

Letter from the Editor

Once again we produce this edition of the *Journal* as we enjoy the colors of the Fall and ponder the coming of another Winter (it is difficult to discuss the baseball post season as we have in the past after the Mets' incredible collapse). We can reflect on an unprecedented year for transportation in New York City – the rolling out of Mayor Michael Bloomberg's PlaNYC and Federal commitments for the East Side Access and Second Avenue Subways. However, some important business still needs to be addressed – notably, the proposed fare increases for closing the Metropolitan Transportation Authority's (MTA's) financial gap.

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**THE NEW VISION FOR MTA: AN
 INTERVIEW WITH ELLIOT "LEE" SANDER**

These are exciting times for the New York Metropolitan Region's public transportation agency, the Metropolitan Transportation Authority (MTA). After many years of planning, the agency has begun constructing the East Side Access and Second Avenue Subway projects, and has received federal funding commitments for the former and will soon receive one for the latter. Yet, the agency still faces significant challenges – the rising deficit, organizational issues including difficult labor relations in some of its operating agencies, and customer relations. Few people have been more prepared for the job than the current Executive Director and CEO of the MTA and former Director of the NYU Wagner Rudin Center, Elliot G. (Lee) Sander. Appointed to his position by Governor Eliot Spitzer at the beginning of 2007, Lee has attained experience through his more than 25-year long career in public positions of increasing responsibility. Even while in the private sector, he influenced public policy decisions through his role at the Rudin Center and as Co-Chairman of the Empire State Transportation Alliance (ESTA). Rachel Weinberger, Assistant Professor of City and Regional Planning at the University of Pennsylvania, and a member of the Journal's Editorial Board, recently interviewed Lee regarding his vision for the MTA.

RW: Lee, you have an impressive resume, Senior VP at DMJM Harris, Director of the Rudin Center, NYCDOT Commissioner, and many more. What prepared you most for the current position?

ES: If I had to pick one position that prepared me, it was being Commissioner of the NYC Department of Transportation (NYCDOT). NYCDOT was larger than either Metro-North Railroad (MNR) or Long Island Rail Road (LIRR), and the only entity larger at MTA is New York City Transit (NYCT). In terms of large agency dynamics, variety, and the press demands, NYCDOT has a similar feel. But at the MTA, it is just a little more intense.

I'm also very fortunate to have the broad spectrum of my professional experience, which has been helpful. The main focus in my career has been organizational change. That was true with my assignment in running the Division of Parking at NYCDOT, when I ran the Manhattan Bus Division for NYC Transit, and when I ran the Division of Housing and Community Renewal (DHCR)'s Office of Rent Administration. Similarly, my work in the private sector at Frederick R. Harris and then DMJM Harris in running their New York and then Metro Group office also involved a significant element of organizational change. On the policy side, my work in Albany at the

New York State DOT and at Rudin Center has been invaluable.

RW: Looking forward then, what do you hope to accomplish in the next four years?

ES: I would like the MTA to be the best in class of large, older public transportation agencies in the world. I have identified seven areas of strategic focus that we will be working on aggressively to help get us there.

First, I want to dramatically improve workforce development at the MTA. That includes our formal relationship with organized labor, how we interact with our workforce, and how we deal with issues such as succession planning and executive development. One of the major challenges we're facing is the retirement of a lot of our long-term skilled employees. This is a problem throughout the public sector. We have not done enough to train their replacements or to address the issue of ensuring that we are doing enough to both attract and groom the kind of talent that is required to manage the MTA. This is an issue at all levels of the organization.

Second is institutional reform. There's a need for significant institutional reform at the MTA. We have seven different agencies that have

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Sander interview (Cont. from page 1)

essentially been run as independent organizations. This is incredibly inefficient. In a 21st-Century world where the objective is to break down boundaries and create value through synergy, the MTA, as currently constituted, is the antithesis of a well-integrated, "flat" organization. This is particularly important in a post 9/11 world where we need to optimize system redundancy in the event of an emergency, or when we want our customers to feel some element of uniformity in the system, and where we want to maximize opportunities for our employees for career development. My objective is to run the MTA like one integrated organization with the agencies operating as large, semi-autonomous, but well-integrated units.

RW: Can you give some examples?

ES: Sure. We are beginning to operate MTA Bus, NYCT Bus, and Long Island Bus in a coordinated manner. We have recently appointed one chief transportation officer for both the NYCT Buses and MTA Bus, who is responsible for road operations for both entities. Similarly, we now have one chief maintenance officer for both organizations.

RW: And that used to be multiple positions?

ES: Yes, until about a month ago. We're working hard to bring the commuter rail and bus entities together in areas that are common, like procurement, training, road operations and executive development. We want the agencies operating in a parallel manner, and we're looking at identifying more areas where there can be joint development or resource optimization. On the personnel side, if we have a Deputy Superintendent in LI Bus who has the talent to be promoted, I want to be able to give that person the opportunity, if there's an opening, with MTA Bus or NYCT Bus. Likewise we can train managers at MNR and then they can be promoted to more senior positions at LIRR without an unusually painful transition. That creates career opportunities that we didn't have, and this initiative feeds into our workforce development agenda as well.

Also, in terms of back office functions, we are moving aggressively on shared services. The vision is ultimately to have these support services provided by MTA. It does not make a great deal of sense to have separate pension units at NYCT, MTA Bus, and LIRR. We're going to consolidate as many of those back office functions as we can.

RW: What about route consolidation?

ES: Right now there is a great deal of inefficiency and redundancy in the bus systems. We have routes operating from depots that are not necessarily closest to the routes. This is a legacy of the different operating entities. For example, routes that are operated by MTA Bus could be operated more efficiently from a NYCT Bus depot. But I need statutory permission to do the full route consolidation. While we work on getting statutory permission to do that we are busy working on the managerial and support services. And we are trying to do this in a collaborative way with our unions.

" Two of the most significant things we have done so far are to put in place a team and to articulate a broader vision for the MTA."

We think there are savings to be had, but it is not just about savings, it also provides better service to the public and promotes the vision of a more integrated and capable MTA.

We are also talking about inter-operability. Our customers often use more than one of our agencies. They use the entire MTA network, for example coming in on the LIRR and then taking NYCT subways. But beyond that, we are advancing the concept of regional transit inter-operability. We are looking aggressively to see how we can operate MNR on LIRR's network and vice versa. The first major step in that direction is our commitment to operate a one-seat MNR/New Jersey Transit (NJT) ride from MNR territory to the Meadowlands. There are numerous labor issues, equipment issues involving NJT, the MTA, and Amtrak – which is yet a third organization in the mix – but we expect to initiate this service by April 2009. This is "revolutionary" in the context of the MTA.

RW: How well would you say your management team is equipped to handle the institutional changes you are making?

ES: Two of the most significant things we have done so far are to put in place a team and to articulate a broader vision for the MTA. I have a team of extraordinary transportation professionals. We have been fortunate enough to both retain some of the great talent we had here, as well as bring in other strong talent. In addition, we have been able to bring back to the MTA some extraordinary people. These include Howard Roberts, Helena Williams, and Hilary Ring. In some cases retaining talent, people like Bill Wheeler, Linda Kleinbaum, Bill Morange,

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Chris Boylan, and Gary Dellaverson, in some cases promoting outstanding talent like Susan Kuperfman, and in other cases recruiting new talent like Jim Henly, Ernest Tollerson and Jeremy Soffin.

The vision and values I have begun to articulate reflect the Governor's and my feeling of where the MTA needs to go. It's consistent with the Board's vision and everybody, for the most part, appears to be on board. I've worked hard at developing close working relationships with the Board members. With the group of outstanding professionals and the vision we have I think we are well positioned to move ahead.

RW: What's number three?

ES: The third area is customer service. Earlier in the year we had a weekend service diversion for the No. 7 line and it was not going well. Everybody, at all levels of the organization realized it. One general superintendent told me "we knew we were losing our customer focus and it was going to catch up with us." And so we were able to, in the case of the weekend diversions, change our course and ultimately have a very strong response. We implemented a variety of actions that significantly improved the service to the customers, like dramatically improved signage, additional customer service agents, and extending our service from 74th and Roosevelt to 61st and Woodside, which we always had the capability of doing.

A new initiative that Howard Roberts has begun to implement is a rider report card. This is something he and I talked about when we were running the NYCT Bus System in the '80s. Howard then implemented it fully at SEPTA, and he found it to be very helpful. He actually was able to increase the grade in Philadelphia. And so implementing that process is significant in terms of system-wide customer service. We are now engaged in specific improvements in response to that report card. Both of us are very excited about it. There are various other improvements that we are in the process of doing or have already done, whether it is at NYCT, LIRR, or elsewhere, to improve customer service.

The fourth piece is system expansion, system improvement and planning. We have a huge agenda both in terms of the mega-projects and in terms of implementing the new technologies that will enable us to have better public information, better real-time control of our trains, and faster movement of our buses.

In addition to these areas, we are focusing on security, sustainability, and implementing a viable financial plan for the next several years. Regarding security, we need to make sure the system is as secure as possible, as we have been a target of Al-Qaeda and others. On sustainability, we recently announced a Blue Ribbon panel that will help us develop a master plan to improve our ecological footprint. And on finances, we need to continue to work hard with the Governor and the Legislature to ensure we have adequate support for our operating and capital budget.

RW: Speaking of sustainability, how does the Mayor's sustainability plan affect you?

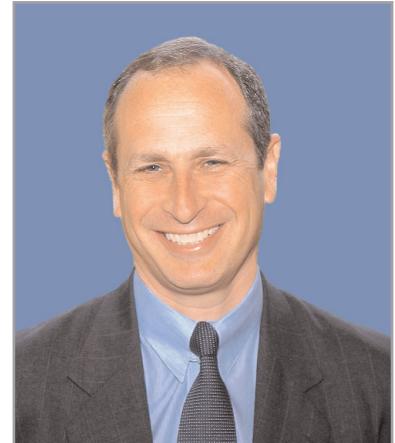
ES: I'm very supportive of the Mayor's plan. I worked very closely with the Mayor and Deputy Mayor Doctoroff when the Mayor released PlaNYC, especially the congestion pricing component because I feel strongly that the concept of congestion pricing is critical to the city and to the region. I'm pleased to have been named by the Governor to the Congestion Mitigation Commission. The MTA worked very hard, standing shoulder to shoulder with the City, on the Urban Partners application to seek federal support for the MTA's operating and capital budget.

In terms of how it affects us, it has some major impacts. We will have an extraordinary amount of additional work to do. We are looking at operating approximately 360 new buses, we anticipate major service changes and we will have to acquire additional bus storage space. We feel that the benefits are absolutely worth doing this. It's our job and it's the best way forward for the region.

One of the things we're looking at creating over the next several months here is the MTA's own vision for mobility in the region over the next 25 years. While we're very appreciative of the Mayor's vision, it is just for the five boroughs. We have a broader network and the MTA does not yet have in place the kind of strategic vision from a public transportation standpoint that we need to meet the challenges of 2030 on a regional basis.

RW: You mentioned media demands when you compared the MTA with your experience at NYCDOT and I think hardly a day goes by that we don't read something about the MTA in the paper, sometimes fare hikes, sometimes maintenance issues, security, etc. How accurate is the coverage?

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Elliot G. Sander was recommended to the position of Executive Director and Chief Executive Officer of the Metropolitan Transportation Authority (MTA) by Governor Eliot Spitzer on Dec. 15, 2006, and appointed by MTA Chairman Peter Kalikow on January 2, 2007. Mr. Sander oversees an organization that provides 2.4 billion subway, rail, and bus trips each year to New Yorkers – the equivalent of about one in every three users of mass transit in the United States, and two-thirds of the nation's rail riders. MTA Bridges and Tunnels carry more than 300 million vehicles a year – more than any bridge and tunnel authority in the nation.

Mr. Sander has over 25 years of public and private sector experience executing high profile transportation programs and projects in the New York metropolitan area. He is a former Senior Vice President at DMJM Harris, a global transportation infrastructure firm; and former Director and Founder of the Rudin Center for Transportation Policy and Management at the Robert F. Wagner Graduate School of Public Service at New York University.

In his public service career he has served in a variety of positions, including Commissioner of the New York City Department of Transportation (NYCDOT); Commissioner of the New York City Taxi and Limousine Commission; Director of Transit for New York State Department of Transportation; Deputy Commissioner for the New York State Division of Housing and Community Renewal, where he oversaw the State's rent regulatory system; Assistant General Manager for MTA New York City Transit, where he ran the Manhattan Bus Division; and Executive Director of Operational Services at NYCDOT, where he oversaw the City's municipal parking system and borough traffic engineering. Mr. Sander's work in effecting organizational change and influencing state transportation policy has been covered extensively in the *New York Times*, *Governing Magazine*, and other written and electronic media.

Mr. Sander began his career as a budget analyst in the New York City Office of Management and Budget. He is a graduate of the School of Foreign Service at Georgetown University.

SURFACE, AIR, AND WATERWAYS: FOCUSING IN

FROM MEGALOPOLIS TO MEGAMODAL: THE FUTURE OF TRANSPORTATION IN THE NORTHEAST CORRIDOR

BY ALLISON L. C. DE CERREÑO, PH.D.

Home to some of the most densely populated regions of the country, over 42 million people (15% of total U.S. population), and a \$1.99 trillion economy (2005), the Northeast Corridor (NEC) is also plagued by some of the most congested roadways, air, and railway infrastructure in the country, both with regard to passengers and freight.¹ With very limited ability to expand transportation capacity, particularly in terms of highways and airspace, developing an actionable and effective vision for an integrated transportation system in the Northeast Corridor is critical. Such a vision needs to not only effectively link all the modes throughout the Corridor, but also needs to grapple with the task of determining the most rational use of each of them for passengers and/or freight.

Given that almost half of all U.S. transit riders and over three-quarters of U.S. rail commuters reside in the NEC, such a vision needs to include intercity rail as the backbone of the system.² A high-speed, efficient, and reliable intercity rail service could help address congestion problems in the air by providing a ground-based alternative to air travel for trips shorter than 500 miles, and could alleviate highway congestion (where the bulk of current freight movements take place in the corridor) by making rail attractive for trips of more than 100 miles. Such service could also generate economic benefits by making it possible for daily intercity commuting, allowing businesses to draw off a much larger base for employees, and allowing employees to look for jobs or affordable housing beyond their immediate urban centers.

However, while arguably the best intercity service in the nation, the Northeast Corridor's intercity rail service still falls short of its global competitors in Europe and Asia in terms of reliability, efficiency, and travel times. While France recently tested a high-speed train that can reach maximum speeds of 357 miles per hour (mph), and Shanghai's Maglev system zips along easily at 268 mph (with higher maximum speeds), and while Japan's soon-to-be older generation Shinkansen reaches speeds of 186 mph, the NEC's Acela — the flagship of intercity passenger rail in the United States — brings up the rear with maximum authorized speeds of only 150 mph on only 33.9 miles of the entire length of the corridor.³

To bring the Corridor's intercity rail service to a point that not only entices passengers from automobile and air, but also makes possible the economic linkages described above, several things need to happen. First, the NEC rail corridor needs to be brought up to a state of good repair. Second, policy decisions (and corresponding

funding to support them) need to be made to allow for a true high-speed intercity rail system that is both closely linked with the aviation industry, and is supported by transit networks in the cities it connects.

Turning Threats into Opportunity

For over 40 years, proponents of high-speed rail (HSR) have been trying to develop such systems in the United States with little success. Nevertheless, there are several threats coalescing, regionally, nationally, and even globally, which could provide a key opportunity for gaining the political and financial support necessary for HSR along the NEC.

Congestion. Rail offers one means for alleviating congestion on the increasingly crowded highways and airways throughout the northeast. Along the entire Corridor, roadways are clogged with passenger and freight traffic. In 2005, travelers on the roadways along the NEC experienced over 867 million hours of travel delay, for a total cost of over \$14.6 billion.⁴ The experience for trucks is similar with between 750,000 and 1.2 million annual truck hours of delay

"...with very limited ability to expand transportation capacity... developing an actionable and effective vision for an integrated transportation system in the Northeast Corridor is critical."

around every major city in the Corridor.⁵ In fact, congestion along I-95 actually now extends beyond the NEC and as far south as the Carolinas.

Airspace is also increasingly congested. According to the most recent Terminal Area Forecast Summary, projected growth in enplanements by 2025 for the largest five airports in the corridor ranges from 62.8% (General Edward Lawrence Logan International, Boston, MA) to over 128% (Washington Dulles International,

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Figure 1. Tons/Millions of Passenger Miles (Selected Pollutants)

Pollutant	Rail	Air	Car
VOC	0.084	1.582	0.703
CO	0.703	2.619	5.981
NOx	1.214	1.164	1.955

Source: MHSRA, http://www.midwesthsr.org/whyRail_cleaner.htm

Washington, DC). By 2025, enplanements at John F. Kennedy International (New York City, NY), Newark Liberty International (Newark, NJ), and Philadelphia International (Philadelphia, PA), are expected to increase by 91.6%, 88.5%, and 96.3%, respectively.⁶ Moreover, according to the Federal Aviation Administration, even if all current planned improvements are made at John F. Kennedy International, Newark Liberty International, and Philadelphia International airports, each of them will still need more capacity by 2025.⁷ Air cargo is also growing, albeit at a more modest rate than passenger travel. According to the Airports Council International, cargo volumes over the twelve-month period ending in February 2007 grew by 1.3% at John F. Kennedy Airport, and by 2.1% at Newark Liberty International Airport.⁸ As congestion reaches a point where there is no more capacity to be found, and as costs increase and productivity is lost, rail can provide an important means for moving additional passengers and freight.

Environmental and Health Concerns. Environmental and health concerns are increasingly making headlines, both in terms of greenhouse gas emissions and pollutants being linked to asthma and other debilitating conditions. Transportation is the second largest producer, after electric power generation, of carbon dioxide (CO₂). In 2006, the transportation sector contributed roughly one-third of all U.S. CO₂ emissions.⁹ This share is expected to grow through 2025. In 2002, the transportation industry was also responsible for 77.3% of carbon monoxide (CO) emissions. CO indirectly increases global warming by indirectly affecting levels of other direct greenhouse gases like methane and ozone.¹⁰ Ozone, created by the mixing of volatile organic compounds (VOC) and nitrogen oxides (NOx), in the presence of heated sunlight, has also been implicated in lung problems and increased asthma attacks.¹¹ In 2002, 54.3% of the total NOx emissions in the United States, and 43.7% of the emissions of VOC, resulted from the transportation sector.¹² Transportation is also responsible for emissions of ammonia, sulfur dioxide (SO₂), and particulate matter, all of which are of concern to health and the environment.

One must be careful at comparing emissions across mode, since there are many intervening factors (e.g., climate, type of locomotive engine, power generation mix). However, broadly speaking, rail does produce fewer emissions of several key pollutants (Figures 1 and 2).

Security. With respect to transportation, the debate since September 11, 2001 has revolved primarily around how best to ensure the security of passengers and freight. However, there are two other ways in which security concerns become an opportunity for rail.

- **Redundancy, Resiliency, Robustness.** Central to enhancing security is increasing redundancy (the availability of alternate options), resiliency (the ability to recover from an event), and robustness (the inherent strength to withstand an event without degrading). In transportation, this means providing alternate and well connected modes so that if something were to occur — either a human-made or natural catastrophe — other means would be available for continuing to move passengers and freight. In fact, on September 11, when planes around the country were grounded, most rail lines continued to run, providing vital connections, especially on the east coast.
- **Energy.** A key U.S. policy goal is lowering our reliance on foreign petroleum. By sector, transportation accounts for the largest share of petroleum usage in the United States, with over two-thirds of all petroleum used in transportation in 2005 (Figure 3).¹³ Energy consumption in the transportation sector is almost entirely based on petroleum (98%).¹⁴ By mode, highway vehicle travel accounts for 85% of petroleum used in transportation, air travel accounts for 9%, and the remainder (6%) represents a combination of rail and waterborne travel.¹⁵ Rail tends to be more energy efficient than motor vehicles. For example, the U.S. Department of Energy cites rail as being roughly 11.5 times more efficient (in terms of Btu/ton mile) than trucks.¹⁶

Letter from the Editor (Cont. from p. 1)

In her lead article for the *Journal*, Rachel Weinberger interviews Elliot G. (Lee) Sander, Executive Director and CEO of the MTA, and our former publisher and Director of the Rudin Center. In his interview with Rachel, Lee talks about the challenges facing the MTA and his vision for the agency.

In a timely article on **Financing Transportation**, Linda Spock discusses research she conducted for the Rudin Center regarding programmed transit fare increase policies. Linda presents policies that have been initiated by some transit properties in the United States and London, and their experiences in implementing them.

Sustainable Development continues to be a hot topic in the New York suburbs. In a **Suburbs of New York** article, Gerry Bogacz of the New York Metropolitan Transportation Council (NYMTC) describes the continuing efforts to establish a sustainable development program on the eastern end of Long Island.

A key component of PlaNYC, is Bus Rapid Transit (BRT). In a **Beyond the Region** article, three authors — Paul Noumba, Gyeng Chul Kim, and Patchareorn Talvanna — write about the implementation of the BRT system in Seoul, South Korea.

Finally, as has been discussed in many editions of the *Journal*, and will be the focus of this year's Fall Conference, the congestion of the Northeast Corridor's air and surface transportation system need to be addressed if the NEC is to remain competitive internationally. In a **Surface, Air, and Waterways** article, Allison L. C. de Cerreño introduces a megamodal approach that looks at all transportation modes along the entire corridor, and begins to develop a vision for how passengers and freight can most effectively share the system while creating the highest levels of mobility and access for both people and goods.

As always, we hope that you enjoy reading this edition of the *Journal* and find it informative.



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FINANCING TRANSPORTATION

PROGRAMMED TRANSIT FARES: KEEPING UP VERSUS CATCHING UP

BY LINDA M. SPOCK

Transit fares have been making headlines in recent months as major transit agencies in the New York metropolitan region have announced fare increases or plans for fare increases. In May 2007, NJ Transit implemented a fare increase averaging 9.6 percent, while maintaining that "fare increases are always an option of last resort." More recently, the Metropolitan Transportation Authority (MTA) disclosed the need for a series of subway and commuter rail fare increases in future years. While public reaction has been mixed, the use of regular, pre-planned or "programmed" fare increases is not new to the transit world.

Based on a literature review and extensive, in-depth interviews with transit agency officials across the country and in London, a soon-to-be released NYU Wagner Rudin Center study summarizes the experiences of a number of transit agencies which have implemented fare increases on a scheduled, regular basis instead of trying to institute them on an "as needed" basis.

The Experience with Programmed Fare Increases

Some agencies have had as much as several decades of success with programmed fare increases. For example, the predecessor agency of today's Transport for London (TfL) began raising bus and subway fares annually and generally by a little more than the inflation rate in the mid-1980s. Around that same time, Lane Transit District (LTD) in Oregon established its own fare policy with annual incremental fare increases, which is still being used today. However, LTD uses a different approach, rotating the annual increases among fare types (cash, token, or individual pass) so that customers have the option of switching to a fare type which has not increased over the previous year's fare. Also in Oregon, TriMet, the Portland area transit operator, began raising fares by a nickel every other year in 1988 which it then changed to annual increases ten years later in order to keep up with escalating costs. There is no standard formula or specific index used by TriMet in setting fare increases each year. The size of the fare increase is pegged to the increase in total costs in TriMet's annual budget proposal, though the agency does consider the Consumer Price Index (CPI) and its targeted 25 percent farebox recovery ratio in settling on proposed fare increases each year. Generally fare increases coincide with service/route changes in September of each year so that all customer materials can incorporate new information at the same time on an annual cycle. In practice, all fares have continued to rise by about a nickel (though on an annual basis now, rather than every two years); rounding to the nearest nickel results in differing percentage increases, but on average represents a two to three percent change. Describing the increases as "more of a practice than a formal policy," TriMet echoes other agencies' motivations

"... customers appear to be willing to pay increasingly higher fares on a regular basis if they feel they clearly benefit from reliable transit service; the agency does its fair share in contributing to the most efficient and cost effective operation possible; and the fare increases are small and predictable."

of trying to keep up with the cost of service so as to avoid larger "catch up" increases believed to have more of a negative impact on ridership.

A number of other agencies, all in the Western United States, also use programmed fare increases. The Bay Area Rapid Transit District (BART) in the San Francisco Bay area is one of the most recent to adopt such an approach, using a very detailed CPI-based formula to calculate biennial fare increases. The Regional Transportation Commission (RTC) in Reno, Nevada also recently introduced programmed fare increases, though on an annual basis and with a more flexible methodology to allow its fares to reflect actual increases in cost which often exceed escalation in the CPI. Interestingly, the change in RTC's fare policy was made in response to customer surveys indicating a preference for smaller, more frequent fare increases. Metrolink, the regional rail system in Southern California, began a similar annual fare increase procedure in 2004, to be implemented over a ten year period in combination with fare restructuring, but expects uniform fare increases to continue annually thereafter in order to avoid reducing service in the context of limited subsidies available from its member agencies. Golden Gate Transit and Golden Gate Ferries (in the San Francisco Bay area) are both in their second Five-Year Transit Fare Program, under which fares are increased up to five percent each year, unless the Board finds actual cost escalation has been lower and chooses to implement smaller fare increases. Elsewhere, Denver's Regional

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Transportation District (RTD) is another agency that has shifted to periodic fare increases, programming them to occur every three years, but with the flexibility to propose more frequent changes in fares if the circumstances warrant, as they did in 2006 when the agency found itself confronting the rising cost of diesel fuel. Finally, Washington State Ferries reacted to a sudden elimination of a major funding source with annual increases beginning in 2001 to meet its farebox recovery targets.

Good for Both Agencies and Their Customers

Agencies included in the upcoming study consistently reported numerous benefits of programmed fare increases. As noted by TfL, "It's worked for us to have a framework of regular increases. It makes it easier to plan by removing one degree of uncertainty from the process." Several agencies, including BART, Golden Gate Transit, and Golden Gate Ferries, see their regular fare increases as an important element of providing financial stability. Moreover, agencies report that because such fare hikes are predictable and typically smaller in magnitude, this approach has proven more acceptable to their customers. Larger increases that are necessitated by longer time periods between fare adjustments can be more difficult for customers to budget. At the same time, an agency's inability to keep pace with costs as a result of less frequent increases makes it difficult to meet operational and capital programming needs. In short, multi-year capital programs can be implemented more effectively, and service levels can be maintained, when coupled with predictable and growing sources of funds. What seems to matter to the customer is that fare increases occur as expected. Customers realize that costs go up over time and while they may not like fare increases, they accept them as necessary for agencies to sustain and improve service levels.

Keys to Success

Gaining and sustaining customer understanding and acceptance of programmed fare increases is critical to their success. The experience of agencies with such policies in place offers a number of lessons learned in this regard:

- BART emphasized the value of using a widely known and understood measure – inflation – and expressing in very clear and understandable terms to its customer exactly how the increases are

calculated and implemented.

- Golden Gate Transit and Golden Gate Ferries stressed the importance of customers feeling they are getting adequate service and the agencies' demonstrated willingness to make cost cuts, including administrative reductions, as part of an overall strategy to meet fiscal challenges.
- Washington State Ferries' experience reveals the importance of communicating how the agency is funded and the constraints on the agency's ability to control costs, or in an agency representative's words, "be[ing] transparent over where money comes from and where it goes."

Providing multiple opportunities for customer input on service and fare issues, such as open board meetings, public hearings, advisory groups, etc., also appeared to be an important factor for most of the case study agencies. Connecting all these keys, in essence, is the importance of transparency and trust when implementing programmed fare increases.

Concluding Observations

At a time when the question of what alternatives exist for financing transportation is at the forefront of discussions on all modes, this study demonstrates that one method – programmed fare increases – is viable across a range of transit agency sizes, organization types, and funding structures. Moreover, customers appear to be willing to pay increasingly higher fares on a regular basis if they feel they clearly benefit from reliable transit service; the agency does its "fair share" in contributing to the most efficient and cost effective operation possible; and the fare increases are small and predictable. Finally, based on the experiences of the agencies in the study, when public acceptance and political support exist for a specified level of funding which fares must contribute, implementation of programmed fare increases may be easier to achieve.

Instituting programmed fare increases may become increasingly attractive as a tool to meet funding gaps, particularly as transit agencies face growing maintenance needs on aging systems in parallel with demand for expanding service. These case study experiences provide a resource for other transit agencies to consider. ♦

EXAMPLES OF PROGRAMMED FARE INCREASES

BAY AREA RAPID TRANSIT (BART), CALIFORNIA

Frequency of increases: Every two years through 2012.

Basis for the increases: An explicit formula that uses average change in the Consumer Price index (CPI), less a productivity factor valued at a half percent.

Magnitude of increases: 3.7% in 2006; 5.4% increase to be implemented in January 2008.

LANE TRANSIT DISTRICT (LTD), OREGON

Frequency of increases: Annually, but rotated among fare types (e.g., cash, token, individual pass) so no increase in at least one fare type each year.

Basis for the increases: Three-year rolling average of LTD costs.

Magnitude of increases: Varied from 2.9% to 10% since 2004.

METROLINK, CALIFORNIA

Frequency of increases: Every year on July 1, beginning in 2004.

Basis for the increases: No particular formula or index applied; based on growth in agency's expenses tempered by what customers can afford.

Magnitude of increases: 3.5% to 5.5% system-wide average.

REGIONAL TRANSPORTATION COMMISSION (RTC), NEVADA

Frequency of increases: Annually.

Basis for the increases: Inflation index, based on the Western Urban CPI rolling five-year averages (used as a guideline); this is the same index used to adjust the RTC fuel tax rates.

Magnitude of increases: 2.62% in 2006, and 2.94% in 2007.

TRANSPORT FOR LONDON (TFL), UNITED KINGDOM

Frequency of increases: Annually.

Basis for the increases: Retail Price Index plus some percent.

Magnitude of increases: Varies.

THE SUBURBS OF NEW YORK: SUFFOLK COUNTY

LONG ISLAND EAST END'S ODYSSEY TOWARD SUSTAINABILITY

BY GERRY BOGACZ

Take five towns and ten villages. Spread them out over a natural cul-de-sac made up of two peninsulas at the eastern end of a hundred-mile long island. Make them stewards of a beautiful natural area that attracts tourists, vacationers and second home owners in large numbers, more than doubling their year round residential population. Season them with different local concerns and political contexts and give them individual control over development decisions in an area where roughly 40% of the developable land is currently comprised of agricultural uses. Mix thoroughly and heat with development pressures and at times overwhelming traffic congestion. Welcome to Long Island's East End.

What is needed to work toward sustainability in a situation like this? How can local towns and villages achieve a sustainable future? These are the critical questions that define the struggle of the East End's municipalities over the last decade to formulate a sustainable future for their very unique area. They have taken steps into uncharted territories such as experimental planning studies, joint discussions with transportation agencies, and inter-municipal agreements to pursue common planning themes. Their efforts were and are equal parts saga and primer which provide a fascinating case study and guidebook for the rest of the region.

In the Beginning...

In the late 1990s, the East End entered into a larger regional experiment. The New York Metropolitan Transportation Council (NYMTC), a regional council of governments charged with coordinated regional transportation planning in New York City, suburban Long Island and the Lower Hudson Valley, had begun to work with local municipal planners in its region to identify areas that presented conditions appropriate for testing a new approach it was developing to integrate land use and transportation planning. The East End Supervisors' and Mayors' Association (a confederation of the area's municipal officials) saw the East End, with its combination of traffic congestion and development pressures, as a potential setting for this pilot approach toward a sustainable future. The Association actively sought to have the East End host one of these new "Sustainable Development Studies." Responding to the local expression of interest, the member agencies of NYMTC agreed to include the East End as one of the four pilot studies.

The planning initiative that resulted was given the name Sustainable East End Development Strategies, or SEEDS, by the East End's municipalities. The symbolism of the acronym

reflected both the agricultural heritage of the area and the municipalities' desire to use this planning work as a kernel from which a consensus on a sustainable future might grow.

The Process

The SEEDS initiative officially kicked off in April 2001, as a partnership between the Association and NYMTC's Long Island members – Suffolk County, the MTA Long Island Railroad, and the Long Island regional office of the New York State Department of Transportation. Through SEEDS, these partners set out together on an odyssey that would not reach its official conclusion until

December of 2005. Along the way, an extensive program of community issues scans and visioning sessions yielded thousands of ideas and points of information that were considered and molded into five potential land use futures and five potential transportation futures.

Using simulation modeling, the technical capabilities of NYMTC and the consultant team selected to assist in the initiative were then brought to bear in

forecasting the outcomes of every combination of these potential futures. A public process was employed to develop sets of quantitative and qualitative performance measures that were used to judge the resulting forecasts from each combination of potential futures. The modeling output was processed using the performance measures and then presented back to the East End communities through another series of community meetings and workshops.

Despite the time that was needed to execute an integrated planning process on this scale, the results of the future forecasts were ultimately discussed and debated publicly and among the East End's planning and elected officials. Those discussions were fruitful, yielding a preferred land use future and a related set of transportation improvements that, if executed together, would sustain one another. At the regional summit of elected officials that concluded the planning portion of the SEEDS process in December 2005, the participants were able to come together over this shared, sustainable vision of the East End's future.

Gerry Bogacz is Director of Planning at the New York Metropolitan Transportation Council (NYMTC).



The Vision

The agreed upon SEEDS Concept Plan contains two major visions. On the land use side, the SEEDS process and technical analyses underscored the potential negative transportation impacts of future build-out under existing local master plans and zoning ordinances. To avoid these, the consensus land use vision that emerged from SEEDS calls for a reduction

"...it is a vision developed by the municipalities themselves and their interested residents and stakeholders – not imposed by other entities."

in overall future development in the East End municipalities, for the focusing of new land use development in and around a series of new hamlet centers, and for continuing efforts to protect agricultural and open space.

The consensus transportation vision seeks to exploit these preferred land use characteristics in order to reduce the overall growth in vehicle trips to the greatest extent possible. It features the implementation of integrated intermodal transportation hubs in alignment with the hamlet centers where growth will be focused. These transportation hubs will accommodate increased rail and bus services, and demand-responsive feeder/distributor services and shuttle bus services in varying combinations, depending on their locations. The hubs will also feature functional attributes such as park & ride facilities, bicycle parking, and a range of passenger amenities appropriate to specific locations. The transportation vision also brings transportation management strategies to bear to maximize the efficiency, safety and accessibility of the East End's roadway network, rather than expanding roadway capacity.

With the advent of the consensus reached through SEEDS, the East End's municipalities achieved a long-sought milestone: a common

long-range vision for the development of the East End. It is a vision that is sustainable. It balances growth focused in hamlet centers and the preservation of the East End's unique character. It takes steps to mitigate anticipated growth in vehicle trips by reducing build out, increasing walkability, and defining innovative ridesharing and public transit opportunities. And, it is a vision that channels development pressures away from fragile agricultural and natural areas. Most importantly, it is a vision developed by the municipalities themselves and their interested residents and stakeholders – not one imposed by other entities.

Where to Go From Here...

As significant as the achievement of this milestone is, it does not mark the end of the East End's journey toward sustainability. Now the real work of implementation has begun, and the consensus that emerged from the SEEDS initiative must weather time and the inevitable tensions that will arise during implementation as a result of the myriad decisions needed to make the vision a reality.

However, a further foundation for implementation has been recently laid with the announcement by the Association that all five towns and six of the constituent villages have signed an unprecedented inter-municipal memorandum of understanding to work jointly towards the consensus future vision that emerged from SEEDS. In response, the East End Transportation Council is developing a Land Use Subcommittee to work towards the development future envisioned by SEEDS, while at the same time establishing an action plan for implementing the related transportation improvements. Several early action items include programming of a contra flow lane for County Road 39 in the NYMTC Transportation Improvement Program, and a study of better bus-rail connections.

Gradually, the regional dialogue on the East End is being strengthened. Implementation is still by no means guaranteed, but the mechanisms to achieve success are being developed, and the guiding vision is now clear to those involved. ♦

The New York Metropolitan Transportation Council (NYMTC) is an association of governments, transportation providers and environmental agencies that is a collaborative forum for regional transportation planning.

SUSTAINABILITY STUDIES IN OUR REGION

Throughout the New York metropolitan region, there are several efforts in place that aim at developing sustainable plans that link land use and transportation.

Route 303 Sustainable Development Study

Located in Rockland County, in the Town of Orangetown, and funded by the New York State Department of Transportation (NYSDOT), the goal of this study was to improve safety, deal with land use and zoning issues, and address aesthetic issues related to the Route 303 Corridor. The effort successfully developed a consensus on a plan for development over the next decade that addresses land use and transportation, and is consistent with community needs. The effort is now in the implementation phase.

Routes 202/35/6, Bear Mt Parkway Sustainable Development Study

Located in Northern Westchester County and spanning the Towns of Yorktown and Cortlandt and the City of Peekskill, this study sought to develop a vision and plan for modifying land use practices to help improve traffic conditions in several major corridors. Funded by NYSDOT, but overseen by Westchester County, the project was successful in developing a shared purpose and recognition that land use and transportation decisions undertaken by one municipality affect others as well. Several recommended projects have been placed on the region's Transportation Improvement Plan and some of the overall suggestions have been incorporated into the Towns' Master Plans.

Sustainability efforts generally necessitate coordination among multiple jurisdictions. In recognition of this, the New York Metropolitan Council funded an NYU Wagner Rudin Center project to explore the factors related to inter-jurisdictional coordination on transportation and related land use. Based on the research findings from several regional cases (including the two described above), a Guide Book has been developed to help stakeholders create a strategy that fosters inter-jurisdictional coordination and enhances the likelihood of success of transportation and related land use projects.

BEYOND THE REGION

SEOUL BUS SERVICE REFORMS

BY PAUL NOUMBA UM, GYENG CHUL KIM, PATCHAREPORN TALVANNA

Seoul is a prosperous city that has been rapidly growing for many years. During the past half century, the city's population grew more than four-fold and real income increased at least forty times. The growth was even more intense in the 1980s and 1990s. As a consequence, the city experienced housing shortages, a commensurate rise in the price of homes and extreme traffic congestion. Similar to what has occurred in the United States, people and businesses have moved to the suburbs, using automobiles more frequently and making longer trips between their homes and destination. The growth of the city and suburbs has generated an increase in the number of daily trips in the Seoul Metropolitan area from 5.7 million in 1970 to 29.6 million in 2002.

Seoul had responded to the initial surge in trips by building a subway system, opening the initial segment in 1974. By 2004, the subway had been constructed to a length of 487 km and

Figure 1. Exclusive Median Bus Lanes



Picture courtesy of Sam Zimmerman

PAUL NOUMBA UM, is Lead Economist, Middle East & North Africa Region, The World Bank; GYENG CHUL KIM, is Senior Research Fellow, Seoul Development Institute; and PATCHAREPORN TALVANNA is Junior Professional Associate, Finance and Private Sector Development, World Bank Institute.

annual ridership had risen to 2.1 billion. Both the subway and the previously existing commuter rail network carry more than eight million people daily. However, there remain many areas of the city and suburbs which the rail system does not reach.

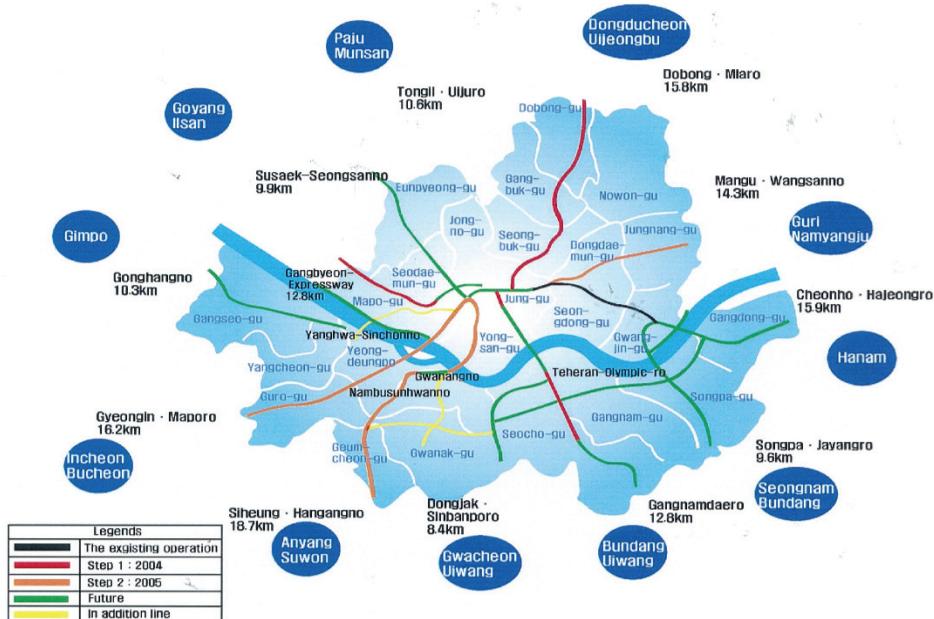
Bus service had not been able to keep up with the pace of the metropolitan area's growth and by the new millennium it was considered inadequate. Within the city of Seoul, the service was run by loosely regulated private operators, who operated on the same routes. Competition on many of the routes was Darwinian, with aggressive drivers eschewing safe operations in order to beat each other to the next customer. The flat fare system also encouraged companies to operate shorter trips than longer ones. The suburban bus service was equally unattractive, organized as a system radiating from the city, and not offering direct connections from one suburb to another. The shortcomings of the bus service were reflected in a nearly 50 percent reduction in ridership between 1982 and 2002.

The consequence of the expansion of the Seoul metropolitan area and the explosion in auto trips has been substantial traffic congestion.

Although the Seoul Metropolitan Government (SMG), the executive branch of the City of Seoul, made significant efforts to address the traffic problems, including the introduction of congestion pricing in the two river tunnels serving the city in 1996, congestion continued to grow. By 2003, congestion costs were estimated to exceed \$8 billion a year, amounting to 4% of Gross Domestic Product.

Development of Bus Service Reforms

The SMG recognized that transit services needed to be expanded and improved to woo people out of their automobiles. Expanding the subway system to reach areas not served by rail was not considered an option. In 2002, construction and debt-service for the existing system totaled approximately \$6 billion and the SMG was furnishing a \$634 million subsidy to cover the subway operational deficit.

Figure 2. Bus Rapid Transit System

The SMG focused on reforming and reorganizing the region's bus system as central to improving the commuting environment. In determining the travel demands of its inhabitants and the best means to provide services, the SMG uses a participatory and consensus-building approach that involved all interested stakeholders in the development of the bus reforms. These included bus operators, transport and city professionals, and business and civic organizations. The result was a Bus System Reform Plan.

In implementing the plan, the SMG created new departments to oversee the new services, information, and traffic management with the goal of enhancing coordination within the public transportation system. As the reforms advanced, the SMG established a special task force, the Bus System Reform Citizen Committee (BSRCC), to serve as a channel for stakeholder participation in the preparatory stage decision making process and as a means for building consensus.

Implementation of Bus System Reforms

The resulting bus system reforms were implemented in 2004. Key elements of the reforms included SMG taking control of the regional

bus system, restructuring the fare system and introducing Bus Rapid Transit Services.

Government Control of the Bus System. SMG gained control of bus routes, schedules, fares and the overall system by restructuring it into a semi-public system. The bus companies were reorganized and licensed to provide high-quality service by competing for the assignation of bus routes instead of competing for customers. The government would benchmark their respective performance to stimulate increased efficiency and effectiveness in the provision of bus services. Safety parameters were included in the contracts. To encourage the private bus operators to maintain the new service and safety levels, SMG executed contractual agreements with each of the firms to cover their full operating deficits.

Reorganization of Bus Routes and Establishment of BRT. A key component of the reforms was the reorganization of the bus routes into trunk and feeder lines and the establishment of Bus Rapid Transit (BRT) services. Redundant long distance routes were replaced by trunk lines (BRT services) operating as main arteries of the transportation system. Throughout the city's major corridors,

(Cont. on page 15)

RUDIN CENTER SUPPORTERS

The NYU Wagner Rudin Center for Transportation Policy & Management acknowledges the following entities for their generous support in 2007.

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From Megalopolis to Megamodal (Cont. from page 5)

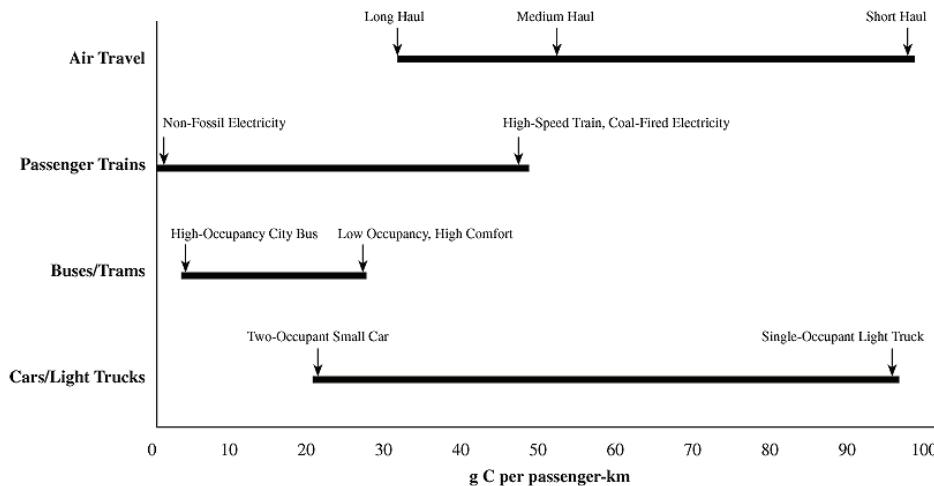
The Challenges

Though there is an opportunity for HSR to serve as the backbone for a new transportation vision in the NEC, several interrelated challenges remain to be addressed.

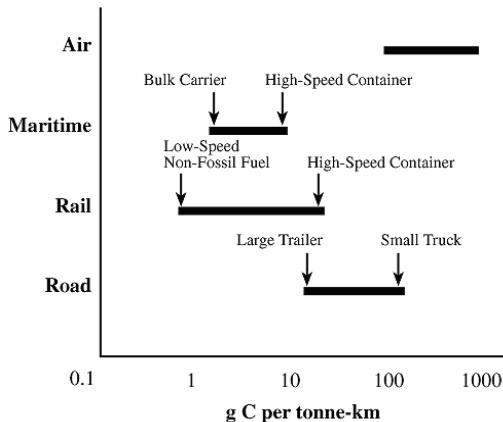
Institutional Complexity. Perhaps the most obvious and long-lasting challenge to implementation of HSR on the NEC is the multitude of stakeholders involved. First and foremost are the multiple owners and operators, each with its own priorities and perceptions about who should bear the cost of maintaining the line and ensuring adequate levels of service for high-speed intercity rail, commuter rail, and freight rail. The tension between the goals of the commuter rail lines, the freight operators, and Amtrak has been evident historically and remains today. Adding to the complexity involving institutional arrangements, the NEC is caught up in the larger national debate regarding Amtrak and the future of intercity rail more broadly. While the Northeast legislators feel strongly about the need for maintaining and enhancing rail on the corridor, many from other parts of the country chafe at the funding directed to the NEC.

Figure 2. CO₂ Intensity of Passenger and Freight Transportation Modes, using C as a proxy

Passenger Transport



Freight Transport



From: Penner, Aviation and the Global Atmosphere, Figures 8-4 and 8-6, respectively; www.grida.no/ipcc/aviation/126.htm

Capacity Constraints. Capacity constraints continue to worsen along the entire corridor for both passengers and freight, affecting travel times, reliability, and as a result, ridership. Between Boston and New York City, a significant segment of the rail line is owned and/or operated by MTA Metro-North which has significant commuter traffic competing for space. Furthermore, throughout this segment of the line, track centers are too narrow to allow for use of the tilt feature on the Acela, reducing the potential for higher speeds. In addition, there are capacity constraints imposed by earlier agreements which stipulated caps on the number of intercity passenger trains. Between New York City and Washington, DC the constraints are related to sheer volumes of commuter railroad traffic, especially between New York City and Philadelphia, and to shortcomings associated with deferred maintenance. In 2005, the estimated cost of bringing the NEC to a state of good repair was roughly \$5 billion, the majority of which was aimed at this section.¹⁷

Inability to Offer a Clear Alternative. In some respects, these ongoing limitations on capacity can be viewed as a reflection of the inability at both the state and federal levels to develop a

more comprehensive vision for the Corridor, and an unwillingness to make appropriate investments in it. The overall result of these constraints is an inability on the part of rail to offer a clear alternative to air and automobile (or in the case of freight, truck) travel along the NEC. Further complicating the situation for passenger rail is the fact that there is a comparable lack of investment in urban transit and commuter rail throughout the corridor, along with additional deferred maintenance and large budget deficits. Similarly for freight, links are often missing between ports and key rail lines along the corridor so trucks are still needed for freight connections.

How these challenges are addressed in the coming years will spell the difference between whether rail, particularly high-speed intercity rail, is strengthened in the NEC to become the much-needed backbone of a broader vision, or whether it will continue to be plagued by inefficiencies.

From Megalopolis...

In 1961, Jean Gottmann published his book and coined the phrase, Megalopolis to describe the northeast corridor.¹⁸ Several years later, Claiborne Pell published, Megalopolis Unbound, which informed the early discussions on the NEC and the vision of what it could be if thought of as a larger region.¹⁹ Megalopolis, as used by Gottmann and Pell, referred to a "...chain of metropolitan areas, each of which grew around a substantial urban nucleus."²⁰ At the time, Gottmann suggested that, among other things, a new way of governing

might be needed to deal with the challenges that would be faced by this megalopolis including (ironically) "traffic difficulties."²¹

There are some interesting parallels with the overall concept of the megalopolis and rail transportation in the United States. Just as the United States was one of the first countries to deploy high speed rail and yet quickly fell behind its European and Asian counterparts, the Northeast Corridor was the first megalopolis and yet the United States is now behind here too. During the past few decades, while Europe and Asia have been moving toward broader regional and national planning and new forms of governance to allow this to occur, the United States has moved further away from such regional views and mechanisms, leaving planning and investment increasingly in the hands of state and municipal governments and agencies.²²

The result, at least in terms of transportation, is that while large-scale projects crossing various regions (and in some cases, country borders) are being developed and implemented in Europe and Asia, the United States is unable to keep pace. Nowhere is this clearer perhaps than along the NEC. While high-speed trains take just under 3 hours (soon to be reduced to 2 hours and 15 minutes), to travel the 480 miles between Paris and Marseille, traveling between Boston and Washington, DC by rail (only 456 miles) still takes 6 hours and 30 minutes.²³

Rail transportation in the United States is very much in need of a national policy and a corresponding regional implementation plan. Megalopolis provides the conceptual basis for pursuing such policy and the coalition that could be built upon this concept would have a greater sphere of influence than any one group could on its own. Further, such a coalition could provide an agglomeration of economies and allow for pooling of funding for the large projects that are needed.²⁴

...to Megamodal

Megalopolis thus provides an important conceptual basis for developing new ways of planning and new forms of governance along the NEC, as well as new opportunities for financing. However, more is needed, especially given the limitations imposed by the built urban environment that characterizes the majority of the corridor.

As we begin to think in larger terms with respect to how our cities and regions are connected, we also need to be thinking about how our passenger and freight transportation relate to each other, and how all the transportation modes relate to each other. Given

Sander Interview (Cont. from page 3)

ES: We are faced with a lot of challenges at the same time at the MTA, whether they're operational, engineering, security, sometimes financial; there's always a lot of stuff going on. So I think there are two questions: one is the media and the second is the public's general perception of the system. What is different about the MTA is the great deal of scrutiny we are under. We have a level of media coverage that is extraordinary. We have 5 or 6 dedicated newspaper reporters and several electronic reporters assigned to us. Plus we touch 8 to 9 million New Yorkers every day. The combination of those two things causes us to be under an extraordinary microscope. In general, the press has been fair, but there are certainly times when I feel they have not been.

RW: I wonder if there are newsworthy things that don't make it into the news?

ES: Sometimes. For example, we were able to prevent a strike on MNR this summer. We were really on a very confrontational path, where both Senior MNR staff and labor said we were on a clear path to a strike, similar to what occurred in 1995. It was a difficult negotiation. Through leadership on both sides we reached an outcome that achieved a contract, created a new pension tier for MNR employees, and other things beneficial to management. At the same time we were able to provide a fair and equitable outcome to our employees. In addition to that, there was essentially a civil war between the two groups of unions at MNR. We were able to get a contract, end that civil war, and avoid a strike. It was a big deal but got buried in the news.

Another example is the minimal reporting of the fact that by 2009, MTA and NJT will accomplish a regional interoperability pilot project with a one-seat ride from MNR territory to see Jets and Giant football games in the Meadowlands. I expect we'll get more coverage when we start running the trains.

RW: Last question Lee, and I want to thank you for your time and candor: Is there any advice you wish someone had given you before you started this job?

ES: From my previous experience in the public sector, I pretty much knew what I was getting into. Basically, I am honored and privileged to be part of the MTA family again, and grateful for the opportunity to return to public service to try and help the region move forward. ♦

(Cont. on page 14)

Rudin Center Highlights

UPCOMING EVENTS

Policymaker Breakfast with Elliot "Lee" G. Sander

Wednesday, December 12, 2007
8:30 - 9:30 a.m.

Annual Leadership in Transportation Awards

Thursday, February 7, 2008
6:00 - 8:00 p.m.

UPCOMING PUBLICATIONS

Fare Policy Regarding Regular and/or Inflation-related ("Programmed") Fare Increases (forthcoming)

by Linda M. Spock

FEATURED PROJECT

Pedestrian Safety and Potential High-Risk Groups in Large Central Cities: Issues, Tools, and Policy.

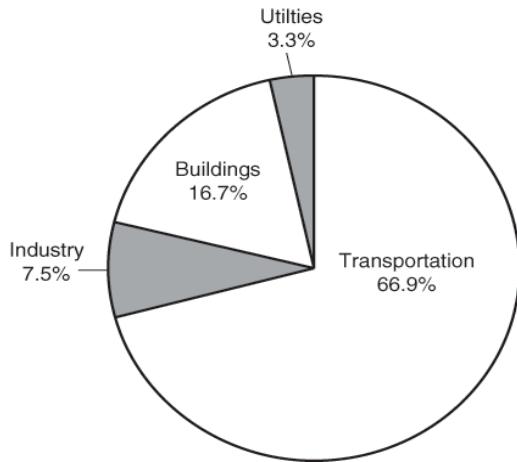
The NYU Wagner Rudin Center was recently awarded a grant by the Federal Highway Administration for this joint study with the National Association of City Transportation Officials, Inc. (NATCO). This project will examine broad pedestrian safety issues in large central cities, identify specific high-risk pedestrian groups in those cities, and suggest tools, recommended practices and performance measures for planning, and policies that would be helpful to improve pedestrian safety for such high-risk populations.

For more information on events or publications, call 212-998-7545 or visit our website at: wagner.nyu.edu/rudincenter

From Megalopolis to Megamodal (Cont. from page 13)

scarce resources, it is no longer sufficient to look at the feasibility of beginning or increasing service on a particular mode of transportation. We need to begin thinking beyond intermodalism (which can mean linking as few as two types of transportation modes) and multimodalism (which just refers to the presence of more than one mode of transportation), to thinking of our trans-

Figure 3. U.S. Petroleum Use by Sector, 2005



From: U.S. DOT, BTS, *Transportation Statistics Annual Report 2006*, http://www.bts.gov/publications/transportation_statistics_annual_report/2006/html/chapter_02/table_k_03.html

portation network as an entire organic system — in essence, a megamodal approach — in which decisions taken in one area are likely to have an impact (either positive or negative) in others.

With a megamodal approach, one no longer thinks about how rail best connects to transit services or even how intercity rail can

aid in opening up airspace for more long-haul planes (though that is, indeed, part of the discussion). A megamodal approach for the Northeast Corridor challenges us to look at all transportation modes along the entire corridor, and develop a vision for how passengers and freight can most effectively share the system (in an environmentally-sustainable way) while creating the highest levels of mobility and accessibility possible for both people and goods.

To think of the entire transportation network, as an organic system is a daunting task and, at this point, the types of metrics and data that would be needed to make decisions using a megamodal approach have not all been developed or gathered. Moreover, few decision makers are thinking along these lines. They still tend to think of the questions as: "What should rail in the NEC?" or "What should we do with the trucks on I-95?"

We need to begin asking a different question, namely "What should and could the entire Northeast Corridor look like?" The answer is quite different, especially if one applies a megamodal approach while envisioning it. With a megamodal approach applied to the NEC, one can begin to imagine a Northeast Corridor along which the investment has been made to develop a true high-speed intercity rail line that forms the central spine of a fully interconnected transportation system. At various nodes (cities) along the way, investments have been made in transit (bus, rail, ferry as appropriate), in transit oriented development, and in commuter services, so that the vast majority of people living within the Boston-Washington, DC megalopolis are now easily able to get from their homes to places they want to work or visit, with sufficient service and comfort that they need not use air travel, nor personal vehicles in most instances within the region. At the same time, investments will perhaps have been made in cleaner truck technologies and truck lanes since trucks can now benefit from decreased passenger use of highways, and in the links between marine ports, short-sea shipping, highways, and rail (where still appropriate in the northeast) to create more efficiency in freight movements as well. And, finally, with the additional space freed up in the air, airlines will be able to focus more on long-haul travel and opening new markets abroad that link the world to the northeast megalopolis. ♦

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15. *Ibid.*
16. *Ibid.*
17. U.S. DOT, *Office of the Inspector General, Reauthorization of Intercity Passenger Rail and Amtrak*," Testimony before the Committee on Commerce, Science, and Transportation, Subcommittee on Surface Transportation and Merchant Marine, U.S. Senate - Statement of the Honorable Kenneth M. Mead, Inspector General, U.S. Department of Transportation, CC-2005-030 (Washington, DC: GAO, April 21, 2005), p. 9.
18. Jean Gottmann, *Megalopolis: The Urbanized Northeastern Seaboard of the United States* (NY: The Twentieth Century Fund, 1961).
19. Claiborne Pell, *Megalopolis Unbound: The Supercity and the Transportation of Tomorrow* (NY: Praeger, 1966).
20. Jean Gottmann, "Megalopolis or the Urbanization of the Northern Seaboard," *Economic Geography* 33, 3 (July 1957): 189.
21. *Ibid.*, p. 194.
22. *Ibid.*, p. 3.
23. "High-Speed Rail Give Short-Haul Air a Run for the Money in Europe, with More Flexible Travel, Greater Comfort, Lower Environmental Impact," PRNewswire (April 20, 2007), http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=ind_focus.story&STORY=/www/story/04-20-2007/0004570197&EDATE=Fri+Apr+20+2007,+10:48+AM (accessed 5/10/07).
24. Paula Dowell, "Multi-state/Jurisdictional Freight Transportation Planning," Presented for the FHWA Talking Freight Seminar, 12/15/04.

Seoul BRT (Cont. from page 11)

exclusive median bus lanes replaced the old curbside lanes. The trunk lines were connected to feeder lines at nodes serving local neighborhoods. The number of bus routes was increased by 25 percent to 462 routes, and the additional buses were added to the system for a total of 8,306 buses, extending the system's reach and accessibility. A color system was established to clearly distinguish for the customer the type of route being operated. At the same time, the correction of winding and overlapping routes contributed to a decrease in the average route length from 20.3km to 18.5km.

"Competition on many routes was Darwinian, with aggressive drivers eschewing safe operations in order to beat each other to the next customer."

Improvements were made to bus depots (stations) focusing on the customer environment. These included new shelters, shorter transfer distances between bus routes, color-paved surfaces to easily identify bus stops, anti-slip surfaces, and loading platforms compatible with low floor buses.

Restructured Fare System. The old flat-fare "modal" system was discarded and replaced by a new integrated fare system based on the total distance traveled. For passengers traveling between Seoul and the suburbs, the fare is now based on the total distance traveled instead of the transportation mode used. Within Seoul, the fare for bus service starts at 800 Korean Won (KRW) for the first 10 km and increases by 100 KRW for increments of 5 km. The base fare also includes up to four free-transfers which can be made within a one and one-half hour period, and can be applied to both bus and subway use. As part of the reforms, a smart card was introduced that provided incentives for riders through ease of payment, free-transfer privileges, and benefits for shoppers.

Commensurate Transit-friendly Improvements

In addition to the transit improvements, the SMG instituted other policies to discourage driving. They included increased taxes on gasoline and diesel fuels, raising public parking, and reducing parking space requirements for new commercial and office buildings.

Initial Results

The implementations of the Bus System Reforms in 2004 were incremental and took time. Initially, there was substantial confusion among customers and there were start-up issues with technology. Eventually, these issues dissipated and the reforms were successfully implemented. In the following year, bus ridership increased approximately 10 percent, to an average of 5 million customers per day. The average bus speeds also increased from 13 km/h to 17.3 km/h, while bus traffic accidents declined nearly 25 percent.

The reforms have come with a price, an almost three-fold increase in subsidies to the private bus companies. The higher level of subsidies required probably stems from ineffective oversight of the costs of the private bus operators, who have been able to claim reimbursement of costs incurred without evidencing productivity gains. The sharp increase in bus subsidy needs is alarming, but should be considered in light of substantial improvements in the overall quality of the bus services, including new buses, and new shelters at bus stops. These costs also should be compared to the alternative and more substantial cost of expanding the Seoul subway system and the even larger operating subsidies which would have been required. Nevertheless, SMG is exploring options to induce greater efficiency in the provision of bus service.

Despite these high costs, the Bus System Reforms have been highly successful. The challenge for SMG in the coming years will be to continue the reforms and sustain the results over time. ♦

COUNCIL ON TRANSPORTATION

Representing major private and nonprofit sector organizations, the Council on Transportation is a bipartisan group created by the NYU Wagner Rudin Center, committed to improving transportation in the downstate New York region, especially in New York City.

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NEW DIRECTOR'S ADVISORY BOARD MEETS FOR THE FIRST TIME



Constantine Sidamon-Eristoff; Robert Paaswell; Jane Chmielinski; Allison C. de Cerreño; Terence Boyle; Rod Diridon; and, Alan Friedberg

On October 4, 2007, founding members of the NYU Wagner Rudin Center's new Director's Advisory Board met for the first time to discuss the future of the Center. The Board will be helping the Center's Director, Allison C. de Cerreño, chart a direction and strategy for continuing its mission while pursuing fulfillment of a vision that will further strengthen and institutionalize the Center in years to come.

Founding members include:

**Constantine Sidamon-Eristoff, Chair
Of Counsel, Lacher & Lovell-Taylor**

**Mark Bodden
Administrator/Program Director, Rudin
Foundation**

**Terence Boyle
Associate, Booz Allen Hamilton, Inc.**

**Jane Chmielinski
President and COO, DMJM Harris**

**Rod Diridon
Executive Director, Mineta Transportation
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**Emil Frankel
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**Jerry Gottesman
Chairman of the Board, Edison Properties**

**Robert Paaswell
Director, Region II University Transportation
Research Center, City College, CUNY**

**Rogan Kersh, ex officio
Associate Dean for Academic Affairs, NYU
Robert F. Wagner School of Public Service**



Mark Bodden; Robert Paaswell; and, Emil Frankel

The Center and its staff are appreciative of their help and very much looking forward to working closely with them in the coming months.



Jerry Gottesman

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