

## North Texas Tollway Authority Semi-Annual Progress Report December 2012

Lewisville Lake Toll Bridge Progress Report No. 13

Sam Rayburn Tollway Progress Report No. 11

PGBT Eastern Extension Progress Report No. 9





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#### CONSULTING ENGINEER PROJECT DIRECTOR'S LETTER

The North Texas Tollway Authority is a regional tollway authority governed by the Authority Act and is a political sub-division of the State of Texas currently serving Member counties. The NTTA's mission is to provide a safe and reliable toll road system, increase value and mobility options for their customers, operate the Authority in a businesslike manner, protect their bondholders, and partner with other key transportation groups to meet the region's growing need for transportation infrastructure. The Authority Act authorizes the Authority to acquire, construct, maintain, repair and operate turnpike projects such as those included in the NTTA System and Special Project System at such locations within its jurisdiction as may be determined by the Authority and to issue bonds and other obligations for the purpose of paying all or any part of the cost of a turnpike project.

The Authority adheres to the requirements outlined in a comprehensive Trust Agreement which governs the affairs of projects financed with public bonds. As described in Section 411 of the Amended and Restated Trust Agreement securing system revenue bonds dated April 1, 2008, the Consulting Engineers are to prepare a progress report at least once every six months during the design and construction of a project financed in part or wholly by public bonds. Described in this report is the status of three projects meeting the criteria of projects financed with NTTA system public bonds; including Lewisville Lake Toll Bridge, Sam Rayburn Tollway and President George Bush Turnpike Eastern Extension.

The report is to include, (i) the date the Project will be open to traffic, (ii) the date on which the construction of the Project will be completed, (iii) the cost of the Project, excluding any bond discount and interest during construction, and (iv) the amount of funds required each six months during the remaining estimated period of construction, including comparisons between the actual time elapsed and the actual costs against the original estimates of such times and costs. This information is presented in greater detail within this report, as well as other relevant items on an individual corridor basis. It is with great pleasure that HNTB Corporation served the Authority as their Consulting Engineer and presents the July 1, 2012 to December 31, 2012 report.

Respectfully submitted, HNTB Corporation

Stephanie L. Halliday, P.E.

Stephanie L. Halliday

Vice President



# Lewisville Lake Toll Bridge Semi-Annual Progress Report No. 13 December 2012









# NORTH TEXAS TOLLWAY AUTHORITY Lewisville Lake Toll Bridge



#### **GENERAL INTRODUCTION**



The Lewisville Lake Toll Bridge project (the "Project", "LLTB") is part of what is known as the Lewisville Lake Corridor Project. The full corridor is approximately 13.8 miles in length and connects Interstate Highway 35 East (IH 35E) at Swisher Road in Denton County with the Dallas North Tollway at Farm-to-

Market Road 2934 (FM 2934), also known as Eldorado Parkway, in Collin County. To facilitate convenient design and construction, the full corridor project is comprised of eight individual sections of varying lengths, types of facilities and responsible parties (see Figure 1, page 8).

The subject of this report is Section 2, the toll bridge, which is the NTTA's responsibility within the full corridor (see Figure 1, page 8). This toll bridge project consists of a short approach roadway on each shore of Lewisville Lake, a bridge crossing the main body of water, a toll gantry on the western side of the bridge, and a flowage easement bridge on the west side of the toll gantry. The total length of Section 2 is approximately 10,775 feet (2.04 miles) including the bridges and approach roadway.





## DESIGN AND CONSTRUCTION STATUS

The Project was separated into one construction and two main design contracts. One of the design contracts comprised the roadway and bridge portions of the Project; the second design contract addressed the toll gantry. Even though the project had multiple design contracts, a single contractor constructed the roadway, bridges and toll gantry. Landscape and irrigation design and construction were separate contracts.

As of the writing of this period's progress report, a uniform perennial vegetative cover with a density of at least 70 percent of the native background vegetative cover has not yet been established by Jensen per the contract requirement for all unpaved areas within the right of way. Jensen is required to resolve this issue to an acceptable conclusion prior to release of remaining withheld retainage, allowing close-out of their contract. However, NTTA is discussing with Jenson the option of releasing them from the re-vegetation requirement in return for a reduction to their contract amount. If Jensen accepts this option, the remaining work to achieve the 70 percent coverage would be performed by NTTA's Maintenance Department. Additionally, NTTA is exploring options to modify or replace the installed bridge lighting for improved operation and maintenance capability, potentially funded by the LLTB construction fund.

incoln 380 Cross Park Denton Roads Sections 8 Oak þ Little Elm Eldorado Pkwy Point Shady Dallas North Shores Cotonspod States 梅 Eldorado Pinay Main St LEGEND (1) Hackberry Corinth ŏ Lewisville Lake Toll Bridge Shores NTTA System (Open to Traffic) Lewisville Lake Lewisville Lake Corridor Toll Bridge Frisco Non-NTTA System akewood Shady Village Denton County The NTTA Colony 456 **Denton County** 4 Denton County/TxDOT Lake Little Elm/Denton County Dallas Lebanon Rd Frisco/Denton County/TxDOT Hickory Existing Main Lane Toll Gantry Creek Existing Ramp Toll Gantry 0 Interstate Highway U.S. and State Highway Rail County Line Toll project details not to scale July 19, 2010

Figure 1: Lewisville Lake Toll Bridge Corridor Map

From an historical perspective, heavy spring and early summer rains raised the lake level significantly in the first half of 2007. Due to restrictions set by the U.S. Army Corps of Engineers (USACE) construction license, construction was halted on June 16, 2007, when the lake level rose to an elevation of 525 feet above sea level. Construction was not permitted to resume until Sept. 24, 2007, 100 days after work suspension. The delay caused the estimated contract completion date to move from Apr. 24, 2009, to Aug. 2, 2009. On Nov. 20, 2007, the NTTA Board of Directors approved the issuance of an incentive to the contractor to attempt to recover the delay. This incentive allowed the contractor to potentially earn \$12,700 for each day that the work was completed before the adjusted Aug. 2, 2009 completion date, up to a maximum aggregate incentive payment of \$1,270,000, equal to 100 days of incentive payments. The contractor substantially completed construction of Section 2 on July 30, just three days before the revised substantial completion date; therefore, the contractor received \$38,100 in incentive bonuses.

#### **ESTIMATE OF PROJECT COSTS**

The estimate at completion project funds required for the LLTB Project is \$116,000,000, as shown in Table 2, which includes planning, engineering, construction and other agency costs. The estimate uses actual bid prices from the roadway and bridge contract including the change order for the toll gantry. Cost estimates for the toll-collection equipment and landscaping are based on actual costs. Tables 2 and 3, on pages 10 and 11 show the actual expenditures through December 2012 for the project.

The estimate of costs for the Project is based on the status of contracts and change orders issued-through December 2012 and is the best information available at the present time. The development of the current cost estimate represents the best good-faith judgment of a design professional familiar with the highway construction industry.

HNTB Corporation December 2012

Lewisville Lake Toll Bridge Table 1 - Design and Construction Status Summary

	~							
	Open-to- traffic (Planned / Actual)			April 2009 /	August 2009	Sept. 2007 / Sept. 28, 2007		
	Current Status of Construction			Complete 1	Oolibere	Complete		
ction	Begin End Construction			CLOC SIM	7107-017	November 2010 <sup>2</sup> / November 2011 <sup>3</sup>		
Construction	Begin Construction			November	2006	August 2010		
	Contractor			Jensen	Construction Co.	Superscapes Landscapes, Inc.		
	Construction Contract			02030-LLB-00-	CN-EN 1	02792-LLB-00- CN-MA		
	Current Status of PS&E	Ongoing	Complete	Complete	Complete	Complete	Complete	Complete
	Consultatnt	HNTB Corporation	Atkins North America, Inc.	AECOM USA, Inc.	Halff Associates, Inc.	HNTB Corporation	Terracon Consultants, Inc.	Atkins North America, Inc.
Design	Design Contract	DNT-357 02005-NTT-00- PS-AD	02058-NTT-00- PS-EN	DNT-503	02069-LLB-00- PS-EN	02005-NTT-00-PS- MA-WA 17	02547-NTT-00-PS- PM	02589-NTT-00-PS- PM
	Description	General Engineering Consultant	Construction Manage- ment / Materials Testing	Roadway & Bridge	Toll Gantry	Landscape	MSE Wall Independent Design Check	MSE Walls & Bridge Foundation Assessments

Including change order for toll gantry. Waiting for Jensen to establish uniform perrennial vegetative cover prior to release of retainage or an agreement to reduce the contract amount in return for releasing Jensen from the vegetative requirement.

<sup>&</sup>lt;sup>2</sup> One-year landscape maintenance warranty period began upon completion of the landscape construction.

<sup>&</sup>lt;sup>3</sup> The one-year landscape maintenance period ended on Nov. 15, 2011.



It is recognized that neither the NTTA nor the consulting engineers have control over the cost of labor, materials or equipment; the contractors' methods of determining bid prices; or the competitive bidding, market or negotiating conditions. Therefore, neither the NTTA nor its consulting engineers warrant that the construction costs will not increase and thereby exceed the estimate of construction costs given in progress reports. These costs will be monitored as work progresses on the Project.

The semi-annual estimated amount of funds required for the remaining construction costs of the Project, including project contingencies, is shown in Table 3 on the following page.

	TABLE 2 – ESTIMATE OF	PROJECT COSTS	AT COMPLETION	
No.	Description	Engineering Report Estimate, March 2006	Estimated Cost, December 2012	Actual Expenditures, December 2012
1	Section 2	\$92,900,000	\$97,375,074	\$97,299,672
2	Toll Plaza <sup>1</sup>	\$6,100,000	\$ -	\$ -
3	Equipment <sup>2</sup>	\$500,000	\$616,847	\$616,847
4	Construction Management	\$5,900,000	\$6,219,937	\$6,219,937
Subtot	al (1-4) Construction	\$105,400,000	\$104,211,858	\$104,136,456
5	PS&E (Plans, Specifications, & Estimates)	\$3,600,000	\$3,674,850	\$3,528,771
6	Other Agency Costs	\$2,100,000	\$5,256,011	\$5,139,758
Subtot	al (5-6) Engineering	\$5,700,000	\$8,930,861	\$8,668,529
7	Project Contingencies	\$11,100,000	\$682,281	\$ -
Origina	al Project Total (1-7) <sup>3</sup>	\$122,200,000	\$113,825,000	\$112,804,985
8	Sand Stockpile Design & Construction	\$ -	\$175,000	\$ -
9	Bridge Aesthetic Lighting <sup>4</sup>	\$ -	\$2,000,000	\$ -
New Pr	roject Total (1-9) <sup>4</sup>	\$ 122,200,000	\$116,000,000	\$112,804,985

<sup>&</sup>lt;sup>1</sup> Section 2 includes the cost of landscaping and the toll plaza.

<sup>&</sup>lt;sup>2</sup> The Equipment line includes the costs for Intelligent Transportation System and Electronic Toll Collection equipment.

<sup>&</sup>lt;sup>3</sup> The amount shown above does not include bond discounts, interest during and after construction, and other financing costs associated with the loan closing process.

<sup>&</sup>lt;sup>4</sup> The NTTA may modify or replace aesthetic bridge arch and monument lighting.

	TABLE 3 - CASH FLOW DRAW SCHEDULE					
Period Ending	Original Semi- Annual Estimate, December 2006	Original Cumulative Estimate, December 2006	Semi-Annual Actual, December 2012	Cumulative Actual, December 2012	Semi-Annual Estimate, December 2012	Cumulative Estimate, December 2012
Dec. 31, 2006	\$2,841,920	\$2,841,920	\$2,788,043	\$2,788,043		
June 30, 2007	\$28,314,850	\$31,156,771	\$13,586,152	\$16,374,195		
Dec. 31, 2007	\$32,746,912	\$63,903,683	\$17,088,688	\$33,462,883		
June 30, 2008	\$22,751,837	\$86,655,520	\$22,564,326	\$56,027,209		
Dec. 31, 2008	\$21,085,311	\$107,740,831	\$26,039,551	\$82,066,760		
June 30, 2009	\$9,548,177	\$117,289,009	\$15,989,796	\$98,056,556		
Dec. 31, 2009			\$8,406,326	\$106,462,882		
June 30, 2010			\$5,993,338	\$112,456,220		
Dec. 31, 2010			\$147,889	\$112,604,109		
June 30, 2011			\$67,175	\$112,671,284		
Dec. 31, 2011			\$64,193	\$112,735,477		
June 30, 2012			\$58,119	\$112,793,596		
Dec. 31, 2012			\$11,389	\$112,804,985		
June 30, 2013					\$140,118	\$112,945,103
Dec. 31, 2013					\$1,489,896	\$114,434,999
June 30, 2014 <sup>1</sup>					\$1,565,001	\$116,000,000

#### **CORRIDOR SCHEDULE**

### Status of the sections on the corridor is as follows:

**Section 1:** Opened to traffic in July 2007.

**Section 2:** Planned open to traffic date (prior to delays caused by heavy rains) was Apr. 24, 2009, actual open to traffic was Aug. 1, 2009. Jensen Construction is required to establish uniform perennial vegetative cover to all unpaved areas within the right of way prior to release of final retainage and contract close-out. However, NTTA is discussing with Jenson the option of releasing them from the re-vegetation requirement in return for a reduction to their contract amount. If Jensen accepts this option, the remaining work to achieve the 70 percent coverage would be performed by NTTA's Maintenance Department. Additionally, the NTTA Maintenance Department is

evaluating the need for a sand stockpile facility for snow and ice remediation at the LLTB site, or to continue to support the bridge from other facilities in the area. Additionally, the NTTA is exploring options to modify or replace the installed bridge lighting for improved operation and maintenance capability.

**Section 3:** Opened to traffic in October 2008.

**Sections 4, 5 and 6:** A Finding of No Significant Impact (FONSI) was issued in January 2007 to complete the environmental evaluation process. TxDOT opened bids for this five-mile section on July 8, 2010. Construction began in late 2010 and is now expected to open to traffic in 2014, later than originally anticipated.

**Section 7:** Opened to traffic in April 2004.

**Section 8:** Opened to traffic on Nov. 15, 2009.

<sup>&</sup>lt;sup>1</sup>This estimates includes a contingency that may or may not be expended.



# Sam Rayburn Tollway Semi-Annual Progress Report No. 11 December 2012





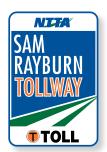




# NORTH TEXAS TOLLWAY AUTHORITY Sam Rayburn Tollway



#### **GENERAL INTRODUCTION**



The Sam Rayburn Tollway Project (the "Project", "SRT") location is from Business State Highway 121 (SH 121) in Denton County to United States Highway 75 (U.S. 75) in Collin County, a distance of approximately 26 miles. The Project serves as a primary northeast-southwest traffic artery between Interstate Highway 35 East (I-35E)

and U.S. 75. The corridor area served by the SRT continues to experience significant growth in commercial, retail and residential development. The Project is also a primary arterial serving the Dallas/Fort Worth (*DFW*) International Airport. For purposes of managing and expediting the design and construction, the Project is broken into five segments (*refer to Figure 2 on page 14*).

The entire SRT Project includes three main lane toll gantries (*MLG*) and 40 ramp toll gantries, plus four ramp gantries along the Dallas North Tollway (*DNT*). The DNT ramp gantries are part of the overall interchange improvements on their respective corridor and will operate as all-electronic toll collection (*all-ETC*) to maximize traffic flow. All-ETC main lane and ramp gantries are equipped with both TollTag and TxTag collection capability to accommodate compatibility with other toll agencies across the state of Texas. All toll collection lanes are dedicated, non-stop express lanes to expedite the flow of traffic through the gantries and provide for ease of maintenance. Refer to Figure 2 on the following page, which identifies each all-ETC location of the SRT corridor.



Figure 2 – Sam Rayburn Tollway Corridor Map

## DESIGN AND CONSTRUCTION STATUS

Design and construction status information has been summarized by segment in Tables 4 and 5 on pages 16 and 17. Additional service providers key to the project are shown in Table 6 on page 17.

The grade separated interchange at Exchange Parkway, located between Custer Road and Rowlett Creek, was added to the Project through a partnership agreement with Collin County and the cities of Allen and McKinney to improve local access. The Exchange Parkway improvements were constructed under a separate contract within this overall Project, and the Segment 3N project length was reduced accordingly. As an unanticipated cost to the project, three sand stockpiles were designed and constructed to enable the NTTA to more quickly respond to winter weather events.



The current estimated cost of the SRT Project (Segments 1-5), for the six-lane section, is \$638,810,700 as shown in table 7 on page 18. This excludes an unadjusted amount of \$59,309,300 estimated in 2007 for capacity improvements on Segments 1 through 5. These future capacity improvements are now scheduled at a later date as recommended by the NTTA's traffic and revenue engineers. The required 350- to 400-foot-wide project right of way was acquired by TxDOT, Collin, Dallas and Denton counties, and the cities of Plano, Frisco, Allen and McKinney. The estimated cost does not include funds for right of way acquired at the SRT/U.S.75 interchange and the SRT/DNT interchange, where a total of seven parcels were to be acquired by TxDOT at its cost. Under a separate agreement, TxDOT





and the NTTA later agreed that the NTTA would acquire the right of way on TxDOT's behalf, and TxDOT would subsequently reimburse the NTTA.

Several factors, including unforeseen escalation of prices and wages, labor or material shortages and changes in economic conditions can significantly affect (escalate or reduce) construction costs. Appropriate contingencies are added to the cost of the Project to cover the unforeseen escalations and are not intended to cover scope additions. The estimated Project cost reflects our professional judgment of the construction industry; it is our belief that the Project can be constructed within the original scope and limits described for the estimated cost given herein. Due to the nature of the construction industry, neither the NTTA nor its consulting engineers warrant that the construction costs will not increase and thereby exceed the estimate of construction costs given in progress reports.

Cost estimates for the Project were prepared based on the status of contracts awarded to date. The cost estimate represents the best good-faith judgment from a design professional familiar with the highway construction industry. Neither the NTTA nor its consulting engineers have control over the labor, materials or equipment costs; the contractors' methods of determining bid prices; or competitive bidding, market or negotiating conditions. The estimate of the Project's construction cost given in progress reports will be monitored as work progresses.

The semi-annual estimated amount of funds required for the estimated period of construction to meet the cost of the Project, including funds allocated for project contingencies, is shown in Table 8 on page 19.

# Sam Rayburn Tollway Table 4 - Design and Construction Status Summary

Mar. 25, 2008  22  Complete 100%  January 2010 / Sept. 1, 2009	Nov. 30, 2007  6  Complete 100%  August 2008 / January 2010 / Sept. 1, 2009
May 2010	October 2008
May 201	2008

## NOTES:

An additional grade separated interchange at Exchange Parkway was a cooperative project with Collin County and the cities of Allen and McKinney to improve local access.

<sup>&</sup>lt;sup>2</sup> Four direct-connecting ramps, including those providing access from southbound U.S. 75 to southwest-bound SRT and from northeast-bound SRT to northbound U.S. 75 (the highest-volume direct-connectors), along with all main lanes were substantially complete in December 2010 and all ramps were completed by March 31, 2011.

TABL	TABLE 5 - LANDSCAPE AND WOODLAND MITIGATION STATUS SUMMARY						
	Segments 1 - 3	Segments 4	Segments 5	Woodland Mitigation			
Limits	Denton Tap Rd. to west of Hardin Blvd. overpass	West of Hardin Blvd. overpass to Medical Center Dr. east of U.S. 75	Connecting Ramps from DNT to Sam Rayburn Tollway	Mitigation for SRT being done on ROW near PGBT EE			
Contractor	Valleycrest Landscape Development	Greener Pastures Landscape, Inc.	Valleycrest Landscape Development	Valleycrest Landscape Development			
Contract	02353-SH121-00-CN-MA	03091-SRT-04-CN-MA	03090-SRT-05-CN-MA	03200-SRT-04-CN-MA			
Construction Notice to Proceed	Aug. 2, 2010	Feb. 7, 2012	Oct. 22, 2012	Sept. 4, 2012			
Duration (Months)	18 Months	12 Months	12 Months	6 Months			
Current Status of Construction	Complete Feb. 3, 2012	Awaiting Close-out 86% Complete	On-going 10% Complete	Complete Dec. 21, 2012			
Current Status of Maintenance Warranty	On-going	On-going	To Be Determined	On-going			
Maintenance Warranty Duration	18 Months Estimated Completion Aug. 4, 2013	18 Months	18 Months	12 Months			

	TABLE 6 – ADDITIONAL SERVICE PROVIDERS					
Contract Number	Firm	Description				
02005-NTT-00-PS-AD WA15 PM	HNTB Corporation	General Engineering Consultant				
02254-SH121-00-PS-EN	HDR Engineering, Inc.	Corridor Management				
02255-SH121-00-PS-EN	Halff Associates, Inc.	Design Management				
02005-NTT-00-PS-AD WA12 MA	HNTB Corporation	Landscape Design Services				
02516-NTT-00-PS-PM	Kleinfelder Central, Inc.	MSE Wall Independent Design Check				
02056-NTT-00-PS-EN WA 48	Kellogg Brown & Root Services, Inc.	Construction Manager				
02888-SH121-00-PS-MA	Lamb-Star Engineering, LP	Seg. 1,2,3 & 4 Landscape Construction Manager				
02389-SH121-00-PS-PM Terracon Consultants, Inc.		Segment 4 Quality Control Materials Testing				
02390-SH121-00-PS-PM	Rone Engineers, Inc.	Seg 1, 2, 3 & 5 Materials Testing				
02547-NTT-00-PS-PM	Terracon Consultants, Inc.	MSE Wall Independent Design Check				
02589-NTT-00-PS-PM WA 01	Atkins North America, Inc.	Wall Engineer Support Services				

	TABLE 7 – ESTIMATE OF	PROJECT COSTS	AT COMPLETION	
No.	Description	Engineering Report Estimate, November 2007	Estimated Cost, December 2012	Actual Expenditures, December 2012
1	Segments 1, 2	\$14,163,718	\$18,868,250	\$18,868,250
2	Segments 3N <sup>1</sup>	\$72,575,945	\$64,011,520	\$64,011,520
3	Segments 3S	\$57,851,840	\$52,602,322	\$52,602,322
4	Exchange Parkway Improvements <sup>1</sup>	\$ -	\$15,793,523	\$15,793,523
5	Segment 4	\$155,085,553	\$208,600,549	\$208,600,549
6	Segment 5	\$92,843,188	\$79,297,550	\$77,391,777
7	Toll Gantries, Equipment <sup>2</sup>	\$17,626,759	\$12,522,465	\$12,522,465
8	Construction Management	\$33,138,619	\$34,345,262	\$34,271,450
9	Miscellaneous Construction <sup>3</sup>	\$21,172,724	\$57,477,682	\$53,753,486
-	Reimbursement <sup>4</sup>	\$ -	\$(15,845,308)	\$(14,047,513)
Subtotal	(1-9) Construction	\$464,458,346	\$527,673,814	\$523,767,828
10	PS&E (Plans, Specifications & Estimates) <sup>1</sup>	\$37,213,460	\$57,170,608	\$57,167,364
11	PS&E (Administrative)	\$11,437,618	\$28,799,250	\$26,784,647
12	Other Agency Costs	\$150,000	\$450,215	\$450,215
Subtotal	(10-12) Engineering	\$48,801,078	\$86,420,074	\$84,402,227
13	Project Contingencies	\$125,551,276	\$24,716,812	\$ -
Project T	ōtal (1-13) ⁵	\$638,810,700	\$638,810,700	\$608,170,055

<sup>&</sup>lt;sup>1</sup> An Interlocal Agreement (*ILA*) with the cities of McKinney and Allen and Collin County was approved to fund a change to the Exchange Parkway intersection to improve access to the Sam Rayburn Tollway. A deductive change order was executed in the amount of \$5.6M to remove the prior Exchange Parkway scope from the Segment 3N contract requirements. A separate contract was created to address the new requirements for the Exchange Parkway improvements.

<sup>&</sup>lt;sup>2</sup> The NTTA toll gantry standard inplemented in Sections 3-5 of this corridor was approved by resolution in November 2007 by the Board of Directors.

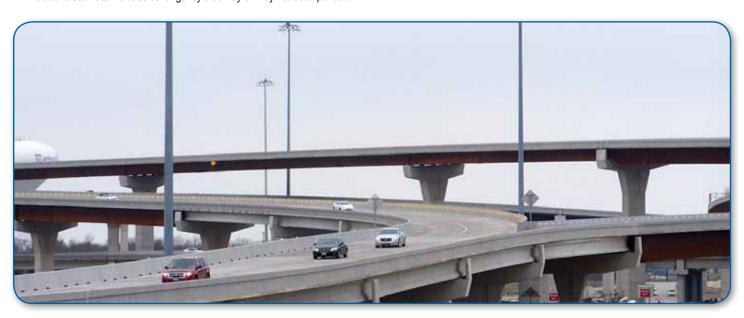
<sup>&</sup>lt;sup>3</sup> The estimated miscellaneous construction cost includes material testing, utility relocations, proposed right of way and easements, landscape and fiber optic cable installation. This line includes right of way purchases in the amount of \$11.3M which are to be reimbursed to the Project by TxDOT.

<sup>&</sup>lt;sup>4</sup> This line refers to reimbursements from Collin County and the cities of Allen and McKinney for Exchange Parkway improvements, Segment 2 sound wall coating improvements agreed to with the City of Coppell, Segment 4 third-party damage reimbursements and TxDOT ROW reimbursements.

<sup>&</sup>lt;sup>5</sup> Future capacity improvements for Segments 1-5 are not included in the above estimate, except for costs incurred for work identified in Note 2 above.

	TABLE 8 - CASH FLOW DRAW SCHEDULE					
Period Ending <sup>1</sup>	Original Semi-Annual Estimate, December 2007	Original Cumulative Estimate, December 2007	Semi-Annual Actual, December 2012	Cumulative Actual, December 2012	Semi-Annual Estimate, December 2012	Cumulative Estimate, December 2012
Dec. 31, 2007	\$12,804,925	\$12,804,925	\$12,804,925	\$12,804,925		
June 30, 2008	\$66,689,438	\$79,494,363	\$41,070,815	\$53,875,740		
Dec. 31, 2008	\$84,918,350	\$164,412,713	\$102,075,318	\$155,951,059		
June 30, 2009	\$103,636,169	\$268,048,882	\$128,276,304	\$284,227,363		
Dec. 31, 2009	\$106,341,227	\$374,390,109	\$74,454,634	\$358,681,997		
June 30, 2010	\$125,468,501	\$499,858,610	\$55,111,412	\$413,793,409		
Dec. 31, 2010	\$56,476,173	\$556,334,783	\$86,008,900	\$499,802,309		
June 30, 2011	\$31,527,887	\$587,862,670	\$44,459,339	\$544,261,648		
Dec. 31, 2011	\$25,383,916	\$613,246,586	\$36,136,206	\$580,397,854		
June 30, 2012	\$11,432,366	\$624,678,952	\$10,018,852	\$590,416,706		
Dec. 31, 2012	\$8,041,313	\$632,720,265	\$17,753,349	\$618,170,055		
June 30, 2013 <sup>1</sup>	\$6,090,435	\$638,810,700			\$4,350,731	\$612,520,786
Dec. 31, 2013 <sup>1</sup>					\$679,307	\$613,200,092
June 30, 2014 <sup>1</sup>					\$532,585	\$613,732,677
Dec. 31, 2014 <sup>1</sup>					\$310,456	\$614,043,134
June 30, 2015 <sup>1,2</sup>					\$24,767,566	\$638,810,700

<sup>&</sup>lt;sup>2</sup> The above estimate includes contingency that may or may not be expended.



<sup>&</sup>lt;sup>1</sup> The last two years of projected costs above reflect mandatory landscape maintenance periods of 18 months (Segments 1, 2, 3, 4 & 5 and Woodland Mitigation).

#### **CORRIDOR SCHEDULE**

## The major milestone dates for the SRT Project are as follows:

**Segment 1 & 2:** This part of the Project opened to traffic in July 2006 by TxDOT, and the NTTA service commencement occurred September 2008. The NTTA improvements are complete and contracts have been closed out by the NTTA.

**Segment 3S:** Main lanes are complete and open to traffic. The contract is complete and has been closed out by the NTTA.

**Segment 3N:** Main lanes are complete and open to traffic. The contract is complete and has been closed out by the NTTA.

**Exchange Parkway Improvements:** Main lanes and sand stockpile facility are complete and main lanes open to traffic. The contract is complete and has been closed out by the NTTA.

**Segment 4:** All improvements required for service commencement by the NTTA were substantially completed by Dec. 1, 2010 and opened to traffic. The landscape and irrigation improvements project for Segment 4 was advertised in August 2011. The landscape

and irrigation improvement project is expected to be a 12-month construction period and an 18-month maintenance and warranty period. Notice to proceed was issued by the NTTA on Feb. 7, 2012 and construction is approximately 30% complete.

**Segment 5:** Notice to Proceed was issued Feb. 4, 2010. The NTTA opened four direct-connection ramps on Oct. 31, 2011 and the remaining four direct-connection ramps opened in stages through Nov. 14, 2011. The interchange at the Dallas North Tollway is complete and open to traffic. The construction contract is complete and is being closed out by the NTTA. A Notice to Proceed for the landscape and irrigation improvements project for Segment 5 was issued on Oct. 22, 2012. The landscape and irrigation improvement project is expected to be a 12-month construction period followed by an 18-month maintenance and warranty period. The total construction period for the project is expected to be 30 months and it is approximately 10 percent complete at this time.





# PGBT Eastern Extension Semi-Annual Progress Report No. 9 December 2012









## NORTH TEXAS TOLLWAY AUTHORITY President George Bush Turnpike Eastern Extension



#### **GENERAL INTRODUCTION**



The President George Bush Turnpike (*PGBT*) Eastern Extension Project (*the "Project"*, "*PGBTEE"*) is located entirely in Dallas County, beginning from the existing terminus of PGBT at State Highway (SH) 78 in Garland, extending east through the City of Sachse, turning south through the cities of Rowlett and

Dallas, and terminating at Interstate Highway (I) 30 in Garland, a distance of approximately 9.9 miles.

Prior to the start of this project in late 2005, the NTTA completed construction and opened to traffic the frontage roads from SH 78 to Firewheel Parkway in Garland in conjunction with the opening of Firewheel Mall. The advanced frontage road project is adjacent to the northwest portion of the Project in Section 28. The six-lane project (expandable to eight) is divided into five sections for the

purposes of managing and expediting design and construction (refer to Figure 3 on page 23). Sections 28-31 were designed and constructed by the NTTA, while Section 32 was designed and constructed by TxDOT. A total of 12 ramp connections to or from the Project have an overhead gantry allowing placement of all electronic toll collection (all-ETC) equipment. One main lane All-ETC gantry, located northwest of future Merritt Road in Section 29, provides six toll collection lanes (three each direction with provision for expansion to eight total lanes). All lanes are dedicated non-stop express lanes to expedite the flow of traffic through the gantries, improve traffic safety and air quality, and provide for ease of maintenance.



Sachse Wylie Rockwall County Sachse Rd. Dallas County Section 28 (NTTA) SH 78 to west of Miles Rd. Section 29 (NTTA) west of Miles Rd. 1.91 miles to north of future Merritt Rd Rd. Merritt Rd. Miles 2.31 miles Pleasant Valley Rd. Future Merritt Rd./ Liberty Grove Rd. Connector Section 30 Rd 78 TEXAS (NTTA) north of future Merritt Rd. to south of Main St. 2.75 miles Rd Chiesa Rowlett 66 TEXAS Main St. DART Rd Garland Belt Line Miller Rd. Section 31 (NTTA) south of Main St. to Lake Ray Hubbard north shore LEGEND 1.52 miles PGBT Eastern Extension NTTA System (Open to Traffic) Non-NTTA System Corridor Study Area Section 32 Existing Ramp Toll Gantry (TxDOT) Lake Ray Hubbard Existing Main Lane Toll Gantry north shore to I-30 Interstate Highway 1.34 miles U.S. and State Highway Rail County Line Toll project details not to scale December 21, 2011 Miles

Figure 3: President George Bush Turnpike Eastern Extension Corridor Map



## DESIGN AND CONSTRUCTION STATUS

Design and construction status information has been summarized by section in Tables 9 and 10 on pages 25 and 26. Additional service providers key to the project are shown in Table 11 on page 26.

#### **ESTIMATE OF PROJECT COSTS**

The original estimated cost of the Project (Sections 28-32) was \$1,037,150,116, plus \$2,601,438 for ITS equipment, for a total of \$1,039,751,554. In the fall of 2010, the General Engineering Consultant (GEC) re-evaluated the project cost based upon bids received as well as construction and construction change orders to date. The Project total at completion was estimated at \$958 million at that time. Again, in February 2011, the GEC re-evaluated the project resulting in a new estimate at completion cost for the Project of \$834,500,000.

TxDOT committed to fund the design and construction of Section 32 (originally estimated at approximately \$254M, currently estimated to be approximately \$205.5M). In addition to constructing Section 32 of the Project, TxDOT provided a Toll Equity Grant (approximately \$160M) to be used primarily for right of way acquisition and utility relocations. Based on the current outlook of the Project, the entire Toll Equity Grant will not be required for right of way, utility relocation and similar costs. Within the agreement authorizing the Toll Equity Grant, TxDOT and the NTTA agreed to allow the unused portion of the grant to be applied to other Project costs so that the

entire amount of that grant would be applied to the Project. In turn, the NTTA agreed to revenue-sharing with TxDOT on the Project, subject to the terms agreed to in the Second Amendment to the Project Agreement dated Dec. 21, 2011.

Several factors, including unforeseen escalation of prices and wages, labor or material shortages and changes in economic conditions can significantly affect (escalate or reduce) construction costs. Appropriate contingencies are added to the cost of the Project to mitigate the impact of unforeseen escalations. The estimated Project cost reflects the most current bids, approved change orders and our professional judgment of the construction industry; it is our belief that the Project can be constructed within the limits described for the estimated cost given herein. However, the nature of the construction industry precludes the provision of a guarantee that the actual Project cost will not vary from the estimated cost.

The current cost estimate represents the best good-faith judgment from design professionals familiar with the highway construction industry. Neither the NTTA nor its consulting engineers have control over the labor, materials or equipment costs, the contractors' methods of determining bid prices, competitive bidding, market or negotiating conditions. The estimate of construction costs given in progress reports will be monitored as work progresses on the Project. The draw schedule of expected costs are shown in semi-annual increments for the estimated period of construction to meet the cost of the PGBT Eastern Extension Project, including funds allocated for project contingencies, is shown in Table 13 on page 28.



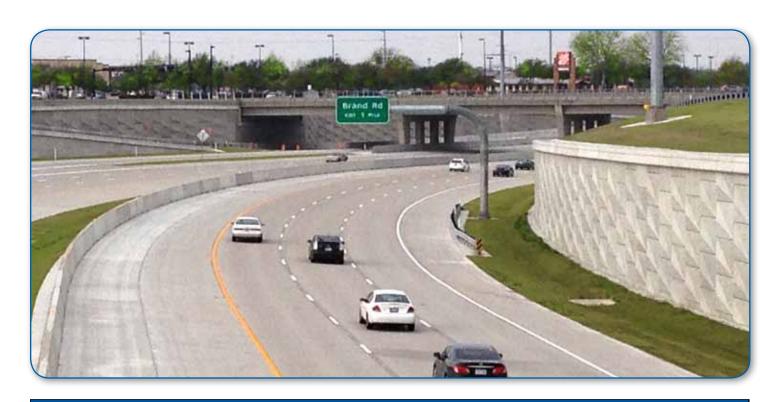


TABLE 9 - DESIGN AND CONSTRUCTION STATUS SUMMARY						
Category	Section 28 West of SH 78 to west of Miles Rd. (1.91 miles)	Section 29 West of Miles Rd. to north of future Merritt Rd. Connector (2.31 miles)	Section 30 North of future Merritt Rd. to south of Main St. (2.75 miles)	Section 31 South of Main St. to north shore of Lake Ray Hubbard (1.52 miles)	Section 32 North shore of Lake Ray Hubbard to IH 30 (1.34 miles)	
Design Consultant	Jacobs Engineering Group, Inc.	Halff Associates, Inc.	PB Americas, Inc.	Atkins North America, Inc.	HDR Engineering, Inc. (for TxDOT)	
Design Notice to Proceed	Aug. 15, 2005 Aug. 15, 2005		Aug. 15, 2005	Aug. 15, 2005	Information Not Available	
Current Status of PS&E	Complete	Complete	Complete	Complete	Complete	
Letting Dates	Aug.14, 2008	Sept. 25, 2008	Apr. 17, 2008	Nov. 06, 2008	Aug. 07, 2008	
Construction Contract	02007-PGB-06-CN-EN		02011-PGB-06-CN-EN	02013-PGB-06-CN-EN	TxDOT Contract	
Contractor	Contractor Webber, LLC Texas Sterlin Construction,		Zachry Construction Corporation	Williams Brothers Construction Co., Inc.	Austin Bridge & Road, LP (for TxDOT)	
Construction Notice to Proceed	lanuary 2009 lanuary		August 2008	March 2009	December 2008	
Current Status of Construction	, , , , , , , , , , , , , , , , , , , ,		99% Complete. Substantially Complete, pending punch list items	98% Complete. Substantially Complete, pending punch list items	98% Complete. Substantially Complete, pending punch list items (TxDOT managing)	
Open-to-Traffic Date (Plan/Actual)	Late 2011 / Dec. 21, 2011	Late 2011 / Dec. 21, 2011	Late 2011 / Dec. 21, 2011	Late 2011 / Dec. 21, 2011	Late 2011 / Dec. 21, 2011	

TABLE 10 - LANDSCAPE STATUS SUMMARY					
	Section 28 Landscape & Irrigation Improvements	Section 29 Landscape & Irrigation Improvements	Sections 30, 31 & 32 Landscape & Irrigation Improvements		
Contractor Greener Pastures Landscape, Inc.		Greener Pastures Landscape, Inc.	Legends Landscape, LLC		
Construction Contract	02435-PGB-00-CN-MA	02942-PGB-01-CN-MA	02943-PGB-02-CN-MA		
Advertisement Date	Aug. 31, 2012	Sept. 7, 2012	Sept. 14, 2012		
Construction Notice to Proceed	Jan. 16, 2013	TBD	Jan. 22, 2013		
Construction Duration	6 Months	6 Months	6 Months		
Status of Construction	On-going	Pending NTP	On-going		
Warranty Duration	18 Months	18 Months	18 Months		

TABLE 11 – ADDITIONAL SERVICE PROVIDERS					
Contract Number	Firm	Description			
02005-NTT-00-PS-AD	HNTB Corporation	General Engineering Consultant			
FSF-73, 02023-NTT-00-PS-MA	Jacobs Engineering Group, Inc.	Schematics, Section 30 MSE Wall Design			
02005-NTT-00-PS-AD WA 11 MA	HNTB Corporation	Landscape Design Services			
02056-NTT-00-PS-EN WA 06	Kellogg Brown & Root Services, Inc.	Section 28-A Construction Management Services			
02057-PGB-06-IL-EN TO 01	Dallas, Garland & Northeastern Railroad	Signal Design, Construction, RR Construction Oversight			
02418-NTT-00-PS-PM WA 01	HDR Engineering, Inc.	Section 28 Construction Management Services			
02424-NTT-00-PS-PM WA 01, 02	Tollway Transportation Team	Section 29 Construction Management Services			
02058-NTT-00-PS-EN WA 08 EE	Atkins North America, Inc.	Section 30 and Corridor Construction Management Services			
02424-NTT-00-PS-PM WA 02	Tollway Transportation Team	Section 31 Construction Management Services			
02394-PGB-00-PS-PM	AMEC Environmental & Infrastructure, Inc.	Section 30 Quality Control Materials Testing			
02395-PGB-00-PS-PM	Southwestern Testing Laboratories, LLC	Sections 28-31 Quality Assurance Materials Testing			
02402-PGB-00-PS-PM	Michael Baker Jr., Inc.	Environmental Compliance Team			
02557-NTT-00-PS-PM WA 01	Kleinfelder Central, Inc.	Retaining Wall System Engineering Services			
02547-NTT-00-PS-PM TO 02	Terracon Consultants, Inc.	MSE Wall Independent Design Check			
02589-NTT-00-PS-PM WA 03	Atkins North America, Inc.	Additional Shop Drawing Review & Coordination for MSE Wall Evaluations			
02644-NTT-00-PS-PM WA 01	Raba-Kistner Infrastructure, Inc.	Quality Assessment Program			

TABLE 12 – ESTIMATE OF PROJECT COSTS AT COMPLETION					
No.	Description	Proposed Engineering Report Estimate, August 2008	Estimated Cost, December 2012	Actual Expenditures, December 2012	
1	Section 28	\$124,785,106	\$116,320,849	\$115,307,308	
2	Section 29	\$86,658,563	\$59,232,238	\$58,982,238	
3	Section 30	\$160,936,511	\$127,948,568	\$127,671,995	
4	Section 31	\$65,980,548	\$57,782,212	\$57,658,066	
5	Toll and ITS Equipment <sup>1</sup>	\$9,817,500	\$3,949,191	\$3,824,818	
6	Construction Management	\$31,371,535	\$23,489,440	\$22,609,632	
7	Miscellaneous Construction <sup>2</sup>	ction <sup>2</sup> \$8,235,919 \$13,400,946		\$8,332,929	
Subto	tal (1-7) Construction	\$487,785,682	\$402,123,444	\$394,386,986	
8	PS&E (Plans, Specs, Estimates) & Admin.	\$30,367,525	\$52,212,267	\$51,523,628	
9	ROW Acquisition and Utility Relocations	\$166,844,730	\$125,081,237	\$124,259,661	
10	Other Agency Costs	\$11,095,916	\$3,403,334	\$2,754,778	
Subto	tal (8-10) Engineering	\$208,308,171	\$180,696,838	\$178,538,067	
11	Project Contingency	\$92,643,362	\$46,196,819	\$ -	
Projec	ct Subtotal (1-11) <sup>3</sup>	\$788,737,215	\$629,017,100	\$572,925,052	
12	Section 32 <sup>4</sup>	\$251,014,339	\$205,482,900		
Projec	ct Total (1-12) <sup>5</sup>	\$1,039,751,554	\$834,500,000		

<sup>&</sup>lt;sup>1</sup> The cost of toll gantry and ITS infrastructure construction is included within the construction cost of each section.

<sup>&</sup>lt;sup>2</sup> Miscellaneous construction cost includes landscaping, materials testing and other special features.

<sup>&</sup>lt;sup>3</sup> A toll Equity Grant in the amount of \$160 million has been supplied by TxDOT to be used primarily for ROW acquisitions, utility relocations or any other costs for the Project agreed to mutually between the NTTA and TxDOT. The City of Rowlett reimbursed the NTTA for \$788,000 of requested design and construction accommodations. In addition to these enhancements, the City of Rowlett requested utility betterments in the amount of \$3,376,851, which are to be reimbursed to the NTTA.

<sup>&</sup>lt;sup>4</sup> Under the two-party agreement, TxDOT is responsible for the design, construction and construction management of Section 32.

<sup>&</sup>lt;sup>5</sup> The amount shown above does not include bond discounts, interest during and after construction, and other costs associated with bond closing costs. City of Rowlett has provided \$788,000 for requested design and construction accommodations.

TABLE 13 - CASH FLOW DRAW SCHEDULE						
Period Ending	Original Semi-Annual Estimate, December 2008 <sup>1</sup>	Original Cumulative Estimate, December 2008	Semi-Annual Actual, December 2012	Cumulative Actual, December 2012	Semi-Annual Estimate, December 2012 <sup>2,3</sup>	Cumulative Estimate, December 2012
June 30, 2005	\$4,582,276	\$4,582,276	\$4,582,276	\$4,582,276		
Dec. 31, 2005	\$9,708,328	\$14,290,603	\$9,708,328	\$14,290,604		
June 30, 2006	\$2,043,202	\$16,333,806	\$2,043,202	\$16,333,806		
Dec. 31, 2006	\$164,407	\$16,498,212	\$164,407	\$16,498,212		
June 30, 2007	\$298,728	\$16,796,941	\$298,728	\$16,796,941		
Dec. 31, 2007	\$39,736	\$16,836,677	\$39,736	\$16,836,677		
June 30, 2008	\$ -	\$16,836,677	\$ -	\$16,836,677		
Dec. 31, 2008	\$124,031,352	\$140,868,029	\$124,031,352	\$140,868,029		
June 30, 2009	\$120,169,173	\$261,037,203	\$106,566,929	\$247,434,959		
Dec. 31, 2009	\$77,128,238	\$338,165,441	\$56,003,487	\$303,438,446		
June 30, 2010	\$127,802,395	\$465,967,836	\$65,227,194	\$368,665,639		
Dec. 31, 2010	\$56,109,695	\$522,077,531	\$65,204,966	\$433,870,604		
June 30, 2011	\$51,948,261	\$574,025,791	\$43,065,165	\$476,935,769		
Dec. 31, 2011	\$47,803,671	\$621,829,462	\$69,367,404	\$546,303,173		
June 30, 2012	\$166,907,753	\$788,737,215	\$20,093,906	\$566,397,080		
Dec. 31, 2012			\$6,527,971	\$572,925,051		
June 30, 2013					\$17,094,215	\$590,019,266
Dec. 31, 2013					\$3,278,914	\$593,298,181
June 30, 2014					\$1,543,918	\$594,842,098
Dec. 31, 2014					\$34,175,002	\$629,017,100

<sup>&</sup>lt;sup>1</sup> In 2005, the NTTA completed construction and opened to traffic frontage roads from SH 78 to Firewheel Parkway prior to the opening of Firewheel Mall on the north side of the Project, as indicated above between June 30, 2005 and June 30, 2008.

<sup>&</sup>lt;sup>2</sup> The last one year and six months of projected costs above reflect the costs of a mandatory 18-month landscape maintenance period.

<sup>&</sup>lt;sup>3</sup> This estimate includes contingency that may or may not be expended.

#### **CORRIDOR SCHEDULE**

Per the 2008 Engineering Report, PGBT EE was targeted to open late in 2011. The actual open to traffic date for all sections was Dec. 21, 2011. Activities remaining for the corridor include landscaping and a sand stockpile facility for snow and ice mitigation.

for Section 32. It is anticipated that TxDOT will complete their activities for Section 32 and vacate the future sand stockpile location in 2013, allowing the NTTA to potentially design and construct the facility in 2013.

There are three landscape and irrigation improvement projects for the corridor, one for Section 28, one for Section 29 and one for Sections 30, 31 and 32. Construction of two of the three landscape projects began in January 2013. The start of the Section 29 landscape project is delayed to allow the NTTA to reselect a firm to provide construction management services. Each landscape installation is scheduled for a six-month construction period, which would then transition to an eighteen month maintenance and warranty period which would result in total project duration of 24 months.

The snow and ice sand stockpile facility location is a site currently occupied by TxDOT, which is supporting their construction activities

