

# *Building a New Bridge in Detroit: A Study Evaluating the Options*

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*I. Executive Summary..... 1*

    Introduction and Purpose ..... 1

    Overview of Approach..... 1

    Project Descriptions ..... 2

    Summary of Findings..... 3

*II. Trade, Transportation Infrastructure, and Michigan's Economy .....8*

*III. New International Trade Crossing Proposal .... 10*

    NITC Location ..... 10

    NITC Bridge Type ..... 10

    NITC Administration Details..... 11

    Status of Proposal with Relevant Governments..... 11

    NITC Costs ..... 12

    NITC Funding and Repayment..... 13

*IV. Detroit International Bridge Company Proposal ..... 16*

    Bridge Location ..... 16

    Bridge Type ..... 16

    Status of Proposal with Relevant Governments..... 17

    DIBC Costs ..... 17

    Previously Completed Enhancements to the Ambassador Bridge..... 18

    Affect of NITC on DIBC Operations..... 19

*V. Factors influencing Viability of Proposals.....20*

    Traffic Projections ..... 20

    Financing..... 21

    Government Approval ..... 22

*VI. About Anderson Economic Group..... 23*

    About the Authors..... 23

    Contributors ..... 24

    Copyright Notice & Disclaimers ..... 25

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## *Executive Summary*

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### **INTRODUCTION AND PURPOSE**

Michigan serves as a major trade crossing between the U.S. and Canada with one-third of all U.S. land trade occurring through Michigan's two major border cities of Detroit and Port Huron. Access to trade with Canada is vital to Michigan's economy. Over \$200 billion in trade moves through these border crossings in Southeast Michigan each year.<sup>1</sup>

The current transportation infrastructure between Detroit, Michigan and Windsor, Ontario needs to be updated and expanded. Detroit's Ambassador Bridge is over 80 years old and has frequent lane closures due to maintenance.<sup>2</sup> While the Ambassador Bridge and the Detroit-Windsor Tunnel have adequate lane capacity today, many trucks cannot fit through the tunnel and the customs capacity is insufficient, which causes long wait times for trucks. This results in delays of up to two hours for commercial vehicles, as we discuss further in "Trade, Transportation Infrastructure, and Michigan's Economy" on page 8.<sup>3</sup>

There is considerable momentum toward constructing a new bridge to remedy these issues. Michigan's Governor Rick Snyder has made building a new bridge between Detroit and Windsor a focus of his administration. The Canadian government is already building new highway connections for a potential new bridge. Currently, there are two options being discussed publicly:

1. The New International Trade Crossing (NITC) proposed by Michigan Senate Bill 410 (SB 410) would create a public authority that would build and operate a new publicly-sponsored bridge. The NITC project includes building a new bridge, toll booths, customs plaza, and highway connections on both sides of the border.
2. The Detroit International Bridge Company (DIBC), which currently owns and operates the Ambassador Bridge, has proposed building a second bridge span and upgrading existing toll and customs areas on the U.S. side.

Public discourse about these options has been hampered due to a lack of information about the proposals including project viability, financing, and taxpayer risk. The purpose of this report is to compare the NITC and DIBC proposals, identifying the key factors affecting policy makers, investors, and taxpayers.

### **OVERVIEW OF APPROACH**

We completed this analysis using publicly-available information about each project. We discuss what information we had, and what we were missing, for each project below.

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1. Trade crossings include the Blue Water Bridge in Port Huron, the Detroit-Windsor Tunnel, and the Ambassador Bridge between Detroit and Windsor. See Bureau of Transportation Statistics, "America's Freight Transportation Gateways," 2009.
  2. Michigan Department of Transportation, *State Long-Range Transportation Plan 2005-2030: Corridors and International Borders Report*, 2007.
  3. Center for Automotive Research, *The Canada-U.S. Border: An Automotive Case Study*, January 2002.

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**NITC Project.** There is extensive information publicly available about the NITC project and its predecessor the Detroit River International Crossing (DRIC) project. We obtained most of our information from the Michigan Senate Economic Development Committee’s website. This website contains copies of legislation, minutes, reports, testimony, and other documents on the NITC project. These documents lay out the estimated project construction costs, financing plans, administrative details, and traffic projections. We also reviewed news articles on this topic. We did not find projections that provide estimates of traffic levels that would make the project financially feasible. We also requested information from the Michigan Treasury, which was cited as a source for financing information in one presentation given to the Economic Development Committee. As of September 16, 2011 the Michigan Treasury had not provided this information to us.

**DIBC Project.** All information about the DIBC project comes from information on their website and press interviews. We requested additional information from the DIBC on the following topics: cost breakdown by bridge component, traffic projections not already publicly disclosed, and their financing plan for the proposed bridge. As of September 16, 2011 the DIBC had not provided this information to us.

## PROJECT DESCRIPTIONS

We summarize key components of each project in Table 1 on page 3. This table compares project scale, cost, financing, and taxpayer risk. We briefly summarize the projects below.

**NITC Project.** The NITC would create a public authority to build a second bridge, toll booths, customs plaza, and highway connections on both sides of the border approximately two miles south of the Ambassador Bridge. The Snyder administration estimates that the NITC will cost \$2.2 billion. Construction costs would be financed by the Canadian government, U.S. government, and revenue bonds issued by a public authority (the NITC Authority). The Canadian government has stated it will loan the State of Michigan \$550 million for the construction of connections and a toll plaza on the U.S. side. Additionally, this money can be used to obtain an additional \$2.2 billion in federal matching funds for other highway projects around the state. Both the U.S. and Canadian governments have issued statements supporting this project. The Canadian government has started construction on their side with the NITC project in mind.<sup>4</sup> See “New International Trade Crossing Proposal” on page 10 for more details.

**DIBC Project.** The DIBC has proposed building a second bridge span to the south of the Ambassador Bridge. It appears that this project would use the same highway approaches, toll booths, and customs plaza as the current span. The DIBC would finance this project themselves, issuing bonds for the construction

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4. Information is from news articles. See “Canadian Official Says Ottawa Gov Not Opposed to Twinning Ambassador Bridge,” *Toll Road News*, February 11, 2011. See John Gallagher, “Canadian Officials Move Ahead with Bridge Connector Work,” *Detroit Free Press*, August 28, 2011.

costs that they estimate would be between \$400-500 million. See “Detroit International Bridge Company Proposal” on page 16 for more details.

**TABLE 1. Summary of Key Components of the NITC and DIBC Projects**

Project	NITC	DIBC
<b>Estimate of Total Cost</b>	\$2.2 billion <sup>a</sup>	\$400 million-\$500 million <sup>b</sup>
<b>Initial Funding Sources</b>	Canadian Government Loan; Revenue bonds issued by NITC Authority, U.S. General Services Admin <sup>c</sup>	Revenue bonds issued by DIBC; DIBC capital funds <sup>d</sup>
<b>Amount of Revenue Bonds</b>	Approximately 43.6% of total costs	100% of total costs
<b>Repayment of Bonds and Initial Funding</b>	Toll revenues backed by Canadian government funds or bond lending institution <sup>e</sup>	Toll revenues backed by DIBC funds <sup>f</sup>
<b>Toll Setting Authority</b>	NITC Authority or Contracted Concessionaire	DIBC
<b>Financial Risk to Taxpayers</b>	Limited; risk rests with the Canadian government and/or bond underwriting institution(s) <sup>g</sup>	None; risk rests with DIBC <sup>h</sup>
<b>Additional Direct Benefit to Michigan Taxpayers</b>	Up to \$2.2 billion in Federal Highway Funds to MDOT for use on transportation projects <sup>i</sup>	None
<b>Federal Government Support</b>	Support from U.S. and Canadian Governments <sup>j</sup>	No statements of support

*Analysis: Anderson Economic Group, LLC 2011*

- a. Michigan Department of Transportation, *Report to the Legislature of the State of Michigan Responding to PA 116*, May 1, 2010.
- b. Media interviews with DIBC officials, including AnnArbor.com interview with Mr. Matty Moroun on June 9, 2011.
- c. Letter to Governor Snyder from Canadian Minister Chuck Strahl reaffirming Canada’s commitment to \$550 million for the NITC project on March 25, 2011. The U.S. General Services Administration would pay for the U.S. inspections plaza. See Table 5, “Initial Funding Source for Project Components and Possible Repayment Source,” on page 15.
- d. Assumption of funding structure based on interview statements from DIBC officials and standard capital project financing.
- e. Michigan Senate Bill 410.
- f. Assumption of funding structure based on interview statements from DIBC officials and standard capital project financing.
- g. Memo from Lieutenant Governor Brian Calley to Honorable Mike Kowall on NITC user fees on June 16, 2011. See “NITC Funding and Repayment” on page 13 and “Safeguarding Taxpayers from Risks Requires Statutory Protections.” on page 7.
- h. Assumed based on standard capital project financing for private sector projects.
- i. Testimony and letter from U.S. Secretary of Transportation Ray LaHood to the Michigan Senate Economic Development Committee on June 14, 2011.
- j. Testimony from U.S. Secretary of Transportation Ray LaHood to the Michigan Senate Economic Development Committee on June 14, 2011. Letter to Governor Snyder from Chuck Strahl (M.P) reaffirming Canada’s commitment on March 25, 2011.

**SUMMARY OF FINDINGS** We summarize the findings of our analysis below.

*1. The NITC Project is a Much Larger Construction Project Than The DIBC Project.*

The NITC project includes building a new bridge, toll booths, customs plaza, and highway connections on both sides of the border. The DIBC project includes building a second bridge span and updating the existing customs plaza on the U.S. side. The DIBC currently has a contract with the Michigan Department of Transportation for the “Gateway Project” that involves connecting the U.S. Ambassador Bridge to the U.S. highway system. Since this project is already underway, we do not include costs for these connections in the estimate

of DIBC project cost. Table 2 below illustrates the different physical elements of each project, showing that the NITC project is much larger.

The bridge portion of the NITC project is more expensive than the DIBC bridge. This is likely for several reasons:

- The span would be longer in the NITC location than in the DIBC location.
- There is deeper bedrock in the NITC location, which would result in greater construction costs.
- The clearance under the NITC span would need to be very high for water freight to cross beneath it, requiring more materials.
- The NITC includes construction of bridge approaches, whereas the DIBC already has that infrastructure in place.

Frequently, cost estimates for large scale infrastructure projects are inaccurate. We reviewed ten large American infrastructure projects in the past twenty years and found that these projects had an average cost overrun of 61%. Some of these projects ran as much as 106% over-budget or as low as 10% under-budget.<sup>5</sup> Using this information as a guide, and noting that we did not have complete information on these projects, we estimate that the NITC project could cost between \$2.1 billion and \$4.7 billion. See Table 4, “NITC Project Cost Projections and Breakdown by Entity in 2011 Dollars (in thousands),” on page 12.

**TABLE 2. Project Components of the NITC and DIBC**

NITC	DIBC
Bridge in New Location	Bridge Adjacent to Current Ambassador Bridge
Expanded Customs Plazas	Updated Customs Plazas
Additional Toll Booths and New Plaza	-
Direct Highway Connections to I-75 and Highway 401	-
<u>Cost Projections:</u>	<u>Cost Projections:</u>
Bridge cost: \$900 million	Bridge cost: \$400 million-\$500 million
Total Project Cost: \$2.2 billion	Total Project Cost: \$400 million-\$500 million plus cost of updating customs plazas <sup>b</sup>
AEG Estimate Project Cost: \$2.1-\$4.7 billion <sup>a</sup>	

*Sources for NITC: Senate Bill 410; Michigan Department of Transportation, “Report to the Legislature of the State of Michigan Responding to PA 116,” May 1, 2010.*

*Sources for DIBC: www.ambassadorbridge.com; AnnArbor.com interview with Mr. Moroun June 9, 2011; The Globe and Mail, “Ambassador Bridge cleared for new customs plaza,” July 27, 2010. Analysis: Anderson Economic Group, LLC 2011*

- AEG cost estimates were calculated using information from MDOT and applying possible cost overrun scenarios. See Mette Skamiris and Bent Flyvbjerg, “Inaccuracy of Traffic Forecasts and Cost Estimates of Large Transport Projects,” *Transport Policy*, Vol. 4, No. 3, 1997.
- The DIBC proposed updating the customs plaza according to *The Globe and Mail* on July 27, 2010.

5. See Skamiris, M.K. and Flyvbjerg, B., “Inaccuracy of traffic forecasts and cost estimates on large transport projects,” *Transport Policy*, 1997.

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## *2. NITC Addresses Congestion Problems While the DIBC Does Not.*

Building a second bridge with additional customs capacity would provide the opportunity to reduce congestion and prepare for future increases in commercial traffic. Currently, delays at customs is the primary bottleneck for traffic crossing the border. This is in spite of efforts by the DIBC in 2001 that expanded customs capacity on the U.S. side and reduced traffic wait times. The current Gateway Project would also reduce some of the congestion on the U.S. side. However, a second span alone, next to the Ambassador Bridge, would not eliminate all current congestion on both sides of the border. Please see “Consequences of Congestion” on page 9.

## *3. The Obligation to Repay Borrowed Funds Used for Bridge Construction Does Not Rest with The State of Michigan Under Either Project.*

Both projects rely on tolls to fund bridge operations, maintenance, and to repay revenue bonds used to finance construction of the bridge. For both projects, the State of Michigan will not be responsible for the project’s financing, nor explicitly back any of the bonds in case of a financial shortfall. This assumes that taxpayer protections are in place in statute and bond covenants (see finding number 7 on page 7).

Current legislation for the NITC contains language that protects taxpayers. It lays out two options for toll setting: one where the NITC Authority retains toll setting powers, and another where the Authority allows the contractor operating the bridge to set tolls. The Canadian government has offered to take financial responsibility for the NITC bonds if the bridge Authority retains toll setting powers. In the case where the NITC Authority does not retain toll setting powers the investment bank (or underwriters) for the bonds would back the assets for investors. However, if underwriters back the bonds there is a greater risk of high interest rates that would increase the overall cost of the project.<sup>6</sup>

We identified three repayment scenarios based on varying revenue assumptions. In all three scenarios Michigan taxpayers were not obligated to repay the revenue bonds. See Table 5, “Initial Funding Source for Project Components and Possible Repayment Source,” on page 15.

The DIBC would be obligated to re-pay bonds it issues for its project. As a private company with extensive non-bridge operations, the DIBC would be able to finance bonds on its own and use the company and operations as a financial guarantor.

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6. Senate Bill 410 describes two possible financing options based on toll revenues. The final bill will lay out the exact form of how bonds payments and liability is structured. For more detail see “NITC Funding and Repayment” on page 13.

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#### *4. Drivers Risk Paying Higher Tolls if Traffic Volumes Do Not Meet Projected Levels.*

Assuming taxpayer protections are included in the statute, then the only risk to taxpayers in both projects is higher tolls paid to cross the bridge if traffic volume falls short of projections. With much of the financing and maintenance costs fixed, traffic flows are the main variable for setting tolls. If traffic levels turn out to be insufficient to maintain a low and competitive toll rate, tolls would need to be raised in order to repay bonds. See “Traffic Projections” on page 20.

#### *5. Low Traffic Volumes Would Affect the NITC More Than the DIBC.*

Both projects are susceptible to revenue shortfalls if traffic volumes do not provide adequate funds to repay bonds. The risk is greater with the NITC project because it would be competing with the Ambassador Bridge. The DIBC would have ownership of both bridges, giving it the power to close the older bridge and use only the new proposed six-lane span if traffic volumes fall short of projections.<sup>7</sup> The necessary traffic threshold for the NITC would be higher for two reasons.

- The NITC would have higher costs which means that more funds would be borrowed overall and therefore more toll revenue would be necessary.
- The NITC would be in direct competition with at least one another nearby bridge, which means that the traffic volume required to support the bridge would be higher.

Traffic estimates for toll road projects in the U.S. have been largely inaccurate. Actual traffic for U.S. toll roads has ranged from 51% above original estimates to 86% below original estimates. On average, the actual traffic for these roads was 42% below the estimated level.<sup>8</sup> We have conducted an analysis for the NITC using traffic estimates which include the average, maximum, and minimum estimation errors for large scale road projects that include a toll. Please see Figure 8, “NITC Traffic Estimate Scenarios 2016-2050,” on page 21.

#### *6. The NITC Project Offers Benefits to Taxpayers in the Form of \$2.2 Billion in Federal Dollars for Highway Projects.*

If legislation passes both the House and Senate and is signed by the governor, the government of Canada has agreed to lend the State of Michigan \$550 million that can be used to construct the approaches and toll plazas on the U.S.

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7. There is no public information about required traffic levels or revenues that would be needed to support either project. MDOT commissioned a study on potential revenues assuming that tolls for the NITC are equivalent to that of the Ambassador Bridge. See Wilbur Smith Associates, *Draft Report for DRIC*, June 2010. Cumulative revenues are predicted to be as low as \$101 million or as high as \$382 million according to this study, which assumed that tolls at the NITC and Ambassador Bridge will be equivalent and will both increase 2.3% annually as they have for the Ambassador Bridge in the past.

8. Bain, R, “Error and optimism bias in toll road traffic forecasts,” *Transportation*, 2009.

side.<sup>9</sup> The U.S. federal government has agreed to allow this loan to count as state highway expenditures that are eligible for a federal match giving Michigan up to \$2.2 billion to use on highways around the state.<sup>10</sup> The federal funds would be genuinely new to the state as they would be allocated to other states if not for Michigan matching them. The initial Canadian loan of \$550 million would be repaid to Canada using toll revenues once revenue bonds have been repaid.<sup>11</sup> See “NITC Funding and Repayment” on page 13.

*7. Safeguarding Taxpayers from Risks Requires Statutory Protections.*

In order to fully protect Michigan taxpayers from project risk in the NITC project, the provisions shown in Table 3 below must be set forth in the statute, bond covenants, and other relevant agreements. Provisions to be included relate to toll setting, bond repayment if toll revenue is insufficient, and repayment of Canada’s loan to Michigan. We identify the options that pose the least risk for taxpayers in the table below.

**TABLE 3. Contractual and Statutory Provisions Important to Taxpayers for the NITC Project**

<b>Provision</b>	<b>Option Presenting the Least Risk to Taxpayers</b>
Toll Setting Entity	Statute and bond covenant that state the NITC Authority retains toll setting power.
NITC Bond Liability	Statute and bond covenant that state that only Canada has liability for bond repayments if toll revenues fall short.
Repayment of the \$550 million Canadian Loan to the State of Michigan	Contract stating that repayment will only be made from toll revenues after revenue bonds have been fully paid.

*Analysis: Anderson Economic Group, LLC 2011*

9. See Chuck Strahl (M.P) Former Canadian Minister of Transport, Infrastructure, and Communities letter to Governor Snyder on March 25, 2011 that reaffirms Canada’s commitment to \$550 million for the NITC project with repayment from the toll revenues of the new bridge.
10. Letter from U.S. Secretary of Transportation Ray LaHood to Mike Kowall, Chairman of Committee on Economic Development, June 14, 2011.
11. As with any federal funding program there two types of risk involved. One is in the form of appropriations risk. This means that Congress must appropriate the funding and there is a chance that in the current budget climate appropriations may be cut. The other risk is to the matching program itself. The \$2.2 billion benefit to Michigan will only hold if the funding formula for highway matching funds continues in its current form. If it changes then the matching funds may also change according to a new structure. See the letter from U.S. Secretary of Transportation Ray LaHood to Mike Kowall, Chairman of Committee on Economic Development, June 14, 2011.

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## *Trade, Transportation Infrastructure, and Michigan's Economy*

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This section briefly discusses the United States' trade relationship with Canada and Michigan's vital role as a border crossing. Following this, we present specific data related to the auto industry in Detroit to illustrate the specific costs of capacity constraints related to the Detroit-Windsor border crossing, and which of the two proposed projects can best address the issues.

### *International Trade*

Canada is the United States's top trading partner, accounting for about \$350 billion in exports and \$330 billion in imports in 2010.<sup>12</sup> Over half of the nation's trade with Canada flows directly through Michigan, with over \$200 billion crossing the border in Port Huron and Detroit each year. Detroit's border crossings combine to make it the busiest commercial border crossing in the United States, with more than \$120 billion of goods crossing the border solely in Detroit each year. In 2008, Detroit was the highest valued land trade crossing in the U.S. and the fifth highest valued trade center in the U.S.<sup>13</sup> The international trade relationship with Canada is one of the most crucial for Michigan and for the U.S. Businesses on both sides of the border are interconnected and Michigan serves as the main land portal for Canada's access to the rest of the United States.

### *Trade in Michigan*

Trade with Canada through Detroit affects businesses throughout the country, particularly Kentucky, Ohio, Indiana, Tennessee, and other surrounding states.<sup>14</sup> Nevertheless, Michigan's economy benefits greatly from efficient operation of the border crossing as the industrial core of Southeast Michigan is directly connected to that of Southwest Ontario. In particular, just-in-time manufacturing operations, relying crucially upon the timely delivery of parts in the auto and other industries, have become increasingly important to the industrial bases of Michigan and Ontario. The auto industry accounts for 20% of all trade between the U.S. and Canada. A typical vehicle produced in the Detroit-Windsor area has parts which cross the border six times before it is ready to sell.<sup>15</sup> Various car parts such as doors, seats, and even small hardware are built on different sides of the border and are transported for final construction.

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12. Bureau of Economic Analysis, *U.S. International Transactions Account Data*, Table 12, March 2011.

13. Engineering Society of Detroit Institute: *Bridges of Innovation*, 2011.

14. *The Canada-U.S. Border: An Automotive Case Study*, Center for Automotive Research, January 2002.

15. *The Globe and Mail*, "Deal to smooth U.S.-Canada border woes inches closer to reality," July 6, 2011.

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### *Consequences of Congestion*

Trade flows between Michigan and Ontario can slow down due to congestion at the border. Each truck that moves through customs must be stopped and checked by national security and border control. Lack of capacity at customs frequently causes delays for commercial traffic and travelers. Multiple stop-lights on both sides of the border create additional delays. Each minute wasted in congestion at the border is a minute wasted in production for many industries. If an automobile company is waiting for a part to arrive, operations must halt while they wait causing all production to slow down.

The Ambassador Bridge in Detroit is the busiest commercial crossing on the U.S. Border and delays can be up to two hours during peak travel times.<sup>16</sup> The average delay in Detroit (15 minutes in 2004) was double the delay in Buffalo, NY, another important just-in-time border crossing. In 2004, Southeast Michigan's two bridge crossings had the number one and number three longest wait time for all crossings between the U.S. Canada. Southeast Michigan border delays are in the top five longest for all land crossings including those to and from Mexico.<sup>17</sup> The Center for Automotive Research at the University of Michigan estimates that each hour lost due to waiting for parts is equivalent to more than \$75,000 in lost earnings.<sup>18</sup>

### *Proposals to Address Congestion Delays*

There is considerable momentum toward constructing a new bridge to alleviate delays. Currently, there are two options being discussed publicly:

1. The New International Trade Crossing (NITC) proposed by Michigan Senate Bill 410 (SB 410) would create a public authority that would build and operate a new publicly-sponsored bridge.
2. The Detroit International Bridge Company (DIBC), which currently owns and operates the Ambassador Bridge, has proposed to build a second bridge span and upgrade existing toll and customs areas.

Congestion delays at customs can only be solved by adding additional customs infrastructure and investing in highway connections. As discussed in the second finding "NITC Addresses Congestion Problems While the DIBC Does Not." on page 5, the only plan that would address this problem is the NITC because it adds additional customs booths and border patrol facilities as well as direct connections to I-75 and Highway 401. While the DIBC offers additional bridge lane miles, adding bridge lanes does not solve the bottleneck created by traffic moving through residential areas and lack of capacity at customs.

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16. State Long-Range Transportation Plan 2005-2030: Corridors and International Borders Report, Michigan Department of Transportation, 2007.

17. Bureau of Transportation Statistics, *Annual Report, Surface Border Wait Times*, 2005.

18. Center for Automotive Research, *The Canada-U.S. Border: An Automotive Case Study*, January 2002. Value is given in 2011 U.S. dollars.

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## *New International Trade Crossing Proposal*

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This section summarizes the location and type of bridge in the NITC proposal and then discusses what is known about the costs and funding details of the project.

### *Summary of NITC Proposal*

- Goal: A second bridge span between Detroit and Windsor to decrease customs congestion at the border and ensure adequate capacity for the future.
- Total Cost: The Snyder administration estimates total cost will be \$2.2 billion.
- Financing: Approximately 43.6% of funds needed for the project would be borrowed through a bond issue and must be repaid using toll revenues.
- Financial Risk: No direct risk to taxpayers if repayment of revenue bonds rests with the Canadian government or with the bond underwriting institution. Michigan drivers face the risk of increased tolls if traffic volumes are insufficient to maintain the project.
- Possible Financial Benefit to Michigan Taxpayers: Potential \$2.2 billion in federal highway funds that could be used to finance part of the bridge and lower the bond burden. This money would also be used to fund construction projects that would create jobs in Michigan and improve transportation infrastructure.
- Legislative Action Needed: Senate Bill 410 and similar legislation in the House need to be approved by the Michigan Legislature. The Canadian government has already approved the project. The project has also already received the necessary environmental permits.

### **NITC LOCATION**

The New International Trade Crossing (formerly known as the Detroit River International Crossing or DRIC during Governor Granholm's administration) would be located approximately two miles south of the Ambassador Bridge's current location spanning the Detroit River. The proposed new span would include about nine miles of road that would connect the bridge directly to I-75 in Michigan and Highway 401 in Ontario. The connection to I-75 would go through Detroit's Delray industrial neighborhood slightly north of Zug Island and connect to Windsor's Brighton Beach Area.

### **NITC BRIDGE TYPE**

The NITC would be a cable-stay bridge design according to a bridge type study done in 2007.<sup>19</sup> The bridge would be comprised of six lanes and would include customs and toll lanes designated for frequent and trusted travelers. If built, it would be the largest cable-stay span in North America. There would be a minimum clearance for ships allowing water freight to continue to flow through the

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19. *Detroit River International Crossing Bridge Type Study Report*, Parsons with URS, January 2007. Commissioned by a joint partnership between the Federal Highway Administration, Canada, Michigan Department of Transportation, and Ontario.

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channel. The shoulders of the bridge's roadway would include bike and pedestrian lanes.

## **NITC ADMINISTRATION DETAILS**

SB 410 proposes to create a Michigan Governmental Authority specifically for the NITC. The Authority would be a public body operating under the Michigan Department of Transportation (MDOT). MDOT would be responsible for providing staffing and other necessary support at the request and need of the Authority. It would be made up of five members appointed by the Governor with the consent of the Senate and would sit four-year terms. One member would need to be from a list from the Senate Majority Leader, and another from a list from the Speaker of the House. Board members would not receive compensation and would be subject to the Open Meetings Act and Freedom of Information Act.

The Authority would operate jointly with a public agency in Canada. The structure would be similar to that of the public-private partnership that runs the Mackinac Bridge; however the NITC includes an international partnership component.<sup>20</sup> The NITC Authority would be responsible for all design, construction, repairs, issuance of bonds, development of property, and anything related to the new bridge. They would award a contract for construction and operation of the bridge through standard RFP regulations for Michigan. Thirty-seven firms have responded to an initial RFPOI on the Design-Build (DB) proposal.<sup>21</sup> Ten such firms have already been identified as potential partners.

## **STATUS OF PROPOSAL WITH RELEVANT GOVERNMENTS**

The Border Transportation Partnership (Working Group and Steering Committee) between the Federal Highway Administration, Canada, MDOT, and Ontario launched an exploratory study in 2004 started the environmental permit process and a bridge type study for a second Detroit-Windsor span. This partnership was created to explore the possibility of a new crossing, perform the necessary research, and begin the environmental and government permit process. The partnership supports the NITC project but the administration of the NITC would be in the hands of the Authority and partnering Canadian entity.

The environmental and government approval process can take almost five years to complete for a large scale infrastructure project. The U.S. National Environmental Policy Act (NEPA) requirements have been acquired but final permits and approvals cannot be fully authorized until the bridge itself is designed and commissioned. In 2009 all required environmental approvals were received by both the U.S. and Canada for the new bridge crossing.<sup>22</sup>

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20. According to Act 21 of 1950, the Mackinac Bridge Authority should have seven members, six of which are appointed by the governor with advice from the legislature. Not more than three members may be from the same political party and the seventh member is either the director of MDOT or his or her appointee.

21. RFPOI stands for Request for Proposal of Interest. Even though a design-build proposal would be used the bridge type would be a cable-stay bridge design. The exact design of the bridge will be developed by the winning bidder.

## NITC COSTS

Cost estimates for building the components of a new bridge and associated land-based infrastructure are shown in Table 4 below. Each element in Table 4 is broken into categories based on each portion of the project. The first row captures the total cost estimates by MDOT. The total cost estimates shown include costs of construction and design, utilities, possible contractor mark-ups, and compliance costs for various regulations and reporting requirements. These costs also include those needed to repair or replace five pedestrian bridges over I-75, and funding for replacement housing for displaced residents due to the project. Government officials estimate that they will need to replace 257 homes, 43 businesses, and 9 non-profit organizations.<sup>23</sup> According to MDOT's estimates, the NITC project will cost \$2.2 billion.

Frequently, cost estimates for large scale infrastructure projects are inaccurate. We reviewed ten large-scale American infrastructure projects in the past twenty years and found that these projects had an average cost overrun of 61%. Some of these estimates ran as high as 106% over or as low as 10% under budget.<sup>24</sup> The third through fifth columns in Table 4 show the best-case scenario with an overestimate of 10%, the average scenario with an overrun of 61%, and the worst-case scenario of an overrun of 106%. Using this information on cost overruns and overestimates as a guide however, the NITC project could in theory cost between \$2.1 billion and \$4.7 billion.

**TABLE 4. NITC Project Cost Projections and Breakdown by Entity in 2011 Dollars (in thousands)**

Project Component	Total Cost Using MDOT Estimates	Possible Cost Scenarios		
		Best Case (10% under budget)	Average U.S. Overrun (61% over budget)	Worst Case (106% over budget)
U.S. Bridge and Approach and Canada Bridge and Approach	\$996,538	\$896,884	\$1,604,426	\$2,052,868
Toll Plaza	\$158,176	\$142,358	\$254,663	\$325,843
GSA	\$283,465	\$255,119	\$456,379	\$583,938
CA Plaza	\$406,994	\$366,295	\$655,260	\$838,408
I-75 Changes	<u>\$441,095</u>	<u>\$396,986</u>	<u>\$710,163</u>	<u>\$908,656</u>
<b>Total</b>	<b>\$2,286,268</b>	<b>\$2,057,641</b>	<b>\$3,680,891</b>	<b>\$4,709,712</b>
<i>Memo: Funded with revenue bonds</i>	<i>\$996,538</i>	<i>\$896,884</i>	<i>\$1,604,426</i>	<i>\$2,052,868</i>

*Note: Analysis is in 2011 dollars. We applied a 1.05% inflation rate to the 2010 estimates.*

*Source: Michigan Department of Transportation Report to the Legislature of the State of Michigan responding to PA 116 May 1, 2010; Mette Skamiris and Bent Flyvbjerg, "Inaccuracy of Traffic Forecasts and Cost Estimates of Large Transport Projects," *Transport Policy*, Vol. 4, No. 3, 1997.*

*Analysis: Anderson Economic Group, LLC 2011*

22. See the Detroit River International Crossing Partnership website at <http://www.partnershipborderstudy.com>.

23. Lieutenant Governor Calley, "Green Sheet: Project Mitigation Summary, Detroit River International Crossing," submitted to the Michigan Senate Economic Development Committee on June 16, 2011. The funds required for assisting displaced residents will come mainly from a MSHDA grant.

24. Skamiris, M.K. and Flyvbjerg, B., "Inaccuracy of traffic forecasts and cost estimates on large transport projects," *Transport Policy*, 1997.

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## NITC FUNDING AND REPAYMENT

Initial funding for the project would be provided by several sources: the Canadian government, the U.S. General Service Administration, and bonds issued by the NITC Authority. A list of initial funding sources for each project component can be found in Table 5, “Initial Funding Source for Project Components and Possible Repayment Source,” on page 15. The bonds issued by the Authority would be revenue bonds. When a bond is issued by a public entity, like a city or the Authority, repayment can be constrained by specific types of payment such as project revenues. Revenue bonds are bonds that are repayable only by revenues gained from a project. In this case, only bridge tolls and rents collected from Duty Free shops would be revenue sources for bond repayment and could be increased to make payments.<sup>25</sup>

The state of Michigan would not be responsible for the funds to build highway connections to I-75 and the U.S. side toll plaza as it would be if this were a traditional public project. The Canadian government has offered, if the bill is passed, to provide \$550 million to cover what would be Michigan’s share of the up-front costs.<sup>26</sup> These would include the I-75 connection and the U.S. Toll Plaza. The U.S. federal government has agreed that this \$550 million may be used to obtain federal matching funds, potentially giving Michigan up to \$2.2 billion in federal highway matching funds for highway maintenance and building.<sup>27</sup> The Authority would be responsible for setting aside necessary funds for their own authorized expenses and any excess funds would be deposited into the State Trunkline Fund for use on state-sponsored highway projects.<sup>28</sup>

Canada’s initial loan of \$550 million would be repaid with project revenues and contributions (i.e. tolls). These funds can only be repaid once other obligations (e.g. revenue bonds) have been fully repaid. This way, interest bearing expenses for the project are paid first before Canada’s loans is repaid. Senate Bill 410 states that Michigan taxpayers will not be responsible for repaying Canada’s

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25. When bonds are issued for public projects a sound entity (such as a state) will often back bonds so that the interest rate can stay fairly stable as long as the state itself is stable. However, sometimes the lending bank (or underwriters) will back a bond and this can cause either very high interest rates or interest rates that will fluctuate considerably over time.

26. March 25, 2011 letter to Governor Snyder from Chuck Strahl (M.P), Former Canadian Minister of Transport, Infrastructure, and Communities reaffirming Canada’s commitment to \$550 million for the NITC project with repayment from the toll revenues of the new bridge.

27. The Federal Highway Administration offers a program to states for matching highway dollars appropriated by state coffers. The match is generally a 20% state 80% federal split. For details on the Federal Highway Administration fund matching program see: <http://www.fhwa.dot.gov/environment/retrails/news/dec2005/matchingfunds.htm>. The commitment to use these dollars for the matching program is stated in the testimony and letter from U.S. Secretary of Transportation Ray LaHood to the Michigan Senate Economic Development Committee on June 14, 2011.

28. The Michigan Trunkline Highway System was created by Act 51 in 1951. It is comprised of all highways controlled by MDOT. The State Trunkline Fund provides funding for state roads and highways in Michigan. State fuel taxes are also part of the Trunkline Fund however they are constitutionally mandated to be placed in a separate account from the Trunkline Fund.

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\$550 million contribution, paying bonds, or financing the bridge in any way other than those using the bridge and paying tolls.

SB 410 outlines the powers of the Authority so that the tolls would either be set by the Authority or be contracted with an outside operating company (concessionaire). These tolls would be adjusted as necessary based on traffic flows in order to maintain sufficient funds to meet bond obligations. All obligations would be paid by contributions (federal and Canadian), revenue bonds, and revenues (tolls or rents) from the bridge. Tolls will be set by either the Authority or a contracted concessionaire. The bill sets forth two possible plans for toll setting and bond payment liability.

- **Availability Payment Deal:**<sup>29</sup> The Authority would retain the right to set tolls, and if tolls become insufficient to meet obligations then the Canadian government would provide funds to fill the shortfall between required payments and toll revenue. Canada has offered to take on this responsibility.<sup>30</sup>
- **Underwriter Liability:** The Authority does not choose to retain toll pricing power and gives the responsibility to a concessionaire. Tolls may be raised and the underwriting institution for the Authority's bonds would be responsible for the funds and ensure that the bridge continues to be operational and financially sound.

Senate Bill 410 states that the State of Michigan will not back the bonds for the NITC. If revenues are not sufficient to pay obligations, the Canadian government or the lending institution would be responsible for ensuring that the project continues as planned.

Once obligations are paid (bonds and Canada's loan to Michigan), revenues from toll collections on the U.S. side will be used for continued bridge operations with the remainder deposited into the State Highway Fund. The State Highway Fund is solely used for designated highways under the state's control. The State Highway Fund would not be responsible for the NITC. Table 5 outlines the initial funding sources for each project component and provides a description of repayment options and where funds will come from in each of three possible cases.

- Scenario 1: Traffic volume is sufficient to support bond payments.
- Scenario 2: Availability Payment Deal. Traffic volume is not sufficient to support bonds payments and the Canadian government is responsible for making up the short-fall between toll revenues and required bond payments. 100% of the risk falls on the Canadian government to ensure bond payments.
- Scenario 3: No Availability Payment Deal. Traffic volume is not sufficient to support bond payments and the bond underwriters take responsibility for

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29. The term "availability" is used because Canada would step in if there was not sufficient toll revenue "available" to re-pay bonds.

30. Memo from Lieutenant Governor Brian Calley, concerning NITC user fees, June 16, 2011.

timely bonds payments to investors. 100% of the burden would fall onto the investment bank that would underwrite the bonds.

**TABLE 5. Initial Funding Source for Project Components and Possible Repayment Source**

Project Component	Possible Cost Ranges for each Portion	Initial Funding Source	Repayment Scenarios		
			1: Sufficient Traffic Levels	2: Insufficient Traffic with Availability Deal	3: Insufficient Traffic without Availability Deal
Main Bridge	\$900 million-\$2.1 billion (total cost of Main Bridge and both approaches)	Bonds	Tolls	Canadian Gov't	Underwriters
U.S. Approach Bridge		Bonds	Tolls	Canadian Gov't	Underwriters
Canadian Approach Bridge		Bonds	Tolls	Canadian Gov't	Underwriters
U.S. Toll Plaza	\$142 million-\$326 million	Loaned Canadian Funds	Tolls	Tolls	Tolls
Canadian Toll Plaza	\$366 million-\$838 million	Canadian Funds	None	None	None
I-75 Interchange	\$397 million-\$909 million	Loaned Canadian Funds	Tolls	Tolls	Tolls
Duty Free, Customs Broker, Other (U.S. and Canada)	No public estimate	Bonds or Lease Revenues	Tolls	Canadian Gov't	Underwriters
U.S. Inspection Plaza	\$255 million-\$584 million	U.S. General Services Administration	None	None	None
Canadian Inspection Plaza	No public estimate	Canadian Funds	None	None	None
Canadian GBSA Headquarters	No public estimate	Canadian Funds	None	None	None

*Source: Michigan Department of Transportation, "Report to the Legislature of the State of Michigan responding to PA 116," May 1, 2010*

*Analysis: Anderson Economic Group, LLC 2011*

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## *Detroit International Bridge Company Proposal*

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This section summarizes the location and type of bridge in the DIBC proposal then discusses what is known about the costs and funding details of the project. A brief summary of the details is followed by a discussion of the sources, underlying assumptions, and implications of these details.

### *Summary of DIBC Proposal*

- Goal: Build another bridge next to the Ambassador Bridge. Maintain profitability of Ambassador Bridge and DIBC.
- Total Cost: Between \$400 million-500 million (this value has been given in press statements by DIBC officials; however it has not been released in an official document).
- Financial Risk: No direct risk to taxpayers as repayment of bonds rests with the DIBC. Michigan taxpayers do face risk of increased tolls if traffic volumes are insufficient to maintain a competitive rate.
- Direct Financial Benefit to Michigan: Possibly more tax dollars from DIBC operations if traffic levels do increase; however the monetary value is unknown because the complete nature of the project has not been made public.
- Legislative Action Needed: Canadian governmental approval of project and Environmental permits according to NEPA.

### **BRIDGE LOCATION**

The new span proposed by the DIBC would be located directly next to the current span to the south.<sup>31</sup> The entries for the new bridge would be the same as the current bridge.

It is unclear whether the DIBC would continue operating the existing Ambassador Bridge if a new span is built. The DIBC has made two separate statements on this topic. According to the DIBC's website, "The Project will retain the existing historic bridge for overflow traffic, use by bridge maintenance vehicles, and special events."<sup>32</sup> The DIBC website referred to the new span as a "replacement span" rather than an additional or second bridge span. It is not clear whether the new DIBC bridge would be a replacement used in conjunction with the current Ambassador Bridge, or if it is intended to be the sole crossing.

### **BRIDGE TYPE**

DIBC proposes to build a six-lane cable-stay bridge. The DIBC has stated that there would be designated lanes for frequent and trusted travelers. The DIBC has published preliminary design plans on their website completed by American Consulting Services of Michigan. These plans were issued as part of the regula-

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31. For an artistic rendering of the proposed new Ambassador Bridge see: <http://www.ambassadorbridge.com/SecondSpan/ReplacementSpan.aspx>.

32. See [http://www.ambassadorbridge.com/SecondSpan/Project\\_6lane.aspx](http://www.ambassadorbridge.com/SecondSpan/Project_6lane.aspx).

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tory requirements for an environmental impact assessment from the U.S. Coast Guard.<sup>33</sup> Though this document serves the purpose of environmental permits, the bridge's cost and funding details are not available.

## **STATUS OF PROPOSAL WITH RELEVANT GOVERNMENTS**

The DIBC has neither requested NEPA permits nor made an agreement with the Canadian government for a new bridge.<sup>34</sup> In 2007, the DIBC submitted an environmental impact statement proposing a new six-lane span to Transport Canada; however their proposal was not reviewed because Canada requires their border services agency to review such a plan first.<sup>35</sup> DIBC's vice-chairman stated in a June 9, 2011 interview with AnnArbor.com that the DIBC has issued a proposal for permits to the Canadian government. This proposal for permits was originally sent in 2007 and was resubmitted in April 2011.<sup>36</sup>

The DIBC has not publicly presented official documentation on the permitting process. There are two documents on the DIBC website, one for the U.S. Coast Guard and another for the Canadian Authorities responding to information requests for environmental permits. We did not find information other than that in news sources that can verify whether or not these permit requests have been granted. (See our discussion of sources for this project in "Overview of Approach" on page 1.)

## **DIBC COSTS**

The DIBC has stated that the cost of the proposed new span would be between \$400 million-\$500 million.<sup>37</sup> This cost would not be imposed directly on taxpayers because the DIBC is a private company. Statements from the DIBC indicate that their bridge would be a fraction of the costs of the NITC option. Examples of bridge components that would contribute to cost differences between the two projects include:

- The bedrock below the current site is more shallow than at the proposed NITC site and therefore the NITC is more costly.<sup>38</sup>
- The length of the NITC is longer than the Ambassador Bridge and requires more material.<sup>39</sup>
- The clearance for water freight traffic under the NITC must be higher than the Ambassador Bridge and more material is required.<sup>40</sup>

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33. For more information please see [ambassadorbridge.com](http://ambassadorbridge.com).

34. <http://www.michiganradio.org/post/canada-and-bridge>.

35. Ambassador Bridge cleared for new customs plaza, *The Globe and Mail*, July 27, 2010.

36. Ambassador Bridge Environmental Impact Statement, see [http://www.ambassadorbridge.com/!Downloads/Updated\\_EIS\\_Screening\\_Report\\_110411.pdf](http://www.ambassadorbridge.com/!Downloads/Updated_EIS_Screening_Report_110411.pdf).

37. AnnArbor.com interview with Mr. Matty Moroun June 9, 2011.

38. Evidence reported here is AEG analysis based on data within report: Detroit River International Crossing Bridge Type Study Report, Parsons with URS, January 2007.

39. Evidence reported here is AEG analysis based on data within report: Detroit River International Crossing Bridge Type Study Report, Parsons with URS, January 2007.

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- The NITC includes construction of bridge approaches, whereas the DIBC already has that infrastructure in place.

### *Funding and Repayment*

Revenue bonds would be the major funding source for the DIBC project. Just as with the NITC bonds, the DIBC bonds would be financed through toll revenues. The difference between the two bond structures is that the DIBC would have the liability for payment in case of insufficient toll revenues or default. This means that if the tolls are not enough to pay bond obligations, the DIBC would use its own assets to back the bonds.

Bonds come in two forms, taxable, and tax-exempt. Many bonds issued by governments are fully or partially tax-exempt. This means that the bond holder does not have to pay taxes on the interest they earn from a bond purchase. Sometimes, a private company will apply to a state government for permission to issue tax-exempt bonds. In general, companies that do this use the bonds to fund a project in the public interest. In this case the bridge would be an international trade crossing and within the public interest and may be eligible for tax-exempt status. In 2007, the DIBC filed a request for tax-exempt bonds from the Michigan Strategic Fund to help finance the new six-lane bridge.<sup>41</sup> The request was not granted at that time, and we could not find evidence of a more recent request.

## **PREVIOUSLY COMPLETED ENHANCEMENTS TO THE AMBASSADOR BRIDGE**

Recently there have been several projects by the DIBC to reduce congestion on the U.S. side of the Ambassador Bridge. The first occurred in 2001 when the DIBC constructed additional toll booths on the U.S. side of the Ambassador Bridge. Prior to this addition, traffic waiting to enter the bridge would stretch up to four miles on a daily basis.<sup>42</sup> The additional booths alleviated some of the congestion.

A second project involved the construction of ramps to directly connect the Ambassador Bridge to I-75 and I-96 as part of the “Gateway Project.” The purpose of these ramps was to reduce congestion at the bridge and remove truck traffic from local streets. The final stage of construction for these ramps was supposed to take place between 2007 and 2009.

Currently the DIBC is in a legal dispute with MDOT over the Gateway Project. MDOT alleged that the DIBC did not build the ramps according to plan and built unauthorized structures on public lands, which included a new duty-free

40. Evidence reported here is AEG analysis based on data within report: Detroit River International Crossing Bridge Type Study Report, Parsons with URS, January 2007.

41. See information concerning the DIBC’s requests for tax exempt bonds at: <http://www.todaystrucking.com/news>. This site gathers information concerning transportation projects.

42. The State of Michigan Supreme Court, Appeal from the Court of Appeals, Brief for Appellant Ambassador Bridge Company, Preliminary Statement, pg. 6, June 2007.

shop.<sup>43</sup> The court recently ordered the DIBC to tear down unauthorized structures and fulfill their obligations in the contract. The DIBC has until January 2012 to complete the contracted construction work.<sup>44</sup>

**AFFECT OF NITC ON DIBC OPERATIONS**

The DIBC has argued that building the NITC will hurt their profits and possibly put them out of business. A report written in 2010 by Wilbur Smith Associates, and commissioned by MDOT, projected the possible revenue losses for the DIBC through 2060 if the NITC were built.<sup>45</sup> This report assumed that improvements to the Ambassador Bridge will be made to keep the bridge in operation for another 50 years.

Table 6 below outlines the possible revenues for the DIBC if the NITC is built and if it is not built. This analysis does not include revenue projections for if the DIBC were to build a second span. In this analysis the NITC opens in 2016. The analysis appears to assign approximately 50% of traffic to each bridge. The loss in revenue for the DIBC if the NITC is built is equal to roughly half projected revenues without the NITC.

**TABLE 6. Estimated Revenue Losses for the Ambassador Bridge if the NITC is Built (in millions of 2011 dollars)**

Year	DIBC Revenue Without NITC	DIBC Revenue With NITC	Revenue Difference
2015	\$97.7	\$97.7	\$-
2020	\$111.9	\$59.6	\$(52.3)
2025	\$130.0	\$70.0	\$(60.0)
2030	\$147.9	\$80.0	\$(67.9)
2035	\$162.9	\$88.4	\$(74.5)
2040	\$176.0	\$95.7	\$(80.3)
2045	\$188.2	\$102.4	\$(85.8)
2050	\$201.0	\$109.4	\$(91.6)
2055	\$213.7	\$116.2	\$(97.6)
2060	\$226.9	\$123.2	\$(103.7)

*Source: Wilbur Smith Associates, "Draft Report for DRIC," June 2010*

*Analysis: Anderson Economic Group, LLC 2011*

43. See John Gallagher, "Manuel (Matty) Moroun's Bridge Company Could Face Court Sanctions," *Detroit Free Press*, June 9, 2011.

44. See PRNewswire, "Detroit International Bridge Company Continues Moving Forward Toward Completion of Gateway Project," June 21, 2011.

45. Wilbur Smith Associates, *The Comprehensive Traffic and Toll Revenue Study for the Detroit River International Crossing Project Forecast*, 2010.

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## *Factors influencing Viability of Proposals*

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The financial viability of either bridge rests on three main components: traffic projections, cost estimates, and financing structure. Approval from the government authorities would also be required for either project to break ground. Traffic projections are the most critical because toll revenue from bridge users would be used to finance bond obligations. Ultimately, traffic patterns in the future will be the deciding factor for financial viability. Cost estimates are important because large projects often stray from initial estimates. Finally, financing details contribute to possible taxpayer risk.

### **TRAFFIC PROJECTIONS**

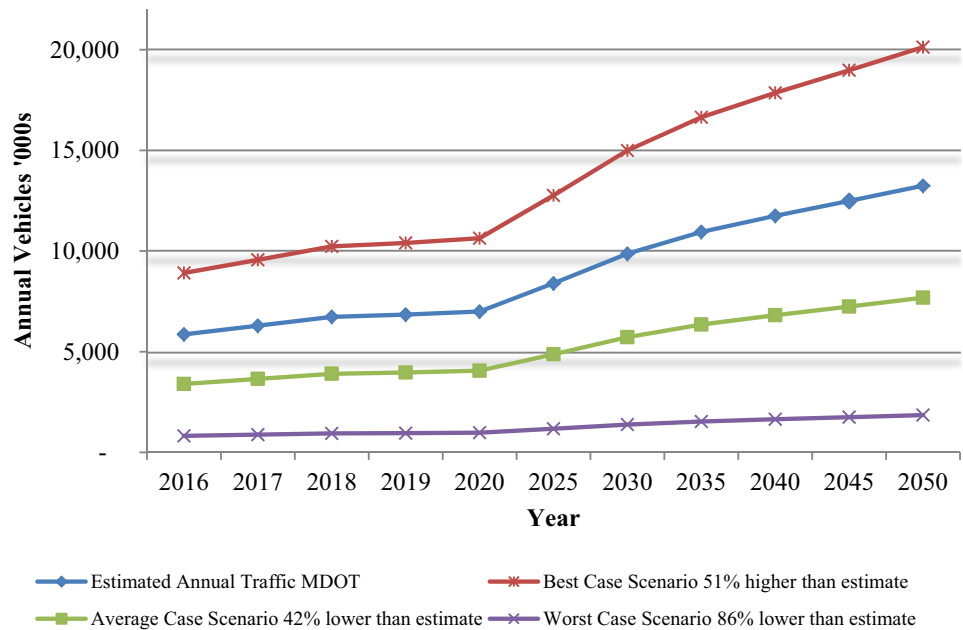
It is difficult to make traffic projections accurately. According to a 2009 study, public road projects in the U.S. that included a toll component tended to overestimate traffic by an average of 42%.<sup>46</sup> The true traffic levels in the study's sample ranged from 86% below predicted levels to 51% above. Starting with MDOT projections as a base we constructed three scenarios for future traffic based on a 2009 study. Figure 8 on page 21 shows best, average, and worst-case scenarios based on these estimates. The MDOT estimate (in blue) is almost 5.9 million vehicles during the first year of operation. Using the "average," "minimum," and "maximum" traffic volumes produces estimates of first year traffic that range from a low of less than 1 million to over 8.9 million vehicles in the first year. In 2010, over seven million vehicles crossed the Ambassador bridge alone.<sup>47</sup>

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46. Bain, R. "Error and optimism bias in toll road traffic forecasts," *Transportation*, 2009

47. DIBC estimate.

**FIGURE 8. NITC Traffic Estimate Scenarios 2016-2050**



Source: Wilbur Smith Associates Draft Report for DRIC June 2010; Bain, R. 2009  
 Analysis: Anderson Economic Group, LLC 2011

**FINANCING**

Financing for both projects comes from revenue bonds. In the NITC case the bond payment liability will rest with the Canadian government or with the bond underwriting institution. With the DIBC project, the ultimate responsibility is with the DIBC itself. From the perspective of an investor, the bond backer’s financial viability is as important as the stream of revenues required for timely payments. If revenues are not guaranteed and default is a possibility then a higher interest rate would be required by investors in order to take on the risk. A higher interest rate increases the overall cost of the project. In the NITC case this would increase the total costs and increase the traffic volume threshold and raise tolls.

If traffic is too low to sustain competitive tolls rates and there is risk of default on bond obligations there are several possibilities for the NITC. One scenario is that Canada foots the bill for the bond obligations if toll revenues cannot support timely payments. In this case there is not very much risk of high toll rates or interest rates on the bonds. In a second scenario bonds are backed by the underwriting investment bank. If this is the case the interest rate may either be flexible (meaning that it can change based on the current economic situation with the bridge) or it can be fixed at a higher rate because of uncertainty of timely payments. In this scenario interest rates could be a factor contributing to overall costs approaching the worst-case scenario cost estimate of over \$4 billion.

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**GOVERNMENT  
APPROVAL**

A bridge would fall on the territories of two countries, so both countries must approve its construction. The government of Canada has issued multiple statements and sent formal letters to both former Governor Granholm and current Governor Snyder of its commitment to the NITC project. Their commitment is strong enough that they have promised \$550 million to the state of Michigan to cover construction expenses.<sup>48</sup> If neither project goes forward, it may be possible for the U.S. and Canada to reach another agreement and build a bridge without the involvement of the State of Michigan. We did not evaluate this option.

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48. March 25, 2011 letter to Governor Snyder from Chuck Strahl (M.P) Former Canadian Minister of Transport, Infrastructure, and Communities reaffirming Canada's commitment to \$550 million for the NITC project with repayment from the toll revenues of the new bridge.

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## *About Anderson Economic Group*

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Anderson Economic Group LLC is a research and consulting firm that specializes in economics, public policy, finance, market analysis, and land use economics. AEG has offices in East Lansing, Michigan and Chicago, Illinois. AEG's past clients include:

- *Governments*, such as the states of Michigan, North Carolina, and Wisconsin; the cities of Detroit, MI, Cincinnati, OH, Norfolk, VA, and Fort Wayne, IN; counties such as Oakland County, Michigan, and Collier County, Florida; and authorities such as the Detroit-Wayne County Port Authority;
- *Corporations* such as GM, Ford, Delphi, Honda, Metaldyne, Taubman Centers, The Detroit Lions, PG&E Generating; SBC, Gambrinus, Labatt USA, and InBev USA; automobile dealers and dealership groups representing Toyota, Honda, Chrysler, Mercedes-Benz, and other brands;
- *Nonprofit organizations*, such as Michigan's University Research Corridor, Business Leaders for Michigan, Michigan State University, Wayne State University, Automation Alley, and the Michigan Chamber of Commerce.

Visit AEG's website at: <http://www.andersoneconomicgroup.com>.

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Prior to coming to Anderson Economic Group Ms. Spencer worked with the Michigan Municipal League on the 21st Century Communities project providing consulting services to local governments in Michigan concerning local economic development initiatives. Ms. Spencer held a fellowship at Columbia University as a teaching assistant for Quantitative Analysis and Operations Management. She has also taught in the District of Columbia Public Schools.

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Prior to joining Anderson Economic Group, Ms. Sallee worked for the U.S. Government Accountability Office (GAO) as a member of the Education, Workforce and Income Security team. She has also worked as a market analyst for Hábitus, a market research firm in Quito, Ecuador, and as a legislative assistant for two U.S. Representatives.

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Prior to joining Anderson Economic Group, Mr. Rosaen worked for the Office of Retirement Services (part of the Michigan Department of Management and Budget) for the Benefit Plan Design group. He has also worked as a mechanical engineer for Williams International in Walled Lake, Michigan.

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## CONTRIBUTORS

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Mr. Anderson founded Anderson Economic Group in 1996, and serves as a Principal and Chief Executive Officer in the company.

Mr. Anderson has taken a leading role in several major public policy initiatives in his home state; he was the author of the 1992 Term Limit Amendment to the Michigan Constitution, and also the author of the 2006 initiated law that repealed the state's 4-decade-old Single Business Tax. Before founding Anderson Economic Group, Mr. Anderson was the deputy budget director for the State of Michigan under Governor John Engler, and Chief of Staff for the Michigan Department of State.

Mr. Anderson has written over 100 published works, including the book *Business Economics and Finance* and the chapter on business valuation in the book *Litigation Economics*. He is also the executive editor of three editions of the *State Economic Handbook*. His 2004 article "Pocketbook Issues and the Presi-

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gency” and his 2009 paper “The Value of Private Businesses in the United States” have each been awarded for outstanding writing from the National Association of Business Economics. Anderson's views on the economy are often cited by national news media including *The Wall Street Journal*, *New York Times*, *National Public Radio*, and *Fox Business News*.

Anderson is a graduate of the University of Michigan, where he earned a Master of Public Policy degree and a Bachelor of Arts degree in political science. He is a member of the National Association for Business Economics and the National Association of Forensic Economists. The Michigan Chamber of Commerce awarded Mr. Anderson its 2006 *Leadership Michigan Distinguished Alumni* award for his civic and professional accomplishments.

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