



Beyond the Gas Tax

**Syracuse, New York
October 7, 2008**



New York State Department of Transportation

Astrid C. Glynn, Commissioner



Beyond the Gas Tax – Agenda

A Symposium on Funding Future Transportation Needs

October 7, 2008

The Martha Eddy Room in the Art and Home Center

The State Fair Grounds, Syracuse, New York

12:00-1:00 PM

Luncheon Reception
In the Empire Room

- A time for attendees to talk with the speakers and panelists

1:00-1:20 PM

Welcoming Remarks

- Astrid C. Glynn, Commissioner, New York State Department of Transportation
- Robert (Buz) Paaswell, Ph.D., Director, University Transportation Research Center

1:20 – 2:00 PM

Keynote Address

- Emil Frankel: Director of Transportation Policy,
National Transportation Policy Project, Bipartisan Policy Center:
Providing a Sustainable Transportation System – Meeting the Challenge

2:00 – 3:15 PM

Defining the Problem

- Allison L. C. de Cerreño, Ph.D., Director, Rudin Center for Transportation Policy and Management: Overview of Transportation Needs and Funding
- Jack Basso, AASHTO: The Federal Transportation Revenue Situation and Options to Address It
- Mary Ann Crotty, Macro Associates:
The Role of the Gas Tax Past and Future
- Jim Calpin, Merrill Lynch:
Perspective of Financial Community on Transportation Funding
- Richard Drake, Program Manager, Transportation and Power Systems, NYSERDA:
Tying Together Transportation and Energy Policy

3:15 – 3:30 PM

Break

3:30 – 5:00 PM

Options Beyond
the Gas Tax

- Ken Orski, Editor, Innovation Briefs: Overview of Funding Strategies
- Jonathan Peters, Ph.D., College of Staten Island, City University of New York:
Examples Next Door – Experiences of Pennsylvania and New Jersey
- Asha Weinstein Agrawal, Director, MTI National Transportation Finance Center:
California's Experience with Financing Options Beyond the Gas Tax
- Frank Mauro, Director, Fiscal Policy Institute: New York State Funding Options

5:00 – 5:15 PM

Where do we go
from here?

- New York Roadway Improvement Coalition Representative

5:15 – 5:30 PM:

Closing Remarks

- Robert Paaswell, Ph.D., Director, University Transportation Research Center:
Wrap-up



STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
ALBANY, N.Y. 12232
www.nysdot.gov

ASTRID C. GLYNN
COMMISSIONER

DAVID A. PATERSON
GOVERNOR

November 25, 2008

Dear Colleague:

I am pleased to provide this Proceeding which summarizes the Department's October 7, 2008 Symposium on *Beyond the Gas Tax: Funding Future Transportation Needs*. The symposium brought together national and state experts in transportation finance to discuss the status of federal and state transportation funding and the issues and options for investing in state transportation infrastructure in the future.

The discussion reinforced the harsh reality that the gas tax is not keeping pace with growing transportation needs, and its viability as a funding source over the long term is problematic. Reliable funding must be secured because transportation is so vital to the national and state economies. Our challenge, as a nation and a state, is to identify funding sources that allow us to strengthen our economy through sound transportation investments while reducing greenhouse gas emissions and achieving energy independence. This will require weaning ourselves off of the gasoline tax as the primary transportation funding mechanism. In short, we must look "Beyond the Gas Tax."

Panelists noted that investments in transportation need to double in order to provide the transportation system required for mobility and economic competitiveness. Underinvestment will lead to degradation of the system and worsening infrastructure conditions. We look to the federal government for leadership in developing new funding mechanisms, but we recognize that the State will need to do its share as well.

We cannot wait for bridges to fail, roads to wash out, or transit systems to be overwhelmed with old buses or new riders before we act. All of us in the transportation industry must educate stakeholders and the public on the importance of our transportation infrastructure. As the New York Roadway Improvement Coalition (NYRIC) reminded us at the symposium, when the public and private sectors are united behind an issue we can have great success.

Thank you for your interest in New York's transportation system.

Sincerely,


Astrid C. Glynn
Commissioner



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Chapter 1

Beyond the Gas Tax

Executive Summary

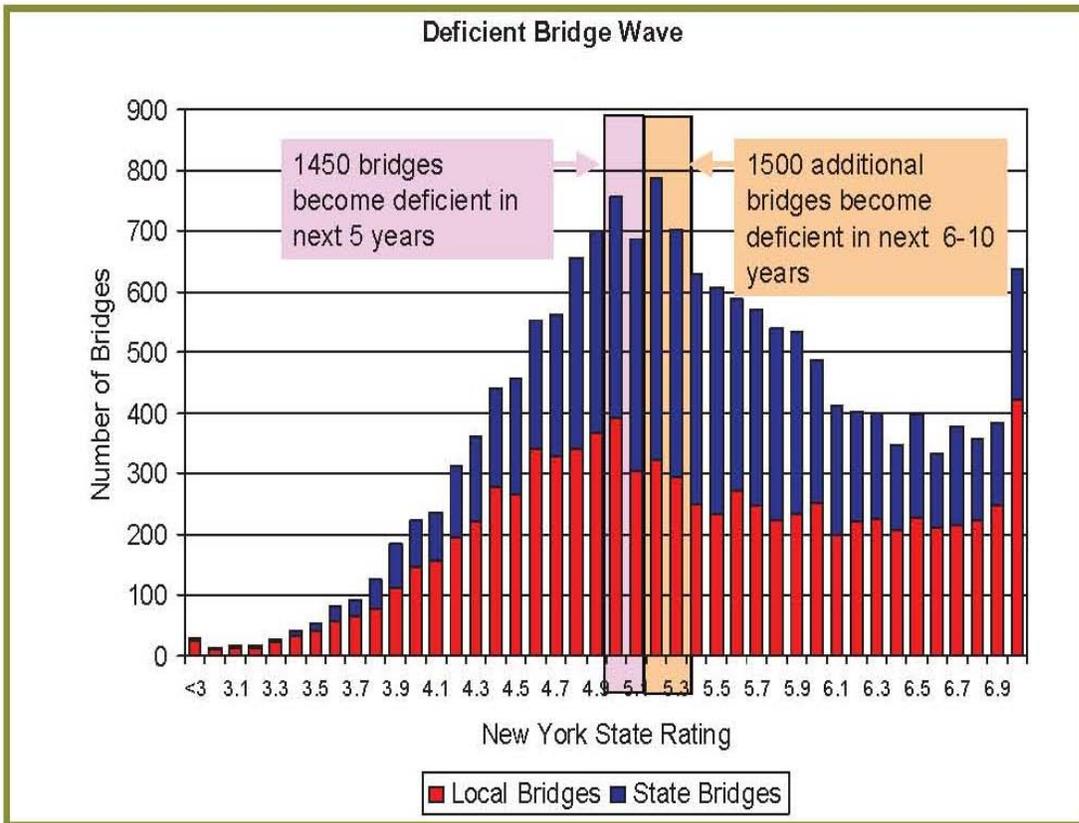
On October 7, 2008, the New York State Department of Transportation (NYSDOT) and the Region 2 University Transportation Research Center (UTRC) convened “Beyond the Gas Tax: A Symposium on Funding Future Transportation Needs.” Attended by nearly 200 individuals from around New York State, the symposium tackled the question of how to generate the much-needed revenues for the state’s transportation infrastructure within the context of a crisis in investment.

The Crisis: Growing Needs Amid a Legacy of Borrowing and Petroleum Taxes

The fundamental problem is that New York’s transportation infrastructure is in need of serious investment to bring it up to a State of Good Repair and to move beyond this to modernize and expand the system to compete in the 21st century. However, the revenue streams on which it has historically depended, namely fuel taxes, are insufficient to address this challenge.

This crisis in funding New York’s transportation infrastructure has multiple facets – historical and current, national and local. Moreover, while it is a crisis in transportation, it also relates to other policy goals regarding energy security, the environment and public health. If investments are not made to reduce the transportation sector’s reliance on and use of petroleum, policy goals in these other areas will also remain unrealized.

An Outdated, Antiquated and Sometimes Dilapidated System: New York is choking on demand. Its highways and bridges are clogged, especially in the New York City Metropolitan region, but also in Buffalo and other cities. The once robust rail network is now only half its size with 4,200 miles, many shared Rights of Way and multiple lines suffering from weight and clearance restrictions. New York’s rail system is challenged by growing passenger and freight volumes. Its airports and marine ports are in need of additional capacity and better landside access. Twenty-five percent of New York State’s highway bridges are functionally obsolete and another 12 percent are structurally deficient. Over the next five years, 1,450 more bridges will become structurally deficient, with another 1,500 reaching this point in six to 10 years. Pavement trends show similar patterns. At the same time, upstate transit systems are faced with aging fleets, with many vehicles expected to exceed their useful lives in the next five years. In many cases these transit systems are unable to meet the projected increases in demand, which means that enhancements and expansion of systems will be needed.



The New York State Department of Transportation has projected \$175.2 billion in capital needs over the next 20 years. This does not include the Metropolitan Transportation Authority’s multibillion-dollar funding gap (which is being dealt with by the Ravitch Commission), nor does it include any gaps by the New York State Thruway or Bridge authorities. More importantly, under current funding formulas and projected revenues, NYSDOT will not have the resources to fund even half the projected need, let alone the entire \$175.2 billion.

The Impact of the National and Global Economic Crisis: Compounding the challenge is the fact that transportation infrastructure throughout the entire nation is suffering from disrepair. The scope of national infrastructure (including but not limited to transportation) investment needs has been estimated at over \$1 trillion merely to bring it to a State of Good Repair.

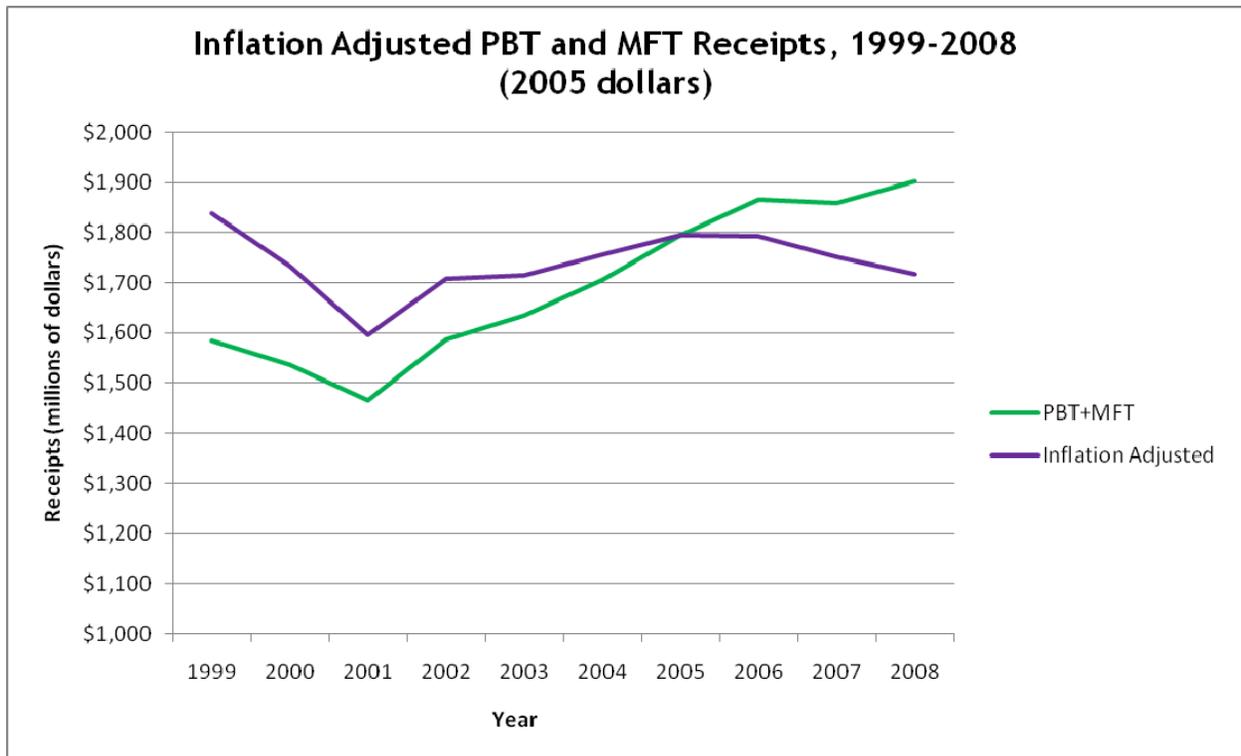
However, finding the monies at this time is increasingly difficult as the current economic downturn affects the entire spectrum of funding alternatives. State and federal revenues are declining at an alarming rate, so traditional “pay-as-you-go” methods are challenged. Various types of debt-funded options cannot come to market right now. Finally, private cash options are difficult at a time with so much uncertainty and volatility, as well as rising interest rates.

While the national and global economies are in turmoil, states are feeling the effects. In New York State, the Wall Street fallout is expected to result in a \$3.5 billion reduction in tax revenues, with the loss of 40,000 industry jobs. Most states are undergoing massive budget reviews as the effects of the economic situation are assessed. New York is no exception. Faced

with a looming and growing budget deficit, expected to be at least \$5.4 billion next year, state agencies are being asked to trim their budgets.

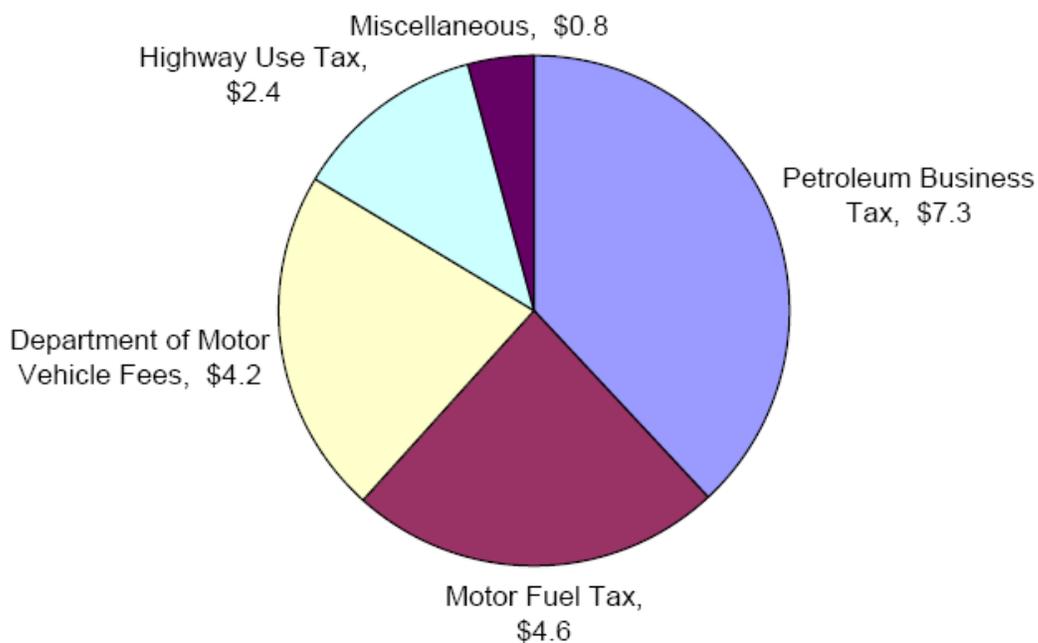
The Impact of a Legacy of Borrowing and Reliance on Petroleum Taxes: As NYSDOT reassesses its budget, what can be bought with the dollars invested continues to shrink as a result of rising construction material and fuel prices. Inflation for highway and street construction in New York State averaged more than 8 percent annually between 2004 and 2007, while steel material prices have increased nationally by more than 125 percent since 2003. Further, the price index for highway construction has increased by 77 percent since 2003. In fact, as a result of inflation, NYSDOT’s current five-year capital program has lost nearly a quarter of its value.

Further complicating the funding situation is New York’s reliance on motor fuel taxes (MFT) for transportation investments. Over the past 15 years, nearly two-thirds of the state’s total highway funding and one-quarter of its transit funding were linked to fuel-related taxes; operating assistance for upstate transit was funded largely through the Petroleum Business Tax (PBT). However, while receipts from the state PBT and MFT have increased regularly since 2001, inflation is a problem here as well, reducing purchasing power since 2005. Ironically, as effective policies and market demand shift people to public transportation, carpooling and fuel-efficient vehicles, less fuel is consumed, further reducing these revenues.

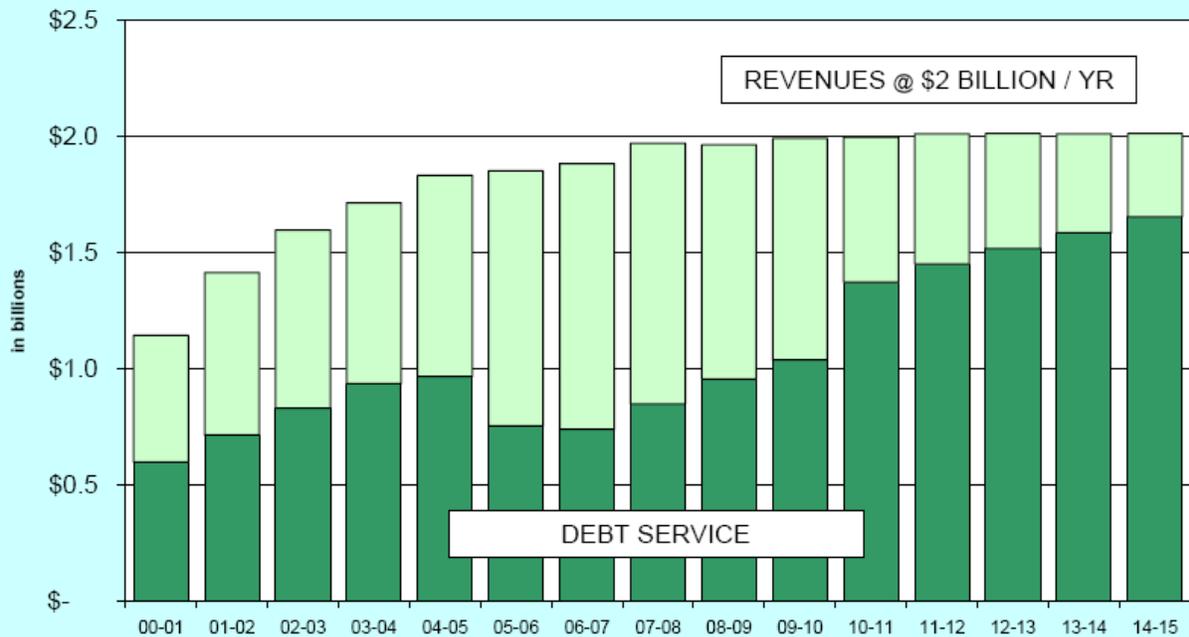


Meanwhile, the State Highway and Bridge Dedicated Trust Fund is reaching a critical juncture as nearly half the revenues flowing into the fund are used to pay debt service on *previous* investments. By 2013, debt service could eat up three-quarters of incoming revenues.

**Dedicated Highway and Bridge Trust Fund Revenues
1993-2008
\$19 Billion Total
(in billions)**



DEDICATED HIGHWAY AND BRIDGE TRUST FUND DEBT SERVICE & REVENUE TRENDS



New York State Department of Transportation

This debt is the result of massive borrowing during the 1980s to bring the system back to a State of Good Repair. Even as taxes and bond acts were pursued, the State Legislature began discussing a dedicated fund for transportation capital investments as a longer-term solution, and in 1991, the State Legislature enacted the dedicated fund. However, while some new projects were funded on a pay-as-you-go basis, bonds were also issued and eventually much of the revenues collected for the dedicated fund ended up servicing their debt. In other words, the dedicated fund was supposed to *prevent* the need for bond acts, but is, instead, *supporting* the bond acts. Yet, while the borrowing of the 1980s has led to the difficult situation in which New York now finds itself, if it had not borrowed at the time, there would have been no transportation program.

Beyond the Gas Tax – Alternative Revenue Sources and Institutional Transformation:

There is widespread agreement that continued reliance on the present structure of fuel tax contributions, both at the federal and state levels, while successful for 50 years, will no longer suffice in itself to meet New York’s growing transportation infrastructure needs. Moreover, a gas-tax-based funding strategy so at variance with the nation’s energy and environmental policies is not the forward-looking approach that we need or want for New York State.

Alternative Revenue Streams: There are many alternatives to initially supplement and eventually to replace petroleum taxes. No single approach is seen as likely to be adequate.

Among those mentioned were the following (in alphabetical order, with no preference unless otherwise noted):

- **Bonds:** Notwithstanding the current economic crisis, bonding will remain feasible for some states, while others may run into statutory ceilings that will preclude further borrowing.
- **Dedicated Taxes:** Several dedicated taxes have been used by or considered by New York at different times to fund transportation. Among them are the *Payroll Tax*, the *Real Estate Capital Gains Tax* and the *High-End Income Tax*.
- **Local-Option Sales Taxes:** Local-option sales taxes have been used in California for some time now. They are generally dedicated to a pre-defined project or list of projects, and are limited in time, often 10 to 20 years. Generally well accepted, they can generate significant revenues.
- **Private Investment:** Especially important for large mega-projects, private investment could be an important means for modernizing the network without burdening current and future taxpayers with further debt. However, the availability of private funding will depend upon the private sector's interest in investing in transportation projects and the degree of public oversight involved.
- **User Fees:** A variety of user fees can be available for generating transportation revenues. However, keep in mind that there are costs to collecting some user fees and for states, which traditionally do not have revenue appropriate collection functions in place, these costs can be substantial. Types of user fees include:
 - *Green Taxes or Fees.* Such fees are not yet in place but have significant potential when tied to how “clean” or “dirty” vehicles are with respect to emissions. Not only can they generate revenues, they also can be used to help shift behavior.
 - *Freight weight fees.* Such fees are used on trucks in California, with revenues being used primarily for transportation.
 - *Tolls.* Electronic toll collection has made using tolls to generate revenues easier and generally well accepted. At least 22 states are looking at different types of tolls and toll structures (including private or public-private concessions) to fund transportation investments.
 - *Vehicle miles traveled (VMT) fees.* These fees are based on the number of miles traveled by a given vehicle.

In addition to these user fees, ad valorem taxes, container fees, customs fees, freight ton mile charges, motor fuel sales taxes or vehicle sales taxes, tax credit bonds, carbon taxes, and cap and trade auction fees are other possible revenue sources.

Regardless of which types, or more likely which *combination*, of alternative revenue sources are used, some evaluation criteria to determine which to use would be helpful. Speakers mentioned the following:

- Revenue generation – how much will be generated; how stable / predictable is the source;
- Ease of implementation – what is the cost of implementation and what is the administrative burden;
- Equity – this has many facets, including geographic equity (fairness of one region of the state compared to another) as well as social equity (e.g., fairness across income brackets);
- Transportation system performance – any time a fee or tax is imposed, people may change behavior, so one could reap multiple benefits through certain user fees; and,
- Political feasibility – specifically, public acceptance.

Transforming Institutions and Practice: In addition to finding the right mix of revenue sources, we must learn from past mistakes as we look toward investing in transportation. New York needs a broader investment policy to guide borrowing. Borrowing for new investments, and even to help pay some much-needed past projects, is acceptable, but ideally maintenance and State of Good Repair should be pay-as-you-go.

Clear goals and purposes must be established, with investments tied to these goals. Priorities must be established and investments made only in those projects that bring the greatest returns. A shift toward looking to outcomes, measuring performance and demanding accountability in the use and investment of limited public capital is important. Finally, decision-making in transportation must be the product of a process in which all parties consider strategic goals and purposes and are influenced by returns and outcomes.

Such changes will likely necessitate significant institutional reform. The federal role in transportation needs to be redefined. However, the relationship between and among the federal government, the states, municipalities, regional Metropolitan Planning Organizations and the variety of private owners and stakeholders must also be reexamined.

Finally, wise investment will not occur without addressing the human capital challenge in state and local transportation agencies that continue to experience a significant loss of human capital. Transportation agencies must begin thinking about new partnerships and reexamining their missions to reflect today's needs and to attract young and new talent.

Concluding Thoughts – What is At Stake:

Several months ago, an article appeared in *The New York Times*, titled “Waving Good-Bye to Hegemony.” It featured pictures that showed the United States shrinking in relation to the world and argued that the United States is becoming less important in the global arena in numerous ways. Other countries, Sweden, the United Kingdom, China, Japan, understand the importance of investing in transportation to support their economic, commercial quality of life, environmental and energy goals. Others around the world are moving ahead and outpacing us. Given New York's critical role as an international and national gateway for the United States, if we do not

figure out a way to fund these much-needed investments, New York will lose on all these counts and the United States will lose a critical link in the global arena.

Those working in transportation understand the challenge, but many do not fully appreciate the investment needed to keep it in safe and working condition and to make the strategic capacity expansions. It is, thus, incumbent upon those who work in the sector to get the message out, to educate and to persuade New Yorkers that we must now increase investment in transportation infrastructure throughout the state if we want to continue to be a global gateway.

Positive developments related to decreased vehicle miles traveled and increasing transit ridership throughout the state demonstrate efforts to curb global warming and move toward energy independence, but they result in lower revenue yields in a system largely based on fuel taxes. Indeed, in announcing the decline in national travel, U.S. Department of Transportation Secretary Mary Peters recently noted that "...we saw the folly of our antiquated federal transportation policies when the Highway Trust Fund almost ran out of money. If we don't evolve our policies, we will leave a sad legacy of old roads, crowded highways and unfulfilled transit ambitions."

In the words of New York State Department of Transportation Commissioner Astrid C. Glynn, "That is not a legacy any of us want to leave." To move ahead, however, will require committed leadership in the public and the private sectors as well as a broad public understanding of why transportation is a good investment. As one speaker succinctly put it, "When the public and private sector are united behind an issue we can have great success. Adequate funding for infrastructure *is* that issue."



Chapter 2 Beyond the Gas Tax Synthesis

On October 7, 2008, the New York State Department of Transportation (NYSDOT) and the Region II University Transportation Research Center (UTRC) convened a half-day symposium, “Beyond the Gas Tax: A Symposium on Funding Future Transportation Needs.” Attended by nearly 200 individuals from around New York State, the symposium featured welcoming remarks by State Department of Transportation Commissioner Astrid C. Glynn and Dr. Robert Paaswell, Director of the UTRC; a keynote address by Emil Frankel, former Assistant Secretary for Transportation Policy at the U.S. Department of Transportation; and a number of distinguished panelists from academe, and the private and public sectors.

According to Dr. Paaswell, the large transportation capital investments made during the post-World War II period are coming to the end of their design lives. At the same time, state and local departments of transportation lack sufficient funds to maintain their transportation systems at a State of Good Repair (SOGR), let alone invest in a new generation of infrastructure needed for the 21st century. Indeed, the American Society of Civil Engineers has, for more than a decade, given a grade of “C” or lower to our nation’s highways, bridges, and water systems.



Thus, the conference focused on asking questions and posing answers concerning the state of New York’s transportation infrastructure and the ability to maintain it in world-class condition. Because the Ravitch Commission is addressing the Metropolitan Transportation Authority’s (MTA) funding gap, this event specifically centered on funding needs under the jurisdiction of the New York State Department of Transportation (NYSDOT) – that is, the state highways and bridges, transit systems beyond the New York City metropolitan region, and airports, canals, ports and rail as appropriate.

Moreover, as Commissioner Glynn noted, the event was about “how” to generate the revenues needed to achieve a State of Good Repair and invest in modernizing and expanding our transportation assets rather than on “how much” is needed. As such there was a seemingly simple set of questions to be asked:



- What is the nature and urgency of the current transportation funding crisis?
- How are others addressing similar challenges?
- Where should New York be looking for transportation revenues?

While the answers were less simple, several possibilities were explored.

Transportation, New York State and the United States

According to Emil Frankel, since the beginning of the Republic, transportation has been viewed as the enabler of economic activity. Political, civic and business leaders have pursued national and state policies related to the construction of national roads and canals, “internal improvements” and railroads, highways and airports, all because they recognized the critical connection between transportation and economic prosperity. In more recent years, they have recognized that transportation systems bring business. As Allison L. C. de Cerreño, Director of the NYU Wagner Rudin Center for Transportation Policy and Management, pointed out, whether to locate warehousing near railways, distribution centers near highways, or business headquarters near transit and commuter rail, companies regularly make location decisions based on the availability of transportation. Reliable and accessible transportation systems allow people and goods to move quickly and efficiently from place to place, thereby facilitating the specialization of labor and capital.



Mr. Frankel suggested that nowhere is this link between transportation and the economy more dramatically demonstrated than in the cities of New York State. Buffalo, Albany, Syracuse and New York City all became great centers of economic activity as a result of the construction of the Erie Canal. In connecting the markets of the American interior to the sea, the Erie Canal transformed the national economy and transformed New York City into the gateway commercial center it is today.



Indeed, according to Dr. C. de Cerreño, New York is a Global Gateway to America. Throughout the state, there are 500 public and private aviation facilities which served 84 million passengers (half the population of Pakistan) in 2006. New York State is home to three of the top 20 busiest airports (based on passenger enplanements) in the country, as well as the third-largest container port, the Port of New York and New Jersey (PONYNJ). With respect to value of goods, John F. Kennedy International Airport and the PONYNJ rank second and fourth, respectively, among the nation's ports of entry. And, as she said, it is not just downstate; in terms of the value of goods moving through the nation's ports each year, the Ports of Champlain-Rouses Point and Alexandria Bay rank 30th and 42nd, respectively.

More than 1 billion tons of freight move through New York each year, roughly 75 percent of this on trucks. In 2007, nine million passengers moved on intercity rail in New York State – 7.5 million of them along the Northeast Corridor and another 1.5 million along other intercity rail lines throughout the state. Moreover, as Dr. Paaswell noted, New York's transportation system fundamentally supports numerous other non-transportation assets. New York is home to the world's financial capital and has a strong maritime presence on the Great Lakes at Buffalo. New York is home to world-class tourist sites, including Niagara Falls and the Adirondacks, and it is home to the emerging and important nanotech industry in Albany. Finance, manufacturing, high technology, culture and recreation are all important, not just for the economy of New York and the quality of life for its residents, but for the U.S. economy.

Nevertheless, much of this is in jeopardy unless New York finds new ways to invest in and to maintain a reliable, efficient and accessible transportation system.

The Nature and Urgency of the Crisis

The fundamental problem is that New York's transportation infrastructure is in need of serious investment to bring it up to a State of Good Repair and to move beyond this and modernize and expand the system to compete in the 21st century. Compounding this challenge for New York is the fact that the transportation infrastructure throughout the entire nation is suffering from disrepair. Citing the American Association of State Highway and Transportation Officials (AASHTO), the National Surface Transportation Policy and Revenue Study Commission, and NYSDOT's Transportation 20 Year Needs Assessment (2010 - 2030), Commissioner Glynn noted that investment in transportation needs to double from current levels.

However, she cautioned that finding the monies at this time is increasingly difficult. Indeed, according to Jim Calpin, Managing Director at Merrill Lynch, the current economic downturn affects the entire spectrum of funding alternatives. State and federal revenues are declining at an alarming rate, so traditional "pay-as-you-go" methods are challenged. At the same time, various types of debt-funded options (general obligation (GO) bonds, appropriation bonds, gas tax bonds, revenue bonds) may have difficulty in today's chaotic market. Finally, private cash options (public-private partnerships, privatization) are difficult as well at a time with so much uncertainty and volatility, as well as rising interest rates.

This crisis in funding New York's transportation infrastructure has multiple facets – historical and current, national and local. Moreover, while it is a crisis in transportation and the economic growth it supports, it also relates to other policy goals regarding energy security, the environment and public health. Transportation emits more than one-half of all U.S. nitrogen oxide emissions and more than 40 percent of volatile organic compounds, both of which contribute to ground-level ozone that is implicated in increased asthma rates. According to Richard Drake, Program Manager of Transportation and Power Systems at NYSERDA, the transportation sector uses almost three-quarters of the oil in New York State and is responsible for 39 percent of greenhouse gas emissions in New York State. If investments are not made to reduce the transportation sector's reliance on and use of petroleum, policy goals in these other areas will also remain unrealized.

The National Picture – Failure of the Gas Tax

It has been estimated that the United States needs to invest well more than \$1 trillion merely to maintain the nation's infrastructure (including but not limited to transportation) in a State of Good Repair. However, as the list of needs grows, national revenue streams, which are based largely on petroleum taxes, have deteriorated significantly.

As Mr. Frankel explained, thousands of bridges around the country are functionally obsolete and one in eight is rated structurally deficient. The nation's transportation system is aging and deteriorating, characterized by severe congestion in metropolitan regions and at key bottlenecks in and along Interstate Highways, national railroads, inland waterways, marine ports and airports. These conditions threaten the reliability and productivity of the transportation system on which the nation's economic growth and competitiveness depend.

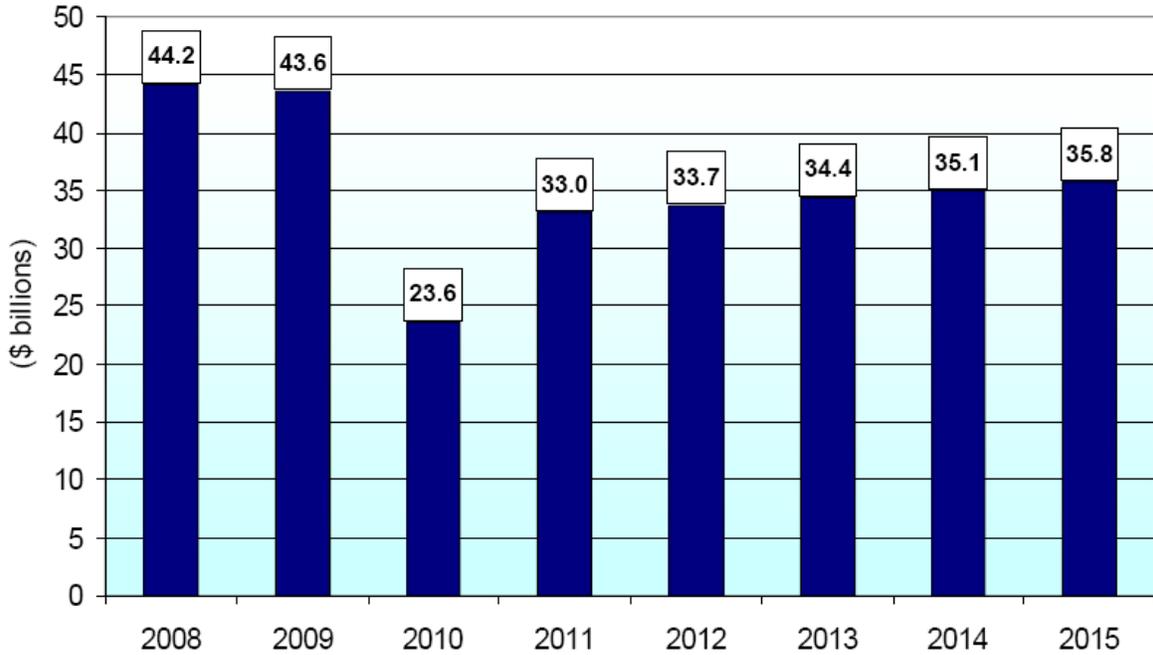


At the same time, traditional revenue streams are no longer sufficient to address these needs. Jack Basso, Director of Management and Business Development of AASHTO, explained that with current revenues and funding formulas, Federal Highway Program obligations will fall by \$13.2 billion in 2009, from \$43.2 billion to only \$30 billion if no corrective action is taken by Congress. In fact, in the week prior to the event, Congress had to act to avert a total shutdown in payments to the states from the Federal Highway Trust Fund (HTF), by adding \$8 billion to the Fund. However, in Mr. Basso's words, this effectively "put a band-aid on a hemorrhage." It is a short-term solution at best, and one that might not even ensure the Fund lasts through the end of the current surface transportation bill that expires in September 2009.

Many speakers agreed that we cannot continue relying on existing and traditional revenue sources, particularly fuel taxes, to address current and future system needs. While the federal government has played an important role in highway transportation funding since the initiation of the Interstate Highway System in the mid-1950s, Mr. Basso echoed this point, suggesting that going forward, we are likely to see a very different picture.

Given the national decline in vehicle miles traveled (VMT), and the corresponding reduction in fuel tax revenues (which funded 88 percent of the HTF in 2006), federal transportation spending levels will need to be reduced dramatically. Indeed, Mr. Basso noted that while revenues for the highway account were \$39 billion in 2008, they are forecast to drop to \$32 billion in 2011, moving slowly up from that point to only \$35 million in 2015. The transit account is expected to follow a similar pattern. Moreover, though revenues are forecast to increase slowly, because of inflation the purchasing power will still be seriously reduced. In fact, according to Mr. Basso, the decline in purchasing power is the greater long-term challenge; federal fuel taxes continue to be a viable source of revenue, but they alone will not keep pace with mounting needs. Indeed, Dr. C. de Cerreño noted that since 2003, HTF revenues have declined 4 percent in real terms.

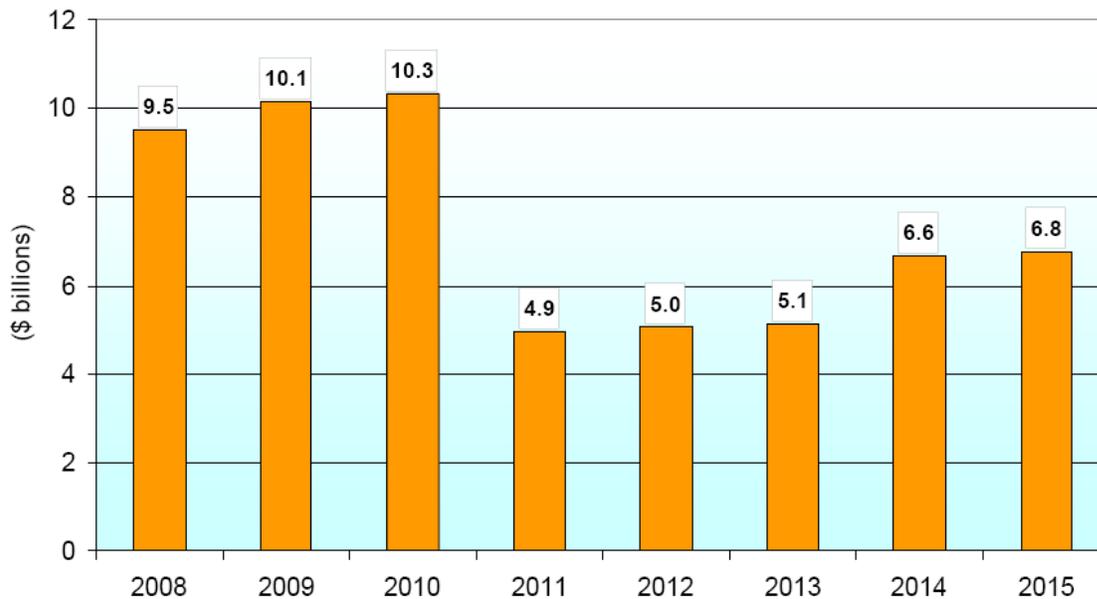
Reduced Highway Program Levels Beyond 2009



FROM BASSO PRESENTATION

To restore the necessary purchasing power, Mr. Basso suggested that federal highway program funding alone would need to be increased upwards of \$64 billion by 2014. This could be achieved using the gas tax alone – a 10 cent rate increase, for example, could support a highway program of \$75 billion by 2021; a 10 cent rate increase indexed to the Consumer Price Index could generate enough revenue for an \$82 billion program. Similarly, adding a 5 percent federal fuel tax could generate \$85 billion (assuming an increase in fuel prices of 4 percent annually), while replacing the current federal fuel tax with a federal sales tax could yield a \$95 billion program. However, even if the federal gasoline tax is raised or converted to a sales tax, New York State will still need to raise significantly more funds, since federal funding only covers 40 percent to 50 percent of capital infrastructure costs, with the remaining 50 percent -60 percent generated by states.

Reduced Transit Program Levels Beyond 2010



From Basso's presentation

The National Economy – Making Funding for Investments More Elusive

The impending crisis in transportation funding has been the topic of discussion for several years now as multiple experts and stakeholders tracked the HTF revenues, realizing that the crisis is no longer coming but has arrived. Moreover, the timing could not be worse given the current downturn of the national and global economy and the uncertainty accompanying it.

According to Mr. Frankel, while the enactment of the \$700 billion emergency economic program was a welcome and critical step in addressing the most serious financial crisis that America (and the world) has faced since the Great Depression, no one is certain if this legislation will adequately address and avoid a continued financial “meltdown.” “We remain at the precipice of a possible financial, credit and economic crisis,” he explained, “and it is unrealistic to assume that we can just ask for, and expect, more money for transportation in these circumstances.”

Indeed, Mr. Calpin reviewed some of the market trends beginning by noting that the “sky appears to be falling,” that fear is spreading globally, that lending is frozen and that nobody knows what will happen or when. Providing a brief history of the past 18 months, he noted that the sub-prime markets cracked in Summer 2007, with massive sub-prime related writedowns followed by seizing auction rate markets. Between January and Summer 2008, a crisis of confidence ensued, along with the loss of bond insurers’ AAA status and the implosion of Bear Stearns. Within only a few months, banks began to fail, merge or be bought – Lehman, WAMU (bought by JP Morgan), Merrill Lynch (merged with Bank of America), AIG, Wachovia (the deal for which was still pending at the time of the event). Moreover, the net asset value of money markets fell below 1, resulting in the flight of more than \$300 billion from these funds. In the past few weeks alone, we have witnessed the rescue of Freddie Mac and Fannie Mae, the \$700

billion U.S. government bailout, and multiple and massive European bank backstops. None of these has stemmed the rising fear throughout the globe.

The resulting volatility is clearly seen in some key market indicators. Unemployment is at an all-time high, while the Dow Jones Industrial Average continues to tumble. Manufacturing is down, and the willingness of banks to lend to each other has eroded. Indeed, the only trend that appears favorable – that of falling petroleum prices – is actually not, since it is also related to the softening of the economy.

While the national, and indeed, the global economy, are in turmoil, the states are feeling the effects. California recently requested \$7 billion in emergency federal funds to maintain day-to-day operations. For New York State, the Wall Street fallout is expected to result in a \$3.5 billion reduction in tax revenues, with the loss of 40,000 industry jobs. Mr. Calpin explained that most states are undergoing massive budget reviews as the effects of the economic situation and priorities are re-assessed. The bond markets are in a state of disarray as the entire market of bond insurers has disappeared since January 2008 – only three remain. The municipal bond market, which has historically been robust, has seen the rates on 20-year GO bonds (AAA rated bonds) rise 100 basis points over a short period of time. Transit and gas bonds are also moving away at a tremendous pace. Not only are states having trouble coming to market, but buying power now is considerably diminished.

The State Context – A Legacy of Borrowing and Reliance on Petroleum Taxes

As the national and global economies struggle, New York is no exception. However, for transportation, the challenge is compounded by two historical situations: borrowing in past years that has led to growing debt service, and a reliance on petroleum taxes that mirrors the federal government. NYSDOT Commissioner Glynn explained that New York State is faced with a looming and growing budget deficit, expected to be at least \$5.4 billion next year. State agencies are being asked to trim their budgets and transportation is no exception.

Of concern, even as budgets are cut, is the fact that what can be bought with the dollars that are invested also continues to shrink as a result of rising construction material and fuel prices. To illustrate this point, Commissioner Glynn noted that:

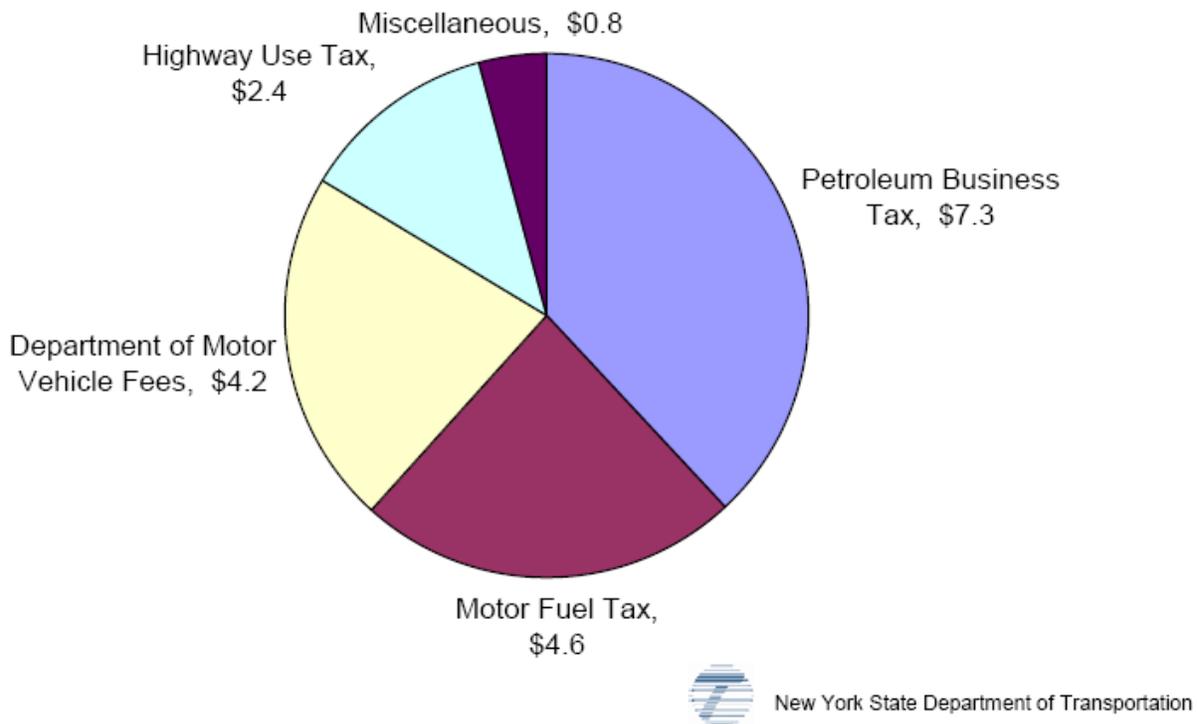
- Inflation for highway and street construction in New York State averaged more than 8 percent annually between 2004 and 2007.
- Steel material prices have increased nationally by more than 125 percent since 2003.
- The price index for highway construction has increased by 77 percent since 2003.

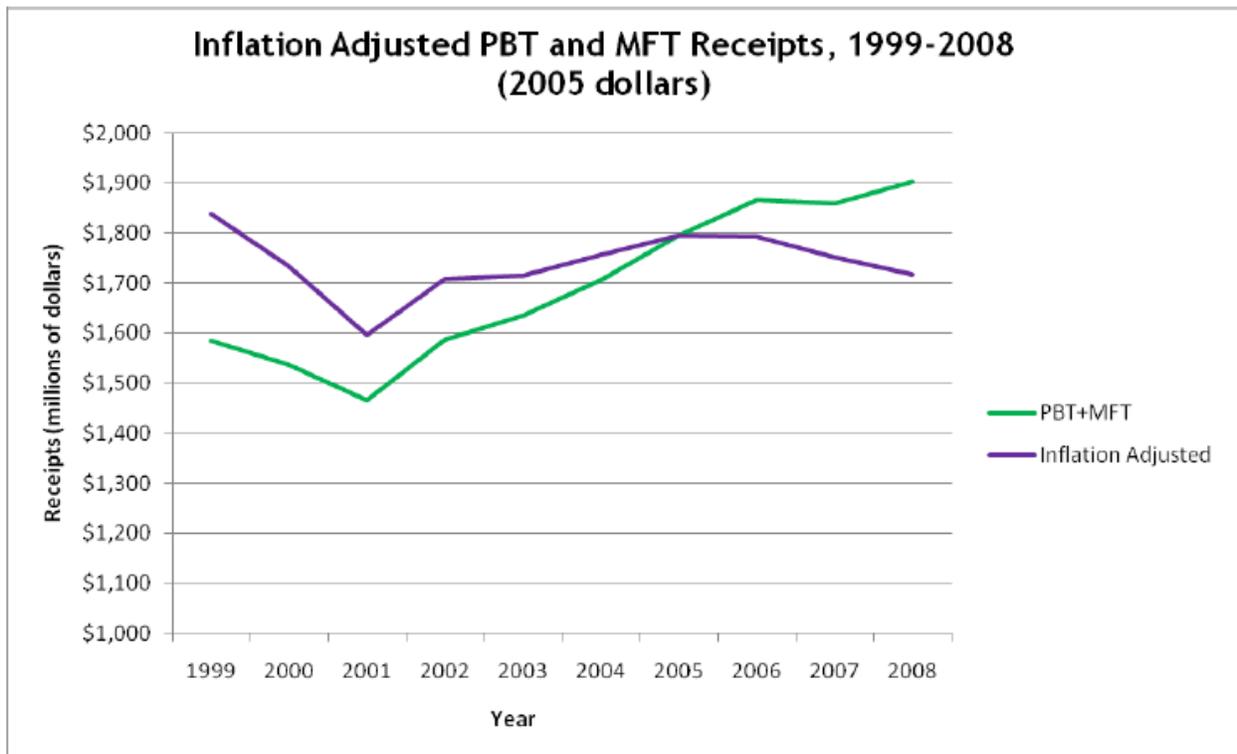
In fact, she suggested that NYSDOT's current five-year capital program has lost nearly a quarter of its value simply due to inflation.

Further complicating the funding situation for New York is that its reliance on motor fuel taxes parallels that of the nation. In 2008-2009, 54 percent of the Dedicated Highway and Bridge Fund was funded through a combination of the State Petroleum Business Tax (PBT) and Motor Fuel

Tax (MFT). These same taxes funded 71 percent of the Dedicated Mass Transportation Fund and 7 percent of the Mass Transit Operating Assistance Fund during this same period. Between 1993 and 2008, nearly two-thirds of the state's total highway funding and one-quarter of its transit funding were linked to fuel-related taxes, while operating assistance for upstate transit was funded largely through the PBT. However, Dr. C. de Cerreño said that while receipts from the state PBT and MFT have increased regularly since 2001, purchasing power has decreased since 2005 as a result of inflation. Ironically, she explained, as market demand shifts to transit, rail, carpooling and more fuel-efficient vehicles, less fuel is consumed, further compounding the problem.

**Dedicated Highway and Bridge Trust Fund Revenues
1993-2008
\$19 Billion Total
(in billions)**





Meanwhile, the State Highway and Bridge Dedicated Trust Fund is reaching a critical point as nearly half of the revenues flowing into the fund are used to pay debt service on *previous* investments. By 2013, according to Commissioner Glynn, debt service could eat up three out of every four dollars of the incoming revenues.

According to Mary Ann Crotty, owner of Macro Associates, this debt is the result of massive borrowing during the 1980s. She explained that New York’s transportation infrastructure in the 1970s was in a state of disrepair; indeed, Readers Digest announced it was leaving New York during that period because people could not get to work. In the 1980s, to generate sufficient revenues to bring the system back to a State of Good Repair, New York’s Legislature passed a series of taxes (e.g., real estate transfer tax, sales tax, petroleum business tax) to fund MTA operations, along with bond acts for the state’s highways. Even as these taxes and bond acts were pursued, the politicians began discussing a dedicated fund for transportation capital investments since persuading voters to support repeated bond acts was expected to become more difficult, and the debt service on the bonds was a concern. In 1991, the State Legislature enacted the dedicated fund as a long-term solution. However, while some new projects were funded on a pay-as-you-go basis, bonds were also issued and eventually much of the revenues collected for the dedicated fund ended up servicing their debt. In other words, the dedicated fund was supposed to *prevent* the need for bond acts, but is, instead, *supporting* the bond acts.

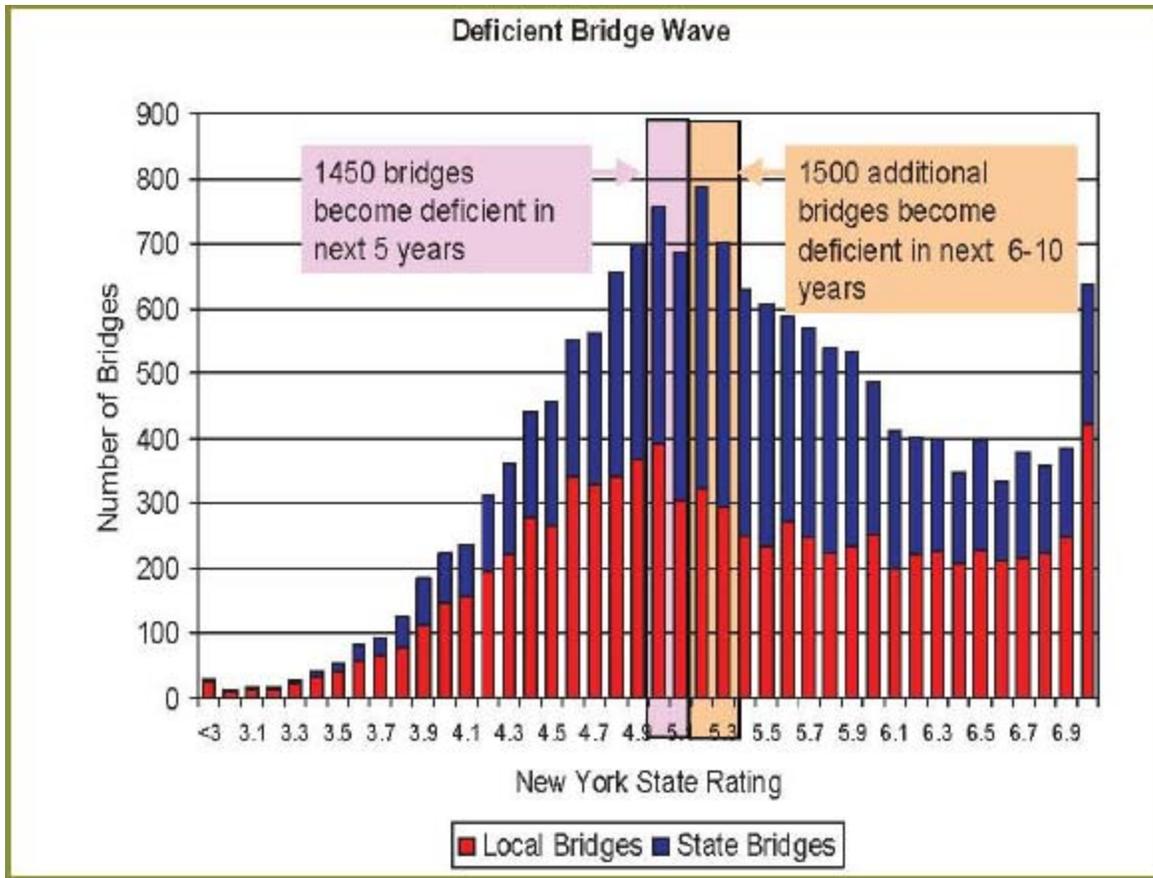
Ms. Crotty was quick to note one cannot view this entirely as a failure. On the one hand, the borrowing of the 1980s has led to the difficult situation in which New York now finds itself; on the other, if it had not borrowed at the time, there would have been no transportation program.

Looking forward, NYSDOT has projected \$175.2 billion in capital needs over the next 20 years, largely to maintain existing infrastructure. Though this figure includes \$50 billion in illustrative new projects such as the Tappan Zee Bridge project, the Peace Bridge replacement, reconstruction of the I-81 Viaduct, and various intercity rail passenger improvements, this figure does not include the projected funding gap of the Metropolitan Transportation Authority (MTA). The MTA is facing an \$800 million deficit this year and is projecting a multi-billion dollar funding gap in their next Capital Program. Similarly, \$175.2 billion does not include the New York State Bridge Authority or the New York State Thruway Authority, the latter of which is not projecting a budget deficit, but is reducing the number of projects it is pursuing and slowing others down. Most importantly, under current funding formulas and with current projected revenues, NYSDOT cannot even fund half the projected need, let alone the entire \$175.2 billion.

Yet, as with the rest of the country, New York is choking on demand. Its highways and bridges are clogged, especially in the New York City Metropolitan region and Buffalo, as well as in several other regions. Its transit systems are forced to greet new riders with old fleets and deficit-based budgets. Its rail lines are challenged by growing passenger and freight volumes even as the rights of way are shared. Citing the Federal Aviation Administration, Dr. C. de Cerreño noted that even if all the current planned improvements are made at John F. Kennedy International Airport, more capacity will still be needed by 2025. The marine ports face similar challenges.

The reasons are partly found in the outdated, antiquated, and “in some cases, downright dilapidated” infrastructure throughout the state. Paralleling the national figures cited earlier, Dr. C. de Cerreño pointed out that 25 percent of New York State’s Highway bridges are functionally obsolete, and another 12 percent are structurally deficient. To give a more local flavor, she noted that 35 percent of the highway bridges in Onondaga County are either functionally obsolete or structurally deficient; as are 40 percent of the highway bridges in Cayuga County, 33 percent in Oswego County, and 43 percent in Monroe County. Worse, according to statistics from NYSDOT, another 1,450 bridges will become structurally deficient within the next five years, with another 1,500 additional bridges hitting this mark in six to 10 years. Pavement trends show similar patterns.





The rail network in New York is also constrained. Where there was once 8,000 miles of track, there are now just more than 4,200 miles. While the main CSX Transportation line is generally up to current standards regarding weights and clearances, many of the rail lines still cannot carry the current standard 286,000-pound cars, let alone the newer, 315,000-pound cars. Moreover, vertical and horizontal clearance constraints remain in key locations, notably in the New York Metropolitan area where many lines have vertical clearances of 15' 6" or less even though today's intermodal standard requires at least 20' 3".

Finally, the transit systems beyond the MTA are faced with aging fleets, with many vehicles expected to exceed their useful lives in the next five years. In many cases, these transit systems are unable to meet the projected increases in demand, which means that enhancements and expansion of systems will be needed.

All of these needs must be addressed but cannot be within the current revenue funding and finance streams.

Beyond the Gas Tax – Alternative Means for Generating Revenues

There is widespread agreement that continued reliance on the present structure of fuel tax contributions, while extraordinarily successful for 50 years, will no longer suffice to meet New York's growing transportation infrastructure needs. Moreover, according to Commissioner Glynn, a gas-tax-based funding strategy so at variance with the nation's energy and environmental policies is not the forward-looking approach that we need or want for New York State.

A week before the event, U.S. Department of Transportation Secretary Mary Peters announced the latest VMT figures: Since November 2007, Americans have driven 62.6 billion fewer miles than the same nine-month period a year earlier. While VMT is down, transit and rail are seeing record growth. Nationwide, transit ridership is up 11 percent, and in July 2008, Amtrak carried more passengers than in any single month in its history.

VMT statistics in New York State show the same trend as those of the nation. In contrast, Commissioner Glynn noted that ridership on New York State's upstate transit systems has increased more than nine percent since the previous year, with double-digit ridership increases for the core routes of those systems. Downstate ridership has increased 4.7 percent from an already large base.

Yet, these positive developments, which demonstrate the efforts to curb global warming and move towards energy independence, result in lower revenue yields in a system largely based on fuel taxes. Indeed, in announcing the decline in national travel, Secretary Peters said, "A few weeks ago, we saw the folly of our antiquated federal transportation policies when the Highway Trust Fund almost ran out of money. If we don't evolve our policies, we will leave a sad legacy of old roads, crowded highways, and unfulfilled transit ambitions."

"That is not a legacy any of us want to leave," said Commissioner Glynn bluntly. Mr. Basso agreed, adding, "I do not want to leave this career and have somebody look back 30 years from now and say "You know, those people who were in charge really failed because of their shortsightedness to deal with the economics and investment issues of this country."

Alternative Revenue Streams

There are many alternative, or supplemental, revenue streams for funding transportation needs available, some of which are already being used in the United States or internationally. There was general agreement that it was hard to identify a single "silver bullet" and that a diverse revenue stream would likely be helpful. Various alternatives were presented by Mr. Orski and Mr. Basso, along with Dr. Jonathan Peters, Associate Professor at the College of Staten Island, Asha Weinstein Agrawal, Director of the Mineta Transportation Institute's National Transportation Finance Center, and Frank Mauro, Director of the Fiscal Policy Institute. Among them were the following (in alphabetical order, with no preference unless otherwise noted):

- **Bonds.** Notwithstanding the current economic crisis, Mr. Orski said that bonding will remain feasible for some states. However, some states will run into statutory ceilings that will preclude further borrowing, and others will find borrowing costs much higher going

forward, so bonds alone will not be the sole answer. Moreover, as Ms. Crotty pointed out, debt is not always the wisest choice in the long-term, particularly given the amounts that need to be funded.

- **Dedicated Taxes**. Mr. Mauro pointed to several dedicated taxes that have been used by or considered by the state at different times to fund transportation. In particular, he identified the *Payroll Tax*, the *Real Estate Capital Gains Tax* and the *High-End Income Tax*. Mr. Mauro pointed out that even at very low rates, a payroll tax can generate significant revenues and, since many workers use mass transit to get to work, such a tax makes some sense. Recognizing that equity can be an issue with payroll taxes, Mr. Mauro suggested that if the payroll tax were brought back, perhaps there should be some income threshold above which it would apply. The Real Estate Capital Gains Tax has been repeatedly enacted and repealed over the years, but Mr. Mauro suggested it should be revisited. On the High-End Income Tax, Mr. Mauro noted that this tax was passed by the State Legislature in Albany this year. While the idea was to eventually dedicate these revenues to transportation after the first or second year, this did not happen. Nevertheless, such a tax could be used for these purposes and should be considered.



- **Federal Financing Initiatives**. There are two prominent initiatives being discussed at this point to create a *de facto* national transportation budget: a National Infrastructure Bank, and the Build America Bonds Initiative. The former has gained the support of House Majority Leader Nancy Pelosi and President-elect Barak Obama. However, according to Mr. Orski, these revenue sources (\$60 billion over 10 years by the National Infrastructure Bank and \$50 billion with the Build American Bonds) would be a “drop in the bucket” considering the national infrastructure gap that exists.

- **Local-Option Sales Taxes**. Dr. Weinstein Agrawal explained that local-option sales taxes have been used in California for some time now. Eighteen counties, representing 85 percent-90 percent of the state’s population now have local-option sales taxes, which combined raise roughly \$3 billion each year. They are generally dedicated to a pre-defined project or list of projects and are limited in time, often 10 to 20 years. Local-option sales taxes are generally well accepted and can generate significant revenues; however, unlike user fees, they make no connection between the payment of the tax and the benefit that is received from the transportation system or the costs imposed through using the system.
- **Private Investment**. Mr. Frankel encouraged the use of private sources of investment capital for transportation, emphasizing that they should not replace public investment but opportunities must be created to utilize it. Such investments will be particularly important for building new capacity or constructing “mega-projects.” Indeed, Dr. Peters suggested that states are particularly interested in concessions since cash is provided up front in a lump sum that can then be used immediately. Mr. Orski added to this, suggesting that private investment is of interest to many states because it is thought to provide access to equity capital, result in faster project delivery, and introduce innovation while assuming financial and operating risks. He noted that it has been suggested that engaging the private sector in the task of expanding transportation capacity may be the best way to modernize the network without burdening current and future taxpayers with further debt. The availability of private funding will, of course, depend upon the private sector’s interest in investing in transportation projects. Those companies most interested tend to be looking for long-term investments (e.g., pension funds), and infrastructure is generally seen as a “safe haven” for such long-term investments. However, Mr. Orski noted that much of their interest will revolve around the degree of public oversight. At the same time, government officials are trying to ensure that safeguards are in place to protect the public interest when using private investment. Such safeguards can take many forms, including caps on toll increases, prohibition of noncompete clauses, revenue-sharing requirements, recapture of excess profits, prohibition of diversion of funds and limits on length of concession agreements. While these are important, if such oversight is seen as too onerous, companies will turn to opportunities abroad rather than here.

Further, as Dr. Peters demonstrated, states have had mixed experiences with private investments and questions of equity can arise. Indeed, while Chicago was successful with its Skyway and Indiana with its Toll Road, both New Jersey and Pennsylvania have been having difficulty with toll-based public-private initiatives. Governor Jon Corzine has been trying to institute a public-private tolling scheme on a number of facilities in New Jersey (New Jersey Turnpike, Garden State Parkway, Atlantic City Expressway and a small segment of Route 440, between the Turnpike and the Outerbridge Crossing). In the initial plan (to “monetize” the roadways), toll revenues were not aimed at funding transportation but at retiring the overall state debt. Since the value of the concession was based on a combination of current tolls, cost-of-living increases, periodic toll increases and the length of the contract, almost three-quarters of new revenues would eventually have come from increased toll prices. When that version of the plan failed, another was

developed that focused the revenue generation on funding the highway capital program and the Trans Hudson Express Tunnel. However, two issues arose. First, in both cases, the revenues that would be generated would result from the “up-pricing” (i.e., increasing tolls) of the facility over time. Second, in the second scenario, those who would benefit most by increased transit were those who already had the best transit and the least toll burden. That plan also eventually failed and a third version was pending at the time of the event.

- **User Fees.** Various user fees can be available for generating revenues. However, Dr. Peters stressed keeping in mind that there are costs to collecting user fees and for states, these costs can be substantial. As an example, he described a Road User Fee system being piloted in Oregon by the Oregon Department of Transportation. Data is collected through onboard Global Positioning Systems (GPS), with readers at gas stations. Prices are differentiated by time of day, with different peak and off-peak pricing, so drivers can be charged for when and where they are driving. Currently, 260 vehicles and two gas stations are equipped with the necessary technologies. When a driver fills up his/her tank, the road fee is collected by adding it to the fuel bill (after the fuel tax is deducted). While the gas tax requires the state to collect fees from 150 fuel distributors, the Road User Fee program would require the state to track transactions related to between 3 million and 4.2 million vehicles and to audit these transactions at 1,800 gas stations. Moreover, the state is currently assuming that the vehicles will be equipped with the GPS technologies by the manufacturers at zero cost to the state, and that the gas stations will also be mandated to install the technologies at their own cost. All told, Oregon is estimating start-up costs at \$32.8 million and ongoing operating costs at \$1.6 million. However, Dr. Peters said these costs are likely to be significantly higher – closer to \$23.6 million annually.

Other types of user fees include:

- *Green Taxes or Fees.* Dr. Weinstein Agrawal suggested that such fees are not yet in place but have significant potential. She defines them as being variable fees that are tied to how “clean” or “dirty” vehicles are with respect to emissions. Indeed, she argued that such fees make the most sense as they also can be used to help shift behavior.
- *Freight weight fees.* Such fees are used on trucks in California, with revenues being used primarily for transportation, though occasionally they are diverted to the General Fund.
- *Tolls.* According to Mr. Orski, electronic toll collection has made using tolls to generate revenues easy and generally well accepted. At least 22 states are exploring different types of tolls and toll structures (including private or public-private concessions) to fund transportation investments. According to Dr. Peters, New York already leads the nation in toll collection, generating roughly \$2 billion annually among its various toll authorities.

- *Vehicle miles traveled (VMT) fees.* Similar to the Road Use Fee being piloted in Oregon, these fees are based on the number of miles traveled by a given vehicle. Such fees could be introduced relatively easily and quickly using GPS technologies that are already available. Mr. Orski said there is precedent for such fees in Germany where VMT fees on commercial trucks were instituted in January 2005, and generate annual revenues of more than \$5 billion. Nevertheless, he suggested that it would be at least 10 to 25 years before VMT fees were fully tested and implemented in the United States.

In addition to these user fees, container fees, customs fees, freight ton mile charges, motor fuel sales taxes or vehicle sales taxes, tax credit bonds, carbon taxes, and cap and trade auction fees were all mentioned as possible revenue sources for transportation investments.

Regardless of which types, or more likely which *combination*, of alternative revenue sources are used, Dr. Weinstein Agrawal suggested some evaluation criteria to help determine which to use. Specifically, she pointed to five criteria:

- Revenue generation – this refers to not only how much will be generated, but how stable and predictable the sources are;
- Ease of implementation – this refers to the cost of implementation as well as the administrative burden;
- Equity – this has many facets, including geographic equity (fairness of one region of the state compared to another) as well as social equity (e.g., fairness across income brackets);
- Transportation system performance – any time a fee or tax is imposed, people may change behavior so could reap multiple benefits through certain user fees; and,
- Political feasibility – specifically, public acceptance.

Along these lines, and similar to the discussion on Green Taxes or Fees, Ms. Crotty also suggested that ad valorem taxes and carbon taxes make more sense than some other alternatives since they can also encourage behavioral changes that support other policy goals. Indeed, Mr. Mauro agreed, explaining that an ad valorem tax on motor vehicles was considered in 1986 but not instituted at the time and that it should now be reexamined.

Where Do We Go From Here? Wiser Investments and Institutional Transformation

In addition to finding the right mix of revenue sources for transportation investments, institutional change will be important, along with changes in policies and strategies to allow for wiser use of monies. Ms. Crotty suggested that a broader investment policy is needed in New York State to guide borrowing. She argued that borrowing for new investments, and even to help pay some much-needed past projects, is acceptable, but that maintenance and State of Good Repair should be pay-as-you-go.

Mr. Frankel stressed the need to establish clear goals and purposes and to tie investments to these goals. While he described this from a national perspective, others suggested that this is equally important at the state level. Priorities must be established and investments made only in those projects that bring the greatest returns. Mr. Frankel urged a shift toward looking to outcomes, measuring performance and demanding accountability in the use and investment of limited public capital. Finally, he suggested that decision-making in transportation must be “de-politicized,” becoming a process in which all parties consider strategic goals and purposes and are influenced by returns and outcomes.

Such changes will likely necessitate significant institutional reform as well. Indeed, Mr. Frankel argued that institutional reform is likely a prerequisite for financial and funding changes, and a much more difficult task. Referring to comments by Secretary Peters, he noted that we need to redefine the federal role in transportation and focus investments in those areas of clear national interest, such as the preservation and restoration of connectivity and the movement of freight and commerce. At the same time, while there is a real and significant federal interest in the enhancement of metropolitan accessibility and mobility, there are also state, regional and local interests that must be represented when thinking about funding and investing.

Finally, Mr. Frankel argued that wise investment will not occur unless and until we address the human capital challenge in state and local transportation agencies. Transportation agencies have suffered and continue to experience a significant loss of human capital. Not only are some skills long-needed in these critical infrastructure agencies (e.g., experienced program and project management), not present in sufficient numbers, but new skills, (e.g., systems and operational management and innovative project financing), are now important. One way to address this is to develop new forms of partnerships with the private sector to supplement the human capital and existing professional skills of transportation agencies. Moreover, transportation agencies must begin to think about changing their missions to reflect today’s needs and to attract new and young talent. Focusing transportation investments and operations around key policy goals, creating centers of innovation within our agencies and fashioning new skill needs around these redefined missions are not only the right things to do, but they will also make it easier to attract new energies to these tasks.

Concluding Thoughts – What Is At Stake and What Must Be Done

Early in the day, Dr. C. de Cerreño mentioned a *New York Times* article, titled “Waving Good-Bye to Hegemony.” She described the pictures throughout the article that showed the United States shrinking in relation to the world, and the argument that the United States is becoming less important in the global arena in numerous ways. She showed pictures of major transportation projects in London, Hong Kong, Shanghai, Sweden, and Denmark, noting that other countries understand the importance of investing in transportation to support their economic, commercial, quality of life, environmental and energy goals. Others around the world are moving ahead and outpacing us. Given New York’s critical role as an international and national gateway for the United States, she suggested that if we do not determine a way to fund these much needed investments, New York will lose on all these counts, and the United States will lose a critical link in the global arena.

Steve Morgan, Secretary of the New York Roadway Improvement Coalition, concluded the session by noting that the speakers had provided much information on what revenue options are out there, what other states are thinking and doing, and what New York could consider in the future. However, he suggested that while those working in transportation understand the challenge, most of the public and the elected officials take the transportation system for granted and do not fully appreciate the investment needed to keep it in safe and working condition and to make the strategic capacity expansions.

The public and politicians, he argued, are not focused on the need for investment until a disaster strikes – a bridge fails, a road is washed out by a flood or a train derails. It is, thus, incumbent upon those who work in the sector to get the message out, to educate and to persuade New Yorkers and their elected representatives that we have seen far too many years of disinvestment and that we must now increase investment in transportation infrastructure throughout the state to avoid future problems.

Mr. Morgan suggested that we need to think in terms of 3Ps, but by this he was not referring to Public-Private Partnerships, but to Public-Private *Participation*. He noted that the private and public sectors have important roles – the government has the data, and the private sector has the resources and experience to mount a campaign to obtain the needed funding to benefit all New Yorkers. However, their efforts need to be coordinated. Indeed, there is precedent, most recently with the coalition of upstate/ downstate and highway/transit advocates who came together when needed for the Bond Act in 2005.

Finally, Mr. Morgan concluded that the last and most important piece we need is strong leadership and committed champions among our elected officials. In his words,

“We should and must call on Governor Paterson, our congressional delegations the New York Senate and Assembly leaders and members to make infrastructure funding a top priority starting today and continuing until NYSDOT and the MTA have a fully funded sustainable capital plan that meets present needs and New York’s future growth. When the public and private sector are united behind an issue we can have great success. Adequate funding for infrastructure *is* that issue.”





New York State's Dedicated Highway and Bridge Trust Fund

What has the Fund bought?

\$25 billion in transportation investments – 1993 to 2008:

– including match to \$17 billion in Federal aid

- ❑ \$15 billion – Highway and Bridge program (e.g., construction, right of way, engineering, administration)
- ❑ \$4.6 billion – System Operations (e.g., preventive maintenance by state forces, snow and ice removal, bus safety)
- ❑ \$3.8 billion - Local Projects (CHIPs, Marchiselli)
- ❑ \$797 million - Department of Motor Vehicles
- ❑ \$785 million – Multimodal, rail and aviation projects

Where did the revenue come from?

\$19 billion in transportation taxes and fees - 1993 to 2008:

- ❑ \$7.3 billion Petroleum Business Tax
- ❑ \$4.6 billion Motor Fuel Tax
- ❑ \$2.4 billion Highway Use Tax
- ❑ \$4.2 billion Department of Motor Vehicles Fees
- ❑ \$800 million miscellaneous revenues

Since 2005, all existing transportation user taxes and fees are fully dedicated to transportation.

How was this revenue used?

\$19 billion funded Department of Transportation programs through a combination of bonding and “pay as you go”:

- ❑ \$8 billion in revenues came “off the top” to pay for debt service on \$14 billion of bonds that financed long-term capital investments.
- ❑ Remaining \$11 billion supported “pay-as-you-go” expenses (operations, snow and ice, various preventive maintenance activities).

What is available for the current and next Department of Transportation Programs?

- ❑ More than \$500 million from the General Fund is needed to complete the 2005-2010 program.
- ❑ Revenue sources already in place will provide about \$2 billion a year toward debt service and the Department of Transportation program.
- ❑ Nearly half of the revenues collected are now going to pay debt service. By 2013, three out of every four revenue dollars will be needed to pay debt service, assuming continued rate of borrowing for capital investments.

❑ Annual Debt Service Benchmarks

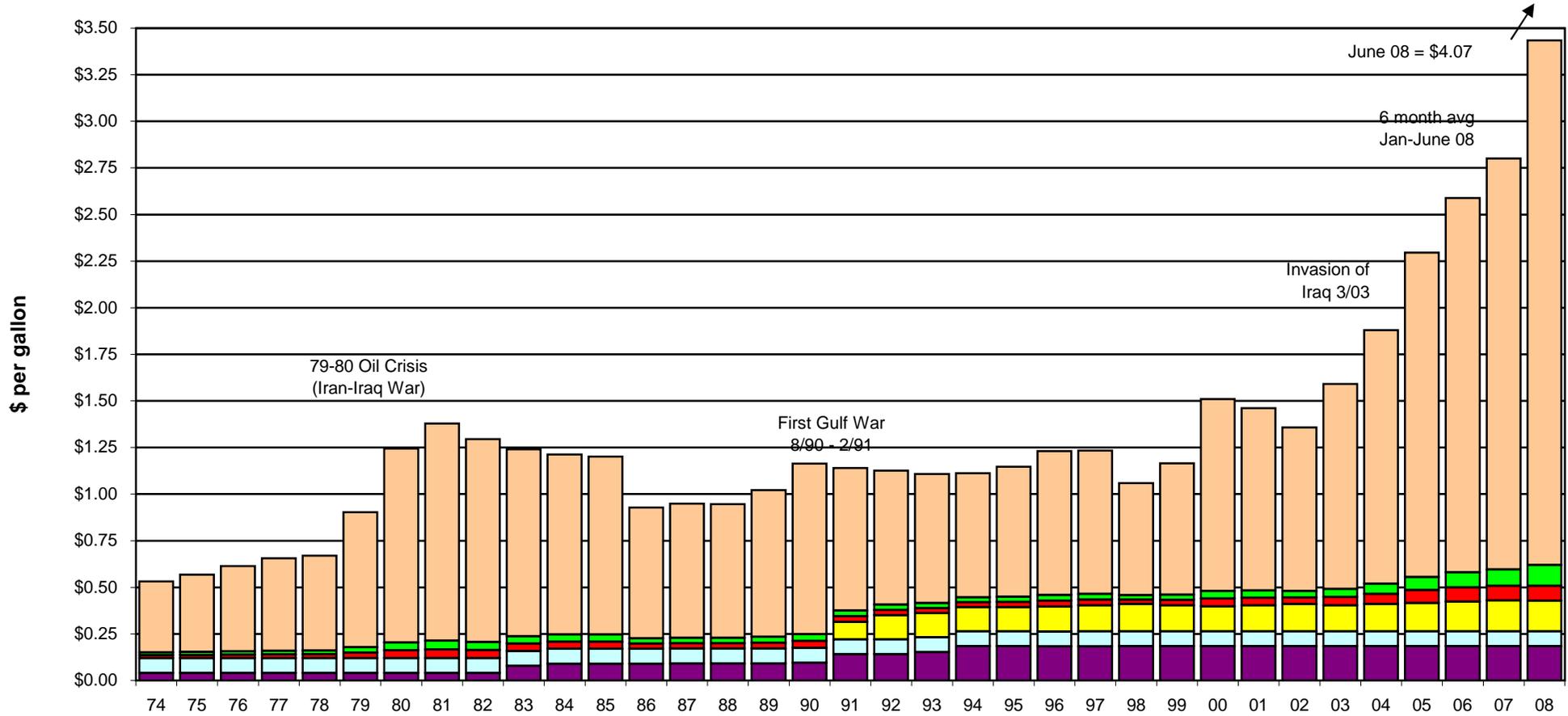
- ❖ 1993 \$0
- ❖ 2000 \$600 million
- ❖ 2010 projected \$1 billion
- ❖ 2013 projected \$1.6 billion Assumes similar program; current bonding/
pay-as-you-go practices.





Paid At The Pump

NYS Gas Prices and Taxes



By Calendar Year (avg for)

Federal	State Motor Fuel Tax	State PBT*	State Sales Tax	Local Sales Tax	Non-Tax
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Current Rates:	18.4¢ per gal	8¢ per gal	16.4¢ per gal	capped at 8¢ per gal (2006)	4 percent
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* Petroleum Business Tax



Chapter 3

Beyond the Gas Tax

Commissioner's Opening Remarks

Astrid C. Glynn, Commissioner, New York State Department of Transportation

Commissioner Astrid C. Glynn welcomed the audience and gave a special greeting from Governor David Paterson. She also acknowledged Assemblyman Bill McGee, who attended.

Mentioning that we are in precarious economic times, Commissioner Glynn noted the significant needs to reinvest in our aging transportation infrastructure. Investments in State of Good Repair and system growth are essential for continuing economic growth in New York State and the nation.

Commissioner Glynn said the conference was organized to emphasize “how” rather than “how much.” She reported on recommendations from both the American Association of State Highway and Transportation Officials (AASHTO), which represents the state Departments of Transportation, and the National Surface Transportation Policy and Revenue Study Commission, that investment in transportation needs to double from current levels. NYSDOT’s own study has reached a similar conclusion for New York State, i.e. that over the next 20 years investment in transportation (exclusive of the MTA, PANY&NJ and Thruway) needs to grow to \$175 billion – 130 percent over the current investment pattern. She noted:

- At the State level, the budget deficit is expected to be \$5.4 billion next year and possibly more with current financial events.
- Inflation for highway and street construction in New York State has averaged more than 8 percent annually between 2004 and 2007.
- Steel material prices have increased nationally by more than 125 percent since 2003.
- The price index for highway construction has increased by 77 percent since 2003.

The Commissioner also reported that our current five-year capital program is estimated to have lost nearly a quarter of its value simply due to inflation and that nearly half of the revenues flowing into the State Highway and Bridge Dedicated Trust Fund are used to pay debt service on previous investments. She estimated that by 2013, debt service could eat up three out of every four dollars of the incoming revenues. She added, “I understand that when this Fund was created, the Legislature intended to increase the pay-as-you-go portion and reduce bonding of the state highway plan when new revenue was added. Clearly, that hasn't happened yet, and lest anyone think that this is just the State’s

problem, the federal government is also struggling.” Examples of the federal crisis included the Highway Account of the Highway Trust Fund, which provides funding for the nation’s highways and bridges, and which just required an \$8 billion transfer from the general fund to cover the anticipated shortfall for the federal fiscal year that began on October 1.

Warning that these remedies have only postponed the problem, the Commissioner explained that the current federal transportation legislation, SAFETEA-LU, will expire on September 30, 2009.

She called the conference to address the problem of continued reliance on gas tax contributions, acknowledging these contributions have proven successful for 50 years but suggesting that they will be insufficient to meet future needs.

The gas tax has been the primary source of highway funding up until now, with about 85 percent of the Highway Trust Revenues (funding highway investments and nearly 80 percent of transit investments) being generated by fuel taxes. At the State level, nearly two-thirds of the highway funding and about one-quarter of the transit funding are linked to fuel-related taxes. In fact, operating assistance for upstate transit is funded largely through the Petroleum Business Tax.

The Commissioner observed that the gas tax formulas have also been inconsistent with energy needs. Along these lines, she cited statistics for vehicle miles traveled that were recently released by the U.S. Department of Transportation. They reveal that there has been a recent decline in vehicle miles of travel with corresponding growth in transit and rail. For example, since November 2007, Americans drove 62.6 billion fewer miles than during the same nine-month period in 2006. In addition, nationally, transit ridership was up 11 percent; in July 2008, Amtrak carried more passengers than in any single month in its history. Ridership in New York State’s upstate transit systems increased by more than 9 percent over the previous year and downstate ridership increased 4.7 percent above an already large base. The Commissioner noted the irony that as less fuel is consumed and the market demand shifts to transit, rail, carpooling and more fuel-efficient vehicles, our problem is compounded.

Akin to the Ravitch Commission that is studying the MTA funding issues, she said the Beyond the Gas Tax Conference was convened to learn from experts more about available options to balance New York’s current reliance on the gas tax, including examples from other states. She ended by noting key priorities of NYSDOT’s five-year Multimodal Transportation Program (for 2009 to 2014) that was recently submitted to the State Legislature. These priorities are:

- Preserving our transportation assets
- Supporting the State’s economic vitality and quality of life
- Maintaining and improving mobility for people and goods throughout the State
- Stewardship of the State’s environment

- Safety for the traveling public

Commissioner Glynn said, “The challenge is to identify funding and financing techniques that are consistent with our policies, consistent with our priorities and that can help us realize these goals and move to action. And that is the value of today’s conference.”

She also said, “When we leave here today I don’t know that we will have “THE ANSWER”. This is not an area loaded with silver bullets, although it can occasionally prompt a small “EUREKA” moment, but I hope that we will have a better and shared understanding of current thinking, the options we may have and their implications.”



Chapter 4

Robert “Buz” Paaswell, Ph.D., Director,

University Transportation Research Center, Region II

Dr. Robert (“Buz”) Paaswell began his talk by emphasizing the poor state of New York’s aging infrastructure: “The American Society of Civil Engineers has, for more than a decade, graded our nation’s infrastructure – highways, bridges, water systems – at “C” or less. The huge capital investments made post-World War II are coming to the end of their design lives; State and Local DOTs do not have the necessary funds to maintain all of our roads and bridges at a State of Good Repair, let alone invest in a new generation of smart roads and bridges, transit systems and the electronic infrastructure emerging in the 21st C to manage them.”

Noting that New York State is unique in that it supports a multitude of industries - such as tourism in Niagara Falls and the Adirondacks; the nanotech industry in Albany; maritime activity on the Great Lakes in Buffalo; and the world’s financial capital in New York City - Dr. Paaswell emphasized that to move people and goods efficiently, the transportation infrastructure must be “in world-class shape.”

He said the key issue for the conference and New York is where the money will come from; the discussion was to focus on funding the needs under state DOT jurisdiction, roads and bridges, suburban and upstate transit and rail since the Ravitch Commission in New York City is concentrating on the Metropolitan Transportation Authority. He acknowledged there was still much to discuss about public and private roles in providing public infrastructure; some funding mechanisms, both public and private, would be suggested and assessed as to how they might meet the costs of building and maintaining our roads and bridges in 2008 and beyond.

Dr. Paaswell said that in looking for funding solutions, policy-makers must consider who will benefit, who should pay and what the economic, social, and political costs will be. Revenues most likely would come from one of three possible sources: beneficiaries, polluters or all citizens. He provided a background of the Highway Trust Fund; it was established in 1956 and included revenues from a variety of highway user taxes. For some time, it could support much of the federally sponsored highway programs, but now the gas tax is not able to fund sustaining or growth of these programs.

Among the tools the public and private sectors have created to overcome the funding problem are tolls, fees, taxes, VMT taxes, environmentally based taxes including carbon taxes, TIF, debt issuance, infrastructure banks, leases, loans and general fund transfers; these transfers do not mandate formula-driven allocations as did the Highway Trust Fund, but stress local innovation. Some of these innovations have been introduced in other states: Missouri's private activity bonds for bridge financing (canceled due to credit crunch); TIFIA credits for a Dallas toll road; GARVEES in Idaho for a growing highway program; Kansas's revolving transportation fund; New Mexico's DOT carbon credits and Cap and Trade Program under FHWA emerging guidelines; and New York City's initial, unsuccessful attempt to institute congestion charges.



Chapter 5 EMIL FRANKEL'S KEYNOTE ADDRESS

- This symposium could not have been more appropriately timed, for reasons certainly not imagined when NYSDOT established this date.
- While the enactment of the emergency economic program last week was a welcome, indeed, critical step in addressing the most serious financial crisis that America (and the world) has faced since the Great Depression, no one is certain if this legislation and the steps that the U.S. Treasury Department will now take will adequately address and avoid further financial “meltdown.”
- We remain at the precipice of a possible financial, credit and economic crisis, and it is unrealistic to assume that we can just ask for and expect more money for transportation in these circumstances.
- There will be severe constraints and competing demands on public resources, even as there is a demonstrable need to renew and rebuild the nation’s transportation infrastructure.
- The scope of transportation’s investment needs has been described (and quantified) by several commissions and in various studies in the past few years.
- It has been estimated that we need to invest well over \$1 trillion, merely to maintain the nation’s infrastructure – importantly, including transportation infrastructure – in a “state of good repair.”
- Thousands of bridges are functionally obsolete and one of eight is rated as structurally deficient.
- The nation’s transportation system is aging and deteriorating, characterized by severe congestion in metropolitan regions and at key bottlenecks in the major national connecting systems of interstate highways, railroads, inland waterways, ports, and airports.
- These conditions threaten the reliability and productivity of transportation systems on which the nation’s economic growth and competitiveness depend.
- Since the beginning of the republic, transportation has been viewed as the enabler of economic activity.
- Political, civic and business leaders have pursued national and state policies, related to the construction of national roads and canals, “internal improvements” and railroads, highways and airports, all because of a recognition that they were critical to economic prosperity and national connectivity.
- Nowhere is that more dramatically demonstrated than here, in a city like Syracuse.

- The cities of this state – Buffalo, Albany, New York City itself – all became great centers of economic activity, because of the construction of the Erie Canal.
- The Erie Canal, in connecting the markets of the American interior to the sea, transformed the national economy and transformed New York City into the gateway commercial center on which its, and New York State's, prosperity has been based.
- We need to see the challenge of renewing and reshaping our transportation infrastructure today in a similar way.
- But where is the money going to come from? Where will we find the necessary investment capital?
- The cash flow shortfall in the Highway Trust Fund that required the one-year “patch” (which occurred at virtually the same moment that the federal government was addressing the much broader financial crisis) demonstrates that we cannot look to existing and traditional revenue sources to address these needs.
- For the past several years, Congress has been authorizing more funding for surface transportation projects than projected federal gas tax revenues would support.
- Even if existing law would permit Congress to deal with this funding gap by transferring funds from the general fund into the Highway Trust Fund and surface transportation, certainly the existing crisis would not allow us to fund transportation, by increasing the federal budget deficit and the national debt.
- However, I would argue that these circumstances merely add urgency to the need to undertake fundamental reform in the way that we plan and manage and finance the nation's transportation system.
- “Necessity is the mother of invention,” and I think that we must view this as an opportunity to undertake an institutional and financial transformation in transportation.
- We will not be able to meet the challenges that I, and many others, have described without such a transformation.
- What are the elements of this transformation?
- **First**, in the words of the National Surface Transportation Financing Commission, in its interim report in February 2008, “. . . greater investment must be accompanied by wiser investment.”
- We must establish clear national goals and purposes and our investments must be related to them.
- We need to establish priorities of investment and invest only in those projects that bring the greatest returns, in terms of economic productivity, safety and energy security.
- We must look to outcomes, measure performance and demand accountability in the use and investment of quite limited public capital.

- In a word, we must “depoliticize” decision-making in transportation, and that will require change among not only transportation professionals and executives, but in the “authorizing environment.”
- By calling for “de-politicizing” the decision-making process I do not mean to suggest that the legislative branch should be excluded. Quite the contrary. Rather, it should be a joint process, in which all parties consider strategic goals and purposes and are influenced by returns and outcomes.
- **Second**, we must shift away from a dependence on general revenues and the gasoline tax to a greater reliance on user charges.
- Of course, we cannot immediately end our dependence on the gasoline tax.
- There will have to be a transitional period.
- But shifting away from our dependence on the gasoline tax, as rapidly as possible, must be a primary goal of transportation policy.
- We have two policy goals that are in direct conflict.
- We depend on the gasoline tax as the primary source of capital and operational needs for our highway system, but it has become policy at the national level and in most states (led by New York) to reduce the use of petroleum in our economy.
- This is motivated by economic, environmental, and national security interests.
- Thus, we applaud the reduction in gasoline consumption and, therefore, gas tax revenues, even as it threatens our primary source of revenue.
- We must eliminate this contradiction in policy goals.
- I believe that direct user charges will, and should, play an increasingly important role in the financing of transportation facilities and infrastructure (as Ken Orski and others will discuss today).
- Moreover, these charges can play a critical role in shaping transportation demand and in influencing how we use the transportation system.
- And greater efficiency and improved management of the system will also be critical, in a financial environment in which we will be short of capital to expand capacity.
- Finally, as Sir Rod Eddington pointed out in his report two years ago to the UK Government, we need to get transportation prices right, and transportation must bear its fair share.
- **Third**, we must expand the sources of investment capital for transportation.
- By suggesting that, I do not mean to imply that private investment and PPPs will replace public investment in transportation, but, to the extent that private capital is available, we must create the opportunities to utilize it.
- This will particularly be the case with building new capacity or constructing “mega-projects.”

- It will be up to the owner and operators of transportation facilities, that is, states and local and regional authorities, to establish the correct terms for private investment and management of these assets, but we must find a way to enable these investments to be made.
- **Fourth**, these financial changes will not occur without significant institutional reform.
- In many ways, that is the prerequisite for these financial and funding changes, and much the hardest task.
- As Secretary Peters has noted, we need to redefine the federal role in this sector, and federal investments need to be focused on those areas of clear national interest, such as the preservation and restoration of our great national systems of connectivity and the movement of freight and commerce.
- In the enhancement of metropolitan accessibility and mobility, while there is a real and significant federal interest, there are also state, regional, and local interests.
- As under the Urban Partnership Program, federal funds should promote competition and innovation at the state and local levels.
- Federal law should be permissive, not prescriptive.
- And federal funds should be stimulative and supportive of state and local efforts, as long as there is accountability, collaboration, modal neutrality and strategic decision-making in addressing issues of national and local interest.
- **Finally**, “wise investment” will not occur unless and until we address the human capital challenge in state and local transportation agencies.
- As many of you in this audience know – and as I discovered on my recent, if very brief, return to leading a state transportation agency – transportation agencies have suffered and continue to experience a significant loss of human capital.
- Not only are some skills long-needed in these critical infrastructure agencies, such as experienced program and project management not present in sufficient numbers, but new skills, such as systems and operational management and innovative project financing, are needed.
- This suggests the need – first, to develop new forms of partnership with the private sector to supplement the human capital and existing professional skills of transportation agencies;
- And, second, to use the changing missions that transportation agencies must adopt to attract new and young talent.
- Focusing transportation investments and operations on advancing economic, energy and climate change goals; creating centers of innovation within our agencies; and fashioning new skill needs around a redefined mission are not only the right things to do, but they will also make it easier to attract new talents and energies to these tasks.

- These are daunting challenges, but they should provide us with a sense that there are exciting opportunities in this very difficult and constrained financial environment.
- But at the core of this mission of renewal is an awareness and acceptance that, even as we address the significant challenges of financial constraint, we must undertake institutional reform.
- These two efforts must go hand-in-hand, or we will never attract the financial capital that is necessary to renew and rebuild the transportation infrastructure and to shape a transportation system that enables economic growth and energy security for our nation and our states.
- Thank you.



Chapter 6

NYRIC New York Roadway Improvement Coalition Beyond the Gas Tax

Tuesday, October 7, 2008, Syracuse, New York

Good afternoon. My name is Steve Morgan. I am secretary of the New York Roadway Improvement Coalition (NYRIC). I would like to thank Commissioner Glynn and her staff at NYSDOT and Dr. Buz Paaswell for convening this most critical, timely and informative symposium on infrastructure needs and the challenges New York faces in finding the resources to move forward.

NYRIC is a statewide coalition of construction contracting associations, organized labor, consulting engineers, highway users and business community leaders that advocate, educate and lobby for adequate funding for New York's infrastructure. In 2005, NYRIC spearheaded and managed the successful \$2.9B Rebuild and Renew Transportation Bond Act. An unprecedented coalition of upstate/downstate, highway/transit, labor and management came together to finance and sell this important ballot initiative. This same coalition of NYRIC/ESTA has continued its relationship and recently had its kickoff meeting to begin the battle in Albany and Washington to secure necessary funding for our state's aging infrastructure. We know the facts and are ready to step up to the plate.

Dr. Jim Melius, the President of NYRIC, was sorry he could not attend today's conference but he is traveling out of state today. NYRIC, as it has been since 1988, is committed to working with state government and New York's elected officials to successfully obtain necessary infrastructure funding for NYSDOT and the MTA in Albany and Washington.

What did we hear today?

- We have just heard a great deal of information, from excellent panels of national and state experts, on funding our transportation infrastructure.
- We heard that our state's transportation system is vitally important not just to our state economy, but also the national economy, to creating and sustaining jobs and providing the mobility that we enjoy in our everyday lives.
- We know that New York has growing needs not only to maintain our transportation systems – from our deteriorating roads and bridges, to our aging transit systems, and our outdated rail lines, but also expand them where needed to reduce congestion and support economic development.
- We heard that the Gas Tax, which has long been the primary source of transportation funding at both the federal and state level, is not providing enough revenue now and will not grow sufficiently in the long term to fund needed investments in our transportation infrastructure.
- We heard that we need increased support from the federal government, as transportation is a national issue impacting our economy. This was made crystal clear in the recent report by the “National Surface Transportation Policy and Revenue Study Commission” report.
- We heard that New York State must do its share to support and invest in its transportation system.
- We know that without adequate funding, it will be impossible to implement the right policy-driven infrastructure projects that are best to maintain our assets.
- Today's speakers gave us a lot of good information on what revenue options are out there, what other states are thinking and doing, and what New York could consider in the future.
- But one of our major challenges before us is that we in this room understand the challenge; most of the public and our elected officials take this transportation system for granted, not understanding the investment needed to keep it in safe and working condition and to make the strategic capacity expansions.
- They are not focused on the need for investment until a disaster strikes - a bridge fails, a road is washed out by a flood or there is a train derailment.
- We need to get the message out, educate and convince New Yorkers and their elected representatives that we have seen far too many years of disinvestment and understand that we must now increase investment in transportation infrastructure throughout the state and avoid future problems.

Where do we go from here: My idea is 3Ps - You may know it as Public Private Partnerships, but for this event it is: Public Private Participation

We both have roles and we need to coordinate our efforts.

The government has the data and the private sector has the resources and experience to mount a campaign that will get the needed funding that will benefit all New Yorkers.

I mentioned earlier that a coalition of upstate/downstate, highway/transit advocates have already come together to mount that campaign. With all of your help this campaign will be more successful than in 2005.

The last and most important piece we need is strong leadership and committed champions amongst our elected officials. We should and must call on Governor Paterson, our congressional delegations, the New York Senate and Assembly leaders and members to make infrastructure funding a top priority starting today and continuing until NYSDOT and the MTA has a fully funded sustainable capital plan that meets present needs and New York's future growth. When the public and private sector are united behind an issue we can have great success. Adequate funding for infrastructure is that issue.



Chapter 7

Beyond the Gas Tax

Buz Paaswell's Closing Remarks

After hearing the excellent, meaty and thoughtful presentations today, I had some insight into why finding the next generation of funds may be so difficult. There is a new TV show called “Life on Mars” starting this week. Some of us have seen the English original. In the show, a detective from 2007 or 2008 has an accident and finds himself in his police station - but in 1970. He has learned to solve problems with modern technology and ideas, but his colleagues and environment are 30 years behind. It is the clash of two worlds and two cultures. I think we have here, today, in transportation, just the opposite. We have all these professionals who were trained, in the ‘70s and ‘80s. They were trained as a result of the Eisenhower era, an era of expanding infrastructure and expanding economies. All of the roads could be paid from the highway trust fund and bonds. The design principles, rules and regulations and the professional groups that grew up around that culture now find themselves in a cultural disconnect.

VMT are down, not just because of gas miles, but also due to greening. Our DOTs are no longer building systems, they are managing and maintaining systems. The amount of information we have, real-time information - of operation and performance and the ability to use that - is changing the culture of how we organize. And, of course, the whole nature of funding has gone through what mathematicians would call a real discontinuity. Two years ago, the rate of inflation was relatively constant, modestly increasing. Over the past two years, we have had a surge in prices, and now we are back to the same trend lines.

From 2008 forward, it will not be just funding, but the whole new culture. The generations that come after us, our children and grandchildren, who want to enjoy their lives with the same kind of quality that we have had will have another whole set of environmental concerns. That is our “Life on Mars.” Adapting to it is our real challenge.

Finally, it is important to thank those who were driving forces in making this conference happen. First, I want to thank Commissioner Glynn for charging us all with the daunting task of addressing the current financial problems we face. I want to thank Bob Zerillo and Jay Higle and their colleagues from DOT and Penny Eickemeyer and Camille Kamga from UTRC who worked so hard to make today work so well.

Now it’s time for you to walk home. Don’t use a vehicle and, hopefully, we will see you soon.



Beyond the Gas Tax

Panelist profiles, Remarks and
PowerPoint presentations

Allison L. C. de Cerreno, Director, Rudin Center for Transportation Policy and Management

Allison L. C. de Cerreño is Director of the NYU-Wagner Rudin Center for Transportation Policy and Management, and Research Scientist and Assistant Research Professor at New York University. She is also the Executive Director of the National Association of City Transportation Officials, Inc. (NACTO) and is a Research Associate at the Mineta Transportation Institute in San José, CA. She holds a Ph.D. in Political Science from the Graduate School and University Center of the City University of New York. Her research interests include high-speed rail, freight, intelligent transportation systems, and work force development in public transportation. Active on a variety of boards and panels, Dr. C. de Cerreño chairs the National Cooperative Freight Research Program Project-02, "Impacts of Public Policy on the Freight Transportation System," and is a member of the Board of Advisors to the ENO Transportation Foundation. She is a member of the I-95 Corridor Coalition Intermodal Committee and is a member of the Transportation Research Board's Committee on Intercity Rail Passenger Systems, for which she was secretary in 2006.

Overview of Transportation Needs and Funding

Dr. C. de Cerreño provided an overview of transportation needs by outlining the history of the funding problem and the challenge before us. She emphasized the importance of transportation to the country and of New York to the United States. Reliable and accessible transportation systems allow people and goods to move quickly and efficiently from place to place, thereby facilitating the specialization of labor and capital. Further, she explained that the availability of transportation brings jobs as it is a major factor in location decisions made by industries.

Dr. C. de Cerreño also discussed the importance of New York as a global gateway to the rest of the country and the world. She cited New York as home to three of the nation's top 20 busiest airports; the third-largest container port in terms of volume (the Port of New York and New Jersey); and second- and fourth-most important ports in terms of value of goods (John F. Kennedy Airport and the Port of New York and New Jersey). She noted that upstate also has important ports – the Port of Champlain-Rouses and the Port of Alexandria Bay, which rank 30th and 42nd, respectively, in terms of the value of goods moving through them each year. Dr. C. de Cerreño stressed that all of this is in jeopardy if we cannot find a solution to our transportation investments needs, which for the New York State Department of Transportation alone are estimated at \$175.2 billion over the next twenty years.

Dr. C. de Cerreño then discussed current capacity constraints, describing problems with congestion on the roads, rail and in the air, along with “outdated, antiquated and downright dilapidated” infrastructure. She mentioned that the state has a heavy reliance on petroleum; this runs counter to other goals related to energy security, reduction of global greenhouse gas emissions and public health and air quality. She further noted that existing transportation funding programs, with a heavy emphasis on raising revenue from

the sale of gasoline, will not be sufficient. Dr. C. de Cerreño emphasized that our transportation needs are daunting both in terms of the breadth of projects and their funding requirements. However, she explained that these projects are necessary if we want to continue to compete in a global arena, as other countries are moving ahead with significant transportation investments of their own. She concluded that if we don't figure out a way to fund these much needed investments, New York will lose on all these counts, and the United States will lose a critical supporting link in the global arena.



OVERVIEW OF NEW YORK STATE TRANSPORTATION NEEDS AND FUNDING

Allison L. C. de Cerreño, Ph.D.
Director, NYU Wagner Rudin Center for Transportation Policy and Management

Beyond the Gas Tax
Syracuse, New York
October 7, 2008

...AND OF NEW YORK TO THE UNITED STATES



But much of this is threatened...

NYS DOT CAPITAL NEEDS

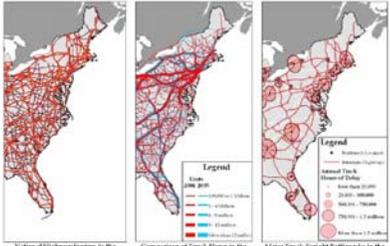
\$175,200,000,000

20-Year Transportation Capital Needs (2007 \$ in billions)

Asset Class/Program Area Investment Level	\$
State Highway Bridges	17.4
Local Highway Bridges	13.2
State Pavements	40.0
Selected Local Pavements	3.9
Traffic & Safety	1.2
Mobility	2.7
Pedestrian/Bicycle/ADA	2.0
Drainage/ITS/Guide Rail/Rest Areas/Fleet & Facilities	15.7
Public Transit Capital	6.5
Freight Rail, Passenger Rail, and Ports	5.2
Aviation	4.3
Local Capital Aid	8.6
NYS DOT Capital Program Management	4.5
NYS DOT Capital Program Subtotal	125.2
Illustrative Major Projects	50.0
20-Year Total	175.2

CAPACITY CONSTRAINTS

Major Highways, Truck Flows, and Bottlenecks on the East Coast



From: Neil J. Pedersen, "Rail Infrastructure Requirements" (April 11, 2007), p. 4.

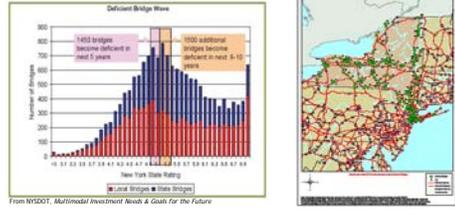
THE IMPORTANCE OF TRANSPORTATION FOR NEW YORK...

- Economy
 - Facilitates specialization of labor and capital
 - Brings business
- Quality of Life
 - Brings goods we want and need
 - Moves us to where we want to go



OUTDATED, ANTIQUATED (AND DILAPIDATED) INFRASTRUCTURE

- Highways and Bridges
 - 25% of the New York State's Highway Bridges are Functionally Obsolete
 - 12% are Structurally Deficient



From NYS DOT, *MultiModal Investment Needs & Goals for the Future*

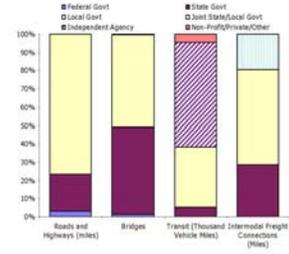
OUTDATED, ANTIQUATED (AND DILAPIDATED) INFRASTRUCTURE

- Rail
 - Geometric Constraints
 - Shared Rights of Way



CHALLENGES - INSTITUTIONAL

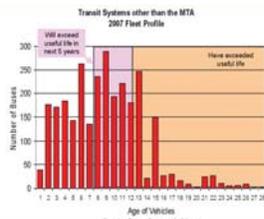
- Institutional Complexity
 - Multiple Owners



From: National Academy of Public Administration, *Financing Transportation in the 21st Century* (Washington, DC: NAPA, 2008), p. 13.

OUTDATED, ANTIQUATED (AND DILAPIDATED) INFRASTRUCTURE

- Transit
 - Aging Fleets



From NYSDOT, *Multimodal Investment Needs & Goals for the Future*

CHALLENGES - INSTITUTIONAL

- Institutional Complexity
 - Multiple Decision Layers

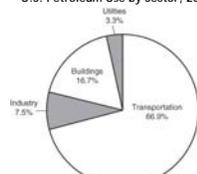


From: National Academy of Public Administration, *Financing Transportation in the 21st Century* (Washington, DC: NAPA, 2008), p. 27

RELIANCE ON PETROLEUM

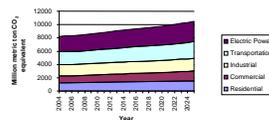
- Energy Security
- Environmental and Health Concerns

U.S. Petroleum Use by Sector, 2005



From: U.S. DOT, BTS, *Transportation Statistics Annual Report 2006*

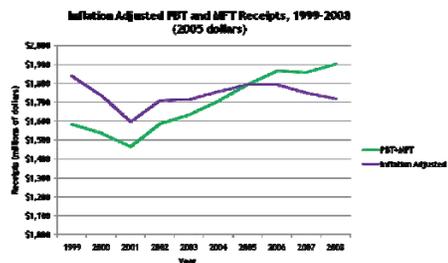
CO₂ Emissions by Sector and Source



Source: U.S. Department of Energy, Energy Information Administration, *Annual Energy Outlook 2007*, Table 18

CHALLENGES - FINANCIAL

- Historical Funding Methods Not Sustainable
 - Gas Tax Alone is Insufficient

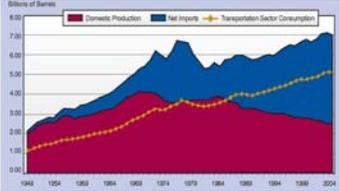


Source: NYS Office of the State Comptroller, *Spending by Major Service Functions Receipts from Major Sources, Summary Reports 2008 and 2003*. Figures calculated using CPI tables.

CHALLENGES - FINANCIAL

- Historical Funding Methods Not Sustainable
 - Gas Tax Alone is Insufficient
 - Gas Tax is Irrational with Respect to Other Policy Goals

Annual Petroleum Production, Imports, and U.S. Consumption

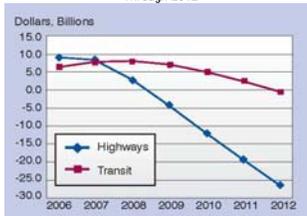


From: National Surface Transportation Policy and Revenue Study Commission, *Transportation for Tomorrow* (Washington, DC: December 2007), volume 2, chapter 3, page 5-19.

CHALLENGES - FINANCIAL

- Historical Funding Methods Not Sustainable
- Federal Reauthorization

Projections of Highway and Transit Account Balances Through 2012



From: National Surface Transportation Policy and Revenue Study Commission, *Transportation for Tomorrow* (Washington, DC: December 2007), volume 2, chapter 5, page 5-12.

WHERE DO WE GO FROM HERE?



Hong Kong - Western Harbor Crossing



Shanghai - Maglev High-Speed Rail



London - High-Speed 1, Channel Tunnel Rail Link



Photo illustration by Kevin Van Adelst. From: Parag Khanna, "Waving Good-bye to Hegemony." *The New York Times*, 1/27/08.



Sweden/Denmark - Øresund Bridge

PETER J. “JACK” BASSO, Director of Management and Business Development, American Association of State Highway and Transportation Officials (AASHTO)

Peter J. “Jack” Basso joined AASHTO as Chief Operating Officer and Business Development Director in March 2001. He oversees the management of a \$60 million nonprofit organization representing the interests of all states’ departments of transportation. Mr. Basso works closely with congressional staff and other associations who have mutual interests in transportation financing issues. He is a nationally recognized expert on transportation finance. Prior to joining AASHTO, Mr. Basso served more than 36 years in high-level governmental positions, including Assistant Secretary for Budget and Programs and Chief Financial Officer of the U.S. Department of Transportation; Assistant Director for General Management of the Office of Management and Budget; Deputy Chair for Management of the National Endowment for the Arts; Director of Fiscal Services for the Federal Highway Administration; and numerous positions in administration and management with the Federal Highway Administration. He has also been recognized through numerous awards in his career. Mr. Basso earned a Bachelor of Science degree in Business Administration from the University of Maryland at College Park; graduate study in General Administration at the university from 1980 to 1981.

The Federal Transportation Revenue Situation and Options to Address It

Mr. Basso emphasized that there is an immediate transportation funding crisis across the nation. He cited Congress’s \$8 billion emergency infusion into the Federal Highway Trust Fund (HTF) just prior to the symposium; this was done to avert a major reduction in payments to the states.

Mr. Basso advised that the gas tax is insufficient to meet needs: There has been and continues to be a decline in vehicle miles traveled due to higher gasoline prices, and the impact of inflation is causing the gas tax revenues to have dramatically diminished purchasing power. He remarked that many proposed solutions are only short-term fixes and that “difficult changes are necessary in the authorization legislation.” If Congress takes no corrective action, Mr. Basso explained, Federal Highway Program obligations will fall from expected levels by \$19 billion in fiscal year 2010.

According to Mr. Basso, to restore the necessary purchasing power in the federal highway program to the 1993 level, about \$75 billion would be necessary by 2015. Short-term solutions could include using the gas tax increases enacting a 10-cent rate increase (from 18.4 cents) and a 13-cent increase in diesel taxes. This would provide \$75 billion by 2015; a 10-cent rate increase indexed to the Consumer Price Index would generate enough revenue for an \$82 billion program. Other options could include a five percent sales tax on gasoline (\$85 billion) or a 14.2 percent sales tax on gas in lieu of a 28.4 percent gas tax.

The speaker's recommendations for non-gas-based, longer-term solutions included:

- VMT recording and billing
- Annual highway miles traveled charge
- Annual vehicle user fees
- Carbon tax or cap and trade auction proceeds
- Sales tax on motor fuels
- Indexing motor fuel taxes
- Vehicle sales tax
- Tax credit bonds
- Freight charges

New York State Conference: Beyond the Gas Tax, Syracuse, NY.

The Federal Transportation Revenue Situation and Options to Address It

Jack Basso
Chief Operating Officer and Business Development Director
 American Association of State Highway and Transportation Officials (AASHTO)

1

October 7, 2008

New York State Conference: Beyond the Gas Tax, Syracuse, NY.

Current Events

- The Congress acted last week to avert a shutdown in payments to the States adding \$8 billion to the HTF
- While it was critical to act we just put a band-aid on a hemorrhage
- We need to understand that any fix is simply a short-term solution
- Difficult choices are necessary in the authorization legislation

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October 7, 2008

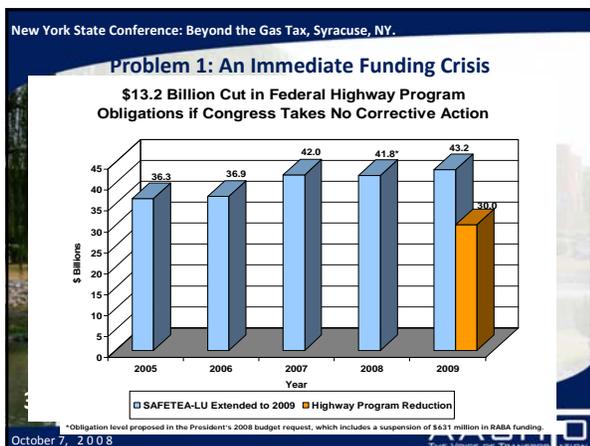
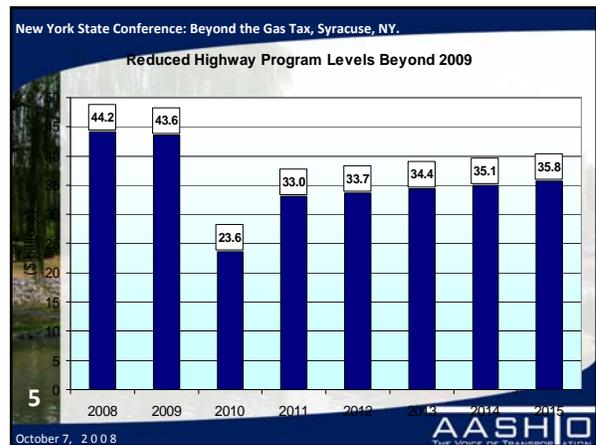
New York State Conference: Beyond the Gas Tax, Syracuse, NY.

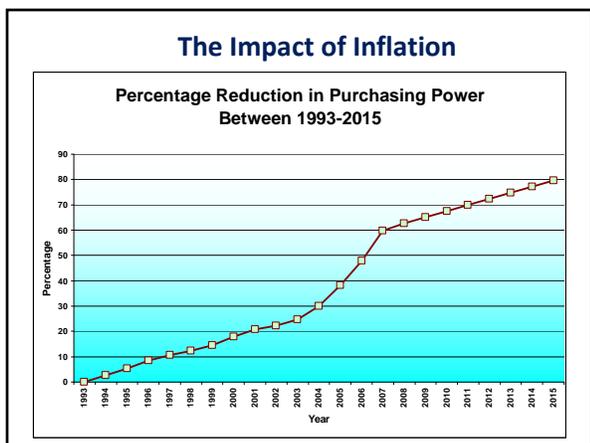
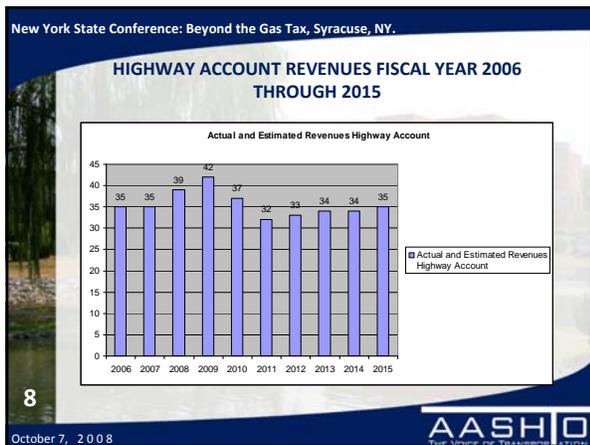
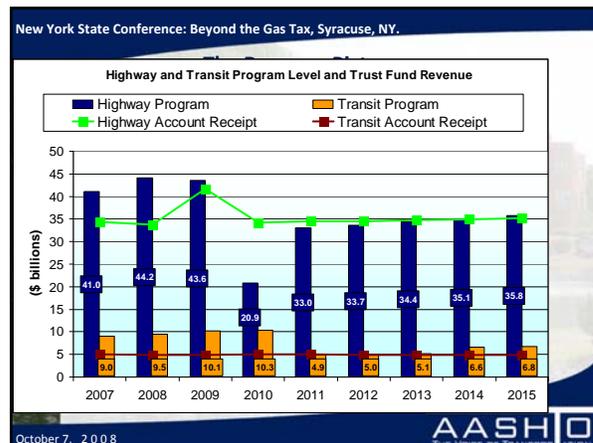
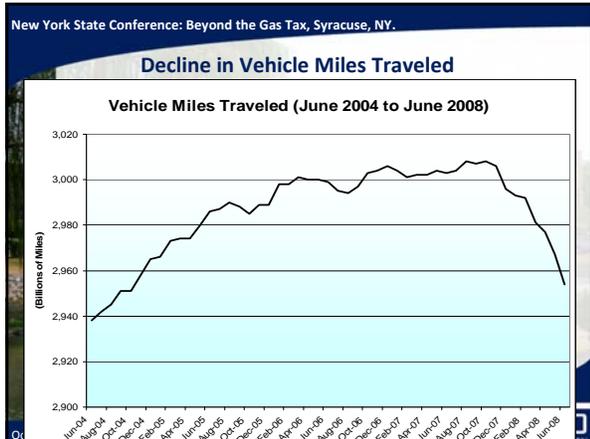
Objectives

- To provide the participants with an update on the National funding issues
- To provide you with ideas and concepts we can all consider to fund surface transportation programs post the gas tax era
- To briefly look at what has to happen in order to have viable Federal funding in 2010 and beyond

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New York State Conference: Beyond the Gas Tax, Syracuse, NY.

Some Highway Trust Fund Options to Increase Revenues in the short run

Highway Program Level Made Possible 2015

- 10 Cent Rate Increase \$75 billion
- 10 Cent Rate Increase, Indexed to CPI \$82 billion
- Five Percent Sales Tax on Gas \$85 billion (if fuel prices increase 4% annually)
- 14.2 Percent Sales Tax on Gas \$95 billion in lieu of 28.4 Cent Gas Tax (if fuel prices increase 4% annually)

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All Levels of Government Must Continue to Fund Their Share

National Capital Investment in Highways (billions)

	2010	2015	Funding Increase Needed	New Toll Revenue	Net Required
Federal	\$43	\$75	\$32		\$32
State/Local	\$52	\$95	\$43	\$8	\$35
Total	\$95	\$170	\$75	\$8	\$67

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Questions?

Peter "Jack" Basso
Chief Operating Officer

American Association of State Highway and Transportation Officials
444 North Capitol Street N.W., Suite 249
Washington, DC 20001
Phone: (202) 624-5800
Fax: (202) 624-5806
Email: jbasso@aaashto.org

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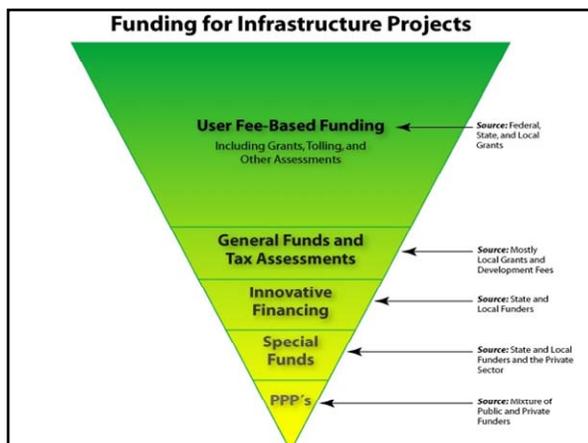


WHAT ARE THE FUTURE OPTIONS TO FUND TRANSPORTATION PROGRAMS?

- Beyond gas tax:
 - VMT recording and billing
 - Annual Highway Miles traveled Charge
 - Annual Vehicle User fees
 - Carbon Tax or Cap and Trade Auction Proceeds
 - Sales Tax on Motor Fuels
 - Indexing Motor Fuel Taxes
 - Vehicle Sales Tax
- Tax Credit bonds
- Freight Charges
 - Ton Mile charge
 - Freight Bill
 - Custom Fees
 - Container Fees

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October 7, 2008



Mary Ann Crotty, Macro Associates

Mary Ann Crotty owns and operates the company Macro Associates LLC. She has worked on a variety of transportation projects around the world. She serves on the Advisory Boards to the Independent Budget Office in New York City and the Nelson Rockefeller School of Public Policy at the State University of New York at Albany.

Prior to this, Ms. Crotty served in numerous leadership positions for Parsons Brinckerhoff, Inc., including working on a range of transportation funding programs based in New York and London. Prior to her private-sector involvement, Ms. Crotty served in a variety of increasingly responsible leadership positions in both the Legislative and Executive Branches of New York State Government, including Director of State Operations and Policy Management and advisor to Governor Mario M. Cuomo.

Ms. Crotty received a Bachelor of Science Degree in Economics and a Master of Public Administration degree with a concentration in Public Finance from the University at Albany. She has served on numerous boards and commissions, including the New York State Commission on Judicial Conduct.

The Role of the Gas Tax Past and Future

Mary Ann Crotty explained that the current funding problem is the result of the need to cover both the costs of past debt service as well as pay for future needs and to maintain the infrastructure in a state of good repair. She explained that in response to the serious system failings that began in the 1970s, New York's legislature passed bond acts to generate sufficient revenues to bring it back to a state of good repair. This money was used to fund highway needs while a series of taxes (e.g., real estate transfer tax, sales tax, petroleum business tax) were implemented to provide for Metropolitan Transportation Authority funding. Subsequently, a dedicated highway fund was created in 1991 with the intention of eliminating the need for more bond acts. Ms. Crotty pointed out, however, that we now have a dedicated fund that supports bond acts without voter approval. She suggested that the reasons to borrow money should be seriously reviewed and that states should move toward paying for most state-of-good-repair work in a pay-as-you-go manner, by engaging in more preventive maintenance that is not bondable. Ms. Crotty called for a broader investment policy in New York State to guide borrowing, rather than just borrowing when the markets say it is allowable. She argued that borrowing for new investments, and even to help pay for much-needed past projects, is acceptable, but maintenance and state of good repair should be pay-as-you-go. In addition to reducing bonding, there will have to be less reliance on motor fuel taxes. Ms. Crotty suggested new consideration for an ad valorem tax on motor vehicles and broad-based taxes that better reflect overall benefits of transportation. She said needs analysis has greatly improved and complimented DOT's work in this regard. More work needs to be done on reducing construction inflation and containing costs.

**Mary Ann Crotty
Syracuse New York**

Presentation Notes

Gas Tax History

- Gas tax and other "user revenues" historically funded transportation at both the state and federal levels
- New York first enacted these taxes in Franklin D. Roosevelt's administration
- Federal Highway Trust Fund relies in large part on the source
- Justifies transportation funding versus competing with other programs for general broad-based taxes
- Generally predictable and easy to collect
- Petroleum business tax is now a key funding component and technically a business tax but collected per gallon to assure collection and lessen evasion
- Other states also rely on fuel tax

Dedicated Fund and User Revenues

- Pre-1991 Bond Acts, General Fund and Federal Aid to the Primary System (FAPS)
- 1991 Enacted dedicated taxes to avoid continued need for bond acts
- Designed to provide predictable and stable source of funding
- Existing user revenues and justification for expansion
- Funding for Operations and Capital (and Department of Motor Vehicles as well)
- Use of revenues for general budget relief

What Went Wrong

- Needs studies showed greater needs than annual revenues could provide
- Repent for early bonding decisions from fund by Thruway
- Continued to leverage fund more and more in the late 1990s and early 2000
- Seduction of debt for politicians
- Documented needs by DOT
- Greed for fees by oversight mechanisms
- Consideration of ability to pay debt (2 - 1 coverage ratio without additional security).
- Consideration of important preventive maintenance and regular maintenance where needs are larger than remaining money
- Most recently, construction inflation eats away at the program

Lessons Learned

- Do not blame what went wrong in the past --- at the time, the program was needed and no new taxes essential
- Need a tighter debt policy, perhaps new projects and bringing up sub-standard assets with debt while regular capital program and staff rely on "pay as you go"
- Long-term plan that combines operating and capital needs is essential
- Merely being able to secure the debt is not the only important element
- Need to focus on estimating and ways to bring costs down
- Regional cost differences are significant and need to be addressed
- Lack of emergency leads to complacency by elected officials
- New York's regulatory system leads to higher costs at times without equal benefits

What Does the Future Hold?

- The good things of the past --- keep transportation a priority even in tough fiscal times
- Recognize transportation solution needs to be in reality with budget situation
- Undertake continued needs analysis
- Rely less on motor fuel tax as prices continue to rise
- Consider ad valorem again on registrations
- Look at broad-based revenues that reflect overall societal benefits and not just benefits to users
- Take tough steps to expedite New York's project delivery
- Adopt debt policies
- Consider alternate delivery mechanisms to save time and money (design build, etc.)
- Where appropriate to delivery and to raise money, consider public private partnerships

James Calpin, Managing Director, Transportation Finance Group
Merrill, Lynch & Co.

Jim Calpin is a Managing Director in Merrill, Lynch's Transportation Finance Group; he brings more than 17 years of municipal finance experience solely dedicated to all modes of transportation financing. Mr. Calpin and a team of other transportation bankers recently joined Merrill, Lynch after UBS decided in June 2008 to exit the municipal finance business. At UBS, Mr. Calpin was co-head of the national transportation practice that served municipal issuers who developed funding programs for transportation programs, including highways, toll roads, airports, ports, mass transit and other intermodal facilities. Having led more than \$10 billion in senior managed financings, Mr. Calpin has had experience in traditional surface transportation revenue bonds, startup and mature toll facility projects, inaugural GARVEE bond credits, TIFIA and public private partnership (P3) programs for toll and non-toll highway projects. Most recently, Mr. Calpin was lead banker to the Missouri Bridge Partners, who had been working (as the winning team) with Missouri DOT on the "800 Bridges" P3 project. Currently, Mr. Calpin is senior manager to the North Carolina Turnpike Authority on its inaugural toll road project (the Triangle Expressway) in the greater Raleigh area. Mr. Calpin earned a Bachelor of Science degree (Finance) from Villanova University.

Perspective of Financial Community on Transportation Funding

Jim Calpin discussed the difficulties municipal governments are experiencing now with raising revenue. He provided an overview of market trends, indicating that all infrastructure funding alternatives are under pressure: traditional pay-as-you-go, general obligation bonds, appropriation bonds, gas tax bonds, federal fund leveraging, public-private partnerships and other forms of privatization. He identified other problems that have aggravated the funding crunch. These include rising interest rates, an increase in crude oil and a drop in national vehicle miles traveled, which has undermined the ability of the gas tax (and toll revenues) to fund transportation infrastructure needs. Mr. Calpin explained that state budgetary gaps are large, citing two examples: in California, a request for \$7 billion in emergency federal funds was necessary to maintain day-to-day operations; in New York State, the Wall Street fallout may result in a loss of as much as \$3.5 billion in tax revenue associated with the loss of 40,000 industry jobs. The reality is that "pay-as-you-go" methods of financing transportation are increasingly difficult in today's economic climate.

Mr. Calpin suggested that the best option to close these funding gaps will be public-public partnerships, providing two case studies from North Carolina and Missouri. The North Carolina Turnpike Authority is building its first inaugural toll road in the state, an 18.8-mile stretch of the Triangle Expressway in the greater Raleigh-Durham area. The Turnpike Authority partnership included the state, which is contributing \$25 million annually, with NCDOT providing backstop coverage for operating and maintenance shortfalls. Further, federal TIFIA loans are being negotiated to bolster senior bond credit quality and to allow for an extended capitalized interest period and fully funded reserves.

Missouri developed an \$800 million design-build-finance-maintain (DBFM) contract with a private consortium to bundle 800 bridges for rehab/repair and 25-year maintenance. Plans had to be curtailed when fluctuations in fixed-rate markets made private financing prohibitively expensive. Sufficient financing would have been secured from a federal allocation of \$700 million in private activity bonds (PABs). Instead, MoDOT will now be using a traditional design-build contract and finance on its own balance sheet through the use of GARVEEs.

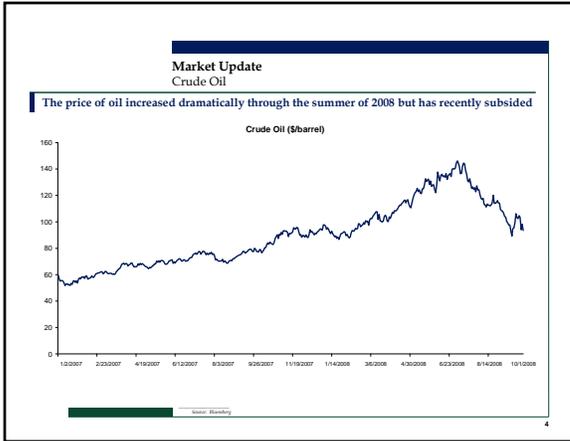
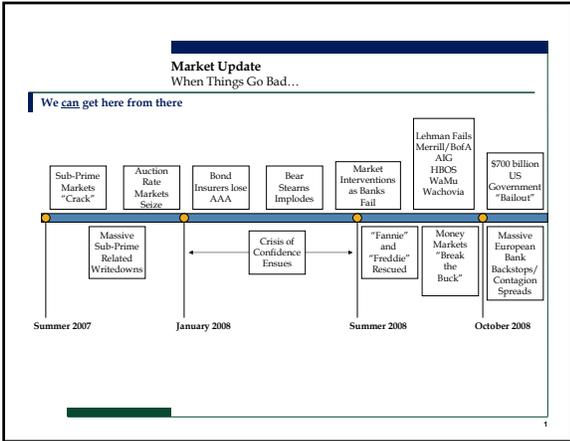
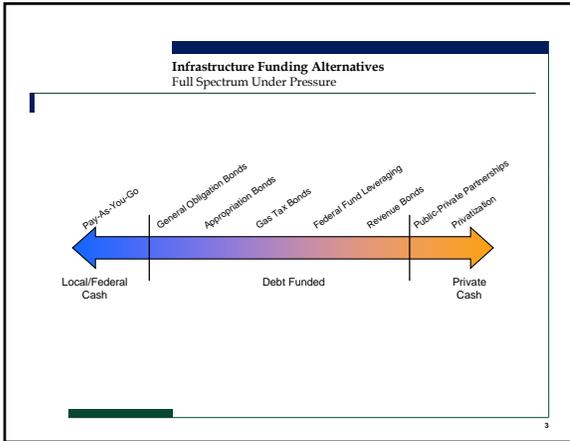
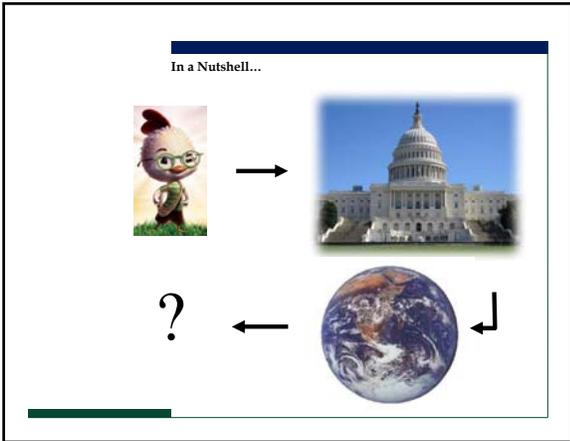
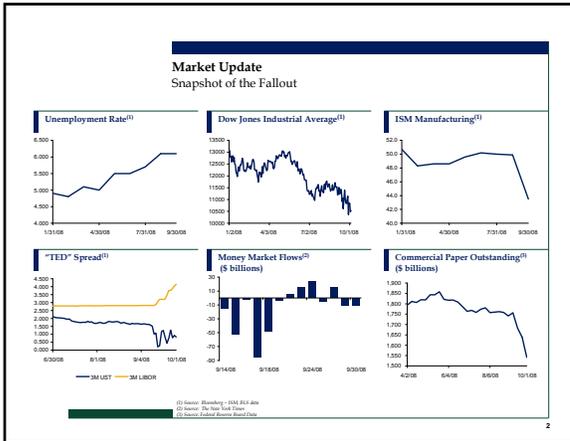
Mr. Calpin said that while a definite return to “normalcy” in the market is uncertain for the near term, infrastructure demands are growing exponentially. The election-year transition compounds the current difficulties, with uncertain political will putting needed changes at risk. Mr. Calpin concluded by summarizing some of these needed changes. They include adopting a user-fee mentality, prudent use of debt, changes in reauthorization of federal funds and effectively harnessing private participation to increase efficiency and political support.

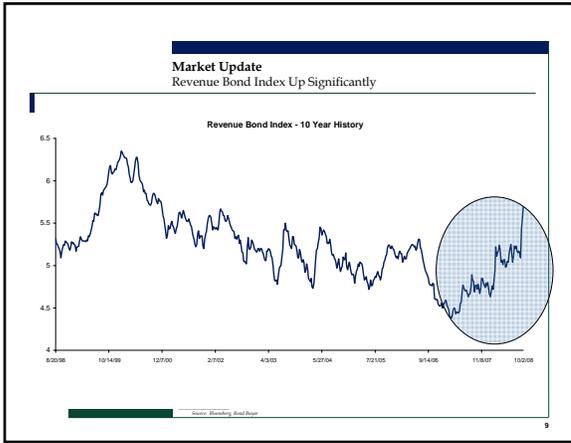
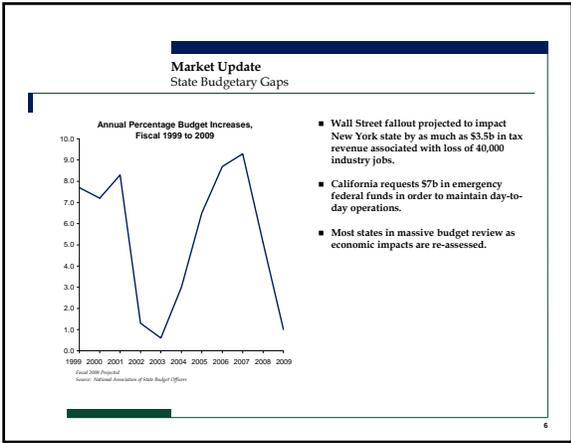
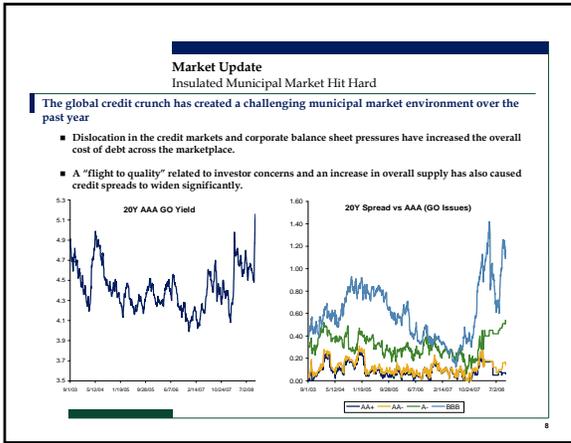
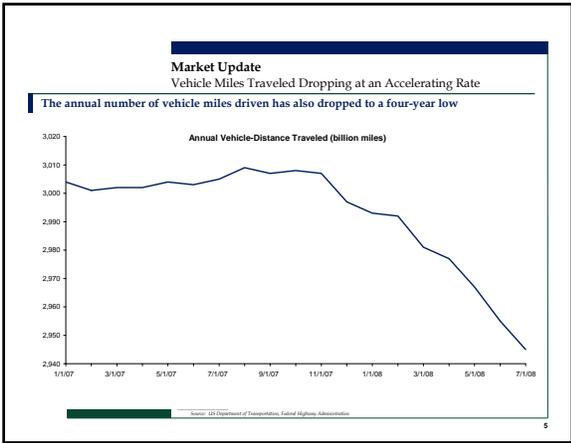
Transportation Financing in Ever-Challenging Times

October 7, 2008



Merrill Lynch
Global Markets & Investment Banking Group



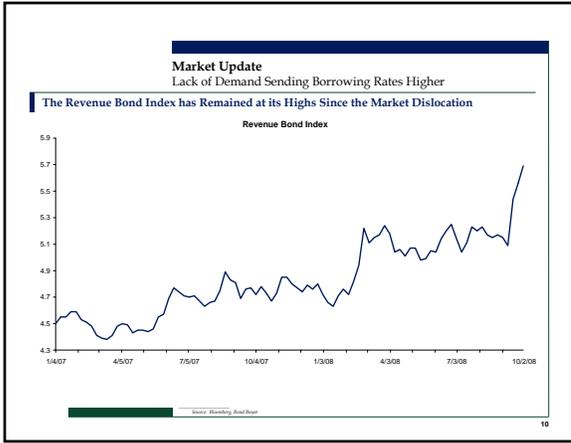


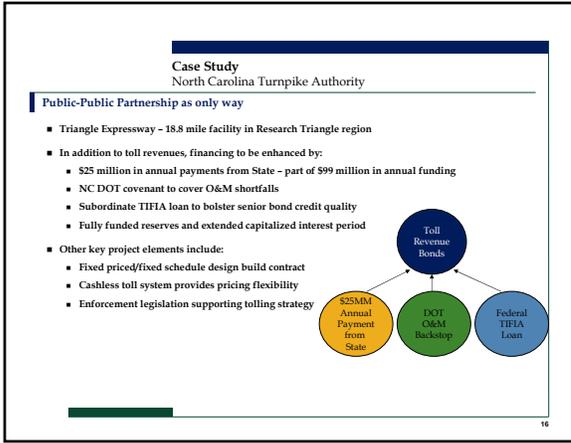
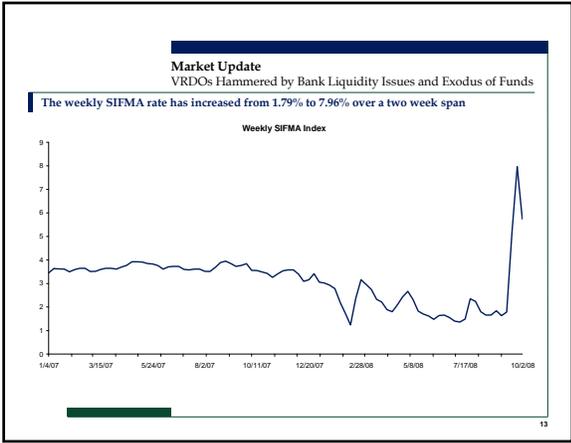
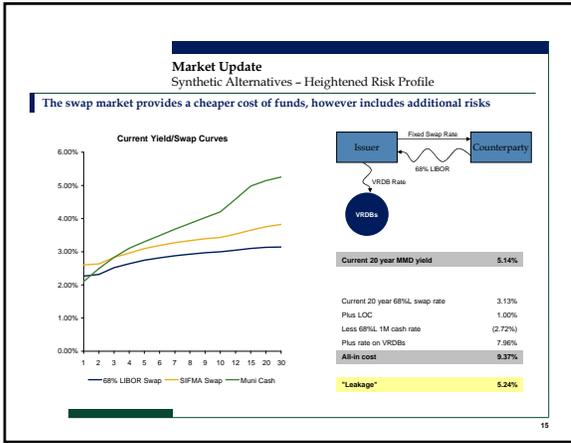
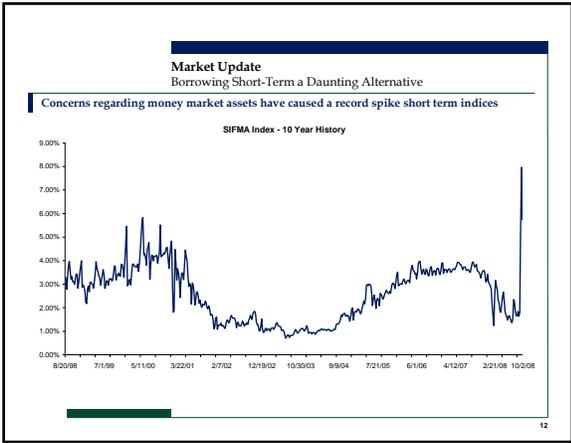
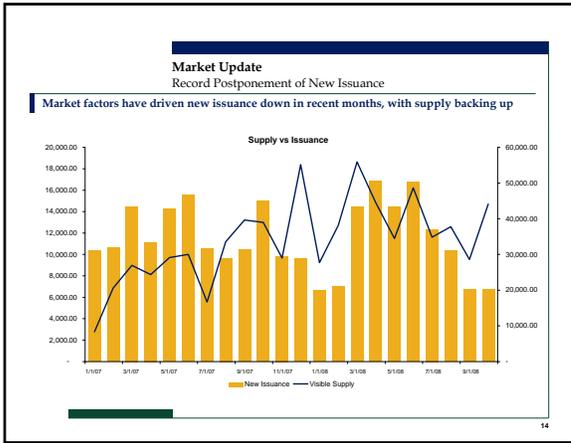
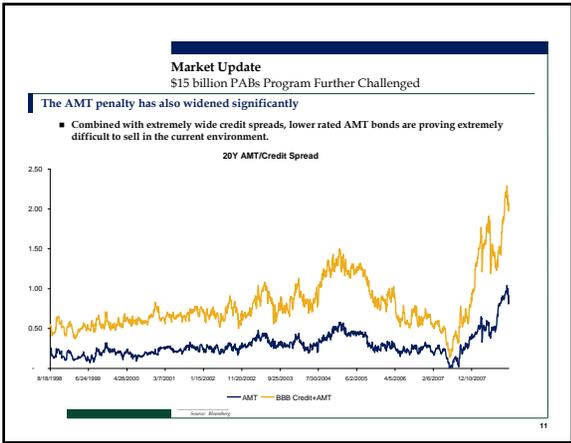
Market Update

Meltdown of the Bond Insurers

Rating agencies continue to monitor the bond insurers for further downgrades.

Insurer	Moody's	S&P	Fitch
Berkshire Hathaway	Aaa	AAA	N/A
Assured Guaranty	AAA	AAA	Stable Outlook (Affirmed)
Ambac	Aa3	AA	Negative Outlook
Libbia	A2	AA	Negative Outlook
Radian	A3	A	Negative Watch
CFG	Ba3	B	Developing Watch
FGIC	B1	BB	Watch Downgrading
SYNCOBA	B2	BBB	Negative Watch



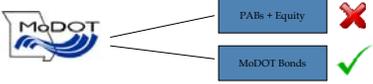


Case Study

Missouri Highways and Transportation Commission

Current Financial markets impede P3 approach

- Missouri DOT was proceeding with \$800 million DBFM Contract with winning private consortium
- Bundled 800 bridges for repair/rehabilitation in 5 years, with 25 year long-term maintenance contract
- Financing via federal allocation of \$700 million Private Activity Bonds ("PABs")
- Conventional and synthetic fixed rate markets became prohibitively expensive to finance under P3 approach
- MoDOT now proceeding to finance "on balance sheet" and re-scope contract to a traditional design-build contract



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Looking Forward

Stark Needs... Fewer and More Expensive Solutions

P-A-Y-G-O

- Downsized budgets force re-prioritization and de-scoping of projects
- Taxes and tolls - political realities

Municipal Finance Options

- Traditional markets will "settle" but buyer base has diminished
- Swap/Structured Products harder to incorporate
- Public-Private partnerships to close funding gaps

PPPs

- Weak capital markets driving down valuations and overall buying power
- Bank financing options severely challenged by "frozen" balance sheets
- Hybrids will emerge with greater public participation

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Conclusions

Changing Landscape in Uncharted Waters

- Unprecedented markets - return to "normalcy" unclear
- "Elephant in room" - infrastructure demands growing exponentially
- Election year transition compounds addressing problems
- Schizophrenic political will
- "Something's got to give"
 - New playbook changes for reauthorization
 - User fee mentality a must
 - Prudently embrace use of debt
 - Efficiently harness private participation
 - Political champions must emerge

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Richard L. Drake, Program Manager of Transportation and Power Systems, NYSERDA

Richard L. Drake has been Program Manager of Transportation and Power Systems (R&D) for The New York State Energy Research & Development Authority (NYSERDA) since 1990. In this position, he manages a collaborative research program in advanced transportation and power systems technology, with more than 150 active product development projects, many having a transportation focus. Some projects are in the areas of alternate fuel, electric and hybrid-electric vehicles; marine, transit and high-speed rail technologies; and advanced transportation infrastructure systems. Mr. Drake's role in the energy field predates his involvement at NYSERDA, including positions with Mechanical Technology Incorporated of Latham, N.Y., and Mohasco Corp. where he was responsible for corporate energy policy development. He has received five patents awarded in the areas of: steam-injected gas turbine cycle optimization; refrigerated system process control; high-speed valves; self-defrosting heat exchanger; and a process for the recovery of industrial VOCs. Mr. Drake has a BSME degree from Clarkson College in Potsdam, N.Y., and an MBA from Union College in Schenectady, N.Y. He is a licensed professional engineer in the states of New York and California.

Tying Together Transportation and Energy Policy

Richard Drake discussed NYSERDA's involvement in transportation from an energy perspective. He said the transportation sector is responsible for 42 percent of the energy used in New York State, 72 percent of the oil used and 39 percent of the greenhouse gas (GHG) produced. He indicated that between 1990 and 2006, the GHG emissions of the transportation sector increased by 2.3 percent. The public sector contributes significantly to funding the improvement of these conditions. Mr. Drake reported that of the federal Department of Energy's \$25 billion annual budget, transportation-related programs are allocated \$592 million. New York State also contributes to the transportation sector through the New York Power Authority (NYPA) and Long Island Power Authority (LIPA) by financing energy-efficiency improvements with their customers; they include New York City Transit, the Long Island Railroad and Metro North Railroad. Mr. Drake noted that NYSERDA has a \$406 million annual budget that includes statewide investment in innovative technology to solve New York's most difficult energy and environmental problems. He added that the Transportation Efficiency and Environmental Improvement Program, a multidimensional program involving NYSERDA, city and state Agencies (NYSDOT, NYCDOT, NYSDEC), universities and the private sector, offers funds to provide research and development activity, business development, demonstration verification, end user assistance and education outreach. Mr. Drake was optimistic that greenhouse gas reduction programs may be an opportunity to provide transportation program funding via "offsets" or proceeds from funded projects.

NYSERDA New York State Energy Research and Development Authority

Transportation and Energy Policy

Beyond the Gas Tax Symposium
October 7, 2008

Richard Drake, P.E.
Program Manager
Transportation R&D

NYSERDA New York State Energy Research and Development Authority

Energy Policy is responding to Climate Change & Energy Security

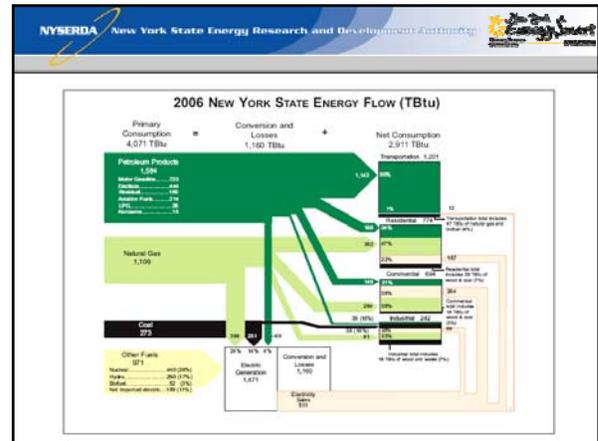
- Global warming is real and will have a devastating impact on the planet without a major reduction in Greenhouse Gas production.
- The US has 4.5% of the world's population but produces 25% of the world's CO₂
- In 1975 the US imported 35.8% oil, today 58.2%

NYSERDA New York State Energy Research and Development Authority

NYSERDA Highlights

- public benefit corporation created in 1975 in response to the energy crisis
- three primary NYS focus areas energy - environment - economy
- \$400M+ annual budget FY08/09, 225+ employees, four NYS locations

FOR MORE INFO...
www.nyserdera.org

NYSERDA New York State Energy Research and Development Authority

NYSERDA Responsibilities

- State Energy Plan & Analysis
- Energy Research, Development and Demonstration
- System Benefits Charge Administrator
- Renewable Portfolio Standard (RPS) Administrator
- Energy Efficiency Portfolio Standard Administrator
- Regional Greenhouse Gas Initiative Administrator
- Power Plant Siting Board
- West Valley Demonstration Project
- Executive Order 111 (Green Buildings)
- EO 142 (Alt. Fuels & Heat)

NYSERDA New York State Energy Research and Development Authority

New York's Transportation Sector is responsible for

- 42% of the energy used in the State
- 72% of the oil used in the State
- 39% of the Greenhouse Gas produced

Fuel Combustion Greenhouse Gases

New York's GHGs from fuel combustion

By Sector	1990			2000			2006			%Δ 1990 2006
	CO2 MTCDE	Total GHG MM Tons	%	CO2 MTCDE	Total GHG MM Tons	%	CO2 MTCDE	Total GHG MM Tons	%	
Electric Generation	70.3	70.5	29	69.8	70.0	27	53.6	53.8	24	-23.7
Residential	37.1	37.6	15	43.3	44.2	17	35.9	36.6	16	-2.7
Commercial	29.3	29.4	12	35.2	35.4	14	28.0	28.1	13	-4.4
Industrial	25.2	25.3	10	28.1	28.3	11	17.7	17.8	6	-29.6
Transportation	80.5	83.3	34	78.1	81.3	31	82.4	85.7	39	+2.3
Total	242.3	246.7	100	254.6	259.2	100	217.7	222.0	100	-10.0

NYSERDA's Transportation Program

- R&D** (120 active projects)
 - Product development w/NYS manufacturers
 - Hybrid & PHEV vehicles
 - Public Transit bus, rail, ferry
 - Taxi & urban duty cycle vehicles
 - Anti idling
 - Transportation Infrastructure Research
 - DOT collaborative R&D
- Deployment**

Commercially available Alt. Fuel Vehicles (566) & fueling stations (37) to date (\$46MM)

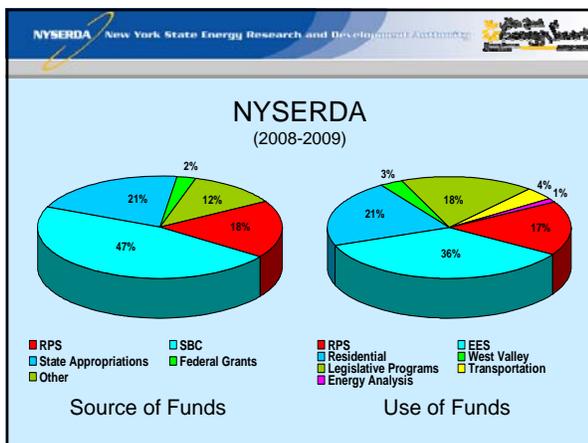
 - DOE Clean Cities Program
 - CMAQ Funded private fleet Alt. Fuels. Vehicle program
 - Bio-fuel Initiative
 - Clean Fuel Bus Program
 - Clean Air School bus program
 - DOE Special Grants

Public Sector Energy Funding

- Federal: DOE**
 - \$ 25 Billion Annual Budget
 - \$592 million for Transportation Related Programs
 - fuels and vehicles
- New York State:**
 - NYPA, LIPA finance energy efficiency improvements with their customers including: NYC Transit, LIRR, Metro North
 - NYSERDA \$406 Million Annual Budget
 - Statewide investment in innovative technology to solve New York's most difficult energy and environmental problems

Transportation Infrastructure Research Consortium

- Dual Fuel Snow Plows
- Electronic Truck Inspection
- Life Cycle Cost Analysis



NYSERDA

- Bridge Sensors
- Work Zone Speed Sensors
- Construction Sensors
- Liquid Natural Gas



Transportation Efficiency and Environmental Improvement Program

Program activity→ Program area ↓	R&D		Transition		Deployment	
	Policy Studies/Analysis	Technology Development	Demonstration Verification	Business Assistance	End-User Assistance	Education Outreach
Government Agency Practices	X					X
Public Transit	X	X	X	X		X
Freight/Commercial	X	X	X	X	X	X
Vehicle Efficiency		X	X	X	X	X
Transportation Infrastructure	X	X	X	X	X	X
Alternative Fuels	X			X	X	X
Smart Growth	X		X		X	X

X= areas of proposed funded activities

- ### New Funding Sources for Sustainable Transportation Programs?
- Clean Air Interstate Rule (CAIR)
 - NOx cap/trade, delayed by Court (future \$75M/year)
 - Energy Efficiency Portfolio Standard (EEPS)
 - Governor's 15 x15 initiative, (\$175M/year)
 - Use of electric grid derived funds for transportation TBD by the NY Public Service Commission (PSC)
 - Regional Greenhouse Gas Initiative (RGGI)
 - Auction proceeds 64M tons/year of carbon emission allowances
 - Power plants offsets purchases? (public/private partnerships)

- ### Take-a-ways
- Good news: Transportation fuel use is down
 - Slowing economy, high energy costs
 - Future reductions from more stringent CAFÉ standards
 - Bad news: Gas tax revenue Down
 - Good news: Fuel use reduction = CO₂ reduction
 - Greenhouse gas reduction programs may be an opportunity to provide transportation program funding via "offsets" or auction proceeds

- ### Future Sustainable Transportation Program Possibilities
- The Transportation Efficiency and Environmental Improvement Program for New York
 - a multi-dimensional program involving NYSERDA, State/City Agencies (NYSDOT, NYCDOT, NYSDEC), universities and the private sector .
 - Initially scoped as a \$65M/year program funded with allocations from RGGI, CAIR, EEPS assessments

Thank You!

New York State Energy Research and Development Authority
 17 Columbia Circle, Albany, NY 12203 Phone: (518) 862-1090 Fax: (518) 862-1091
<http://www.nyserdera.org>

C. Kenneth Orski , *Innovation NewsBriefs*

Kenneth Orski is editor and publisher of *Innovation NewsBriefs*, an influential and widely read transportation newsletter, now in its 19th year of publication. Mr. Orski has worked professionally in the field of transportation for close to 40 years. He was Associate Administrator of the Urban Mass Transportation Administration under President Richard Nixon and President Gerald Ford. After leaving government, Mr. Orski founded a transportation consultancy counseling private clients and agencies in federal, state and local government. He has served on numerous state and federal transportation advisory bodies including, most recently, the blue-ribbon panel of the congressionally chartered National Surface Transportation Policy and Revenue Commission. Earlier in his career, he was an executive of the General Dynamics Corp. and was a senior officer (FSR-2) in the United States Foreign Service, with assignments at the Paris-based OECD and the European communities. He is a *magna cum laude* graduate of Harvard College and holds a J.D. degree from Harvard Law School.

Overview of Funding Strategies

Ken Orski said it is premature to call for a requiem for the gas tax, though its fate remains uncertain at the hands of Congress. He said the gas tax has worked well for 50 years and will provide a steady source of revenue for a good many years to come. However, with higher than usual gas prices, Mr. Orski said any politically acceptable gas tax increase will fall short of generating sufficient revenue to finance capacity enhancements. He said the federal program contributes only about 40 percent- 50 percent toward the capital cost of transportation infrastructure; the remaining 50 percent-60 percent traditionally has come from state and local budgets. Mr. Orski said, “There is no guarantee that states, including the state of New York, will be able to meet their part of the bargain through local tax increases, be it gas or sales taxes.”

Accordingly, he said revenues should be raised from other sources to proceed with investment in new facilities. He stated borrowing by states is becoming increasingly more difficult; new federal financing initiatives are being considered “to create a de facto national capital budget for ‘qualified’ public works projects of regional or national significance.” Mr. Orski warned, however, that “a purely federal-centric approach cannot by itself close the huge infrastructure gap.” He noted we likely will end up with a hybrid funding package — some from a modest increase in the federal gas tax and some from a new federal financing initiative, such as the National Infrastructure Bank. He speculated this will still leave a major shortfall in the funding of capacity improvements that would be best financed by the private sector in the form of project-based private toll road concessions. Mr. Orski stated that private toll road and bridge concessions are needed for new projects, but the federal government should require adequate safeguards to be built into PPP agreements to protect the public interest. Mr. Orski concluded by advising that we should not just supplement the gasoline tax but replace it with a more stable source of revenue. He said a likely candidate would be a vehicle mile traveled fee based on trip length and perhaps vehicle size and weight. Such a fee “would reflect more closely the actual usage of the road system and not rely on taxing a commodity we are actually trying to discourage using.”

Thinking Beyond the Gas Tax

By C. Kenneth Orski

Beyond the Gas Tax Conference
Sponsored by New York State Department of Transportation
And The University Transportation Research Center
New York State Fair Grounds
Syracuse, New York
October 7, 2008



Borrowing capital in the municipal (tax exempt) bond market to finance future transportation infrastructure is an option for some jurisdictions, but the sheer magnitude of the need for new infrastructure is likely to overwhelm the bonding capacity of most state and local governments.

The gasoline tax has served us well during the past 50 years and will continue to be a source of funding for the surface transportation program for some time to come. But to totally rely on the fuel tax as a source of funds for transportation infrastructure is no longer thought to be a realistic approach.

New federal financing initiatives are being considered in Congress as potential sources of additional revenue. The most prominent among them are the National Infrastructure Bank and the Build America Bonds proposals. Both initiatives would create a de facto national capital budget for "qualified public works projects of regional or national significance."

To be sure, a boost in the federal gas tax is not off the table — in fact it is almost certain to be part of Rep. Oberstar's legislative proposal. But whether it will pass muster with the congressional tax writing committees and obtain a filibuster-proof majority support in the Senate is uncertain. Even if a gas tax increase does obtain congressional approval, its size, in these days of record-high fuel prices, is likely to be seriously constrained.

What we are likely to end up in the future is a hybrid funding package. Part of it will be a modest increase in the federal gas tax. Another part may involve some kind of a new federal financing initiative — most likely a National Infrastructure Bank. But this will still leave a major portion of future additions to road capacity to be financed by the private sector in the form of project-based private toll road concessions. In New York State, the new Tappan Zee Bridge would be a prime candidate for such a concession.

In the long-term, we must find the means not just to supplement the gasoline tax but to replace it with a more stable source of revenue. The most likely candidate appears to be a mileage tax ("VMT fee), i.e. a fee based on trip length and possibly vehicle size and weight.

Jonathan R. Peters, Associate Professor, College of Staten Island

Jonathan R. Peters is an associate professor of finance in the Business Department at The College of Staten Island of The City University of New York and a Research Fellow at The University Transportation Research Center at The City College of New York. He received his Ph.D. in Economics from the City University of New York and his Masters in Economics from Hunter College. Dr. Peters previously worked in the Finance Division of AT&T Corp., where he was a subject matter expert on immigration and international finance. He serves on the Transportation Economics Committee of the National Academies of Science Transportation Research Board and the Board of the City University Institute for Urban Systems. His numerous publications include work on public-private partnerships published in 2006 by the New York State Department of Transportation. He conducts research in the areas of regional planning, road and mass transit financing, corporate and public-sector performance metrics, capital costs and performance management.

Examples Next Door – Experiences of Pennsylvania and New Jersey

Jonathan Peters began by citing the difference between finance and revenue, noting that bonding is not a *revenue* source, it is a *financing* source. He explained that bonding is a particular form of financing that can be secured on the basis of either a particular revenue stream (revenue bonds) or general funds (general obligation bonds). He remarked that New York is ahead in “innovative finance” by leading the nation in toll collection; it collects more than \$2 billion per year, primarily from Metropolitan Transportation Authority bridge tolls, New York State Thruway tolls and tolls collected on Port Authority of New York and New Jersey facilities. Other states in the region also ranked high nationally, with New Jersey placing second at \$700 million in toll collections and Pennsylvania fourth, with more than \$500 million collected in tolls.

Dr. Peters described three plans that New Jersey has tried to implement that rely on toll revenues. Two did not pass and one is still under consideration. Dr. Peters reported that Gov. Jon Corzine initially proposed a modified form of privatization that he refers to as “monetization.” Its purpose was to reduce state debt by securing revenues from existing toll roads and to add new tolling on a portion of Route 440. Under the plan, the management of the toll roads would have been given to a public benefit corporation, using a concession agreement. The plan was estimated to result in a 700 percent (through compounding) increase in revenues by 2022. Dr. Peters noted that to look at the financial viability of this plan we must understand what contributes to private firm value: the level of cash flows, the timing of cash flows and risk of cash flows. The contributors to firm value (road value in this case) would have been location, traffic volume, uniqueness (i.e. lack of substitute routes), the ability to create location advantages and a long, stable toll collection history. New Jersey’s toll roads should have a high sale value because of these factors. Dr. Peters explained that this plan would have affected more heavily the areas that already had a high toll burden; it was, therefore, not well received in those locations and eventually was tabled..

The second plan sought to fund capital expenditures with a new set of toll increases on the New Jersey Turnpike and Garden State Parkway. The increase was estimated at 225 percent, occurring between 2008 and 2012, and another 25 percent in 2023. The plan was estimated to fund more than \$11 billion in road and transit improvements but was again tabled due to inequities. A third plan was adopted on Oct. 10, 2008, that increased tolls by 225 percent and provided \$8.25 billion in road and transit improvements but scrapped the last increase in 2023.

Dr. Peters described the road user fee program in Oregon and a privatization plan in Pennsylvania. Oregon tested charging mileage fees based on where and when travel is taken, calculated using an onboard mileage recording system. The usage fee was then recorded at gasoline stations, and the user was charged mileage fees, as opposed to fuel taxes. The pilot program involved 260 vehicles and two gasoline stations. Oregon is evaluating the results of the program, and no further implementation is proposed. The key barriers to implementation are the cost of equipping vehicles with mileage recording equipment (and making it tamper-proof) and the cost of deploying the collection technology at fuel stations. This program would involve significant start-up and operating costs, including cost of collection and capital costs. Dr. Peters said the issue of who should pay for these significant capital investments has not been resolved.

Pennsylvania had two privatization plans for its road user-fee program. Plan A was to privatize the Pennsylvania Turnpike with a 75-year lease. This lease included toll increases over the life of the contract. Recently, \$12.8 billion was offered for this lease, but the bid for this proposal is stalled in the state senate. Plan B proposes to add tolls to Interstate 80 by leasing the road to the Pennsylvania Turnpike Authority for 50 years. This would result in \$468 million in tolls annually by 2011. The proposal also included 3 percent increase in tolls each year after 2011.

The Pennsylvania plan was structured to provide \$116 billion in funding over a 50-year period, resulting in an average payment of \$2.32 billion from the Pennsylvania Turnpike Authority every year. Dr. Peters explained that the contract originally allowed the Turnpike Authority to issue monetization bonds based on future toll revenue from I-80, but the Federal Highway Administration ruled that toll revenues cannot be used to make lease payments. The funding situation in Pennsylvania is unclear, with some parts (payment from Turnpike) being implemented but other parts (I-80 tolls, toll escalations or privatization) still under discussion or revision.

The speaker also noted that even with increased tolling, funding shortfalls will persist in many states, and that financial market turmoil will create problems for privatization or monetization due to lower road sales prices and higher borrowing costs. He concluded with questions emerging from these scenarios: Can all roads be self-supporting? Should road users contribute to mass transit? If so, how much should they contribute and how much is regionally fair?



Examples Next Door Experiences of New Jersey and Pennsylvania (and Oregon too)

Jonathan R. Peters, Ph.D.
The University Transportation Research Center – Region II
& The College of Staten Island

Presented at the
NY State Department of Transportation
Beyond the Gasoline Tax Conference
Syracuse, New York
October 7, 2008



"Revenue Reform" Train Stopped by 'Vested Interests,' 'Local Issues,' 'Trusts,' and other poles"
— Political cartoon from 1880–1900 commenting on tax reform.

www.wikipedia.com

Finance Versus Revenue NCHRP 19-08

- *Defining our problems are important, we need to break away from idea that bonding is revenue.*
- *NCHRP had this problem in deciding what to call a study on cost of collecting funds.*
- *Costs of Alternative Finance Systems – Initial Title*
- *Costs of Alternative Revenue-Generation Systems – Final Title*

Financing Your System

- Some people would define a bonding method of funding as solving our revenue problems in transportation.
- Yet bonding is a particular form of financing and may be revenue type or general obligation bonds.
- Private owner equity provides us with an additional wrinkle to this.
- Some view bond issuing as the end of the problem of funding – it is just the beginning

We are Already Leaders in Innovative Finance!

- Many states have yet to use tolls or road pricing systems. 17 states still collect no tolls. 30 States collect less than 50 Million dollars a year in tolls.
- New York leads the nation in tolling – over \$2 Billion each year.
- New Jersey is second – \$700+ Million
- Pennsylvania is fourth - \$500+ Million
- But we still have large, unmet needs in terms of transportation funding.

STATE	\$(000) STATE AND LOCAL FUEL AND VEHICLE TAXES	\$(000) STATE AND LOCAL TOLLS	Year 2000 Fuel Tax and Tolls FHWA Statistics		
			Percent of U.S. Tolls	Rank	Cumulative Percent
New York	2,193,452	1,987,071	30.12%	1	30.1%
New Jersey	1,173,185	711,611	10.79%	2	40.9%
Florida	3,254,862	614,959	9.32%	3	50.2%
Pennsylvania	2,559,311	534,789	8.11%	4	58.3%
California	7,554,477	450,378	6.83%	5	65.2%
Illinois	2,341,302	390,002	5.91%	6	71.1%
Texas	6,886,299	376,313	5.70%	7	76.8%
Massachusetts	951,183	229,267	3.48%	8	80.3%
Ohio	2,085,499	177,310	2.69%	9	82.9%
Maryland	1,641,212	148,909	2.26%	10	85.2%
Delaware	200,269	146,627	2.22%	11	87.4%
Oklahoma	927,994	132,344	2.01%	12	89.4%
Virginia	1,854,916	112,944	1.71%	13	91.1%
Washington	1,473,561	97,914	1.48%	14	92.6%
Indiana	1,284,492	85,325	1.29%	15	93.9%
Kansas	524,601	61,198	0.93%	16	94.9%

Tolls in the Region

- Over 30% of the nations tolls are collected in New York or on NY crossings already.
- 1,251 Million in MTA Bridge Tolls (2007)
- 751 Million in Port Authority of NY&NJ Tolls (2007)
- 555 Million in New York State Thruway Tolls (2006)

So – What are our neighbors doing?

- Our neighboring states share many of the same revenue issues related to transport funding.
- Pennsylvania has a well acknowledged problem with 6,000 deficient bridges – highest in nations.
- New Jersey struggles with growth and congestion in the North East Corridor and competing highway and transit needs.

New Jersey Tolls

Monetization or Escalation

New Jersey Plan - #1

- In January 2008, to help solve a general fiscal crisis, New Jersey Governor Jon Corzine proposed a modified form of privatization – monetization.
- Plan to reduce the state debt and get cash out of the existing toll roads and Route 440.
- Management of toll roads given over to a Public Benefit Corporation using a concession agreement.
- Toll increases included in concession terms.
- 50% compounding increases in 2010, 2014, 2018, 2022 - plus Cost of Living Increase each year (COLA).
- Compounds to over a 700% increase by 2022.

The Proposed Roads

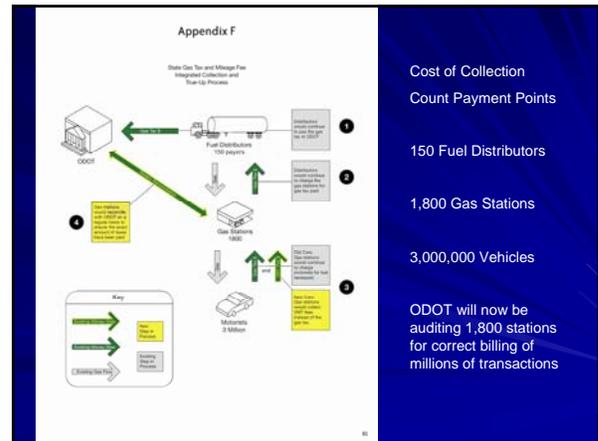
- New Jersey Turnpike
- Garden State Parkway
- Atlantic City Expressway
- Route 440 segment NJTP to Outerbridge Crossing*
- *New toll road segment
- Key goal – tax/fee out of state residents

Purpose of NJ Monetization

- Clearly stated goal was to provide funds for general purposes – retire state debt and other expenditures – 60%+
- Some planned funding of transportation projects - ?%
- Avoid issuing additional state debt – Public Benefit Corporation is separate entity from state
- How Separate? How Independent? How Transparent?

Process

- Onboard Vehicle GPS system
- Technology Equipped Gas Stations
- Test in Spring 2006
- 260 Vehicles Equipped
- 2 Service Stations Equipped
- Road fee differentiated by “rush hour” vs “non rush hour” travel
- Road fee collected at Gas Stations with gas tax deducted and road fee added to fuel bill.



Oregon Issues

- Relies on all vehicles being equipped with GPS/tracking by manufacturer – \$0 cost.
- Startup Costs estimated at \$32.8 Million
- 1800 Gas Stations equipped with readers
- Ongoing operating costs of \$1.6 Million.
- Should include ongoing capital costs – say 5 – 8 year cycle on capital stock.

Cost Estimate

- 4.2 Million Vehicles in Oregon
- Transponders at \$25 Each
- 105 Million Dollars in Transponders
- If 6 Year Life – then \$17.5 M annual cost
- Station Equipment – \$4.5 M annual cost
- Operation Costs – \$1.6 M annual cost
- Package with transponders – 23.6 M annual – and no out of state users.

Cost Sharing

- Cost of Gas Station equipment could be forced as an unfunded mandate on owners of stations.
- Cost could be shared with ODOT.
- Transponder has to be tamperproof – not done in study.
- Transponder costs may be as high as \$210 (prototype costs) and \$55 for installation (may double with tamperproofing).
- The hope is cost will drop with mass production.

Cost of Deployment

- Equipping stations to record and recalculate the cost of road user fee and deduction of fuel tax was estimated at \$15,000 per station.
- The system is predicated on the idea that vehicles will be equipped to collect the information necessary and download the data to the station recorders – no transponder costs are included.
- After 20 Years of deployment, ODOT estimates that 20% of revenue would be collected by road charge. About \$67 Million of \$400 M Fuel Tax.
- Slow ramp up due to reliance on new vehicles

Pennsylvania

Privatization or New Tolls

Pennsylvania Plan – Plan A

- Privatize Pennsylvania Turnpike
- 12.8 Billion upfront payment
- Bid for 75 Year Lease
- Tolls increase 25% in 2009
- Post 2009 by either 2.5% per year or CPI
- Albertus Infrastructure of Spain (59%) and Citi Infrastructure Investors of NY (41%)
- Authorizing of Bid stalled in Pennsylvania Senate as of September 20, 2008
- Current Tolls Revenue = \$612,408,000 in 2006

Privatize Turnpike

OR ---

Pennsylvania Plan – Plan B

- Add tolls to I-80
- 311 Mile Corridor
- In 2007, PA Legislature and Pennsylvania Turnpike Commission agreed to explore tolling on I-80. Act 44
- In October 2007, PA DOT agreed to lease I-80 to Penn Turnpike Commission for 50 years.



Pennsylvania Act 44

- July 2007
- Structured to provide 116 Billion Dollars in funding over a 50 year period.
- Average of \$1.67 Billion Payment each year for 50 Years from Penn Turnpike Authority.
- Starts at 750 Million in 2008 and rises over time.
- Tolling on I-80
- Increase in tolls on Pennsylvania Turnpike
- Issue Monetization Bonds based on future toll revenue.

The Split

- Current Split of Revenue from PTC
- \$229.2 Million Paid on April 29, 2008
- \$150 Million to Roads and Bridges
- \$79.2 Million to Public Transportation Trust Fund
- Projected to be 55.6% road – 44.4% transit split on funding.
- So 556 M for roads and 444 M for transit each year. Paid this year with bond issue.

Funding Needs

- \$1.013 Billion State Highway And Bridges
- \$.760 Billion Mass Transit Funding
- \$.660 Billion Shortfall in Interstate Funding
- Who should fill in these shortfalls?
- Governor Ed Rendell has been pushing for either I-80 Tolls or Penn Turnpike Privatization to fund a large part of this.

Pennsylvania and New Jersey Passenger Rail Systems



I-80 Plan

- Electronic Only Tolling
- Volume Discounts for toll payers with bills in excess of \$1,000 – large user
- Exemption from toll for two axle vehicles that pass only one toll gantry – local user
- Toll Revenue estimated at 468,141,540 in 2011.
- Out of state user tax/fee again?

Toll Increases

- Tolls on Penn Turnpike increase by 25% in 2009 and then 3% each year after 2009.
- I-80 Tolls would be set at similar levels to current Penn Turnpike tolls with 3% increases annually.
- 80 Million dollars in federal transportation funding of I-80 will be freed/diverted each year to other transportation projects in the state.

I-80 FHWA Ruling

- On September 11, 2008, the FHWA ruled against the proposal of tolling I-80 based on the use of toll funds to pay the \$1.0 Billion dollar lease payment each year.
- Tolls on I-System are restricted by FHWA under ISRRPP to only pay:
 - 1) Debt Service
 - 2) Reasonable Return on Private Capital
 - 3) Costs for Improvement, Operation and/or Maintenance of the Facility

Market Conditions

- Financial Market Turmoil creates problems for monetization
- Lower price for selling annuity payment of tolls – so lower concession value.
- Higher price for borrowing.
- Albertus and Citi just pulled bid on Penn Turnpike.
- Some indication that they overbid – given market conditions.
- How long will these conditions hold?

Are We Beyond Gas Tax?

- Gasoline Tax has low administrative costs.
- But, has failed to be indexed to inflation.
- Can we tax alternative fuels?
- Can all roads be self supporting?
- Should road users contribute to mass transit?
- How much?
- What method is regionally fair?



Thank You for Your Time
Questions or Comments?

Jonathan Peters
718-982-2958
jpeters@mail.csi.cuny.edu

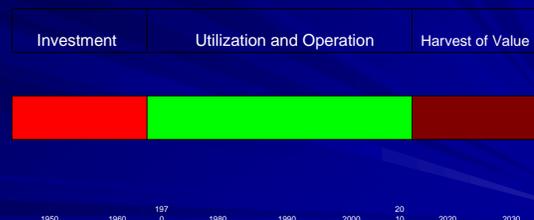
Robert Paaswell
paaswell@utrc2.org

Finance 101 – Firm Value

- Value of firm is based on:
 - 1) Level of Cash Flows – how much?
 - 2) Timing of Cash Flows – when and how many?
 - 3) Risk of Cash Flows – will they happen?
- So, as we examine toll road concessions, we need to look at each piece of this package to understand private firm value.

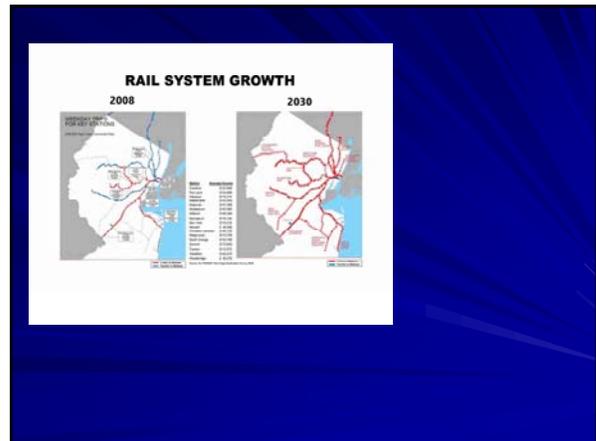
Life Cycle of Road?

Possible Life Cycle of New Jersey Roads?



Cause of New Jersey Road Values

- Locational value – where road is.
- Unique value – like a railroad right of way because it is in place and well located with clear title – not replaceable.
- Roads also created location advantages
- Long, stable toll collection history.
- NJ Roads – are Brownfield projects with high sale value due to all of the above.



Who Pays

- Who should pay for transport system?
- Businesses? Local Residents? National Government? Out of State Users?
- How much should they pay?
- What system should be built?
- How should we pay? Fees? Tolls? Fares?
- What is fair?
- Who gets benefits? Who pays costs?

Regional Equity

- Some parts of the state will bear a heavier burden for these costs than others.
- Areas with toll free roads are less impacted.
- Areas with mass transit alternative are less impacted.
- Areas with parallel toll free routes are less impacted by toll road – South NJ 295.

Asha Weinstein Agrawal, Director, MTI National Transportation Finance Center

Asha Weinstein Agrawal is director of the MTI National Transportation Finance Center at San José State University and an associate professor in the Urban and Regional Planning Department at San José State. Her research and teaching interests in transportation policy and planning include transportation finance, pedestrian planning and transportation history. Her completed publications include “How to Pay for Transportation? A Survey of Public Preferences in California,” with Jennifer Dill, in *Transport Policy*; “Unraveling Equity in HOT Lane Planning: A View from Practice,” with Gian-Claudia Sciara, in the *Journal of Planning Education and Research*; and “Congestion as a Cultural Construct: The ‘Congestion Evil’ in Boston in the 1890s and 1920s,” in the *Journal of Transport History*. Dr. Agrawal has a B.A. from Harvard University, M.Sc. from the London School of Economics and Political Science and a Ph.D. from the University of California at Berkeley. A complete list of her publications can be found at: <http://www.sjsu.edu/faculty/weinstein.agrawal/>.

California’s Experience with Financing Options Beyond the Gas Tax

Dr. Agrawal described recent changes in the revenue sources that California uses to fund its transportation system, and she discussed key lessons that California’s experience might hold for New York.

Dr. Agrawal reported that for roughly 15 years, California has made more use of tolling, including building new high-occupancy/toll (HOT) lanes and a few new tolled roads. A second change, and one that generates far more revenue, is increasing reliance on county-level, voter-approved sales taxes. Today, 19 of California’s 58 counties collect what are called “local-option sales taxes.” Dr. Agrawal added that the state recently issued voter-approved, general obligation bonds to fund transportation projects; she stressed that bond revenues are not true sources of revenue for the state. Finally, there has been discussion and legislative activity regarding a concept that Dr. Agrawal calls “green” transportation taxes and fees. These are taxes and fees set at variable rates, with higher rates for more polluting vehicles and lower rates for those that pollute less. Although such fees have not yet been adopted, several state legislators in recent years have introduced bills to create new green taxes and fees.

Dr. Agrawal recommended that as policy-makers choose among different potential transportation revenue sources, they should evaluate the options according to five criteria: revenue generation potential, ease of implementation, equity, transportation system performance and political feasibility. She explained that policy-makers often overlook transportation system performance, the extent to which a tax or fee encourages travelers to modify their behaviors to affect the performance of the transportation system — e.g., the potential for variably priced tolling to reduce congestion levels. Political feasibility has become increasingly important in California, since most transportation tax and fee proposals have come to before voters as ballot propositions.

In conclusion, Dr. Agrawal applied the evaluation criteria of transportation system performance and political feasibility to local-option sales taxes, tolling with congestion

pricing and green transportation taxes and fees. She said local-options sales taxes have been politically popular in California — voters in 19 counties have approved them, often by two-thirds majorities—but that these taxes bring no transportation system performance benefits. She did not recommend them as a model for New York. As for tolling, she explained that the new HOT lanes built in California bring transportation system performance benefits, since they provide a congestion-free alternative to parallel, non-tolled lanes. Californians have accepted the HOT lanes well. Finally, Dr. Agrawal said green transportation taxes and fees hold considerable promise; they can promote an important transportation system performance benefit by encouraging travelers to choose more sustainable transportation options. Also, green transportation taxes and fees fare well under the political feasibility criterion. Polls that Dr. Agrawal completed in January 2008 showed that Californians strongly supported several green tax and fees options. Further, when respondents were asked if they would support flat-rate or green versions of two taxes, their support for the green version was more than 20 percentage points higher in both cases.

Where Is Transportation Finance Headed in California?

Dr. Asha Weinstein Agrawal



MTI National Transportation Finance Center

CA Transportation Revenues: New Directions

- Local-option sales taxes

Presentation Overview

- California's transportation revenue sources: Past, present, and future
- Evaluation of current trends
- Suggestions for NY

CA Transportation Revenues: New Directions

- Local-option sales taxes
- Tolling, esp. HOT lanes

CA Transportation Revenues: The Old Standbys

- Motor fuel taxes
- Truck weight fees
- State sales tax on motor fuels

CA Transportation Revenues: New Directions

- Local-option sales taxes
- Tolling, esp. HOT lanes
- (General obligation bonds)

CA Transportation Revenues: New Directions

- Local-option sales taxes
- Tolling, esp. HOT lanes
- (General obligation bonds)
- **Green transportation taxes & fees**

Evaluation Criteria

- Revenue generation
- Ease of implementation
- Equity
- **Transportation system performance**
- **Political feasibility**

Presentation Overview

- California's transportation revenue sources: Past, present, and future
- **Evaluation of current trends**
- Suggestions for NY

Evaluating the Recent Trends

- **Local-option sales taxes**
- Tolling (with congestion pricing)
- Green transportation taxes and fees

Evaluation Criteria

- Revenue generation
- Ease of implementation
- Equity
- Transportation system performance
- Political feasibility



Evaluating the Recent Trends

- Local-option sales taxes
- **Tolling (with congestion pricing)**
- Green transportation taxes and fees

Polled Support for Flat vs. Green Fees

Tax/Fee Option	Support Level
Vehicle registration fee increase	
Flat	40%
Green	63
Mileage fee to replace gas tax	
Flat	28
Green	50

Evaluating the Recent Trends

- Local-option sales taxes
- Tolling (with congestion pricing)
- **Green transportation taxes and fees**

Presentation Overview

- California's transportation revenue sources: Past, present, & future
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- **Suggestions for NY**

Polled Support for Green Taxes/Fees

Tax/Fee Option	Support Level
Feebate program	65%
Green vehicle reg'n fee increase	63
Green mileage fee to replace gas tax	50

Suggestions for NY

- Local-option sales taxes: NO
 - Politically popular
 - No system performance benefits

Suggestions for NY

- Local-option sales taxes: **NO**
 - Politically popular
 - No system performance benefits
- Tolling (with congestion pricing): **YES**
 - Politically acceptable
 - Can provide congestion-free options

Suggestions for NY

- Local-option sales taxes: **NO**
 - Politically popular
 - No system performance benefits
- Tolling (with congestion pricing): **YES**
 - Politically acceptable
 - Can provide congestion-free travel options
- Green transportation taxes and fees: **YES**
 - Politically popular
 - Can improve environmental performance

To learn more:

At www.transweb.sjsu.edu

- *Transportation Financing Opportunities for the State of California*
- *"Green" Transportation Taxes & Fees* (top-line survey results available; report soon)

Contact Asha W. Agrawal

- 408-924-5853
- asha.weinstein.agrawal@sjsu.edu

Frank Mauro, Director, Fiscal Policy Institute

Frank Mauro is the executive director of the Fiscal Policy Institute (FPI), a nonpartisan research and education organization that focuses on tax, budget, economic and related public policy issues that affect the economic well-being and quality of life of New York State residents. Prior to joining FPI in February 1993, he was deputy director of the State University of New York's Nelson A. Rockefeller Institute of Government. He previously served as director of research for the last major revision of the New York City Charter; before that, he was secretary of the New York State Assembly's Ways and Means Committee. He also was the founding director of former Assembly Speaker Stanley Fink's Program Development Group and, in 1975, of the Assembly Office of Research and Analysis. He is a graduate of Union College in Schenectady, N.Y., and of Syracuse University's Maxwell School of Citizenship and Public Affairs in Syracuse, N.Y. He twice received the Air Force Commendation Medal for his work in the field of race relations.

New York State Funding Options

Mr. Mauro described New York State's diverse menu of taxes that it dedicates to transportation needs. The taxes were originally passed in 1981. At the time, there was both a petroleum gross receipts tax and a petroleum business tax. The gross receipts tax had a "no pass through clause" that was found to be unconstitutional. Variations of these taxes developed and eventually became the petroleum user tax of today. In addition, Mr. Mauro listed several other New York revenue sources in use for transportation, such as the auto rental tax, the corporate surcharge for the Metropolitan Transportation Authority (MTA), miscellaneous transportation revenues and some cash transfers from the General Fund.

The speaker assessed several past revenue sources as future possibilities. He said the real estate capital gains tax on property sales of more than \$1 million may be worth looking at again and noted the history of this program. This tax was initiated in 1981 as dedicated revenue for the MTA, but New York City Mayor Ed Koch lobbied successfully to repeal it. In the 1992 Democratic gubernatorial primary against Koch, Mario Cuomo highlighted this as a major campaign issue. After his election, Gov. Cuomo enacted it as a state tax; this existed until Gov. George Pataki's administration, when it was deemed to be the reason for a declining real estate market.

Mr. Mauro discussed other possible funding options for New York State:

- **Motor vehicle tax:** Change vehicle registration to an ad valorem tax, which would increase revenue and increase tax deduction among other things. Mr. Mauro noted this may not be politically viable.
- **Payroll tax:** For transit, Mr. Mauro recommended relying on the payroll tax, which can raise a lot of revenue with very low rates.

The Fiscal Policy Institute is assessing the issue of a regional payroll tax. If it is implemented, should there be a threshold before the tax is applied? In March 2008, the New York State Assembly passed a high-end payroll tax intended for budget balancing in

the first year; for both budget balancing and dedicated transportation funding the second year; and totally for dedicated transportation funding during the third year.

On Aug.19, 2008, however, the Assembly passed the legislation without dedicating it for transportation. Instead, lawmakers proposed a real property tax circuit breaker, offering property tax relief, thereby putting property tax relief in competition with transportation funding.

In conclusion, Mr. Mauro said building the case for public acceptance of additional funding may be more important than “where revenue sources are ranked based on rational criteria that tax policy analysts might have.”

Conference Attendees

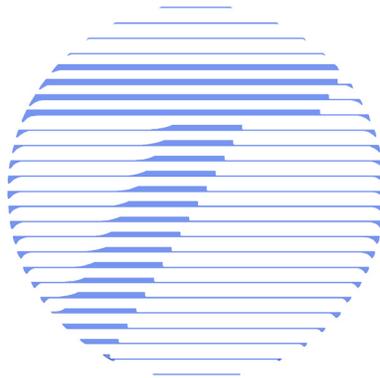
First	Last	Organization	First	Last	Organization
Asha	Agrawal	MTI National Transportation Finance Center	Mary Ann	Crotty	Macro Associates
Frank	Ambrosio	URS Corporation	Robert	Curtis	NYSDOT Policy & Planning
Carey R.	Babyak	NYS DOT	Luke	Day	City of Binghamton
David	Balthaser	Stantec	Fernando	de Aragon	ITCTC
Padraic	Banbrick	Weingarton Reid & McNally	Allison	de Cerreño	Rudin Center for Transportation Policy and Management
Ambrose	Barbuto	New York State Thruway Authority	Gilberto	De Leon	FHWA
Jack	Basso	AASHTO	Robert	Dennison	NYS Dept. of Transportation
Donald	Bell	NYS Thruway Authority	Kim	Devine	New York State Laborers
John	Bell	NYSDOT	Diana	Dibble	AAA Western and Central New York
Terry	Benczik	Port Authority	John	Dillon	Tioga Construction
Jim	Billings	Barta and Copvidic (BAC)	Richard	Drake	NYSERDA
Jim	Brady	Wayne County Highway Department	Barry	Dumbauld	Manager
Carol	Breen	NYSDOT	Penny	Eickemeyer	UTRC
Sue	Bristol	Mass. Executive Office of Transportation	Ronald	Epstein	NYSDOT
John	Bryan	NYS Thruway Authority	Pamela	Eshbaugh	NYSDOT
Jim	Calpin	Merrill Lynch	Joel	Ettinger	New York Metropolitan Transportation Council
Jennifer	Carroll	New York School Bus Contractors Association	Ken	Fagut	Alternative Vehicles
Thomas	Cascino	AECOM	Felice	Farber	The General Contractors Association of NY
Ronald	Centola	Dewberry-Goodkind, Inc.	Mike	Fazioli	FHWA
Mark	Centore	NYSDOT	Claire	Fisher	Fisher Associates
Maria	Chau	Federal Highway Administration - NY Division	Michael	Fleischer	NYS Thruway Authority
Scott	Chenet	Barton & Loguidice, P.C.	Carl	Ford	NYSDOT
Robert	Cherry	NYSDOT	Paul	Forte	Greenman-Pedersen, Inc.
Mary	Clark	NYS Senate	Emil	Frankel	National Transportation Policy Project
Kevin	Coen	Liberty Mutual	John	Franz	Shumaker Consulting Engineering & Land Surveying, P.C.
Tedi	Coleman	NYSDOT	Mark	Frechette	NYSDOT
Mario	Colone	SMTC	Andrew	Friedson	Syracuse University
Rich	Couch	The Crisis Program	Robert	Frye	RGRTA

Alfred	Fuller	TVGA Consultants
Matthew	Geitner	C&S Companies
Neil	Giacobbi	Environmental Defense Fund
Randy	Gibbon	Chenango County D.P.W.
Robert	Gibson	Ecology and Environment, Inc.
Keith	Giles	Greenman-Pedersen, Inc
Donn	Given	Slate Hill Construction
Hon. Astrid	Glynn	NYS DOT
Delen	Goldberg	Post Standang
Willy	Grimmke	Washington County
Dan	Hallowell	NYS DOT Region 4
Jay	Higle	NYS DOT
Charlotte	Holstein	F.O.C.U.S. Greater Syracuse
Frederick	Howard	Rensselaer County
Tanya	Husick	Cornell University
Jeff	Hyman	
Joe	Izzo	HDR
Rhea	Jezer	Cazenovia College
Todd	Kaley	Vantage Equipment
Camille	Kamga	UTRC
Alexandra	Kapla	Syracuse University (waer)
Jacqueline	Keller	FHWA - NY Division
Howard	Kelly	Thousand Islands Bridge Authority
Karin	Kennett	NYS Motor Truck Association
Eli	Khoury	HNTB Corporation
Philipp	Kornreich	Professor of EE, Syracuse University
Danielle	Krol	Syracuse Metropolitan Transportation Council
Susan	Kugler	NYS DOT
Joseph	LaBuz	Barrett Paving Materials, Inc.

Roger	Laime	AECOM
Richard	Landerkin	Central New York Regional Transportation Authority
Eric	Lee	Owego Harford Railway
Maria	Lehman	Bergmann Associates
Larry	Lennon	Parsons Br
Patrick	Lentlie	NYS DOT Office of Environment
Tariq	Lombardi, Jr.	
Orrin	MacMurray	C&S Companies
Bill	Magee	NYS Assembly
Frank	Marchese	New York State Laborers
Kenneth	Margrey	New York State Thruway Authority
John	Marschilok	NYS DEC
Michelle	Marto	MTA
Jason	Masters	Northern Biodiesel
Frank	Mauro	Fiscal Policy Institute
Mark	McAnany	Bergmann Associates
Gary R.	McVoy	New York State Department of Transportation
Dwight	Mengel	Tompkins County DSS
Frank	Mento	CHA
Harry	Miller	HOCTS
Stephen	Morgan	New York Roadway Improvement Coalition
Thomas	Mulvihill	KPMG
Michael	Nirenberg	NYS DOT
Christopher	O'Neill	Capital District Transportation Committee
Ken	Orski	Innovation Briefs
Scot A.	Owens	Barrett Paving Materials, Inc. (BPMI)
Rosalind	Paaswell	National Development Council
Robert	Paaswell	UTRC
Cynthia	Paddick	BMTS

John	Paddick	
Carlos	Padilla	FHWA
Marygrace	Parker	I-95 Corridor Coalition
Mark R.	Pawlick	Lochner Engineering PC
Lisa	Pelcher	NYS Dept. of Transportation
Jonathan	Peters	The College of Staten Island
Betty	Petrie	CNYRTA
Neysa	Pranger	Regional Plan Association
Chris	Rauber	City of Syracuse
Christina	Reale	Department of Aviation
Dave	Rettig	Regional Planning & Program Coordination
Mark	Reynolds	Northern Biodiesel
Anne	Reynolds	NYS DEC
Josh	Ribakove	NYS DOT
Terrence	Rice	Monroe County DOT
Denise	Richardson	The General Contractors Association of NY
Beverly	Sargis	NYS DOT
John	Seligman	SPECTRA
Michael	Shamma	NYS DOT
Steven	Share	CNYRTA
Linda	Shumaker	Shumaker Consulting Engineering & Land Surveying.
Frank	Simmons	Barrett Paving Materials, Inc. (BPMI)
Eugene	Sit	NYS Senate
Christine	Slocum	NYS Assemblyman Al Stirpe's Office
Patrick	Smith	Congressman Michael Arcuri
James	Stack	Genesee Transportation Council
Steve	Stallmer	Associated General Contractors
Harold	Stolper	US DOT / Volpe Center
Judith	Stone	SEMO
Charles	Stone	HAKS Engineers, Architects and Land Surveyors, PC

Sherry	Stouffer	NYS DOT
Philip	Street	NYS Tug Hill Commission
Rick	Swist	New York Public Transit Association
Dave	Teator	NYS DOT
Ed	Thute	M/H Magnaralli's Office
Leo	Tidd	Louis Berger
John	Trimble	C&S Engineers, Inc.
Mark	Turnquist	Cornell University
Richard	VenVertloh	LaBella Associates
Karl	Vilacoba	NJTPA
Meghan	Vitale	
Alan	Warde	NYS Dept. of Transportation
Patarick	Waterman	TYLIN International Company
Lynn	Weiskopf	New York State Department of Transportation
Lisa	Welch	Syracuse-Onondaga County Planning Agency
Donald	Western	Syracuse University Community Engagement & Economic
Paul	Wilke	C&S Engineers, Inc.
Joe	Willkens	Syrstone, Inc.
Timothy	Wilschetz	
Walter J.	Windus	Erdman Anthony
Michael	Wojnar	Washington Office of Governor David Paterson
Bette	Wood	
Russell	Wood	
Martha	Wooding	Merrill Lynch
William	Wright	Ontario County
Lisa	Wright	SPECTRA
Michael	Wyatt	NYS DOT
Tom	Young	Governor's Office
Kristina	Younger	CDTA
Bob	Zerrillo	NYS DOT



New York State Department of Transportation

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