

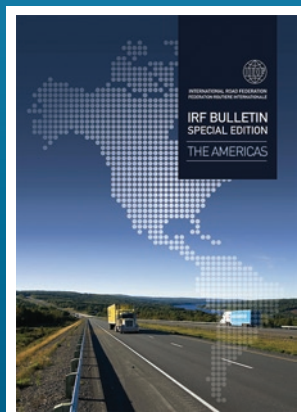


INTERNATIONAL ROAD FEDERATION
FEDERATION ROUTIERE INTERNATIONALE

IRF BULLETIN SPECIAL EDITION

THE AMERICAS





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The IRF would like to thank the following persons for supplying articles, charts, comments and photographs for this publication:
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Publisher:



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Graphic Design & Layout: Digitalgrafis Studio, Indonesia

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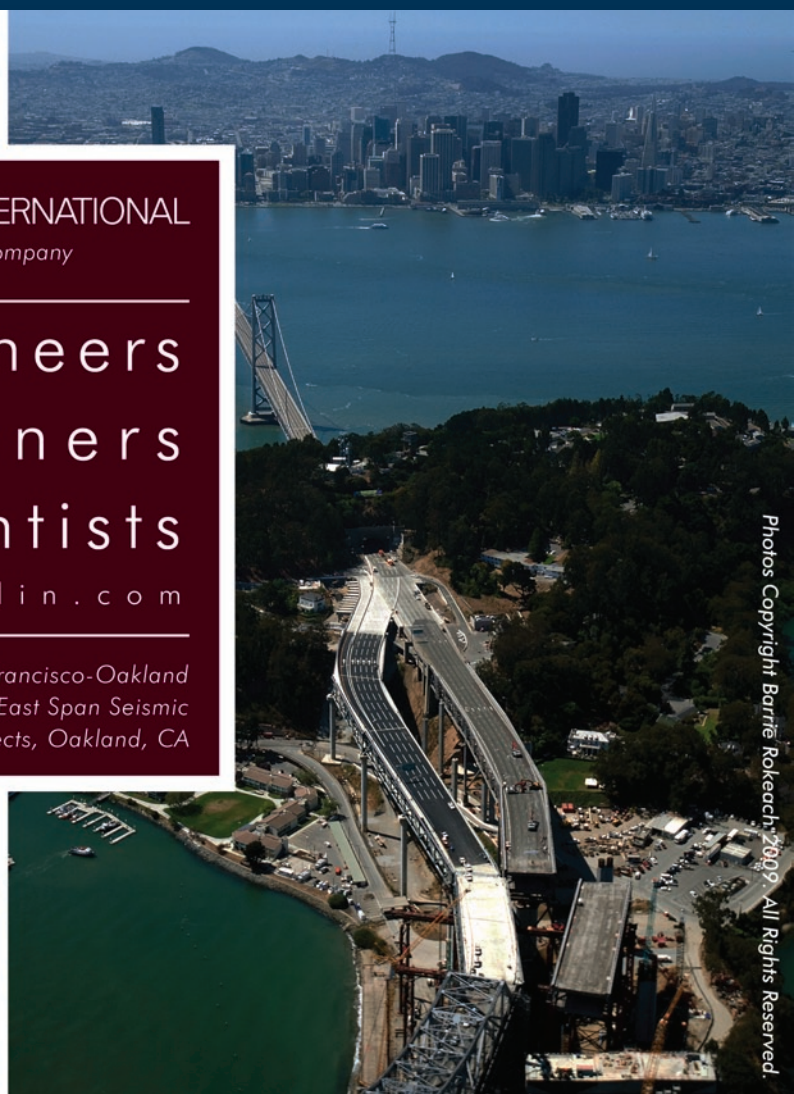


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On behalf of the International Road Federation, it is my pleasure to invite members of the road industry to join us at the 16th IRF World Road Meeting to be held May 25-28, 2010 in Lisbon, Portugal. This prestigious gathering of international road industry professionals will occur

under the theme of "Sharing the Road", an unmistakable reference to the idea that each country around the world plays its own role in shaping and leading the road industry into the future.

The countries that form the Americas share in this role of shaping the path for the road industry. The Americas is a region as diverse and unique as its people and its landscape. From the Rocky Mountains to the Pampas of Argentina, from the ancient civilization of Machu Picchu to the arctic tundra in northern Canada, from the developed but decaying road system in the United States to the dirt roads in Haiti. All of these examples demonstrate the diversity and the challenges faced by the road industry in moving forward into the 21st Century.

As the world has experienced a series of economic setbacks, the road development industry has felt the effects as much as any industry. On top of that, IBM's CEO, Samuel J. Palmisano recently stated, 100 years ago only 13 percent of the world's population lived in cities. Today, more than half of all people live in a city.

The movement of goods and people between and within these highly populated cities requires a holistic approach to road and transportation planning, designing, and building. In our modern world, there is an ever increasing variety of modes of transportation. However, the road is still the transportation link that holds our intermodal world together.

After the famous victory in the Second World War, Winston Churchill said, "Victory is the beautiful colored flower. Transport is the stem without which it could never have blossomed." Today's world needs innovation in transport, not just roads. IRF will continue to promote and foster the role of roads as part of an integrated approach to transportation needs, doing our part to help lead the road industry not only in the present, but into the 21st Century.

Brian T. Harris

Chairman, IRF Washington

CANADA

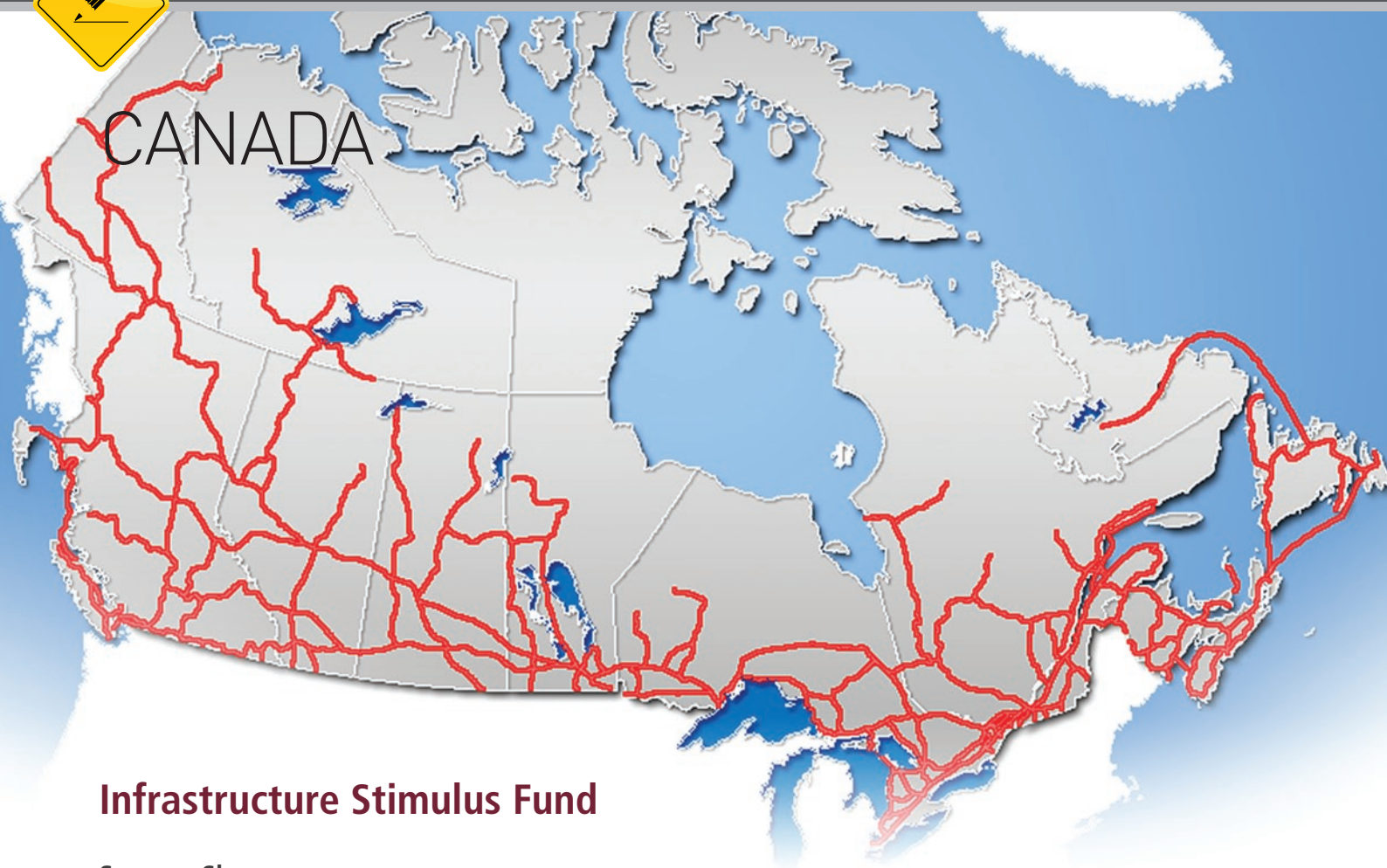
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Infrastructure Stimulus Fund

Spencer Sloan

Chief, Knowledge Management
Infrastructure Canada

New in Canada's Economic Action Plan

Through Canada's Economic Action Plan, the federal government has established a new \$4-billion Infrastructure Stimulus Fund that provides funding to provincial, territorial, municipal and community construction-ready infrastructure projects. The Infrastructure Stimulus Fund complements existing federal infrastructure funding by focusing on short-term objectives for economic stimulus.

About the Program

The Infrastructure Stimulus Fund will provide \$4 billion for the construction of infrastructure projects to be built over the next two years (2009-10 and 2010-11). To provide short-term stimulus to the economy, construction readiness will be a key project selection criteria; for example, the rehabilitation and retrofit of existing assets to improve safety or extend their useful life. Eligible projects include water, wastewater, transit, roads, culture, parks, trails and community services infrastructure.

How it Works

The program provides up to 50 percent of funding for provincial and territorial assets and not-for-profit private sector assets, 33 percent for municipal assets, and 25 percent of eligible costs for for-profit sector assets.

Where possible, the Government of Canada will partner with provinces and territories for the management and delivery of the Infrastructure Stimulus Fund. Funding for projects will flow through a streamlined agreement with provinces and territories where they are funding projects. To ensure that the program provides economic stimulus quickly, and to ensure partnership with the provinces and territories, the Infrastructure Stimulus Fund is being rolled out in a flexible manner. Proposals from municipal and non-governmental organizations will be considered through different selection processes depending on each province and territory, to build on existing programs where possible and avoid duplicative application processes. For example, projects may be identified through applications to the Building Canada Communities Component, by partnering through new or existing programs that can be enhanced



Immediate Action to Build Infrastructure

	2008-09	2009-10	2010-11	Total
Investments in Provincial, Territorial and Municipal Infrastructure:				
Green Infrastructure Fund		200	200	400
Communities Component of the Building Canada Fund		250	250	500
Accelerating payments under the Provincial/Territorial Base Funding initiative		495	495	989
Infrastructure Stimulus Fund		2,000	2,000	4,000
Recreational Infrastructure Canada		250	250	500
National recreation trails		25	-	25
		3,220	3,195	6,414
Investments in First Nations Infrastructure:				
On-reserve infrastructure investments				
School construction		95	105	200
Water and wastewater projects		83	83	165
Critical community services		83	68	150
		260	255	515
Investments in Knowledge Infrastructure:				
Improving infrastructure at universities and colleges		1,000	1,000	2,000
Canada Foundation for Innovation		-	50	50
Institute for Quantum Computing		50	-	50
Arctic research infrastructure		36	51	87
Modernizing federal laboratories		100	150	250
Canada Health Infoway		500	-	500
Extending access to broadband services in rural communities		100	100	200
		1,786	1,351	3,137
Investments in Federal Infrastructure Projects				
An improved rail system		24	33	57
Trans-Canada Highway		-	-	-
Federal bridges		12	25	37
Small craft harbours		43	57	100
Repair and restoration of federal buildings		57	63	120
Enhancing accessibility of federal buildings		12	12	24
Manège Militaire in Québec City		2		2
Accelerating action on federal contaminated sites		32	49	81
Border facilities		-	-	-
Aviation security		281	16	296
		462	254	716



Total—Immediate Action to Build Infrastructure	5,727	5,055	10,782
Cash Value	6,224	5,605	11,829
Provincial contributions	4,532	4,365	8,897
Total stimulus value	10,756	9,970	20,726

Notes: Figures in this table are presented on an accrual basis and therefore, in some cases, will not match the figures contained in the budget text when those are presented on a cash basis. Totals may not add due to rounding.

to undertake incremental projects, or through specific calls for proposals for stimulus projects using a short form and accelerated process.

Once projects are announced under the Infrastructure Stimulus Fund, unless you are notified otherwise, this means that all federal approvals and environmental assessments are complete and project work can begin as soon as your province or territory has signed off. Only projects that can be built by March 31, 2011 are eligible.

The federal government will pay its share of costs incurred up to March 31, 2011. It will not provide any funding beyond this date.

Building Canada: A New Approach

Spencer Sloan

**Chief, Knowledge Management
Infrastructure Canada**

The tools of the Building Canada plan include a number of flexible initiatives and targeted programs that balance regional needs with national priorities. Sustained base funding will allow governments to plan for the longer-term and provide flexibility, while distributed program and nationally-targeted funding balance national, regional and local infrastructure priorities.

Base Funding for Municipalities

Over half of the funding under the Building Canada plan will be provided as base funding for municipalities. In total, over \$17.6 billion over seven years will be provided through the Gas Tax Fund and the GST Rebate. This funding is stable, predictable, and flexible. It allows Canadian municipalities to plan for the longer-term, using a dedicated source of

funds to address their ongoing infrastructure needs.

\$33B Infrastructure Plan - 2007-2014

Program	Amount
Municipal GST Rebate	\$5.8B
Gas Tax Fund	\$11.8B
Building Canada Fund	\$8.8B
Public-Private Partnerships Fund	\$1.25B
Gateways and Border Crossings Fund	\$2.1B
Asia-Pacific Gateway and Corridor Initiative	\$1B
Provincial-Territorial Base Funding	\$2.275B
Total	\$33B

Gas Tax Fund

Budget 2007 extended the Gas Tax Fund (GTF) from 2010 to 2014 at \$2 billion per year. As a result, over the next seven years, municipalities will receive \$11.8 billion through this mechanism. Municipalities can pool, bank and borrow against this funding, providing significant additional financial flexibility. The GTF supports environmentally sustainable municipal infrastructure that contributes to cleaner air, cleaner water and reduced GHG emissions. Eligible categories of investment include public transit, water and wastewater infrastructure, community energy systems, the management of solid waste, and local roads and bridges that enhance sustainability outcomes. The GTF also provides funding to increase the capacity of communities to undertake long-term planning. Funding for planning capacity is complemented by a requirement for communities to develop Integrated Community Sustainability Plans (ICSPs), which are long-term plans aimed at improving sustainability outcomes in Canada's communities. To ensure accountability to Canadians, communities report on their use of the funds activities on an annual basis.



Goods and Services Tax Rebate

The GTF is complemented by the GST Rebate, which is a 100 percent rebate of the GST paid by municipalities. Over the next seven years, the maintenance of the increase in this rebate from 57 percent to 100 percent is expected to provide communities with over \$5.8 billion in additional flexible funding to address their highest priorities, from new infrastructure assets to the maintenance and operation of existing public infrastructure and facilities. Municipalities are accountable directly to their municipal taxpayers in respect of this funding and separate reporting is not required by the Government of Canada.

Base Funding for Provinces and Territories

Building Canada also provides a total of \$175 million to each province and territory for core infrastructure priorities. This represents an expenditure of \$2.275 billion. This Provincial/Territorial Base Funding will support projects in all of the categories noted below under the Building Canada Fund (BCF), all Highway System infrastructure projects, and the safety-related rehabilitation of infrastructure in all BCF eligible categories. Federal funding will be cost-shared with provinces and territories to maximize investment by all orders of government but, similar to the GTF, federal funding will be provided up-front and does not have to be utilized in the year in which it was provided. This ensures additional financial flexibility to provinces and territories as part of Building Canada. All provinces and territories will benefit from this investment in modern public infrastructure, especially smaller jurisdictions, which generally have lower population densities.

Balancing Needs and Priorities

The Building Canada plan also includes three new national infrastructure programs. The Gateways and Border Crossings Fund and the Public Private Partnerships Fund (P3 Fund) are targeted investment programs, focused on addressing specific national priorities. The third new program, the Building Canada Fund, is the new flagship infrastructure program of the Government of Canada. It complements the other funding programs by providing a balanced response to addressing local and regional infrastructure needs, while always advancing national priorities that are important to all Canadians.



Gateways and Border Crossings Fund

The National Policy Framework for Strategic Gateways and Trade Corridors will guide the development of a limited number of new gateway and corridor strategies and will help determine the projects to be funded by the Gateways and Border Crossings Fund. This \$2.1 billion fund will focus on strategic trade corridors linking to international gateways. Eligible projects will include core National Highway System (NHS) facilities impacted by increased trade flows, inter-modal connectors and facilities, international bridges and tunnels, rail/road grade separations, short-line rail, short-sea shipping and intelligent transportation systems. At least \$400 million from this fund will be devoted to the construction of an access road for the new Windsor-Detroit crossing—the busiest border point for Canada-United States trade—and one of the most significant commercial trade corridors in the world. Projects will be assessed on the basis of merit. Federal funding will be cost-shared to generate additional investment in this critical infrastructure.

The activities under the Gateways and Border Crossings Fund build on the Asia-Pacific Gateway and Corridor Initiative, which was significantly enriched through the Building Canada plan. Investments from this \$1 billion initiative are already producing results on policy, governance and operational issues, including strategic infrastructure projects to enhance marine, rail and road connections, and system capacity.

Public-Private Partnerships

Private capital and expertise can make a significant contribution to building infrastructure projects faster and at a lower cost to taxpayers. The private sector is also often better placed to assume many of the risks associated with



the construction, financing, and operation of infrastructure projects. As a result, the use of public-private partnerships (P3s) around the world has been expanding rapidly, with many countries taking practical steps toward the development of programs aimed at fostering stronger P3 markets. While Canada has made some progress in the use of P3s with the development of some high profile projects (including the Confederation Bridge linking Prince Edward Island and New Brunswick, and the Canada Line transit project in British Columbia), when measured against comparable western jurisdictions such as the United Kingdom or Australia, Canada generally lags behind in the use of P3s. In fact, Canadian pension funds are often investing in public infrastructure projects in other countries as a result of a lack of P3 opportunities to be found within Canada.

The Government of Canada will take a leadership role in developing P3 opportunities within Canada through two initiatives. The first is the \$1.25 billion Public Private Partnerships Fund. This program will support innovative projects that provide an alternative to traditional government infrastructure procurement. The P3 Fund will help expand infrastructure financing alternatives in Canada, provide incentives to attract investments from the private sector, and increase knowledge and expertise in alternative financing.

In addition, the Government of Canada is committing \$25 million over five years to establish a federal P3 Office. The P3 Office will facilitate a broader use of P3s in Canadian infrastructure projects, including through the identification of P3 opportunities at the federal level. The Building Canada plan also encourages the development and use of P3 best practices by requiring that P3s be given consideration in larger infrastructure projects funded through the Gateways and Border Crossings Fund and by the Building Canada Fund. Specifically, all projects seeking \$50 million or more in federal contributions will be required to assess and consider the viability of a P3 option.

Building Canada Fund

The Building Canada Fund (BCF) will total \$8.8 billion over seven years. The BCF will focus on projects that deliver economic, environmental, and social benefits to all Canadians. The priority funding categories for the fund will be Core National Highway System (NHS) Routes, Drinking



Water, Wastewater, Public Transit and Green Energy. Other eligible investment priority areas include environmental projects (Solid Waste Management), projects that support economic growth and development (Short-line Rail and Short-sea Shipping, Connectivity and Broadband, Tourism and Regional and Local Airports), as well as projects that contribute to the ongoing development of safe and strong communities (Disaster Mitigation, Culture, Sport, Local Roads and Bridges, and Brownfield Redevelopment). Funding will be used to support public infrastructure owned by provincial, territorial and municipal governments and entities, as well as private industry, in certain cases. Funding will be allocated for projects in the various provinces and territories based on their population (as of the 2006 Census). The program will operate through two components: the Major Infrastructure Component (MIC) and the Communities Component. All projects will be cost shared, with the maximum federal contribution to any single project being 50 percent. However, generally speaking, municipal infrastructure projects will be cost-shared on a one-third basis. For projects where the asset is owned by a private entity, the maximum federal contribution will be 25 percent.

The MIC will target larger, strategic projects of national and regional significance. Under the MIC two-thirds of funding, on a national basis, will be directed to the above-mentioned National Priorities. Projects under the MIC will be selected on the basis of merit through a federal-provincial/territorial negotiation process and all projects will be required to meet criteria targeting environmental, economic and quality of life objectives—regardless of the category. Innovative technologies and partnerships will also be emphasized. The Communities Component is focused on projects in communities with populations of less than 100,000. Projects will be selected through an application-based



process and, like projects under the MIC, will be evaluated on the extent to which they meet environmental, economic and quality of life objectives. This will significantly help smaller communities address their infrastructure pressures and serve as a complementary instrument to GTF funding.

A New Approach

The Building Canada plan is about more than just funding. Through Building Canada, the Government of Canada will work with its partners to promote knowledge, research, best practices, long-term planning, and capacity building. Capital infrastructure funding will therefore be complemented by support for research, planning, and capacity building. Up to 1 percent of funding under the Major Infrastructure Component and the Communities Component of the Building Canada Fund in each jurisdiction can be used for cost-shared projects in these areas. In addition, a separate \$45 million program to support research, planning and feasibility studies will be implemented at the national level. These investments will help support provinces, territories, communities and the Government of Canada, to increase the knowledge base available to support policy development and decision making. Better knowledge will help us reduce the cost of future infrastructure capital investments across Canada, and this is often one of the most cost effective ways of dealing with future infrastructure challenges. In addition, the Building Canada plan will also create a new framework for different orders of government to come together to assess infrastructure needs and priorities on a regular basis and to plan investments to meet these needs. Through Framework Agreements signed with each province and territory, the Government of Canada will work in partnership to address infrastructure issues in a consistent and coherent manner, which takes into account long-term planning. As a result, not only will we address our immediate needs, but we will also ensure that we are looking towards our long term priorities and objectives in a coherent and systematic way.

Building and Keeping a Safe and Reliable Trans-Canada Highway

Romeo Poitras, P.Eng.

OMR Manager

Brunway Highways Operations Inc

Over the past two decades, residents of the St. John River Valley in New Brunswick, Canada have anticipated the completion of the four-lane Trans-Canada Highway for both safety benefits and the positive impact this important trade corridor will have on the region's economy.

The construction of the four-lane Trans-Canada Highway in New Brunswick was one of the most ambitious and complex highway construction projects in the province's history, spanning almost 20 years. New Brunswick now has one of the safest, most efficient and modern highways in the world.

Much of the work to complete the Trans-Canada Highway in New Brunswick was carried out through two separate public-private partnerships (P3s). The first, the Fredericton-Moncton Highway Project, is an award-winning highway that has saved dozens of lives since it's opening in 2001.



The Government of New Brunswick announced on February 5, 2005 they had reached an agreement with the Brun-Way Group to carry out the final phase of the Trans-Canada Highway under a public-private partnership arrangement from a comprehensive Request for Proposals process.

New Brunswick partnered with Brun-Way to make it possible to achieve the numerous benefits of the four-lane highway sooner, especially the increased safety of the traveling public. By involving a developer/operator, construction time was reduced by as much as three years and the major risks associated with the project, such as environmental permitting and indexing of costs during construction, were transferred to the developer.

Building Prosperity for All

According to Romeo Poitras, Brun-Way's manager



responsible for operations, maintenance and rehabilitation, the construction of the highway had significant economic benefits.

"The Trans-Canada Highway project was a unique opportunity to have a positive impact on the cornerstone of the New Brunswick economy while also providing for safer travel in the region," said Poitras. "Both the construction and the maintenance elements of this project have presented challenges and called for innovative approaches.

This is one of the largest infrastructure projects that will ever be undertaken in New Brunswick. In just 27 months, Brun-Way built 98 kilometres of new four-lane highway and updated 128 kilometres of the existing four-lane Trans-Canada Highway. The construction costs were \$543.8 million.

"Construction involved 40 structures and four major bridges. It also involved such surprises as an archeological discovery that required a four-month investigation under winter conditions and a nesting colony of a protected species of birds," said Poitras. "But we were prepared for challenges by planning for contingencies and having great working relationships with the project partner, the New Brunswick Highway Company representing the provincial government. From the start, the partners were clear on how they wanted to work together and who was responsible for what. Using value engineering, we were able to come up with some innovative ideas during construction."

According to Poitras, the two partners shared the cost of savings, so that really compensated on other price hikes like fuel. "For example, we changed one bridge from concrete to steel and we also erected the longest single span in New Brunswick, instead of having three spans as

had been scheduled. Another construction innovation was sourcing aggregate within the corridor, which helped both with land management and haulage costs."

Overcoming Challenges

"On the operations and maintenance side, there were many challenges we had to overcome quickly," he said. "We had to design, tender and build a new maintenance facility while operating 110 kilometres of highway. Then we had to undertake more than \$8 million of pavement rehabilitation on existing sections of the highway while building a second maintenance facility. And we've had to deal with this winter's record snowfall. Total accumulation on our facility is already 11 feet and it could easily reach 15 feet by the end of the winter!"

To deal with the challenges, Brun-Way completed quality, safety and environmental management plans and received ISO 9001 and 14001 certifications ahead of schedule; implemented an innovation Operations Control Centre, Brun-Way's centralized total services business model; implemented a Structures Management System; developed a Brun-Way Work Area Traffic Control field book; and trained, trained and trained -- more than 9000 hours of training since project commencement.

"Above all, Brun-Way hired and has kept a fantastic group of people with a real team spirit," said Poitras.

Brun-Way is now responsible for the operation, maintenance and rehabilitation of 275 kilometres of Trans-Canada Highway between the Quebec border and Longs Creek west of Fredericton, and Route 95 to the U.S. border. This contract will last until 2033. The Province of New Brunswick will pay \$18.8 million annually, subject to inflation, for this work.

Stretching from Nova Scotia through New Brunswick to the Quebec border, the Trans-Canada Highway is the backbone of the Atlantic region's economy. It serves not only the transportation needs of New Brunswick, but also is the major east-west link between the Atlantic Provinces and the rest of Canada, and a north-south link to the United States. A total of \$7 billion worth of goods from Atlantic Canada – including \$4 billion from New Brunswick alone – pass along New Brunswick highways every year.



LATIN AMERICA

"Is Investing in Infrastructure the Best Road to Recovery?"

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www.dialogue.org

Q In a meeting in Chile earlier this year, finance ministers from around the hemisphere said improving infrastructure in Latin America should be a priority for achieving sustained economic recovery. Do you agree? Does investing large sums of money in infrastructure projects offer the best route to economic development or do obstacles like corruption, lack of transparency and poor long-term planning limit the success of these projects? What type of infrastructure (transportation, energy, digital, etc.) should be the target of these investments?

A Guest Comment: Conor C. Kelly

"Improving infrastructure should indeed be a priority. Over the decades, infrastructure investment has played a significant role in spurring global economic development and growth. Recently, governments all around the world have allocated billions of dollars to infrastructure investment to stimulate economic activity during this global recessionary period, an effective counter-cyclical approach to economic development. Latin America faces two challenges in this regard. First, it has to invest in infrastructure to stimulate an economic recovery. Secondly, and arguably more importantly, it needs to invest heavily in infrastructure to fill a burgeoning infrastructure gap that was made more evident following the recent history of economic growth, and to support sustained future long-term growth. Although it can take some time to become evident, infrastructure investment has a direct positive impact on economic activity through the creation of jobs, increased efficiency and activity in the production and sale of raw materials and in attracting foreign direct investment. Initial target sectors vary by country but should be focused on

transportation (both mass public transportation systems as well as roads), energy, education and telecommunications. Investing in transportation infrastructure will open up access to rural areas and reduce logistical costs, thus improving competitiveness and allowing the benefits of economic growth to reach poorer areas of Latin America. By investing in energy projects, a country can reduce its reliance on external energy prices and shocks, while improving efficiencies, and thus competitiveness. By investing in education and telecommunication infrastructure, governments can create knowledge wealth and provide an attractive environment for foreign direct investment."

Conor C. Kelly is managing director and head of International Global Infrastructure Finance at Scotia Capital.

A Guest Comment: Jordan Schwartz

"In Vina del Mar, the ministers of finance gave voice to a pervasive problem in Latin America: the relatively low stock and poor quality of infrastructure across the region. While the region continues to spend in the area of 2 to 3 percent of GDP on infrastructure, East Asian economies are committing 6 to 10 percent of GDP and the effects on competitiveness, growth and access of the poor to basic services follow the trends. Commitments from the region's governments to re-engage with private partners wherever possible and to commit public resources where necessary will be a key factor in the region's return to growth, but the trick will be to make investments that are financially, economically and environmentally sustainable. Recently announced public works plans may help to stimulate aggregate demand as well as fill some of the infrastructure gap; however, the range of impacts on short-term employment is tremendous, varying by local wages, leakage levels, the speed with which money hits the road, and, most of all, the exact investments being planned—sewerage expansion projects typically generate 100 times more shortterm, direct jobs than, say, the building of a coal-fired power plant. Since today's capital expansion is tomorrow's recurring costs, Latin American countries' governments have to be careful not to build assets without



a plan for long-term sustainability in mind. This means valuing the environmental impacts of quick decisions to build new roads or thermal power plants, building out in areas where consumers are willing and able to pay for services, and assuring that the private sector, even while lying low in a recession, is not being pushed out of a future role in investment and operations.”

Jordan Schwartz is lead economist for sustainable Development in the Latin America and the Caribbean Region at the World Bank.

A Guest Comment: Vincent McElhinny

“Counter-cyclical investments in infrastructure can provide the type of economic stimulus that is needed to confront the financial crisis, while boosting competitiveness and innovation. In April, multilateral development banks announced they would increase support to Latin America and the Caribbean by providing as much as \$90 billion in lending over the next two years—much of it in infrastructure. The region faces a tremendous opportunity to not only reduce the infrastructure gap with other developing regions and create jobs, but also to prioritize climate-friendly investments that accelerate adaptation, reduce greenhouse gas emissions and transform the energy sector. Economic recovery in Latin America will be more far reaching where infrastructure is coherently integrated into a ‘green’ stimulus, which focuses as much on institutions and investment incentives as on kilometers of paved highway or megawatts of energy generated. With a few exceptions, attention to climate change has been inchoate or absent in most Latin American stimulus plans. Following on past opportunities missed to manage the indirect and cumulative impacts of transport and energy investments, the wrong infrastructure stimulus plans can become an obstacle to transitioning toward a low carbon economy. The decade-old Initiative for Integration of Regional Infrastructure in South America (IIRSA) highlights the challenges of reconciling infrastructure and sustainability. While land use change constitutes nearly half of greenhouse gas emissions in Latin America and the Caribbean, IIRSA’s promotion of transcontinental highways and the damming of pristine waterways are causing massive harm to forests and forest communities. Accelerating the devastation of fragile ecosystems could expedite the collapse of the Amazon basin. Climate change must also be integrated into energy investment. Yet well over half of Latin American

countries energy investments in recent years ignored climate change in their design. With the added push for infrastructure in the economic stimulus packages across Latin America and an observed complacent opportunism by international financial institutions to lend more for big ticket infrastructure, Latin America should avoid opting exclusively for the shortterm goals of jobs and growth over longterm sustainability. ”

Vincent McElhinny is manager of the Building Informed Civic Engagement for Conservation in the Andes-Amazon project at the Bank Information Center, an NGO that monitors multilateral financial institutions.

Chile Public Works Ministry presents 2009-10 concessions portfolio

Greta Bourke
Business News Americas

The concessions division at Chile’s public works ministry (MOP) presented its 2009-10 project portfolio at a seminar in capital Santiago on Wednesday.

“Between 1991 and 2009, we signed 55 contracts involving more than 140 foreign and local companies,” said Leonel Vivallos, head of project development at the concessions division.

“The challenge now is to launch tenders worth US\$3.18bn for 18 projects in 2009 and 2010,” Vivallos said.

Public initiatives under analysis total US\$1.13bn, the largest project being the Vespucio Oriente highway in Santiago, which has a price tag of US\$1.07bn. Studies for this project should be ready in January or February next year and the tender is scheduled to be launched in 1H10.

Other public projects in the concessions portfolio include the re-concession of the El Loa airport in region III (US\$15mn), the re-concession of the Cerro Moreno airport in region II (US\$15mn), port-logistics road infrastructure in region VIII’s Concepción (US\$250mn), the Arica-Visviri railway (US\$23mn), the La Serena-Vallenar stretch of highway Ruta 5 (US\$330mn) and a new airport in region IV (US\$50mn). The plan for 2010 includes the construction of several public transport corridors for Santiago’s mass transport system Transantiago. “At the same time, we are evaluating



incorporating the maintenance of public transport corridors into the system,” Vivallos said.

The division is also analyzing private initiatives totaling US\$4.57bn, the most costly of which is the US\$3bn low-altitude Trasandino Central rail tunnel, which was presented last year by Argentine firm CASA and has since been declared of public interest by the Chilean and Argentine governments.

In 2007, MOP launched tenders for projects worth US\$700mn and awarded tenders for over US\$30mn. In 2008, initiatives valued at US\$900mn were launched for tender with US\$700mn awarded. In 2009, the goal is to tender projects for US\$1bn and award US\$1bn.

Next year, the ministry aims to tender projects for US\$1.5bn and award projects for US\$1.5bn, according to Vivallos.

“In the 2008-09 period, we had an average of 4-5 offers for each project. This shows the high level of participation and interest from the private sector in the country’s concession program,” Vivallos said.

MOP is aiming to increase the number of concessions while at the same time providing better services, concessions coordinator Ricardo Trincado said at a seminar in capital Santiago.

“We have a new portfolio of projects but at the same time we are improving the current concessions,” said Trincado. “While it may seem like a contradiction, we are planning to concession more and better projects to provide more and better services,” he added.

As part of a move to “reactivate” concessions in the country, Trincado outlined the concessions division’s three main areas of focus.

The first is innovation. “The private sector has know-how that is incredibly valuable,” Trincado said. “However, we don’t want private firms that just carry out projects; we want players that feel the freedom to propose new ideas and develop them.”

The ministry needs an active private sector, while the public sector needs to receive and incorporate proposals and have a flexible attitude, according to Trincado.

A second area of focus is responsibility on both sides. The private sector must understand that concessions are not just a business opportunity and the public sector has to take care of its institutional integrity, he said, adding: “The public sector has to keep its commitments with the end users and comply with the legislative structure.”

Finally, the concessions program must be user oriented, according to Trincado. “The private sector has been doing this for years, taking into account the final perception of the user,” he said. It is now time to incorporate this concept into the ministry’s program, using a final survey to check out what the users think of a project.

Trincado also called on the public and private sectors to be active in the development of concessions: “We do not want spectators.”

In the 15 years of its concessions program, MOP has signed 55 contracts totaling US\$11bn and involving some 140 local and foreign firms.

IDB Targets Key Areas for Road Infrastructure Investment

Media Contact: Christina MacCulloch
Social projects, public sector development and infrastructure Inter-American Development Bank

Argentina gets \$120 million to finance road works

Loan is part of a new \$2.5 billion IDB credit line to improve provincial road network

The Board of Executive Directors of the Inter-American Development Bank (IDB) approved today a \$120 million



loan to Argentina to finance road improvements and maintenance works in various provinces including La Pampa, Entre Ríos, Córdoba and Formosa.

In addition, the loan will finance the implementation of a diagnostic assessment to improve road network management, including better highway safety, maintenance and weight control.

The loan is the first part of a \$2.5 billion conditional credit line for Argentina that will support investments to improve, expand, and rehabilitate the provincial road network throughout the country.

The new credit line seeks to help South America's second biggest nation overcome one of the primary obstacles to economic growth. Despite the international boom and the growing demand for agricultural inputs, which benefit the Argentine economy, the poor condition of the country's secondary and tertiary road networks increases costs, making its products more expensive. About 80 percent of the total volume of cargo is transported over the country's roads.

"The increase in agricultural production in recent years, as well as the rise in exports, has translated into growing pressure on the provincial transportation system in Argentina, which has not been accompanied by the necessary investment in terms of road infrastructure," said Rafael M. Acevedo-Daunas, the IDB project team leader. "The IDB credit line will help the country finance works to reduce this gap."

It is estimated that more than US\$1.5 billion in annual investment on Argentina's road system would be required



in the coming years in order to maintain existing roads and eliminate the backlog of expansion and improvement projects, Acevedo-Daunas said.

The IDB's conditional credit line, known as CCLIP, will finance projects that will increase road access in the provinces and reduce vehicle operation costs, including the number of days roads are closed due to traffic or are placed under severe restrictions. For instance, at the end of the project, RP 26 in Formosa will be open to traffic all year round and not subject to closures during 150 days a year.

The conditional credit line is effective for 20 years and its loans are denominated in U.S. dollars, with interest rates linked to the London Interbank Offered Rate (LIBOR). The first loan has a grace period of 4.5 years and an amortization period of 25 years.

IDB supports toll highway in Dominican Republic

Project will back development of road infrastructure to improve travel connections in areas with great tourist potential

The Inter-American Development Bank will support a toll highway project that will reduce the travel time between Santo Domingo and the Samaná peninsula, an area with great tourist potential, located in the northeastern part of the Dominican Republic.

The IDB will lend up to \$44.8 million without a sovereign guarantee to the Boulevard Turístico del Atlántico project, which will also have joint support from other bilateral and multilateral institutions. Total financing will reach some \$149 million.

The project includes the concession for a 123-kilometer tollway with two components: rehabilitation of 99 kilometers of existing highway that connects Nagua, Sánchez, Samaná, El Limón and Las Terrenas, and construction of a new 24-kilometer segment that will connect Las Terrenas and Majagual on the Samaná peninsula.

Overseeing this initiative, whose total estimated cost is \$178 million, will be a consortium comprising Colombian construction firms Odinsa and Grodco, and highway



Samana Peninsula is a major tourist attraction in the Dominican Republic which will be aided by the IDB investment as travel to the peninsula will be more accessible.

concession holders Consorcio Remix of the Dominican Republic.

“This project will have a significant impact, because in addition to the improvements achieved by the Autopistas del Nordeste concession, the travel time between Santo Domingo and Samaná will be cut from five hours to less than two hours,” said IDB team leader Víctor Salgado.

“Development of highway infrastructure will make it easier for local residents, manufacturers, merchants and tourists to move between the peninsula and the southern part of the country, helping the economy grow in a region that is a priority for the Dominican government,” he added.

This transaction is the first loan without a sovereign guarantee that the IDB has approved for a highway project in the Dominican Republic.

Haiti to improve southern road network with \$25 million IDB grant

Program helping cut travel time and transportation costs, improve living conditions in southern departments

The Inter-American Development Bank approved on Sep. 30 a \$25 million grant to help Haiti continue improving its road network and road maintenance in the southern departments of Nippes, Grand Anse and Sud, where many areas still face transportation problems.

The new grant, third in a series of four annual donations of \$25 million each for road rehabilitation in Haiti, will help improve transportation conditions and safety, contributing to economic development in a region with considerable productive and tourism potential.

The resources will contribute specifically to the rehabilitation of 43 kilometers of secondary and tertiary roads in Haiti's southern peninsula, the improvement of 2 kilometers of paving and drainage at urban crossings, the construction of two bridges over Rivière Froide and an extension of the Miragoane lagoon.

Roads in the vicinity of Aquin, L'Asile and Anse à Veaux will be upgraded to provide the valley of Rivière des Pins with better access to the capital, Port-au-Prince, and other service and commerce centers such as Les Cayes and Miragoane. The improvement of urban crossing in communities along the Cayes-Jeremie road will enable small local firms to participate in the program, creating much needed jobs and expertise.

The construction of the new bridges, which will demand an investment of \$4.5 million, constitutes the first phase to improve direct access to Miragoane from Petit Trou de Nippes and from RN2, a key highway that was blocked after last year's hurricanes and tropical storms.

A \$2.8 million portion of the grant will be used for road maintenance activities, including technical assistance for local district offices of the Public Works Ministry, the acquisition of maintenance equipment and for maintenance work. These activities will bolster the first steps of a general road maintenance strategy launched by Haitian authorities.

The funds, to be disbursed over a three-year period (2010–2012), will come from the IDB's Grant Facility Financing. The overall program also benefits from a CAD\$75 million donation from the Canadian International Development Agency, which is supporting the rehabilitation of 71 kilometers of the Cayes-Jeremie road.

IDB is financing a broad range of programs in Haiti, with an emphasis on basic infrastructure. This program constitutes more than half of the Bank's financing for road improvement and road maintenance.



UNITED STATES OF AMERICA

Belle of the Ball or Cinderella Just After Midnight?

Charles Potts

CEO of Heritage Construction & Materials and
2008-2009 ARTBA Chairman.

With the stimulus bill, the road construction industry must be sitting pretty!" You've probably heard that line recently, too.

In the eyes of many observers, the transportation design and construction industry is the "Belle of the Ball." To them, the industry is uniquely benefiting from the economic stimulus bill by working on some of the 6,000 stimulus-funded projects nationwide.

But the reality is very different. Without near-term action on a robust, multi-year surface transportation authorization bill, the industry could look more like Cinderella at 12:01 a.m., than the glamorous "Belle of the Ball."

First, however, the good news.

The "American Recovery and Reinvestment Act" has produced some benefits for our industry. Indeed, the highway and bridge funding in the stimulus law, coupled with the FY 2009 appropriations bill, this year will produce record levels of federal surface transportation investment. This infusion of federal money has helped soften the blow of a severe economic downturn and helped protect existing industry jobs. Construction material prices have also decreased.

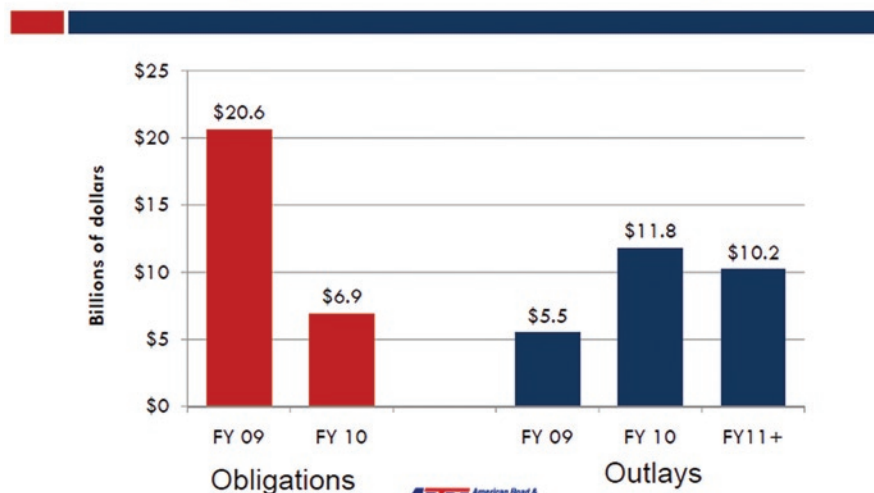
Notably, there was a dramatic turnaround in May when \$6 billion of new highway and bridge projects were awarded compared to \$5.2 billion in May 2008—a 33 percent increase. We're likely to experience similar positive trends over the next few months as the construction season peaks and the stimulus funds keep flowing.

Now back to the harsh reality.

The federal programs are only one part of the overall transportation market.

Virtually every state is facing budget shortfalls and, according to the National Governors Association, 15 states have cut transportation investment in 2009 and 19 states will make similar reductions in 2010.

Anticipated ARRA Market Impact



Source: Budget of the U.S. Government, FY 2010

ARTBA American Road & Transportation Builders Association



At the same time, Congress had to inject another \$7 billion into the Highway Trust Fund to meet obligations through the end of FY 2009, and there is no doubt more will be needed for FY 2010.

While the stimulus is a bright spot, the state budget reality means that stimulus funds are simply allowing states to maintain current activities, or just easing the impact of significant budget cuts.

It is this confluence of challenges that makes the current push by some to delay the reauthorization of the highway/transit program until March 2011 mind boggling. We learned the hard way from 2001 to 2005 that a prolonged period of uncertainty at the federal level, during a time of economic and state budget difficulty, produced severe market stagnation and stymied efforts to deliver surface transportation improvements.

Recent data from American Road & Transportation Builders Association (ARTBA) Vice President of Economics & Research Bill Buechner, Ph.D., show that the value of highway construction put in place “drops off like a cliff,” starting in FY 2011 once the effects of the stimulus wear off.

We’ve known for four years the reauthorization bill was due at the end of September. Yet, over the past few months, I have seen enough political hand-wringing about why now is not the right time to act on a bill to make you wonder why some people decide to get out of bed in the morning.

In the real world, delay means paralysis—for revenue, for business development, and for market expansion. The only people who might possibly see any benefit from such a delay are narrow constituencies operating “inside the D.C. beltway” where delay has become a time-honored legislative tactic.

According to a new study, deficient roadways contribute to 22,000 fatalities and cost the nation \$217 billion annually. And the latest Texas Transportation Institute report finds the traffic congestion “tax” has reached \$87 billion. America’s outdated transportation system is a major impediment to U.S. competitiveness in the global marketplace. These challenges will not solve themselves.

ARTBA is working daily to advocate its views to Congress and the Obama Administration about the need to complete action on a bill, either by the end of this year or in early 2010. But we cannot achieve success without a united and national industry effort. That means workers, managers, executives and leaders from across the industry must mobilize to tell Congress what action means to our industry—and to their families and the economy as a whole.

Contact your members of Congress and their staffs in their home offices or in Washington, D.C., by calling the ARTBA Action Hotline at 1-888-448-2782.

Let them know the “real-world” impacts of delay will mean lost jobs in their state/district and deferred purchasing decisions.

We may be seen as the Belle of the Ball by some, but if we don’t work to actively protect our own interests, we’ll turn back into pumpkins and have no one to blame but ourselves.

Update On Obligation of ARRA Highway Funds

William Buechner

VP, Economics And Research, ARTBA

The following charts show an obligation and expenditure of American Recovery and Reinvestment Act (ARRA) highway funds as of September 28, 2009, based on data provided to ARTBA by the Federal Highway Administration.

During September, \$1.16 billion of ARRA highway stimulus funds were obligated for highway construction projects, while payments to contractors for construction work performed continued to grow rapidly, hitting almost \$2.4 billion. The following are details on the use of ARRA highway funds as of September 28, 2009:

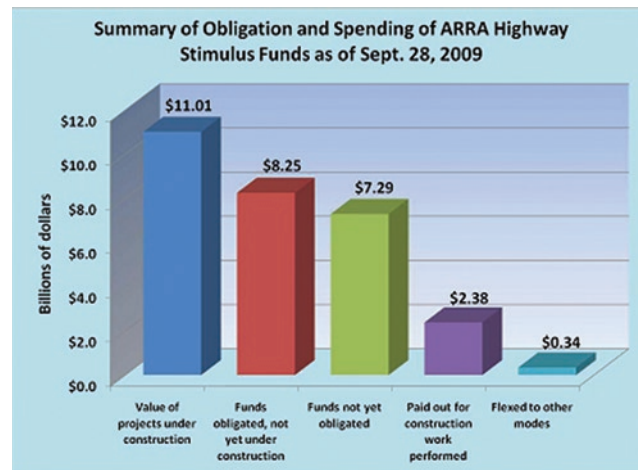
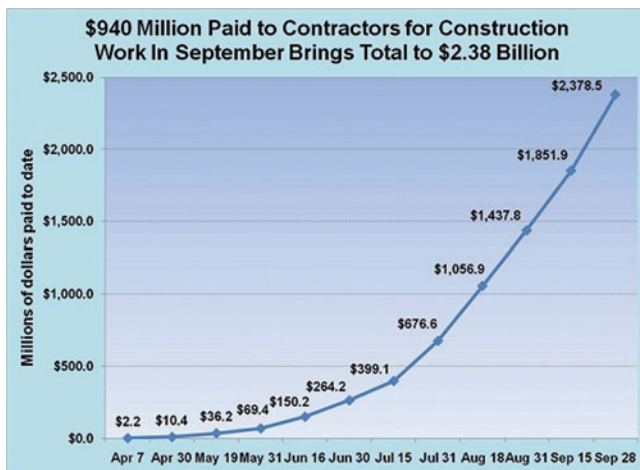
- During September, state and local transportation agencies obligated \$1.16 billion of ARRA highway funds for highway projects, \$400 million more than during August. This brings the total obligated for highway projects so far to \$19.3 billion, 71.6 percent of



the \$26.9 billion of ARRA highway funds apportioned or allocated to date.

- State and local DOTs paid contractors \$940 million for construction work performed during September, bringing total payments to date to \$2.38 billion, as the following chart shows.
- State and local governments in Illinois continue to lead in total payments to contractors, at just over \$250 million to date, while Maine continues to lead in terms of the largest percent of ARRA highway funds paid to contractors, just under 49 percent. To date, eleven states – Illinois, Iowa, Maine, Minnesota, New Hampshire, North Dakota, Oklahoma, South Dakota, Utah, Vermont and Wyoming -- have paid over 20 percent of their total state and local ARRA funds to contractors, while 23 states have paid out more than 10 percent. In only one state, Hawaii, have no payments been made to contractors.
- As of the end of September, Wyoming stands alone in having obligated 100 percent of its ARRA highway funds, including all funds suballocated to local governments. In seven states, however, at least 90 percent of ARRA funds have been obligated, including Iowa, Maine, New Hampshire, Rhode Island, Utah, West Virginia and Wyoming, while a total of 26 states have obligated at least 75 percent of their ARRA funds. In no state has less than 45 percent of ARRA funds been obligated, including funds suballocated to local governments.

- There are now 3,966 ARRA-financed projects under construction, including more than 600 that got underway in September. \$11.012 billion of ARRA funds have been obligated for projects currently under construction or completed, representing almost 41 percent of ARRA highway funds. In addition, there are \$8.25 billion of projects for which funds have been obligated but work has not yet started.
- Nineteen states have obligated \$337.3 million of ARRA highway funds for non-highway improvements, including \$930 thousand during September. Of this total, \$288.4 million has been flexed to transit, including \$175 million by the state of New York. Six states (North Dakota, Ohio, Oregon, Tennessee, Virginia and Washington) have obligated a total of \$48.9 million for freight, passenger rail or port infrastructure projects, as is allowed in the bill.
- When funds flexed to transit and other modes are included, a total of \$19.59 billion of ARRA highway funds have been obligated through the end of September, or 72.9 percent of the \$26.9 billion apportioned to date.
- Only \$7.3 billion of ARRA funds remain to be obligated; any funds not obligated by March 2010 must be returned to FHWA for redistribution and all funds must be obligated by September 30, 2010.





A Roundabout Way

Eddie Wren

Advanced Drivers of America, Inc.

At present, the USA epitomizes those developed countries where roundabouts are increasingly being introduced in order to significantly reduce road casualties. America also has the advantage of having engineers capable of designing excellent roundabouts in which all safety aspects have been accurately accounted for.

At the other extreme, however, grossly inadequate driver education and even the application of "best practice" techniques, in relation to the use of roundabouts, are two factors that are sadly lacking. This tends to bring roundabouts themselves into totally unwarranted disrepute.

With any traffic situation, it is clearly important to minimize and preferably eliminate uncertainty on the part of drivers, and here the USA faces at least two challenges rather than one.

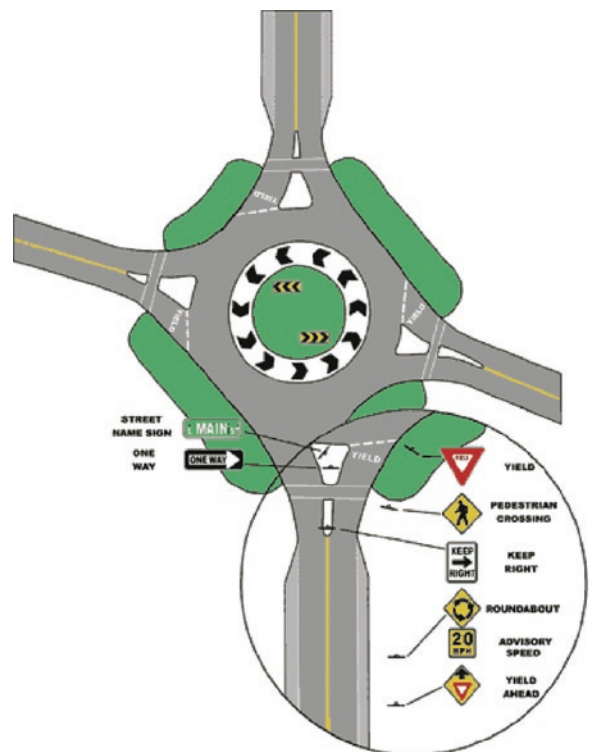
The primary challenge that all countries or regions typically experience when installing proper roundabouts for the first time comes from their unfamiliarity to drivers. This creates both confusion and collisions, albeit generally without serious injuries. This common problem could, however, largely be reduced by means of adequate, targeted educational campaigns in the countries, states, regions or local areas in question, but this appears to be a rare course of action. It should be added that any such program of education must emphatically include suitable training for all relevant law enforcement officers as well. This should be done with a view to generating ample enforcement measures, after construction of the roundabouts is complete, in order to encourage drivers to negotiate them lawfully and in accurate compliance with the education they should by then have received themselves. Without such actions and accurate, good example from law enforcement officers, roundabouts and many other excellent engineering interventions are frequently doomed to inefficiency, although this is an area where friendly advice is often far more effective than a ticket.

Yield Lines

In most American states, however, one feature which is commonly but inexcusably absent at roundabouts is "yield lines" (known in some other countries as "give way lines"). In some states they are at least occasionally used, including – for example – Indiana and Washington State. But for the sake of uniformity, clarity and maximum safety these lines need to be used at all roundabouts. (It is equally arguable that "stop" lines and "yield lines" should be used at all applicable intersections, not just roundabouts, yet commonly there are none. The additional cost for the paint is minimal when compared to the lives that this one action alone could help save.)

The Reduction of Confusion

Bearing in mind that roundabouts have been in widespread use in several European countries for more than 70 years, it could be said that best practice methodologies have long-since been established and that there is little purpose in trying to re-invent the wheel. On this basis, what follows is an explanation of how uncertainty may be reduced for all road users if drivers employ good signaling techniques, correct lane choice and good positioning when negotiating any roundabout.





No matter how many exits a roundabout may have, there are only three general directions a vehicle may go. These are: (a) less than half way around, (b) straight ahead – which by definition is precisely half way around – and (c) more than half way around. These three possibilities coincide closely, though not quite perfectly, with best-practice signaling techniques.

It is – where appropriate – a good thing to signal on the approach to a roundabout, despite the seemingly un-researched and ill-informed advice to the contrary that is given in several American state drivers' manuals. In drive-on-the-right countries, such as the USA, this means that a driver taking the first exit after entering a roundabout, can and should signal right on the approach to the roundabout and should keep the signal on until after they have taken the required exit. For any subsequent exit, up to and including straight ahead, there must be no signal on the approach because that would indeed be confusing, but – as with all subsequent exits – a right-turn signal should always be commenced as the vehicle passes the middle of the last exit prior to the one the driver actually wants. This means that a signal can and should always be given for as long as safely possible, to show that the vehicle is indeed exiting, without any risk of confusion about which exit will actually be taken.

When a driver is approaching a roundabout and intends to go more than half way around (which, in drive-on-the-right countries may loosely be termed a left turn) the driver should approach the roundabout exactly as though approaching an ordinary left turn. In other words, a driver going more than half way around a roundabout should be keeping to the left (and always in the left-hand lane if one exists) and should be signaling left during that approach. The left signal should remain on until – as above – the vehicle reaches the middle of the last exit prior to the one the driver actually wants, at which point it should be immediately changed to a right-turn signal for the desired exit.

If all of that sounds confusing, just draw two concentric circles to approximate a roundabout, then draw some exits anywhere you wish, around the ring you have created. For the purpose of routing signs, on the approach to actual roundabouts, it is always depicted that a vehicle is entering at the “six o'clock position” – the bottom of the circle – so this means that straight ahead may always be taken to mean the “twelve o'clock position” on your drawing.

This signaling methodology works every single time, without fail, because it engenders accuracy, encourages drivers to be observant and removes all uncertainty. Naturally, though, it cannot possibly work if it isn't actually taught to drivers, and that is where the biggest problem lies. How often have millions of dollars been spent on installing roundabouts in an area where they were previously non-existent, while not a single cent has been spent on giving people best-practice advice on how to negotiate this new road geometry that is commonly confusing or even intimidating to untrained individuals? Local or regional media commercials are one obvious solution.

Enhancing Traffic Sign Visibility Utilizing LED and Solar Technologies

Bob Christiansen

TAPCO (Traffic and Parking Control Co., Inc.)

The need for more visible traffic signage in critical traffic situations has become more apparent in recent years due to several factors. These include the aging population of drivers with reduced visual abilities, as well as increased visual ‘noise’ created by ambient light sources and illuminated, non-traffic signage. Retro-reflective traffic sheeting has evolved in an attempt to address this need, but there are traffic scenarios that call for additional conspicuity to alert drivers of potentially dangerous conditions.

Over a decade ago, Traffic & Parking Control Company, Inc. (TAPCO) recognized this need and began research and development of technology to enhance the effectiveness of traffic signage. Even then, the concept of illuminated commercial signage was not new, but it was unlikely that municipalities and State Departments of Transportation would adopt incandescent-lit signage that required installation of power. Fortunately the development of more efficient solar collectors and increasingly brighter Light-Emitting Diodes (LEDs) allowed TAPCO to meld these technologies into a complete line of their own patented BlinkerSigns®, which are solar-powered signs with flashing LEDs imbedded into the sign.

The low power requirements of LEDs could now be satisfied by a small solar panel mounted to the sign. The sign can be installed onto an existing pole, minimizing installation



costs. With a rechargeable battery housed on the back of the sign, BlinkerSigns' LEDs will flash continuously for two weeks without sun. Since BlinkerSigns require no source of power other than the sun, they can be installed virtually anywhere without the need for expensive trenching, wiring and electric power. There are 110-volt versions available, however, if desired for interior applications.

In 1999, TAPCO filed for various patents and began in-house production and testing of 'BlinkerStop®' signs, developing a flashing LED Stop sign that would provide consistently high visibility utilizing solar power. A key part of TAPCO's BlinkerSigns' effectiveness is Day-Viz™ technology, which automatically senses ambient light and adjusts the LED brightness accordingly. Thus, the LEDs are brightest in full sun, and as ambient light levels decrease, the LEDs dim so as not to cause driver distraction.



Blinker R3-1; Mitchell International Airport in Milwaukee, WI

Several 'BlinkerStop' studies were conducted, including one by the Texas Transportation Institute that showed a reduction in Stop sign blow-throughs of over 52%, as well as a 28% reduction of incomplete stops. Once the effectiveness of LED Stop signs was clearly established, TAPCO began production of other LED-enhanced traffic signage, including pedestrian and school zone crossings. Knowing that these signs are far more effective if they flash only when needed, TAPCO incorporated various triggering methods to provide wireless, remote activation. Motorists then receive positive feedback that the signs are active ONLY when pedestrians are present.

Triggering devices include pushbuttons, time clocks, motion detectors and vehicle loops. These allow officials to activate the signs on their command. School officials can press a button in the office to trigger school zone signs up to two miles away. Fire department personnel can push a button in the station to wirelessly activate a fire truck warning sign, alerting the public that fire engines are about to depart and require emergency vehicle right-of-way. Also available from TAPCO is BlinkerBeam, a self-powered wireless solar controller for BlinkerSigns and other traffic and parking control devices. These ITS compatible, compact pole-mounted controllers activate one or more independent BlinkerSigns via wired or wireless signaling at a range of up to 500 feet, up to one mile with the addition of an external antenna and a direct line of sight. Because of their ease of mounting and solar power, BlinkerBeams can also be used for bike paths and other recreational settings as well as signs for parking guidance, gate arms or ticket dispensers. Industrial BlinkerSigns are helping to make workplaces safer. In one application, a hallway empties into an area with heavy forklift traffic. It is difficult to see into the area, so a blinking 'Stop for Forklift Traffic' sign was installed at the end of the hallway. The sign is triggered by a motion sensor in the hallway to alert workers of the danger ahead.

Many parking structures now utilize BlinkerSigns to enhance safety and to address liability issues. Motion-activated BlinkerSigns installed at Mitchell International Airport in Milwaukee, WI alert drivers to pedestrian crossings and low clearance overheads. Additional signs are used for intersections and merging traffic. Activated by a loop detector and radio beam, a 'NO LEFT TURN' BlinkerSign at the rental car exit alerts unfamiliar drivers of a one-way street ahead.



Elm Grove - Dangerous Crosswalk in Elm Grove, WI

Driver feedback radar signs have become a popular method of speed reduction in areas where speeding is common. TAPCO has taken the concept to a more effective level, incorporating LEDs into the signage that flash when directed, such as when a reduced speed limit is in effect. Surveys done in 2007 by Wauwatosa, WI police clearly show the effectiveness of TAPCO's custom 'Blinker' feedback signs, with a 14% increase of vehicles in pace with speed limits and a reduction in average speed of over 5 mph. And since these signs are solar powered and portable, they can be moved to different locations where needed for speed reduction.



Naval Base - Norfolk Naval Base in Virginia

Recently TAPCO started to produce Chevron BlinkerSigns to make dangerous or blind curves safer. Used in tandem, multiple BlinkerSign chevrons guide traffic through the curve; reiterating the turn with sequential flashing. Triggered by either loop detectors or motion sensors, these chevrons are popular in mountainous areas or in those regions where foggy conditions occur frequently. Wildlife mitigation studies are also being conducted in many states to explore the effectiveness of BlinkerSigns in remote areas of the country. Here again the fact that these signs are solar powered and self sufficient makes them easily adaptable to many situations.

TAPCO has also incorporated flashing LED technology into Stop/Stop and Stop/Slow paddles. Powered by rechargeable AA batteries, BlinkerPaddles® can flash all day on a single charge, and are lightweight and easy to use. They make work zones safer for workers, and make school crosswalks safer for both children and crossing guards. Available with custom legends in many languages, BlinkerPaddles have been used for varied applications around the world, including military use and in parking facilities.

MUTCD approved, BlinkerSigns can be incorporated into many ITS solutions. They can be produced with any custom legend desired, as well as in standard MUTCD legends.

Transpo Thin Overlay System Low Modulus Polysulfide Epoxy Bridge Overlay

Arthur Dinitz

Chairman and CEO, Transpo Industries, Inc.

Transpo T-48 is a two component, polysulfide epoxy based material system which is designed to be used as a wearing surface on bridge decks and other pavements. It is an impervious overlay that will prevent ingress of moisture, chlorides, salts, and other corrosion inducing substances. The specially formulated epoxy resin will penetrate into the cracks, and with its superior bonding characteristics will also prevent further crack propagation.

Transpo T-48 slurry system is typically applied at a thickness of ¼" – ½" which eliminates the need to relocate joints, end dams or drain structures. Installation of Transpo T-48

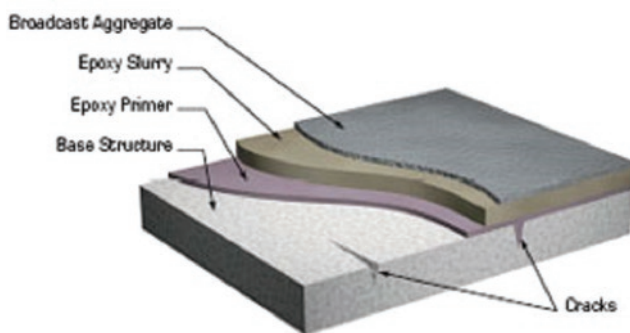


will add less than 3-4 pounds of deadload per square foot of surface area which is an important consideration for rehabilitation of older structures.

Features and Advantages

- FRP and FRP compatible Steel, Concrete
- High Elasticity
- Skid Resistant
- Water, Salt and Chemical Resistant
- UV Resistant
- Strong Bond
- High Early Strength

The relatively short curing period of the system assures a minimum downtime and a quick restoration of service. The broadcast aggregate provides a highly durable, excellent skid resistant surface that can be used for vehicular and pedestrian applications.



Applications

Transpo T-48 can be applied using either a single application slurry (which is much faster to apply and more water-resistant), or a multi-application broom-and-seed method. It is easy to handle and does not require any specialized installation equipment.

Transpo T-48 overlay can be used as a wearing surface on various types of structures:

- Steel Orthotropic Bridge Decks
- Concrete-filled Steel Grid Bridge Decks
- Concrete Bridge Decks
- FRP Composite Bridge Decks
- Ramps and Sidewalks
- Parking Structures
- Wood Structures

Innovative Solution Replaces Bridge During a Single Weekend

Jim McMinimee

Director of Project Development

Utah Department of Transportation

During 2007, the Utah Department of Transportation (UDOT) embarked on a revolutionary project introducing Utah and the nation to the use of Accelerated Bridge Construction (ABC) methods. The benefit of this innovation was the dramatic reduction of construction impacts to the public.

The project was located at 4500 South and I-215 in Salt Lake City. Specialized heavy lift and transport equipment known as Self Propelled Modular Transporters (SPMT) were used to remove a deteriorated 4-million pound bridge and replace it with a new bridge over a single weekend. In comparison, traditional construction methods would have taken 9-12 months to complete, with repeated traffic closures on I-215.

Implementation of New Technologies

The introduction of these new technologies required the strong leadership of key UDOT individuals with an entrepreneurial spirit, a willingness to take calculated risks, and a desire to constantly improve UDOT's service to the public.

After learning of SPMT's being used in other industries, Jim McMinimee, Director of Project Development for UDOT, saw the potential of using the same technology in bridge construction applications. He envisioned how this equipment could be used to lift and move a prefabricated bridge in place within a few hours, saving the public months of inconvenience.

Also recognizing the benefits, Shana Lindsey, Director of Research and Bridge Operations for UDOT, took action to implement the technology. She understood the need to gain acceptance from bridge designers and contractors. She orchestrated several workshops with contractors and designers, brought in national experts, and arranged technical tours of the SPMT's in action.



Lifting the old bridge out.



Moving new bridge.





The use of the ABC process reduces traffic disruption, increases work zone safety and reduces air emissions. Additionally, the construction of prefabricated bridges makes them easier to construct, improves overall quality, and extends the life of the bridge.

UDOT was awarded \$1 Million of Federal Highways for Life funds to help promote research and implementation of this new technology. As a result, UDOT is seen as a national leader among State Departments of Transportation, contractors and the public in general.

Innovation or Creativity in Approaches, Techniques, and Methods

The heart of this project was taking existing technology and applying it in a new creative way. SPMT equipment, similar to that used by NASA to transport the Space Shuttle, was seen as having an application for bridge construction. These SPMT's are multi-axle, computer-controlled platform vehicles that can move heavy loads with precision to within millimeters. The vehicles can move in any horizontal direction, and vertically while maintaining their payload geometry and keeping equal weight to each axle.

Traditional construction methods would have required up to 12 months, with repeated traffic closures and delays. This new technology allowed the old bridge to be lifted out as one piece in a few hours and a new 3-million pound pre-built bridge to be lifted and moved in place over the course of a single weekend.

Contribution to Improving Quality of Life

This project reduced construction times from the traditional 9-12 months to a single weekend. This resulted in savings of delay costs to the public of approximately \$4 million. In addition, the use of the SPMT equipment and faster construction methods decreased the potential for work-zone related accidents to travelers, and improved safety to construction workers.

As seen in a recent public opinion poll, items such as: length of time under construction, information level, and overall performance and satisfaction, met with the highest approval among stakeholders. Because of the success of this project, SPMT's were used to complete an additional 12 bridges over a 6 week period on Interstate 80 in the summer of 2008.



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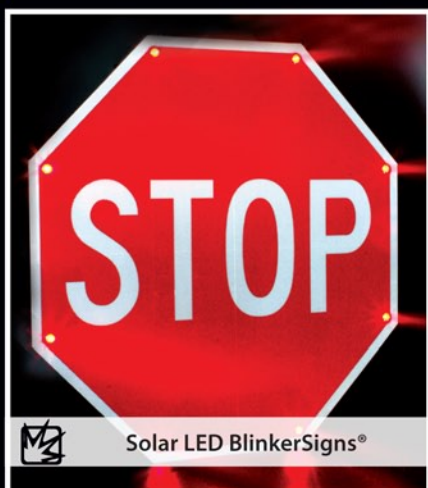


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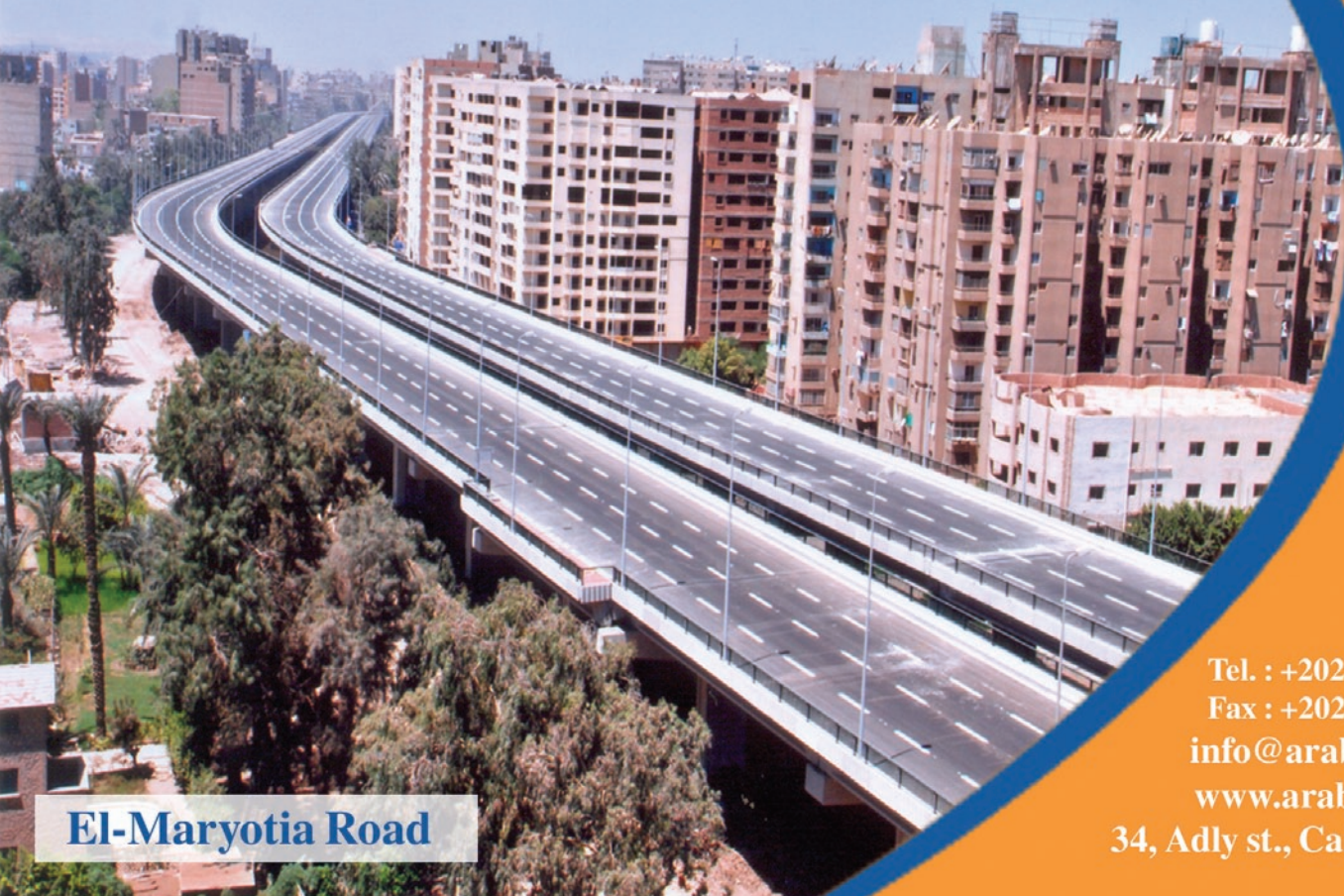
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