An Analysis of the Proposed Lease of the Ohio Turnpike

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J. Kenneth Blackwell, candidate for governor of Ohio, has proposed leasing the 241-mile Ohio Turnpike over 99 years with the expectation of generating between $4 and $6 billion at the time the lease is signed. The proceeds would, in turn. be invested in a set of programs collectively referred to as "Jobs for Ohio Business" or the JOB Fund. [1]

The goal of identifying innovative strategies to generate investment capital for Ohio's economically challenged communities is commendable. However, ***it is also important such proposals be evaluated.***

Will the Market Bear a $4 to $6 Billion Lease?

The initial question raised by the proposal is whether the market will bear the $4 to $6 billion asking price. Despite recent comparable transfers in Indiana and Illinois, we believe the answer to be: "No, not without annual toll increases." And even then there is reason to doubt the wisdom of the transaction from the viewpoint of Ohio's highway users and taxpayers.[2] This conclusion is based on an assessment of a variety of estimates of the value of the revenue stream to a prospective vendor.

Estimates of the market lease price of the Ohio Turnpike are determined by the net present value of the potential revenues that can be earned by a prospective lessee. Based on the Ohio Turnpike Commission's 2004 Financial Statements, we estimate the annual cash flow for the Ohio Turnpike to be $109.4 million per year (Appendix 1).[3]

This estimate reflects a net revenue flow after a number of adjustments to the original financial statements. For instance, we assume the vendor would not be eligible to receive gas tax payments, depreciate the highway (since the turnpike will not be an asset owned by the lessee), or have debt service expenses. These assumptions are detailed in the notes to Appendix 1 and are comparable to those described in published descriptions of the proposal.

Three different estimates of annual revenue flows over the life of the 99-year lease are provided in Appendices 2 and 3. The first scenario assumes flat revenues of $109.4 million per year over the life of the lease. Under the second scenario, ***the lessee would assume responsibility for paying off the Turnpike***

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1 The plan is detailed on the Blackwell for Governor website http://www.kenblackwell.com/News/Read.aspx?ID=321 and the book *Rebuilding America*. The proposed uses for the lease proceeds include: Ohio energy development; Ohio Venture Capital Fund; revolving development loan fund; turnpike corridor development; transportation infrastructure; universal broadband access; higher education scholarship fund for engineering, technology, and science students; K-12 science and math program support, and technology-specific worker training.

2 Privatization of toll roads is addressed in an article entitled "Toll-Road Sales: Paying Up," appearing in the May 8th, 2006 edition of *Barron*'s magazine.

3 http://www.ohioturnpike.org/pdf/2004_report_full.pdf

Commission's outstanding debt, and revenues from tolls and concessions are held constant.[4] The proposal clearly calls for the lease proceeds earned by the state to be used for debt repayment, but this reflects the fiscal reality from the state's perspective. Finally, the third scenario allows the revenue stream to grow by three percent each year, in keeping with Secretary Blackwell's leasing proposal.[5]

The sum of the potential revenues that would be generated over the life of the proposed lease ranged from $5.3 billion with no increase in tolls or other revenues to, in the case of the scenario with tolls increasing at three percent annually, $64.4 billion. However, these returns to the company that purchased the lease are spread out over 99 years. The present value of the future payments is worth less than simply adding up the revenue over the 99-year term of the lease. Each year's revenue needs to be discounted for the time value of money. To put it simply, the state receives the value of the 99-year lease up front (today), and the lessee gets their money spread out over 99 years for purchasing the lease. Money received in nearby years is worth more to the lessee than is money received sometime in the next century. The market (potential leasers) would discount the future revenues that stretch out for nearly a century to establish a current value for the turnpike. We apply a net present value analysis to each of the revenue streams to estimate the market price of the turnpike lease (Appendix 4) with discount rates set to three and five percent.[6] We do not include forecasts for inflation in these estimates, assuming that three and five percent rates are real, or inflation-adjusted. This means that we also assume that inflation will affect turnpike costs and revenues equally.

To realize returns in the $4 to $6 billion range, a prospective lessee would have to increase tolls by three percent each and every year and hope for no inflation, while holding operating costs constant. Without an ever-increasing revenue stream, the market price of the lease should be in the $2 to $3 billion range. The state would also have to assume full responsibility for paying off the nearly three quarters of a billion dollars outstanding debt of the Turnpike Commission. Thus the cash available to Ohio for capital investments would be in the $1 to $2 billion range.

Absent from both our models and the proposal is the cost of rebuilding the turnpike two to three times over the life of the lease. The current turnpike commission has debt service of $771 million lasting until 2031. Given that the life of a highway is approximately 25 years, the lessee would have to dip into the revenue stream to maintain the road. If we use the current $771 million bond debt as a guess for that rebuilding cost in current dollars, a rational lessee will reduce its offer by at least this amount.[7] Any diversion of revenue away from the lessee's bottom line substantially erodes the present value of the lease and may, in fact, eliminate their profits except for the circumstance where the vendor exercises maximum annual toll increases. The prospect of having to rebuild the turnpike in the future should result in a lease offer of under $2 billion.

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[4] The 2004 financial statement noted $771 million in outstanding debt principle. The debt service for the outstanding obligations through 2033 totaled $1.2 billion. We assume the proposal will be implemented in 2007 and eliminate payments scheduled for 2005 and 2006.

[5] The proposal allows tolls to increase by a maximum of either three per cent per year or the annual rate of inflation for the previous year.

[6] These two rates reflect what economists call the investor's "rate of time preference." The higher the rate the more impatient the investor is to earn their money back. In very long-term deals investors with a low rate of time preference will put a higher valuation on returns spread over a long time period then will those with higher rates of time preference. Therefore, the value of a 99-year lease is higher to the investor with the lower rate of time preference (in our case the three percent return) than it is to investors that have shorter time horizons (in our case the 5 percent rate).

[7] We have been informed that the roadbed on the original two lanes of the highway is the original 1955-era concrete and that the rebuilding costs for the original lanes will be higher than the number we used, making our estimated value of the lease too optimistic.

Taking the Lease Estimate at its Face Value

In 2004, the Turnpike Commission had positive cash flow of $109 million and Jerome Corsi, one of the proposal's authors, justified the estimated $4 to $6 billion lease estimate on an ***annual cash flow of $100 million***.[8] $109 million a year is 2.73 percent return on a $4 billion bond and an infinitesimal 1.82 percent return on a $6 billion. On June 1, 2006, risk-less inflation index 20-year US Treasury bills were earning 2.49 percent returns and 30-year US Treasury's were earning 5.20 percent. The return from taking the risk of leasing and managing the Ohio Turnpike has to be higher than these two rates.

How large would a corporate bond issue be if it returned $109 million in cash annually? On June 1, Moody's Aaa corporate bonds were earning 5.94 percent and riskier Baa bonds were returning 6.74 percent. If the lessee's Turnpike debt were treated as the best corporate debt, it would be $1.835 billion. If it were treated as Baa debt, it would be worth $1.610 billion. However, the markets would only treat the debt issue on a par with Aaa debt if both the debt and income from the Turnpike were indexed for inflation.

This analysis gives us a value for the Turnpike that is between $1.5 and $1.8 billion.

Unanswered Questions

A number of unanswered questions likely exist about the proposal that will have to be addressed prior to its implementation. For instance, are there legal barriers to leasing the turnpike and redeploying the funds for non-highway purposes and how will gas tax proceeds be used?

Ohio's Purchasing Power from the Lease

The lease of the Ohio Turnpike is proposed to generate capital investment moneys that would be deposited in a variety of funds to support economic development programs across Ohio. Based on descriptions of the funds, we assume that the principal from the lease of the turnpike would be preserved and only interest earnings would be spent each year.

Even if the proposed optimistic lease amount of $4 to $6 billion is achieved, the money available to be spent on economic development projects is likely be between $103.4 and $242.4 million per year (Appendix 5). If the market value of the lease is closer to our $2 to $3 billion dollar estimate (which we think is optimistic), then the annual amount of funds for economic development projects would be between $50.9 and $115.0 million, with the most likely revenue stream being at the low end of the estimate. If we are correct about the necessity of rebuilding the turnpike, the annual amounts will be at most half as large.

Ohio currently has a variety of economic development programs targeted at rejuvenating economically troubled communities. We compare the annual proceeds earned from the capital funds to projects supported by the Clean Ohio Revitalization Funds (CORF). In 2005, the typical CORF project received $3 million in support (Appendix 6). Under the various scenarios tested above, the proceeds from the capital funds would support as few as 15 projects or as many as 81 projects a year. The likely scenario is that there will be 15 projects a year until new bonded indebtedness is incurred to rebuild the turnpike, then the number will drop in half to seven or eight projects supported by $25 million in revenue.

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[8] Corsi was cited by Plain Dealer reporter Sandy Theis as assuming that "the lease-holder would get $100 million annually—before interest, taxes, depreciation, and amortization." Leasing Turnpike: A road to riches? *Plain Dealer*, June 4, 2006, page 1.

Another way to think of these revenues is to compare them to annual tax growth in the state general revenue fund (GRF). Between 1990 and 2000, the state GRF grew an average of $604.8 million per year. The slowest annual growth, occurring from FY94 to FY95, was $14.9 million. The most robust GRF growth, occurring from FY99 to FY00 at the height of the dot com bubble, was $1.1 billion. If the principle is to be protected from current obligations, ***the potential for new investment resulting from leasing the turnpike will be modest.***

Summary and Conclusions

Privatization of the highways is not a new idea. For instance, the World Bank has encouraged the privatization of highways and the building of privately owned highways in developing nations and in transitional economies, the best example being in Croatia. However, this type of financing is typically used in one of four cases. First, private financing of highways is used when the infrastructure is not in place and a private firm has a credit rating superior to that of the nation. Second, privately financed highways are encouraged when the nation has limited bonding capacity due a wide range of infrastructure demands. Third, the practice is used when the nation has demonstrated an inability to manage assets (e.g., the highway) or to collect and retain tolls. Finally, private financing is used when the asset is severely degraded and needs a substantial investment—an investment that either exceeds the nation's bonding capacity or management abilities. None of these conditions exist in Ohio with the turnpike.

Further, the only way that a private firm can operate the highway and make a profit while improving the economic returns for Ohio's citizens is if the turnpike authority makes extremely high profits, operates extremely inefficiently, or is loaded with inefficient patronage. The private firm would make its money be getting rid of these inefficiencies. If the turnpike is well run, a private vendor will have difficulty squeezing a profit out of the lease. Unless the private company sees an opportunity to charge monopoly rents through ever-increasing tolls. Even if the vendor increased tolls at the maximum allowable rate, required maintenance of the road will erode any potential benefit.

It would seem the only reason to lease the asset, given our analysis, is an ideological drive to shrink the size of government.

While we have attempted to shed new light on the proposal to sell the turnpike, we are a fiscal analyst and an economist, not accountants or attorneys. Clearly, there may be quirks in the tax code that will result in a private investor being willing to pay more than the economically rational return for the turnpike lease. Or the competitive zeal of firms entering new markets where returns are unknown may result in a company's paying more for the asset than it is worth when measured in ability to pay.

The 75-year lease on the 157-mile Indiana Toll Road went for $3.8 billion—$1.8 billion higher than was expected by the state. The once-bankrupt Chicago Skyway leased for $1.8 billion for 99 years. Both are troubled roads, which creates an opportunity for a private company to earn a good return by operating them more efficiently. Indiana's politics prevented a toll increase (it cost more to collect the toll than the toll was worth) and the roadbed is in poor condition. The Chicago Skyway was haunted by patronage and operating inefficiencies. Ohio's turnpike has neither of these problems.

More importantly, stock analysts are starting to question the high prices these early deals are getting. *Barron*'s reporter Andrew Day noted that Australian investors did not boost the stock price of the bank that acquired the Indiana lease, and Alison Booth, an analyst interviewed by Day, said that "increasing competition for new tollroad projects is resulting in monopolistic returns being competed away." In other words, lease payments look to be unsustainably high. Have private companies overpaid? There are recent examples of failed privately owned highways in California, Virginia, Texas, and South Carolina as traffic volumes fell short of expectations or toll increases led motorists and truckers to take alternative routes.[9] The same occurred recently when the Ohio turnpike boosted tolls for truckers and truckers flooded nearby state highways and town centers.

Why, then, should Ohio lease the turnpike? We do not think that it will improve the highway's condition; we do not think that there are major cost savings to be found in removing patronage; and we do not think the lease will remove a constraint on the state's debt ceiling. Even if the Ohio Turnpike is well-run by a private company, there will be no easy profits earned through its management. The lease will be paid for by increased tolls. In effect, the proposed economic development funds that will be created from the proceeds of the lease will not be supported by operating the turnpike more efficiently. They will be indirectly supported by increased highway tolls.

Decades ago Ohio's voters were told that proceeds from the Ohio Lottery would be the silver bullet that would fix the state's school finance woes, and it was not. The lease of the Ohio Turnpike will be as effective in financing economic development as the Ohio Lottery has been in financing public education. This is not a comforting thought.

[9] Smith, Sylvia A., Privately owned roads not new, *Fort Wayne Journal Gazette*, January 23, 2006.

Appendix 1
Estimated Annual Cash Flow of the Ohio Turnpike Operated by a Private Vendor

Operating Revenue		
Tolls	$	189,701,000
Special Toll Permits	$	2,750,000
Concessions	$	13,793,000
Other	$	1,184,000
Total Operating Revenues*	**$**	**207,428,000**
Non-operating Revenues		
State Fuel Tax Allocation**	$	-
Investment Earnings***	$	-
Total Non-operating Revenue	**$**	**-**
Total Revenue	**$**	**207,428,000**
Operating Expenses******		
Administration And Insurance	$	7,982,000
Maintenance Of Roadway And Structures	$	30,957,000
Services And Toll Operations	$	46,449,000
Traffic Control, Safety, Patrol & Communications	$	12,902,000
Major Repairs And Replacements	$	(277,000)
Depreciation Expense*****	$	-
Total Operating Expenses	**$**	**98,013,000**
Non-operating Expenses:		
Interest Expense******	$	-
Loss On Disposals / Write-Offs Of Capital Assets*******	$	-
Total Non-operating Expenses	**$**	**-**
Total Expenses	**$**	**98,013,000**
Total Profit/Loss	**$**	**109,415,000**

Notes:
* This analysis assumes the vendor would derive revenues from the same sources as the Turnpike Commission.
**It is not clear whether the vendor, a private firm, would be eligible to receive fuel tax proceeds.
***Assumes the vendor would not benefit from the Turnpike Commission's Investments.
This may increase in the future, but investment earning would be restricted by operating needs.
****Assumes many of the same expenses as the Turnpike Commission, with noted exceptions.
***** No depreciation since the state retains ownership, but may have leasehold improvements in the future.
****** It is unclear who would pay the $732,898,000 in outstanding debt.
This assumes the Turnpike Commission would pay debt services, perhaps from proceeds of lease?
*******Vendor doesn't own the capital assets, so no write off.
+This shows the expected return over the life of the lease would be a less than invested.
Typically, government intervention into the market is justified when the market won't bear an activity.
The present value is the total amount that a series of future payments is worth now.

Source: Ohio Turnpike Commission "2004 Annual Report"

Appendix 2
Annual Revenue Flows For Turnpike Vendor
With and Without Debt Service Repayment over Life of the 99 Year Lease

Year	Scenario 1 Annual Revenue	Bond Payment	Scenario 2 Net Annual Revenues	Year	Scenario 1 Annual Stream	Bond Payment	Scenario 2 Net Annual Revenues
2007	$ 109,415,000	$ 55,389,000	$ 54,026,000	2056	$ 109,415,000	$ -	$ 109,415,000
2008	$ 109,415,000	$ 55,378,000	$ 54,037,000	2057	$ 109,415,000	$ -	$ 109,415,000
2009	$ 109,415,000	$ 55,342,000	$ 54,073,000	2058	$ 109,415,000	$ -	$ 109,415,000
2010	$ 109,415,000	$ 55,313,000	$ 54,102,000	2059	$ 109,415,000	$ -	$ 109,415,000
2011	$ 109,415,000	$ 55,313,000	$ 54,102,000	2060	$ 109,415,000	$ -	$ 109,415,000
2012	$ 109,415,000	$ 55,313,000	$ 54,102,000	2061	$ 109,415,000	$ -	$ 109,415,000
2013	$ 109,415,000	$ 55,313,000	$ 54,102,000	2062	$ 109,415,000	$ -	$ 109,415,000
2014	$ 109,415,000	$ 55,313,000	$ 54,102,000	2063	$ 109,415,000	$ -	$ 109,415,000
2015	$ 109,415,000	$ 55,370,200	$ 54,044,800	2064	$ 109,415,000	$ -	$ 109,415,000
2016	$ 109,415,000	$ 55,370,200	$ 54,044,800	2065	$ 109,415,000	$ -	$ 109,415,000
2017	$ 109,415,000	$ 55,370,200	$ 54,044,800	2066	$ 109,415,000	$ -	$ 109,415,000
2018	$ 109,415,000	$ 55,370,200	$ 54,044,800	2067	$ 109,415,000	$ -	$ 109,415,000
2019	$ 109,415,000	$ 55,370,200	$ 54,044,800	2068	$ 109,415,000	$ -	$ 109,415,000
2020	$ 109,415,000	$ 55,124,800	$ 54,290,200	2069	$ 109,415,000	$ -	$ 109,415,000
2021	$ 109,415,000	$ 55,124,800	$ 54,290,200	2070	$ 109,415,000	$ -	$ 109,415,000
2022	$ 109,415,000	$ 55,124,800	$ 54,290,200	2071	$ 109,415,000	$ -	$ 109,415,000
2023	$ 109,415,000	$ 55,124,800	$ 54,290,200	2072	$ 109,415,000	$ -	$ 109,415,000
2024	$ 109,415,000	$ 55,124,800	$ 54,290,200	2073	$ 109,415,000	$ -	$ 109,415,000
2025	$ 109,415,000	$ 28,719,600	$ 80,695,400	2074	$ 109,415,000	$ -	$ 109,415,000
2026	$ 109,415,000	$ 28,719,600	$ 80,695,400	2075	$ 109,415,000	$ -	$ 109,415,000
2027	$ 109,415,000	$ 28,719,600	$ 80,695,400	2076	$ 109,415,000	$ -	$ 109,415,000
2028	$ 109,415,000	$ 28,719,600	$ 80,695,400	2077	$ 109,415,000	$ -	$ 109,415,000
2029	$ 109,415,000	$ 28,719,600	$ 80,695,400	2078	$ 109,415,000	$ -	$ 109,415,000
2030	$ 109,415,000	$ 6,429,500	$ 102,985,500	2079	$ 109,415,000	$ -	$ 109,415,000
2031	$ 109,415,000	$ 6,429,500	$ 102,985,500	2080	$ 109,415,000	$ -	$ 109,415,000
2032	$ 109,415,000	$ -	$ 109,415,000	2081	$ 109,415,000	$ -	$ 109,415,000
2033	$ 109,415,000	$ -	$ 109,415,000	2082	$ 109,415,000	$ -	$ 109,415,000
2034	$ 109,415,000	$ -	$ 109,415,000	2083	$ 109,415,000	$ -	$ 109,415,000
2035	$ 109,415,000	$ -	$ 109,415,000	2084	$ 109,415,000	$ -	$ 109,415,000
2036	$ 109,415,000	$ -	$ 109,415,000	2085	$ 109,415,000	$ -	$ 109,415,000
2037	$ 109,415,000	$ -	$ 109,415,000	2086	$ 109,415,000	$ -	$ 109,415,000
2038	$ 109,415,000	$ -	$ 109,415,000	2087	$ 109,415,000	$ -	$ 109,415,000
2039	$ 109,415,000	$ -	$ 109,415,000	2088	$ 109,415,000	$ -	$ 109,415,000
2040	$ 109,415,000	$ -	$ 109,415,000	2089	$ 109,415,000	$ -	$ 109,415,000
2041	$ 109,415,000	$ -	$ 109,415,000	2090	$ 109,415,000	$ -	$ 109,415,000
2042	$ 109,415,000	$ -	$ 109,415,000	2091	$ 109,415,000	$ -	$ 109,415,000
2043	$ 109,415,000	$ -	$ 109,415,000	2092	$ 109,415,000	$ -	$ 109,415,000
2044	$ 109,415,000	$ -	$ 109,415,000	2093	$ 109,415,000	$ -	$ 109,415,000
2045	$ 109,415,000	$ -	$ 109,415,000	2094	$ 109,415,000	$ -	$ 109,415,000
2046	$ 109,415,000	$ -	$ 109,415,000	2095	$ 109,415,000	$ -	$ 109,415,000
2047	$ 109,415,000	$ -	$ 109,415,000	2096	$ 109,415,000	$ -	$ 109,415,000
2048	$ 109,415,000	$ -	$ 109,415,000	2097	$ 109,415,000	$ -	$ 109,415,000
2049	$ 109,415,000	$ -	$ 109,415,000	2098	$ 109,415,000	$ -	$ 109,415,000
2050	$ 109,415,000	$ -	$ 109,415,000	2099	$ 109,415,000	$ -	$ 109,415,000
2051	$ 109,415,000	$ -	$ 109,415,000	2100	$ 109,415,000	$ -	$ 109,415,000
2052	$ 109,415,000	$ -	$ 109,415,000	2101	$ 109,415,000	$ -	$ 109,415,000
2053	$ 109,415,000	$ -	$ 109,415,000	2102	$ 109,415,000	$ -	$ 109,415,000
2054	$ 109,415,000	$ -	$ 109,415,000	2103	$ 109,415,000	$ -	$ 109,415,000
2055	$ 109,415,000	$ -	$ 109,415,000	2104	$ 109,415,000	$ -	$ 109,415,000
				2105	$ 109,415,000	$ -	$ 109,415,000
					$ 5,361,335,000	$1,151,606,000	$ 4,209,729,000

Appendix 3
Annual Revenue Flows for Turnpike Vendor over Life of the 99 Year Lease with Annual 3% Toll Increases

Year	Scenario 3 Annual Revenues	Year	Scenario 3 Annual Revenues
2007	$ 109,415,000	2056	$ 465,694,250
2008	$ 112,697,450	2057	$ 479,665,077
2009	$ 116,078,374	2058	$ 494,055,029
2010	$ 119,560,725	2059	$ 508,876,680
2011	$ 123,147,546	2060	$ 524,142,981
2012	$ 126,841,973	2061	$ 539,867,270
2013	$ 130,647,232	2062	$ 556,063,288
2014	$ 134,566,649	2063	$ 572,745,187
2015	$ 138,603,648	2064	$ 589,927,542
2016	$ 142,761,758	2065	$ 607,625,369
2017	$ 147,044,611	2066	$ 625,854,130
2018	$ 151,455,949	2067	$ 644,629,754
2019	$ 155,999,627	2068	$ 663,968,646
2020	$ 160,679,616	2069	$ 683,887,706
2021	$ 165,500,005	2070	$ 704,404,337
2022	$ 170,465,005	2071	$ 725,536,467
2023	$ 175,578,955	2072	$ 747,302,561
2024	$ 180,846,324	2073	$ 769,721,638
2025	$ 186,271,713	2074	$ 792,813,287
2026	$ 191,859,865	2075	$ 816,597,685
2027	$ 197,615,661	2076	$ 841,095,616
2028	$ 203,544,131	2077	$ 866,328,485
2029	$ 209,650,454	2078	$ 892,318,339
2030	$ 215,939,968	2079	$ 919,087,889
2031	$ 222,418,167	2080	$ 946,660,526
2032	$ 229,090,712	2081	$ 975,060,342
2033	$ 235,963,434	2082	$ 1,004,312,152
2034	$ 243,042,337	2083	$ 1,034,441,516
2035	$ 250,333,607	2084	$ 1,065,474,762
2036	$ 257,843,615	2085	$ 1,097,439,005
2037	$ 265,578,923	2086	$ 1,130,362,175
2038	$ 273,546,291	2087	$ 1,164,273,040
2039	$ 281,752,680	2088	$ 1,199,201,231
2040	$ 290,205,260	2089	$ 1,235,177,268
2041	$ 298,911,418	2090	$ 1,272,232,586
2042	$ 307,878,760	2091	$ 1,310,399,564
2043	$ 317,115,123	2092	$ 1,349,711,551
2044	$ 326,628,577	2093	$ 1,390,202,897
2045	$ 336,427,434	2094	$ 1,431,908,984
2046	$ 346,520,257	2095	$ 1,474,866,254
2047	$ 356,915,865	2096	$ 1,519,112,242
2048	$ 367,623,341	2097	$ 1,564,685,609
2049	$ 378,652,041	2098	$ 1,611,626,177
2050	$ 390,011,602	2099	$ 1,659,974,962
2051	$ 401,711,950	2100	$ 1,709,774,211
2052	$ 413,763,309	2101	$ 1,761,067,438
2053	$ 426,176,208	2102	$ 1,813,899,461
2054	$ 438,961,495	2103	$ 1,868,316,445
2055	$ 452,130,339	2104	$ 1,924,365,938
		2105	$ 1,982,096,916
			$ 64,404,827,449

Appendix 4
Net Present Value of 99 Year Lease

Scenario 1: **Bonds paid by Turnpike Commission from lease proceeds.** Net Present Value: A) Discount rate of 3.0% over 99 years returns $3,451,701,054 B) Discount rate of 5.0% over 99 years returns $2,170,827,049
Scenario 2: **Bonds paid by vendor and revenue stream are reduced by debt service.** Net Present Value A) Discount rate of 3.0% over 99 years returns $2,607,679,397. B) Discount rate of 5.0% over 99 years returns $1,468,790,616.
Scenario 3: **State pays off bonds and vendor increases tolls 3% each year.** Net Present Value A) Discount rate of 3.0% over 99 years returns $10,516,587,379. B) Discount rate of 5.0% over 99 years returns $$4,655,686,384.
Note: Returns do not include inflation premiums.

Appendix 5
Annual Revenue Income for Ohio from Lease Proceeds

Lease Proceeds	Debt Repayment	Net Return	3% Return	5% Return
Proposed Lease Value				
$ 4,600,000,000	$ 1,151,606,000	$3,448,394,000	$ 103,451,820	$ 172,419,700
$ 6,000,000,000	$ 1,151,606,000	$4,848,394,000	$ 145,451,820	$ 242,419,700
Estimated Lease Value less Debt Repayment				
$ 3,451,701,054	$ 1,151,606,000	$ 2,300,095,054	$ 69,002,852	$ 115,004,753
$ 2,170,827,049	$ 1,151,606,000	$ 1,019,221,049	$ 30,576,631	$ 50,961,052
Estimated Lease Value, Vendor Repays Outstanding Debt				
$ 2,607,679,397	NA	NA	$ 78,230,382	$ 130,383,970
$ 1,468,790,616	NA	NA	$ 44,063,718	$ 73,439,531

Appendix 6
Purchasing Power from Turnpike Lease:
Number of Possible Clean Ohio Revitalization Fund Projects per Year

Revenue (3%)	CORF Projects	Revenue (5%)	CORF Projects
$ 103,451,820	34	$ 172,419,700	57
$ 145,451,820	48	$ 242,419,700	81
$ 69,002,852	23	$ 115,004,753	38
$ 30,576,631	10	$ 50,961,052	17
$ 78,230,382	26	$ 130,383,970	43
$ 44,063,718	15	$ 73,439,531	24
Note: The typical payment from the CORF in 2005 was $3 million.			