
Ownership and Operating Options for the Ohio Turnpike
Summary Recommendations
&
Briefing



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**Toledo Metropolitan Area Council of Governments
(TMACOG)**

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This document is the product of staff research and discussions which have taken place in several settings including subcommittees and council meetings of the Toledo Metropolitan Area Council of Governments during 2011. It is intended to support ongoing analysis and decision-making regarding ownership and operating options of the Ohio Turnpike.

Summary Recommendations Regarding the Ohio Turnpike

The state of Ohio is considering leasing the Ohio Turnpike, or possibly shifting it to the Ohio Department of Transportation. This is a key transportation asset in northern Ohio and changes in its operations directly impact the transportation system and economic competitiveness in the region.

In the event that the state of Ohio goes forward with a lease or otherwise changes how the Ohio Turnpike is administered, the Toledo Metropolitan Area Council of Governments (TMACOG) offers the following recommendations.

Regarding the process to lease or otherwise change the Turnpike administration:

Transparency should be maintained throughout the process. Open access to the full text of request for proposals, asset valuation methodology, and other contract provisions should occur in a manner that allows for public evaluation and input prior to completing a lease or new operating arrangement.

Revenue produced should be limited to the following types of investments:

- Highway infrastructure improvements that yield a benefit commensurate with the length of the lease.
- Improvements to air, rail, and water port facilities as well as intermodal and other infrastructure projects that foster economic development and job creation. Projects in northwest Ohio fitting this description are summarized in the document **Transportation Legislative Agenda 2010-2011** as posted at www.tmacog.org.

Owing to the greater share of support paid into the asset by toll-paying northern Ohioans (historic and future), revenue produced should be allocated as follows:

- The transaction should produce a net gain for northern Ohio in terms of overall transportation funding over the term of the lease. Toll or lease revenue should not supplant other revenue.
- Northern Ohio counties and jurisdictions that are adjacent to the Ohio Turnpike should receive a majority share.

Toll rate changes should be handled as follows:

- To discourage traffic diversion and to encourage a greater reliance on operating efficiencies and traffic growth rather than toll increases to achieve profits, the amount and timing of toll increases should be limited.

Other provisions:

- Operating standards should be set to the same or better standards than are currently in force.
- No other roadways in Ohio should be defined as competitive roads nor have restrictions placed on future improvements.
- The agreement should stipulate the conditions under which current and future access points may be added, removed, enhanced, or otherwise changed.
- The agreement should have clear definitions as to what constitutes delays and defaults and enforceable provisions regarding dispute resolution and remedies.
- The agreement should require open bid process for contracts and “Buy Ohio” guidelines.
- The length of the lease term should be kept relatively short—20 to 40 years—to allow flexibility for technological and societal changes that will inevitably occur.

Overview

This briefing addresses key aspects related to leasing or otherwise changing the current ownership and/or operating arrangements of the Ohio Turnpike. These strategies are being considered to address the funding shortfall in the state's transportation budget. To fully consider a lease option it is necessary to understand what other alternatives there are and what the terms of the lease would be. This paper examines the concept of a public asset lease (also called a concession) and outlines the components likely to be included in the lease contract. A summary of the Indiana Toll Road lease is provided for a point of comparison. Ownership and operating the Ohio Turnpike is of vital importance given that Ohio Governor John Kasich announced in February, 2011 that his administration is considering a long-term lease of this key east-west route in northern Ohio.

As northwest Ohio's regional planning organization, the Toledo Metropolitan Area Council of Governments (TMACOG) has a keen interest in facilitating a robust consideration of the issues surrounding Ohio's Turnpike lease proposal. This issue involves many stakeholders and could have impacts on turnpike usage, toll rates, the ability to make improvements across the transportation system, and even Ohio's economic competitiveness. With this research, TMACOG is not seeking to adopt a position on the on the lease concept, but to provide objective information, summarize the issue, and facilitate communication. The purpose of this briefing paper is to provide a framework for stakeholders to explore and evaluate various turnpike ownership and operating options.

Process

This brief is an ongoing work-in-progress that will evolve as more facts become known and more discussion takes place. TMACOG reviewed literature describing public private partnerships (PPPs) in transportation to provide context (see bibliography for several studies on leasing toll roads). Early drafts were circulated among TMACOG members whose ideas and comments were incorporated. Later drafts have been shared with other planning organizations in Ohio and discussed in several other settings.

Background

The issue of privatization of toll roads is part of the larger discussion of how best to fund transportation in the United States. PPP initiatives arise in part because public sources of funding do not keep pace with inflation or with costs of infrastructure maintenance and expansion needs. Several analysts as summarized below have studied the question of leasing toll roads. The Pew Center on the States offers advice for states considering PPPs (Pew Center, 2009). In general, the literature reveals mixed support for PPPs, with most analysts agreeing that success depends on the details of how the contracts are established.

Buxbaum and Ortiz conclude that under a PPP tolls may track more closely to inflation than taxes would, and thereby generate resources that keep pace with rising costs of infrastructure repairs. They assert that concerns about excessive profits can be limited through the lease terms. They note that an equity stake, as opposed to the traditional bond holder stake, may produce better private sector incentives to efficiently and effectively operate a toll road. These analysts emphasize that the pros and cons to the lease question are far from settled. Private sector operators may or may not be better able to deliver at a lower cost than the public sector. They call for objective and thorough analysis "of all viable approaches" and note that "each state or region will need to determine for itself the proper balance between competing objectives when it comes to delivering an effective transportation system." (Buxbaum & Ortiz, 2007).

Similarly, Pagano notes that PPPs can, if properly designed, accomplish the state's transportation goals in the most efficient manner. He cautions that long contract periods are riskier for the state because of societal and technological changes over the term of the contract. Fixed contract terms could have the potential to lock future generations into more limited options (Pagano, 2010).

The prospect of leasing the Ohio Turnpike (for \$4-6 billion) was proposed during the 2006 Ohio gubernatorial race by candidate Ken Blackwell. Blackwell called for using lease proceeds to fund not only transportation programs, but also Ohio-wide programs for energy development, higher education, K-12, and other non-transportation related purposes. In studying the Blackwell proposal, researchers Ellis and Hill express doubt that a long-term lease is viable from the viewpoint of the concessionaire. They question whether private companies have overpaid in other recent deals. If so, they maintain that the only way a concessionaire will succeed is through decreased maintenance or increased tolls. Although maintenance and toll rates are specified in the contract, these authors note that enforcing remedies for contract defaults can be a time-consuming legal and political battle (Ellis & Hill, 2006).

Wirtz echoes the concerns of Ellis and Hill and Pagano, but like Buxbaum and Ortiz gives cautious support for PPPs as a means of filling the gap between infrastructure costs and federal, state, and local financial resources. Getting the lease details right is challenging because it is difficult to anticipate all possible circumstances that might unfold over the life of the agreement. For example, the long term influence on travel demand can be impacted by natural disasters, development, or technological changes. As a solution, Wirtz advances the idea of a multi-stage contract that establishes a plan for reevaluating contract provisions based on new information (Wirtz, 2009).

Key Options for Operating the Turnpike

The Ohio Turnpike is, of course, just one asset in Ohio's overall transport portfolio which also includes a highly integrated network of roads and other transport facilities involving modes of air, water, rail, transit, bike, and pedestrian assets. A change to one element frequently impacts the others. In particular, Ohio's other major limited access highways (i.e., I-75, I-77, I-70, and I-71) and parallel routes near the turnpike and perpendicular routes that intersect or cross it may be more affected by significant turnpike changes than would other parts of the system. The turnpike itself is more than simply a road, consisting of service plazas and tolls booths as well.

The options available to manage the turnpike range from full public sector administration, to shared operations, to full private control. The public alternative would likely mean that the Ohio Department of Transportation (ODOT) would be in charge of all operations. A second option of operating the turnpike under the auspices a quasi-public agency such as the Ohio Turnpike Commission (OTC) is somewhat removed from public agency control, yet with a significant public sector role in oversight and appointments. A third alternative introduces the private sector via a lease arrangement that spells out the degree of public control via the lease terms. There is a fourth option, the fully private sector option of selling the turnpike outright. Since this last option has not been raised it is therefore dismissed from further consideration. The remaining three options each merit closer investigation as to the pros and cons of administering this important transportation asset.

ODOT Option

ODOT Director Wray suggested this option during a visit to northwest Ohio on April 15, 2011. There is precedent for folding a Turnpike Authority into a DOT-operated system. In Florida, the

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once independent authority is now an FDOT department called the Florida Turnpike Enterprise which operates nine toll systems throughout the state. Tolls are set by department rule subject to public notice and hearing requirements; revenues are used for tollway expansion and improvements; some provisions favor some counties where tolls are collected (Florida Statutes).

OTC Option

This is the status quo option. The Ohio Turnpike Commission (OTC) has managed the Ohio Turnpike since it opened in 1955. The OTC is the toll road management authority created by the 98th Ohio General Assembly in the Ohio Turnpike Act (see Chapter 5537 of the Ohio Revised Code). Amendments over the years have refined and adapted the OTC's operations. Currently, the OTC is comprised of nine members; five voting and four non-voting. For more information on the composition of the OTC visit www.ohioturnpike.org/about/commission_members/.

According to the Legislative Service Commission, "OTC is not a state agency and is not appropriated money from any state funds included within the transportation budget or main operating budget." (Lee, 2007). The OTC has power to issue bonds secured by toll revenues in order to construct, maintain, repair, police, and operate the turnpike. It also has the power to determine the toll rate structure. A six-member Turnpike Legislative Review Committee as described in ORC 5537.24 has oversight authority. Each year, the OTC is audited by the state Auditor and provides an annual report to the Governor and the General Assembly.

Lease Option

Despite the tendency by many to call it a sale, a lease is not a sale. In the case of a toll road asset a lease is an agreement between a public entity and a private investor. The public retains control by virtue of the lease terms. When a public entity enters into a lease arrangement it essentially forms a PPP, sometimes termed privatization. A lease may involve a large initial payment which is invested in order to generate additional interest earnings, or it may establish revenue sharing arrangements. Several lease provisions are explored in greater detail below. To predict the consequences of a lease, it is helpful to understand who the stakeholders are and the many ways lease provisions can be crafted.

Stakeholders

Many stakeholders are affected by how the Ohio Turnpike is managed. They are:

- Toll road users engaging in commerce including large and small trucking firms and independent operators as well as large shipping firms with facilities in near proximity to the turnpike such as United Parcel Service, FedEx, etc.
- Turnpike corridor municipalities and other public entities (i.e., utilities) directly adjacent to or significantly affected by the turnpike.
- Ohio citizens, the traveling public, and agencies involved in providing transportation.

Lease Particulars

- Value: To be determined. Governor Kasich indicates a price of about \$3 billion to net approximately \$2.5 billion after retiring outstanding debt. (See Table 1 for recent revenue and other performance indicators and Bonnafous, 2010 for an analysis of asset pricing).
- Length of Lease: To be determined. In the U.S., 75-year and 99-year lease examples exist. Shorter lease periods are common elsewhere. ODOT Director Wray has indicated that a shorter term deal is preferable.

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- Lease Authority: HB 114 (passed) and HB 153 (pending as of this writing) enable the state to engage in a turnpike lease with varying degrees of oversight and approval in the executive, house, and senate versions of the legislation.
- Lease Proceeds—Options and Details:
 - A large lump sum concession fee paid by the lessee upfront, or a revenue sharing arrangement paid over the life of the lease.
 - Geographic distribution—the proportion of the revenue to be allocated to northern Ohio vis-à-vis the rest of Ohio.
 - Use restrictions—funds to be used for transportation purposes only; for more broadly defined infrastructure projects; or for non-transport related items such as to support education, the general revenue fund, etc.
 - Creation of a reserve fund—i.e., a portion of the proceeds might be invested such that the principle is maintained and only the interest is spent.
 - Control of other revenues (i.e., billboards, service plazas, etc.).
- Toll Rate Provisions: Contract provisions on maximum rate of increase; caps; timing of increases; use of toll revenues (i.e., establishing priority payments to debt service, operations and maintenance over distribution to equity interests).
- Toll Road Corridor Provisions: Clauses regarding expansion and/or implementation of traffic calming techniques on parallel routes; definitions of competing highways.
- Operating Standards: Specifications, policies, procedures, and processes that apply to operation, maintenance, rehab, capital improvements of the turnpike.
- Minimum Level of Service and System Maintenance: Defining the conditions which toll road user can expect in terms of congestion and facility quality and outlining procedures and timetables to address areas falling below the minimum.
- Traffic Study: Establishing a schedule and other terms.
- Law Enforcement Arrangements: Level of patrols and involvement of state police.
- Service Plazas: location, maintenance, selection of vendors.
- Reporting, Auditing, and Inspections: Regarding safety, environmental, financial
- Insurance Requirements.
- Definitions, Dispute Resolution, and Remedies for Defaults: Defining what constitutes prior notice, adverse actions, delays, and defaults on behalf of both the state and the concessionaire. Establishing conflict resolution procedures.
- Restrictions on transfers of concessionaire interest and the end of lease provisions.
- Toll Road Oversight Board: Number of members and composition.
- Other: Potential federal legislation regarding public-private partnerships.

Indiana Toll Road Highlights

Several Indiana stakeholders (county engineer, engineering services firm, economic development officers, and MPO staff) were contacted to ascertain their impressions of the effectiveness of the toll road and lease since 2006. They were asked which, if any, provisions would they re-write and what suggestions they have for Ohio. Opinions on the lease and the toll road varied widely; however, even those in favor of the lease expressed some dissatisfaction—especially with the performance of the electronic tolling system.

Suggestions for Ohio from Indiana Stakeholders

- Do not rush the deal.
- Make state government accountable on the geographic disbursements of lease proceeds.
- Put provisions on how money is used such as establishing mini-capital improvement funds for redevelopment projects that will generate new tax revenue.
- Develop specific language on the kinds of improvements to avoid the temptation to spend it just because it is there.
- Very careful consideration should be given to operating standards and oversight if things do not go according to contract.

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Lease Particulars

- Value: \$3.8 billion—the accepted bid provided in October 2005. Several observers agree that Indiana toll rates (per mile) are in the middle of the pack relative to rates on other U.S. toll roads.
- House Bill 1008 enabled the agreement between the ITR Concession Company, LLC (ITRCC) and Indiana Finance Authority (IFA).
- Length of Lease: 75 years from June 2006 to 2081.
- Lease Proceeds:
 - Upfront concession fee was \$3.8 billion. According to the Indiana Department of Transportation (INDOT) and other accounts, Indiana is proceeding with several major projects the financing for which includes \$2.6 billion over 10 years from the lease proceeds (INDOT-Major Moves; and Ichniowski, 2011).
 - Geographic distribution: Toll road corridor counties receive about one-third of net proceeds. “The 34% of net proceeds includes all planned state highway projects in the counties, county-by-county distributions of \$40 million each and \$120 million for the Northwest Indiana Regional Development Authority in Lake and Porter counties. Toll Road counties also will share in a statewide distribution, over two years, of \$150 million in motor vehicle highway funds.” (Indiana Toll, 2006).
 - A \$500 million trust fund established with interest tapped every five years for transportation projects. Original interest earnings rate target was 5.25 percent.
 - Return on Investment: Limits are placed on the ROI to ITRCC.
- Toll Rate Provisions: The toll increase formula essentially allows tolls to rise in pace with the inflation rate (as per the Consumer Price Index or per capita nominal GDP growth rate of the previous calendar year) or by 2 percent; whichever is greater. (Schedule 7.1 of the Indiana Toll Road Concession and Lease Agreement, 2006.) Cars in the i-Zoom program are exempt from an increase until 2016. Notice of toll changes is 90 days for the state and the 60 days for the public.
- Toll Road Corridor: A competing highway is defined as one built on behalf of the state and at least 20 continuous miles of which is within 10 miles of the toll road. U.S. 20 shall be considered competing if on or before the 55th anniversary of the closing date, it is expanded or improved so that it becomes a comparable highway (comparable highway means a divided four or more lane controlled access interstate).
- Operating and Maintenance Standards and Law Enforcement Provisions: Must follow state and federal standards at minimum.
- Capital Improvements: Traffic study schedule and minimum level of service definitions.
- Toll Road Oversight Board: A 10-member board oversees ITRCC.

Summary Comments

Governor Kasich’s announcement about the Ohio Turnpike has generated much interest among TMACOG stakeholders. Although some individuals and organizations have come out in opposition, others are supportive of the concept of PPPs so long as they are based on well-crafted agreements.

Details concerning the future of the Ohio Turnpike are uncertain as of this draft. Given the range of possibilities, TMACOG has not taken a formal position. Instead, we wish to facilitate an informed discussion of the advantages and disadvantages associated with various ownership and operating options of the Ohio Turnpike. TMACOG is interested in a focused consideration of how any new arrangement would be structured. Our hope is that this approach will provide a means for arriving at a sound decision which best serves the interests of individuals and organizations of our region and all stakeholders.

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Table 1: Ohio and Indiana Toll Road Comparison

Indiana was the first state to execute a long term lease of an existing toll road in the U.S. The Indiana Turnpike is leased to a limited liability company between Cintra Concesiones de Infraestructuras de Transporte SA and Macquarie Infrastructure Group (known as ITRCC). Data below is presented as reported by OTC, ODOT, INDOT, and Indiana Finance Authority.

	James W. Shocknessy Ohio Turnpike	Indiana East-West Toll Road
Length:	241 miles	157 miles
Access Points:	31	22
Plazas:	7 pairs, one about every 30 miles	10 travel plazas
Traffic: <i>(2010 data for Ohio and 2005—time of lease-- data for Indiana)</i>	<ul style="list-style-type: none"> • Vehicles: 48.8 million vehicles total <ul style="list-style-type: none"> ◦ 13.2% gate-to-gate thru traffic • 38.9 million passenger cars <ul style="list-style-type: none"> ◦ 9.4% gate-to-gate thru traffic • 9.9 million trucks <ul style="list-style-type: none"> ◦ 28.1% gate-to-gate thru traffic • Number of miles driven-2009: over 2.7 billion miles; 68% by passenger car. 	<ul style="list-style-type: none"> • Vehicles: 54.7 million vehicles total • 45.0 million passenger cars • 9.7 million trucks
Administration:	A nine member Ohio Turnpike Commission (OTC), as described above.	Indiana Toll Road Concession Company (ITRCC). Previously operated by INDOT.
Tolling System:	Historic	At time of Lease RFP
2-Axle	After years of no increases, rates increased in the 1990s to fund road improvements and service plaza modernization. In 2004 toll rates were reduced for trucks. Increased in 2009 and set to increase in 2012.	Through trip rate = \$4.70 Per Mile Rate = 3.0¢
5-Axle		Through trip rate = \$14.60 Per Mile Rate = 9.3¢
	Current with E-ZPass	Current with i-Zoom
2-Axle	Through trip rate = \$10.25 Per Mile Rate = 3.0¢	Through trip rate = \$4.15 Per Mile Rate = 2.6¢
5-Axle <i>(in Ohio: Class 5 is low 6 axle and high 5-axle)</i>	Through trip rate = \$32.00 Per Mile Rate = 13.2¢	Through trip rate = \$29.95 Per Mile Rate = 19.1¢
Financial Information	2009	2005
Toll Revenue	\$187.3 million	\$88.2 million \$149.6 million in 2009 (Benman, 2010).
Operating Revenue	\$205.9 million	\$98.6 million
Operating Expenses	\$167.2 million	\$86.9 million
Net Change in Cash and Cash Equivalents (cash flow needs from debt service and capital expenses):	\$15.2 million	\$-16.2 million (operating loss)
Staffing:	As of 2009 there were: <ul style="list-style-type: none"> • 1,165 total employees • 286 full-time & 265 part-time toll collectors • 129 full-time toll & service plaza supervisors • 319 full-time maintenance employees • A voluntary separation plan was offered to toll collectors in 11/09 (just after electronic tolling was introduced). Through March 31, 2010, 47 full-time and 79 part-time toll collectors have enrolled to participate in the program. 	As of 2001 there were: <ul style="list-style-type: none"> • 218 full-time toll collectors • 55 intermittent toll plaza staff At the time of lease in 2006, all existing employees interested in employment must be interviewed; those not hired offered opportunities elsewhere in state government (Coleman, 2006).

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Bibliography

- ACEC Ohio – American Council of Engineering Companies in Ohio, 2011. Budget bill paves way for leasing of Ohio Turnpike. Retrieved on 4/13/2011 from http://www.acecoho.org/aws/ACEC/pt/sd/news_article/42291/_PARENT/layout_details/false
- Benman, Keith. 2010. Indiana Toll Road Tolls go up on Thursday. Northwest Indiana Times. Retrieved on 4/14/2011 from http://www.nwitimes.com/business/local/article_0a30288c-dcb1-5a25-a329-a4592009097e.html
- Bonafous, Alain. 2010. Programming, Optimal Pricing and Partnership Contract for Infrastructures in PPPs. Research in Transportation Economics, Vol. 30, p. 15-22.
- Buxbaum, Jeffery N. and Iris N. Ortiz. 2007. Protecting the Public Interest: The Role of Long-Term Concession Agreements for Providing Transportation Infrastructure. The Keston Institute for Public Finance and Infrastructure Policy Research Paper Series Index: Retrieved on 4/7/11 from <http://www.usc.edu/schools/sppd/keston/research/index.html>.
- Coleman, Laura. 2006. Toll Roads Tip to Privatization. Council of State Governments. Retrieved on 4/13/2011 from <http://www.csg.org/knowledgecenter/docs/infra/sn0604TollRoadsTip.pdf>.
- Ellis, David A. and Edward W. (Ned) Hill. 2006. An Analysis of the Proposed Lease of the Ohio Turnpike. Retrieved on 4/14/2011 from <http://www.csuohio.edu/offices/economicdevelopment/works/turnpike.pdf>.
- Federal Highway Administration, Public-Private Partnerships. Retrieved on 4/7/11 from <http://www.fhwa.dot.gov/ipd/p3/index.htm>.
- Florida Statutes. Title XXVI-Public Transportation; Chapter 338 Florida Intrastate Highway System and Toll Facilities. Retrieved on 5/9/11 from <http://www.leg.state.fl.us/statutes/index.cfm>
- Ichniowski, Tom. State DOTs Grapple With Funding Uncertainties. Engineering News Record. March 14, 2011.
- Indiana Department of Transportation, Major Moves. Retrieved on 4/7/11 from <http://www.in.gov/indot/7039.htm> .
- Indiana Finance Authority, Indiana Toll Road Concession and Lease Agreement, 2006. Retrieved on 4/7/11 from <http://www.in.gov/ifa/files/4-12-06-Concession-Lease-Agreement.pdf>.
- Indiana Toll Road lease approved. Originally reported in South Bend Tribune on March 15, 2006. Retrieved on 4/7/11 from <http://www.roadsbridges.com/Indiana-Toll-Road-lease-approved-NewsPiece11150>.
- Ohio Turnpike Commission, 2009 Comprehensive Annual Financial Report. Retrieved on 4/8/11 from http://www.ohioturnpike.org/about/annual_reports/.

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- Pew Center on the States, 2009. Driven by Dollars: What States Should Know When Considering Public Private Partnerships to Fund Transportation. Retrieved on 5/9/2011 from http://www.pewcenteronthestates.org/report_detail.aspx?id=50306
- Pagano, Anthony, M. 2010. Public Private Partnership (PPP) in Transportation: An Analysis of Alternatives. Journal of the Transportation Research Forum. Vol. 49, No. 2. p. 77-89.
- Lee, Jonathan, 2007. Ohio Turnpike Commission, House Transportation and Justice Subcommittee. Legislative Service Commission. Retrieved on 4/13/2011 from <http://www.lsc.state.oh.us/fiscal/transportation/transbudget127/otc-transbudgetredbook-house.pdf>.
- Samuel, Peter. 2005. Should States Sell Their Toll Roads? Reason Public Policy Institute. Retrieved on 4/18/2011 from <http://reason.org/news/show/127676.html>.
- U.S. Department of Transportation. 2008. Innovation Wave: An Update on the Burgeoning Private Sector Role in U.S. Highway and Transit Infrastructure. Retrieved on 4/18/2011 from <http://www.fhwa.dot.gov/reports/pppwave/index.htm> .
- Wirtz, Ronald A. Public-Private Partnerships: For Whom the Road Tolls? Federal Reserve Bank of Minneapolis, The Region, June 2009. Retrieved on 4/22/2011 from <http://www.minneapolisfed.org/pubs/region/09-06/ppps.pdf>.