# HARRIS COUNTY TOLL ROAD AUTHORITY FINANCIAL ALTERNATIVES

June 15, 2006



First Southwest Company Analysis of Financial Alternatives



Harris County (the "County") has requested an in-depth study with respect to ownership and future development of the Harris County Toll Road Authority (the "Authority" or "HCTRA"). The study addresses several key issues:

- 1. Identify possible long term funding solutions that would bolster the County's and HCTRA's ability to provide for future infrastructure funding needs while maintaining financial strength and strong fund balances, all to be consistent with desired long term County financial goals.
- 2. Develop an analytical framework for the County to evaluate financial alternatives for HCTRA in terms of operations, toll rate setting mechanisms and policies, and their residual impact on future County and HCTRA development.
- 3. Determine the financial capacity of the existing system and identify avenues to pursue to increase the financial capacity of the toll road system (as defined below) to aid in increasing mobility within the County.
- 4. Explore recent trends in public-private partnerships to determine if these financing mechanisms could produce a better economic result, both immediately and over a prolonged period of time, in financing future projects, compared to what is currently available to the County under the existing structure.
- 5. Quantify the financial, structural, and operational differences and considerations into three principal financing alternatives; County Owned and Operated, Asset Sale, and Concession (each track is defined below), realizing that many permutations could be developed incorporating elements of each of these three approaches.
- 6. Understand and quantify the changes in how mobility projects are funded within the State of Texas and the applicability to the County and HCTRA in undertaking future projects while working with the Texas Department of Transportation ("TxDOT") to increase mobility within Harris County.

This report is designed to provide a financial framework for the analysis of financial alternatives under which the County can make policy decisions regarding how the County values HCTRA's toll road system (the "System"), considering operational issues, revenue generation capacity, future funding capacity, and certain legal issues that affect value and the ability to continue expansion. This report and the accompanying reports of the investment banking firms analyzing their respective tracks provide background into the changing infrastructure finance marketplace. The reports also identify the financial capacity of the System under various assumptions.

This executive summary should be read along with the supporting detail of the attached individual reports and their supporting documentation, including the Wilbur Smith Associates ("WSA") traffic and revenue report. All references to financial condition and data are as of the date of this report. Financial conditions, future bonding capacity, valuations and differences in financial alternatives will change from the date of the respective reports.

#### Background

On February 7, 2006, Harris County Commissioners Court ("Commissioners Court") adopted a resolution authorizing Harris County Management Services and the Authority to prepare a study (the "Study") analyzing financial alternatives related to the financing and operation of HCTRA. A team approach was selected to address each of the main financial alternatives. First Southwest Company ("First Southwest") has served as the contracting advisory firm; First Southwest in turn has



subcontracted with six other investment banking firms, divided into three teams. The selection of the team members included the input of officials from Harris County and HCTRA, and was approved by Commissioners Court during its February 7, 2006 meeting. By selecting three independent teams to study separate opportunities (or "tracks") for the System, the County and HCTRA intended to draw upon a wide range of experience and resources. The separation of the Study into three components allowed each team to maintain a particular focus on a particular outcome, with the three outcomes compared at the end of the study. In order to keep the analysis comparable, First Southwest, working in conjunction with County and HCTRA staff, developed standard assumptions for all teams to use to produce their results. As with any study, the quality of the inputs significantly influences the results. With respect to traffic and revenue forecasts, WSA, HCTRA's long time traffic and revenue consultant, prepared revenue projections used as the basis for the financial analysis. The three cases WSA prepared include:

- <u>Scenario A: Base Case</u>, which provides for constant toll rates at current levels through the forecast period.
- <u>Scenario B: Inflation Case</u>, which increases toll rates at assumed inflation rates. Tolls are assumed to be increased approximately every 5 years.
- <u>Scenario C: Revenue Maximization Case</u>, which allows toll rates to rise to their "optimized rate" which will generate the maximum amount of revenue, even at the expense of decreased road use.

The investment banking teams that were selected and their assignments are illustrated in the following table:

Citigroup Capital Markets	JPMorgan	Goldman Sachs
Siebert Brandford Shank	Popular Securities	Loop Capital
Explore Existing Financing Options/ Debt Capacity Alternative Financing Options TIFIA/SAFTEA-LU	Valuation of Asset using: Asset Valuation Discounted cash flow Comparable Entities / Transactions Internal Rate of return	Valuation of Concession under various terms/ time frame: Short-term Concession Long-Term Concession (50, 75, 99 Years)
Analysis of Current Constraints: Project Prioritization Existing Indentures/Laws Tolling Strategies Rating Impacts	Identification of key terms & conditions: System Expansion Control/ Tolling Strategies Operating Standards Retained Ownership	Identification of key terms & conditions: System Expansion Control/ Tolling Strategies Operating Standards Retained Ownership
Operating Entities: Enterprise Fund Qualified Management Contract	Determine key terms, valuation impact	Determine key terms, valuation impact
State Law Options: County Transportation Corp. Regional Mobility Authority Public offering		in Asset vs. Concession Valuation s and conditions



#### **Current Financial Condition**

HCTRA essentially came into existence in 1984, and since that time has come to operate more than 491 lane miles of toll roads. HCTRA has enjoyed considerable financial success, as indicated by both its increase in net operating revenue over time, as well as by the ready acceptance of its bonds in the capital markets. The System generated net revenue in excess of \$137 million for fiscal year 2006 (unaudited), which reflects an increase from \$110.7 million the prior year, with expectations that the current trend will increase. The current uninsured natural ratings of the senior-lien revenue debt (\$1.295 billion currently outstanding) are "A+" by Fitch, "A1" by Moody's and "AA-" by Standard & Poor's. The subordinate lien revenue bonds (\$711 million currently outstanding), which also carry an additional pledge of the County's ad valorem tax, currently carry uninsured natural ratings of "AA+" by Fitch, "Aa1" by Moody's and "AA+" by Standard and Poor's. The subordinate lien bonds have a higher rating than the senior lien bonds because of the credit support of the full faith and taxing powers of the County, though no debt service on these subordinate lien bonds has ever been paid with ad valorem tax revenues. The County's strong financial position benefits the credit rating of the subordinate lien bonds, thus lowering the capital cost to HCTRA. A brief summary of HCTRA's financial operating results for fiscal years ending 2005 and 2006 (unaudited) appear in the following table. The unaudited 2006 figures are subject to change as the audit may require.

Statement of Revenues, Exp (In 1	y Toll Road Authority penses and Changes in N Thousands) rs Ending February 28	let Assets	
Revenues:			
Total Revenues	373,594	15.30%	324,030
Expenses:			
Operating Expenses	69,290	20.75%	57,381
Depreciation	55,344	28.97%	42,913
Nonoperating Expenses	111,658	-1.24%	113,064
Total expenses	236,292	10.75%	213,358
Income Before Contributions And Transfers	137,302	24.06%	110,672
Contributions	2,918	-76.70%	12,523
Transfers Out	(20,241)	0.55%	(20,130)
Change In Net Assets	119,979	16.91%	103,065
Net Assets-Beginning	150,732		47,667
Net Assets-Ending	\$ 270,711	79.60%	\$ 150,732
Expenses as a % of Revenue:	63.25%		65.85%
Expenses excluding Depreciation & Nonoperating Expenses as a % of Revenue: Source: 2005 faures from Harris County Toll Road Author	18.55%		17.71%

Source: 2005 figures from Harris County Toll Road Authority CAFR; 2006 figures from Harris County Auditor's Office, as of April 2006; percentages calculated.

As these numbers reflect, gross revenues compared year-to-year have increased by 15.3% with net income increasing by 24.06%. The increase in operating expenses net of depreciation was offset by an



increase in lease revenues and charges for services. The charges for services include the fee that HCTRA receives to offset expenses related to operating the Fort Bend Toll Road.

In June 2005, Commissioners Court addressed the prioritization of HCTRA capital projects with the adoption of a 5-year Capital Improvement Program ("CIP"). This benefited HCTRA by signaling to the credit markets and the rating agencies an intent to narrow the focus for further development and by indicating that the management of HCTRA and the County would evaluate strategically the growth of the System.

## **Long-Term Funding Solutions**

One of the primary goals of this study was to explore the financial opportunities and resources available to the County and HCTRA. As stated earlier, HCTRA currently enjoys strong financial results and access to the capital markets. Since the inception of HCTRA in 1983, and in particular during the last several years, the financial resources available to HCTRA and the County continue to develop, providing additional project capacity. An important development in the United States during the last two years is the increased acceptance of private, non-governmental investors acquiring long-term financial and operational interests in public toll roads. This has occurred in Texas with the Trans Texas Corridor project, and most notably outside Texas with the granting of concessions of existing toll roads in Chicago and in Indiana, among others. In addition to concessions, there have been sales of municipal assets similar to HCTRA's purchase of the Ship Channel Bridge in 1994 from the Texas Turnpike Authority (which is now a division of TxDOT), as well as investments in greenfield projects.

Because of these developments, the Study has attempted to construct an analytical framework in which to evaluate financial alternatives, which led to the focus on the three identified tracks. Each track contains many different features, risk profiles and constraints. The individual team reports detail the many different permutations of the basic tracks, and these separate reports should be referenced for a more detailed analysis.

The 5-year CIP for HCTRA includes anticipated needs in excess of \$1.3 billion assuming all indicated projects are undertaken. Two of the projects might be considered to be secondary in priority, and if excluded would reduce the plan size to approximately \$1 billion. The following table provides more detail on the HCTRA 5-year CIP (excluding projects presently under construction):

#### Harris County Toll Road Authority 5-Year Capital Improvement Program Project Cost and Current Status (Spring 2006)

PROJECT	ESTIMATED COMPLETIC	LALICNMENT	ESTIMATED PROJECT COST	STATUS
Beltway 8 B	ast 2010	US 59 to US 90A (13 miles)	\$295,738,000	Design Phase thru 7/07
Brazoria To - SH 288	oll Road 2010	IH 610 to Alvin (20 miles)	\$237,725,322	Completed Feasibility Study
Grand Park Segment E	,	IH 10 to US 290 (13 miles)	\$139,815,000	Completed Schematic Design
Hardy Toll Extension	Road 2010	IH 610 to CBD (3 miles)	\$138,684,000	Final Design Est. 7/07
Hempstead Road (US 2		IH 610 to Jones Road (13 miles)	\$242,300,000	Completed Conceptual Design
ft. Bend Pa Phase II	arkway On-Hold	US 90A to Post Oak (1.6 miles)	\$53,840,000	On hold
Fairmont Pkwy/Red   Road	On-Hold Bluff	BW 8 to SH 146 along Red Bluff (9 miles)	\$205,425,000	On hold
			\$1,313,527,322	-

\* Indicates Secondary Project

Source: Harris County Toll Road Authority Staff.



In addition to these needs, the County anticipates continued funding of connectivity projects at the precinct level, which in the recent past has generally amounted to \$5 million per precinct each year, except in 2004 when an aggregate of \$67.5 million of mobility funding occurred. Each of the three alternative tracks provides capacity to meet these needs in addition to bolstering the County's funding for public infrastructure and improving connectivity with the System. However, each track has different implications relating to financial and operational issues for the County and the System beyond these immediate needs.

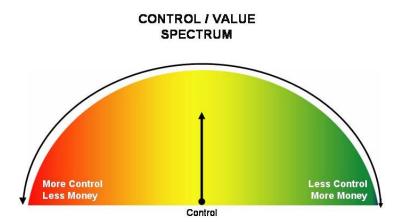
# **Evaluating Alternatives**

To assist Commissioners Court in evaluating the future development and operation of the System, the study team has developed a financial framework and the resultant operational environment for each separate track.

The driving question revolves around what should be maximized:

- Net revenues, or
- Road utilization, or
- Some combination of net revenues and road utilization.

Currently, Commissioners Court has the authority to set tolls, select projects and set operational standards subject to compliance with financial standards contained in the existing bond indentures and with federal and state laws regarding operation and construction. These characteristics will continue to hold true under the County Owned and Operated track but will change depending upon the nature of either an Asset Sale or a Concession. Alternatives under any of the tracks could result in a diminishment of County control, depending on the particular details of the alternative and any governing agreements. The amount of change in control will depend upon the terms and conditions contained within a sale or concession agreement. The value received in a sale or concession correlates inversely with the amount of control retained, which can be referred to as the control/value spectrum.



Investors will demand a minimum amount of control per level of bid in order to protect their anticipated returns, which limits how much control can be retained by the County in a sale or concession transaction.

In valuing the System under any of the three tracks, toll revenue (a function of toll rates and traffic) drives value more than any other factor. HCTRA, on average, has operating expenses, exclusive of debt service, depreciation and transfers for connectivity, which amount to approximately



15% to 21% of revenues. HCTRA currently outsources approximately 70% of operational expenses thereby extracting private-side operational efficiencies. Therefore, the value proposition going forward primarily depends upon the management of debt service and toll revenue. County management of tolls going forward will be a driver of value in any scenario. In other words, the value proposition must be balanced between achieving desired results for both road utilization and net revenues.

References to value in this study generally focus on the present value of projected cash flows after meeting costs for operations, debt service and maintenance. In some cases, value equals the consideration paid today, particularly in the case of an asset sale or concession. Value may be realized over varying lengths of time, including immediately, or in many different combinations. If a payment is made at inception of the transaction, and there are no future payments, the present value discount factor of the other party still remains important to the County. If a private entity has a higher discount factor than the County, and all other factors are equal, then the value payable by the private entity should be less than that of an equivalent value measured at the County's discount rate. The opposite would be true if the County's discount rate is higher than the private entity's discount rate.

If payments are made over time, the creditworthiness of the private entity and the details of its financing arrangements should be of increased concern to the County. The County should consider the creditworthiness of the private entity as with any contractual relationship, but particularly in this case because of the reliance on the private party to operate the System in a prescribed way, and the heightened monitoring costs and exposure if the counterparty cannot meet these contractual requirements.

As reflected in the reports for Tracks 2 and 3, sale and concession agreements have value and control factors that the County or HCTRA can alter during the negotiation process, resulting in an impact on valuation. Some of the key value and control factors are:

- Future toll increases, including the appropriate toll inflator factors (CPI, GDP, other)
- Operational standards
- Capital improvement and maintenance, including quality levels during the contract period and conditions upon return, if appropriate
- Toll road utilization and impact on alternative free routes
- Participation in ongoing projects
- Development of future projects within a defined area other than tolled projects
- Handling of governmental functions such as:
  - Policing
  - Safety
  - · Emergency usage
  - Toll enforcement
- Personnel issues related to current employees of the System
- Requirements regarding defeasance of existing System-related debt<sup>2</sup>
- Taxation
- Remedies with respect to each party's ongoing performance

Certain factors may impact value but may not be controllable through the contract terms and conditions. These include the cost of defeasing HCTRA's debt, and the potential impact of property, sales, and income taxes.<sup>3</sup> From whatever value might be received in a sale or concession, approximately \$2 billion would be required to defease<sup>4</sup> all outstanding System-related debt<sup>5</sup>, and the County could be

<sup>&</sup>lt;sup>4</sup> JPMorgan/Popular Securities Report Dated June 2006, page 21



<sup>1</sup> HCTRA

<sup>&</sup>lt;sup>2</sup> Fulbright & Jaworski, L.L.P. Legal Memo

<sup>&</sup>lt;sup>3</sup> Fulbright & Jaworski, L.L.P. legal memos regarding defeasance of outstanding debt and state and local taxes



required to repay the \$90 million Federal Highway Administration ("FHWA") loan or use that amount of the proceeds for projects eligible for federal assistance. Without future legislative changes, an asset sale or concession will be subject to state and local taxes. The effect of local property taxes might further impair the value of the asset by approximately \$2 billion to \$4 billion, according to one estimate. Comparing differences between the expenses of a private sector operator versus the County and HCTRA provides key insight into the value proposition for the potential investor.

In addition to the factors above that may affect value to the County, there most likely will be restrictions on the use of net proceeds after the defeasance of debt. The County may be required to dedicate a share of net proceeds proportional to the federal assistance received in building the System, with such funds to be used for projects qualifying under Title 23, United States Code. The remaining net proceeds would be available for other purposes.<sup>9</sup>

Because the System addresses an integral part of the mobility needs of Harris County, involving more than 335 million<sup>10</sup> transactions during the last year, and because the County will continue to have an interest in promoting mobility within Harris County even after a conveyance of the System, the County would have a strong continuing interest in the operational performance and capacity of either a concession or a privately-held toll road. The County would need to retain appropriate staff in order to monitor the performance standards within the contract. At a minimum, ongoing audits and engineering reports would be necessary. When considering the sale or concession results, the County and HCTRA should factor in these ongoing costs. A concession or sale does not eliminate the County's ongoing operational costs.

Legal ability to consummate any sale or concession remains a key obstacle, without further action by the Texas Legislature. The length of any contract supported by tolls must be limited to the amount of time the tolls can stay in place, which under current law is 40 years from the date of bond issuance. Many, though not all, recent concessions extend for much longer than 40 years, as the Goldman/Loop Report discusses. Concessions outside the United States have often been for shorter periods of time; many European or Australian concessions exist for 30 to 40 years or less. Tolls exist on the System currently under specific provisions of Chapter 284, Texas Transportation Code, which tie the toll collections to the life of the bonds supported by the tolls. If a sale requires defeasance of System-related debt, the continuation of tolls cannot be taken as a given. 12

Once a concession or sale is consummated, the County would be bound by the contractual agreements of the transaction, meaning that any necessary future changes by either side will result in further negotiations. Such negotiations might require an additional exchange of compensation in return for future needs. Similar to other private party contracts, the contract should be viewed as the start of future negotiations, particularly because these contracts tend to cover a very substantial period of time.

<sup>&</sup>lt;sup>12</sup> Andrews Kurth LLP legal memo dated March 3, 2006



<sup>&</sup>lt;sup>5</sup> Fulbright & Jaworski L.L.P. legal memo

<sup>&</sup>lt;sup>6</sup> Fulbright & Jaworski L.L.P. legal memo

<sup>&</sup>lt;sup>7</sup> Fulbright & Jaworski L.L.P. legal memo

<sup>&</sup>lt;sup>3</sup> JPMorgan/Popular Securities Report Dated June 2006, page 18

<sup>&</sup>lt;sup>9</sup> Greenberg Traurig, LLP, legal memo

<sup>&</sup>lt;sup>10</sup> Wilbur Smith Associates Report Dated April 19, 2006, page 10

<sup>&</sup>lt;sup>11</sup> Bates & Coleman, P.C. legal memo



Potential issues that could create a monetary payment on the part of the County or HCTRA to the concession or sale counterparty would include:

- Changing the permitted toll structure (i.e. altering the rules for escalating tolls in the future)
- Building any competing free or tolled roads (and defining which roads are "competing")
- · Impeding access to the sold or concessioned road
- Allowing governmental usage of the sold or concessioned road

In selling the System outright, or effectively limiting control for a long period of time by a concession, the County will be held to the tolling regime in the contract for sale or concession. Changes in these toll schedules will result in economic changes to the owner or concessionaire for which compensation may be owed by the County. If the changes impair or lower the value to the concessionaire or owner, then the County may be out of pocket for the cost of the impairment, as seen in the recent amendment to the Indiana Toll Road Concession and Lease Agreement. The issue focuses on how compensation might be triggered and how the amount of compensation might be determined. The County must consider if the calculation of the compensation trigger and amount depends upon a traffic and revenue forecast that is more aggressive than the County normally would accept. In such a case, changes triggering compensation may have the effect of locking in the high forecast for the counterparty without the benefit of actual experience.

The development of new competing roads could impair the value of the System in any of the three tracks. With continued ownership through the County, competing roads, either free or tolled, that create diversion from the toll road are absorbed in a reduction in net revenue (unless toll rates are adjusted at the same time). However, in a sale or concession arrangement, if not specifically negotiated in advance, the mere possibility of new competing roads could cause a diminution in the value received or trigger a compensating event in the future. This may be acceptable if the County can adjust the contract terms in the future to arrive at a cost value that would be similar to the cost the County or HCTRA would incur under a continued ownership scenario.

With the continued ownership of all or part of the System, depending on the decisions made by Commissioners Court, HCTRA remains exposed to the continued operational and financial risks currently experienced. In the case of a sale or concession agreement, a majority of these risks can be shifted, depending upon the terms of the agreement, leaving enforcement as the biggest remaining issue. However, if the transfer of the System is incremental or partial, the County remains exposed to changes in future traffic and revenue projections. In any case, the County should strongly consider an analysis regarding the probability of meeting the traffic and revenue projections upon which a sale or concession value depends.

When evaluating the differences in present value financial outcomes, the County should keep the foregoing discussion in mind. All outcomes have differences in degrees of control, ongoing costs and risks. Before undertaking an approach other than continued ownership, a clear understanding and assignment of value and ongoing risk must be undertaken to place the valuations in context. The highest price may not necessarily be the best value for the County over a prolonged period of time. Because most bids are based upon present value numbers, the County should understand the differences between the discount rate applicable to the County compared to the discount rate acceptable to the private consortium, and the implication of the difference in discount rates on future performance or compensation under the contract. Small differences in present value discount rates can significantly impact the present value of an asset.

<sup>&</sup>lt;sup>13</sup> First Amendment to the Indiana Toll Road Concession and Lease Agreement dated April 12, 2006





When evaluating any track, the County should evaluate worst case scenarios and develop and quantify future actions needed to correct such scenarios. As stated earlier, this could potentially require the County to provide compensation to a purchaser or concessionaire, or repurchase the System at some future time (or assume ownership, subject to the rights of creditors of the concessionaire or owner). Situations involving concessions that have been repurchased by governmental entities, if any, and the cost and procedures for addressing such potential occurrences, need to be understood.

When analyzing any transaction, potential impact to the County's credit rating must be understood. The strength of the County's credit rating provides support for the outlook of the System and affects the ability of the County to undertake other projects efficiently and provide the many and varied governmental functions that the County undertakes. In very informal conversations with rating agencies, they have indicated that the rating impact of a sale or concession of HCTRA assets would need to be evaluated on a case-by-case basis, factoring in the use of any up-front proceeds as well as the economic structure of the transaction. The rating agencies have indicated that because the unlimited tax and subordinate lien bonds have been paid for by revenues of the System without past use of ad valorem tax levies, and because no tax has been levied for maintenance and operation, a sale or a concession most likely would not have a significant rating impact, if any, in either direction even though the transaction might eliminate debt carrying the County's ad valorem tax pledge.

These factors, including how the County places a value on continued future expansion, tolling, and operational flexibility, could impact whether the County or HCTRA should proceed with a transaction.

## **Current Financial Capacity**

The County can use the built-up equity value of the existing system and its expected future toll revenues in a number of ways to bolster and enhance the ability to meet future financial needs. The Citigroup / Siebert Brandford Shank team ("Citigroup/Siebert") addresses in detail the potential funding that the current system could support, as well as some approaches for the County to consider regarding future structure of ownership and operational control of the System without the sale or concession of assets to a private entity.

The level of toll revenue (rates and traffic) provides the key to increasing the value of the System to the County and HCTRA, regardless of which alternative is pursued. Using the assumptions in the WSA projections for toll rate growth in step with future predicted inflation, and further assuming the County decides to leverage the System aggressively, the County may be able to support more than \$8 billion of additional projects or spending.<sup>14</sup> This assumes targeting the Senior Lien revenue debt of the System at current rating levels (A+/A1). The County might decide to accept a lower rating by reducing the bond covenant regarding annual debt service coverage ratio or requirements, which would increase slightly the cost of borrowing. This reduction in coverage requirement would allow the County to leverage the System to a greater extent to increase the ability to finance projects today, and accordingly reduce the amount available for future pay-as-you-go project funding or funds that could flow through the indentures for any lawful use.<sup>15</sup>

Leveraging the System <u>aggressively</u> beyond today's levels would allow the County and HCTRA to approximate the present value proceeds of either an Asset Sale or Concession. In addition to increasing the present funds available, the County could avoid the cost of defeasing more than \$2 billion in outstanding debt, though to make changes in the current lien structure, some defeasance would likely be necessary. This approach also alleviates the issues raised with respect to state and local taxes in the privatization context. Continued ownership of the System would preserve the upside

<sup>&</sup>lt;sup>15</sup> Discussion with Andrews Kurth LLP, regarding flow of funds



<sup>&</sup>lt;sup>14</sup> Citigroup/Siebert Report



of appreciation in System value for the County and HCTRA (as well as continued exposure to the associated risk that System value might decrease in the future), and provide a potentially regenerating source of capital, as long as future System projects continue to be undertaken, and provide positive cash flow. The County and HCTRA also maintain control of tolls, operations and maintenance, and future expansion of the System.

However, issues are associated with increasing the amount of debt on HCTRA assets as the public may not differentiate the difference between HCTRA-revenue supported debt and County tax-supported debt as readily as the financial markets and rating agencies do. Rating agencies have historically been reluctant to reward systems with high leverage. Higher leverage should correlate with increased debt service costs, most likely resulting in higher tolls over a prolonged period of time.

The Citigroup/Siebert team looked at a number of possible structures for the System, each of which has attributes that might be viewed positively or negatively, depending on policy decisions to be made by the County and HCTRA. These structures include a regional toll authority (Chapter 366, Texas Transportation Code) and a regional mobility authority or "RMA" (Chapter 370, Texas Transportation Code), in addition to the current structure (under Chapter 284, Texas Transportation Code).

	HCTRA Chapter 284, Trans. Code	Regional Toll Authority Chapter 366, Trans. Code	Regional Mobility Authority Chapter 370, Trans. Code
Key Features:  • Creation Efforts	None required	Orders adopted by two or more counties	One or more counties submit request to TTC; TTC action
Governing	Commissioners Court	Multi-County Board plus 1 appointment by Governor	Multi-County Board plus Chair appointed by Governor
Bonds	Property tax and/or revenue	Revenue only	Revenue only
Powers	Adequate; pooling projects, operating contracts, extending projects into adjacent counties	Adequate; operating contracts, projects in multiple counties (member counties)	Broad
Advantages:	<ul> <li>Local control</li> <li>Property taxes available for both O&amp;M and debt service</li> <li>Excess toll revenues remain with County</li> </ul>	Diverse base of revenues from multi-county projects	<ul> <li>Broad definition of "transportation projects"</li> <li>May impose tolls after bonds paid/defeased</li> <li>Comprehensive Development Agreement (CDA) powers</li> <li>Revolving fund ability</li> </ul>
Disadvantages:	<ul> <li>Authority to impose tolls expires when bonds paid/defeased</li> <li>No CDA powers; no design-build</li> <li>New projects may not access State highway system without TxDOT Approval</li> <li>Projects may be pooled only one time.</li> </ul>	Limited local control due to multi-County Board     No CDA powers; no design- build	TxDOT control Limited local control due to multi-County Board and TxDOT appointment of chair Excess toll revenues could default to TxDOT Mobility Fund

Source: Citigroup/Siebert Report.

The preliminary financial results as of the date of this Study, which are qualified by reference to the Citigroup/Siebert Report including the underlying assumptions behind such estimates, indicate under the inflation scenario that \$8.2 billion could be financed for new infrastructure, and the enterprise value





in that case would be approximately \$15.5 billion. Additional details of the range of estimated values appear in the following table, but the Citigroup/Siebert Report contains much more detail on these estimates and their underlying assumptions.

Summary of Valuation Est	imate – Track 1 – Coι	inty Owned and Opei	rated
Wilbur Smith Tolling Assumption	Base Case	Inflation Case	Optimized Case
Pooled Projects Funding <sup>1</sup>	\$1,305,266,387	\$1,305,266,387	\$1,305,266,387
Additional Bonding Capacity (2007) <sup>2</sup>	3,232,477,439	6,901,767,160	9,527,526,816
Franchise Value to County (Years 1-50) <sup>3</sup>	2,906,677,456	5,267,643,425	6,853,947,208
Franchise Value to County (Years 51-75) <sup>3</sup>	736,656,519	2,034,538,219	2,931,192,243
Total Enterprise Value	\$8,181,077,800	\$15,509,215,191	\$20,617,932,654

- 1 Construction Fund Deposit necessary to fund Pooled Projects.
- 2 Additional bonding capacity created by leveraging the system to 1.5x through one 40-year debt issuance (HCTRA Sr. Lien, A1/A+)
- 3 Present value of excess revenues at 6.5% over the next 50-75 years (leveraged to 1.0x, similar to a subordinated equity position)

Note: Preliminary, subject to change. Subject to market conditions. Source: Citigroup/Siebert Report.

Significant variance in projected present values of the System exist, and these present values are highly sensitive to changes in the level of tolls (rates and traffic) as well as the discount factors and interest rates. The Study includes a wide range of tolling approaches to give Commissioners Court an idea of the revenue-generating capacity of the System, and the impact that a change in tolling approach can have. Ultimately, Commissioners Court must decide upon the appropriate tolling strategy. We have begun developing preliminary tolling strategy thoughts, but will need the input of Commissioners Court to further refine them. Across the nation and throughout the world, toll roads are revisiting tolling strategies. Options include tying toll increases to a fixed growth amount or percentage, an inflation index, an economic growth index, a mobility congestion index, a minimum annual fixed percentage, or some combination. This topic warrants significant consideration by the County and HCTRA, and requires further tolling and traffic sensitivity studies. We are willing to work with HCTRA and its traffic and revenue consultants in analyzing the financial impact of various tolling strategies.

In developing and exploring alternative financial structures within the County Owned and Operated track, the Citigroup/Siebert team considered a concept of incorporating a new RMA formed exclusively for new development. The new RMA would receive support contractually from HCTRA and its existing road system, without transferring the existing System to the RMA. The County would pledge a particular amount, to be paid from System revenues, to support the RMA in development of new projects. The resulting arrangement would support more than \$7.6 billion of debt, plus cover the RMA's operating and maintenance and other sufficient payments to provide the RMA with 1.75x coverage. In comparing this approach to that of the County operating HCTRA as currently structured, the County must weigh the policy advantages and disadvantages of the RMA structure at least as much as the economics of the comparable potential financing costs. The County should pay particular attention to governance issues related to such a structure and the extent of its financial exposure.

<sup>&</sup>lt;sup>16</sup> Citigroup/Siebert Report





## **Current Trends in Public-Private Partnerships**

Much has been written in the last several years with respect to road financing, particularly covering topics such as toll road privatization, comprehensive development agreements ("CDA"), and the federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (or "SAFETEA-LU"). Several noteworthy public-private partnerships have resulted in either significant upfront payments or have led to accelerated development of a new project. The most significant recent ones include:

- Trans-Texas Corridor (Dallas to San Antonio)
- Chicago Skyway
- Indiana Toll Road
- Pocahontas Parkway (Richmond, VA)
- SR-125 (San Diego, CA)

The Trans-Texas Corridor ("TTC-35") is a project being undertaken pursuant to the comprehensive development agreement authority of TxDOT, where a private consortium will invest approximately \$6 billion for the development of a 314-mile four-lane road between Dallas and San Antonio. The private consortium will pay the State of Texas \$1.2 billion for the right to build and operate this road segment for up to 50 years. The assumption is that users of the road will help the concessionaire recapture this upfront fee through the tolls paid to access the road. TxDOT is also exploring comprehensive development agreements for roads in north Texas such as SH 121, SH 161 and I-635 managed lanes among others. The support of the road will be supported by the concession of the road will be supported by the supported by t

The development of concession and privatization initiatives has a history in Australia and in Europe, with the established investor base primarily situated in these regions of the world. Recently, domestic investment banking firms and major corporations have announced either investment funds or development agreements to invest in infrastructure. The most notable and highly discussed include a recent announcement by Goldman Sachs regarding its intention to raise a \$3 billion fund, an effort by the Carlyle Group targeting \$1 billion for infrastructure funds, 19 and the recent announcement by General Electric and Credit Suisse that each will invest \$500 million into an infrastructure company. 10 It appears the interest in investing in infrastructure will continue and the competition for suitable investments should continue to increase. There is no guarantee that the market will continue to develop. Generally as a market becomes more mature, the efficiency and transparency within the market increases, leading to better understanding and discovery of fair valuation and risks of implementation allowing the further participation by participants initially hesitant to enter the market.

Factors that will influence whether a public-private partnership will produce a materially better financial result than the County Owned and Operated track include whether the amount of leverage deployed exceeds that which HCTRA might deploy, whether the weighted average cost of capital falls below that of HCTRA, whether operating margins change between public and private control of the System whether the HCTRA will institute a tolling schedule similar to what they would allow a private entity, and whether state and local tax issues do not impair value. Based upon a comparison of the financial alternatives today under existing laws, preliminary indications suggest that these alternatives would produce an uncertain amount of additional present value benefit, if any, to the value that the County and HCTRA could receive under aggressive scenarios contained in the County Owned and Operated track.

<sup>&</sup>lt;sup>20</sup> Wall Street Journal, June 1, 2006



 $<sup>^{17}</sup> Source: http://www.keeptexas moving.com/pdfs/projects/ttc35/final\%20cda\%20 overview.pdf$ 

<sup>18</sup> http://www.dot.state.tx.us website

<sup>&</sup>lt;sup>19</sup> Source: Mr. Mark Florian Congressional testimony, May 24, 2006 www.house.gov/transportation/ highway/06-05-24/Florian.pdf



## Financial, Structural and Operational Differences

The results and discussions below are qualified by the more detailed reports of the individual investment banking teams studying the individual tracks. The study has attempted to keep the assumptions within each track parallel to produce meaningful comparisons. Inevitably, because of factors such as market differences, each team's desire to produce independent results, and difficulties in quantifying exactly the comparisons requested, differences in the underlying assumptions do occur. Given the time frame of this study with the recent receipt of the June 2006 traffic and revenue projections, it is difficult to achieve a line by line analysis of the differences in each track's financial modeling approach and various permutations. The results produced are useful for broad comparison purposes but would need further refinement to produce a more definitive comparison of the forecasted value differences in each approach. Further refinement would be appropriate and can be accomplished if the County desires. Such continued study might include examining the alternatives further, improving traffic and revenue forecasts with the development of a method of assessing the likelihood of achieving projected results, and considering operational issues. As with any market, a range of present-worth values exists, and the relative magnitude of potential values should be considered and weighed against the value and control factors discussed earlier. The level of risk assumed by the County in each track remains difficult to quantify due to the generalized approach, but must be considered as part of the context within which present value comparisons are made.

Given the caveats above, each of the teams studying Track 2 and Track 3 provided a range of values, depending on a number of criteria. In addition to assuming various toll rate growth regimes, the valuations also depend heavily on assumptions regarding future legislative changes (regarding such items as length of a concession and applicability of local property taxes, among other things). The capital structure presumed for the purchaser or concessionaire also plays an important role. These transactions typically involve up to 80% debt financing, after completion of initial and permanent funding (see the individual reports for detail). The payback for patient equity often can take 14 to 15 years in some cases depending upon assumptions being realized<sup>21</sup>, while project-associated debt may be amortized (and refinanced) over a far longer period of time. The JPMorgan/Popular Securities ("JPMorgan/Popular") team provided a range of values for a sale transaction to a private party of between \$3.8 and \$20 billion, depending on the assumptions. For the inflation case, and assuming relief from property taxation, the range of value is from \$11 to \$14 billion, based on a discounted cash flow approach.<sup>22</sup> For the concession approach, the Goldman Sachs/Loop Capital ("Goldman/Loop") team estimates a range in values of \$7.5 to \$10 billion for a 50-year concession, and \$9 to \$12 billion for a 75-year concession. Factors affecting values, in addition to the length of the concession, include the assumed capital structure of the concessionaire and the prevailing interest rate environment. These values represent gross values of the System, before taking into account any defeasance of System-related debt and any restrictions on the use by the County of proceeds related to the valuation or the effect of taxes if an exemption from property taxes is not obtained. 23 The various projections estimate that the reduction in value of HCTRA at a 3% property tax burden would reduce upfront proceeds by as much as \$2 to \$4 billion.<sup>24</sup>

Tables from the reports for Tracks 2 and 3 are reproduced below, and provide estimates of indicative values as analyzed by the respective teams. These tables include differing valuation techniques, and the individual reports should be consulted to place these results in proper context.

<sup>&</sup>lt;sup>24</sup> JPMorgan/Popular Report



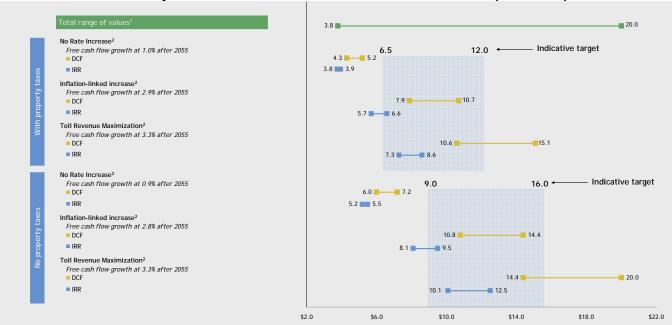
<sup>&</sup>lt;sup>21</sup> Macquarie presentations for Chicago Skyway and Indiana Toll Road respectively

<sup>&</sup>lt;sup>22</sup> JPMorgan/Popular Report

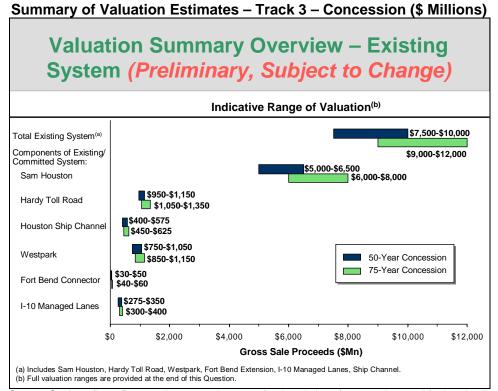
<sup>&</sup>lt;sup>23</sup> Goldman/Loop Report



# Summary of Valuation Estimates – Track 2 – Asset Sale (\$ Billions)



Source: JPMorgan/Popular Report; please see report for description of assumptions and further detail regarding the valuations.



Source: Goldman/Loop Report; please see the report for description of assumptions and further detail regarding the valuations.

The robustness of the System and its large toll revenue potential may hinder the County's ability to achieve the economic values indicated in these preliminary studies. The shear size of the potential





value and the limited ability for a large group of bidders to bid independently could limit the pool of bidders, as does the ability to appropriately value new projects. The Goldman/Loop report recommends that if the County or HCTRA desires to use a concession, then such a concession might best be considered under an incremental approach.<sup>25</sup> However, an incremental approach introduces some of the same risk of current ownership such as negative fluctuations in revenue, continuing interest rate risk, and market capitalization costs as well as introducing complications related to integrating the systems of more than one owner/operator. A thorough analysis of potential bidding structures must be formulated and tested without signaling a transaction to the market that will influence the outcome.

In order to more fully test the possible values of net revenue or sale proceeds, a toll revenue maximization projection was included in the WSA projections. The purpose was to determine maximum revenue generating capabilities even at the expense of road traffic throughput, and to also quantify generally the related traffic diversion impact. Traffic diversion potential creates a high risk for other neighboring roads (County-owned and otherwise), but at a cost that has not been quantified. The costs would include building capacity to reduce congestion on alternative roads and the opportunity cost of restricting tolls at some level that increases toll road use, thereby reducing congestion on alternative routes. This relationship and the infrastructure cost can be studied further but would require additional in-depth engineering cost estimates and traffic and revenue projections as well as capacity analysis. Below is a preliminary projection from WSA indicating the expected weekday diversion rates for traffic count.

Wilbur Smith Associates Estimated Traffic Impact (Number of Cars Per Weekday)

	Tollway	Weekday	Weekday	Traffic	% Traffic	Week	day	Traffic	% Traffic
	•	Traffic	Traffic	Impact	Impact	Traff	ic	Impact	Impact
	Sam Houston	641,200	606,200	(35,000)	-5.5%	536	,800	(104,400)	-16.3%
	Hardy	89,800	84,600	(5,200)	-5.8%	71	,800	(18,000)	-20.0%
19	Ship Ch. Bridge	49,600	43,800	(5,800)	-11.7%	43	3,600	(6,000)	-12.1%
20	Westpark	159,026	148,500	(10,526)	-6.6%	139	,900	(19,126)	-12.0%
	Ft Bend Connector	11,700	11,700	None		11	,700	None	
		951,326	894,800	(56,526)	-5.9%	652	2,200	(147,526)	-15.5%
	Sam Houston	906.600	818.400	(88,200)	-9.7%	663	3.600	(243,000)	-26.8%
	Hardy	147,800	132,800	(15,000)	-10.1%		,200	(32,600)	-22.1%
2025	Ship Ch. Bridge	71,000	64,000	(7,000)	-9.9%	59	,200	(11,800)	-16.6%
20	Westpark	236,000	203,000	(33,000)	-14.0%	194	,900	(41,100)	-17.4%
	Ft Bend Connector	20,700	19,200	(1,500)	-7.2%	19	,200	(1,500)	-7.2%
		1,382,100	1,237,400	(144,700)	-10.5%	838	3,000	(330,000)	-23.9%

Source: Wilbur Smith Updated Transaction and Revenue Estimates – Harris County Toll System dated June 6, 2006

<sup>&</sup>lt;sup>25</sup> Goldman/Loop Report





## **Changes in State of Texas Mobility Funding affecting Harris County**

TxDOT potentially has a significant impact on the financial condition and abilities of HCTRA and the County with respect to mobility funding. TxDOT's recent letter to the County with respect to the development of a planned segment of the Grand Parkway and other projects indicates significant interest by TxDOT of having a financial stake in County toll roads. Historically, TxDOT and HCTRA have worked collaboratively to improve mobility within Harris County. A recent example is the I-10 managed lanes project for which HCTRA committed \$250 million for the development of improvements to I-10, of which HCTRA has paid \$137.5 million as of June 1, 2006.

TxDOT has stated that an \$86 billion fund gap remains between funding sources and the needs for mobility projects in Texas by 2030. TxDOT has developed four strategies to build transportation projects. These strategies are relevant to the County because a large percentage of the Texas economy and population lie within the County and the region. TxDOT's four strategies are:

- 1. New revenue tolls, including highway safety bonds, the Texas Mobility Fund, toll equity, and toll debt. TxDOT is also partnering with the private sector in the financing of transportation projects.
- 2. Regional Mobility Authorities (RMA) and pass-through toll financings, among other methods, to "partner" with local and regional leaders.
- 3. Comprehensive Development Agreements (CDA) to encourage competition among project contractors and thereby reduce costs.
- 4. Consumer-driven decisions to transportation.<sup>27</sup>

Innovative financing arrangements, including concession agreements and shadow tolling, are being seen at both state and federal levels as available tools to solve funding needs or increased mobility demands. As discussed in the JPMorgan/Popular and Goldman/Loop Reports, the current supply of capital and the level of investor interest in Public Private Partnerships ("P3"), and particularly in existing toll road assets, are considerable, though deployment of such capital remains subject to a number of terms and conditions. It has been estimated that the tax exempt market has generate \$25 billion in 2005 for investment in toll roads. Both private and public financing should be viewed as available to support a project and should be contemplated in determining the least expensive cost of capital that gives the County the desired control profile.<sup>28</sup>

As P3 transactions become more commonplace, governmental entities, such as the County, using traditional tax-exempt financing will have to become more aggressive in leveraging their systems and in operating as efficiently as possible in order to compete with the economics of long-term concession agreements (i.e. relying upon increased tolling schedules, higher leverage ratios and increased efficiencies). This will include revisiting past decisions about the desired rating level of the system debt, considering issuance of longer maturity debt with lower coverage requirements, more generous additional bonds tests, becoming more aggressive in implementing toll increases and becoming more operationally efficient. This will require a balancing between toll revenue and toll road maximization because of the effects of toll elasticity and diversion.

<sup>&</sup>lt;sup>28</sup> Bond Buyer June 12, 2006, Michael Stanton "The Hard Road to Tomorrow's Transportation Infrastructure"



<sup>&</sup>lt;sup>26</sup> Letter from Mr. Gary Trietsch to Mr. Art Storey dated April 24, 2006

The Texas Transportation Challenge, http://www.dot.state.tx.us/txdotnews/trans\_challenges.pdf



Currently, either an asset sale or concession of all or part of the System involves legal hurdles and requires further legal analysis. Because the teams were primarily charged with valuing the System, the opportunity for public-private development of CIP projects was of secondary consideration. The Goldman/Loop report indicates that potential concessionaires are primarily interested in an existing facility with established cash flow, and may provide little additional compensation for a greenfield project. We suggest that if the County or HCTRA would want to undertake a greenfield project with a private investor, then further exploration should be undertaken. Various greenfield projects involving concessions are under development or have been completed in the United States. Notable projects include SR-125 in San Diego and the recent contract for the development of the Pocahontas Parkway in Virginia.

The County and HCTRA find themselves in an enviable position. HCTRA enjoys strong cash flows, particularly as the economy within Harris County continues to grow. The value of the System can be realized in a number of different ways depending upon the desires and decisions the County makes with respect to tolling schedules, toll road utilization, continued development with respect to both System and non-System projects, and the financial risk profile that the County desires to accept in the future. The teams have defined a range of possibilities, but no specific recommendation can be made without Commissioners Court guidance on these core issues.

<sup>&</sup>lt;sup>29</sup> Goldman/Loop Report





## **Purpose**

The purpose of the Study is to develop the discussion of financial alternatives available to the County with respect to HCTRA and System and to assist the Commissioners Court in maximizing the value of the System. In light of recent activity regarding public-private partnerships of state- and locally-owned toll facilities, financing alternatives that may offset the County's need for additional funding for infrastructure improvements with options that provide resources from private entities may be beneficial to the County and the Authority. These alternatives will be explored in addition to studying ways to increase the financial capacity of the System under the County Owned and Operated scenario. This Report should be read in its entirety including the required disclosure section and the reports of the respective investment banking firms. In focusing attention on the financial alternatives, we have left discussion of the financial history and potential future projects for the end of this Report.

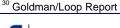
In October 2005, a memorandum from First Southwest Company ("First Southwest") was presented to Commissioners Court outlining three strategic financial tracks to be studied with respect to determining the value of the System. In January 2006, senior County staff and First Southwest made a recommendation to Commissioners Court regarding the firms to be engaged to study the alternative tracks outlined in the October 2005 memorandum. The recommendation was adopted by the Court in February.

This report and the separate reports of the investment banking teams should not be construed as legal advice regarding any specific issue or a recommendation for investment, but as a financial analysis or identification of certain issues regarding specific ownership, concession or sale structures that are germane to the County.

The three tracks considered, per the County's guidance, were modified slightly during the course of the engagement to take into consideration specific desires of HCTRA. These tracks are described as:

- County Owned and Operated: The County would continue to own, operate and construct new
  projects. The Study looks at options the County might consider to improve financial results and
  explores alternative operational structures available under existing law.
- Asset Sale: The County would sell the System in whole or in part. The Study examines potential values for the System and its component pieces, and explores and develops pertinent financial and operational issues related to the sale of an asset.
- Concession: The County would enter into a long-term contract for a concessionaire to operate
  the System (or part of the System) for a period of time, retaining the tolls, in exchange for
  consideration paid by the concessionaire to the County. The study explores the value that
  might be realized by the County through a concession agreement of the System as well as the
  major issues involved in a concession approach under current statutes and regulations.

It should be noted that the Asset Sale and the longer-term versions of the Concession approach have legal issues that would inhibit the immediate implementation. Concessions can range from short term (1 to 5 years) to long term,(as much as 75 to 99 years). A shorter Concession approach could be undertaken, but the report of Goldman Sachs/Loop Capital indicates concessions less than 50 years would impair the expected value by approximately 10-15%.<sup>30</sup> This Report includes a survey of selected recent concession terms to give context to the length of a potential concession.





# **Methodology for Financial Alternatives Studies**

The Commissioners Court directed County Management Services ("Management Services") to proceed with analyzing the financial alternatives available to the County with respect to the System. Historically, the County has analyzed near-term and mid-term financial alternatives for further development and operation of the System, as evidenced in the designation of the 5-year Capital Improvement Plan ("CIP") in June 2005. This Study differs from the procedure carried out in the past, as it takes a longerterm look at the financial structure of the Authority and System. Management Services went through a formal qualification process to solicit qualifications and viewpoints from investment banking teams. Upon receipt of the qualifications, a small number of firms were interviewed. In January 2006, a recommendation by Management Services, Public Infrastructure Department, the County Attorney's office and First Southwest was presented to Commissioners Court. This recommendation formalized the approach to the Study and organized the Study along three tracks. The purpose of pursuing three different tracks with three different investment banking teams was to bring differing views and resources to bear upon the analysis with the intent to distill the differences in financial alternatives based upon similar assumptions. A multi-track analysis requires discipline in defining the scope of the tracks, developing as many common assumptions as possible for independent valuation within the tracks and identifying the financial and operational differences, risks and limitations each track would introduce.

Throughout this Report, we will designate the Citigroup/Siebert Brandford Shank ("Citigroup/Siebert") team as "Team A", the JPMorgan/Popular Securities team ("JPMorgan/Popular") as "Team B" and the Goldman Sachs/Loop Capital team ("Goldman/Loop") as "Team C." The teams were organized and tasked according to the following table.

Citigroup	JPMorgan	Goldman Sachs
Siebert Brandford Shank	Popular Securities	Loop Capital
Explore Existing Financing Options/ Debt Capacity Alternative Financing Options TIFIA/SAFTEA-LU	Valuation of Asset using: Asset Valuation Discounted cash flow Comparable Entities / Transactions Internal Rate of return	Valuation of Concession under various terms/ time frame: Short-term Concession Long-Term Concession (50, 75, 99 Years)
Analysis of Current Constraints: Project Prioritization Existing Indentures/Laws Tolling Strategies Rating Impacts	Identification of key terms & conditions: System Expansion Control/ Tolling Strategies Operating Standards Retained Ownership	Identification of key terms & conditions: System Expansion Control/ Tolling Strategies Operating Standards Retained Ownership
Operating Entities: Enterprise Fund Qualified Management Contract	Determine key terms, valuation impact	Determine key terms, valuation impact
State Law Options: County Transportation Corp. Regional Mobility Authority Public offering	·	in Asset vs. Concession Valuation s and conditions

The County Owned and Operated approach ("Track 1") in effect serves as the control study. In developing the scope of Track 1, Team A's charge was to explore what the County could do today to improve the long-term operating position of the County and the System and determine the financial capacity of the System. The financial capacity of the System would be evaluated under several





scenarios. Once the capacity of the System was defined under the specific scenarios, recommendations were developed to see how the increased financial performance could be used in increased mobility within the County by the earlier funding of projects or by providing resources to the County's general fund for eligible projects. This involved legal analysis by the County Attorney's office and outside counsel to assist in identifying changes in legal structure that would enhance the County's efforts. The team identified operational and financial issues and performed extensive modeling of what the County could do over a prolonged period to generate funds for mobility, while maintaining a high-quality System. An analysis of desirable coverage levels and resulting rating levels was also undertaken and the results of that study is summarized in their report. The Track 1 study was led by Citigroup with the assistance of Seibert, Brandford, Shank & Company and their report is referred to as the "Citigroup Report" or the Citigroup/Siebert Report."

The Asset Sale approach ("Track 2") and the Concession approach ("Track 3") were designed to be alternatives to continued County ownership, or Track 1. Many of the issues of an Asset Sale are shared by the Concession approach as well. As concessions become longer in tenure, they effectively approach the status of a sale of an asset, making some overlap between these two tracks inevitable. The major issues, among other factors, to be considered are: contractual issues with respect to control and operation of the System, achieving fair market value, inter-operability with the County's transportation systems and with transportation systems of other governmental units, human resource issues and the potential strategy for the County should a transfer of control or ownership not work as envisioned (i.e. the County's exit strategy). The Track 2 study was led by JPMorgan with the assistance of Popular Securities and their report is referred to as the "JPMorgan Report" or "JPMorgan/Popular Report". The Track 3 study was led by Goldman Sachs with the assistance of Loop Capital and their report is referred to as the "Goldman Report" or the "Goldman/Loop Report". Collectively, Tracks 2 and 3 reports provides a detailed assessment of the myriad of issues to be considered when selling an asset or entering into a concession.

#### **Schedule and Data Management**

In order to facilitate a coordinated approach to studying the three tracks with independent teams, multiple conference calls and meetings with County staff, the investment banking teams, outside legal counsel and the traffic and revenue consultant were held. During these meetings and conference calls, issues and criteria regarding factors such as economic growth rates and the scope of the feasibility study were discussed. Information needed from the Authority to complete the work was identified and provided. Legal counsel briefed the teams on their legal research, and the related legal memoranda are included with this Report. In addition to the meetings and conference calls, a central, secure internet site was set up to distribute documents, data and legal research among representatives of the County and the various team members, consultants and legal counsel.

The following table summarizes a representative listing of the scheduled meetings and conference calls that occurred over the period from February to June 2006:

9-Feb	Meeting	Kick-off Meeting
13-Feb	Conf Call	Weekly Conference Call
21-Feb	Conf Call	Weekly Conference Call
28-Feb	Conf Call	Weekly Conference Call
2-Mar	Meeting	Discuss Traffic and Revenue Model and underlying assumptions
9-Mar	Conf Call	Discuss HCTRA Operating and Maintenance Expenses



10-Mar	Conf Call	Weekly Conference Call
14-Mar	Meeting	Discuss Asset Sale Strategy
23-Mar	Conf Call	Discuss Items Pending
13-Apr	Conf Call	Discuss underlying economic assumptions provided by Dr. Barton Smith
17-Apr	Conf Call	Provide feedback on Macro Economic assumptions
19-Apr	Deadline	Updated traffic & revenue estimates
21-Apr	Conf Call	Discuss Valuation Model
2-May	Conf Call	Discuss First Draft Valuation and Report Submissions
4-May	Deadline	Initial Valuations Due to FSW
8-May	Conf Call	Discuss Federal Funding Issues
12-May	Deadline	First Draft Report due to FSW
15-May	Meeting	Meeting with Commissioners Aides
23-May	Conf Call	Receive Feedback from FSW
25-May	Deadline	Second Draft Due
26-May	Deadline	Second Draft Received
6-Jun	Deadline	Final WSA Report Received
9-Jun	Deadline	Executive Summaries Due
13-Jun	Deadline	Final Reports Due
20-Jun	Meeting	Report to Commissioners Court

### **Participants**

Six investment banking firms entered into contracts with First Southwest based upon the conditions authorized by Commissioners Court and approved by the County Attorney's Office. Each track report also contains the qualifications of the respective teams. In addition to the investment banking firms, the County Attorney's office engaged various legal firms to provide the study participants with advice regarding the legal framework in which HCTRA and the County currently operate. Additional legal analysis regarding the type of framework the Authority might operate under in the future under existing laws was provided. It should be noted that the participants have prepared their respective studies and reports based upon the most current information available, and all of these reports represent forward-looking documents. As with any forward-looking projection or study, actual results will include differences that are either beneficial or detrimental to the County and to HCTRA. Please see required disclosure language attached to this report and the individual reports related to each track.

We would like to thank members of various County departments for their invaluable assistance in preparing these reports. Specifically, members of Public Infrastructure Department, the Office of Management Services, HCTRA, the County Auditor's office, the County Attorney's office, other members of the County staff including aides to Commissioners Court members, staff of Purchasing and Management Services, as well as the legal and consulting firms listed elsewhere in this report.



# **Recent Toll Road Financing Developments in the United States**

Much has been written in the last several years with respect to road financing, particularly with respect to the privatization of toll roads, the use of comprehensive development agreements, and the passing of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users ("SAFETEA-LU"). Several noteworthy public private partnerships have resulted in either significant upfront payments or have led to the development of tolled roads. The most significant recent public private partnerships include among others:

- Trans-Texas Corridor (Dallas to San Antonio)
- Chicago Skyway
- Indiana Toll Road
- Pocahontas Parkway (Richmond, VA)
- SR-125 (San Diego, CA)

The Trans-Texas Corridor ("TTC-35") is a comprehensive development agreement involving the Texas Department of Transportation ("TxDOT"), in which a private consortium will invest approximately \$6 billion for the development of a 314 mile four lane road between Dallas and San Antonio. The private consortium will pay to the State of Texas (the "State") \$1.2 billion for the right to build and operate this road segment for up to 50 years. This agreement may represent a signal regarding TxDOT's approach in presenting a potentially similar concept to the County as expressed in TxDOT's April 24, 2006 letter regarding three potential toll corridors, SH 99 (Segments E, F-1, F-2, and G), Hempstead Highway and Beltway 8NE. An analysis of the terms and conditions within this TTC-35 agreement may help in understanding the issues contained within TxDOT's April 24° 2006 letter. In a recent TxDOT web posting, TxDOT stated that an \$86 billion fund gap remains between funding sources and the needs for mobility projects by 2030. TxDOT has developed four strategies to build transportation projects. These strategies are relevant to the County because of the importance of the County as an economic and population center in State. TxDOT's four stated strategies are:

- 1. The use of new revenue tolls, including highway safety bonds, the Texas Mobility Fund, toll equity, and toll debt. TxDOT is also partnering with the private sector in the financing of transportation projects.
- 2. The use of Regional Mobility Authorities ("RMAs") and pass-through toll financings, among other methods, to "partner" with local and regional leaders.
- 3. The use of Comprehensive Development Agreements ("CDAs") to encourage competition among project contractors and thereby reduce costs.
- 4. Consumer-driven decisions regarding transportation.31

In addition to the Trans-Texas Corridor, TxDOT has identified 7 other projects that could potentially include public private partnerships.<sup>32</sup>

Innovative financing arrangements, including concession agreements and shadow tolling, are being seen at the state and federal level as significant tools to solve the funding needs to meet the needs of increased mobility. As will be seen in the reports of JPMorgan/Popular and Goldman/Loop, the current supply of capital and the level of investor interest in Public Private Partnerships ("P3"), and in particular

<sup>32</sup> http://www.dot.state.tx.us/services/texas\_turnpike\_authority/pub\_priv\_partnerships.htm



<sup>&</sup>lt;sup>31</sup> The Texas Transportation Challenge, http://www.dot.state.tx.us/txdotnews/trans\_challenges.pdf



in an existing toll road asset, is considerable, though deployment of such capital remains subject to a number of terms and conditions.

As P3 transactions become more commonplace, issuers using traditional tax-exempt financing will have to become more aggressive in leveraging their systems to compete with the economics of long-term concession agreements or asset sales. This will include revisiting past decisions about the desired rating level of the System debt, considering issuance of longer maturity debt with lower coverage requirements and more generous additional bonds tests. Discipline will have to be instilled in implementing toll increases and becoming more operationally efficient.

## **Toll Road Financing Macro Issues**

Harris County and HCTRA find themselves in a unique position, as HCTRA is neither a start-up toll road nor a mature system. From a credit perspective, analysts view HCTRA as a new system because of the number of projects that are available for HCTRA to undertake (assuming the various political and other issues are resolved), and the amount of capital potentially yet to be deployed to meet County mobility requirements. Because the enabling legislation allows HCTRA to develop new toll facilities so long as they are defined within the definition of project. These projects collectively are referred to as the "pooled project" or "pooled projects." Because of the ability to undertake any or all projects within the pooled projects universe, HCTRA's ratings for the last several years have been adversely affected by the assumption all projects would be undertaken in the near future. In order to mitigate these perceived negatives and to impose financial discipline, in June 2005 Commissioners Court narrowed the focus of the pooled projects list down to just a few principal projects (the "CIP Projects"). A brief recap of the CIP projects appears in the following table.

## Harris County Toll Road Authority 5-Year Capital Improvement Program Project Cost and Current Status (Spring 2006)

PROJECT	ESTIMATED COMPLETION	ALIGNMENT	ESTIMATED PROJECT COST	STATUS
Beltway 8 East	2010	US 59 to US 90A (13 miles)	\$295,738,000	Design Phase thru 7/07
Brazoria Toll Road - SH 288	2010	IH 610 to Alvin (20 miles)	\$237,725,322	Completed Feasibility Study
Grand Parkway - Segment E	2011	IH 10 to US 290 (13 miles)	\$139,815,000	Completed Schematic Design
Hardy Toll Road Extension	2010	IH 610 to CBD (3 miles)	\$138,684,000	Final Design Est. 7/07
Hempstead Toll Road (US 290)	2013	IH 610 to Jones Road (13 miles)	\$242,300,000	Completed Conceptual Design
Ft. Bend Parkway Phase II	On-Hold	US 90A to Post Oak (1.6 miles)	\$53,840,000	On hold
Fairmont Pkwy/Red Bluff Road	On-Hold	BW 8 to SH 146 along Red Bluff (9 miles)	\$205,425,000	On hold
			\$1,313,527,322	•

<sup>\*</sup> Indicates Secondary Project

<sup>&</sup>lt;sup>34</sup> List most recent rating reports that cite potential project debt issuance as a credit limiting factor.



Source: Harris County Toll Road Authority Staff.

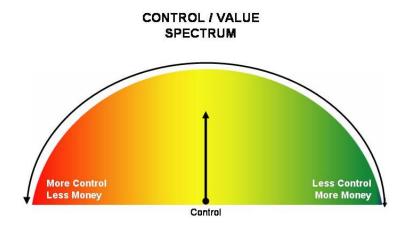
<sup>&</sup>lt;sup>33</sup> Harris County Toll Road Sr. Lien Rev. and Refunding Bonds, Series 2005A Official Statement, Appendix A.



#### **Macro Considerations**

Before analyzing the specific results of each track, we should first attempt to outline the macro issues and decisions that the County and HCTRA must analyze and decide in further developing the System as well as operating the existing System.

A basic principal underlying the value received when selling or concessioning a revenue-generating asset relates to the contractual limitations placed on the purchaser or concessionaire, often referred to as the control/value spectrum. The principal idea is that value inversely relates to degree of control of an asset. For example, the more control and limits placed on the ability to raise tolls, the lower the valuation and sale price.



In developing the financial framework in which to evaluate continued ownership, concession or sale of an asset, we have limited our discussion to financial and control issues, and defer to legal counsel regarding governance and authoritative issues. The financial and control issues can be summarized in the following questions:

- If the County and HCTRA want to continue to develop the principal projects, what are the financial alternatives available?
  - Traditional public finance markets (Track 1)
  - Sale of all or part of existing toll road assets to generate funds to invest in new toll roads (Track 2)
  - Lease of all or part of existing toll road assets to generate funds to invest in new toll roads (Track 3)
  - Hybrid of the above
- What is the economic potential of the existing assets?
  - Existing leverage ratio
  - Increased leverage ratio
- What risks will or can the County or HCTRA undertake in the development of new toll assets?
  - Risk that the traffic and revenue forecast will be accurate or not accurate enough to protect the County and its investment
  - Ability to shift construction risk or willingness to accept that risk



- Impact of development of new toll road assets on the economic and operational ability of the existing System
- Credit rating for debt related to the System the tradeoff between borrowing cost, default risk, and increased leverage
- Credit rating for the County's general obligation debt (does any one alternative provide better residual rating benefits than the others?)
- Will an alternative financing mechanism provide better financial capacity over the near term and long term? How does this capacity affect the County's mobility planning?
- > Can or will an alternative financing vehicle undertake greenfield construction of a CIP Project?
- What are the issues related to an alternative financing mechanism? A partial listing of these would include:
  - At what levels is the County or HCTRA willing to let a private concessionaire set tolls?
  - What level of service does the County or HCTRA desire?
  - What are the potential impacts on traffic on alternate routes?
  - What is the County's ability to address congestion in the toll corridor?
  - How will fair value be determined now and in the future?
  - Is the County or HCTRA willing to relinquish complete control of an asset forever or for a period of time, (a concession)? If a period of time, what time frame?
  - How will an Asset Sale or Concession handle the uncertainties about future traffic and mobility needs?
  - Will County ratings be affected by increasing leverage within the existing financing arrangements or by execution of an asset sale or concession?
  - What can the proceeds be used for?
    - Defeasance portfolio
    - Repayment of Federal Highway Administration ("FHWA") loan
    - Restrictions on use of proceeds pursuant to FHWA rule
  - State and local tax issues related to ownership or control of all or part of the System.
  - Other conditions that would mitigate value received:
    - Indemnifications
    - Economic make whole provisions
    - Operational and employment restrictions
  - How will the employment and benefits of existing HCTRA employees be handled?

In valuing the System under any of the three tracks, toll revenue (a function of toll rates and traffic) drives value more than any other factor. HCTRA, on average, has operating expenses, exclusive of debt service, depreciation and transfers for connectivity, which amount to approximately 15% to 21% of revenues. HCTRA currently outsources approximately 70% of operational expenses<sup>35</sup> thereby extracting private-side operational efficiencies. Therefore, the value proposition going forward primarily depends upon the management of debt service and toll revenue. County management of tolls going forward will be a driver of value in any scenario. In other words, the value proposition must be balanced between achieving desired results for both road utilization and net revenues.





References to value in this study generally focus on the present value of projected cash flows after meeting costs for operations, debt service and maintenance. In some cases, value equals the consideration paid today, particularly in the case of an asset sale or concession. Value may be realized over varying lengths of time, including immediate payment now, or in many different combinations. If a payment is made at inception of the transaction, and there are no future payments, the present value discount factor of the other party still remains important to the County. If a private entity has a higher discount factor than the County, and all other factors are equal, then the value payable by the private entity should be less than an equivalent value measured at the County's discount rate. The opposite would be true if the County's discount rate is higher than the private entity's discount rate.

If payments are made over time, the creditworthiness of the private entity and the details of its financing arrangements should be of increased concern to the County. The County should consider the creditworthiness of the private entity as with any contractual relationship, but particularly in this case because of the reliance on the private party to operate the System in a prescribed way, and the heightened monitoring costs and exposure if the counterparty cannot meet these contractual requirements.

# **Traffic and Revenue Study Methodology**

Because operating expenses for HCTRA, other than debt service and depreciation, range between 15% and 21% of revenues, the side of the cash flow statement that represents the most significant driver to value is toll revenues. Toll revenues are functions of toll rates and traffic volume of the System. The best evidence of the effect of toll rates and traffic volume comes from traffic and revenue forecasts as well as HCTRA's actual results of the November 2003 toll increase. To provide the County with the most up-to-date revenue projections, the Authority engaged Wilbur Smith Associates ("WSA") to update its traffic and revenue estimates (the "Updated Traffic and Revenue Report" or "Traffic & Revenue Report") for the existing System. The Updated Traffic and Revenue Report was delivered June 6, 2006. The Traffic and Revenue Report includes actual fiscal year 2005-2006 results, as well as projections for future years.

WSA met with representatives of the County, HCTRA, First Southwest, the investment banking teams, and legal counsel early in the process. At that meeting, the parties agreed that WSA would develop three alternative scenarios that would serve as the basis for revenue projections to be used in each of the tracks. The Traffic and Revenue forecast base period was to 2025 with an extension to 2055. The extension of the forecast between 2025 and 2055 was developed using general growth rate assumptions and as such should be considered a very general approximation and not a detailed investment grade traffic forecast. As with any future projections, actual results will deviate from projections and differences may be material. The three scenarios were defined as:

- <u>Scenario A: Base Case</u>, which provides for constant toll rates at current levels through the forecast period.
- Scenario B: Inflation Case, which increases toll rates at specified inflation rates, generally 25¢ every 5 years or approximately 2.5% per annum.
- Scenario C: Revenue Maximization Case, which allows toll rates to rise to their "optimized rate" which will generate the maximum amount of revenue, even at the expense of decreased road use.<sup>36</sup>

<sup>36</sup> WSA Report





These scenarios serve the purpose of quantifying a range of possible tolling schedules; the actual tolling schedule can only be authorized by Commissioners Court or through an agreement between the County and a third party in a sale or concession.

WSA generated traffic counts for 2005, and estimated traffic counts for 2010, 2015, 2020 and 2025; traffic counts thereafter represent extrapolated values. In addition to generating traffic counts, WSA generated estimated traffic impacts on a weekly basis that demonstrated the potential traffic diversion off the System onto alternate routes based upon increases in the toll schedules. See the WSA Report for a more thorough discussion of the assumptions and risks associated with these forecasts.

#### **Financial Alternatives Considerations**

We will discuss certain financial considerations including a discussion of assumptions pertinent to each track. The Study has tried to remain consistent with respect to assumptions so that the County and HCTRA can distill the results of different financial structures with minimum "noise" from variances in assumptions. Due to the long analysis period, upwards of 50 to 75 years in the case of a concession, and even longer in the case of a sale, there will be slight variations in assumptions due to the duration of the analysis and differences in each market. These variations can have compounding effects, resulting in significant variances among the results. The indicative numbers that these reports present should be viewed in light of the advantages and disadvantages of each approach as well as the magnitude of the range of values. In addition to the basic tracks outlined earlier, each study team was charged with developing alternatives or identifying market-preferred structures in order to develop a sensitivity to changes in various factors.

As with any forward-looking study, caution should be used in judging the results and carefully analyzing the factors that drive the projected outcomes. As always, future results will deviate from projections and such deviations can be material.

## **Legal Assumptions**

Certain simplifying assumptions have been made in arriving at each team's financial projections contained within their respective reports. Basic assumptions with respect to the traffic and feasibility study were described previously. For both the Asset Sale approach and the Concession approach, the studies also assume the County has the legal ability to either transact a sale or enter into a Concession beyond 40 years. According to legal counsel, the maximum length of a concession agreement that the County or HCTRA could enter into is 40 years.<sup>37</sup> The main focus of the Goldman/Loop Report was on 50 and 75 year concessions. State legislative changes would be required to arrive at these results. With respect to Track 2, sale treatment, an assumption was made that the County or HCTRA could sell the exclusive use of an asset. This is important to note because counsel has advised HCTRA and the study teams of certain right of way ownership issues.<sup>38</sup> In addition to legal issues, alternative financing structures should be viewed in terms of the amount, nature, and potential use of net assets made available to the County and HCTRA in such transactions. Legal counsel has advised the teams and HCTRA that certain proceeds from a sale or concession may be restricted to certain uses because of Title 23, United States Code, Section 129.<sup>39</sup> Further, potential state and local taxes on the purchaser or concessionaire may affect the value received,<sup>40</sup> as well as the potential repayment of the 1994 \$90

<sup>&</sup>lt;sup>40</sup> Fulbright & Jaworski L.L.P. legal memo



<sup>&</sup>lt;sup>37</sup> Andrews Kurth LLP legal memo

<sup>&</sup>lt;sup>38</sup> Andrews Kurth LLP legal memo .

<sup>&</sup>lt;sup>39</sup> Greenberg Traurig LLP legal memo



million FHWA Loan. The time horizon of a transaction has a material difference in the outcomes of Tracks 1 and 3. Time horizon does not affect Track 2 because it is a sale of all or part of an asset and therefore there is no further consideration of value in the future unless the County or Authority is able or desires to have an ongoing interest in the enterprise.

## **Effects of Cost of Capital**

Because all three tracks use a discounted cash flow model as a valuation tool, in addition to comparable trading values and internal rate of return ("IRR") in Tracks 2 and 3, the discount factor is a critical factor. The lower the discount factor, the higher the current value of the projected future cash flow streams. The discount factor that the County would use to determine present value of a future cash flow stream can be analogous to a private entity's weighted average cost of capital ("WACC"). An analysis and comparison of the differences in the WACC of a private entity and the rate used for discounting by the County or HCTRA should be undertaken because differences can be material in evaluating the outcome. If a private entity has a different WACC, the County should understand why, because this is one of the significant factors in computing present value, besides the traffic and revenue forecasts. For example, if the County or HCTRA has a lower WACC than a private enterprise, then all else being equal, the County or HCTRA should value the System more highly. Several factors complicate this analysis:

- WACC can change over time and can be subject to refinancing risk in the future, and the
  degree of change can be particularly significant for a private enterprise whose capital
  structure changes over time.
- Similarly, the WACC for the County or HCTRA could change over time depending on the financing structure deployed, such as the use of variable rate debt, or future refinancing to amortize debt.
- WACC for a private enterprise may be similar to that of the County depending upon the rate of return on equity and the effect of depreciation and interest expense deductibility.

Both the Goldman/Loop and the JPMorgan/Popular teams have indicated that the cost of capital for a private enterprise can approach that of a tax exempt issuing entity under certain conditions. The calculation is particularly sensitive to the assumption regarding the required return on equity capital. At a 10% targeted return on equity, the teams indicate that the cost of capital is close to that of a tax exempt issuer. JPMorgan indicate the market expects from 8% to 13% as the equity return range<sup>41</sup> and Goldman indicate that the market expects a return on equity of 10 to 14%<sup>42</sup>. However, from research on the projected equity returns on recent projects as expressed to potential equity investors, we have found the returns to the investor universe targeted in the range of 12-13%. These rates of return may be different than the initial rate of return due to changes in financing costs after inception of the sale or concession. These equity return rates should be monitored and factored into a financing model to truly determine whether the WACC of a private entity in relation to a particular project is less than that achievable to the County on a specific transaction.

With the passage of SAFTEA-LU, private entities may be able to issue tax exempt private activity bonds on their own to close this cost of capital gap. All things being equal, primarily the traffic and revenue projections and equal coverage factors, the effect of a higher WACC than what the County or HCTRA could achieve will produce a lower economic present value. The range of WACC's have been

<sup>44</sup> JPMorgan/Popular Report



<sup>&</sup>lt;sup>41</sup> JPMorgan/Popular Report

<sup>&</sup>lt;sup>42</sup> Goldman/Loop Report

<sup>&</sup>lt;sup>43</sup> Macquarie Infrastructure Group Presentation, November 2005



from 5% to 8% on recent transactions.<sup>45</sup> However, all things are usually not equal, and as of the date of this Report we have found no evidence of implementation of a private activity bond structure or verifiable WACC lower than the what the County could achieve. This market continues to evolve, and such a structure might be implemented in the near future.

## Impacts of Assumptions in Traffic and Revenue Projections

In order to try to identify differences under a range of tolling scenarios, the study team instructed WSA to develop three projected revenue scenarios to try to frame the possible outcomes to be used in all three tracks. If the County or HCTRA choose to pursue a sale or concession of all or part of the System, indications lead to the expectation that potential bidders would develop their own traffic and revenue projections. In Understanding the fundamental differences in valuation between the public and private sectors (including differences in the toll revenue studies) will help protect the County from being caught unaware of financing risks within the contracts. The limitations (or lack thereof) on future toll schedules will impact value. We are not advocating a particular tolling regime, but want to highlight the differences in views of tolls and revenues over a prolonged period of time.

Somewhere between the Base Case projections and the Revenue Maximization projections exists a tolling strategy limit that HCTRA or the County would most likely impose upon an owner or concessionaire, or could undertake itself under the County Owned and Operated track. Goldman/Loop demonstrate in their report the effect of differences in economic factors within the traffic and revenue report for the Chicago Skyway transaction. They estimate the differences in assumptions lead to \$1.3 billion in valuation over the government's expectations prior to the bidding.<sup>47</sup>

Because traffic and revenue consultants and financial analysts may, and most likely will, use different assumptions as to the economic growth rate of an area, including factors like population, economic productivity, median income and disposable income, among others, there will be differences in the valuation of an asset. For the County or HCTRA to become comfortable with a traffic and revenue projection, the County should undertake an economic analysis whereby the probability of a projected outcome is evaluated, and the values of projected outcomes are risk-adjusted. Undertaking a risk analysis of the traffic and revenue projections will allow HCTRA or the County to evaluate whether they should accept or reject an offer because the offer is below or beyond their risk tolerance. The ramifications of an aggressive traffic and revenue study should be understood in how they could affect future negotiations or remedies within the sale or concession contract.

Allowing a third party to base its valuation on a study that is predicated on higher traffic volumes and more aggressive tolling schedules due to the toll inflation factor may put the County at a disadvantage in the future when negotiating changes to a sale or concession agreement, or determining how much money is owed if the County does not perform under an agreement. There has been evidence that governments will make payments to third parties as evidenced by the First Amendment to the Indiana Toll Road Concession and Lease Agreement <sup>48</sup> and the recent news articles related to the toll roads in Australia, regarding reducing restrictions on competing roads, as well as reductions in tax rates.<sup>49</sup>

## **Difference in Coverage Factors**

As stated earlier, toll road financing in the United States is undergoing a transformation. P3 initiatives and the competition to deploy capital have created financing structures that are more aggressive than

<sup>&</sup>lt;sup>49</sup> Sydney Morning Herald, June 1, 2006; Toll Road News, "Troubled Concession" June 4, 2006



<sup>45</sup> Goldman/Loop Report

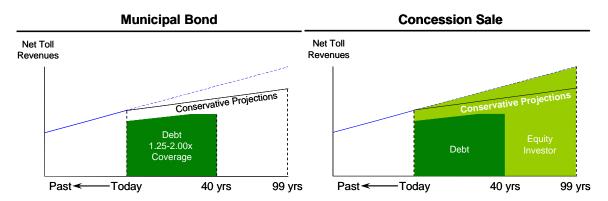
<sup>&</sup>lt;sup>46</sup> Goldman/Loop and JPMorgan/Popular Reports

<sup>&</sup>lt;sup>47</sup> Goldman/Loop Report

<sup>&</sup>lt;sup>48</sup> First Amendment to Indiana Toll Road Concession and Lease Agreement



traditional public finance transactions in terms of coverage ratios and the dependence on the growth of revenues in the future, when compared to traditional fixed rate tax-exempt road financings. Goldman has presented graphs below in presentations demonstrating how private entities evaluate projections and monetize to a higher growth curve due to the availability of equity.



Source: Goldman Sachs "Public-Private Partnerships The Skyway Sale and its Implications for Municipal Finance" presentation to National Association of Treasurers, September 21, 2005

The discussion above raises the issue of why credit analysts view equity differently than a governmental entity's unrestricted fund balance. If issuers are disciplined and restrict the use of an unencumbered fund balance, theoretically, the issuer could achieve the same safety margins as equity. Track 1 explores using excess funds to support a higher debt service leverage factor.

Traditionally, many toll roads across the United States are structured to achieve an "A" category rating. Most "A" rated toll roads having median coverage ratios of approximately 1.5 times debt service. 50 With a traditional public finance transaction, most "A" category toll roads have been able to obtain "AAA" bond insurance economically.

According to various credit enhancers and as reflected in the JPMorgan/Popular Report, private entities in P3 transactions try to deploy as much debt as possible, aiming for a structure with ratings towards the bottom of "BBB" credit level<sup>51</sup>. Because of the differences in coverage ratios and the amount of debt deployed, a governmental issuer using traditional coverage ratios to obtain an "A" rating category may not able to borrow as aggressively against projected cash flows initially but tends to enjoy greater free cash flows over a prolonged period of time as debt amortizes. When comparing the upfront payment of an asset sale or concession, the comparable ongoing free cash flows enjoyed by a governmental entity must be valued. In working with Team A, Track 1, we instructed the bankers to value the ongoing cash flow that would be available to HCTRA or the County because HCTRA or the County can use this cash flow for pay-as-you-go projects at the time the cash flow is released.

An additional factor that must be considered when looking at debt service coverage and free cash flow is the projected increase in revenues and the credence that the credit agencies, credit enhancers and credit markets place on future revenue increases. Historically, governmental issuers have not been able to convince credit providers and rating agencies that they will increase toll rates in order to produce more revenue, given the other competing factors involved in toll rate decisions. This contrasts with the view of the rating agencies, credit enhancers and capital markets that a private enterprise will impose increased toll rates up to the maximum permitted or to where the toll becomes elastic because they have the ultimate goal of maximizing profits, even at the expense of mobility. To the extent that

<sup>51</sup> JPMorgan/Popular Report



<sup>&</sup>lt;sup>50</sup> Moody's Median as of May 2006.



the County would commit to an automatic toll schedule based upon factors to be chosen, such as the Consumer Price Increase index ("CPI"), the Gross Domestic Product ("GDP") index, the more locally-focused Gross State Product ("GSP") index, service levels based upon a congestion index or a combination of these and other factors, then the bond holders, rating agencies and credit enhancers will put more value into future toll increases, thereby allowing the System to generate more bonding capacity or cash flow for future projects.

Because P3 transactions are anticipated to be structured at the low end of the "BBB" category, they have the ability to use more leverage. An alternative presented in Track 1, if the County desires more immediate cash flow benefits, involves an affirmative decision by the County to reduce its desired targeted credit rating for the System or go to a more formal toll setting mechanism than those currently set in the bond indentures. This would allow HCTRA or the County to take on more projects sooner.

## **Transaction Length**

Most domestic P3 transactions involving concessions have been long term transactions, many with maturity dates of the concession in excess of 50 years. With respect to an asset sale, we have not been able to identify the sale of an existing toll road asset to a third party domestically, but have observed the development of private toll roads and, as stated earlier, have seen the sale of municipal assets to other governmental units similar to the HCTRA's purchase of the Houston Ship Channel Bridge in 1994. However, in other parts of the world with longer experience with concession agreements there have been a number of transactions with 30 to 35 year concessions as well as some greenfield development projects in the United States. In addition to a fixed maturity length on a concession, there appears to be several concession agreements that have sliding maturity dates depending upon the rate of return to the investor. We have also seen a presentation on the part of toll operators that toll revenues past 35 to 40 years have de minimis value.<sup>52</sup>

The Goldman/Loop Report states that there is a correlation between increasing upfront proceeds for the right of a private consortium to operate a toll road and increasing length of the concession. The rationales for longer concessions that have been put forth so far relate to tax ownership and the ability for a concessionaire to have a refinancing window. This financing flexibility is usually seen as a credit strength. However, this should be weighed against the mathematical impact because long-dated revenues are deeply discounted when reduced to present value. This must be addressed prior to structuring a concession sale document. For longer discounting period, higher discount factors will generally apply, further impacting the discounting of a particular value. A balance point between discounting cash flows and the effect of access to cost-effective capital that would erode value more than the time value of money should be determined. If the County decides to pursue Track 3, then the concession length should be studied carefully taking into consideration the earlier discussion regarding traffic and revenue studies.

<sup>&</sup>lt;sup>52</sup> Criteria for a sustainable development of the toll road concession model in the US; Jordi Graells, International Toll Roads Manager, Albertis Infraestructuras SA, January 3, 2006







As a point of reference, we have compiled the following data with respect to selected concession transactions:

United States Transac	tions	
Concession	Original Concession Length (years)	
Chicago Skyway	99	
Pocahontas	99	
Indiana Toll Road	75	
Route 495 Hot Lanes Virginia	60	
Dulles Greenway	40/60	
Trans Texas Corridor (TTC-35)	50	
SR-125 San Diego	35	

Foreign Transacti	ions	
Concession	Original Concession Length (years)	
Toronto 407	99	
M6 (UK)	53	
M2 (Australia)	33.5 to 42.5	
Westlink M7 (Sydney)	34	
Citylink (Australia)	27 to 33.5	
Lane Cove Tunnel (Sydney)	33	
County Route (UK)	30	
Tube Lines (UK)	30	
M5 (Sydney)	30	

#### Source:

- (1) http://www.fhwa.dot.gov/ppp/agr\_chic\_skyway.htm
- (2) Transurban Buys Pocahontas Parkway Road for \$611 Mln (Update4) May 3, 2006 (Bloomberg)
- (3) Indiana Toll Road Concession and Lease Agreement dated April 12, 1006, effective June 30, 2006
- (4) http://www.virginiadot.org/business/resources/Comprehensive%20Agreement.pdf
- (5) http://www.tollroadsnews.com/cgi-bin/a.cgi/VMjorhmrEdqcEIJ61nsxIA, 51 Years remain at time of investment
- (6) Comprehensive Development Agreement, Oklahoma to Mexico/Gulf Coast TTC-35,March 11, 2005 Overview, TxDOT Website
- (7) http://www.fhwa.dot.gov/ppp/agr\_calif\_sh\_125.htm
- (8) Fitch Ratings, U.S. Toll Road Privatizations: Seeking The Right Balance, March 22, 2006
- (9) http://www.m6toll.co.uk/about/default.asp?mainmenuid=11
- (10) NSW Audit Office Financial Reports 2000 Volume 3 Review of M2 Motorway
- (11) http://www.westlinkm7.com.au/About-Shareholders.asp
- (12) www.contracts.vic.gov.au/major/44/ City\_Link\_Melbourne\_City\_Link\_Concession\_Deed.pdf
- (13) Standard & Poor's Infrastructure & Public Finance Ratings Public Private Partnerships Global Credit Survey 2005
- (14) Standard & Poor's Infrastructure & Public Finance Ratings Public Private Partnerships Global Credit Survey 2005
- (15) Standard & Poor's Infrastructure & Public Finance Ratings Public Private Partnerships Global Credit Survey 2005
- (16) http://www.m5motorway.com.au/corporate/

#### Affects on Credit Capacity

#### Existing Credit Profile

HCTRA currently can issue revenue-only supported uninsured debt rated A1/AA-/A+ by Moody's, Standard & Poor's and Fitch Ratings respectively. In analyzing the effects of future leveraging (or how a private entity would structure a transaction to maximize financial leverage and efficiency), the current credit profile of HCTRA must be understood. The following summary provides an overview of the current credit profile for HCTRA.

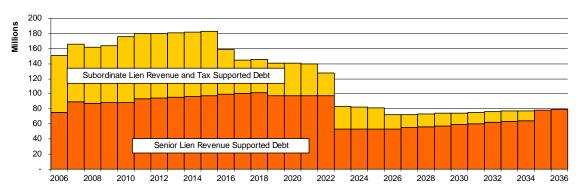
HCTRA currently enjoys coverage of 4 times, which is anticipated to increase without additional debt issuance to over 11 times by 2023.<sup>54</sup> The shape of the existing debt service is front loaded with final maturity in 2035. The key credit factors and shape of the debt service curve are depicted in the following tables.

<sup>&</sup>lt;sup>54</sup> Citigroup/Siebert Report, assuming base case toll revenues from WSA.





### Harris County Toll Road Bonds - Projected Future Debt Service (as of June 2006)



HCTRA has significant additional capacity beginning in 10 to 15 years without relying on growth in revenues. As detailed in the Citigroup/Siebert Report, this combined with growth in revenues will create substantial bonding capacity to meet the 5-year CIP.

## Credit Capacity Considerations

As discussed earlier, access to the capital markets in a cost effective way is paramount to the County. HCTRA and private enterprise. Recent privatization transactions involve considerable amounts of debt, 55 most likely due to the fact that debt usually has a lower cost than the IRR on equity. At least one P3 transactions has been insured by monoline "AAA" rate insurance companies; it may be advantageous to structure a transaction at the minimum investment grade level of "BBB"<sup>56</sup> and obtain lower interest rates through the acquisition of "AAA" bond insurance. One of the questions that arises when viewing future financing alternatives of either Tracks 1, 2, or 3 is the access to credit enhancement today and in the future. In theory, if the County or HCTRA were to continue to finance future expansion using traditional public finance techniques, they would generate the same net exposure as the combination of either an asset sale or concession funded through insured borrowing. taking into consideration the defeasance of the existing HCTRA debt and using credit enhancement on the private entity debt. However, this may not be the case because of the leverage deployed. If aggressive projections are being used, credit enhancers and rating agencies may require higher reserves (considering equity as a part of the reserve). Because the use of P3 domestically is in the early stages of development, time will be needed to see if this phenomenon develops. Also, the County may be competing for the same insurance capacity in the future against a private toll road interestholder. The insurance companies may reserve capacity for the lower rated transaction where their insurance has greater value and generates higher premiums to the credit provider.

An additional factor to consider when looking at credit enhancement in the future is geographical concentration with respect to insurance capacity. A highly leveraged private system may potentially impact the credit enhancement capacity of a governmental credit if they are affected by the same macro economics and natural forces. Because the needs of the System could be significant and if a private and public financing are complete within close proximity in time and location, then monitoring credit capacity will be an important issue. A way to mitigate credit enhancement capacity concerns in any of the tracks would be to systematically implement the CIP and monitor the issuance of debt versus debt retirement. Debt retirement creates credit enhancement capacity.

<sup>&</sup>lt;sup>56</sup> FSA 2005 Annual report referencing insuring Chicago Skyway private financing



<sup>55</sup> JPMorgan/Popular and Goldman/Loop Reports



#### **Reduction in Consideration**

This reduction in value or consideration applies only to Tracks 2 and 3. In order to effect either an asset sale or concession agreement in whole or in part, in all likelihood, the outstanding debt of HCTRA will have to be defeased because of the existing toll covenants and bondholder security issues.<sup>57</sup> The potential change in use from a tax law standpoint may also require call or defeasance.<sup>58</sup> It is anticipated in current markets as of April 2006 that the cost of defeasance of the outstanding HCTRA Debt would be approximately \$2 billion, exclusive of the \$90 million FHWA loan.<sup>59</sup>

Depending upon the nature of the sale or concession agreement, the contracts may also restrict the County or HCTRA from further development of roads, and may impose economic costs for changes in tolling schedules, development of competing roads or other factors embedded within the sale or concession contract. Because of the long-term nature of the sale and concession contracts, the definition of any agree-upon limitation must be very clearly specified. Otherwise, the County could become embroiled in future litigation regarding the intent of the provisions when viewed through the lens of a changing transportation environment. This particularly becomes true when accepting a large up-front payments without reserves for future contingencies or changes in the contract.

In addition, if operating standards are imposed, the County or HCTRA will incur ongoing contract maintenance costs. Evidence of such a reduction in consideration is the amendment to the Indiana Toll Road Concession regarding a desired toll rate freeze. It is our understanding the Indiana Finance Authority will be subject to compensating the concessionaire for the differences in the anticipated toll revenue versus the actual lower revenues resulting from a desired toll freeze on the part of the state. 60

A non-competition clause could result in placing the County or HCTRA in a conundrum. If the owner or concessionaire raises tolls to the maximum allowed and diverts traffic and the County or HCTRA is under a non-competition agreement, then it may be faced with a decision to either let traffic remain congested or make a payment to either the owner or concessionaire. Such a clause is found in the Indiana Toll Road Concession and Lease Agreement. To begin the quantification of traffic diversion, WSA developed a traffic diversion analysis under various scenarios. A summary of this analysis appears below, with reference to the complete report of WSA.

<sup>&</sup>lt;sup>62</sup> WSA Draft Study dated April 19, 2006, Table 2



<sup>&</sup>lt;sup>57</sup> Andrews Kurth LLP legal memo

<sup>&</sup>lt;sup>58</sup> Fulbright & Jaworski, L.L.P. legal memo

<sup>&</sup>lt;sup>59</sup> JPMorgan/Popular Report

<sup>&</sup>lt;sup>60</sup> First Amendment to the Indiana Toll Road Concession and Lease Agreement, dated April 12, 2006

<sup>&</sup>lt;sup>61</sup> Indiana Toll Road Concessions and Lease Agreement, dated April 12, 2006 definition of Compensating Event and Section 14.1(e)



#### Wilbur Smith Associates Estimated Traffic Impact (Number of Cars Per Weekday)

	Tollway	Weekday	Weekday	Traffic Impact	% Traffic	Weekday	Traffic	% Traffic
		Traffic	Traffic		Impact	Traffic	Impact	Impact
	Sam Houston	641,200	606,200	(35,000)	-5.5%	536,800	(104,400)	-16.3%
	Hardy	89,800	84,600	(5,200)	-5.8%	71,800	(18,000)	-20.0%
9	Ship Ch. Bridge	49,600	43,800	(5,800)	-11.7%	43,600	(6,000)	-12.1%
2010	Westpark	159,026	148,500	(10,526)	-6.6%	139,900	(19,126)	-12.0%
	Ft Bend Connector	11,700	11,700	None		11,700	None	
	TOTAL	951,326	894,800	(56,526)	-5.9%	652,200	(147,526)	-15.5%
		·			_			<u>.                                      </u>
	Sam Houston	906,600	818,400	(88,200)	-9.7%	663,600	(243,000)	-26.8%
	Hardy	147,800	132,800	(15,000)	-10.1%	115,200	(32,600)	-22.1%
25	Ship Ch. Bridge	71,000	64,000	(7,000)	-9.9%	59,200	(11,800)	-16.6%
2025	Westpark	236,000	203,000	(33,000)	-14.0%	194,900	(41,100)	-17.4%
	Ft Bend Connector	20,700	19,200	(1,500)	-7.2%	19,200	(1,500)	-7.2%
	TOTAL	1,382,100	1,237,400	(144,700)	-10.5%	838,000	(330,000)	-23.9%

Source: Wilbur Smith Updated Transaction and Revenue Estimates - Harris County Toll System dated June 6, 2006

#### **Effect of Local Taxes**

In the case of a transfer to a private party (Tracks 2 and 3), local taxes play a significant role. The JPMorgan/Popular Report details the estimated cost of local taxes as outlined in a legal memo. The anticipated local property tax burden (assuming a 3% tax rate) under various revenue projections could reduce value of HCTRA by as much as \$2.1 to \$4 billion. The Goldman/Loop Report suggests that the County discuss with relevant parties exemptions related to taxes other than those related directly to Harris County. In other recent concession transactions, such as Chicago Skyway and Indiana Toll Road, the concessionaire effectively did not have to pay state and local taxes due to action by the state legislatures.

#### **Toll Collection Systems & Operational Efficiency**

HCTRA has a strong history of pursuing efficiency in toll collections. From interviews with HCTRA staff, the level of electronic toll collection ("ETC") is between 60% and 65% and increasing with the continued growth in usage of Westpark. HCTRA will be implementing a congestion pricing schedule with the opening of the I-10 managed lanes, expected in 2010. Because HCTRA actively keeps pace with tolling innovation, the efficiency suggested in some transactions due to electronic tolling most likely will not be realized with HCTRA because it has and continues to extract these efficiencies.

Similarly, HCTRA has historically been efficient in toll road maintenance through the significant use of bidding work to outside contractors to maintain and construct the System. Another factor to consider is the quality and condition of the System. HCTRA and the County are required under existing bond indentures to get an outside engineering report on the condition of the System. Because of the age of the System and the requirements of the indentures, the available private side efficiencies may not be as great for the System as believed to be for other toll roads around the nation. This being said, an analysis with HCTRA should be undertaken to confirm best practices and areas for improvement.

<sup>&</sup>lt;sup>69</sup> Agreement between TxDOT, HCTRA and the Metropolitan Transit Authority of Harris County regarding the development of the I-10 corridor



<sup>&</sup>lt;sup>63</sup> Fulbright & Jaworski LLP legal memo

<sup>64</sup> JPMorgan/Popular Report

<sup>65</sup> Goldman /Loop Report

<sup>66</sup> Indiana Toll Road Concession and Lease Agreement, Section 3.1

<sup>&</sup>lt;sup>67</sup> Chicago Skyway Concession and Lease Agreement, October 27, 2004

<sup>68</sup> HCTRA management



# Closing

As you will see in the respective reports from each of the investment banking teams, the County and HCTRA have options available to them to continue the development of HCTRA and to meet future mobility needs within the County. Currently, either an asset sale or concession of all or part of the System involves legal hurdles and requires further legal analysis and action. Because the teams were primarily charged with valuing the System, the opportunity for public-private development of CIP projects was of secondary consideration.

Many of the options require values to be placed upon control, toll levels, road utilization, credit ratings, the amount of leverage used and the aggressiveness in projections among other factors. To continue forward, the Court needs to direct the County's and HCTRA's staff, consultants, bankers and lawyers on the direction the County would like to pursue.

If the County would like to undertake new projects without other System support, then the should explore undertaking a project with a private investor and compare the results to what could be obtained with a County owned and operated facility. The Goldman/Loop report indicates that potential concessionaires are primarily interested in an existing facility with established cash flow, and may provide little additional compensation for a greenfield project. Various greenfield projects involving concessions are under development or have been completed in the United States. Notable projects include SR-125 in San Diego and the recent contract for the development of the Pocahontas Parkway in Virginia.

As P3 transactions become more commonplace, governmental entities, such as the County, using traditional tax-exempt financing will have to become more aggressive in leveraging their systems and in operating as efficiently as possible in order to compete with the economics of long-term concession agreements (i.e. relying upon increased tolling schedules, higher leverage ratios and increased efficiencies). This will include revisiting past decisions about the desired rating level of the system debt, considering issuance of longer maturity debt with lower coverage requirements, more generous additional bonds tests, becoming more aggressive in implementing toll increases and becoming more operationally efficient. This will require a balancing between toll revenue and toll road maximization because of the effects of toll elasticity and diversion

Once a direction is given, the analytical tools outlined in this Report and the reports of the respective teams should be deployed to determine the best plan of finance going forward. The plan should be flexible and have methods of measuring performance to the desired goals of the Court. Time frames for further analysis, steps to be taken and hurdles identified can be developed.

<sup>70</sup> Goldman/Loop Report.





#### APPENDIX A – BACKGROUND ON HCTRA AND THE TOLL ROAD SYSTEM

# The Toll Road System

## **History and Components**

In an election held on September 1983, the voters of Harris County authorized the issuance of up to \$900,000,000 of bonds secured by a pledge of the County's unlimited ad valorem taxing power for building toll roads. Subsequently, the Authority was established as a department of the County pursuant to Chapter 284, Texas Transportation Code, ("Chapter 284") as amended, by an order adopted by the Commissioners Court in September 1983. The Authority currently operates as a division of the Public Infrastructure Department. Through its operating board, which is composed of the members of the Commissioners Court, the Authority may exercise, with regard to the County's toll road projects, the same power and authority as the Court itself with respect to toll operations, toll rates, and including revenue collections. The Authority has approximately 764 employees in June 2006.<sup>71</sup>

The Hardy Toll Road and the Sam Houston Tollway-West, the first two components of the System, were completed in 1987 and 1990, respectively. Subsequently, in May 1994, the County purchased from the Texas Turnpike Authority (the "TTA") the Jesse H. Jones Memorial Bridge toll facility, which was renamed the Sam Houston Ship Channel Bridge (the "Bridge"), and the portion of Beltway 8 approaching and spanning the Houston Ship Channel. With the acquisition of the Bridge, the Authority undertook the construction of the Sam Houston Tollway-East and Sam Houston Tollway-South. These road segments along with improvements and extensions were considered the first "pooled project" as that term is defined in Chapter 284. The System components, their date opened or acquired and the approximate lane miles as well as a System map are as follows:

Component/Segment	Date Opened/Acquired	Approximate Lane Miles
Hardy Toll Road-North	September 20, 1987	61.0
Hardy Toll Road-South	June 28, 1988	50.0
Sam Houston Tollway-West/South	June 29, 1988	36.0
Sam Houston Tollway-West/Central	June 24, 1989	37.0
Sam Houston Tollway-West/North	July 8, 1990	80.0
Sam Houston Ship Channel Bridge	May 6, 1994	12.0
Sam Houston Tollway-East	July 1, 1996	31.0
Sam Houston Tollway-South/East	March 1, 1997	40.0
Sam Houston Tollway-South/West	May 3, 1997	43.0
Hardy Toll Road-Airport Connector	January 28, 2000	15.0
Westpark Tollway (IH 610 West to SH 6)	May 1, 2004	60.0
Westpark Extension (SH 6 to SH 1464)	June 8, 2005	12.0
Total for Committed Projects		477.0
Hardy Toll Road-Downtown Connector	Estimated 2010	14.0
IH 10 West Toll Lanes	Estimated 2010	22.5
Total System Including I-10 managed lanes		513.5

Source: Harris County, Texas Toll Road Senior Lien Revenue and Refunding Bonds, Series, 2005A and WSA Draft Report April 19, 2006

<sup>71</sup> HCTRA





In September 2001, Commissioners Court added additional potential components to the existing system, which became the amended Pooled Project under Chapter 284. Major elements of the amended pooled project include the original projects plus West Park and the I-10 managed lanes. The list of potential projects, while initially large, has been narrowed in focus, as will be discussed later. The additional elements of the amended pooled project include:

1	State Highway 288	between US 59 and Grand Parkway South (State Highway 99)	18.5
2	Fort Bend Parkway Tollway	between Harris Count/Fort Bend County line near Beltway 8 South and Grand Parkway South (SH 99) south of SH 6	14.5
3	Fort Bend West Park Tollway	between FM 1464 and Grand Parkway West (SH 99)	6.5
4	IH 10 West Toll Lanes	between IH 610 West and FM 1463	22.5
5	Northwest Corridor Tollway	between IH 610 North and Grand Parkway North (SH 99) near Tomball	20.5
6A	Grand Parkway Tollway Northwest	between IH 10 West near Katy and US 59 North crossing US290, SH 249 and IH 45 North	53
6B	Grand Parkway Tollway South	between US 59 South and Fred Hartman Bridge (SH 146)	53.5
6C	Grand Parkway Tollway East	between IH 10 East and US 59 North	39.5
7	Beltway 8 Tollway East	US 59 North and US 90 East	14
8	State Highway 87 Toll Bridge	east end of Galveston Island to Bolivar Peninsula	7
9	Proposed Thoroughfares Across	Barker Reservoir	
9A	Kingland Blvd	Thoroughfare between Barker Cypress and SH 6	3.5
9B	Briar Forest Extension	intersection of Briar Forest and SH6 to west side of Barker Reservoir	5
9C	Barker Cypress Thoroughfare	between IH 10 West and Westpark Tollway	5
10	US 290 Toll lanes	between IH 610 West and Grand Parkway Northwest (SH 99)	24
11	Southern Pacific Railroad Corridor	between US 90A(South Main Street) and IH 610	9.5
12	State Highway 35 South	between Old Spanish Trail and Grand Parkway South (SH 99)	15
13	Fairmont Parkway East	between Beltway 8 East and Grand Parkway East (SH 99)	9.5
14	Westpark Tollway	between IH 610 and FM 1464 west of SH 6	16
15	South Post Oak Road Extension	between IH 610 South and near intersection of Beltway 8 and Hilcroft	5.5

Source: Harris County, Texas Toll Road Senior Lien Revenue and Refunding Bonds, Series, 2005A and WSA Draft Report April 19, 2006

From the list of 15 elements added to the County's amended pooled project as defined under Chapter 284 and the controlling bond indentures, Commissioners Court in June 2005 prioritized the list to focus new development on seven projects, These projects known as the "Committed Projects" or 5-year CIP





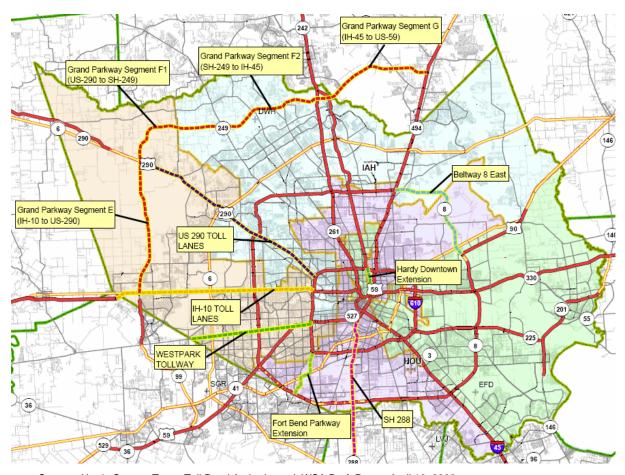
are the projects that are used in Track 1 to determine if the System can finance these projects without the need for outside private financing.

4	IH 10 West Toll Lanes	between IH 610 West and FM 1463	Underway	22.5
1	State Highway 288	between US 59 and Grand Parkway South (State Highway 99)	June 2005 CIP	18.5
6A	Grand Parkway Tollway Northwest	between IH 10 West near Katy and US 59 North crossing US 290, SH 249 and IH 45 North	June 2005 CIP	53
7	Beltway 8 Tollway East	US 59 North and US 90 East	June 2005 CIP	14
10	US 290 Toll lanes	between IH 610 West and Grand Parkway Northwest (SH 99)	June 2005 CIP	24
13	Fairmont Parkway East	between Beltway 8 East and Grand Parkway East (SH 99)	June 2005 CIP	9.5
15	South Post Oak Road Extension	between IH 610 South and near intersection of Beltway 8 and Hilcroft	June 2005 CIP	5.5
5	Northwest Corridor Tollway	between IH 610 North and Grand Parkway North (SH 99) near Tomball	Continue to Evaluate	20.5
6B	Grand Parkway Tollway South	between US 59 South and Fred Hartman Bridge (SH 146)	Continue to Evaluate	53.5
6C	Grand Parkway Tollway East	between IH 10 East and US 59 North	Continue to Evaluate	39.5
12	State Highway 35 South	between Old Spanish Trail and Grand Parkway South (SH 99)	Continue to Evaluate	15

Source: Harris County Toll Road Authority.



## **Principal Projects Map**



Source: Harris County, Texas Toll Road Authority and WSA Draft Report April 19, 2006

#### **Current Financial Condition**

HCTRA essentially came into existence in 1984, and since that time has come to operate over 491 lane miles of toll roads. HCTRA has enjoyed considerable financial success, as indicated by both its increase in net operating revenue over time, as well as by the ready acceptance of its bonds in the capital markets. The System generated net revenue in excess of \$137 million for fiscal year 2006 (unaudited), which reflects an increase from \$110.7 million the prior year, with expectations that the current trend will increase. The current uninsured natural ratings of the senior-lien revenue debt (\$1.295 billion currently outstanding) are "A+" by Fitch, "A1" by Moody's and "AA-" by Standard & Poor's. The subordinate lien revenue bonds (\$711 million currently outstanding), which also carry an additional pledge of the County's ad valorem tax, currently carry uninsured natural ratings of "AA+" by Fitch, "Aa1" by Moody's and "AA+" by Standard and Poor's. The subordinate lien bonds have a higher rating than the senior lien bonds because of the credit support of the full faith and taxing powers of the County, though no debt service on these subordinate lien bonds has ever been paid with ad valorem tax revenues. The County's strong financial position benefits the credit rating of the subordinate lien bonds, thus lowering the capital cost to HCTRA. A brief summary of HCTRA's financial operating



results for fiscal years ending 2005 and 2006 (unaudited) appear in the following table. The unaudited 2006 figures are subject to change as the audit may require.

Harris County	Toll Road Authority		
Statement of Revenues, Exp	enses and Changes in N	et Assets	
(In T	housands)		
For Fiscal Year	s Ending February 28		
Revenues:			
Total Revenues	373,594	15.30%	324,030
Expenses:			
Operating Expenses	69,290	20.75%	57,381
Depreciation	55,344	28.97%	42,913
Nonoperating Expenses	111,658	-1.24%	113,064
Total expenses	236,292	10.75%	213,358
Income Before Contributions And Transfers	137,302	24.06%	110,672
Contributions	2,918	-76.70%	12,523
Transfers Out	(20,241)	0.55%	(20,130)
Change In Net Assets	119,979	16.91%	103,065
Net Assets-Beginning	150,732		47,667
Net Assets-Ending	\$ 270,711	79.60%	\$ 150,732
Expenses as a % of Revenue:	63.25%		65.85%
Expenses excluding Depreciation & Nonoperating Expenses as a % of Revenue:	18.55%		17.71%

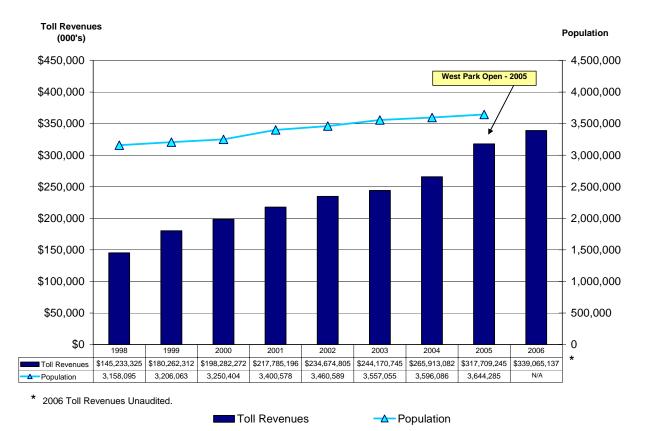
Source: 2005 figures from Harris County Toll Road Authority CAFR; 2006 figures from Harris County Auditor's Office, as of April 2006; percentages calculated.

As these numbers reflect, gross revenues compared year-to-year have increased by 15.3% with net income increasing by 24.06%. The increase in operating expenses net of depreciation was offset by an increase in lease revenues and charges for services. The charges for services include the fee that HCTRA receives to offset expenses related to operating the Fort Bend Toll Road.



#### **Credit Profile**

HCTRA has enjoyed considerable growth since the opening of the first segment of the Hardy Toll Road in 1987. The growth period of interest today is the period since completion of the South Belt and the Toll Bridge acquisition, in 1998. This period includes the operations of the System with most of its major elements in place. The table below demonstrates the growth in revenue of the system. This increase in revenue represents an annual growth rate of approximately 9.8%.



Growth in Toll Road Revenues and Population

As state earlier in the Report, the credit markets have had some concern over the amount of future projects. The County and HCTRA took steps to mitigate these concerns with the adoption of the 5-year CIP outlined earlier in 2005. Just as it is important to understand the facts relate to the System is to be able to put the System in context of toll roads nationally. Below is a summary of certain key toll road statistics from Moody's toll road median database. We have augmented Moody's data base with facts related to HCTRA. Because Moody's does not currently have HCTRA in their database, our numbers may not be on the same basis as the rating analyst would compile when the enter data into their database. However, from a global perspective, HCTRA has higher coverage ratios and higher toll revenue than its peers in the "A" rating category and approaching the "AA" category. Depending upon the desire of HCTRA and the County, these ratios can change if there is a desire to accelerate projects and leverage the System more. The Citigroup/Siebert Report has a thorough discussion of increasing the leverage of the System while staying within the "A" category.



#### "Aa" and "A" Toll Facilities as of May 18, 2006

#### **Analyst Adjusted Data**

Selected Financial and Other Data Points	Aa Medians	A Medians	Harris (County of) TX Toll Facility, TX		
	2004	2004	2004	2005	
Operating revenues (\$000)	197,364	74,450	265,913	317,712	
Passenger toll revenues (\$000)	139,651	40,810			
Commercial toll revenues (\$000)	90,166	31,372			
Total toll revenues (\$000)	187,797	65,293	265,913	317,712	
Other operating revenues (\$000)	18,380	2,828			
Non-operating revenues (\$000)	4,344	2,276	-41,219	-1,289	
Gross revenue and income (\$000)	206,830	76,009	224,694	316,423	
Operating expenditures (\$000)	85,900	36,375	62,133	57,381	
Net income (\$000)	112,245	33,938	162,561	259,042	
Senior lien debt service (\$000)	40,667	19,176	73,284	85,980	
Aggregate debt service (\$000)	40,667	21,323	143,264	163,065	
Operating Ratio (%)	47.6	50.4	23.4	18.1	
Net takedown (%)	53.2	52	72.3	81.9	
Debt service safety margin (%)	27.5	24.4	8.6	30.3	
Budget margin (%)	38	32.2	9.4	43.5	
Senior lien debt service coverage (x)	2.4	1.8	2.2	3	
Aggregate debt service coverage (x)	2.4	1.6	1.1	1.6	
Toll revenue as a % of total operating revenue (%)	96	94	100	100	
O&M expense per roadway mile (\$)	445	661	706	652	
Debt Service Coverage per Bond Ordinance (x)	2.5	1.9			
Net fixed assets (\$000)	1,256,672	440,390	1,328,147	1,493,107	
Net Funded Debt (\$000)	606,114	262,235	1,661,097	1,864,317	
Net working capital (\$000)	121,389	100,991	371,024	354,621	
Debt ratio (%)	56.7	62.1	97.8	100.9	
Debt per Roadway Mile (\$)	2,323	10,396	18,876	21,185	
Debt per Transaction (\$)	4.5	5.5	5.8	6.3	
Opening year	1954	1956	1987	1987	
Roadway length	182	54	88	88	
Lane miles	1,317	258	475	482	
Transactions, Total	120,704	53,808	284,866	297,237	
Transactions per Roadway Mile	770	2,197	3,237	3378	
5-YR CAGR Total Transactions (%)	2.7	1.1	6.1	4.5	
5 VD OAGD Tatal Tall Dayson (60)	0.0	7.0		10.0	
5-YR CAGR Total Toll Revenue (%)	3.3	7.8	9	10.9	
Average Toll per Transaction (\$)	1.42	1.63	0.93	1.07	

Source: Moody's Investor Service (as of May 2006).

Entities Included in Aa Medians (14): Bay Area Toll Authority, CA; Lee (County of) FL; Massachusetts Turnpike Authority - Western Turnpike; Ohio Turnpike Commission, OH; Triborough Bridge & Tunnel Authority, NY; Florida (State of) Turnpike System; Maine Turnpike Authority, ME; New York State Bridge Authority, NY; Oklahoma Transportation Authority; West Virginia Parkways, Economic Development and Tourism Authority, VA; Illinois State Toll Highway Authority, IL; Maryland Transportation Authority; New York State Thruway Authority, NY; Pennsylvania Turnpike Commission, PA Entities Included in A Medians (17): Cameron (County of) TX; Delaware River Port Authority, PA; Laredo (City of) TX; Miami-Dade County Expressway Authority, FL; North Texas Tollway Authority, TX; Tampa-Hillsborough County Expressway Authority, FL; Delaware River and Bay Authority, DE; Greater New Orleans Expressway Commission, LA; New Hampshire (State of) Turnpike Enterprise; Massachusetts Turnpike Authority - Metropolitan Highway System; Orlando-Orange County Expressway Authority, FL; Thousand Islands Bridge Authority, NY; Delaware River Joint Toll Bridge Commission, PA; Kansas Turnpike Authority, KS; McAllen (City of) TX; New Jersey Turnpike Authority; South Jersey Transportation Authority, NJ





Moody's Analyst Adjusted Data as of May 30, 2006

Selected Financial and Other Data Points					
Selected Financial and Other Data Points					
State	TX	TX	TX	TX	TX
Stage of Development	Established	Established	Established	Established	Established
Asset Mix	Multi-Asset	Multi-Asset	Multi-Asset	Multi-Asset	Multi-Asse
Geographical Distribution	Regional	Regional	Regional	Regional	Regional
Facility Type	Highway	Highway	Highway	Highway	Highway
Operating revenues (\$000)	217,784	234,675	244,170	265,913	317,712
Passenger toll revenues (\$000)					,
Commercial toll revenues (\$000)					
Total toll revenues (\$000)	207,553	222,393	228,316	265,913	317,712
Other operating revenues (\$000)	10,231	12,282	15,854	200,010	317,712
Non-operating revenues (\$000)	30,777	3,272	1,042	-41,219	-1,289
Gross revenue and income (\$000)	248,561	237,947	245,212	224,694	316,423
Operating expenditures (\$000)	42,386	47,895	48,337	62,133	57,381
	206,175	190,052	196,875	162,561	259,042
Net income (\$000)					
Senior lien debt service (\$000)	50,393	52,677	49,727	73,284	85,980
Aggregate debt service (\$000)	120,494	127,434	117,211	143,264	163,065
Operating Ratio (%)	19.5	20.4	19.8	23.4	18.1
Net takedown (%)	82.9	79.9	80.3	72.3	81.9
Debt service safety margin (%)	34.5	26.3	32.5	8.6	30.3
Budget margin (%)	52.6	35.7	48.1	9.4	43.5
Senior lien debt service coverage (x)	4.1	3.6	4	2.2	3
Aggregate debt service coverage (x)	1.7	1.5	1.7	1.1	1.6
Toll revenue as a % of total operating revenue (%)	95	95	94	100	100
O&M expense per roadway mile (\$)	482	544	549	706	652
Debt Service Coverage per Bond Ordinance (x)	4.9	4.9	5.2		
Not fived access (\$000)	4 000 000	4.004.707	4 404 675	4 200 447	4 402 407
Net fixed assets (\$000)	1,020,322	1,064,767	1,181,675	1,328,147	1,493,107
Net Funded Debt (\$000)	1,659,883	1,406,578	1,615,788	1,661,097	1,864,317
Net working capital (\$000)	358,129	394,007	348,906	371,024	354,621
Debt ratio (%)	120.4	96.4	105.6	97.8	100.9
Debt per Roadway Mile (\$)	18,862	15,984	18,361	18,876	21,185
Debt per Transaction (\$)	6.3	5.1	5.6	5.8	6.3
Opening year	1987	1987	1987	1987	1987
Roadway length	88	88	88	88	88
Lane miles	475	475	475	475	482
Transactions, Total	261,936	277,761	289,079	284,866	297,237
Transactions, Passenger	,	,		,	,
Transactions, Commercial					
Transactions nor Deaducy Mile	2.077	2.450	2 005	2 007	2.070
Transactions per Roadway Mile	2,977	3,156	3,285	3,237	3,378
5-YR CAGR Total Transactions (%)				6.1	4.5
					40.0
5-YR CAGR Total Toll Revenue (%)				9	10.9

Source: Moody's Investor Service (as of May 2006).





#### **Fitch Selected Comparable Statistics**

_	HCTRA	North Texas Tollway Authority	Orlando-Orange County Expressway Authority
Financial and Operating Statistics			
(as % of net income)			
Operating Expense	22	33	28
Debt Service	54	36	46
Net Income	23	31	29
Net Working Capital	156	46	116
Operating Ratio (%)	23	36	30
Debt Service Coverage (x)	2.93	2.04	1.73
Per Lane Statistics			
Lane Miles	479	315	462
Operating Revenues	555	525	365
Operating Expenses	130	180	109
Debt Service	315	200	180
Long-Term Debt	3.654	3.850	3.205

Source: Citigroup/Siebert Report, citing Fitch Ratings reports from 2005 for the three toll road systems.

# **Toll Collection System**

In 1992, the Authority began implementation of an automatic vehicle identification ("AVI") program that allows motorists non-stop passage through toll collection sites with the use of a transponder (commonly referred to as an "EZ tag"). In October 2003, the Authority began implementation of an electronic toll collection interoperability service that allows patrons of both the Authority and the North Texas Tollway Authority ("NTTA") to utilize the AVI systems, or EZ tags, of both entities, while maintaining one account at either entity for payment and monitoring. Additional interoperability options are being discussed with the Houston Airport System for system integration that would allow for EZ tag usage at airport parking garages. In May 2004, with the opening of the Westpark Tollway, HCTRA became the first toll road authority to operate an entirely automated toll road. It is expected that electronic toll collection ("ETC") will grow beyond the existing utilization of 60% to 65% to in the 75% to 80% range with capacity to handle cash transactions.<sup>72</sup> In addition, with the I-10 lanes come on line, HCTRA will be implementing a congestion pricing schedule as mandated in the tri-party agreement for the development of I-10.<sup>73</sup>

<sup>&</sup>lt;sup>73</sup> Agreement between TxDOT, HCTRA and the Metropolitan Transit Authority of Harris County regarding the development of the I-10 corridor.



<sup>72</sup> HCTRA



## **Required Disclosure**

The information in this report is based upon (i) the three separate studies conducted by Citigroup/Siebert Brandford Shank, JPMorgan/Popular Securities, and Goldman Sachs/Loop Capital, (ii) traffic and revenue forecasts prepared by Wilbur Smith Associates, (iii) legal analysis provide by Andrews Kurth LLP, Bates & Coleman, P.C., Fulbright & Jaworski L.L.P. and Greenberg Traurig, LLP, and (iv) information supplied by Harris County (the "County") and the Harris County Toll Road Authority ("HCTRA"). For a complete review of the work product of the individually referenced firms please see each firm's specific report attached to this report. Any management forecast supplied to us by the County reflects prevailing conditions and the County's views as of the date indicated or provided, all of which conditions and views are accordingly subject to change. This report is not a research report, and other parties should not rely upon this study or interpret this study as a recommendation to third parties to take action. Third parties are responsible for their own due diligence and investment decisions. This document may not be used in the offering or sale of any security or instrument.

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