



Celebrating 50 Years of the Interstate Highway System
Toll Highways

TOLLWAYS and PUBLIC/PRIVATE PARTNERSHIPS

By Tom Kuennen

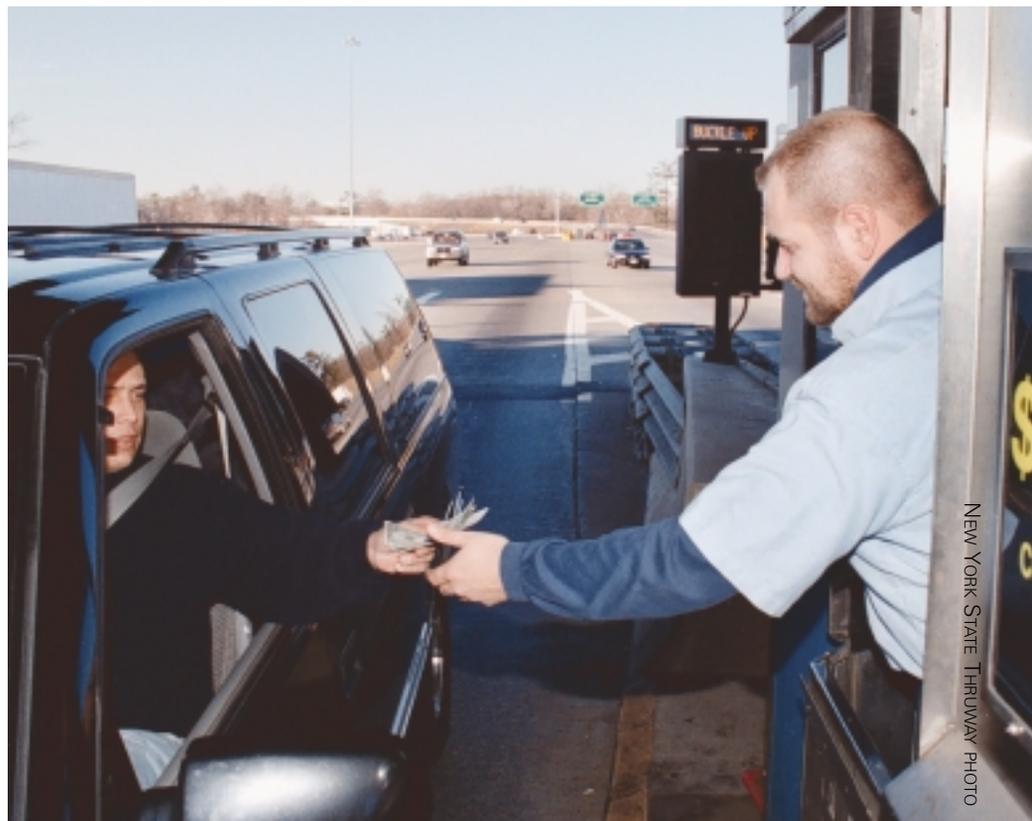
Roadway alternatives offer a way out of funding crises

America's longtime, love-hate relationship with tollways is warming up once again.

As the Interstate system turns 50, factors have come together to place toll highway and bridge facilities at a tipping point where they may provide the only opportunity to construct or maintain highways and bridges in an era of crushing traffic loads and congestion, undermined gas taxes, and construction prices inflated by the rising costs of land, construction materials, diesel fuel, and environmental and social justice mandates.

Toll highways are gaining acceptance where they were previously shunned, because in many locations they are the only way that needed-but-costly highways and bridges are getting built.

More and more, the public/private transportation infrastructure community is realizing that the paradigm of road and bridge funding via gas taxes is near an end. Due to inflation, in real dollars, today's



NEW YORK STATE THRUWAY PHOTO





INTERNATIONAL BRIDGE, TUNNEL & TURNPIKE ASSOCIATION PHOTO

gas tax is only 60 percent of what it was in 1993, the last time the federal gas tax was raised. Moreover, in the face of relatively high recent gasoline prices, most politicians are showing little stomach for raising gas taxes, at both the state and federal levels.

In the meantime, new designs for autos – such as the gas/electric-powered hybrids – use a fraction of the gasoline conventional cars use, thus putting more wear and tear on roads while paying less and less in gas taxes used to maintain those roads.

Lastly, many policy makers see high petroleum prices as supporting the activities of foreign governments that are opposed to U.S. interests, and look upon reliance on imported petroleum as a national security issue.

So as the gas tax is undermined, new interest is building in using public/private partnerships (PPPs) of many different permutations to fund needed infrastructure work in the face of unimagined traffic loads and congestion. And while there are other potential means of generating new income for road work, such as fees based on miles driven, congestion pricing (“value pricing”), and HOT (high-occupancy/toll) lanes – which will let single-occupancy vehicles use lanes reserved for high-occupancy vehicles, for a fee – PPPs involving tolls for new or improved highways are experiencing strong momentum at the beginning of the 21st century.

The trend is accelerated by new pathways builders, owners, and financiers are using to develop tollways, including federal funding, which encourages PPPs, and other innovative financing techniques. After years of prohibition, federal funds can be commingled with private funds for highways.

Lastly, new Intelligent Transportation Systems (ITS) technologies facilitate toll collection, eliminating the hair-pulling waits at toll plazas, and making use of facilities built through PPPs transparent for the highway user. Here’s a look at how PPPs are changing how roads will be built in the years to come.



Opposite: Toll collection differentiates tollways and turnpikes from classic tax-supported freeways. Above: Patrons at this 1960s-era toll plaza are reminded that the facility is not supported by road taxes.

Confidence in Gas Tax Plunges

As the Dwight D. Eisenhower National System of Interstate and Defense Highways marks its Golden Anniversary, confidence in the conventional gas tax as the underpinning of funding for highway construction and maintenance is eroding rapidly. The existing, pay-as-you-go gas tax system dates to the Federal Aid Highway and Highway Revenue Acts of 1956, and was based on preceding federal-aid-to-highways acts that date to 1916.

“In September 1954, President Eisenhower established the President’s Advisory Committee that was directed to develop a plan for an Interstate Highway System,” said Federal Highway Administration Acting Administrator Rick Capka in December 2005. “This committee ultimately recommended – and President Eisenhower agreed – that the Interstate system should be funded primarily by gas and diesel oil taxes. The user-fee system – the Highway Trust Fund – has served us well. But,

traditional funding by the gas tax is simply not keeping up with the growth of business and personal travel.”

Also, Capka said the end goals of the program have changed dramatically since 1956. “The challenges we face today are very different than those of a half-century ago,” Capka said. “The challenge then was national connectivity. Today, it is congestion and capacity, largely local and regional issues. One business at a time and one commuter at a time, congestion robs our nation of productivity and quality of life.”

Nervousness over the future of the gas tax has been exacerbated by the twin drumbeats of the specter of declining reserves of petroleum on one hand, and the skyrocketing price of petroleum due to political turmoil and natural disasters like the Gulf hurricanes.

‘Peak Oil’ Emergent

In late 2005, a new theory – “peak oil,” in which oil is reaching its peak in



PHOTO COURTESY OF TOM KUENNEN

production right now, after which supply will steadily and sharply decrease – gained credence internationally and within the halls of Congress. In October 2005, Rep. Tom Udall, D-N.M., and Rep. Roscoe Bartlett, R-Md., created the bipartisan Congressional Peak Oil Caucus to focus attention on the issue.

But in late 2005, the November release of a National Chamber Foundation (NCF)-sponsored study by Cambridge Systematics – which found tax receipts into the Highway Trust Fund (HTF) will fall \$55 billion short of covering the currently authorized federal funds of \$286 billion – ignited a firestorm within the transportation community. The study found that, given the demands placed on it by the new Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the HTF may be in a deficit as early as FY 2008, which would require added revenue even before SAFETEA-LU expires.

The report – “Future Highway and Public Transportation Financing” – was produced in two phases. Phase I found that the federal funding share falls short of what is needed to maintain and improve our nation’s transportation infrastructure, while Phase II laid out long-term options to fully fund the transportation system and described specific strategies that can guide the transition to a new financing mechanism.

“To maintain our current transportation system, all levels of government must invest \$235 billion in 2006, \$304 billion in 2015, and \$472 billion in 2030,” NCF found. “Current revenue streams will fall far short of these levels: the cumulative shortfall through 2015 is \$0.5 trillion. To improve our transportation system to a level that benefits the nation’s economic productivity, all levels of government must invest \$288 billion in 2006, \$368 billion in 2015, and \$561 billion in 2030. Current revenue streams will fall far short of these levels: the cumulative shortfall through 2015 is \$1.1 trillion.”

Fuel Taxes Not Indexed to Inflation

The major reason for the shortfall in federal revenues is that federal motor fuel tax rates are not indexed to inflation and have lost one-third of their purchasing power since the last adjustment in 1993, NCF said. “Of the approximately 60 cents per mile that automobile drivers now pay to operate their car, only one cent of this is paid in federal fuel taxes into the HTF,” NCF’s report said. “Paying an additional half cent per mile into the HTF would currently fully fund the federal share of needs to maintain the nation’s highway and transit systems.”

NCF said there were ways to drum up additional funding. Indexing federal motor fuel taxes to inflation would have the most immediate impact on revenues in the short-term, through 2010, the study said, adding the motor fuel tax is the only major existing tax that is not indexed to inflation.

That parallels observations of American Association of State Highway & Transportation Officials (AASHTO) Executive Director



Top: Inviting rest areas like this one on the Massachusetts Turnpike generate income for toll authorities. Above: Toll authorities can use innovative new technologies – like these precast concrete pavement slabs being quickly placed in a toll plaza apron of the New York State Thruway – to reduce work zone congestion.

John Horsley at the spring AASHTO board meeting in May 2005. “The real challenge facing federal fuel tax revenues is the loss in purchasing power due to inflation,” Horsley said. “The last time the federal gas tax increased was in 1993. By 2010, AASHTO forecasts that inflation will have reduced the purchasing power of Highway Trust Fund revenues by 30 percent.”

Other short-term strategies suggested by NCF include closing exemptions to the HTF so revenues dedicated to transportation are spent on transportation, recrediting interest to the HTF so that the HTF can reap the full benefit of the revenue paid into the fund by users, and giving states and local governments more revenue and investment options by authorizing expanded use of tolling.

THE FORT MILLER CO., INC. PHOTO



Vehicle-Miles-Traveled Tax?

And in the medium term, 2010 to 2015, the National Chamber suggests, among other ideas, that vehicle fees be imposed to capture fair payments from hybrid and other alternative fuel vehicles. And in the long term, it advises that the federal government should provide leadership in creating, maintaining, and expanding a vehicle-miles-traveled (VMT) tax – for example, a state VMT fee as well as a local-option VMT fee to help ease metropolitan congestion – and indexing VMT fees to inflation to help close the annual gap between transportation needs and revenues.

Involving the Private Sector

Likewise, the Bush administration is working to evolve and improve the traditional approach to paying for our nation's highways, said Capka. And a big part of that is increasing private-sector investment.

"Through innovative programs [included in] SAFETEA-LU, states have more flexibility to use congestion pricing, tolling, and other innovative forms of financing that have the potential to give us a better return on our transportation investments," Capka said.

"We recognize along with you that there are growing strains on traditional highway finance mechanisms," he said on Nov. 3, 2005, when the NCF report was released. "Relying primarily on the gas tax is not the best long-term approach. And, leveraging infrastructure investment through innovative financing will help us tackle the biggest problem in surface transportation: congestion." And the prime vehicles for this investment are public/private partnerships.

Feds Support PPPs

These PPPs bear the wholehearted approval of both the FHWA and the U.S. Department of Transportation (DOT). Knowing the need for a change in conventional wisdom, FHWA has been carrying the torch for PPPs for years and will use PPP elements of SAFETEA-LU to further promote the concept.

"We've been explaining what PPPs are, why innovative financing has so much potential, and emphasized that a few states are already trying it with great success," said FHWA's Capka at a December 2005 "summit" on PPPs.

"In many states, they're not yet part of the toolbox for delivering highway and bridge projects, but we're starting to get the message out," Capka said. "We're demonstrating how PPPs can deliver projects more efficiently, faster, and at less cost to taxpayers. We're showing state and local governments how PPPs can turn their highway infrastructure from liabilities into assets."

The industry uses the term "toolbox" to describe the group of options for solving problems that is available to an industry stakeholder, be it for potholes or public works funding. "In the coming year, I see PPPs as the tool in many more toolboxes, a tool that is grabbed more confidently, and more often," Capka said. "The way

we approach financing, construction, operations, and maintenance must evolve so we can address congestion and capacity problems. We need to determine what is truly in the national interest for surface transportation and then structure a funding mechanism to support those priorities."

Capka suggested "unleashing" America's private sector to help correct the nation's congestion problems. "Let me suggest that our vision for meeting future transportation needs and reducing congestion is the same answer we have for nearly every other product and service in America: unleashing the power and opportunity of our free market system. The same market forces that took us from Ma Bell's standard-issue, black rotary phone to cell phones and Blackberrys can relieve congestion, reduce the need for road repairs, and improve the safety of our highways."

PPPs, Tolling, and SAFETEA-LU

SAFETEA-LU, the surface transportation act signed into law by President Bush last August, is the largest investment our country has ever made in highway, transit, and safety programs. It broadens the availability of federal financing initiatives such as TIFIA [Transportation Infrastructure Finance and Innovation Act], a credit assistance program for large transportation projects. "Another provision – what I consider a major policy change – gives states more flexibility to use tolling to finance infrastructure improvements," Capka said. "States can choose what's best for them."

SAFETEA-LU changes in the area of design-build will make innovative contracting procedures much more commonplace. The private sector can get involved earlier in the process. Under SAFETEA-LU, highway and surface freight transfer facilities are now eligible for up to \$15 billion in tax-exempt Private Activity Bonds, and this will prove to be an extremely important financing tool as the nation grapples with coming explosive levels of truck traffic.

Federal Highways has a new PPP office to serve as a central point of contact for state and local transportation officials. "PPPs are becoming an integral part of the way we do business, and they will be even more crucial in the future," Capka said.

Among these PPPs is the proposed Trans Texas Corridor. In March 2005, the Texas Department of Transportation (TxDOT) and Cintra-Zachry, an international consortium of engineering, construction, and financial firms, signed an agreement to develop TTC-35, proposing as much as a \$7.2 billion investment to develop the approximately 600-mile, Oklahoma-to-Mexico portion of the Trans Texas Corridor. "They are willing to pay as much as \$1.2 billion for the privilege," Capka said. "The consortium, using private resources, will operate the toll road for 50 years and then return it to the state."

Elsewhere, the SR 125 South Toll Road (South Bay Expressway) in San Diego is being advanced under an agreement between Caltrans and the San Diego Expressway Limited Partnership (SDELP), which is owned by the Macquarie Infrastructure Group (MIG). MIG is investing more than \$150 million to develop and operate the toll road. This \$642 million project is being funded by



a combination of senior bank debt, a TIFIA credit assistance loan, sponsor equity, and donated right-of-way.

A Challenge to Governments

Sensing the opportunity to effect change, in November a diverse coalition of organizations issued a direct challenge to state and local governments to consider tolling each time a new road or road reconstruction project is considered.

Citing deteriorating roads and a lack of funding to pay for needed improvements as two of the biggest challenges facing state and local government officials, the International Bridge, Tunnel and Turnpike Association (IBTTA) and its partners challenged every state and local government to include tolling as an option for every road project considered from that day forward.

"Roads have become a lower priority than they should be," said Patrick Jones, executive director of IBTTA. "The time has come for all levels of government to acknowledge they don't have the resources they need to build, maintain, and upgrade America's roads."

Jones and coalition members issued a challenge to every state and local government, every transportation policy maker, and every elected official to:

- include tolling as an option whenever they consider building a new road or upgrading an existing road in their jurisdictions;
- include tolling as an option when they consider road projects that may be several years off to determine whether tolling would allow them to accelerate those projects.; and
- provide a publicly available explanation, if they determine that tolling is not appropriate, as to why that is the case.

Jones also presented Maryland Gov. Robert Ehrlich and then-Virginia Gov. Mark Warner with the first-ever IBTTA Challenge Award for their recent efforts to advance a study to consider adding toll lanes to the Capital [D.C.] Beltway.

"IBTTA is grateful for the extraordinary efforts Maryland and Virginia have made to advance the use of tolling as a solution to current transportation problems," Jones said. "Tolling provides an effective and politically acceptable way to begin to address our country's infrastructure needs. Tolling helps to ensure that motorists get the roads they need. Tolling ensures that the users of the roads – and only the users of the roads – are the ones who pay for them. And tolling provides a way to help better manage and operate our nation's valuable and scarce road infrastructure."

Showing Them in Missouri

That tolls are inescapable as the nation improves its softwheel transportation infrastructure was demonstrated in the "Show-Me State" of Missouri in February 2006, where toll bridges are common but toll roads are unknown and unpopular.

There, in February of this year, in his State of Transportation Address, Missouri Department of Transportation (MoDOT) Director Pete Rahn called for I-70 – a heavily used national route bisecting

the state from east to west – to be rebuilt, even though there is no way to pay for the \$3.5 billion project cost.

Rahn described a coming shortfall in conventional funds. Missouri is undertaking its largest-ever highway construction program – \$7.3 billion for 866 projects over the next five years. In 2005, that meant more than 1,000 highway work zones, and 2006 will be even bigger.

"However, in 2010 the construction bubble bursts and our construction program will diminish by over \$600 million annually," Rahn said. At that time MoDOT's construction budget is projected to drop from more than \$1.4 billion to \$805 million per year, even as unfunded needs will remain.

"Stretches of I-70, for instance, that are nearly 50 years old were designed to last just 20 years," Rahn said. "By 2030, the entire length of I-70 will be stop-and-go traffic and I-44 [to the southwest] is just 10 years behind. I-70 needs to be rebuilt from the ground up and needs to be expanded to accommodate ever-growing traffic and the ever-larger vehicles using it."

As the work is unfunded, Rahn addressed the possibility of using tolls in a subsequent news conference. "I think eventually tolls will be in every state in the United States," Rahn said during the news conference, as reported in the *St. Louis Business Journal*. "Eventually there will be toll roads in Missouri."

Tolls via a public/private partnership may bail out an exciting but costly new Mississippi River Bridge on the Interstate system at St. Louis, just north of the Gateway Arch and landmark Eads Bridge (itself built in 1874 by private investors). The bridge is needed to reduce growing congestion on the existing Poplar Street Bridge, which carries I-55, I-64, and I-70 into downtown St. Louis.

The new bridge – the cost of which recently was scaled back from \$1.6 billion to an estimated \$910 million by cutting the scope of approach construction – would bypass I-70 traffic from the Poplar Street Bridge and could be carrying up to an estimated 96,000 vehicles daily by 2013, projections from a bridge funding analysis show. Without the new bridge, average delays to cross the Mississippi will rise from 10 minutes to 55 minutes in just a few years. But with \$239 million earmarked by Congress in SAFETEA-LU, and \$41 million for the bridge from Illinois as a start, at least \$600 million remains to be generated for the project.

"We have gone back to the drawing board on this project and, working with the Illinois Department of Transportation, have reduced its cost by nearly half," Missouri's Rahn said. "Yet, we still do not have the money to build it."

In response, the St. Louis Regional Business Council commissioned a study by Goldman, Sachs & Co. to ascertain the feasibility of a toll concession, which found a toll concession should potentially raise \$700 million to \$950 million based on an average \$2 toll, increasing at 2.5 percent a year over a 99-year concession with a 75 percent operating margin. Charging a \$2 toll would cut the traffic in half as some traffic diverts to existing "free" bridges, but developers would bet that the savings for time-challenged motorists will steer them their way.



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In late January, Missouri legislators began discussions on the feasibility and impact of the toll bridge, with potential legislation allowing the state to contract with a private company to build the bridge and charge tolls.

Most Major New Bridges Toll-Funded

If the Mississippi River crossing becomes a reality using tolls, it would join all but one of the major new bridges in the United States under construction that are being financed by tolls. In 2006 these included the new East Span of the San Francisco-Oakland Bay Bridge, the Tacoma Narrows Bridge Second Span in Washington State, and the Driscoll Bridge on the Garden State Parkway in New Jersey. Major bridge projects in planning are the replacement of the Goethals Bridge between New Jersey and New York, and the Tappan Zee Bridge over the Hudson River in New York. Both of these will be financed with tolls, likely as toll concessions.

Of major new bridges under construction, only the Woodrow Wilson Bridge replacement on the Capital Beltway will not be toll-financed, perhaps due to its proximity to the seat of the nation's government.

Goldman Sachs – with its experience in large infrastructure projects and toll concessions – assisted the City of Chicago in realizing \$1.8 billion by auctioning the

Chicago Skyway and turning it into a public/private partnership concession. The skyway, an established, elevated toll road extending eight miles from the Indiana state line to the Dan Ryan Expressway south of the Chicago Loop, was concessioned for 99 years by the City of Chicago in January 2005. The Chicago Skyway Concession Company LLC is owned by

CINTRA and Macquarie, two international toll road operators.

Encouraging Adoption of Technology

Electronic toll collection eliminates back-ups at toll plazas and speeds traffic. Toll agencies across the country are doing their part to prod patrons to utilize the electronic toll-paying systems that increasingly are already available to them. This can include cheaper tolls for drivers who pay using an electronic device, facilitating interstate operability of electronic tolling devices, allowing single-occupant vehicles (SOVs) that pay electronically to use car-pool lanes, and allowing drivers to pay tolls at highway speeds via open-lane tolling.

With electronic tolling – which began in the 1990s – tolls are paid with a windshield-mounted transponder that receives a radio signal from sensors at toll plazas, and in return broadcasts the vehicle's identification. In an instant the fee is deducted from the patron's prepaid account.

In 2005, the Illinois State Toll Highway Authority jump-started its anemic I-PASS



Top: Cold milling takes place on I-88, the East-West Tollway (now Reagan Memorial Tollway) in DeKalb County, Ill. The tollway is operated by the Illinois State Toll Highway Authority. Above: Florida's Turnpike Enterprise operates the SunPass electronic toll collection system throughout the Sunshine State.



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electronic toll collection program by doubling tolls system-wide for those who paid manually. The result was an avalanche of buy-ins to the electronic system. As an added bonus, in September, ISTA announced its patrons would be able to use its I-PASS transponders on all tollways, bridges, and tunnels that accept the East Coast's E-ZPass, and E-ZPass patrons would be accepted on the Illinois Tollway, thus leveraging the technology to provide added value for its patrons.

Similarly, New Hampshire's Turnpike System, which earlier this year accepted only tokens and cash for passenger vehicle tolls, has adopted the E-ZPass system and gives cars with New Hampshire-issued E-ZPass tags 30 percent off every toll, reported *The Wall Street Journal* in late 2005, adding the Metropolitan Transportation Authority in New York raised toll rates in March but kept 50-cent discounts in place for E-ZPass users.

And in California, the Bay Area Toll Authority was offering \$10 in free tolls for anyone who signed up for the state's electronic FasTrak tag before Dec. 19, 2005, when new lanes on the San Francisco-Oakland Bay Bridge were to be converted to electronic-toll-only lanes.

Backups at toll plazas have been a major irritant to patrons and a prime source of congestion on toll highways. Now, Illinois is making history by converting its traditional toll plazas to a barrier-free Open Road Tolling (ORT) System, said to be the first in the nation, which allows I-PASS users to travel at highway speeds on the mainline while their tolls are collected electronically by a monotube overhead, reducing congestion and travel times.

As a rule, each plaza will have as many ORT lanes after conversion as there are mainline lanes leading into or exiting the plaza. Vehicles without I-PASS will keep to the right to pay cash to toll collectors in smaller toll plazas, which will not affect the free flow of traffic on the mainline. Separating I-PASS traffic from vehicles paying cash will also improve safety at toll plazas.

Since summer 2005, the Illinois Tollway has been converting 20 mainline

toll plazas to ORT for non-stop I-PASS travel, with nine plazas completed in 2005 (Phase I) and the remaining 11 plazas to be completed in 2006 (Phase II). This project is part of the tollway's \$5.3 billion congestion relief plan to reduce travel times through the system, which principally serves the Chicago metropolitan area.

ORT also has come to Orlando. There, on the SR 417 Toll Facility through Orlando, traffic at one of the main toll collection points had exceeded capacity within 10 years of the toll plaza's completion and needed improvement. The project consisted of expanding the toll plaza area to accommodate high-speed lanes along with traditional toll facilities, as well as widening the roadway to six lanes for 12,300 feet and resurfacing 14,300 feet of roadway.

Using MicroStation and Bentley GEOPAK civil engineering design products, engineers Dyer, Riddle, Mills & Precourt, Inc. of Orlando were able to evaluate design choices quickly and effectively, ultimately producing more than 750 drawings, nearly a gigabyte of data for the project.

Elsewhere in the Sunshine State, Florida's Turnpike Enterprise estimates that a transaction with SunPass, the state's electronic toll tag, costs the Florida Turnpike about 10 cents, while a cash transaction costs between 17 and 18 cents, reported *The Wall Street Journal*. Electronic tolling is slated to begin in Washington State in the spring of 2007 on the Tacoma Narrows Bridge, and it just started in Puerto Rico last year.

Technology also is speeding design and saving money for the builders and owners. In Texas, a 49-mile, \$1.5 billion tollway - State Highway 130 - is Texas' first design-build project, the largest road project in Texas history, and one of the largest highway projects in the nation. SH 130 is a project of the Texas DOT and is the state's first highway to be developed under a Comprehensive Development Agreement, allowing the work of property acquisition, design, and construction to be undertaken simultaneously.

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The new SH 130 will be a 49-mile tollway extending from I-35 north of Georgetown southward to U.S. 183 southeast of Austin, passing through Williamson and Travis Counties. The project is expected to be completed by December 2007. SH 130 will be a four-lane roadway with toll facilities and major interchanges.

Engineering and construction consortium Lone Star Infrastructure (LSI) is led by Fluor Enterprises, a subsidiary of Fluor Corporation; Balfour Beatty Construction; and T.J. Lambrecht. For this speedy, fast-track design, LSI implemented Bentley ProjectWise and Bentley Digital InterPlot to some 120 users in less than two months. Workflow improvements were discovered on a wide variety of fronts, notably in communications among the design team's 15 disciplines. Thousands of redundant files and folders were eliminated, and documenting workflow allowed for streamlining the design process.

A Long History of Toll Roads

As observed in our prologue to this publication, toll roads and turnpikes have a long history in the United States, dating to colonial times. Until the advent of the railroad after the Civil War, toll roads and waterways were the only options for travel among the colonies, states, and territories. Just before the Civil War, the toll roads and turnpikes began a decline while steam-powered rail was ascendant, until the Good Roads era refocused attention on road conditions beginning in the 1890s.

Today, observes Goldman Sachs, public authority toll roads are pulled in two different directions. The capital markets, which buy their bonds, pull them in the direction of independence from political control so they will be run in a manner which will generate sufficient revenue to service their debt.

However, they are also pulled in the direction of public accountability. "If their commissioners are appointed for long terms, they are accused of becoming a power unto themselves and not accountable," Goldman Sachs said. "Thus, such roads tend to be launched as independent entities to raise capital, and then drawn into the political arena. Sometimes they are incorporated into the state department of transportation, until the argument for independence is made again. This tension, and the resulting instability, seems inherent when a government authority conducts a business."

These problems with the public authority model have led to a widespread international movement toward the investor toll concession model. A concession is a grant of control or land made by a government or other controlling authority, in return for stipulated services or a promise that the land will be used for a specific purpose.

Among those concessions in the United States are:

- The Ambassador Bridge, chartered in perpetuity to the Detroit International Bridge Company by the City of Detroit, June 1927, opened in November 1929, and has been operated by privately held companies ever since.



INTERNATIONAL BRIDGE, TUNNEL & TURNPIKE ASSOCIATION PHOTO

The Turner Turnpike in central Oklahoma was opened in 1953 and is the oldest of the state's turnpikes.

- Dulles Greenway in northern Virginia, a 40-year concession that opened a 14-mile toll road in September 1995. According to Goldman Sachs, the concession term has since been extended by 20 years to allow the owners to raise additional capital for widening, adding new interchanges, and improving toll collection. Initially a joint venture comprising a local family company, Autostrade of Italy, and a construction company, it was acquired by Macquarie in 2005.
- 91 Express Lanes in Orange County, Calif., concessioned for 45 years to California Private Transportation Company in 1991, opened four Express Lanes 10 miles long in December 1995, and was later purchased by Orange County Transportation Authority.
- Camino Colombia Toll Road, Laredo, Texas, concessioned to approximately a dozen local landowners who had formed Camino Colombia Inc. in the mid-1990s. The 22-mile toll road opened in October 2000 and was auctioned in bankruptcy in January 2004, with the Texas DOT buying it in May 2004.
- The South Bay Expressway, an eight-mile toll road on the eastern fringe of the San Diego area due to open in 2007, was concessioned for 45 years by the state of California to California Transportation Ventures in 1991. Construction began in 2003 following protracted litigation and environmental permitting. California Transportation Ventures was formed by Parsons Brinckerhoff, which took the project through to full permitting and environmental clearance, at which point it was sold to Macquarie, which financed and is building the road, Goldman Sachs said.





New Vision and Funding Sources Needed for America's Transportation System

By Patrick Jones

The Interstate Highway System (IHS) is arguably the most important public works project in world history. When you consider the impact of the IHS on American mobility and economic growth, it's hard to find another project that compares in scope.

As important as it is to pause and acknowledge the 50th anniversary of the IHS and the visionaries who made it possible, it's even *more* important now to focus on creating a new vision for our nation's intermodal transportation system.

America's economy depends on a strong transportation system to move goods, services, and ideas to global markets. But the highway system is in crisis because of a lack of funding, deteriorating infrastructure, and growing congestion. Experts agree that today's main road-funding mechanism – state and federal fuel taxes – does not generate enough revenue to maintain our aging network, much less build sorely needed new roads. To keep America competitive, we must find more flexible and sustainable funding sources for our highway system.

One such approach is within reach, according to a study released by the Transportation Research Board (TRB) in January 2006. After two years of study, 14 of the nation's leading transportation experts recommended a modern version of a time-tested solution – expanding the use of toll roads.

Tolling is a fair and reliable way to fund, develop, and operate roads. And with electronic toll collection solutions like the *E-ZPass* system in the Northeast, the *SunPass* system in Florida, and *FasTrak* in California, toll agencies are eliminating the inconvenience that consumers complain about: waiting in line to pay at a tollbooth. While tolling is not the answer in every case, it's a powerful, agile tool for funding transportation and managing congestion.

While fuel taxes will continue to play a major role in funding roads in the short term, it would be folly to rely on fuel taxes alone in an era when consumers are switching to more fuel-efficient and alternate-fueled vehicles, and when the White House is urging motorists to conserve energy and reduce U.S. oil imports. Given the inevitable future oil price increases, fuel taxes might soon provide a declining stream of funds. During the sudden oil price spikes in summer of

2005, for example, lawmakers in several states cut gasoline taxes to blunt the cost burden on drivers, despite the negative impact on highway programs.

Now more than ever we need a new vision for transportation in America. In the 1950s, our transportation policy was this: Create a national system of interstate and defense highways to promote economic growth and mobility and defend the homeland. We did it. But since then, the population has doubled and vehicle miles of travel and freight have more than quadrupled. In short, our highway system is on the verge of collapse and we must fix it to maintain our position as the world's strongest economy.

An effective, purpose-driven surface transportation system for the 21st century would:

- make economic growth one of the driving features of the system, serving efficient freight movements and recapturing millions of hours of productive time lost to congestion;
- identify alternative funding sources to the fuel tax, which is losing its ability to fund surface transportation;
- tie the use of highways to the cost to build, operate, and maintain them;
- make appropriate use of new technologies to help transportation facility operators maximize existing system capacity and give members of the driving public more information and options for how and when they travel;
- emphasize new performance measurements such as vehicle, passenger, and freight throughput in the system, as opposed to the amount of federal money spent or miles of pavement laid; and
- recognize that political structures are not very adept at pricing transportation services and attempt to put the pricing function into the hands of those who are adept at this activity.

The 50th anniversary of the IHS deserves important recognition. But the best way we can honor the visionaries who created the system is to become visionaries and create a highway system that meets the needs of future generations of Americans.

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