The Chicago Skyway Sale
An Analytical Review

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Exceeding Expectations

Now that the much publicized sale of the Chicago Skyway at what seemed to be an astronomical price to foreign buyers has been followed by the sale of the Indiana Toll Road to the same buying group, it is time to review the details of the Skyway transaction and evaluate its benefits, costs, risks and, in retrospect, other options that would have achieved the same results. Was this a public benefit sale or was it a leveraged buyout for corporate profits?

Privatization of public infrastructure assets is not new in the United States. In recent times there have been significant privatization initiatives in the water and wastewater sectors in both large cities (Indianapolis, Atlanta) and small cities (Perth Amboy, NJ). Prior to the wave of water and wastewater there was waste-to-energy plants, which were virtually all built in some form of public/private partnership. Other public assets have been privatized, such as nursing homes, but none has made the impact of water and solid waste. Toll roads have also been privatized but only as start-ups.

There are many lessons to be learned from these past privatizations' both good and bad, however, very few of these efforts have been a pure monetization of assets in the fashion of the Chicago Skyway' and now the Indiana Toll Road. In the past governments undertook privatizations primarily to reduce costs and stabilize, not increase, rates to users. These prior efforts were also contracted to more limited terms of 5-30 years so that retention of public control was always nearby. In some circumstances there has been monetization in order to raise money to solve budget problems, but the funds were quite limited due to sensitivity to ratepayer's costs.

In the case of the Chicago Skyway sale there was no apparent sensitivity to ratepayer impact, with an allowance for initial rate increases averaging 12.50% per year for a total of 150% in a twelve-year period and ongoing increases of 2% to 7% or more over the life of the franchise that will drive the beginning $2.00 toll up to over $60.00 per passage if rates increase at 3.00% per annum and vastly higher at greater per annum increases. A large part of this willingness to impose large toll increases may likely have been the fact that these increases will largely be paid by commuters from another state (Indiana), not voters in Chicago, Illinois. In some respects the Chicago Skyway was the perfect candidate for long-term privatization because the seller gained all the proceeds and the seller's constituency will pay virtually none of the costs. If the Skyway were an in-state road, it is highly unlikely that the toll increases would have been politically palatable.

Review Features

Our review of the Chicago Skyway transaction will focus on the following questions:

1) How high could toll increases really get?

2) How much of the purchase price was directly driven by toll increase versus traffic increases?

3) What is the real return on equity that the winning bidder will achieve?

4) How much money will be diverted from the public highway coffers by allowing private profits?

5) Could the same economic value have been delivered through a public financing rather than a private sale of the road?

Toll Increase on the Chicago Skyway

The Concession agreement allows toll increases, after the initial five years, at the highest of three factors:

- 2.00% per annum
- Increase in the Consumer Price Index (CPI)
- Increase in nominal Gross Domestic Product per capita (GDP)

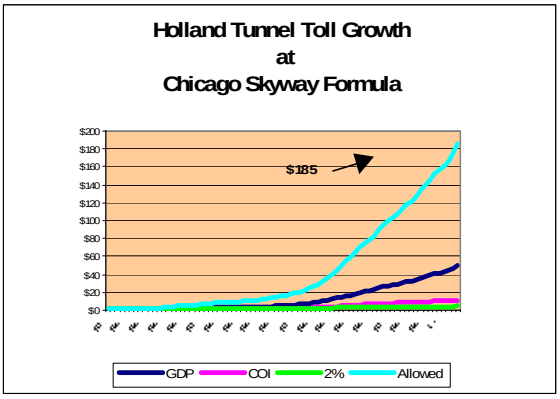
Thus the private buyer has been guaranteed a floor and is limited by a ceiling of either CPI or GDP growth. Most of us think in terms of 3-3.5% CPI increases being a likely case over time, however most people do not know the history of GDP growth. In a recent research report by Fitch they revealed this historic growth of GDP at between 4.30% and 7.40%. Obviously the GDP index is likely to drive the growth in toll rates given its higher historic results. Additionally the private operator can impose higher tolls for vehicles with three or more axles during peak hours.

Using these three options we have modeled the likely dollar toll results for passenger cars and likely percentage increases over time as shown below:

Year	Initial Tolls Maximums	With 2% Floor	With 3% CPI	With 4% GDP	with 5.5% GDP	with 7% GDP
	$ 2.00					
1	$ 2.50					
3	$ 3.00					
6	$ 3.50					
8	$ 4.00					
10	$ 4.50					
12	$ 5.00					
20		$ 5.86	$ 6.33	$ 6.84	$ 7.67	$ 8.59
50		$ 10.61	$ 15.37	$ 22.19	$ 38.24	$ 65.40
75		$ 17.41	$ 32.19	$ 59.17	$ 145.84	$ 354.93
99		$ 28.00	$ 65.43	$ 151.66	$ 527.15	$ 1,800.36

Thus if GDP growth were to continue at the high historical rates of 4-7% ultimately tolls to cross this 7 mile span could be over $1,000 per trip.

To give these toll increases some perspective, if the appropriate index were used to control toll rates from the time of opening of the Holland Tunnel, connecting New York and New Jersey, beginning in 1927 when the toll was $1.00 (50 cents each way) until today the river crossing toll would now be $185.13 based on actual application of the three factors since 1930, rather than the $6.00 one way that is being currently charged. This is an average annual increase of 7.20%, including a number of years with negative GDP in the depression where the 2% floor was applied. It is interesting to note that if tolls were increased by GDP alone they would "only" be $49.45 in 2005; by CPI alone $11.42; but when combined with the 2% floor for low inflation and low growth years the toll escalates to the $185.13 level. Thus this formula not only protects the private operator from slow economic growth but it also allows for toll increase compounding when other indicators would force tolls downward.



Purchase Price Drivers

Given the ability to increase tolls with a known floor and a high historic ceiling, how did the private sector determine its ability to fund the attractively high purchase price of $1.8 Billion? In toll road economics there are two primary drivers of gross toll revenues: toll rates and traffic flows. In order to analyze the thinking behind the bidding we believe it is necessary to separate these two factors and quantify the value of each. In order to do this, we have modeled four cases on traffic volume growth as follows:

No Growth – This case assumes that traffic volume is static at the 2005 levels. This case allows us to value the economics of the allowed toll increases alone without regard to any growth created by increased volumes.

Historic Growth – This case assumes linear growth at the recent historic annual growth rate for the road of 3.78%.

Modest Growth – This case assumes traffic growth at 2% per annum to allow for a growth slow down over time as the road matures.

Aggressive Growth – This case assumes annual growth on a more aggressive basis of 5%, reflecting some of the bidder's comments on the strength of growth in the corridor.

For the purposes of this overview we have not delved into operating and capital costs, which could impact bottom line results either positively or negatively, depending on traffic volumes. Our view is that the operational cost of the road will be little impacted by traffic volumes and capital costs can easily be absorbed in the overall revenue flows without significant impact on valuation.

These four cases provide the following results:

Chicago Skyway Transaction
Projected Increased Revenues (Net Present Value)
Revenues Available to repay Franchise Fee of $ 1.80 Billion

Annual Traffic Growth	With 2% Floor	With 3% CPI	With 4% GDP	with 5.5% GDP	with 7% GDP
	Gross Revenue Increase in Billions				
No Growth	$ 1.47	$ 1.92	$ 2.60	$ 4.48	$ 8.62
Historic Growth (3.78%)	$ 8.37	$ 13.08	$ 21.59	$ 49.89	$ 124.72
Moderate Growth (2%)	$ 3.48	$ 4.93	$ 7.36	$ 14.85	$ 33.26
Aggressive Growth (5%)	$ 16.63	$ 27.85	$ 48.90	$ 121.97	$ 322.38

Thus, even at the floor toll rate increase of 2%, the net present value of increased revenues from tolls alone total over $1.4 Billion or 75% of the upfront franchise price of $1.8 Billion. If the indexes allow 3% rate increases then the full franchise fee is recovered from toll increases alone. The breakeven traffic growth required to recover the franchise fee at the floor of 2% is a growth rate of less than 1% per annum.

Loss of Public Road Funding

The net result of an economic model that allows recapture of the franchise fee from the agreed upon toll increases alone is to allow the private operator to obtain the full financial benefit of traffic growth over the term of the franchise, 99 years in the case of the Chicago Skyway. All of these private profit dollars would otherwise flow back to the public transportation funding system and allow for investment in infrastructure over this extended period, including roads that are impacted by the growth in traffic volume connecting to the sold roadway.

In the case of Chicago these lost transportation dollars are substantial:

Chicago Skyway Transaction
Lost Transporation Funding Dollars (Net Present Value)
Net of Franchise Fee Paid of $ 1.80 Billion

Traffic Growth Case	With 2% Floor	With 3% CPI	With 4% GDP	with 5.5% GDP	with 7% GDP
	Lost Funding in Billions				
No Growth	$ (0.33)	$ 0.12	$ 0.80	$ 2.68	$ 6.82
Historic Growth (3.78%)	$ 6.98	$ 12.00	$ 21.08	$ 51.41	$ 131.84
Moderate Growth (2%)	$ 1.68	$ 3.13	$ 5.56	$ 13.05	$ 31.46
Aggressive Growth (5%)	$ 14.83	$ 26.05	$ 47.10	$ 120.17	$ 320.58

This significant loss of public funding is a direct consequence of permitting private profits based upon toll and traffic growth factors, not a cost based approach.

Return on Equity

Given the large cash flows that are likely to accrue to the private sector operator, what are the real returns on equity that can be achieved given the 2% toll increase floor, the historic GDP ceiling increases that might be allowed and the traffic growth that might actually be achieved in the corridor? We once again applied our model to project return on equity based upon two scenarios:

- Original equity Contribution of $887.7 million made by the private operator at the time of closing with $1 Billion in debt financing.
- Reduced Equity investment achieved at refinancing a few months later of $652.6 million with $1.4 Billion in debt financing.

Our methodology is to compare the initial investment against the available cash flows less imputed debt service over the franchise period to determine an internal rate of return on invested equity.

This analysis produces the following return on equity matrix depending upon actual toll increase and traffic growth:

Chicago Skyway Transaction
Projected Internal Rate of Return on Equity
Based on **Initial Equity** Investment of **$887.6 Million**

Annual Traffic Growth	With 2% Floor	With 3% CPI	With 4% GDP	with 5.5% GDP	with 7% GDP
	Internal Rate of Return on Equity				
No Growth	8.1%	8.8%	9.5%	10.6%	11.6%
Historic Growth (3.78%)	13.3%	13.9%	14.5%	15.4%	16.4%
Moderate Growth (2%)	10.9%	11.6%	12.2%	13.2%	14.2%
Aggressive Growth (5%)	14.8%	15.4%	16.0%	16.9%	17.9%

Chicago Skyway Transaction
Projected Internal Rate of Return on Equity
Based on **Final Equity** Investment of **$652.6 Million after refinancing**

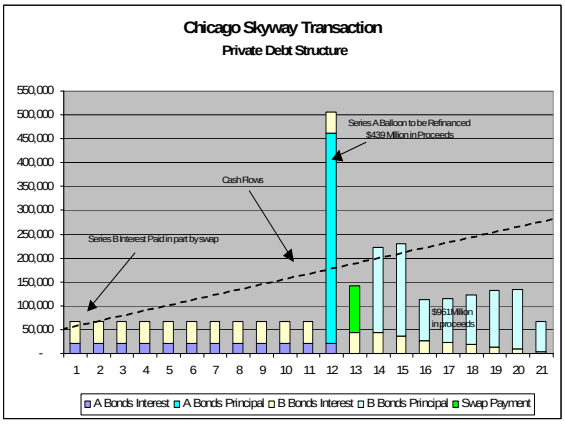
Annual Traffic Growth	With 2% Floor	With 3% CPI	With 4% GDP	with 5.5% GDP	with 7% GDP
	Internal Rate of Return on Equity				
No Growth	8.0%	9.0%	9.7%	10.8%	12.0%
Historic Growth (3.78%)	13.9%	14.5%	15.2%	16.1%	17.1%
Moderate Growth (2%)	11.3%	12.0%	12.7%	13.7%	14.7%
Aggressive Growth (5%)	15.6%	16.2%	16.8%	17.7%	18.7%

Public Funding Feasibility

Given the strong economics underlying the Chicago Skyway privatization – why sell? Shouldn't the public sector try to retain these strong cash flows for the public benefit? One of the publicly given reasons for going the privatization route was the availability of "patient capital" that could wait for revenues if they did not develop and not be obligated to a fixed payment on debt service. Some advocates for privatization have suggested it would not be possible for the public sector to raise the same level of capital due to the restraints associated with an all debt funding. In order to try to analyze this issue, we have reviewed the structure of the financing utilized by the private operator and compared some of the features to what might be achieved in a public sector financing.

The Chicago Skyway Financing Structure

Although initially funded as equity with bank loans, the private operator very quickly refinanced to a permanent funding structure that incorporated many innovative features. The private operator was able to structure their refinancing in a manner acceptable to a "AAA" bond insurer (FSA) for their senior debt traunch, even with debt rollover risk. In some respects this is a groundbreaking event since the bond insurers have traditionally been averse to rollover risk. However the price paid for this was a senior debt coverage requirement of 1.50 and a projected coverage for determining leverage of 2.00. Thus this limited the amount of leverage at the senior debt level. In order to increase leverage to the desired level, the operator structured a deferred payment swap structure (much like zero coupon bonds or capital appreciation bonds). The result of this two-layer debt structure was to increase leverage over the original financing and withdraw over $200 million in equity. Thus the post financing equity was reduced from 49% of the purchase price to 36% of the purchase price. This lower equity level could be recovered in full in 12 years based upon expected cash flows. After recovery the private operator is in the deal for the remaining 87 years with no equity at risk.

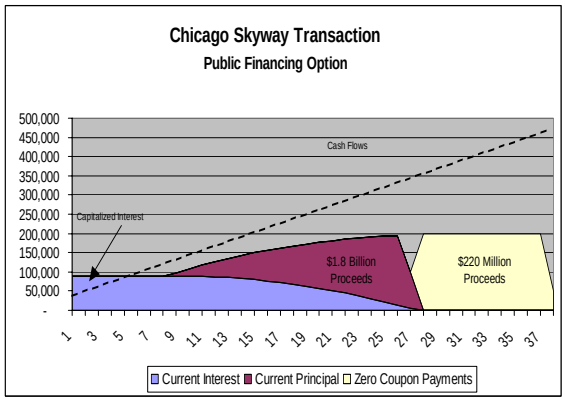


Public Sector Options

An alternative mechanism to raise the $1.8 Billion in upfront funding would be for a the public entity with a track record of running the toll road to issue toll road revenue bonds in a structure similar to the private financing and use deferred and/or subordinated debt in place of equity. There are many options to structure this type of debt financing plan so we have chosen a rather basic approach in order to simplify the presentation. In our structure, utilizing interest rates available at the time of the sale, a public entity could raise the same dollars - $1.8 Billion, using the following debt program:

- Series A, $1.8 Billion of Current Interest Senior Debt with interest only for 8 years, then debt service to cover at 1.50 times for 20 years until fully paid.

- Series B, $220 Million (or more if required) of deferred interest Zero Coupon Debt maturing serially in years 30-40. Proceeds to be used as capitalized interest to add to available cash flow in first 8 years to meet interest due on Series A.



This structure would produce the $1.8 Billion as desired. This structure could also be enhanced to reduce the cost of funds through the use of other financing products and this is presented as a simplified solution to show that the funding can be achieved. Costs of funds could be reduced by shortening amortization to allow for less compounding of interest; subordinated bonds could be secured through the use of cash flows in excess of debt service; rates could be reduced by using put structures or derivative products, etc.

An effective public sector monetization of toll road assets would not only be possible but also allow the public sector to retain all of the positive cash flows above the cost of debt service ($2 billion in our example over 38 years) plus all of the positive cash flows after debt is repaid ($30 billion if growth and toll increases are only at 2%).

Summary

The privatization of the Chicago Skyway has demonstrated two important facts:

1) There is a strong private sector interest in acquiring toll road assets

2) It is possible for the future cash flows of a toll road to be monetized through an upfront financing

These two facts are important because they show how receptive the investment community is to the strength of toll road revenues and the willingness of banks, bond insurers, bond rating agencies, bond buyers and equity providers to fund the control of a toll road asset and rely upon future performance tied to rate increases and traffic flows. This opens the possibilities for governmental bodies to raise upfront capital by securitizing future toll road and other user rate supported cash flows, a relatively seminal event in the history of municipal finance.

The questions for public policy makers is whether ceding control of toll road assets to the private sector for extremely long periods of time is in the best interest of the public sector or should the public sector seek to raise capital on its own.

Our study of the Chicago Skyway transaction has indicated the following findings on the five questions we analyzed:

1) Use of GDP per capita as an index drives user charges to extremes. We would suggest the public sector carefully analyze the impact of the toll increases it chooses and stick more closely with CPI or floor/ceiling structures. These rate structures can produce acceptable monetization results, especially if combined with additional pass through adjustments for special circumstances. The pass through design is a proven technique in the water and solid waste privatization models.

2) The expected increase in toll rates is the primary driver in establishing value, not the expected growth in traffic. Thus the buyer heavily discounts traffic growth in their pricing model and establishes a cushion that allows them to reduce risk and earn outsize returns on equity when traffic growth comes to fruition. It is important to note that variable operating expenses are a very small portion of overall costs.

3) Turning control of toll roads over to the private sector deprives the public transportation funding network of very large and much needed future revenues to pay for capital projects both on and off the toll road. Instead these revenues are directed to private corporate profits and shareholders. If road users are willing to pay higher tolls why not capture those funds for the public good. Use of bridge and tunnel tolls by the Port Authority of New York and New Jersey for mass transit and port operations is one example of how this can be achieved.

4) Projected returns on equity in the Chicago Skyway transaction are extremely high as a result of the toll increase regime, the limited capital requirements and the highly leveraged nature of this transaction. Like any innovative transactions there is always additional profit potential in something unproven and this transaction follows that trend.

5) Public financing at the same (or even greater) monetization levels would have been very feasible for the Chicago Skyway transaction and should be considered as a public policy alternative to privatization. Obtaining the upfront benefit but leaving the control of the road and the future cash flows in the hands of the public sector to fund transportation needs. Partial privatization may also be a strategy for this approach if the all-in cost of capital provides additional economic benefit.

6) Another alternative financing structure would be a toll surcharge that could be securitized on its own without direct debt on toll road operations.

7) A hidden cost of the privatization approach is the increased cost of future capital improvements at either higher taxable borrowing rates or equity return rates. This will increase the financing cost of future capital expenditures by at least 60% over the tax exempt rates available to a publicly owner toll road.

In conclusion, the Chicago Skyway transaction has opened the door to new funding structure for transportation by monetizing future cash flows based largely upon known increases in toll rate user charges. The question for the public sector is:

> *Should the public sector capture the excess revenues generated for public transportation purposes or should they allow the private sector to capture these revenues?*

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