



**CENTRAL TEXAS**  
**Regional Mobility Authority**

**2013 Annual Report of Conditions**  
**183A Turnpike**

**HNTB**

March 29, 2013

Mike Heiligenstein  
Executive Director  
Central Texas Regional Mobility Authority  
301 Congress Avenue, Suite 650  
Austin, Texas 78701



**Re: Revised Final 2013 Annual Report of Conditions – 183A Turnpike**

Dear Mr. Heiligenstein:

Please find enclosed a revised 2013 Annual Report of Conditions for the 183A Turnpike which incorporates requested revisions. This report sets forth our findings as to the condition of the 183A Turnpike, as well as our recommendations of proper maintenance, operation, and repair of the facility during 2014.

To determine the physical condition of the roadway, structures, and related facilities and equipment, our staff conducted a visual inspection of the 183A Turnpike in February 2013. The 183A Phase I bridges were inspected and evaluated in October and November 2011, in accordance with the National Bridge Inspection Program (NBIP) by the Texas Department of Transportation (TxDOT) which occurs every two years per applicable federal requirements. The 183A Phase II bridges were inspected by TxDOT in April 2012. The findings of the most recent NBIP inspections were reviewed and are reflected in this report. The following report summarizes the conditions observed and fully reported in the 2013 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 Consultant, and we wish to acknowledge the excellent cooperation of the Mobility Authority staff in the performance of these services.

Sincerely,

A handwritten signature in blue ink, appearing to read "Heather M. Reavey".

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

Enclosure

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

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## INTRODUCTION

The Central Texas Regional Mobility Authority (Mobility Authority) is responsible for the 183A Turnpike - a roadway facility stretching 11.6 miles from RM 620 to CR 276 in Williamson County. The first phase of the 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. The 183A Turnpike 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 the 183A Turnpike 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.

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 (the 183A Turnpike) funded with Bond Obligations and in each Fiscal Year thereafter. The System is currently comprised of the 183A Turnpike and the Manor Expressway Phase I Project. This report addresses only the 183A Turnpike.



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.



183A Turnpike Mainlanes from the Park St. Overpass

## Inspection of Facilities

In compliance with the requirements of the Master Trust Indenture, HNTB Corporation conducted a visual inspection of the entire 183A Turnpike in February 2013. The inspection covered all portions of the 183A Turnpike facility including: pavement; edging and curbing; various walls; cut sections and embankments; 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 Turnpike Right-of-Way.

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 organization. This report sets forth conclusions and recommendations concerning the condition, maintenance, repair, and operation of the 183A Turnpike and its various facilities; the amount of money necessary for the proper maintenance, repair, and operation of the toll road during the ensuing Fiscal Year (2014); and the amount of funds available in the Renewal and Replacement Fund.

There were no major ongoing construction activities on the 183A Turnpike during the 2013 inspection period. Minor sporadic activities associated with completion of the 183A Phase II Extension Project, such as vegetative establishment and project cleanup, were ongoing but had no adverse impacts on the 183A Turnpike. The 183A Phase II Extension Project, which was under construction since early 2010, opened to traffic on April 6, 2012. This project also

included a 4.7 mile extension of the 183A Shared Use Path along 183A Turnpike from RM 1431 to Hero Way. This extension was opened to the public on January 18, 2013.

In partnership with Williamson County, a contract for the construction of a pedestrian bridge connecting the 183A Shared Use Path to the Brushy Creek Regional Trail over South Brushy Creek was awarded on January 25, 2012. The bridge serves as an important link between two of the region's largest trail systems. In addition to the bridge, the project included construction of new shared use path pavement, expansion of the existing parking lot, and various trailhead amenities. The bridge was opened to the public on September 6, 2012.

The 2013 inspection indicates that the 183A Turnpike facilities have generally been maintained in good repair, working order, and condition. However, there are areas that require attention, seemingly workmanship related issues on frontage roadway segments that were constructed under the 183A Phase I project. Corrective measures are primarily being addressed under the 183A Phase I Project Comprehensive Development Agreement (CDA) Warranty Provisions.

## 1. ANNUAL VISUAL INSPECTIONS

The annual visual inspection of the Mobility Authority's 183A Turnpike facilities was completed in February 2013. This inspection was made for the purpose of evaluating the general condition of the Mobility Authority's assets and identifying any deficiencies noted during the inspection that might require further attention. The degree of inspection 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 Phase II Extension Project South of Scottsdale Dr.

- **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.
- **Retaining Walls** – condition of the various retaining wall systems including wall face, foundation, joints, panels, coping, top and toe of slopes, and backfill.
- **Landscape Areas** – condition of the various landscaped areas, plantings, streetscape elements and other surface treatments.

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

During its sixth year of operation, the 183A Turnpike continues to provide a well-maintained route to and from northwest Williamson County, connecting to downtown Austin and other destinations. The pace of new developments has also been increasing along the corridor with several developments currently being planned and some under construction that will utilize the 183A Turnpike facilities. As growth continues, more and more motorists will travel on or along the 183A Turnpike, thereby requiring continued inspection and corrective maintenance.

#### **Asphalt Pavement:**

The 2013 visual inspection did not identify any major deficiencies that affect the safety and operations of the facility; however, there were various areas within the asphalt pavement and shoulders along the frontage roads that will require substantial corrective maintenance. The most common deficiency identified was longitudinal cracking primarily along the joints or along the lane lines that varied in severity from minor to severe, followed by fatigue cracking at various locations along both the northbound and southbound frontage roads. Although not as common, there were locations identified where rutting, raveling, debonding, and transverse cracking were prevalent.

#### **Concrete Pavement:**

The concrete pavement sections appear to be in good condition with no apparent major deficiencies. The primary issue observed during the visual inspection was transverse cracking in the concrete pavement within the mainlanes at several locations and minor cracking and spalling at several joints. The transverse cracking and spalling locations do not require repairs at this time. These locations will continue to be monitored in future inspections.

#### **Curb and Gutter:**

The curb and gutter along the corridor is also primarily in good condition. There are however, isolated areas of cracking and spalling that have been identified that will require repair.

#### **Striping and Delineation:**

The striping along the northbound and southbound frontage road is in fair condition with a majority of the pavement markings experiencing fading and cracking. The markings along the mainlanes are in good condition with some fading but isolated primarily at the ramp gores. There are areas along the corridor where pavement markings will need to be replaced. The

concentration of these areas lies primarily outside the limits of the newly construction 183A Phase II Extension Project; occurring where older pavement markings from 183A Phase I construction remains. As a maintenance measure, the striping should be replaced in these areas.

**183A Phase I Project Warranty:**

Many of the issues identified within the asphalt pavement sections appear to be the result of poor workmanship during the Phase I construction of the 183A Turnpike but some are related to normal wear and tear of an aging facility. Consequently, under the terms of the CDA, the Developer is required to rectify a majority of the identified issues as part of their warranty obligations.

As noted in the previous year's report, some areas associated with 183A Phase I warranty work have already been addressed by the Developer but continued repairs are necessary to correct all the deficiencies related to workmanship. The primary focus will be towards rehabilitation of the asphalt pavement. Routine maintenance activities will be necessary to address the remaining items not associated with the warranty work.

It is anticipated that all repairs associated with 183A Phase I warranty items will be substantially completed in 2013 with a potential of extending into 2014. The areas along the curb and gutter that have been identified appear to be caused by mowers or errant vehicles striking or running over the curb; these areas will be repaired as part of routine maintenance.

Overall the 183A Turnpike continues to operate sufficiently on a daily basis, but is experiencing normal wear and tear that will require maintenance and repairs to continue to serve as designed.

## 1.2 BRIDGES

All of the 183A Turnpike bridges constructed in the initial 183A Phase I Project were last inspected and evaluated in October and November 2011, in accordance with the National Bridge Inspection Program (NBIP) by TxDOT which occurs every two years per federal requirements. The 183A Turnpike bridges constructed in the 183A Phase II Extension Project were inspected by TxDOT in April 2012. 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. All 183A Turnpike bridges, with the exception of shared-use path structures, are anticipated to be inspected and evaluated late 2013 by TxDOT.



Shared Use Path Bridge over South Brushy Creek

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 the 183A Turnpike is provided in the 183A Turnpike Detailed Inspection Report.

Based on a review of the most recent inspection reports and visual observations, the 183A Turnpike bridges, including those for the shared use path, remain in good condition. There are

no significant deficiencies noted in the 2011 and 2012 NBIP Reports that are considered the result of the original construction.

### 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 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 and conversion to an all-electronic toll collection system (ETC) on the 183A Turnpike, the ultimate use of the existing Field Operations Building is now intended to be a Tolls and Traffic Operations Center. Operation of the all-ETC system has significantly reduced the maintenance requirements for the toll system infrastructure facilities.

A summary of the Mobility Authority's building and plazas elements, together with their associated general condition, are described in the 183A Turnpike Detailed Inspection Report.

### **1.3.1. MAINLANE PLAZA AT PARK STREET**

**Field Operations Building** – Overall, the mainlane plaza facilities at Park Street generally are in very good condition. The most common deficiencies noted are with interior/exterior finishes and surfaces.

**Toll Plaza and Access Walkway** – The most apparent defects previously reported in the 2012 Annual Report were peeling and paint coating failure on the mainlane toll plaza access walkway and malfunctioning HVAC equipment. With the exception of the HVAC equipment, the Developer has since corrected these defects, which were covered under the Phase I CDA Warranty Provisions.

It is noted that, with the conversion to a “cashless” all ETC toll collection system, all toll booths at the Mainlane Plaza at Park Street were deactivated, equipment removed, and were secured. The service connections were terminated and the toll booths removed and transported to a new location by a receiving toll agency in 2012.

### **1.3.2. RAMP PLAZAS AT BRUSHY CREEK ROAD**

The ramp plaza facilities are in overall good condition. The most common deficiencies noted were with interior/exterior finishes and surfaces, which have also been rectified under the 183A Phase I CDA Warranty Provisions. 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 SECTION 9 TOLL SYSTEMS EQUIPMENT (ILP) STRUCTURES**

The Section 9 ILP Enclosure Structures on both the northbound and the southbound roadways are in overall good condition. No additional deficiencies were noted during the 2013 inspections.

### **1.3.4 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 along with several pallets of solid de-icing agents. This facility, together with the Field Operations Building, 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. Portions of the facility within the fenced area which had not been paved with the original 183A Turnpike construction were paved within the past year as part of the 183A Phase II Extension Project.

This facility meets the immediate needs of the Mobility Authority's maintenance operations with its storage area and central location. As the Mobility Authority's Toll Road System and associated maintenance needs develop and expand, particularly in light of 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.

## **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 traffic growth that the 183A Turnpike had been experiencing over the past six years is indicative of the widespread acceptance of electronic tolling by the traveling public. Advances in technology have improved toll violation enforcement, reduced operating costs, and improved auditing abilities.

### **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 items noted at the ILP Equipment Enclosures are the same as in last year's report and 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 2014. Efforts should continue to keep all components clean, well maintained, and secure for the Toll Collection System.

### **1.4.2 TOLL COLLECTION SYSTEMS OPERATIONS AND MAINTENANCE**

The 183A Turnpike uses a computerized all-electronic toll collection system similar in make-up and functionality to those used on other toll roads in Texas, including electronic toll collection (ETC) using automatic vehicle identification and classification technology,

a Violation Enforcement System (VES) with an integrated camera and triggering system to capture referenced digital images of license plates of those vehicles that are “Pay-By-Mail”. License plates on these vehicles are captured by cameras, and the registered vehicle owner is sent a bill for the toll, plus an administration fee.

The entire TCS is operated and maintained under a separate Maintenance Contract by the Mobility Authority's Systems Integrator, Schneider Electric, formerly known as Telvent USA Corporation. The TCS is equipped with a Remote On-Line Management System (ROMS) that monitors all elements, and Schneider Electric provides a staff of engineers and technicians available at all times to ensure the TCS remains fully functional.

#### **1.4.3 CUSTOMER SERVICE CENTER**

The Mobility Authority contracts with the members of the Texas Statewide Interoperability Task force for Customer Service Center (CSC) services for its customers. The local CSC facility, developed and administrated by the Texas Turnpike Authority Division of TxDOT, is located at 12719 Burnet Road, Austin, Texas. Expansion of Mobility Authority's TCS to serve the 183A Phase II Extension Project includes coordination of appropriate interfaces with the various CSCs. Appropriate communications links between the various toll facilities on the Mobility Authority Toll Road System and the Mobility Authority Administrative Offices, the existing Field Operations Building, and the VPC were part of the requirements of the design/implementation work for the 183A Phase II Extension Project.

#### **1.4.4 VIOLATION PROCESSING CENTER**

The Violation Processing Center (VPC) is located in a separate facility at 8325 Tuscany Way, Austin, Texas, and it is being administrated by the Municipal Services Bureau, Inc. under contract to the Mobility Authority. Development of Mobility Authority's TCS also includes coordination and design of appropriate interfaces with the VPC. Appropriate communications links between the various toll facilities on the Mobility Authority Toll Road System and the Mobility Authority Administrative Offices, the existing Field Operations Building, and the various CSCs are part of the requirements of the design/implementation work for projects within the 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 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 2013 annual visual inspections, it is recommended that the Mobility Authority continue to carry out an effective maintenance program, utilizing a combination of public interlocal agreement and private contractors, as appropriate, to ensure that the 183A Turnpike facility continues to be maintained in sound condition and good working order.

### 2.1.1. ROADWAYS

No major roadway deficiencies have been identified during the 2013 visual inspection period that would negatively affect current safety and operations of the facility. Based on the 2013 visual inspection, the concrete pavement sections of the 183A Turnpike mainlanes remain in good condition with no apparent major deficiencies; no maintenance repairs are necessary or recommended at this time but should continue to be monitored.

However, substantial repairs will be required along the northbound and southbound frontage roads. The most significant deficiencies noted during the 2013 inspections were longitudinal and fatigue cracking in the asphalt pavement on the frontage roads. These deficiencies fall under the responsibility of the Developer of the original 183A Phase I Project under the Warranty Provisions of the CDA. This work is scheduled to take place in 2013 with some work potentially extending into 2014. Pavement markings on the frontage roads will also be restored as part of this work. There are instances of normal wear and tear throughout the facility, such as cracking and chipping of concrete of curbs and barriers; however these are relatively isolated and do not affect the daily function of the 183A Turnpike. The remainder of the deficiencies identified during the annual inspection should be monitored to ensure that more serious conditions do not develop. As surrounding planned developments become a reality, and traffic volumes increase, continued attention and maintenance on the 183A Turnpike is essential to ensure proper operation.

Contract Maintenance Operations: The Mobility Authority is mandated by State Law, as well as by the terms of the Trust Indenture, to maintain a safe highway facility in sound condition and good working order. An effective maintenance policy contributes significantly to ensuring a safe highway for system users, as well as preserving the investment.

Routine maintenance activities for the mainlane roadways, frontage roads, and shared use path are being effectively and efficiently accomplished under an interlocal agreement (ILA) with TxDOT as part of a 3-year Performance-Based Maintenance Contract that began in November 2012. The interlocal agreement with TxDOT provides for various routine maintenance activities performed in conjunction with an overall roadway maintenance contract for other toll road segments in the region, thus taking advantage of efficiencies and economies of scale. Landscape maintenance is performed under a separate, private contract. The current landscape maintenance contract expires in April 2013 and procurement is currently underway for a new, 2-year landscape maintenance contract.

The quality of the maintenance work is dictated by appropriate TxDOT standards supplemented by particular standards established by the Mobility Authority for the 183A Turnpike, and it is monitored by Mobility Authority representative inspections. The table below presents a general breakdown of the anticipated maintenance activities for the 183A Turnpike. It is anticipated that, during the term of the new interlocal agreement with TxDOT, the Mobility Authority will continue to evaluate alternative strategies for performance of maintenance on their developing Toll Road System.

The quality of the work, dictated by specific levels of service standards as part of the interlocal agreement, ensures uniform quality along the entire length of the 183A Turnpike corridor.

Routine Maintenance Activity	Public/ Private	Contract Arrangement	Term
Mowing Guardrail & Attenuators Drainage Litter Pickup/Debris Removal Misc. repairs Pavement Crack Sealing Minor Asphalt Repair Signing and delineators Striping and Pavement Markings Signals/Roadway Illumination Graffiti Removal/Painting Hazardous Materials Response	Public/ Private	Interlocal Agreement with TxDOT	11/2012 – 11/2015
Landscape Maintenance	Private	Contract Services with Encino Landscaping, Inc.	Contract Term Expires 04/2013
Toll Collection Systems Maintenance and Operation	Private	Contract Services with Schneider Electric	03/2008 – 04/2014
Hazardous Materials Response	Public/ Private	Williamson County Accident Response – No Contract	NA

**Erosion Repair and Ground Treatment** – During the previous 2012 inspection, isolated instances of a number of minor to moderate erosion at side slopes, back slopes, and along ditch lines were observed. Numerous erosion control improvements were completed through contract maintenance in 2012 to correct and prevent further erosion. With effective maintenance, ground surfaces and landscaped areas will continue to become better established during future growing seasons. Attention to detect early stages of erosion is important as groundcover continues to become more established.

Instances of erosion were also observed during the 2013 inspection throughout the 183A Phase II Extension Project limits. These instances appear to have been the result of lack of vegetation establishment. The contractor has since completed re-seeding and installing erosion protection mats to correct the majority of these areas and prevent further erosion. The remaining areas with erosion issues should continue to be monitored.



Observed Channel Erosion

**Pavement Condition, Striping and Markings**— During the 2013 Inspection period, the primary deficiency identified was longitudinal and fatigue cracking along the asphalt paved frontage roads between FM 1431 north to the intersection with US 183. The issues witnessed are seemingly the result of poor workmanship by the Developer of the 183A Phase I construction. As a result, these areas will be corrected under the Warranty Provisions identified in the CDA. Below are some examples of areas from the inspection.



Observed Longitudinal Cracking



Observed Longitudinal Cracking



Observed Fatigue Cracking



Observed Fatigue Cracking

The striping along the northbound and southbound frontage road is in fair condition. The pavement markings are visible but are experiencing fading and cracking along a majority of both the northbound and southbound frontage roads. The highest concentration of fading occurs at the approaches to each intersection with cracking occurring throughout.

The markings along the mainlanes are in good condition with some fading but isolated primarily at the ramp gores. As a maintenance measure, the striping should be replaced in these areas. The striping on the mainlanes will be addressed under the Performance Based Maintenance Contract ILA with TxDOT where the striping on the frontage roads between FM 1431 and US 183 will be addressed under the warranty corrective actions per the requirements of the 183A Phase I CDA.



Observed Pavement Marking Cracking



Observed Pavement Marking Fading

### 2.1.2. BRIDGES

In accordance with applicable Federal law, the National Bridge Inspection Program (NBIP) was performed by TxDOT in October and November 2011 for the original 183A Phase I bridges and in April 2012 for the 183A Phase II Extension Project bridges. The 183A Shared Use Path bridges are not inspected under NBIP.

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

### 2.1.3. BUILDINGS

The Field Operations Building (FOB) and the mainlane Toll Plaza and Access Walkway facilities at Park Street are in generally good condition. Many sections of the FOB have been or will be repainted as part of ongoing 183A Phase I CDA warranty work, which is expected to correct any minor surface defects.

Based on a review of the results of the buildings inspection, a few deficiencies deserve attention at this time. An existing fire hydrant has a small retaining wall built adjacent to both sides of it. The fire hydrant is therefore not compliant with the Cedar Park Fire Department Site Development Standards which requires a 36-inch minimum clearance around all sides of fire hydrants. The wall may need to be partially reconstructed for the hydrant to be in compliance with the standards. Additionally, there is a small section of exposed electric wires exiting from the decommissioned server room condenser unit supply. Since these wires are no longer in use, they should be removed. Other minor deficiencies that warrant attention include expired fire extinguisher and elevator certificates of compliance.

## 2.2 ON-GOING INITIATIVES

### 2.2.1. ROADWAYS

**Pavement Management** – As noted in previous Annual Reports of Conditions, various state transportation departments, as well as other toll road authorities, have implemented and currently maintain a Computerized Pavement Management System (CPMS) to improve the effectiveness of the funds used to maintain their pavement network and to ensure that bond covenants are met. Since the five-year warranty period for pavement

constructed under the 183A Phase I CDA has ended, implementation of a CPMS as part of an annual asset inspection and assessment warrants further consideration at this time.

#### **Preventative Maintenance Programs:**

- **Skid Testing** – Skid Testing was previously recommended to be performed on a bi-annual cycle. However, because the 183A Phase II Extension Project remains in like-new condition, it does 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.
- **Joint and Crack Sealing** – Routine joint and crack sealing will be covered as part of the Performance Based Maintenance Contract ILA with TxDOT. The Maintenance Contractor is expected to fill all cracks greater than 0.5” wide and 1.0” deep with fine aggregate prior to the application of sealant. It may be necessary for the Mobility Authority to supplement the ongoing 183A Phase I warranty efforts to perform more comprehensive joint and crack sealing if the Performance Based Maintenance Contract ILA with TxDOT does not sufficiently allow for this work.
- **Rideability and Pavement Profiling** – The rideability of the pavement system will be tested annually as part of the Performance Based Maintenance Contract ILA with TxDOT. If any 0.1 mile sections are discovered with an International Roughness Index (IRI) value above the established intervention threshold the maintenance contractor is required to present a corrective action plan. If approved, the contractor must complete the corrective action plan within 30 days.

### **3. ANNUAL BUDGETS**

Annual budgets are currently being prepared for the proper maintenance, repair, and operation of the 183A Turnpike and the Manor Expressway for the coming year. These budgets, which are based on estimated cost projections, together with the factors that may influence costs during this period, will be reviewed as they are made available from the Mobility Authority. These estimates should take into account the recommended maintenance and repairs noted in the current 183A Turnpike Detailed Inspection Report; and they should be based on current operating practices and organization, anticipated changes in methods of operations, and changes in Mobility Authority staff and organization projected through Fiscal Year 2014.

#### **3.1 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, janitorial services, policing, and other costs associated with the operation of 183A Turnpike. The estimated costs for the proper operation of the 183A Turnpike 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. It is estimated that the amount necessary for both System and Non-System expenses for FY2014 be between \$9,000,000 and \$10,500,000. The factors that determine the range include the amount of utilization of consultants/vendors and the assignment of Mobility Authority personnel. This amount excludes System costs specifically

related to the Manor Expressway Project. The actual Annual Operating Budget will be reviewed and finalized by the Mobility Authority on or before June 30, 2013.

It is our opinion that the costs projected for the operation of the 183A Turnpike are reasonable estimations of anticipated costs for the FY2014 Annual Operating Budget. Sound management practices will be essential in operating effectively and efficiently.

### **3.2 ANNUAL MAINTENANCE BUDGET**

The maintenance costs include administration costs, roadway contract maintenance activities, and other costs associated with the maintenance of the 183A Turnpike. The estimated costs for the proper maintenance and repair of the 183A Turnpike 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. It has been estimated that the sum of \$1,800,000 will be required for FY2014. The actual Annual Maintenance Budget will be reviewed and finalized by the Mobility Authority on or before June 30, 2013.

It is our opinion that the costs projected for the maintenance of the 183A Turnpike are reasonable estimations of anticipated costs for the FY2014 Annual Maintenance Budget. Sound management practices and an effective program of maintenance will be essential in maintaining the facilities in good repair and working condition.

### **3.3 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. The Annual Capital Budget should be in the amount recommended by the General Engineering Consultant.

Currently, Capital Budget expenditures in FY 2014 are not anticipated or recommended for the 183A Turnpike. The actual Annual Capital Budget will be reviewed and finalized by the Mobility Authority on or before June 30, 2013.

## 4. 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, the cumulative amount in the Renewal and Replacement Fund should be sufficient to finance the first anticipated Renewal and Replacement Program, projected to be approximately \$7,330,000 and tentatively scheduled for 2017.