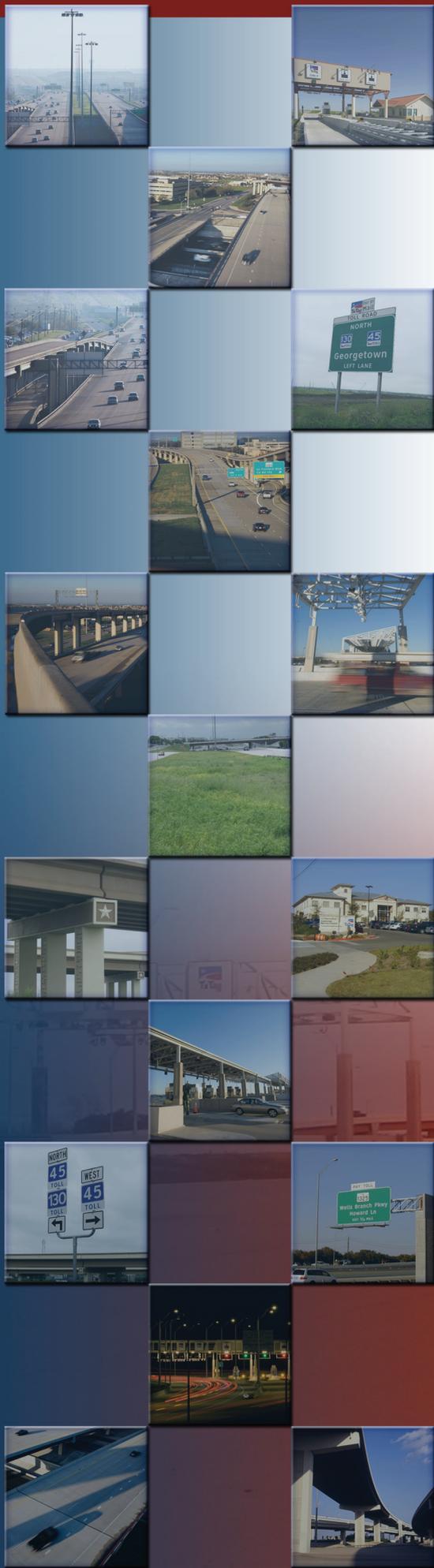




CENTRAL TEXAS TURNPIKE PROJECT

ANNUAL INSPECTION REPORT
FISCAL YEAR 2010

PREPARED BY **PBSJ**[®]
GENERAL ENGINEERING CONSULTANT





An employee-owned company

May 7, 2010

Mr. Mark Tomlinson, P.E.
Director of the Texas Turnpike Authority
Texas Department of Transportation
125 East 11th Street
Austin, TX 78701

Subject: FY 2010 Inspection of the Central Texas Turnpike Project

Dear Mr. Tomlinson:

As General Engineering Consultant to the Central Texas Turnpike Project (CTTP) and in accordance with Section 707 of the Indenture of Trust, PBS&J is pleased to submit to you twenty copies of the FY 2010 Central Texas Turnpike Project Annual Inspection Report.

The condition of the project is excellent with an overall rating of 95. This is a combined rating for the three components of the CTTP, SH 45, Loop 1 and SH 130. The results of this year's inspection are indicative of the age of the project and the proactive manner in which the project is maintained.

The inspection does reveal that a number of elements are in less than fair condition, however, the Austin District has a comprehensive maintenance contract in place and funded for routine maintenance sufficient to address these issues. Also, the Texas Turnpike Authority has contracts in place to address the issues identified within the toll facilities and buildings. There is an area of pavement on the southbound approach to the Loop 1 mainline toll plaza that is in need of repair. There is reserve maintenance funding in place to make this capital improvement and the Austin District is determining scope of work for the required improvement.

This report contains a comprehensive summary of inspection results in tabular form. Additionally, photographs and graphics have been included to illustrate the major system elements. The introductions, Inspection Results and Recommendations are included in the body of the report. Appendix A-Selected photographs of existing conditions, Appendix B-Inspection worksheets and Appendix C-Bridge Reports are included in the CD in the back of the report.

If you have any questions, please feel free to call.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Stephen W. Austin', written over a white background.

Stephen W. Austin, P.E.

Cc: Lowell Choate, P.E.
Doug Woodall P.E.

Annual Inspection Report
 For the fiscal Year ending August 31, 2010

TABLE OF CONTENTS

Description	Page
List of Tables.....	2
List of Figures.....	3
Executive Summary	4
1. Introduction	5
1.1 General Description and Procedure of Inspection.....	5
1.2 Description of Central Texas Turnpike Project	6
2. FY 2010 Maintenance Inspection Results	8
2.1 Introduction	8
2.2 Roadways	8
2.2.1 Pavement	12
2.2.2 Traffic Operations.....	13
2.2.3 Roadside	14
2.3 Facilities.....	20
2.3.1 Customer Service Center	21
2.3.2 Mainline and Ramp Plaza Facilities and Canopies	22
2.3.3 Tollbooths.....	23
2.3.4 Mechanical	24
2.3.5 Electrical.....	24
2.4 Structures	29
2.4.1 Bridges	30
2.4.2 Overhead/Cantilever Signs	32
2.4.3 High Mast Light Towers	33
3. Program Status, Commitments, and Recommendations.....	34
3.1 Program Status	34
3.2 Programmed Commitments	34
3.3 Recommendations	35
Appendix A - Selected Photographs of Existing Conditions	A
Appendix B – Inspection Worksheets.....	B
Appendix C – Bridge Reports	C

LIST OF TABLES

1 – Central Texas Turnpike Project Components 6

2 – CTTP Roadway Inspection Rating Scale 10

3 – TxCAP Roadway Weighted Scoring Values..... 11

4 – Condition of CTTP Roadway Elements - Loop 1 16

5 – Condition of CTTP Roadway Elements - SH 45 17

6 – Condition of CTTP Roadway Elements – SH 130 18

7 – Condition of CTTP Roadway Elements – All Roadways 19

8 – CTTP Building Quantities – FY 2010 20

9 – Condition of CTTP Facilities – Loop1 – FY 2010..... 25

10 – Condition of CTTP Facilities – SH 45 – FY 2010..... 26

11 – Condition of CTTP Facilities – SH 130 – FY 2010..... 27

12 – Condition of CTTP Facilities – All Roadways – FY 2010..... 28

13 – Quantities of CTTP Major Structures..... 29

14 – Bridge Components 31

15 – Bridge Inspection Rating Scale 31

16 – Overhead/Cantilever Sign Components 32

17 – High Mast Light Tower Components 33

LIST OF FIGURES

1 – Central Texas Toll Roads.....7
2 – Major System Elements9
3 – Typical Roadway Section... 12
4 – Roadside Sign and Pavement Symbols.....14
5 – Deteriorated Shoulder and Turf Condition... 15
6 – Desired Shoulder and Turf Condition.....15
7 – Customer Service Center... 21
8 – Ramp Canopy.....22
9 – Tollbooth.....23
10 – Facility Generator... 24
11 – Bridges ... 30
12 – Overhead Sign Structure... 32
13 – High Mast Light Tower33

Executive Summary

As General Engineering Consultant to the Central Texas Turnpike Project (CTTP) and in accordance with Section 7.07 of the Indenture of Trust, dated July 15, 2002 between the Texas Transportation Commission and Bank One, National Association, as Trustee, PBS&J is pleased to submit the Central Texas Turnpike Project Annual Inspection Report for the Fiscal Year ending August 31, 2010. The findings contained in this report are based upon the assessment of inspection data compiled for the roadway, facilities, and structures components; in coordination with the Texas Department of Transportation (TxDOT) Maintenance and Finance Offices and the Texas Turnpike Authority Office; and PBS&J's general knowledge of the condition of CTTP facilities.

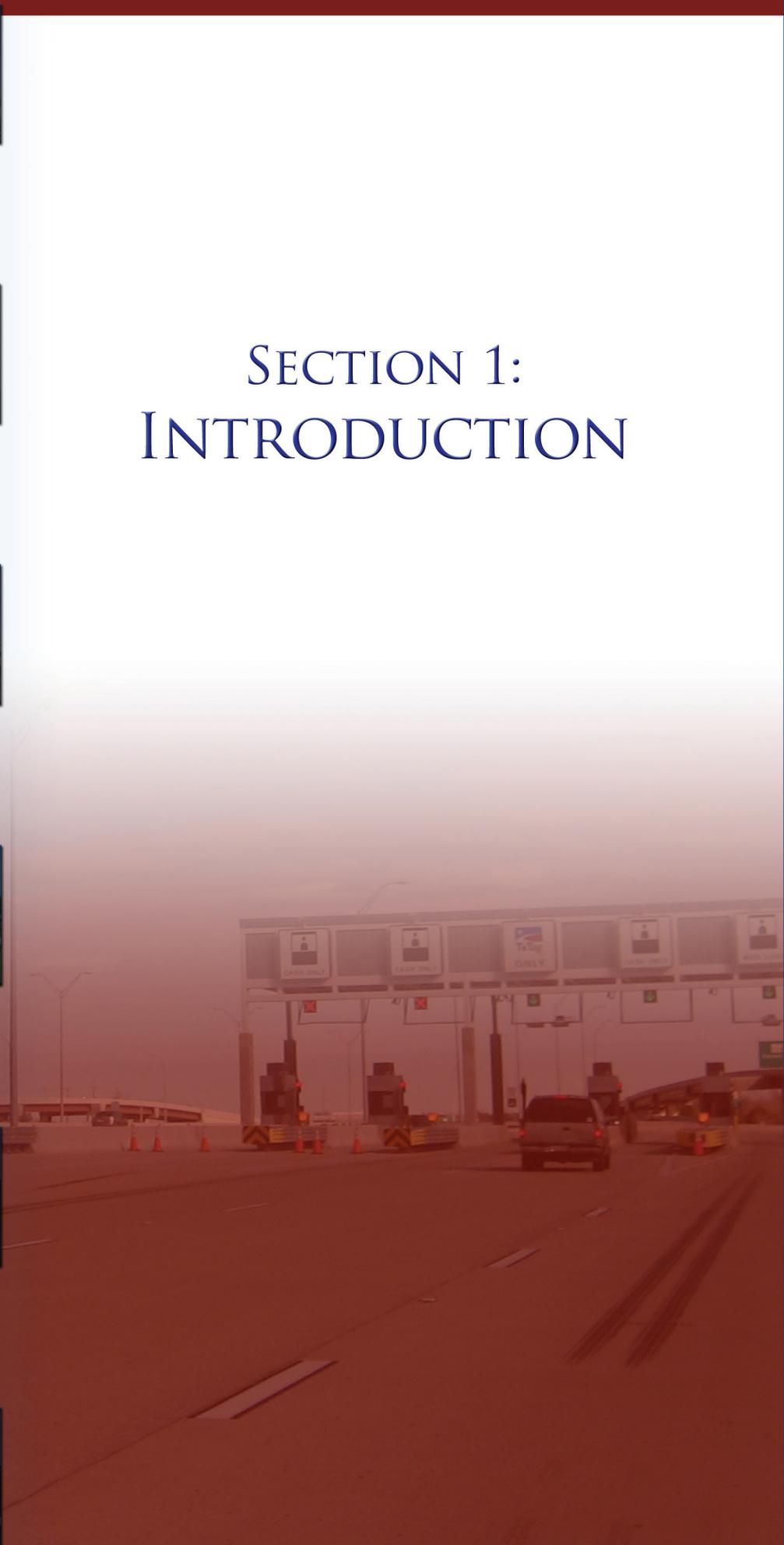
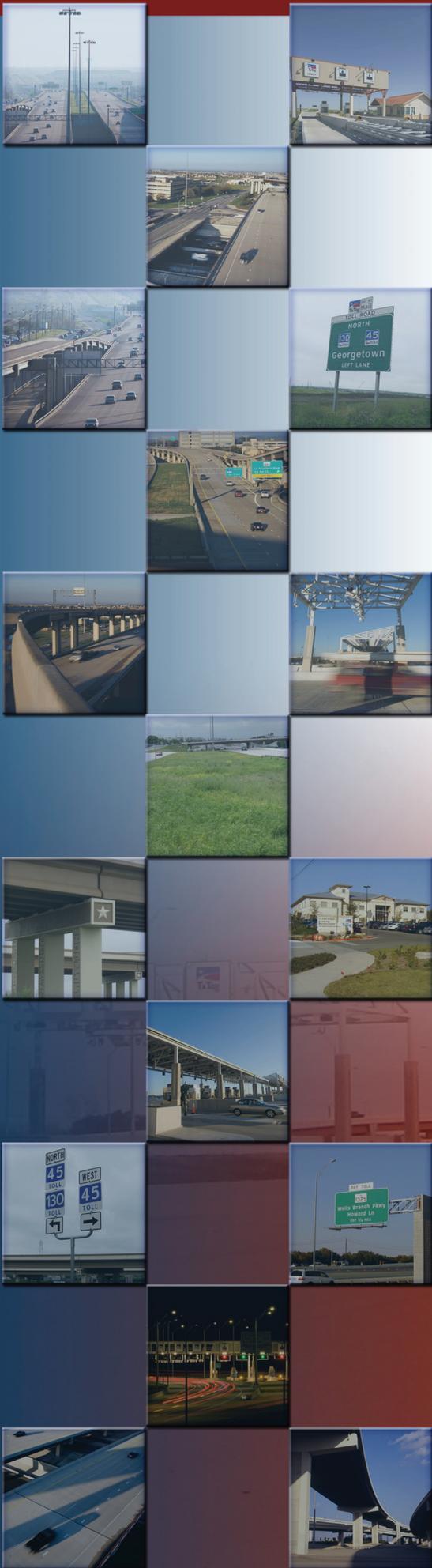
This is the third annual inspection of the CTTP since it opened to traffic. The overall condition of the CTTP is very good. The system's primary feature, its 65 miles of roadway, is in like new condition with only minor deficiencies noted. The roadway achieved an overall score of 95. No single element achieved a score less than 80, with the exception of cracking which rated a score of 78 overall. Most of the cracking observed was not in excess of what is expected and allowable in the pavement method utilized on these roadways.

The FY 2010 annual inspection also revealed that all facilities (buildings) are in very good condition overall. The majority of the deficiencies found are cosmetic in nature. Bridges, which are inspected under the Federal Bridge Inspection Program, are reported in good condition. The summary of the bridge reports are included.

TxDOT has programmed approximately \$11.37 million in FY 2010 for routine and periodic maintenance for the CTTP. These funds are used for maintenance of all highway and structure assets and other safety related upgrades. Funding for routine and periodic maintenance for FY 2011, sufficient to address all deficiencies noted in this report, will be determined for approval by the Texas Transportation Commission.

In addition to the analysis of inspection results, this report presents the current status of the CTTP with respect to the Texas Condition Assessment Program (TxCAP). The TxDOT commitment to system improvement and preservation is obvious. By continually monitoring system conditions and ensuring that its facilities are maintained in top condition, TxDOT is better able to provide for the safety and convenience of its patrons while maintaining a safe investment for bondholders.

SECTION 1: INTRODUCTION



1. Introduction

1.1 General Description and Procedure of Inspection

The CTTTP annual inspection is conducted based on the three major categories of the system: roadways, facilities, and structures. The roadway inspection features three general categories of roadway elements: pavement, traffic operations and roadside. The facilities inspection is based on three general building types: the Customer Service Center Building, toll plaza administration buildings (mainline plazas), and toll plaza buildings (ramps). In addition to the three building types, canopy structures are present at each mainline and ramp plaza. The major elements in each of the three building types are subdivided into four categories and are detailed in Section 2.3 Facilities. All roadways and facilities were inspected by PBS&J, the CTTTP General Engineering Consultant. This report reflects the findings of the roadway and building inspections that were accomplished for FY 2010. Selected photographs of roadway and facility components are included in Appendix A.

The visual inspection of all structures was conducted during this year's field inspection. The structures inspection includes bridges, overhead/cantilever signs, and High Mast Light Towers (HMLTs). A summary of all the Federal Bridge Inspection Reports for bridges within the CTTTP indicates no major deficiencies with any of the Project's bridges. The bridge summary is located in Appendix C.

All three roadways within the CTTTP were inspected utilizing the TxCAP scoring system. The TxCAP program combines data from three different divisions' reporting systems: The Texas Maintenance Assessment Program (TxMAP), the Pavement Management Information System (PMIS) and the Texas Traffic Assessment Program (TxTAP) to assess the CTTTP's assets. The development of TxCAP eliminates duplication of the three separate scoring systems and provides a simplified and concise scoring scale. The system is based on a 5-point rating scale.

The TxCAP rating, which supports the findings of the annual inspection, allows a comparison of the CTTTP roadway conditions to the statewide standard. The ratings assigned to the CTTTP can be used to make general recommendations on system components needing improvement. A summary of the TxCAP rating system is described in more detail and the scores are included in the roadway section of this report. The rating system utilized by the Central Texas Turnpike Project is defined in detail in Section 2, Subsection 2.2, Roadways.

All inspections are conducted in accordance with standard procedures developed by the Federal Highway Administration and Texas Department of

Transportation (TxDOT) and involve an extensive visual examination of all elements relative to the category of inspection. A detailed tabulation of the conditions observed on the date of the field inspection is prepared in the form of inspection worksheets. The worksheets are spot-checked in the field to verify accuracy and consistency and the results are reviewed and summarized for presentation in Appendix B.

1.2 Description of Central Texas Turnpike Project

In FY 2010, the CTTP is comprised of three main roadway components. The first component, the Loop 1 Extension, is approximately three miles in length and runs north from FM 734 (Parmer Lane) to the SH 45 interchange. SH 45, the second of CTTP's three highways, currently begins west of US 183 at Ridgeline Blvd. and extends east approximately 13 miles to the SH 130/SH 45 interchange north of Pflugerville. The third component, SH 130 currently begins north of Georgetown, Texas and extends 49 miles south to US 183 in southeast Travis County. All three of the CTTP highways are multi-lane, limited access toll facilities. The three highways combined provide 65 centerline miles to Texas' Intrastate Highway System, and include 210 bridges and 57 buildings. The system's main roadway components are summarized in Table 1 and illustrated in Figure 1.

Table 1 Central Texas Turnpike Project Components	
Component	Centerline Mile Lengths
	Mi.
Loop 1	3
State Highway 45	13
State Highway 130	49
Total	65

CENTRAL TEXAS TURNPIKE PROJECT

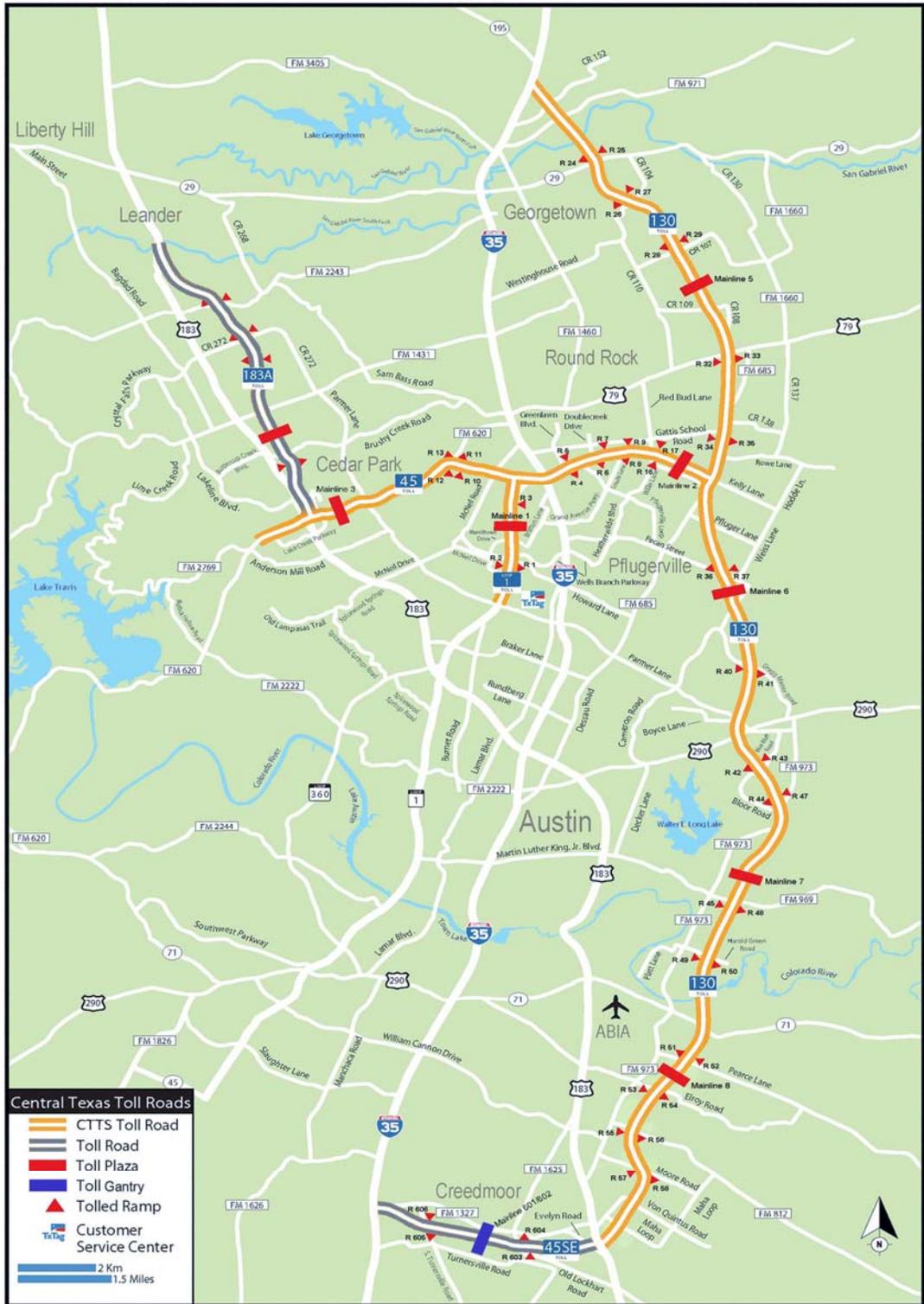
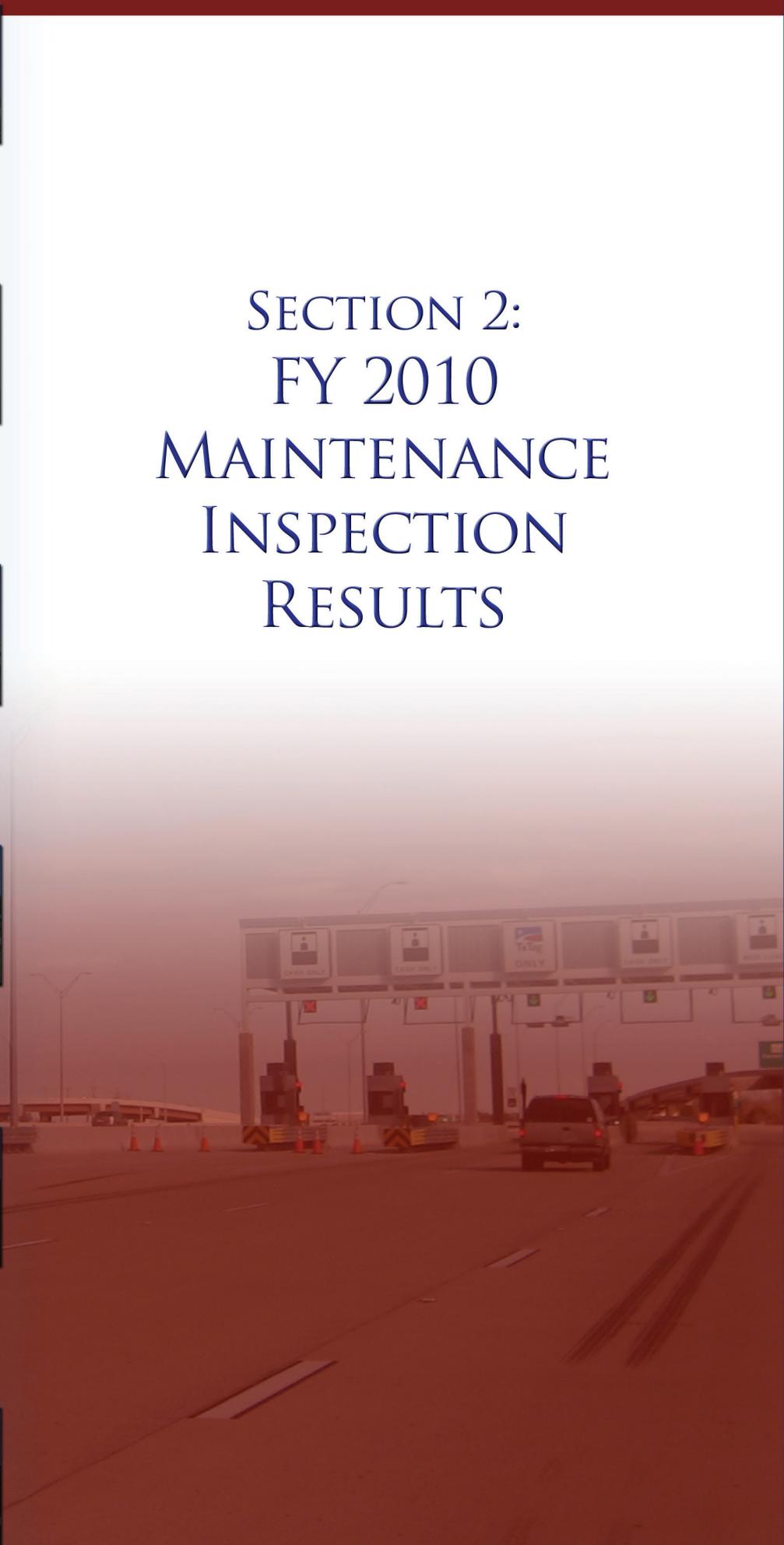
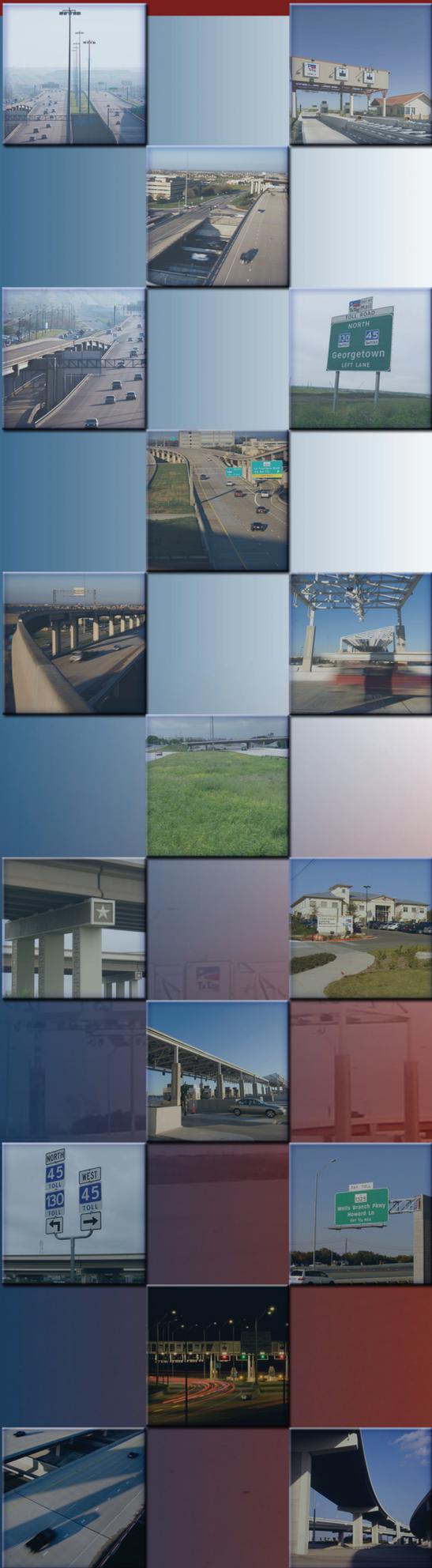


Figure 1 - Central Texas Toll Roads

SECTION 2: FY 2010 MAINTENANCE INSPECTION RESULTS



2. FY 2010 Maintenance Inspection Results

2.1 Introduction

The findings of the FY 2010 Annual Inspection of the Central Texas Turnpike Project are based on an extensive evaluation of the roadway, facility, and structures inspections and are outlined in the following paragraphs. The TxDOT ratings assigned to the various roadway elements are presented, along with a general description of the condition of the system's roadways, buildings and structures at the time of inspection.

No major deficiencies were found in any of the three categories of the 2010 inspection; roadways, facilities or structures that have been completed and are in service.

The CTTTP inspection does not take into account the criticality of the elements in relationship to each other. When reviewing deficiencies, one should remember that a number of considerations influence the desired level of service. These include safety, protection of private and public investment, comfort, economics, environmental impact, aesthetics, and funding constraints. A pavement failure, for example, would receive priority over a deficiency in litter removal because it may have an immediate impact on the safety of the patron.

2.2 Roadways

The roadway inspection is divided into three general categories of roadway elements: pavement, traffic operations and roadside features. A sketch identifying the major elements of a typical roadway is included as Figure 2.

PBS&J utilized a Roadway Rating Procedure (RRP) based on using the original 25 roadway elements outlined in the TxCAP document. The ratings and descriptions of the numerical grading system are based on a five-point system, as used in the TxCAP system, as shown in Table 2. The 5-point system is converted to a percentage by multiplying each rating by twenty. The resulting score is then weighted by applying the TxCAP values outlined in Table 3 to determine the overall score for each category. Each category's overall score is then weighted according to appropriate TxCAP values to obtain a total composite score for the entire roadway system.

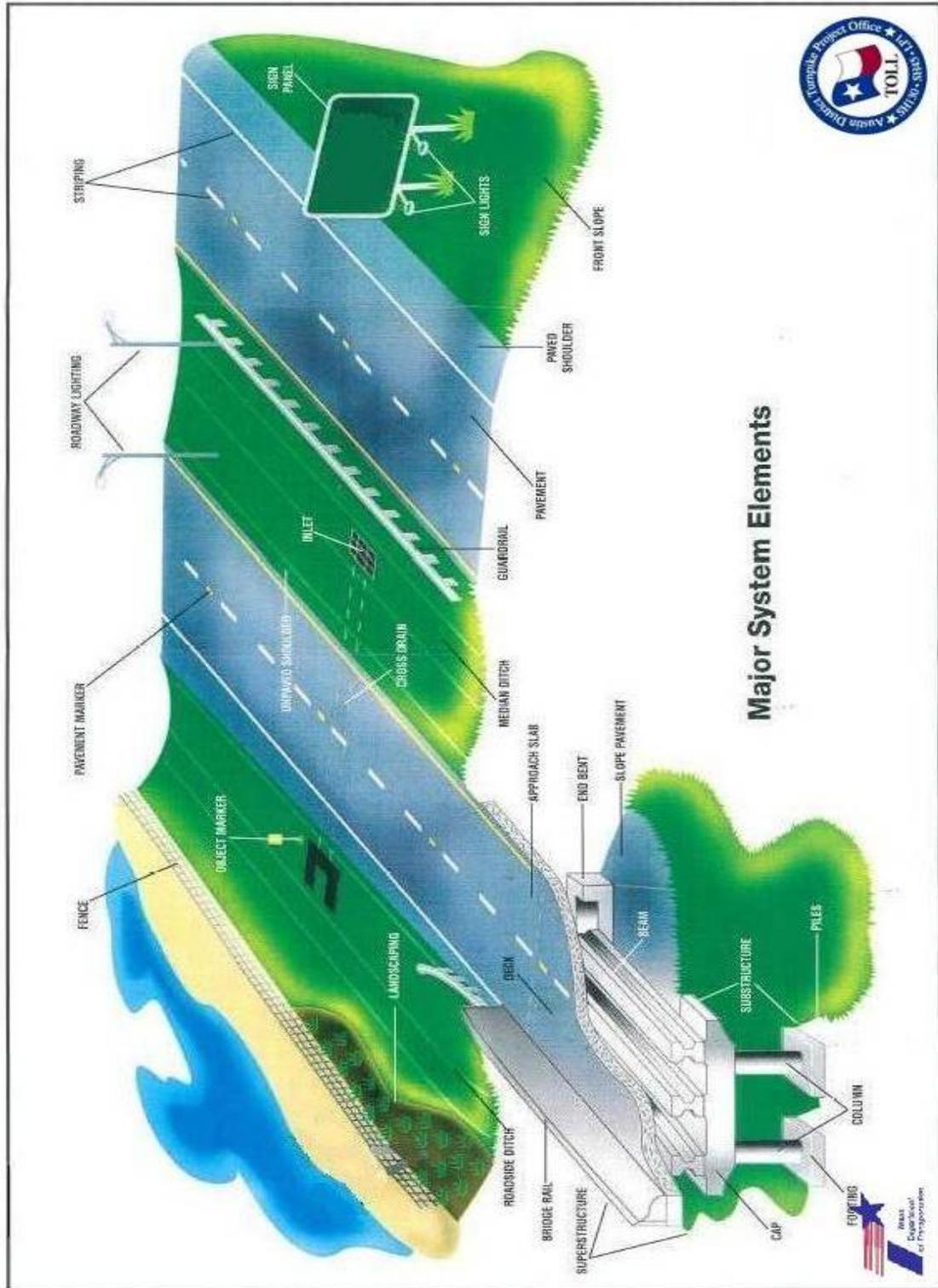


Figure 2 – Major System Elements

Table 2 CTTP Roadway Inspection Rating Scale		
Grade	Rating	Description
5	Excellent	No deficiencies noted. Feature is in like new condition
4	Good	No maintenance is necessary. Feature appearance and functionality/operability are good.
3	Degraded	Maintenance is required to protect public or system. Feature appearance and functionality/operability are below average.
2	Unsatisfactory	Immediate repair is required to protect public or system. Feature appearance and functionality/operability are substandard.
1	Emergency	Immediate maintenance is required to protect public or system. Feature appearance and functionality/operability are unacceptable.

Five elements; railroad crossings, signals, work zones, mailboxes and general public rating contained in the traffic operations and roadside categories were not applicable to this project. These elements are not scored in this year's inspection. The TxCAP weighted scores of the remaining elements were increased proportionally to obtain the 100-point maximum as shown in Table 3.

This information is entered directly into a database located on laptop computers in the field for later compilation and reporting for each roadway. Inspection results are separated by roadway/ramp segment and lane direction.

All of the major elements contained within each category are in Tables 4 through 6. In addition, the scores for each major element are included. A rating of two or below on the field inspection worksheets indicates that the portion of the element is degraded and reported as deficient. All three roadways contained within the CTTTP are summarized in Table 7. The inspection results shown include all major categories of Turnpike roadway facilities: mainline roadways, ramps and interchanges.

The results of this year’s annual inspection indicate that the Turnpike System roadway facilities are in like new condition and are being maintained in an overall excellent condition. No major roadway deficiencies were identified by the Turnpike Systems annual inspection.

Table 3 TxCAP Roadway Weighted Scoring Values		
Pavement Score	Original Percentage	Adjusted Percentage
Rutting (PMIS)	17.50%	17.50%
Cracking (PMIS)	17.50%	17.50%
Failures (PMIS)	24.00%	24.00%
Ride (PMIS)	16.00%	16.00%
Edges (TxMAP)	12.00%	12.00%
Shoulders (TxMAP)	13.00%	13.00%
Traffic Operations Score		
Raised Pavement Markers (TxMAP)	10.00%	11.76%
Striping, Pavement Graphics (TxMAP)	20.00%	23.53%
Attenuators (TxMAP)	5.00%	5.88%
Delineators (TxMAP)	15.00%	17.65%
Shoulder Texturing (TxMAP)	5.00%	5.88%
Roadside Signs (TxTAP)	30.00%	35.29%
Railroad Crossings (TxTAP)	N/A (5.0%)	0.00%
Signals (TxTAP)	N/A (10.0%)	0.00%
Work Zones (TxTAP)	N/A (0.0%)	0.00%
Roadside Score		
Vegetation Management (TxMAP)	13.00%	18.57%
Litter (TxMAP)	6.00%	8.57%
Sweeping (TxMAP)	11.00%	15.71%
Trees and Brush (TxMAP)	8.00%	11.43%
Drainage (TxMAP)	12.00%	17.14%
Encroachments (TxMAP)	8.00%	11.43%
Guardrails (TxMAP)	7.00%	10.00%
Guardrail End Treatments (TxMAP)	5.00%	7.14%
Mailboxes (TxMAP)	N/A (7.0%)	0.00%
General Public Rating (TxMAP)	N/A (23.0%)	0.00%
Overall Score		
Pavement	50.00%	50.00%
Traffic Operations	25.00%	25.00%
Roadside	25.00%	25.00%

2.2.1 Pavement

The pavement category includes; rutting, cracking, pavement failures, ride rating, edges and shoulders. Pavement throughout the CTTTP was generally found in like new condition and achieved an overall score of 94. The lowest pavement element score, cracking, received a score of 75 and was noted on SH 45. There were no major deficiencies on any of the three roadway systems reported by the annual inspection.



Figure 3 - Typical Roadway Section

TxDOT Austin District Maintenance has noted the need for the repair of pavement on the southbound approach to the ML 1 toll plaza on Loop 1. Testing and analysis is underway to determine the requirements of the repair.

2.2.2 Traffic Operations

The Traffic Operations category ratings are based on the condition of all features that guide, protect, and assist the patron while traveling the Turnpike System's roadways and interchanges. A Traffic Operations score rating of 94 was achieved. No single element on any of the three roadways was found to be in less than good condition.

The TxCAP rating system does not include an evaluation of lighting systems, but as has been done in previous years, a nighttime inspection of the CTTTP was performed in order to assess the overall condition of the system lights. High mast light towers and cobra head streetlights were examined as part of this inspection. The majority of the system was in working order. However, many lights were found to be in need of service.

High mast light towers are present at the major interchanges within the CTTTP system. The high mast towers at the SH 45/IH 35 interchange were observed to have approximately 5 to 6 bulbs out at each of the light towers. The SH 45/SH 130 and SH 130/IH 35 interchanges each had one tower that was not operating at all, but the remaining towers at these locations appeared to be functioning normally. Several of the towers at the SH 45/US 183 and SH 45/Loop 1 interchanges exhibited only 1 or 2 bulbs out each, and the towers at the SH 130 interchanges with US 290 and SH 71 appeared to be fully functional.

Cobra head streetlights are present at many areas throughout the CTTTP, most frequently at interchanges and tolling locations. A majority of these lights were functioning properly; however there were lights out at most mile segments along the three corridors. Additionally, several circuits were noted as not functioning on all three of the CTTTP system's highways. Locations of the non-functioning lights are detailed in the inspection worksheets located in Appendix B.



Figure 4 – Roadside Sign and Pavement Symbols

2.2.3 Roadside

The determination of the Roadside score for roadside features is generally based upon the consideration of vegetation management, litter removal, drainage structures, and other elements located outside of the paved travel way (Figure 2). The roadside category is in excellent condition and has achieved an overall score of 97. There were no characteristics that rated lower than 86. The lowest element, vegetation management, was found on SH 130. A combination of sparse and/or missing turf in combination with minor erosion contributed to the reduced score. Some of the vegetation management issues may be attributed to the severe drought conditions present through the summer of 2009 that were quickly followed by intense rains.



Figure 5 – Deteriorated Shoulder and Turf Condition



Figure 6 – Desired Shoulder and Turf Condition

CENTRAL TEXAS TURNPIKE PROJECT

Table 4 Condition of CTPP Roadway Elements – Loop 1 FY 2010						
Category	Component	Component Score	Maximum Score	Sub Score	TxCAP Weighted Value	Weighted Score
Pavement Score	Rutting	1,400	1,400	100	17.50%	17.5
	Cracking	3,780	4,700	80	17.50%	14.1
	Failures	1,400	1,400	100	24.00%	24.0
	Ride	1,400	1,400	100	16.00%	16.0
	Edges	1,400	1,400	100	12.00%	12.0
	Shoulders	1,660	1,900	87	13.00%	11.4
Loop 1 - Pavement Score						95
Traffic Operations Score	Raised Pavement Markers	1,260	1,300	97	11.76%	11.4
	Striping, Pavement Graphics	1,480	1,800	82	23.53%	19.3
	Attenuators	1,200	1,200	100	5.88%	5.9
	Delineators	1,500	1,600	94	17.65%	16.5
	Shoulder Texturing	1,500	1,700	88	5.88%	5.2
	Roadside Signs	1,275	1,275	100	35.29%	35.3
	Railroad Crossings	0	0	0	0.00%	0.0
	Signals	0	0	0	0.00%	0.0
	Work Zones	0	0	0	0.00%	0.0
Loop 1 - Traffic Operations Score						94
Roadside Score	Vegetation Management	1,280	1,300	98	18.57%	18.3
	Litter	1,380	1,400	99	8.57%	8.4
	Sweeping	1,400	1,400	100	15.71%	15.7
	Trees and Brush	800	800	100	11.43%	11.4
	Drainage	1,217	1,243	98	17.14%	16.8
	Encroachments	800	800	100	11.43%	11.4
	Guardrails	1,400	1,400	100	10.00%	10.0
	Guardrail End Treatments	1,400	1,400	100	7.14%	7.1
	Mailboxes	0	0	0	0.00%	0.0
	General Public Rating	0	0	0	0.00%	0.0
Loop 1 - Roadside Score						99
Category Score	Pavement	11,040	12,200	95	50.00%	47.5
	Traffic Operations	8,215	8,875	94	25.00%	23.4
	Roadside	9,677	9,743	99	25.00%	24.8
Loop 1 - Total Roadway Score						96

CENTRAL TEXAS TURNPIKE PROJECT

Table 5 Condition of CTPP Roadway Elements – SH 45 FY 2010						
Category	Component	Component Score	Maximum Score	Sub Score	TxCAP Weighted Value	Weighted Score
Pavement Score	Rutting	5,100	5,100	100	17.50%	17.5
	Cracking	8,300	11,000	75	17.50%	13.2
	Failures	5,156	5,180	100	24.00%	23.9
	Ride	5,100	5,100	100	16.00%	16.0
	Edges	5,200	5,200	100	12.00%	12.0
	Shoulders	5,260	6,400	82	13.00%	10.7
SH 45 - Pavement Score						93
Traffic Operations Score	Raised Pavement Markers	3,820	4,700	81	11.76%	9.6
	Striping, Pavement Graphics	4,860	5,700	85	23.53%	20.1
	Attenuators	3,900	3,900	100	5.88%	5.9
	Delineators	2,900	3,300	88	17.65%	15.5
	Shoulder Texturing	4,510	4,550	99	5.88%	5.8
	Roadside Signs	4,445	4,475	99	35.29%	35.1
	Railroad Crossings	0	0	0	0.00%	0.0
	Signals	0	0	0	0.00%	0.0
	Work Zones	0	0	0	0.00%	0.0
SH 45 - Traffic Operations Score						92
Roadside Score	Vegetation Management	4,540	4,700	97	18.57%	17.9
	Litter	5,120	5,400	95	8.57%	8.1
	Sweeping	5,020	5,100	98	15.71%	15.4
	Trees and Brush	3,000	3,000	100	11.43%	11.4
	Drainage	4,386	4,486	98	17.14%	16.8
	Encroachments	3,000	3,000	100	11.43%	11.4
	Guardrails	4,600	4,600	100	10.00%	10.0
	Guardrail End Treatments	4,600	4,600	100	7.14%	7.1
	Mailboxes	0	0	0	0.00%	0.0
	General Public Rating	0	0	0	0.00%	0.0
SH 45 - Roadside Score						98
Category Score	Pavement	34,116	37,980	93	50.00%	46.6
	Traffic Operations	24,435	26,625	92	25.00%	23.0
	Roadside	34,266	34,886	98	25.00%	24.6
SH 45 - Total Roadway Score						94

CENTRAL TEXAS TURNPIKE PROJECT

Table 6 Condition of CTPP Roadway Elements – SH 130 FY 2010						
Category	Component	Component Score	Maximum Score	Sub Score	TxCAP Weighted Value	Weighted Score
Pavement Score	Rutting	17,200	17,200	100	17.50%	17.5
	Cracking	24,200	30,600	79	17.50%	13.8
	Failures	17,120	17,180	100	24.00%	23.9
	Ride	17,200	17,200	100	16.00%	16.0
	Edges	17,200	17,200	100	12.00%	12.0
	Shoulders	18,120	21,100	86	13.00%	11.2
SH 130 - Pavement Score						94
Traffic Operations Score	Raised Pavement Markers	16,120	17,000	95	11.76%	11.2
	Striping, Pavement Graphics	16,300	18,300	89	23.53%	21.0
	Attenuators	7,500	7,500	100	5.88%	5.9
	Delineators	16,420	17,400	94	17.65%	16.7
	Shoulder Texturing	17,010	18,550	92	5.88%	5.4
	Roadside Signs	17,095	17,150	100	35.29%	35.2
	Railroad Crossings	0	0	0	0.00%	0.0
	Signals	0	0	0	0.00%	0.0
	Work Zones	0	0	0	0.00%	0.0
SH 130 - Traffic Operations Score						95
Roadside Score	Vegetation Management	18,087	21,033	86	18.57%	16.0
	Litter	16,920	17,700	96	8.57%	8.2
	Sweeping	17,360	17,500	99	15.71%	15.6
	Trees and Brush	13,540	13,700	99	11.43%	11.3
	Drainage	16,163	16,671	97	17.14%	16.6
	Encroachments	13,540	13,700	99	11.43%	11.3
	Guardrails	17,200	17,200	100	10.00%	10.0
	Guardrail End Treatments	17,200	17,200	100	7.14%	7.1
	Mailboxes	0	0	0	0.00%	0.0
	General Public Rating	0	0	0	0.00%	0.0
SH 130 - Roadside Score						96
Category Score	Pavement	111,040	120,480	94	50.00%	47.2
	Traffic Operations	90,445	95,900	95	25.00%	23.8
	Roadside	130,010	134,704	96	25.00%	24.0
SH 130 - Total Roadway Score						95

CENTRAL TEXAS TURNPIKE PROJECT

Table 7 Condition of CTPP Roadway Elements – All Roadways FY 2010						
Category	Component	Component Score	Maximum Score	Sub Score	TxCAP Weighted Value	Weighted Score
Pavement Score	Rutting	23,700	23,700	100	17.50%	17.5
	Cracking	36,280	46,300	78	17.50%	13.7
	Failures	23,676	23,760	100	24.00%	23.9
	Ride	23,700	23,700	100	16.00%	16.0
	Edges	23,800	23,800	100	12.00%	12.0
	Shoulders	25,040	29,400	85	13.00%	11.1
CTPP (All Roadways) - Pavement Score						94
Traffic Operations Score	Raised Pavement Markers	21,200	23,000	92	11.76%	10.8
	Striping, Pavement Graphics	22,640	25,800	88	23.53%	20.6
	Attenuators	12,600	12,600	100	5.88%	5.9
	Delineators	20,820	22,300	93	17.65%	16.5
	Shoulder Texturing	23,020	24,800	93	5.88%	5.5
	Roadside Signs	22,815	22,900	100	35.29%	35.2
	Railroad Crossings	0	0	0	0.00%	0.0
	Signals	0	0	0	0.00%	0.0
	Work Zones	0	0	0	0.00%	0.0
CTPP (All Roadways) - Traffic Operations Score						94
Roadside Score	Vegetation Management	23,907	27,033	88	18.57%	16.4
	Litter	23,420	24,500	96	8.57%	8.2
	Sweeping	23,780	24,000	99	15.71%	15.6
	Trees and Brush	17,340	17,500	99	11.43%	11.3
	Drainage	21,766	22,400	97	17.14%	16.7
	Encroachments	17,340	17,500	99	11.43%	11.3
	Guardrails	23,200	23,200	100	10.00%	10.0
	Guardrail End Treatments	23,200	23,200	100	7.14%	7.1
	Mailboxes	0	0	0	0.00%	0.0
	General Public Rating	0	0	0	0.00%	0.0
CTPP (All Roadways) - Roadside Score						97
Category Score	Pavement	156,196	170,660	94	50.00%	47.1
	Traffic Operations	123,095	131,400	94	25.00%	23.6
	Roadside	173,953	179,333	97	25.00%	24.2
Total Central Texas Toll Roadway Score						95

2.3 Facilities

The facilities inspection is based on three general building types: The Customer Service Center Building, toll plaza administration buildings (mainline plazas), and toll plaza buildings (ramps). In addition to the three building types, canopy structures are present at each mainline and ramp plaza. The major characteristics of each building type are subdivided into four categories: architectural, tollbooths, mechanical, and electrical components. Fifty-seven buildings currently exist and were in service at the time of the FY 2010 inspection. Approximately 6,354 facility asset items were inspected, of which, 69 were rated as being in less than fair (rating of 2 or less) condition, for a deficiency rate of 1.09 percent. However, it should be pointed out that, in most cases, these deficiencies represented an aesthetics problem and not structural or safety issues. The CTTP system building quantities are detailed in Table 8.

Table 8 Central Texas Turnpike Building Quantities - FY 2010				
Building Types	Loop 1	SH 130	SH 45	Totals
Customer Service Center	1	0	0	1
Mainline Plazas	1	8	2	11
Ramp Plazas	3	30	12	45
Totals	5	38	14	57

As part of the inspection process, all relevant structural components and associated mechanical and electrical systems for all facilities are visually inspected. The ratings are assigned based on the conditions observed and the descriptions of the numerical grading system are based on the same five-point system utilized for the roadway system elements (Table 3). Elements rated deficient are compared to the total number of elements inspected to achieve a percent deficient for each element in each category. A summary of the results for each of the three roadways are contained in Tables 9 through 11, and a system-wide summary is shown in Table 12.

Elements that reported the highest deficiency rate were walks and curbs systems (site grounds with incomplete landscaping) at 40%.

There have been concerns regarding concrete pavement cracks where the toll collection system is installed. Currently the pavement score does not show a deficiency, but throughout the CTTS there are small cracks which have the potential to affect the toll system's collection capabilities. These locations require continual monitoring in order to determine the appropriate time for pavement rehabilitation or replacement. This is not expected to occur during FY 2011, but is anticipated sometime in the next several years.

2.3.1 Customer Service Center

The TxTag Customer Service Center (CSC), as shown in Figure 7 below, provides customer service and account management support for TxDOT's toll projects throughout the state. "TxTag" is the toll transponder that patrons use to pay tolls electronically by establishing a pre-paid account. The CSC also provides system and accounting services for Pay by Mail customers who are billed monthly for their tolls. As the primary center for customer service, the CSC houses TxDOT's customer call center and website support services.

The customer service center became operational in July 2006, and now operates six days a week, 12 hours each weekday and 9 hours on Saturday with approximately 150 employees. With the focus of toll collection moving from manual collection to all electronic (AET), the CSC role has become more important in the collection and accounting of toll revenue. The CSC system database houses information on daily transactions, the toll revenue due by toll collection type, the interoperable revenue due from other agencies and financial reporting information. Other staff include general administration, quality assurance, accounting and reconciliation, human resources, and facility administration.



Figure 7 - Customer Service Center

2.3.2 Mainline and Ramp Plaza Facilities and Canopies

The toll plaza administration facilities and canopies are located either as part of a mainline toll plaza or ramp toll plaza facility. The canopies typically extend from the administration buildings outward, over the tollbooths or toll collection equipment located between the travel lanes. The administration buildings not located at ramp toll plazas are connected to the toll collection booths/equipment by means of an underground tunnel. This facilitates the transport of personnel, toll collection data, and supplies.



Figure 8 - Ramp Canopy

2.3.3 Tollbooths

All tollbooths, including forty that have been decommissioned were inspected during the FY 2010 inspection. Tollbooths and related subcomponents were noted in excellent condition throughout the CTTP. Only one tollbooth element, Toll A/C at 9.24% was rated deficient within the system. It was noted that 8 of the 9 tollbooth AC's found deficient were in booths that have been taken out of service. A typical tollbooth configuration is pictured below in Figure 9. The condition of the elements and the corresponding deficiencies for each of these categories is summarized in Tables 9 through 11, with a system-wide summary shown in Table 12.



Figure 9 - Tollbooth

2.3.4 Mechanical

Mechanical elements include plumbing fixtures, sewer/septic lines and well and water lines. Five plumbing fixtures were noted in less than fair condition within the system.

2.3.5 Electrical

Of the 1298 total elements in the electrical category, only eleven elements were noted as deficient for an overall deficiency rate of 0.85%. Seven of the deficient elements are non-functioning GFI receptacles located at several facilities throughout the system. No generators were found to be deficient.



Figure 10 – Facility Generator

CENTRAL TEXAS TURNPIKE PROJECT

Table 9 Condition of CTPP Facilities - Loop 1 - FY 2010				
Category	Element	Number Inspected	Number Rated Less Than Fair	Percent Deficient
Architectural	Parking Area & Drive Pvm't	39	1	2.56%
	Walks And Curbs	4	0	0.00%
	Area Lights	6	0	0.00%
	Site Drainage	0	0	0.00%
	Irrigation System	2	0	0.00%
	Exterior Walls	18	2	11.11%
	Exterior Trim	4	0	0.00%
	Exterior Windows	78	0	0.00%
	Exterior Doors	22	0	0.00%
	Interior Walls & Ceilings	575	0	0.00%
	Interior Windows & Sills	0	0	0.00%
	Interior Doors	116	0	0.00%
	Interior Flooring	137	1	0.73%
	Fire Extinguishers & Cabinets	38	0	0.00%
	Toilet Partitions & Screens	1	0	0.00%
	Bath Accessories	5	0	0.00%
	Lockers	0	0	0.00%
	Interior Signs	28	1	3.57%
	Roofs	3	1	33.33%
	Air Conditioners	174	1	0.57%
Tunnel	8	0	0.00%	
Elevators, Dumbwaiters	2	0	0.00%	
Toll Booths	Exterior Booth	14	0	0.00%
	Interior Booth	14	0	0.00%
	Toll Doors	14	0	0.00%
	Window	14	0	0.00%
	Counter/Drawer	19	0	0.00%
	Toll Light	8	0	0.00%
	Toll A/C	31	3	9.68%
	Underside Of Roof	4	0	0.00%
	Traffic Lights	28	0	0.00%
	Area Lights	6	0	0.00%
	Signs	32	0	0.00%
	Concrete Pavement	9	0	0.00%
	Nose Flashers (In Gator Heads)	0	0	0.00%
	Concrete Bumpers (Parking Stops)	0	0	0.00%
	Traffic Signal	0	0	0.00%
	Toll Indicator	24	0	0.00%
Mechanical	Plumbing Fixtures	42	1	2.38%
	Sewer / Septic Lines	0	0	0.00%
	Well / Water Lines	0	0	0.00%
Electrical	Building Electrical Fixtures	385	3	0.78%
	Generators	9	0	0.00%

CENTRAL TEXAS TURNPIKE PROJECT

Table 10 Condition of CTPP Facilities - SH 45 - FY 2010				
Category	Element	Number Inspected	Number Rated Less Than Fair	Percent Deficient
Architectural	Parking Area & Drive Pvm't	90	1	1.11%
	Walks And Curbs	4	0	0.00%
	Area Lights	6	0	0.00%
	Site Drainage	0	0	0.00%
	Irrigation System	2	0	0.00%
	Exterior Walls	28	0	0.00%
	Exterior Trim	14	0	0.00%
	Exterior Windows	26	0	0.00%
	Exterior Doors	18	2	11.11%
	Interior Walls & Ceilings	256	2	0.78%
	Interior Windows & Sills	0	0	0.00%
	Interior Doors	53	1	1.89%
	Interior Flooring	65	0	0.00%
	Fire Extinguishers & Cabinets	27	0	0.00%
	Toilet Partitions & Screens	0	0	0.00%
	Bath Accessories	15	0	0.00%
	Lockers	2	0	0.00%
	Interior Signs	15	0	0.00%
	Roofs	3	0	0.00%
	Air Conditioners	104	0	0.00%
Tunnel	8	1	12.50%	
Elevators, Dumbwaiters	4	0	0.00%	
Toll Booths	Exterior Booth	14	0	0.00%
	Interior Booth	14	0	0.00%
	Toll Doors	14	0	0.00%
	Window	14	0	0.00%
	Counter/Drawer	29	0	0.00%
	Toll Light	28	0	0.00%
	Toll A/C	40	2	5.00%
	Underside Of Roof	14	0	0.00%
	Traffic Lights	65	2	3.08%
	Area Lights	6	0	0.00%
	Signs	68	0	0.00%
	Concrete Pavement	30	0	0.00%
	Nose Flashers (In Gator Heads)	0	0	0.00%
	Concrete Bumpers (Parking Stops)	0	0	0.00%
	Traffic Signal	0	0	0.00%
	Toll Indicator	50	0	0.00%
Mechanical	Plumbing Fixtures	32	2	6.25%
	Sewer/Septic Lines	0	0	0.00%
	Well/Water Lines	0	0	0.00%
Electrical	Building Electrical Fixtures	299	2	0.67%
	Generators	16	0	0.00%

CENTRAL TEXAS TURNPIKE PROJECT

Table 11 Condition of CTPP Facilities - SH 130 - FY 2010				
Category	Element	Number Inspected	Number Rated Less Than Fair	Percent Deficient
Architectural	Parking Area & Drive Pvm't	195	0	0.00%
	Walks And Curbs	27	14	51.85%
	Area Lights	23	0	0.00%
	Site Drainage	0	0	0.00%
	Irrigation System	8	0	0.00%
	Exterior Walls	77	0	0.00%
	Exterior Trim	38	0	0.00%
	Exterior Windows	55	0	0.00%
	Exterior Doors	29	0	0.00%
	Interior Walls & Ceilings	486	0	0.00%
	Interior Windows & Sills	0	0	0.00%
	Interior Doors	97	1	1.03%
	Interior Flooring	110	3	2.73%
	Fire Extinguishers & Cabinets	39	0	0.00%
	Toilet Partitions & Screens	2	0	0.00%
	Bath Accessories	23	3	13.04%
	Lockers	2	0	0.00%
	Interior Signs	36	0	0.00%
	Roofs	13	1	7.69%
	Air Conditioners	235	1	0.43%
Tunnel	0	0	0.00%	
Elevators, Dumbwaiters	0	0	0.00%	
Toll Booths	Exterior Booth	20	0	0.00%
	Interior Booth	29	0	0.00%
	Toll Doors	21	0	0.00%
	Window	20	0	0.00%
	Counter/Drawer	35	1	2.86%
	Toll Light	76	0	0.00%
	Toll A/C	48	6	12.50%
	Underside Of Roof	37	0	0.00%
	Traffic Lights	124	2	1.61%
	Area Lights	23	0	0.00%
	Signs	136	0	0.00%
	Concrete Pavement	84	0	0.00%
	Nose Flashers (In Gator Heads)	0	0	0.00%
	Concrete Bumpers (Parking Stops)	0	0	0.00%
	Traffic Signal	0	0	0.00%
	Toll Indicator	86	0	0.00%
Mechanical	Plumbing Fixtures	70	2	2.86%
	Sewer/Septic Lines	0	0	0.00%
	Well/Water Lines	0	0	0.00%
Electrical	Building Electrical Fixtures	614	6	0.98%
	Generators	59	0	0.00%

CENTRAL TEXAS TURNPIKE PROJECT

Table 12 Condition of Facilities - CTPP (All Roadways) - FY 2010				
Category	Element	Number Inspected	Number Rated Less Than Fair	Percent Deficient
Architectural	Parking Area & Drive Pvm't	324	2	0.62%
	Walks And Curbs	35	14	40.00%
	Area Lights	35	0	0.00%
	Site Drainage	0	0	0.00%
	Irrigation System	12	0	0.00%
	Exterior Walls	123	2	1.63%
	Exterior Trim	56	0	0.00%
	Exterior Windows	159	0	0.00%
	Exterior Doors	69	2	2.90%
	Interior Walls & Ceilings	1,317	2	0.15%
	Interior Windows & Sills	0	0	0.00%
	Interior Doors	266	2	0.75%
	Interior Flooring	312	4	1.28%
	Fire Extinguishers & Cabinets	104	0	0.00%
	Toilet Partitions & Screens	3	0	0.00%
	Bath Accessories	43	3	6.98%
	Lockers	4	0	0.00%
	Interior Signs	79	1	1.27%
	Roofs	19	2	10.53%
	Air Conditioners	513	2	0.39%
Tunnel	16	1	6.25%	
Elevators, Dumbwaiters	6	0	0.00%	
Toll Booths	Exterior Booth	48	0	0.00%
	Interior Booth	57	0	0.00%
	Toll Doors	49	0	0.00%
	Window	48	0	0.00%
	Counter/Drawer	83	1	1.20%
	Toll Light	112	0	0.00%
	Toll A/C	119	11	9.24%
	Underside Of Roof	55	0	0.00%
	Traffic Lights	217	4	1.84%
	Area Lights	35	0	0.00%
	Signs	236	0	0.00%
	Concrete Pavement	123	0	0.00%
	Nose Flashers (In Gator Heads)	0	0	0.00%
	Concrete Bumpers (Parking Stops)	0	0	0.00%
	Traffic Signal	0	0	0.00%
	Toll Indicator	160	0	0.00%
Mechanical	Plumbing Fixtures	144	5	3.47%
	Sewer/Septic Lines	0	0	0.00%
	Well/Water Lines	0	0	0.00%
Electrical	Building Electrical Fixtures	1,298	11	0.85%
	Generators	84	0	0.00%

2.4 Structures

The structures inspection consisted of a visual inspection of the bridge deck, deck joints, related vehicle containment elements, approach slabs, overhead/cantilever signs, and HMLTs. No major deficiencies were found during the assessment for any of the categories related to the CTTTP structures. In addition, a summary of the Federal Bridge Inspection Reports for the CTTTP bridges were compiled and reviewed. It should be noted that no significant deficiencies were reported or observed that pose a safety threat to users of Central Texas Turnpike Project. Table 13 shown below summarizes all major structures of the CTTTP.

Table 13 Quantities of CTTTP Major Structures - FY 2010				
Category	Loop 1	SH 45	SH 130	TOTALS
Bridges	15	69	126	210
Overhead/Cantilever Signs	21	64	65	150
High-Mast Light Towers	3	49	23	75
Totals	39	182	214	435

2.4.1 Bridges

The Federal Bridge Inspection Summary Report (Appendix C) was compiled, reviewed, and is included on the CD located in the CD jacket inside the back cover of this report. The bridge components and major elements are listed in Table 14. The biennial inspection is based on three main components, comprised of a total of 93 elements and 117 sub-elements for fixed bridges only. A numerical score is generated for each component based on the rating scale shown in Table 15. At the time this report was prepared, 132 of the 210 bridges within the CTPP had been inspected since last year's report. Based on conversations with TxDOT, the remaining 78 bridges are currently under inspection and the results will be available for next year's Annual Inspection Report. A review of the Federal Bridge Inspection Summary Report found no major deficiencies on any bridge within the CTPP. Of the 210 bridges within the CTPP only 3 (1.4%) had a rating in any category as low as 6 (Satisfactory). The remainder of the ratings were all in the 7 to 9 range (Good to Excellent).



Figure 11 - Bridges

Table 14 Bridge Components		
Deck	Substructure	Superstructure
Concrete Deck/Slab	Column or Pile	Closed/Open Girders
Deck Joints	Hollow Core Pile	Stringer
Approach Slabs	Pier Wall	Thru Truss
Bridge Railing	Abutment	Deck Truss
	Pile Cap/Footing	Arch
	Pile Jacket	Floor Beams
	Cap	Culvert
	Abutment Slope Protection	Bearings
	Bulkhead/Seawall	Unpainted Steel Superstructure
	Fender/Dolphin System	Painted Steel Superstructure
	Wingwall/Retaining Wall	Prestressed Concrete Superstructure
	Mechanically Stabilized Earth Wall	Reinforced Concrete Superstructure

Table 15 Bridge Inspection Rating Scale		
Grade	Rating	Description
9	Excellent	All elements are in excellent condition.
8	Very Good	There were no problems noted.
7	Good	Element has some minor problems. Minor maintenance may be needed.
6	Satisfactory	Element shows some minor deterioration. Maintenance may be needed.
5	Fair	Element is sound, but may have minor section loss. Minor rehabilitation may be needed.
4	Poor	Element exhibits advanced section loss. Major rehabilitation may be needed.
3	Serious	Element has loss of section that has seriously affected the structure. Repair or rehabilitation is required immediately.
2	Critical	Element shows advanced deterioration. It may be necessary to close the bridge until corrective action is taken.
1	Imminent Failure	Bridge is closed to traffic. Corrective action may permit light service.
0	Failed	Bridge is out of service and beyond corrective action.

2.4.2 Overhead/Cantilever Signs

Overhead and cantilever signs, such as the one pictured in Figure 12, are suspended above the travel way by large support structures and are included in the roadside category. These signs provide critical directional information, guiding the patron throughout the Central Texas Turnpike Project. TxDOT performed an inspection of the overhead/cantilever structures at the completion of their construction. At that time, none of the overhead/cantilever sign components and subcomponents inspected was noted as being in less than fair condition. We recommend that TxDOT conduct a biennial inspection of the overhead/cantilever sign components included in the assessment as listed in Table 16 below. The standard five point TxCAP rating scale was utilized to assess the condition of all overhead/cantilever sign structures.



Figure 12 - Overhead Sign Structure

Table 16 Overhead/Cantilever Sign Components	
Overlane Sign Structure Foundation	Overlane Sign Structure Horizontal Member
	Overlane Sign Structure Vertical Member

2.4.3 High Mast Light Towers (HMLTs)

Similar to overhead/cantilever signs, HMLTs were inspected by TxDOT at the completion of their construction. No deficiencies were noted during the post construction inspection. These structures, like the one pictured in Figure 13, provide illumination for improved nighttime visibility at various locations along the CTTTP, such as interchanges and toll facilities. The condition of high mast light towers is determined by the two components listed in Table 17 below. We recommend that TxDOT conduct a biennial inspection of the structural components of the High Mast Light Towers.



Figure 13 – High Mast Light Tower

Table 17 High Mast Light Tower Components	
High Mast Light Tower Foundation	High Mast Light Towers

3. Program Status, Commitments, and Recommendations

3.1 Program Status

The condition of the roadway, building and structure assets of the CTTTP is excellent. This is due both to the project having been opened to traffic recently and the proactive maintenance program that has been put in place by TxDOT.

3.2 Programmed Commitments

As required by the bond indenture, the Texas Transportation Commission (TTC) approved the FY 2010 maintenance budget prior to the start of the fiscal year. The amounts approved were \$9,281,334 for routine maintenance and \$2,090,000 for the maintenance reserve account for 'Unusual and Extraordinary Maintenance' or periodic maintenance.

It is expected that TxDOT will expend approximately \$8,300,000 this fiscal year for routine maintenance. TxDOT has preliminarily programmed \$8,650,000 for routine maintenance for the CTTTP for the Fiscal Year 2011. This funding level is appropriate to address the deficiencies identified by this report to continue to maintain the facility properly.

The maintenance reserve for FY 2010 was estimated to repair pavement at two locations. The first location is at the southbound approach to the mainline toll plaza (ML 1) on Loop 1 and the second location is on the eastbound frontage road along SH 45 between CR 172 and La Frontera Blvd. As of the date of this report, those improvements have not been made.

The repair for the Loop 1 pavement was estimated at \$440,000. The Austin District has initiated testing and analysis of the section to determine the scope of the improvements required. The cost for this repair will be included in the maintenance reserve requirements for FY 2011.

It has been determined that the eastbound frontage road along SH 45 was constructed prior to the CTTTP and is not considered a part of the CTTTP. The repair at this location is to be funded from non-CTTTP sources and not from the reserve maintenance account.

PBS&J will work with TxDOT and will review and comment on the proposed Maintenance and Reserve account funding levels prior to the approval of those funding levels at the August 2010 TTC meeting. The Maintenance Reserve account will be reviewed to ensure that the appropriate funding for FY 2011 is in place for necessary repairs.

3.3 Recommendations

- Those elements identified as sub-standard should be addressed and returned to the proper level.
- TxDOT initiate an inspection program for overhead and cantilever sign components.
- TxDOT initiate an inspection program for high mast light towers.
- TxDOT should use the maintenance reserve funds to repair the Loop 1 pavement as noted.



125 E. 11th Street
Austin, TX 78701-2483
Phone: (512) 305-9500
Phone: (512) 832-7380
www.dot.state.tx.us

Austin District Office
7901 N. IH 35
Austin, TX 78753
Phone: (512) 832-7000



6504 Bridge Point Parkway, Suite 200
Austin, TX 78730
Phone: (512) 327-6840
Phone: (800) 880-5949
www.pbsj.com