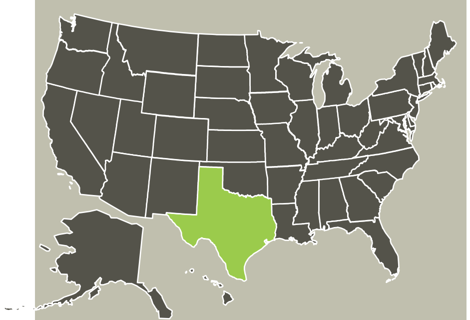
- ✓ TOLL REVENUE
- ✓ CONNECTOR BETWEEN MAJOR HIGHWAYS
- ✓ PUBLIC FINANCING
- ✓ COMPLEX CONSTRUCTION
- ✓ > $1 BILLION

PRESIDENT GEORGE BUSH TURNPIKE WESTERN EXTENSION



BACKGROUND + PROJECT DRIVERS

As one of the fastest growing states, both economically and demographically, infrastructure in Texas has come under increasing pressure in recent decades. In 2001, for example, planners in Texas discussed the need to build over 4,000 miles of new highways badged “the Trans-Texas Corridor” (“TTC”) to sustain the robust economic and demographic growth otherwise enjoyed by the State. However, the planners at the time had failed to identify ways in which projects of such significant scale could be readily funded and financed. It was in this context that the Comprehensive Development Agreement (“CDA”) program evolved.

Driven by the Texas Department of Transportation (“TxDOT”), the CDA program was intended to address many of the issues in Texas, which were common to Departments of Transportation across the US, namely: a divergence of investment requirements from the (financial) resources to meet these needs. More specifically, the CDA program was TxDOT’s attempt to ensure the delivery of many billions of dollars of highways used private capital to avoid over-extending the State’s constrained financial resources. Furthermore, by requiring significant upfront payments and revenue sharing from the private-sector developers who would deliver and operate these new highways, the CDA program was also intended to be a means of expanding/supplementing TxDOT’s financial resources. The President George Bush Turnpike Western Extension (“PGBT WE”) was a constituent of this CDA program and along with a number of other projects, notably SH 121 (latterly renamed the Chisholm Park Trailway, “CTP”), formed the initial batch of pathfinder projects.

The Project under review here entailed a new 11.5 mile link between State Highway (SH) 183, I-30 and 1-20. Known initially as SH 161, later called the PGBT WE, it now forms part of a western orbital around Dallas, lying to the south of Dallas Fort Worth International Airport and connecting the cities of Irving and Grand Prairie. The project was intended to serve as a major link within the wider Dallas-Fort Worth regional transportation network, reducing commuter and freight congestion along adjacent corridors such as the parallel SH 360.

COMMERCIAL CLOSE
April 2008

FINANCIAL CLOSE
March 2011

OPENED TO TRAFFIC
October 2012

DELIVERY METHOD
Public Sector/"Traditional"

CAPITAL VALUE
$546 million (Phase 4 only)

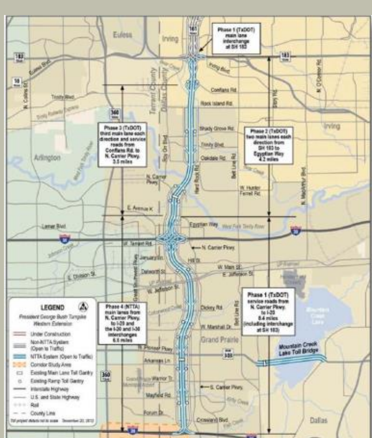
FINANCING
Public Bonds, TIFIA Loan, State Contributions

RIDERSHIP
200,310 per day (2015)

POPULATION (2013)
6.4 million (2010 Dallas, Fort Worth, Arlington)

MEDIAN INCOME (2013)
$59,124 (2010 Dallas, Fort Worth, Arlington)

UNEMPLOYMENT (2013)
8.1% (2010 Dallas, Fort Worth, Arlington)



PROCUREMENT APPROACH AND DELIVERY METHOD ASSESSMENT

Open for Business

In 2005, TxDOT officially declared Texas was "open for business" for public private partnerships ("P3s"), and under its CDAs program invited the private sector to participate in the development of a number of highway projects.

TxDOT moved forward with this initiative by soliciting qualifications from private developers for a number of projects in 2006, including the SH 161 Project. Ten separate consortia presented their qualifications for the SH 161 Project in September 2006 with four shortlisted by November of the same year. Shortly thereafter, however, extenuating political circumstances altered the course of the procurement in a fundamental way with the result that the Project, subsequently renamed the PGBT WE, was delivered almost entirely at public-sector risk with a modest, narrowly defined, element delegated to the private sector.

Asset Monetization

The CDA program was, in many respects, an evolution from the "asset monetization" approach but did not yet adopt, in other essential areas, the full concept of a P3. Typically, in the asset monetization approach, private-sector developers bid to acquire existing, brownfield, assets with well-established patterns of usage.

Frequently cited examples of this approach are the Chicago Skyway monetization from early 2005 and the Indiana Toll Road ("ITR") project from 2006. In this approach, the assets were leased to private-sector developers for 99 and 75 years, respectively. The private developers were then required to operate the highways and were afforded the rights to collect tolls under a given tariff regime which allowed for limited upward adjustments over time according to certain contractual prescriptions. Certain upgrades and operational standards were also required to be achieved.

However, the principal concern of the public sector authorities was to extract the highest possible value from the private developers by way of an upfront payment and a share of toll revenues during the lease. In part facilitated by the fact the leases were very long dated and, in part the result of very favorable terms available in the capital markets at the time, efforts to monetize these assets yielded very substantial upfront payments ($1.4 billion and $3.8 billion respectively) and constituted a welcome boon to the public purse.

Greenfield Evolution

The CDA program was very much designed with this notion in mind: public assets could be leased to private developers and the proceeds of these transactions could supplement public-sector revenue and, in a virtuous circle, be applied to further develop public infrastructure. Additionally, there was limited (or no) impact on the credit standing/debt capacity of the public sector as the financing obligations had recourse solely to the project by itself (as is typical in many projects, the financing raised by the private-sector developers was a direct obligation of their special project company). The evolutionary step taken by the CDA program, however, was to apply this concept to greenfield assets. That is, projects would entail not just the payment of an upfront consideration and share of toll revenues, but also include the design and construction of a new highway as well. In this sense, the CDA program envisioned a much more radical transfer of risks to the private sector than in the initial set of asset monetization projects, namely:

(i) design and construction risks;

(ii) revenue risks where a track record of user demand had yet to be established empirically

Virtuous Circle

In theory, therefore, the CDA program could not only facilitate the delivery of an extensive program of works across the State with limited or no impact on the State Highway Fund, it could also provide additional financial resources for the further development of Texas transportation infrastructure where tolls were perhaps not suitable or permissible.

By 2006, Texas already had P3 enabling legislation in place, which allowed TxDOT to move forward with its centrally-driven CDA program in earnest. However, shortly after announcing the shortlist for the SH 161 Project, moves were afoot in the Texas legislature to place a moratorium on the privatization of state toll roads. By March 2007, trade press reported[1] that at least two thirds of legislators (sufficient to override a governor's veto) in both houses were in favor of the moratorium. By April, legislators had begun to discuss additional language in the moratorium, which vastly expanded the participation and role of regional tolling agencies in the development of new toll road capacity. These discussions culminated in Senate Bill 792, which was signed into law in June 2007.

Moratorium and Regional Authorities

SB 792 imposed a two-year moratorium on CDA projects but exempted practically all those projects that were under active procurement including the SH 161. Crucially, SB 792 incorporated the provisions that were discussed in April, which expanded and enshrined the powers of local transportation authorities to develop toll projects by ensuring that local authorities had the first option to build new toll roads. Now regional authorities, such as the North Texas Toll Authority ("NTTA"), had an intervening right of first refusal to develop projects in their areas of jurisdiction. Arguably, SB 792 was a clear message from the regions (through their legislators) to the center that the CDA program was only deliverable with the consent of the relevant regional authorities.

The consequences of SB 792 for private-sector developers were undoubtedly adverse. One of the shortlisted bidders on the SH 161 noted, "With our partners we have invested a significant amount of time and money to be successfully shortlisted on two major projects in Dallas that are now, regrettably, surrounded by an uncertain process"[2]. Other projects under the CDA banner were at an even more advanced stage than the SH 161 and considerable resources had been invested. Private-sector developers on the SH 121 project, for example, had, at great cost, already submitted binding bids and the Texas Transportation Commission had mandated the winning bidder. The SH 130 was in the process of meeting its conditions precedent to financial close. Another bidder noted that the moratorium, "greatly hampered and certainly cast doubt into the Texan P3 market, and combined with giving away the SH 121 and SH 161 to the NTTA, has forced us to re-evaluate ambitions to build a lasting partnership with Texas. Texas caused us plenty of heartburn and heartbreak"[3]. Private-sector developers now talked about needing "political risk insurance," a product typically only required in emerging markets, when doing business in Texas. Sentiments about future opportunities in Texas were negative as developers looked elsewhere for more reliable opportunities, "We [are] seeing sponsors withdrawing or moving their focus away from Texas"[4]. In effect, SB 792 would bring to a halt the CDA program and, for the present case, end the SH 161 procurement with private-sector bidders.

Procurement After SB 792

In order to move forward with the SH 161 Project, the relevant regional authority, the NTTA had to submit a bid to TxDOT that comprised a design and construction solution along with an upfront payment to TxDOT. SB 792 required that the upfront payment had to be "negotiated" between TxDOT and NTTA (and not that it had to be superior to any private sector bid). This negotiation proved to be problematic and the process was suspended in August 2007 when a value could not be agreed.

[1] (Allison 2007)

[2] (Allison 2007)

[3] (Hilderbrandt, Is Texas Skating on Thin Ice? 2008)

[4] (Allison 2007)

It is fair to say that the value of the upfront payment that was initially proposed, $548 million, was met with some derision by the private sector. One private-sector developer, for example, stated that his company would have been prepared to offer $1.2-1.9 billion and that the NTTA's proposal undervalued the road by three to four times[5]. Of course, it is not possible to determine the validity of this statement as binding bids were not submitted by the time SB 792 was enacted and, it is worthy of note, that the value of the upfront payment suggested above was made by a private-sector developer that did not make the shortlist of qualified teams for the SH 161 Project. Nevertheless, as a result of the vacillation of the procurement objectives and without any objective framework to assess and compare the NTTA's proposal the criticisms of the private-sector developers cannot be dismissed out of hand. In short, it is impossible to know whether TxDOT, in fact, got a "good deal". Indeed, the process precipitated changes at the Federal level, with the Federal Highway Administration ("FHWA") noting that, "TxDOT may have benefitted from conducting a competition"[6] in the case of SH 161. The FHWA would subsequently initiate a rule change which required public toll authorities to offer fair market value in order to lease roads from states that are built with Federal assistance. Arguably, the rule change was intended to prevent states from giving regional toll authorities the first right of refusal to operate and develop toll roads and, thereby, circumvent market mechanisms when determining value.

Executed Transaction

The disruptions caused by the credit crunch and other financial market dislocations no doubt contributed to delays from late 2007 but it is notable that financial close did not occur until four years later, in 2011. By the time the Project reached financial close, several aspects of the transaction were conspicuously weaker from the TxDOT perspective including:

- The final upfront consideration reduced by 15%, or $79 million, to $469 million;
- The Project would not be operated under a term-limited concession/lease of 52 years and revert to TxDOT ownership upon maturity but, rather, would be effectively owned by the NTTA in perpetuity; and
- The vast majority of the cost risks including the repayment risks of the project debt were shifted from NTTA and the Project to TxDOT under the executed financial structure.

Procurement Outcomes In Review

Clearly, therefore, the key weakness of the CDA program was political and it is apparent, initially at least, TxDOT had not adequately addressed the concerns of relevant regional toll authorities before it launched the procurement of the SH 161 Project. In assessing the procurement process as it developed from the moratorium and SB 792, we would also note that:

- A lack of a competitive process to challenge NTTA's proposal means the upfront consideration would never be robust to a counterfactual critique ("our bid would have been higher if we had been given a fair opportunity");
- From the perspective of TxDOT, the final Project terms were noticeably weaker and did not necessarily meet the broader objectives of the CDA program as initially envisioned;
- The transaction took an inordinate amount of time between NTTA's appointment of "preferred bidder" to financial close (four years); and
- The benefits of risk transfer never appeared to be an integral component of discussions. In essence, the vast majority of risks were retained by the public sector and, more specifically, mostly by TxDOT.

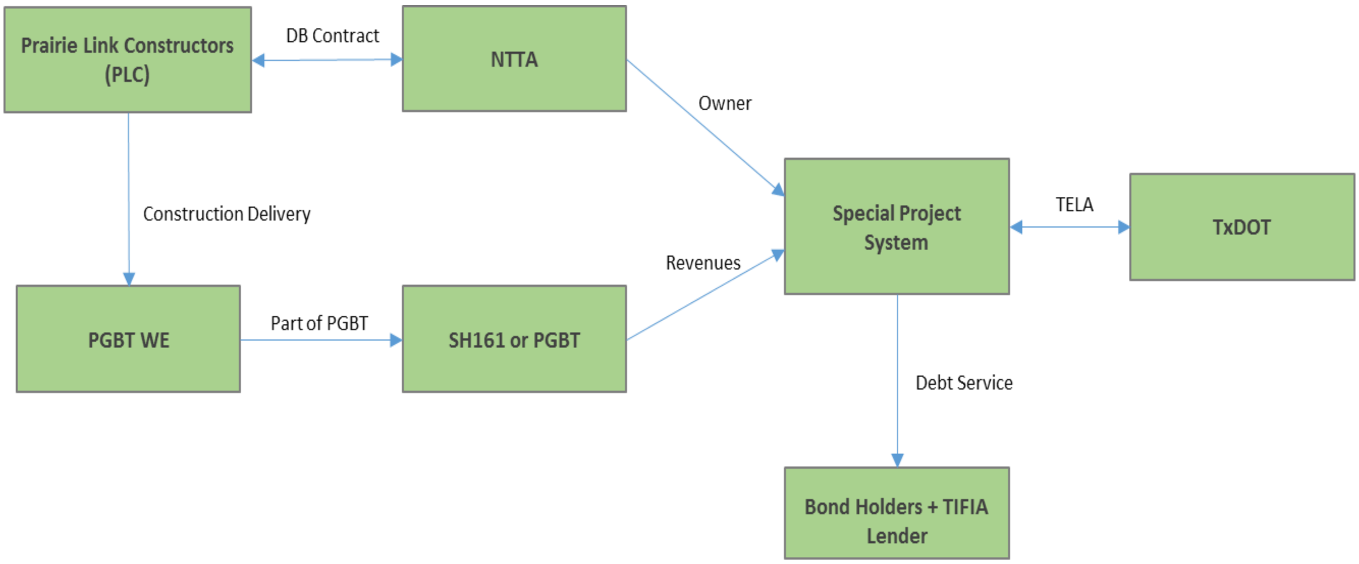
Indeed, in later generations of P3 projects, a value-for-money ("VFM") analysis has been used as a tool, along with other feasibility measures, to determine, on objective grounds, whether it makes sense to move forward with a P3 and, more specifically, what risks should be transferred to the private developer and what should be retained by the public sector. We note that the greenfield SH 130 project was one of the few CDA projects that successfully navigated procurement, financial close (in 2006) and construction delivery. Once the construction was completed, the traffic and revenue numbers, however, were substantially below forecasts and, by March 2016, the project company had filed for bankruptcy protection. A VFM analysis can be very compelling when rationalizing a particular

[5] (Hilderbrandt, Is Texas Skating on Thin Ice? 2008)
[6] (Hilderbrandt, FHWA Rule Could Ensure Fair Market Valuation of Toll Road Concessions 2008)

procurement approach and it is arguable that a more robust discussion of risk transfer during the planning and procurement of this project may have led to less value-destructive outcomes.

Ironically, in November 2015, the NTTA launched a solicitation for a P3 advisor.

ORGANIZATION CHART



FINANCING AND FUNDING SOURCES

A summary of the Project's sources and uses of funds is shown in the table below:

Table 1 - Project Sources and Uses

Sources		Uses	
Bond and Note Proceeds*	1,091,238,450	Upfront Payment to TxDOT+	469,074,676
Revenue**	7,219,191	Design and Construction Costs (PGBT WE)	546,598,381
TxDOT Contribution***	12,000,000	Capitalized Interest on Bonds and Notes	86,711,324
NTTA Contribution	72,471,089	Deposit to Rate Stabilization Fund	65,376,911
		Deposit to Major Maintenance Fund	4,002,391
		Cost of Issuance	12,645,301
Total	**1,184,408,984**	**Total**	**1,184,408,984**

* Comprises tax-exempt bonds and taxable notes. Taxable notes were repaid by way of a $418.4 million TIFIA Loan and a $9.1 million TIFIA TIGER Grant.
** Revenues generated on the partially opened highway before the entire corridor was completed
*** Partial Reimbursement for a railroad bridge
+ For delivering Phase 1-3 of the WE. This includes accumulated interest on the upfront payment of $11 million.

The enactment of SB 792 and the NTTA's role as project developer shaped the financing structure to a great extent. Some private-sector developers had questioned NTTA's ability to finance the SH 161 and the SH 121 projects simultaneously, "[The NTTA] has mortgaged every room in the house. They don't have the leverage left to borrow the money they need for the long list of projects they have promised"[7]. In order to understand how the NTTA addressed these pertinent debt capacity issues, the following features of the financing structure are salient:

- The NTTA established a Special Projects System ("SPS") – The SPS was a separate system to the NTTA System and comprised the PGBT and the SH 121 (subsequently renamed Chisholm Trail Parkway ("CTP")[8]) assets. Debt raised to finance both the PGBT WE and the CPT projects would be recourse only to the combined revenues of the SPS (and not the wider NTTA system). In effect, this limited recourse of debt providers (and preserved the credit rating of the NTTA System bonds) while ensuring some diversity of income and risk for bondholders and the Transportation Infrastructure Finance and Innovation Act ("TIFIA") lender;
- NTTA's Equity Investment – $400 million of subordinated NTTA debt was issued in 2010 as the NTTA's "equity" contribution to the SPS projects. $72.5 million of this was allocated to fund the required sources of PGBT WE project;
- The Toll Equity Loan Agreement ("TELA") with TxDOT – to make the bonds of the SPS more marketable, the NTTA was able to extract certain guarantees from TxDOT covering project expenditures including debt service for the bonds and TIFIA loan as well as certain operating, maintenance and capital expenditures. TxDOT's obligations to pay these sums is subject to the necessary appropriations and limited to a defined annual amount. Further any TELA payment made by TxDOT from the State Highway Fund would be subordinate to the fund's other debt obligations (including $6 billion of first tier bonds and $500 million of subordinated commercial paper). However, the credit profile of the SPS bonds is reflective not of the underlying project risks (construction risks, operational risks, toll revenue risks) but, rather, of the high quality of the State Highway Fund in Texas. As a result, the SPS bonds have carried a AA- rating from Fitch[9] and a AA+ rating from Standard & Poors[10] since inception. This latter feature of the finance structure is of important consequence. In essence, this means that TxDOT and not the NTTA (nor the Project) absorbs the vast majority of project risks[11].

Shortly after inviting private-sector developers to qualify for bidding on the SH 161 Project, TxDOT and the FHWA signed an Early Development Agreement ("EDA"). This formalized how TxDOT would approach the Federal government to access credit assistance under TIFIA. This was a watershed moment in respect of how transportation infrastructure projects with private-sector developers could access TIFIA loans. Until this point, each private-sector developer bidding in the procurement of transportation projects had to wait until their consortium was selected before they could secure the favorable terms and low costs of the financing available under the TIFIA program. Effectively, this meant that private-sector developers had to run the risk of applying for a TIFIA loan and then not receiving this financing before financial close. The EDA process, therefore, established a template which reduced the financing uncertainty of these types of projects considerably. Ultimately, this approach to securing TIFIA credit assistance was not utilized once SB 792 was enacted but the NTTA was, nevertheless, able to avail the SPS of a long-term TIFIA loan. The TIFIA Loan itself was not funded until August 2013 when it was drawn to retire the Bond Anticipation Notes (BANs) which funded the Project at financial close.

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[7] (Hilderbrandt, NTTA Seeks Funding for SH 161 2008)

[8] The CTP is a 27.6 mile extension of SH 121 from I-30 to Farm-to-Market Road 1187 in Tarrant County, and extending further south to US 67 in Johnson County

[9] (Fitch Ratings 2011, 2013)

[10] (Standard & Poors Ratings Services 2011)

[11] (Citi, Barclays Capital, Estrada Hinojosa & Company Inc, Loop Capital Markets, Morgan Keegan, Morgan Stanley, Ramirez & Co, Inc 2011)

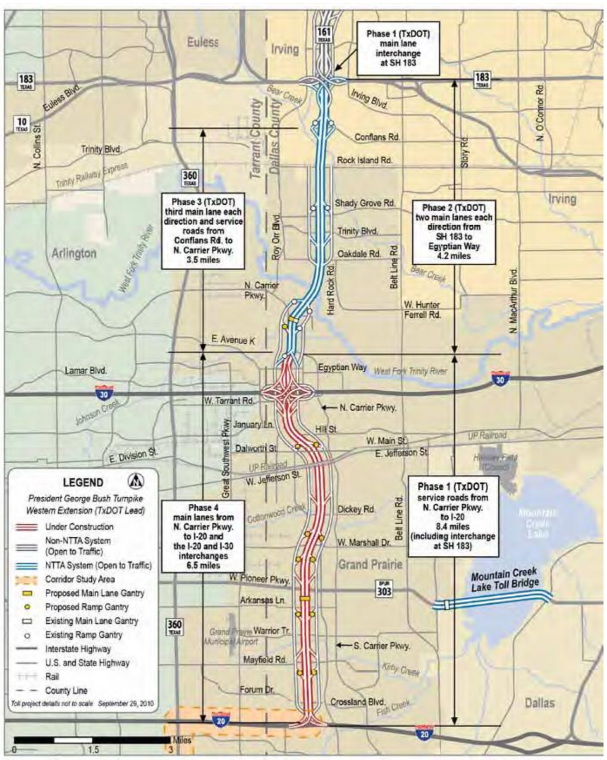
CONSTRUCTION

The construction on the SH 161 or, as it became known, the President George Bush Turnpike, began in 1998 and was completed in seven segments between December 1998 and October 2012. Segment VI, the Western Extension, was actually the last segment to be built and includes the project highway currently under review. The PGBT WE runs between the SH 183 in Irving to the I-30 in Grand Prairie and was itself delivered in four phases:

- Phases 1 to 3 – covering portions of the Western Extension between from the SH 183 to the I-30 (11.5 miles). These phases of the project were principally constructed by TxDOT and opened to traffic between August 2009 and April 2010; and

- Phase 4 – covering part of the Western Extension between North Carrier Parkway and I-20 (6.5 miles). This phase included the delivery of two toll lanes in each direction and interchanges with the I-30 and the I-20. Phase 4 also included delivery of a railroad bridge and the installation of toll gantries for Phases 2 and 3. The NTTA was responsible for the delivery of the Phase 4 scope of work and contracted with Prairie Link Constructors (a consortium comprising Balfour Beatty and Fluor) to execute the construction obligations under a design build ("DB") contract. Phase 4 opened in October 2012 with the railroad bridge completed later in 2012 and the interchange with I-30 fully opened in early 2013.

Figure 2 – PGBT Corridor and Project Phases



Although a separate project, much of Phase 4 was completed in parallel to the construction of the CTP and, as noted above, together these highways sit outside NTTA's core system, forming part of the NTTA's Special Projects System.

Progress of the Phase 4 construction works was monitored by an independent engineering firm, HNTB. HNTB's reports showed steady, on-time, progress and reasonable performance against the cost budget throughout the construction period[12]. At the publication of the last full report on PGBT WE dated August 2012, HNTB estimated the construction would be delivered on time and to the budget at $546.6 million.

OPERATIONS AND CURRENT STATUS

Operations for the PGBT WE are undertaken in-house by the NTTA. Objective measures of operational and financial performance of the PGBT WE are more difficult to ascertain because:

- there is no independent engineer's report available for the post-construction period;

- in available management discussions the performance of the PGBT WE is largely wrapped up with that of CPT with performance metrics described at the SPS level ; and

- the period of performance under the present assessment falls within the "ramp up" period for both the PGBT WE and CPT projects. Characteristically, the ramp-up period begins with the opening of the highway to traffic as its starting pointing and continues through the earliest years of operations until users have familiarized themselves with the new highway and its layout and the highway reaches its steady state of usage. The ramp-up can be challenging to forecast with a high degree of accuracy and the methodologies for applying ramp-up factors to traffic and revenue models can be quite

[12] (HNTB 2011-2012)

crude. Therefore, it is not unsurprising to find revenue estimates, in particular, considerably above or below the forecasted projections during this time. This can also be impacted by the adoption and increasing penetration over time of more efficient methods of toll payment (e.g. electronic tags). Indeed, the performance data of NTTA's SPS do show that there has been considerable variance in respect to forecasted revenue performance.

However, we do know that there has been no default under the debt instruments and, likewise, there has not yet been any need to utilize funds under the TELA arrangements. This suggests that on a net basis, the revenue and costs performance has remained within acceptable parameters for the SPS projects overall.

WHAT LEGISLATION NEEDS TO BE ENACTED TO PERMIT A SIMILAR EFFORT FOR HWY 37?

Beyond basic tolling authorization and P3 enabling legislation, the legislation impacting this project is generally not applicable to the Hwy 37.

Table 2 - NTTA's Special Project System - Toll Revenues[13]

Year	Actual ($)	Estimate ($)	Variance ($)	Variance (%)	Actual Growth (%)
2011	6,466,245	8,281,900	(1,815,655)	(21.90)	N/A
2012	10,488,973	6,861,500	3,627,473	52.90	62.20
2013	24,429,140	24,566,814	(137,674)	(0.60)	32.90
2014*	38,179,423	34,529,300	3,650,123	10.60	56.30
2015	69,698,415	46,897,500	22,800,915	48.60	82.60

*NTTA change traffic and revenue forecast consultant

APPLICABILITY TO HWY 37

The PGBT WE Project is a salutary lesson in ensuring that key stakeholders are aligned with or do not impede the objectives of the procuring authority. While the construction and operations of the project appear to have been delivered satisfactorily in this example, the procurement outcomes have varied from the initial prime objectives of investing private capital to develop public infrastructure and in doing so bolstering the financial resources of the State itself. To the contrary, when analyzed from a risk perspective, it is arguable that the financial structure absorbed the resources of the State.

[13] (NTTA, Finance Department 2011-2015)

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