of the Master Trust Indenture, Atkins North America, Inc. conducted a visual inspection of Manor Expressway Project in November 2014. The inspection covered all portions of the facility including: pavement, roadside elements, retaining walls, underdeck lighting, drainage structures, signs and sign structures, pavement markings and associated buildings and equipment. Bridge inspections were conducted by the Texas Department of Transportation (TxDOT), and a summary of their findings will be included in this report.

This report is based on a general visual inspection and the opinions, statements, and recommendations are made with respect to the conditions revealed by this visual inspection.

No representation or warranty is made that all defects have been discovered or that defects will not appear in the future.

A Manor Expressway Detailed Inspection Report of the inspection findings is transmitted separately to the Mobility Authority's Director of Engineering.

ANNUAL REPORT OF CONDITIONS

This report includes conclusions and recommendations concerning the condition, maintenance, repair, and operation of Manor Expressway; the amount of money necessary for the proper maintenance, repair, and operation of the toll road during the ensuing Fiscal Year (2015); and the amount of funds available in the Renewal and Replacement Fund.

The results of this year's annual inspection indicate that Manor Expressway is in "like new" condition and is being maintained in an overall excellent condition. No major deficiencies were identified. In general, most of the corrective measures are being addressed through the TxDOT Performance Based Maintenance Contract (PBMC), where TxDOT is providing maintenance services for Mobility Authority roadways and facilities under an interlocal agreement that was executed in November 2012. Also, since construction final acceptance has not occurred yet on the project, it is anticipated that some items may be addressed by the Manor Expressway roadway construction contractor as part of the construction punch list or through warranty provisions.



Westbound Manor Expressway approaching SH 130

1. ANNUAL VISUAL INSPECTIONS

The annual visual inspection of the Mobility Authority's Manor Expressway was completed in November 2014. The inspection was conducted to assess the general condition of roadways,

buildings, overhead sign structures, retaining walls and toll gantries along the facility and identify any deficient elements to be restored to good working condition. The assessment is based on general visual observations made in the field without conducting any detailed in-place testing. It should also be noted that the observations reflect the condition of the feature(s) on the day the inspection was performed. As such, the opinions, statements, and recommendations in this report are based solely on conditions observed during the inspection.

1.1 ROADWAYS

The visual inspections consist of general visual observations to determine the physical and functional condition of a specific feature and to identify any deficiencies that may require attention.

For the purpose of this report, the existing roadway conditions were rated and grouped into three major categories: (1) Pavement; (2) Roadside; and (3) Miscellaneous. Each category consisted of specific features that were inspected, as shown in **Table 1-1** below.

Table 1-1: Roadway Inspection Elements

Category	Item	Description of Inspection
Pavement	Pavement & shoulders	General conditions of pavement and shoulders
	Curb/Gutter	Deficiencies such as settlement, cracking, and displacement.
	Joints	Deficiencies including joint cracking, faulting, and surface deterioration etc.
Roadside	Culverts	Inadequate drainage at culverts, flumes, and weep holes
	Ditches	Erosion, silting, presence of debris, lack of vegetation etc.
	Grates/Inlets/Piping	Inadequate drainage at pipes, grates and inlets
Miscellaneous	Signs	Conditions associated with mainlane and ramp signing
	Pavement Graphics	Condition of pavement signs
	Pavement Markings	Wear and tear of striping and markings
	Raised Markers	Condition of raised pavement markers used in edge and skip lines
	Delineators	Condition of retro-reflective pavement markings
	MBGF	Condition of metal beam guard fence (MBGF) and its components, terminal anchors, single guardrail terminals (SGT) etc.
	Attenuators	Condition of various crash attenuation systems
Barriers	Condition of concrete barriers and bridge rail	

Category	Item	Description of Inspection
	Coatings	Conditions such as peeling, absent, or damaged coatings on concrete traffic barrier, concrete traffic rail, or other coated surfaces.
	Fence	Condition of chain-link, barbed wire, and ornamental fencing at the right-of-way (ROW), or within maintenance limits.
	Lighting	Conditions associated with lighting structures and its components and bridge underdeck lights.

As previously noted, the results of this year’s annual inspection indicate that Manor Expressway is in like new condition and is being maintained in an overall excellent condition. A summary of the visual findings within each category are provided below.

Pavement

The concrete pavement sections along the corridor appear to be in good condition with no apparent major deficiencies. In addition, no deficiencies were identified in the joints or curb and gutter along the corridor.

Roadside:

The roadside visual inspection did not identify any major deficiencies that affect the safety and operations of the facility. In general, most roadside features are newly constructed or are in very good condition . Only a few elements were identified as minor problems, with the most common deficiency being the presence of debris along ditches and in drainage inlets. A list of roadside deficiencies is being provided to the Mobility Authority to forward to either the PBMC maintenance contractor or the construction contractor to be addressed.

1.2 BRIDGES

All bridges constructed on the Manor Expressway project, with the exception of the pedestrian bridge, were inspected and evaluated in December 2012, in accordance with the National Bridge Inspection Program (NBIP) by TxDOT which occurs every two years per federal requirements. The resulting reports were provided to the Mobility Authority and mostly serve as the basis for the comments and recommendations for the bridge portion of the report.



Eastbound Direct Connector at US 183

The existing bridge conditions were rated and are grouped by the following categories:

- Deck – condition of the deck surface, its associated joints, rail, sidewalks/medians, striping, and drainage on top of the bridge structure.
- Substructure – condition of columns, bents, abutments, foundations, and riprap.
- Superstructure – condition of concrete beams, beam connections and bearings.
- Coating – peeling or absent coating on railing, substructure, slope protection, or beam surfaces.
- Erosion – deficiencies caused by runoff such as erosion along abutment slopes.
- Riprap – condition of riprap structures and their associated joints, including concrete slope protection, flumes, and abutment slopes.
- Drainage – conditions associated with inadequate drainage at abutment slopes, inlets, pipes, grates, flumes, and weepholes.

A summary of the bridge inspection reports for Manor Expressway is provided in the Manor Expressway Detailed Inspection Report.

It should be noted that during the November 2014 inspection, uneven transitions from the roadway section to the bridge section of several bridges were observed. Further evaluation is being conducted to determine the appropriate resolution.

The pedestrian bridge was inspected by Atkins North America, Inc. in November 2014 with no major deterioration noted.

Based on a review of the most recent inspection reports and visual observations, Manor Expressway bridges are in very good condition. A list of deficiencies is being provided to the

Mobility Authority to forward to either the PBMC maintenance contractor or the construction contractor to be addressed.

1.3 RETAINING WALLS

To ensure the health of the system, both new and existing retaining walls along Manor Expressway were inspected and evaluated. The various components of retaining walls were rated and grouped in categories described in **Table 1-3**.

Table 1-3: Retaining Wall Inspection Components

Item	Description of Inspection
Wall	Condition of wall face, coping, foundations, joints, panel finishes and Cast in Place (CIP) sections.
Earth	Conditions of the top slope, toe slope, backfill, CIP, and Mechanically Stabilized Earth (MSE) wall.

A summary of the retaining wall inspection reports are provided in the Manor Expressway Project Detailed Inspection Report.



Retaining wall along the eastbound Manor Expressway west of Springdale Road

Based on visual observations, both new and existing retaining walls on the Manor Expressway project are in very good condition. There were minor deficiencies noted during the inspection such as minor scratches to the panels. The scratches to the panels are not considered structurally deficient. A list of deficiencies is being provided to the Mobility Authority to forward to either the PBMC maintenance contractor to be addressed.

1.4 BUILDINGS

The inspection of building facilities serving the Manor Expressway project revealed areas where the existing conditions of these facilities require maintenance actions. The inspections covered three In-Lane Processor (ILP) buildings, which house various electronic toll collection

equipment, located at the westbound and eastbound tolling locations at the east ends of the direct connect flyovers, and at the Parmer mainlane tolling location. An emergency generator site that serves both the westbound and eastbound tolling location is located on the north side of the westbound frontage road, just west of Cross Park Drive. The Parmer emergency generator is located adjacent to the Parmer ILP building.



ILP building located at the WNDC toll location

For the purpose of this report, the existing building conditions for the ILP buildings are grouped in the categories described in **Table 1-4**.

Table 1-4: Building Inspection Elements

Element	Description of Inspection
Building Exterior	Condition of wall system, sealants, paint, glazing, and doors
Roofing	Surface condition, seams, expansion joints, and access
Building Interior	Conditions of finishes, windows, doors, security system, and paint
Site Improvements	Conditions of the sidewalks, ramps/rails, building-mounted and pole-mounted lighting, fences, site drainage, drainage structures, and parking.

Element	Description of Inspection
Structure	Condition of the general construction job, foundation, ground floor slab, roof structure, expansion joints
Electrical	Condition of the electrical room, wiring/conduit, emergency generator, primary lighting, Ground Fault Circuit Interrupters (GFCI), power provider/reported adequacy, and Uninterruptible Power Supply (UPS)
Mechanical Systems	Condition of cooling and heating systems, air handlers, outside air provision, exhaust fans, ductwork/insulation, reported capacity adequacy
Fire Protection	Condition of cooling and alarm system, smoke detectors and heat detectors



Emergency generator that serves both WNDC and SEDC Ramp toll locations

A summary of the Mobility Authority’s ILP buildings and the associated general conditions are described in the Manor Expressway Inspection Report. Overall, the ILP building facilities on Manor Expressway are in very good condition. The following is a general summary of condition assessment for each category.

- **Building Exterior**
No deficiencies were observed on the exterior finishes or surfaces.
- **Roofing**
The surface, seams, expansion joints and roof at both ILP building locations are in good condition.

- **Building Interior**
No deficiencies were observed on the interior finishes or surfaces.
- **Site Improvements**
Minor issues of debris present in the parking lots at the NWDC and SEDC locations were also noted during inspection.
- **Structure**
No deficiencies were observed in the structural components of ILP buildings.
- **Electrical Systems**
The electrical systems appear to be in good condition.
- **Mechanical Systems**
The mechanical systems at both ILP buildings are in good working order.
- **Fire Protection**
Fire extinguisher inspection tags have been updated.

A list of deficiencies is being provided to the Mobility Authority to be addressed.

1.5 OVERHEAD SIGN BRIDGES

Overhead sign bridges, which include toll gantries, sign structures, and monotube sign structures were visually inspected for deficiencies associated with their foundations, anchor bolts, base plates, column supports and arm chord connections and members.



Overhead sign structure eastbound approaching SH 130

The inspection did not reveal any major deficiencies in the condition and operation of the toll gantries and sign structures. Minor deficiencies, including members of a column support have begun to rust in areas where the galvanized finish has been rubbed.

A list of deficiencies is being provided to the Mobility Authority to forward to the PBMC maintenance contractor to be addressed.

1.6 TOLL COLLECTION SYSTEM

The basic components for the Toll Collection System (TCS) are the Toll Collection System Infrastructure, the Toll Collection System Operations and Maintenance, the Customer Service Center, and the Violation Processing Center. The TCS is fully interoperable with all Texas toll roads so that ETC customers from other cities, such as Houston and Dallas, can use the Mobility Authority's system and vice versa. Violation processing and collections, as well as the operation and maintenance of the toll collection systems, are provided through vendors that support the Mobility Authority.

1.6.1. TOLL COLLECTION SYSTEMS INFRASTRUCTURE

The toll system infrastructure required to accommodate the TCS consists of various components at each remote tolling location including, but not limited to:

- Special Reinforced Pavement Section;
- Retaining Walls and Copings;
- Drainage Features;
- Civil Site Work, including Grading, Access Driveways, and Fencing;
- Toll gantries, including foundations and gantry structures;
- ILP Equipment Enclosures, environmental protection and climate controls for housing the electronic equipment;
- Conduit and ground boxes providing connections between the ILP's and the ETC Lane equipment installations;
- Power and Wide Area Network (WAN) communication services up to the location of the ILP enclosures;
- Emergency Generators and associated fuel tanks; and
- Signing, pavement markings, traffic barriers and other roadway appurtenances required at each remote tolling location.

As discussed in Section 1.4 (Buildings), the visual inspection of the building and civil site aspects of the toll system infrastructure indicates that the primary components are in very good condition. In addition, as discussed in Section 1.5 (Overhead Sign Bridges), the toll gantries are in very good condition. Other elements associated with the toll infrastructure listed above were found to be in very good condition. Efforts should continue to keep all components clean, well maintained, and secure for the Toll Collection System.

2. RECOMMENDATIONS

Based on the findings of the annual visual inspections as well as the inventory and condition assessment, the current maintenance program that has been implemented should be continued to effectively secure and maintain the overall condition of each asset. The continued efforts by the Mobility Authority to maintain the roadways, bridges, roadside appurtenances, toll plazas,

and building have kept the overall condition of the Mobility Authority assets in very good condition.

2.1 RECOMMENDATIONS FROM ANNUAL VISUAL INSPECTIONS

Based on the 2014 annual visual inspections, it is recommended that the Mobility Authority continue to carry out an effective maintenance program to ensure that the Manor Expressway facility continues to be maintained in sound condition and good working order. The Mobility Authority is currently in the process of procuring maintenance services under a performance based contract that will require the contractor to manage and perform all routine maintenance activities.

2.1.1. ROADWAYS

No major pavement or roadside deficiencies were identified during the 2014 visual inspection period that would negatively affect current safety and operations of the facility. Based on the 2014 visual inspection, the concrete pavement sections of Manor Expressway are in good condition with no apparent major deficiencies; no maintenance repairs on the pavement are necessary or recommended at this time but should continue to be monitored. There are isolated instances of roadside deficiencies through the facility that are relatively minor and mostly aesthetic related. A list of roadway deficiencies is being provided to the Mobility Authority to address.

All in all, the roadway deficiencies identified during the annual inspection should be monitored to ensure that more serious conditions do not develop. As traffic volumes increase, continued attention and maintenance on Manor Expressway is essential to ensure proper operation.

2.1.2. BRIDGES

In accordance with applicable Federal law, the National Bridge Inspection Program (NBIP) was performed by TxDOT in December 2012 for Manor Expressway bridges. The pedestrian bridge on the Manor Expressway facility was performed by Atkins North America, Inc.

Based on a review of the results of the bridge inspections, uneven transitions from the roadway section to the bridge section of several bridges were observed. Further evaluation is being conducted to determine the appropriate resolution.

All in all, the bridge deficiencies identified during the annual inspection should be monitored to ensure that more serious conditions do not develop. As traffic volumes increase, continued attention and maintenance on Manor Expressway is essential to ensure proper operation.

2.1.3. BUILDINGS

The 2015 annual inspection revealed that the three ILP buildings on Manor Expressway are in very good condition. Some minor deficiencies were identified, and a list of deficiencies is being provided to the Mobility Authority.

2.1.4. RETAINING WALLS

Based on visual observations, both new and existing retaining walls on the Manor Expressway project are in very good condition. Deficiencies observed were minor and mostly aesthetic in nature. A list of deficiencies is being provided to the Mobility Authority to be addressed.

2.1.5. OVERHEAD SIGN BRIDGES

The inspection did not reveal any major deficiencies in the condition and operation of the toll gantries and sign structures. Minor deficiencies, including members of a column support have begun to rust in areas where the galvanized finish has been rubbed. A list of deficiencies is being provided to the Mobility Authority to forward to the PBMC maintenance contractor to be addressed.

On-Going Initiatives



1. ONGOING INITIATIVES

1.1 Maintenance Contract(s)

The Mobility Authority is currently utilizing an effective combination of maintenance contracts with private sector firms in addition to Interlocal Agreements (ILA) with TxDOT to provide routine maintenance of its System. These contracts include outsourcing maintenance to TxDOT for selected elements, taking advantage of economies of scale, outsourcing certain elements of the maintenance to private sector firms where appropriate, and providing business opportunities to small local firms. The more specialized activities such as incident management and those activities most-affecting the overall appearance of the facility, including landscape maintenance and building maintenance are accomplished through a series of separate contracts with private contractors.

With the expiration of the TxDOT ILA approaching, the Mobility Authority is presently in the process of procuring maintenance services under a performance based contract that will require the contractor to manage and perform all routine maintenance activities. By procuring and administering its own contract, the Mobility Authority ensures direct control of the quality and effectiveness of the services. The new contract is anticipated to begin in mid to late 2015 and will be a 5-year term, with renewal options, consisting of one or more additional terms of any length, with the combined length of terms not to exceed 10 years.

1.2 Pavement Management

The Mobility Authority has taken steps to implement a pavement management system to improve the effectiveness of the funds used to maintain their pavement network. The pavement management system that has been implemented is the PAVER software, which utilizes inspection data and pavement condition scoring to develop performance models for forecasting future R&R needs. Continued implementation of a pavement management system as part of an annual asset inspection and assessment will allow the Mobility Authority to proactively monitor the condition of its pavements and determine optimal timing for funding.

1.3 Preventative Maintenance Programs:

- i. **Skid Testing** – Skid Testing was previously recommended to be performed on a bi-annual cycle. However, because the 183A Phase II Extension and the Manor Expressway remain in like-new condition, and do not warrant skid testing at this time. It is recommended that skid testing be performed on the original 183A Turnpike pavement sections in the relatively near term future. In the meantime, the facility should continue to be monitored for any wet-weather safety issues.
- ii. **Joint and Crack Sealing** – Routine joint and crack sealing will be covered as part of the Performance Based Maintenance Contract. The Maintenance Contractor is required to fill cracks on a routine basis to help preserve the life of the pavement.
- iii. **Rideability and Pavement Profiling** – The rideability of the pavement for the System should be routinely assessed to determine if settling or heaving is occurring and addressed as necessary.

Budget



1. ANNUAL BUDGETS

Annual budgets are currently being prepared by the Mobility Authority for the proper maintenance, repair, and operation of the System (183A Turnpike and the Manor Expressway) for the Fiscal Year (FY) 2016. These budgets, which are based on estimated cost projections, together with the factors that may influence costs during this period, will be reviewed by the GEC's as they are made available from the Mobility Authority. These budgets should take into account the recommended maintenance and repairs noted in the current 183A Turnpike and Manor Expressway Annual Report of Conditions and Detailed Inspection Reports; and they should be based on current operating practices and agency organization, anticipated changes in methods of operations, and changes in Mobility Authority staff and organization projected through FY 2016. The budgets shown below do not include non-system costs.

1.1 ANNUAL OPERATING BUDGET

The operations costs consist of administration costs, including: accounting, financial and legal expenses, toll collection and toll system maintenance, customer service, violation processing, banking services, policing, and other costs associated with the operations of the 183A Turnpike and the Manor Expressway. The estimated costs for the proper operation of these facilities for the coming fiscal year is based on a review of existing and future conditions, together with the factors that may influence costs during this period. The GECs estimate the FY 2016 System Operating Expenses to be \$12,250,000. The factors that determine the amount include the utilization of consultants/vendors and the assignment of Mobility Authority personnel. The actual Annual Operating Budget will be finalized by the Mobility Authority on or before June 30, 2015.

It is our opinion that the costs projected for the operation of the 183A Turnpike and the Manor Expressway are reasonable estimations of anticipated costs for the FY 2016 Annual Operating Budget.

1.2 ANNUAL MAINTENANCE BUDGET

The maintenance costs include administration costs, roadway contract maintenance activities, and other costs associated with the maintenance of the 183A Turnpike and Manor Expressway. The estimated costs for the proper maintenance and repair of these facilities for the coming year is based on a review of existing and future conditions, together with the factors that may influence costs during this period. The GECs estimate the FY 2016 Maintenance Expenses to be \$2,140,000. The increase in the maintenance budget over last year's budget is reflective of an impending new maintenance contract and anticipated current industry pricing. The estimated budget is (and continues to be) below the original long-term projected budgets due to the innovative implementation of a Performance Based Maintenance Contract by the Mobility Authority. The actual Annual Maintenance Budget will be finalized by the Mobility Authority on or before June 30, 2015.

It is our opinion that the costs projected for the maintenance of the 183A Turnpike and Manor Expressway are reasonable estimations of anticipated costs for the FY 2016 Annual Maintenance Budget.

1.3 ANNUAL CAPITAL BUDGET

The Annual Capital Budget details the Mobility 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. As defined by the Master Trust Indenture, the Annual Capital Budget for each Fiscal Year includes: the expected beginning balance in the Renewal and Replacement Fund; the amounts to be transferred by the Trustee to the Renewal and Replacement Fund from the Revenue Fund; the amount of proceeds of Obligations expected to become available during the Fiscal Year; and the desired year-end balance in the Renewal and Replacement Fund. At a minimum, the Annual Capital Budget should be in the amount recommended by the General Engineering Consultants.

Currently, Capital Budget expenditures in FY 2016 are estimated between \$1,000,000 and \$1,500,000 (depending on the contractor's burn rate) for US 183 / 183A Intersection Improvement Project that is located at the north end of the 183A Turnpike. This amount includes oversight of the project. There are not any anticipated Capital Budget expenditures for the Manor Expressway. The actual Annual Capital Budget will be finalized by the Mobility Authority on or before June 30, 2015.

2. RENEWAL AND REPLACEMENT FUND

The Renewal and Replacement Fund was established under the terms of the Master Trust Indenture for the purpose of paying the cost of:

- i. unusual or extraordinary maintenance or repairs not occurring annually, and renewals and replacements, including major items of equipment;
- ii. repairs or replacements resulting from an emergency caused by some extraordinary occurrence, so characterized by a certificate signed by an Authorized Representative, approved by the Consulting Engineer and filed with the Trustee stating that the moneys in the Reserve Fund and insurance proceeds, if any, available therefore are insufficient to meet such emergency; and,
- iii. paying all or any part of the cost of any capital improvements to the System.

To finance the future needs for repair, replacement, and rehabilitation work required on the 183A Turnpike and the Manor Expressway, the cumulative amount in the Renewal and Replacement Fund should be sufficient to finance the next anticipated Renewal and Replacement Activities, projected to be approximately \$3,055,000 and tentatively scheduled to occur in 2017.