

Transportation has always been the key to unlocking New York's potential. From our origins as a port city to the completion of the Erie Canal, from the construction of the Brooklyn Bridge to the creation of the subway system, New York's growth has always depended on the efficiency and scale of its transportation network. But for the last 50 years, we have underinvested in our most critical network: transit.

While we have made progress in the last two decades in maintaining and improving our existing infrastructure, we still need billions of dollars more to reach a full state of good repair. More significantly, almost all of our subway routes, river crossings, and commuter rail lines will be pushed beyond their limits by 2030.

Transportation is the greatest single barrier to achieving our region's growth potential. Only by strengthening our transit—which uses less land and creates less pollution than autos—can we meet this challenge, and provide a quality trip to those who drive. Our transportation plan will enable us to improve travel times across the region and achieve the funding necessary to meet our transportation needs through 2030 and beyond.

Transportation



Congestion

Improve travel times by adding transit capacity for millions more residents, visitors, and workers



State of Good Repair

Reach a full “state of good repair” on New York City’s roads, subways, and rails for the first time in history



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Bryan Block rises at 6:30 am. By 8:00 am he is waiting at his local bus stop in Cambria Heights, Queens, watching for the bus to arrive. It lumbers to the Parsons/Archer subway station, where Block takes an E train that will be packed well before it reaches Manhattan.

By the time he reaches his office in Midtown Manhattan, his trip has taken an hour and a half. It used to be called a “two-fare zone.” Now it’s just too long.

“It’s tiresome,” said the 50-year old Block, who has been traveling from Cambria Heights into Manhattan for more than 20 years. “By the time I get to work I am fatigued. By the time I get home I am fatigued. If you live in Manhattan you can just jump on the IRT, my co-workers can walk to work, they can take a bus down

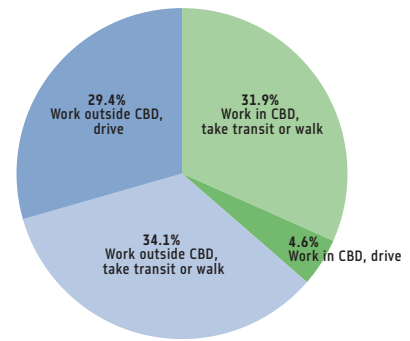
Fifth Avenue, a bus up from the Village. They don’t understand. Once you live in southeast Queens and have to get to Manhattan you’re tired when you get to work.”

Block loves southeast Queens and the shared work ethic that binds together the neighborhood’s cross-section of professions, from doctors to teachers to city workers. He has to remind himself of this on his way to work, especially during the wintertime.

“It’s cold, you’re wet, you’re freezing, you’re angry, you’re frustrated and you have to stand there and wait.

“You have no recourse,” he said. “No choice.”

How New Yorkers Get to Work



Source: U.S. Census Bureau (2000)

CBD = Manhattan Central Business District

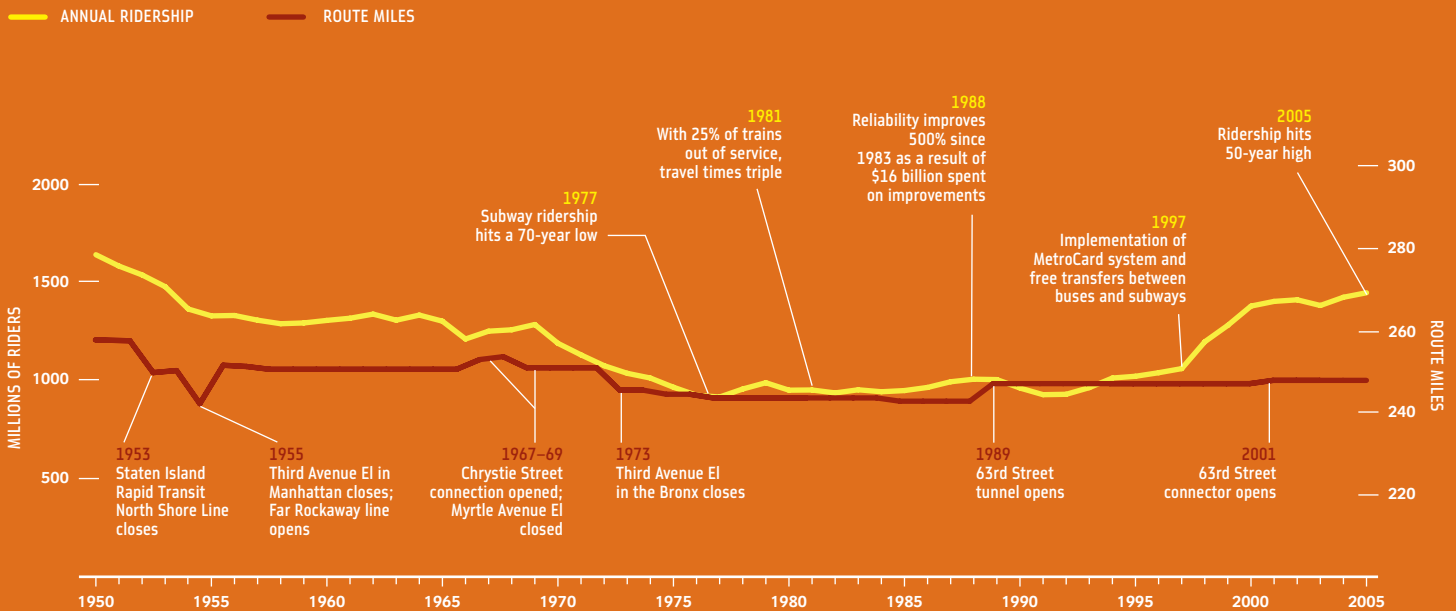
The lack of transit for Bryan and his neighbors in southeast Queens is not a new problem. As early as 1929, planners proposed to extend the subway to the area. But despite widespread agreement that it was necessary, the plan was halted because funding could not be found.

It is a story that has been repeated again and again in New York. Inadequate investment in the basic maintenance of our roads and transit system intensified until the 1970s when the entire network fell apart. A truck plunged through a hole in the West Side Highway. Track fires were common occurrences. Bridges were closed for fear they’d collapse.

In 1981, the Metropolitan Transportation Authority (MTA) halted all new transit expansion until the existing system could be restored. The City made a similar commitment to repave and reclaim its road network. And that has been the focus of transportation investment for the past 25 years: rebuilding, but not expansion.

The improvements are undeniable. In 1981, trains broke down every 6,600 miles; today they run for more than 140,000 miles. The MTA has made great progress in providing cleaner, safer stations, and implementing new technology such as the MetroCard. Our road network has also improved, although the quality of our streets has fallen below the levels achieved in 1999. The City’s bridges have done better since the days when they were regularly closed for emergency repairs: in 2005 only four of the City’s 787 bridges were deemed to be in poor condition, down from 48 as recently as 1996.

New York City Subway Ridership and Route Miles



Note: Route miles are non-directional; i.e., the distance from terminal to terminal. Several lines may share the same route.

Source: NYC Mayor's Office of Long-Term Planning and Sustainability; Robert Olmsted; Brian J. Cudahy

And yet, there is much more to be done. Today, more than half our stations are awaiting repairs; and 40% of our network's signal systems are obsolete, preventing new services like displays showing the arrival time of the next train. Altogether, we are more than \$15 billion short of achieving a full state of good repair on our transit and road networks.

But with population, jobs, and tourism all at record levels, our challenge is no longer simply maintaining the system—we also face an urgent need to expand it. In 2006, ridership on our subways soared to the highest levels since 1952—but during that time the subway network actually shrank by eight route miles. (See chart above: *New York City Subway Ridership and Route Miles*)

Failure to invest adequately in our transit system has had negative consequences for nearly all New Yorkers. Too many don't have access to mass transit; those who do find their trains increasingly crowded. Nearly half of our subway routes experience congestion at key times or are at capacity today.

It isn't just city residents who suffer. Over 70% of all Long Islanders who commute into Manhattan take the Long Island Rail Road (LIRR), but the tunnels into the city have reached their capacity.

Auto use has risen alongside transit use. In 1981, when subway service was at its low-point, 31% of all people traveling to Manhattan's Central Business District (CBD) arrived

by car. In 2006, with the quality of subway service at modern-day record levels, that figure has remained essentially unchanged.

While only 4.6% of working New Yorkers commute to Manhattan by car, the congestion they fight through has increased. Rush hour has slowly stretched out over the past two decades, as people have started leaving earlier and arriving home later. This is true for drivers across the region, with local traffic on roads like the Hutchinson River Parkway, the Long Island Expressway, and Interstate 95 competing with cars heading for Manhattan. By 2030, rush hour conditions could extend to 12 hours every day.

It isn't just Manhattan-bound commuters who face the consequences of increasing road congestion—nearly seven times as many New Yorkers drive to jobs outside of Manhattan as to it. These commuters often have fewer transit alternatives, but face the same challenge of escalating traffic. (See chart on previous page: *How New Yorkers Get to Work*)

With every travel mode congested, it should come as no surprise that New Yorkers experience the longest commutes in the nation. Of all large counties in the United States, 13 of the 25 with the longest commute times are in the New York area. The four worst nationwide are Queens, Staten Island, the Bronx, and Brooklyn. (See chart on page 78: *Average Travel Time to Work*)

Road congestion costs all of us money—in higher store prices, because freight deliveries take longer; in higher costs for services and repairs, because delays mean repairmen visit fewer clients each day; in taxi fares, in wasted fuel, in lost revenue. One recent study estimated that traffic jams cost the New York City area \$13 billion every year.

And there are other consequences as well. Snarled traffic slows bus service. Emergency vehicles lose valuable response time. Finally, cars and trucks contribute 20% of the City's global warming emissions and a large part of the ozone—a serious pollutant that can cause respiratory illnesses like asthma—in our air.

By 2030, nearly a million more residents, 750,000 new jobs, and millions more visitors will put our system under new pressures. The increasing congestion, and the resulting economic costs, will reverberate throughout the region. (See map on page 78: *Demand for Travel into Manhattan's Central Business District*)

We know what must be done. There is general agreement on the strategy necessary to achieve the level of mobility our city and region need. We must finish repairing our roads and transit system and invest to provide more and better mass transit options. We must also proactively embrace strategies to reduce congestion on the city's streets.

The problem is that we do not have the resources to fund our needs. Although we

Second Avenue Subway

Second Avenue Subway groundbreaking in 1972. From left to right: Percy E. Sutton, Manhattan borough president; Senator Jacob J. Javits; John A. Volpe, United States Secretary of Transportation; Governor Nelson A. Rockefeller; and Mayor John V. Lindsay.



Credit: Neal Boenzi/The New York Times

Second Avenue Subway currently under construction



Credit: Metropolitan Transportation Authority

know that the projects will prevent crippling congestion, collectively they face a monumental funding gap. As a result, improved transit will require new sources of funding.

The greatest factor in determining the success of our city in the 21st century may be whether we can summon the collective will to generate the funds necessary to meet the transportation demands of the future. New York City is prepared to make an extraordinary commitment to ensure that we do.

Our Plan

We benefit today from the foresight of past generations of New Yorkers: the street grid, laid out in 1811 for a city of a million at a time when New York only had a 100,000 residents; Central Park, built at a time when few lived above 23rd Street; a water system constructed with the capacity to last for centuries; and the subway system that reshaped the city.

But we seldom think about the fact that those New Yorkers made the decision not only to do those things, but to pay for them as well. In all of those cases, New Yorkers argued over who should pay what, but ultimately settled on financing approaches based on the principle that those who benefited should contribute.

We face a similar challenge today. The recent groundbreaking ceremony for the Second Avenue Subway marked the third time that same project has been started. Each time, New Yorkers were confident the project would be completed; the Second and Third Avenue Els were even dismantled in anticipation of the new route. But each time, the project stalled for lack of funds. This experience ought to have taught us one thing: If we

don't know exactly where funding will come from, it's a good indication that we may not get what we want. (See photos above: *Second Avenue Subway*)

Building the new transit we—and our entire region—need and achieving a full state of good repair will require over \$50 billion.

Only \$13.4 billion is already committed to these projects; we can reasonably expect another \$6.3 billion from Federal sources. That means that if we want to see those projects built, the region will have to raise an additional \$31 billion between now and 2030. That is why we seek to work with the State to create a new regional partnership, the Sustainable Mobility And Regional Transportation (SMART) Financing Authority. The SMART Authority's mandate will be to provide funding necessary to complete nearly every critical transportation project—and finally bring the full system into a state of good repair.

The Authority would have three dedicated revenue streams: the proceeds from congestion pricing; an unprecedented City investment; and a corresponding contribution from the State, all exclusively dedicated to funding improvements to the regional transportation network.

These dedicated revenue streams would support bond issues to ensure that our most critical projects are not delayed by a lack of funding. Over time, they would also generate enough excess revenues to launch a new wave of projects to improve mobility across the region even more.

The SMART Financing Authority would be governed by an independent and experienced board appointed by the City and State to incorporate a wide range of perspectives about transportation priorities for the region. It would not operate or build anything, but rather would invest in projects proposed by other transportation agencies. It would then monitor those investments, assuring accountability.

In addition to accelerating major transit expansions, we must also aggressively reduce congestion on the city's streets. Citywide, road travel is growing faster than population. Managing our roads better to improve traffic flow will help, but it won't be enough.

The time has come for New York to try congestion pricing: a carefully-designed charge for drivers in part of Manhattan during business hours. This solution is bold. It is also proven. Cities around the world have shown that congestion pricing can reduce congestion and speed travel times with no significant negative impact on economic activity.

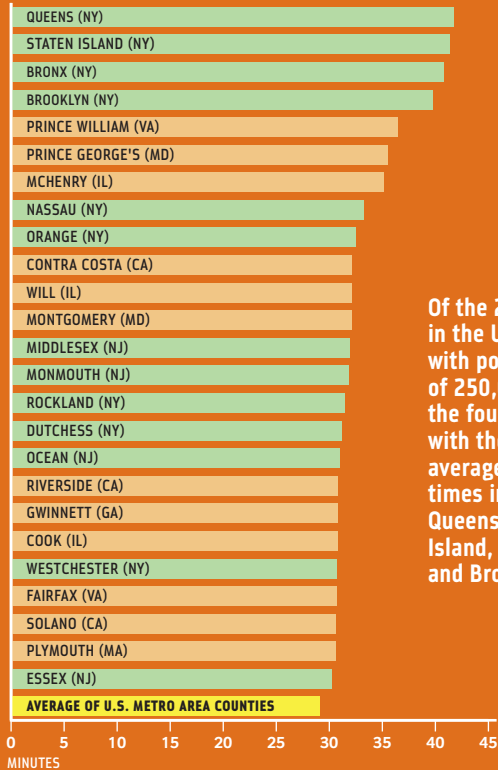
Congestion pricing has three primary benefits. First, it has been proven to reduce congestion and improve travel times. Second, it would generate revenues dedicated to the SMART Authority, which would fund significant expansions and upgrades in transit across the city and the region. In the short-term, the focus would be on neighborhoods with limited mass transit options and high concentrations of drivers. But by reinvesting the proceeds in mass transit, nearly all New Yorkers can benefit, especially the 95% of New Yorkers who do **not drive** to jobs in Manhattan.

By encouraging mode shifting from private automobiles, it will stem the amount of pollution spewed from tailpipes on city streets, helping us meet our goals of reducing greenhouse gas emissions and achieving the cleanest air of any big city.

The potential benefits of congestion pricing are tremendous. And there is no reason we cannot turn the system off if we do not like it. That's why we propose to pilot congestion pricing for a period of three years. We expect a combination of Federal and private dollars could fully cover the initial investment. After three years, we will know whether it really works for New York.

Average Travel Time to Work

■ COUNTIES WITHIN NEW YORK CITY AREA

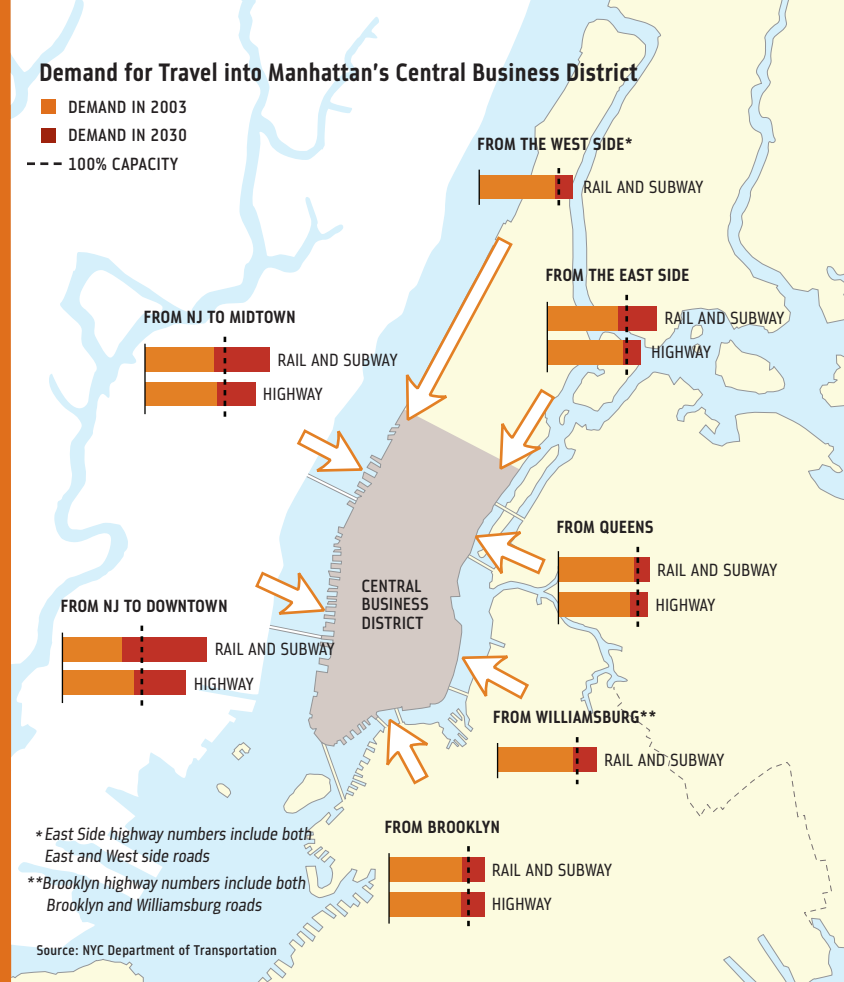


Of the 231 counties in the United States with populations of 250,000 or more, the four counties with the longest average commute times in 2003 were Queens, Staten Island, the Bronx, and Brooklyn

Source: U.S. Census Bureau, 2003 American Community Survey

Demand for Travel into Manhattan's Central Business District

■ DEMAND IN 2003
■ DEMAND IN 2030
--- 100% CAPACITY



By aggressively combating congestion, finding new sources of funding, and making smart choices about priorities for the coming decades, we can reach a state of good repair on our roads, rails, and subways for the first time ever, while expanding our transportation system to improve travel times and convenience for New Yorkers. (See map on facing page: *Transit Capacity Expansions*)

Mass Transit

Despite being the most transit-oriented city in the United States, when it comes to transit ridership, we still lag behind our strongest global competitors. Cities like London, Singapore, and Tokyo have recognized that providing more mass transit options creates a cleaner, healthier, more efficient urban environment—and have invested accordingly.

We must keep pace. That's why we have developed a mix of short-term and long-term solutions that will improve transit throughout the city. The result will be new or improved public transportation options for virtually every New Yorker. (See chart on page 80: *Public Transit Usage Per Capita*)

Our plan for transportation:

Build and expand transit infrastructure

- 1 Increase capacity on key congested routes
- 2 Provide new commuter rail access to Manhattan
- 3 Expand transit access to underserved areas

Improve transit service on existing infrastructure

- 4 Improve and expand bus service
- 5 Improve local commuter rail service
- 6 Improve access to existing transit
- 7 Address congested areas around the city

Promote other sustainable modes

- 8 Expand ferry service
- 9 Promote cycling

Improve traffic flow by reducing congestion

- 10 Pilot congestion pricing
- 11 Manage roads more efficiently
- 12 Strengthen enforcement of traffic violations
- 13 Facilitate freight movements

Achieve a state of good repair on our roads and transit system

- 14 Close the Metropolitan Transportation Authority's state of good repair gap
- 15 Reach a state of good repair on the city's roads and bridges

Develop new funding sources

- 16 Establish a new regional transit financing authority

Transit Capacity Expansions



Source: NYC Mayor's Office of Long-Term Planning and Sustainability

Build and expand transit infrastructure

Today, more people take the 4, 5, 6 trains every day than ride the entire Washington, D.C. Metro. The Lexington Avenue line is the most heavily used subway line in the country. Crowding not only makes the trip unpleasant; delays caused by people entering and exiting cars actually result in fewer trains running during rush hour.

For decades, planners have known the answer. The Second Avenue Subway was proposed in the 1920s to provide relief for the Lexington Avenue line and to replace elevated trains. The new subway line is one of 11 major transit projects that would help solve the region's transit congestion problem.

Some, like the Second Avenue Subway, will increase capacity on already clogged routes. Others, like East Side Access, will expand commuter rail options. Several will provide access to growing, but inaccessible communities. The rest will just make life for riders more pleasant. All share one thing: they are not fully funded.

In most cases, some funding is available, from Federal and other sources. But they are all missing the last set of contributions necessary for completion. We may have broken the ground for the Second Avenue Subway—but there is still a significant funding gap for the first of four phases. While the entire project is designed to travel from Harlem to Lower Manhattan, we are still nearly a billion dollars short of the funds needed to build just from 96th Street to 63rd Street.

Overall, the remaining funding gap for just these 11 projects is nearly \$21 billion. If we can fill this gap and realize these plans, we will prevent the transit and traffic congestion that threatens to choke our economy in the coming decades.



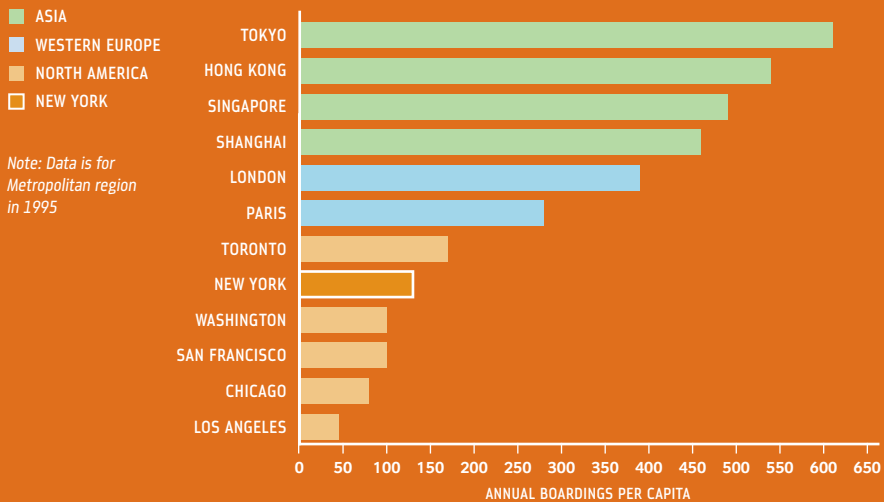
INITIATIVE 1

Increase capacity on key congested routes

We will seek to fund five projects that eliminate major capacity constraints

Five key projects will ease congestion on some of our most clogged routes into Manhattan—all of which will be pressed beyond their capacity by 2030 unless we act.

Public Transit Usage Per Capita



Source: Institute for Sustainability and Technology Policy at Murdoch University

The **Second Avenue Subway** is one of our most urgent needs, for a wide range of travelers: workers from the Bronx, local travelers from the Upper East Side, commuters changing trains to get from Westchester to Wall Street. Its construction will be a massive undertaking and cost billions, but we cannot let funding run out on this critical project a third time. (See case study on facing page: *Yorkville, Manhattan*)

The addition of a **third track on the Long Island Rail Road (LIRR) Main Line** will enable the LIRR to run more trains, use its fleet better, and provide more service at local stations in Queens. It will especially serve reverse commuters, who live in New York City but work in Nassau County. Today, nearly 270,000 New York City workers commute to jobs outside city limits, up by 10% since 1990. Facilitating reverse commuting helps New York City residents expand their career options and suburban businesses broaden their worker pool.

Two projects will increase capacity for commuters west of the Hudson. **Access to the Region's Core (ARC)** will create a second trans-Hudson tunnel for New Jersey Transit (NJT), doubling the number of trains NJT can run into Manhattan and enabling direct service to New York on several lines for the first time. These and other Penn Station commuters will be able to get closer to the emerging Hudson Yards neighborhood through the **Moynihan Station Project**. The station will also restore a grand entrance to the west side of Manhattan.

Even more New Jersey commuters arrive by bus than by train—making the Express Bus Lane through the Lincoln Tunnel one of the region's most important assets. The Port Authority's plan for a second dedicated **Express Bus Lane** through the Lincoln Tunnel will allow expanded service for communities not on the NJT rail network.



INITIATIVE 2

Provide new commuter rail access to Manhattan

We will seek to expand options for rail commuters

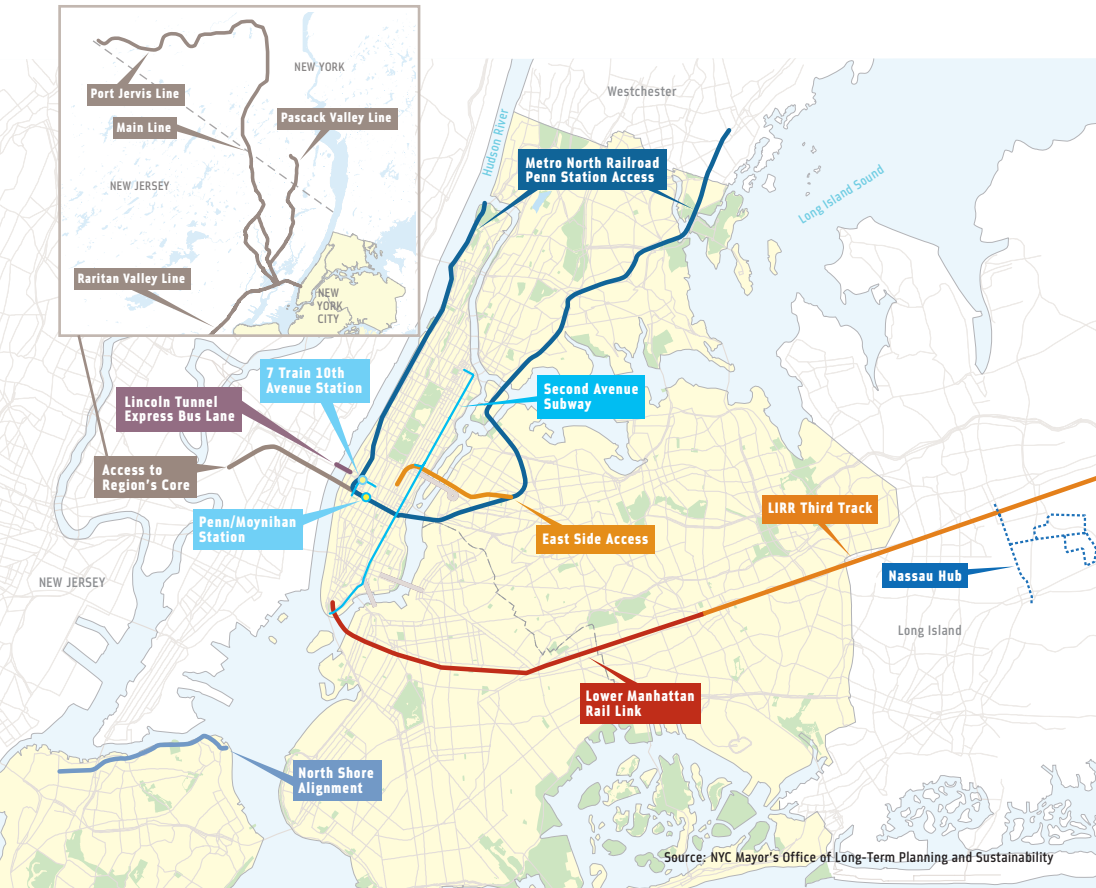
Today's commuter rail service is excellent, but increasingly strained. Rising ridership has meant more crowded rail lines. For thousands of commuters, their trains do not even take them where they need to go. Nearly half of all LIRR riders work on the East Side, but are dropped off every morning at Penn Station; 23% of Metro North riders have jobs on the West Side, but arrive daily in Grand Central Terminal. Traveling across town lengthens their daily commute—and takes up additional subways, buses, and street space. (See map on facing page: *New and Expanded Transit Infrastructure*; see commuter profile on page 85: *Co-op City to Lower Manhattan*)

Finally, rail lines that run through the Bronx and Queens do not provide as much service to residents as they could, in part because the trains can't fit more riders. Three projects will address these issues.

East Side Access was first planned in the 1960s to offer LIRR riders better access to Grand Central. Its construction will free up track space for **Metro North service to Penn Station**. Combined, these projects will reduce subway crowding and provide most commuters with two Midtown rail options. (See commuter profile on page 82: *Bayside, Queens to Manhattan's East Side*)

They would also improve service to Queens and the Bronx. Additional tracks will allow for a station at Sunnyside Yards (serving Long Island City), and make it easier for additional trains to serve stations in eastern Queens. Metro North will also be able to extend service to new stations—providing residents of

New and Expanded Transit Infrastructure



Source: NYC Mayor's Office of Long-Term Planning and Sustainability

COMMUTER PROFILE Yorkville, Manhattan

Crammed into the uncomfortable intimacy of New York City's morning rush, passengers on the Lexington Express train play the subway version of Twister to keep from falling. Riders squeeze into spaces between elbows and handbags, breathing in smells of the passengers pressed against them. Jocelyn Torio confronts this crowd combat every morning.

"A train passes me by once or twice a week and I get stuck waiting on the platform," she said. "They are just too crowded for me to fight my way in."

The 4 and 5 lines start high in the Bronx, extend through Harlem, down to the tip of Lower Manhattan and then through Brooklyn.

There are few other mass transit options for reaching Manhattan's east side; Torio experimented with the bus down Second Avenue from her apartment at 83rd Street to her office on 26th Street and Park Avenue.

"I even got a seat, but it just takes so much time," Torio said.

As early as 1929, planners have known that a Second Avenue Subway was a big part of the solution. But lack of funding has stalled the project for decades.

A Second Avenue Subway would shorten Torio's commute to work and alleviate rush-hour traffic on East Side subways and buses. But the subway won't be her only new choice. By 2009, one of the city's five new Bus Rapid Transit (BRT) lines will be implemented on First and Second Avenue, giving commuters the option of a bus that zooms downtown in its own lane, bringing with it a 22% increase in travel-time savings.

"There's definitely a need for a new way to handle the increasing population," Torio said. "Having that Second Avenue subway line would just make everyone's commute much easier."

Co-op City and Hunts Point with fast, direct rides, and helping to reduce auto commuting to job centers in West Harlem.

Long Islanders who work in Midtown are more likely to take the train than those who work in Lower Manhattan or downtown Brooklyn. Those who drive contribute to traffic delays in Brooklyn and Nassau County. Those who do take the train have to transfer to subways to get to their jobs. Further, the lack of good airport access hinders the competitiveness of both areas for job growth. By connecting Jamaica, Brooklyn, and Lower Manhattan, the Lower Manhattan Rail Link will address all of these challenges.

for either rail or a dedicated road for buses to give the area its first rapid transit service in two generations.

The second area of opportunity is on Manhattan's West Side: as the 7 train is extended to reach the Javits Center, it will pass through an area that is growing fast but lacks transit. A new 10th Avenue Subway Station will meet a strong, emerging need at West 41st Street.

But transit-oriented development isn't limited to the city: developing transit hubs around suburban railroad stations can achieve a similar purpose. One such project, the Nassau County Hub, envisions a transit loop connecting LIRR stations and several existing and emerging employment centers in Mineola, Hempstead, and Garden City. Serving local riders, inbound commuters, and reverse commuters, the project will help reduce congestion on Long Island and create opportunities for the entire region.

These three projects should only be the beginning of a new era of rapid transit planning in New York. We will work with the MTA to review other potential transit expansions in the city, and we will support other regional efforts to explore local and longer-distance opportunities.



INITIATIVE 3

Expand transit access to underserved areas

We will seek to provide transit to new and emerging neighborhoods

Two areas of the city offer immediate opportunities to add new transit options where none currently exist. The 5.1-mile **Staten Island North Shore Alignment**—an abandoned rail line linking directly to St. George and the Ferry Terminal—has been unused since 1953. A study will examine the potential

COMMUTER PROFILE Bayside, Queens to Manhattan's East Side

Karin Werner has given up on Bayside. Although the Bayside Long Island Rail Road (LIRR) station is closest to her house in Queens, she drives an extra few minutes to the Auburndale stop instead.

"I never got a seat, and there were always eight to ten of us stuck standing in the middle of the car," she said. "I will not take Bayside in the morning."

When she gets off the train, she is in the wrong place. That's because Werner is one of the nearly 45% of all LIRR commuters who work on Manhattan's East Side, but are dropped off at Penn Station every morning.

The extra 25 minutes spent trekking across town means that she has to leave her house at 6:15 every morning. She's tried driving, but afternoon traffic often leaves Werner sitting in gridlock. And inevitable parking prices make costs prohibitive.

But her transit choices today are not much more cost-effective; she pays over \$150 for a LIRR monthly pass and \$76 for a monthly MetroCard.

By 2012, Werner's ride could be transformed. The LIRR's East Side Access project would bring east side commuters directly into Grand Central Terminal.

She'll have a seat, and she'll keep it all the way to Grand Central—just like she'll keep that \$76 in her pocket.

"So it's not just the 25 minutes," she said. "Though being able to sleep in a little longer would be great."

Improve transit service on existing infrastructure

While these longer-term projects are crucial, transit improvements do not have to wait for major new construction. Through targeted near-term investments and closer partnerships between the city and the MTA, we can improve transit options for all New Yorkers in just a few years.

These improvements are especially important for neighborhoods where subway access requires a long walk or a bus transfer. Almost 30% of New Yorkers live more than a half mile from a subway station. And in 22 areas across New York, the lack of good transit access has led to concentrations of Manhattan-bound commuters who drive.

We have many measures at our disposal to meet the needs of these neighborhoods. We can improve the speed and reliability of our bus network; make better use of existing rail systems like the LIRR; and create better connections to—and among—transit services. Taken together, these steps can provide significant service improvements without major capital investments, and usually without increasing operating costs.

The key barriers to these improvements have been largely organizational. We need to work in closer cooperation with the MTA to develop detailed implementation and financing plans for these improvements. (See map on page 86: *Near-Term Improvements to Transit Service*; see table on page 86: *Potential Improvements for 22 Neighborhoods with Concentrations of Manhattan-bound Drivers*)



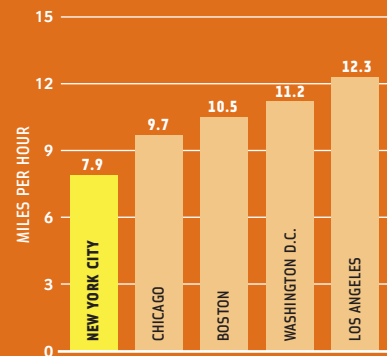
INITIATIVE 4

Improve and expand bus service

We will work pursue a variety of strategies to improve and expand bus service

New York City has the highest bus ridership in the United States, but the slowest buses. As the city grows and vehicles compete for the same road, more riders board buses, causing buses to operate at even slower speeds. Between 2002 and 2006 alone, bus speeds across the city slowed by 4%. (See chart above: *Bus Speeds*)

Bus Speeds 2004



Source: Federal Transit Administration, National Transit Database: revenue bus miles/revenue bus hours

Because traffic routinely delays buses, travelers are often stranded at bus stops with no way to gauge whether to keep waiting or move on. Even on the best days, every rider has experienced the feeling of watching a bus pull away seconds before reaching the stop, knowing that the posted schedule may not be any guide to when the next one will arrive.

Yet buses retain enormous appeal. They offer flexibility that subways cannot match; the capital costs to start a bus service are small compared with rail transit; and they can be up and running in months, not years. With new technology already in use by the MTA, they are environmentally friendly. Many senior citizens, and others, prefer the bus to the subway to avoid climbing stairs. And buses are the most efficient use of our limited road space: one bus takes the same amount of road space as two cars, but can carry 70 people.

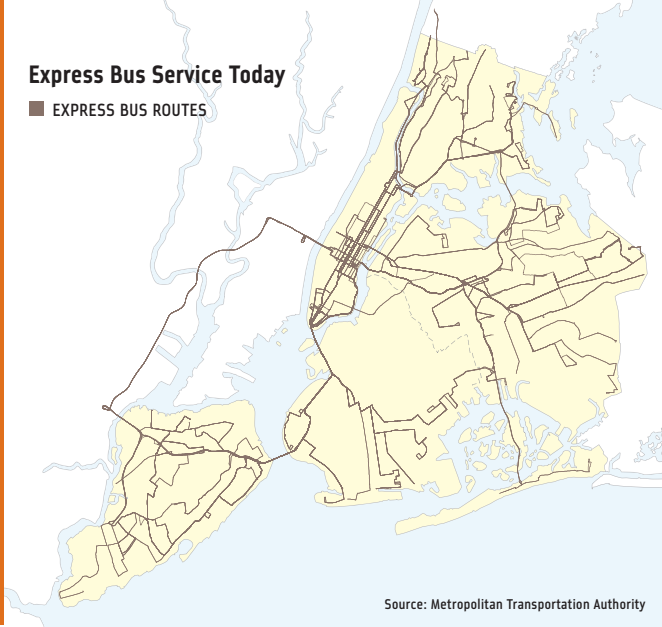
The key is to improve speeds and reliability. Cities around the world have begun embracing the benefits of bus travel while addressing the issues that have traditionally undercut buses' effectiveness. Dedicating bus lanes, and enforcing their exclusive use, is an important step. Another strategy is Bus Rapid Transit (BRT), an overall approach that has been implemented in cities around the world. BRT uses dedicated bus lanes, fewer stops, time-saving technologies, and additional efficiency measures to make bus travel fast, reliable, and effective. (See case study on facing page: *Bus Rapid Transit Around the World*)

We will initiate and expand Bus Rapid Transit

Within two years, New York City and the MTA will launch five BRT routes, one in each borough. We will incorporate many of the most successful proven features from domestic and international systems, including establishing dedicated bus lanes with bright, distinctive signage. The lanes will be marked with red paint to distinguish them from regular traffic

Express Bus Service Today

■ EXPRESS BUS ROUTES



Source: Metropolitan Transportation Authority

Congestion Impacts on Express Bus Service

The MTA's system of express buses is designed to provide direct service to Manhattan for neighborhoods at the ends of subway lines or without subway access. Over 100,000 New Yorkers ride these buses every business day. Like any road vehicle, they suffer from congestion. One of the longest runs, X22 from Tottenville, Staten Island, to Midtown, takes an hour and 17 minutes at its earliest departure, but an hour and 44 minutes at the height of rush hour—a loss of 27 minutes each morning for its riders, and an increase in operating costs of over 25% due to fuel, driver time, and wear and tear on brakes and other components.

New York City Bus Rapid Transit Stop rendering



Credit: NYC Department of Transportation and NYC Economic Development Corporation

CASE STUDY Bus Rapid Transit Around the World

It was in the mornings that Ottawa's Bus Rapid Transit (BRT) system really made the difference for Andrew Harder.

"I don't know how I would've gotten to work," said Harder. "Because of BRT, I didn't have to get up at 5 am."

BRT gives commuters the option of taking mass transit to work, without the sacrifices that bus riders sometimes make to turtle-paced traffic.

Over the last two decades, Bus Rapid Transit has become a popular tool, used by cities like Bogota, Boston, Sydney, Jakarta, Miami and Seattle to alleviate congestion. Today, Miami's BRT system shuttles around 18,000 passengers each day. Seattle's BRT serves 46,000 weekday commuters, and Boston gives 4,500 commuters a ride during morning rush hour.

Since 1983, Ottawa has installed 28 stations and nearly 20 miles of exclusive busways—the most extensive system in North America. The 900-bus fleet carries more than 200,000 riders every day.

BRT buses frequently receive priority at traffic signals, allowing them to travel through intersections without delay. In Ottawa, message boards at select passenger stations give riders updates on when to expect the next bus, a system that New York City will be adopting for its first five BRT routes, which launch in 2007.

Off-vehicle fare collection is another improvement New York City is exploring. In Curitiba, Brazil—which pioneered BRT routes in 1974—features like these reduce waiting time at the station by at least 20 seconds per stop.

"It's a lot like riding the subway," Harder said. "But with fewer stops, and sunlight."

lanes, and their exclusive use by buses will be enforced rigorously. To strengthen our enforcement ability, we will seek the approval of the State Legislature to use cameras to issue fines to drivers who violate these lanes. (See photo: *New York City Bus Rapid Transit Stop*)

BRT service will run along the same routes as traditional buses; but, more buses will run along the routes, and stops will be spaced farther apart than local service, with stations every 10 to 15 blocks. (By contrast, regular buses often stop every two to three blocks.) Electronic message boards will provide riders with real-time updates on arrival times. As illustrated below, the savings in terms of travel times will be significant.

impede passing pedestrians. (These are being installed in Lower Manhattan this year.) We are also investigating ways to allow passengers to board and exit buses more quickly. Potential ideas include electronic smart cards and letting passengers pay their fares before boarding buses. If successful, all of these technologies could be implemented system-wide, not only on BRT routes. (See *commuter profile* on following page: *Staten Island to Brooklyn*)

We will dedicate Bus/High Occupancy Vehicle (HOV) lanes on the East River bridges

As neighborhoods in Brooklyn and Queens grow, congestion on some subway lines across the East River worsens. Crowding is felt most acutely at the stations nearest Manhattan, where rush hour riders are increasingly forced to let packed trains go by before finding one they can squeeze into. That's why bus service across the river would be an attractive alternative for many of these riders.

We will create new or improved bus lanes on the Manhattan, Williamsburg, and Queensboro Bridges to allow the MTA to expand local service to and from Manhattan. These lanes could also serve express buses and carpoolers. We will work with the MTA to identify the bus routes that will benefit most from these lanes, and particularly alleviate crowding on the E train, L train, and 7 train.

We will explore other improvements to bus service

Further opportunities to improve bus service across the system exist. Many of the technologies that will be used for BRT—traffic light priority, electronic message boards, bus bulbs—could be used by regular buses as well. Opportunities besides the East River Bridges may exist where dedicated bus lanes could significantly improve service. Adjustments to service patterns—skip-stop

FIVE INITIAL BRT ROUTES

ROUTE	DAILY CORRIDOR RIDERS*	DAILY BRT RIDERS*	TRAVEL TIME IMPROVEMENTS (% FASTER)**
First and Second Avenue (Manhattan)	27,100	12,900	22%
Fordham Road/Pelham Parkway (Bronx)	14,700	7,000	8%
Nostrand Avenue (Brooklyn)	20,000	5,300	20%
Merrick Boulevard (Queens)	21,800	2,600	16%
Hylan Boulevard (Staten Island)	4,700	2,800	22%

*Includes other buses that will also benefit from bus lanes

**End to end travel time savings compared to existing local service

Source: NYC Department of Transportation; Metropolitan Transportation Authority

By 2014, we will expand BRT service by at least five additional routes. We will also implement new technologies, including giving BRT vehicles signal priority—which means traffic lights recognize approaching buses and either turn or stay green so that the buses remain on schedule. We are already working with the MTA to test this technology on Victory Boulevard on Staten Island.

Where possible, we will build sidewalk extensions that allow buses to stop without pulling over to the curb—and provide more waiting room for riders who might otherwise

Commuter Rail Service

Number of inbound trains during morning rush hour (6–10am)

- TERMINALS
- STATION



Source: Metropolitan Transportation Authority and Mayor's Office of Long-Term Planning and Sustainability



INITIATIVE 6

Improve access to existing transit

We will facilitate access to subways and bus stops citywide

Every transit trip requires the passenger to get to the subway station or bus stop. But in many cases across the city, that can be almost as difficult as the journey itself.

Three main challenges prevent transit stops from being used to their full capacity: subway stations where the sidewalks are congested; bus stops where riders have to wait in the street under elevated rail structures; and bus stops along city streets that lack sidewalks. By making it easier for people to reach and use our existing transit system, we can encourage a broader mode shift in every borough.

All over New York are sites that require simple improvements to make existing transit options more accessible. For example, in the burgeoning neighborhood of Williamsburg, commuters increasingly ride bicycles to the L train. Today the line of bikes at the Bedford Avenue subway station stretches down the block, spilling across the narrow sidewalk. To relieve this condition, we will remove parking spaces, expand the sidewalk, and install more bicycle racks.

After evaluating all 468 subway stations, we have identified 24 areas in Brooklyn, Queens, and the Bronx that are not yet equipped to handle the rise in sidewalk congestion. These sites were selected in 2000, and work is underway to complete all of them by 2019.

In 42 other sites across the city, bus stops are tucked under elevated structures near subway stops. The columns interfere with traffic patterns especially when combined with high volumes of pedestrians. Buses cannot weave through the columns to reach the curb, which forces waiting riders to step into traffic to see if a bus is approaching. When the bus arrives, boarding frequently takes place on the street. To date, we have built raised islands that serve as bus stops at four locations. By 2021, we will complete work at all 42 locations. These upgrades can also include sidewalk extensions to make it easier to get to the stop.

In other cases, there is no sidewalk to the bus at all. For example, at Staten Island's Hylan Boulevard and Fairlawn Avenue, dozens of adults and school children need to cross the road daily to walk to school, work, or the bus stop, but there is no sidewalk along the eastern side of the road leading to the crosswalk or the bus stop.

COMMUTER PROFILE

Staten Island to Brooklyn

Tony Licciardello laughs when asked how long he has commuted from his home in New Dorp, Staten Island, to his job as a court officer in Downtown Brooklyn.

"Oh, a long time," he says. "At least 20 years."

In that time, Licciardello has gotten his daily drive down to a science—one based on the desire to avoid the complex subway and bus route commute that links his borough to Brooklyn.

There is currently no direct transit option to shuttle the more than 2,600 New Dorp residents who commute outside Staten Island every day. Today, if Licciardello wants to leave his car at home, he has to take a local bus to the Staten Island Ferry, which drops him in Lower Manhattan, and then take the subway or bus to Brooklyn. The trip would take 90 minutes—and add an entire borough to his commute.

He opts for his car's relative ease over transfers and inevitable wait times—even though the travel time is roughly the same. But if there was a simpler transit route, Licciardello would leave his car, ending his constant search for parking and cutting down gas costs.

He will be getting the choice soon. A new Bus Rapid Transit (BRT) option from Hylan Boulevard in Staten Island—set to launch in 2007—will provide Licciardello with direct service to the subway—and shave 15 minutes off his commute time. Congestion pricing would give Licciardello a faster drive, too, removing some of the Manhattan-bound traffic that he battles with each day.

"Now it's just more convenient for me to drive," Licciardello said. "But I would definitely take public transit instead—even if it took a little bit longer."

Express Bus service, for example, or stopping some Express Buses in Downtown Brooklyn—might also increase ridership and help to reduce congestion. Changes in traffic patterns, signal timing or street alignment might eliminate "hot spots" where buses routinely get delayed. Because they rely on City-owned streets, good bus service requires close cooperation between the City and the MTA. The City will invite the MTA to work with it to identify a wide range of opportunities, big and small, where joint efforts might provide better transit service. (See map on previous page: Express Bus Service Today)



INITIATIVE 5

Improve local commuter rail service

We will seek to expand local use of Metro-North and Long Island Rail Road (LIRR) stations

For some neighborhoods in the Bronx, Brooklyn, and Queens, commuter rail is the best transit option. But local service at many of these stations is infrequent, and commuter rail costs even more even than express buses—especially if a transit transfer is necessary. Of the 33 commuter stations in the city, 15 do not have rush-hour service frequencies comparable to local stations in suburban counties. (See map above: Commuter Rail Service)

Capacity constraints drive some of this shortage; in some cases, expanding service will only be feasible after new projects such as East Side Access are complete. At others, higher ridership can come from improved connection from local buses. We will seek to work with the MTA to identify innovative ways that commuter rail service can serve Queens, Brooklyn and the Bronx.

The Sidewalks to Buses initiative focuses on providing sidewalks, crosswalks, bus waiting areas, and other pedestrian safety improvements to improve access at these locations. Priority will be given to areas where pedestrians are exposed to high-speed or high-volume traffic on their way to and from bus stops. On average, each location will require a quarter mile of sidewalk to provide a safe route. We plan to complete work at up to 15 different stops each year.

TRANSIT ACCESS INITIATIVE

INITIATIVE	LOCATIONS	COMPLETED/ UNDERWAY
Subway/Sidewalk Interface	24	2
Bus stops under Els	Up to 42	4
Sidewalks to Buses	2 pilots identified	0
TOTAL	68	6

Source: NYC Department of Transportation



INITIATIVE 7

Address congested areas around the city

We will develop congestion management plans for outer borough growth corridors

The vast majority of trips made in New York are not to Manhattan; even among commuters, nearly twice as many outer borough residents work outside of Manhattan as inside—1.56 million versus 841,000. As neighborhoods across the city grow, we must develop targeted plans to diffuse congestion across the city.

The main commercial stretch along Brooklyn’s Church Avenue is one such area. This vibrant commercial district attracts shoppers arriving by car and transit, as well as local truck traffic. Double parking causes even more delays between Coney Island Avenue and Utica Avenue, and the B35 bus is slowed by traffic, encouraging more to drive rather than take transit.

We have identified nine corridors that experience this kind of road and transit congestion:

- Fordham Road (Bronx)
- White Plains Road (Bronx)
- Church Avenue (Brooklyn)
- Nostrand Avenue (Brooklyn)
- West 96th Street (Manhattan)
- West 181st Street (Manhattan)
- Northern Boulevard (Queens)
- Woodhaven Boulevard (Queens)
- Amboy Road (Staten Island)

Over the next two years, we will undertake an intensive study of each area, evaluating traffic congestion, truck traffic, pedestrian mobility, transit service, and current and future land use potential. When each study is finished, we will work with affected communities to complete customized plans that reduce traffic congestion, improve air quality, provide a safer environment for vehicular and pedestrian traffic, and improve quality of life.

Actions under consideration will include new bus, pedestrian and bicycle enhancements, changes to the road design, modification to parking rules to free up curb space, and technological upgrades like computerized signaling systems to facilitate traffic flow. Broader improvements, such as taxi or for-hire vehicle stands, increased transit service, and targeted traffic enforcement, could also be part of the solutions.

We will also identify broader congestion “Growth Areas” across the city, potentially spanning entire neighborhoods, and develop neighborhood-specific strategies using many of the same tools.

Promote other sustainable modes

Despite our dependence on subway, bus, and commuter rail service, opportunities exist to expand the use of two other modes of transportation: ferries and bicycles. Today only 55,000 people reach Manhattan island by ferry daily. And although many New Yorkers own bicycles, most consider cycling to be recreational, not a mode of transportation. As a result, we will work to expand ferry service and integrate it into the transit system, and promote broader bicycle use across the city.

For different reasons, bikes and ferries are highly sustainable modes of transportation. Ferries require little infrastructure and make use of space that is already there—our waterways. With modern engines and pollution control equipment, they can also be low-polluting forms of transportation. Nothing is as low-polluting as the human-powered bicycle, which can give many New Yorkers an alternative to the auto for short trips and a way to get exercise as well.

COMMUTER PROFILE

Co-op City to Lower Manhattan

Oscar Alvarado spends at least 720 hours—the equivalent of one month every year—commuting.

On weekday mornings, he leaves his apartment in Co-op City and boards the QBx1 bus, which takes him to the Pelham Bay station. From there, he rides the 6 train to 125th street, where Alvarado waits for the 4 or 5 train. Almost every morning, he lets one train go by—it’s always too packed—and gets on the next, which takes him to Lower Manhattan.

“But I’d rather wait than get to work rumpled and frustrated,” he said. “I don’t get how other people push into the car like that.”

In Co-op City, a neighborhood of 50,000 people living in 15,000 apartments, transportation is a serious topic. On any given morning, almost 14,000 people who work in Manhattan, like Alvarado, pour out of the Co-op City complexes and onto crowded local and express buses.

“The whole community here is a little isolated—and transportation improvements are really important,” said Oscar Alvarado, climbing onto the bus.

Alvarado has lived in Co-op City for eight years, and his commute to work is 90 minutes each way. He has tried driving in, but the prospect of finding parking around his office in Lower Manhattan is too daunting. He has also tried commuting by express bus, but the ride only brings him to 23rd street.

“And then, I’d have to get off the express bus and walk to the 6 train, anyway,” he said. “It’s not an easy transfer, and not really a viable alternative.”

Alvarado’s voice perks up, though, when he is asked about the possibility of a new Metro North line. By 2013, Metro North trains could leave from Co-op City, a quick shuttle ride from Alvarado’s home. With the new service, it would take commuters just 30 minutes to glide into Penn Station from Co-op City. Riding Metro North would cut Alvarado’s commute time by a third. The project is relatively low-cost for rail transit—under \$2 billion—but it cannot happen until the LIRR’s East Side Access project frees up space in Penn Station.

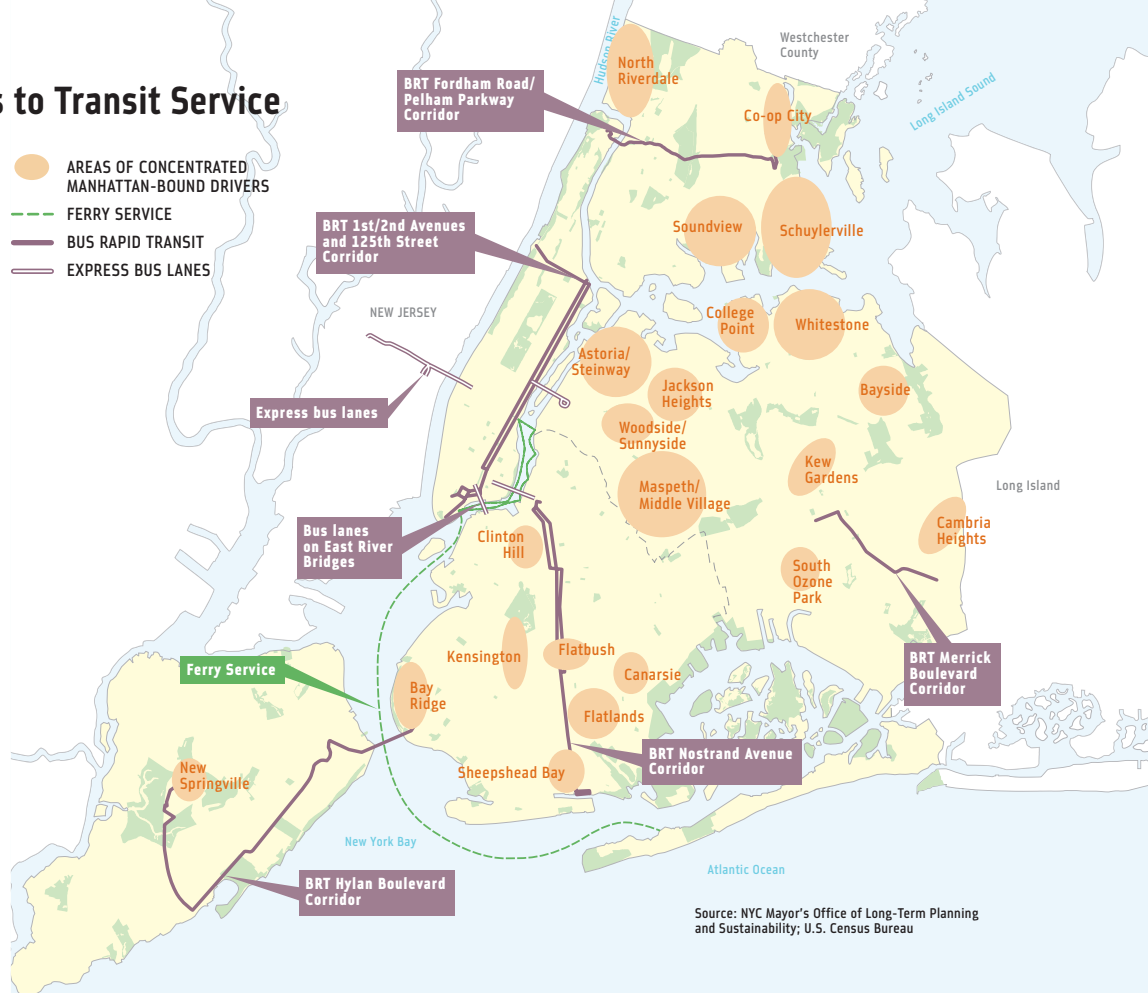
“Going straight to Penn Station, right near all the lines that take me to work, would be just like a regular transfer,” Alvarado said. “And it would be quicker, and more comfortable. That would be a major improvement.”

Near-Term Improvements to Transit Service

In all New York City neighborhoods, a majority of Manhattan-bound commuters take transit. But the areas shown in this map have higher concentrations of drivers to Manhattan than any other parts of the city. Many of these areas do not have rail transit service; others have subway or rail service that does not meet all residents' needs. With only slight enhancements to the system more people in these areas would choose transit over driving. These enhancements would emphasize connections to the subway or commuter rail system where feasible; minimize transfers; improve reliability; and use existing bus routes and corridors where possible.

Intermodal connections improve the timing or the location of bus stops to make an existing two-seat ride more convenient. **Rerouting existing bus routes** can bring buses closer to potential riders or make routes more direct. **Bus prioritization** can change traffic lights when buses approach to speed bus travel. **Improving subway and rail station access** can cut walking distances or make entrances easier to navigate. On some routes, **bus frequency** is too low for the potential demand and could be increased; on others, frequency is sufficient to allow **skip-stop** or **limited-stop service** that would cut travel times. **New bus routes** would increase options within the system—but are the most expensive of these short-term measures. In addition, many of these neighborhoods will benefit from **other projects** outlined in this plan, ranging from new commuter rail service to BRT.

The table below outlines which of these strategies we would recommend for each neighborhood.



Source: NYC Mayor's Office of Long-Term Planning and Sustainability; U.S. Census Bureau

Potential Improvements for 22 Neighborhoods with Concentrations of Manhattan-bound Drivers

NEIGHBORHOOD		INTERMODAL CONNECTION	RE-ROUTING OF EXISTING BUS ROUTE	BUS PRIORITIZATION	SUBWAY AND RAIL STATION ACCESS	INCREASE BUS FREQUENCY	SKIP STOPS/LIMITED STOPS	NEW BUS ROUTE	OTHER PROJECTS
BRONX	Co-op City	●							Metro-North to Penn Station; BRT
	North Riverdale	●							Metro-North to Penn Station
	Schuylerville	●		●					
	Soundview	●		●	●				
BROOKLYN	Bay Ridge		●	●			●		
	Canarsie	●	●			●			Nostrand BRT
	Clinton Hill	●			●				Bus Lane on Manhattan Bridge
	Flatbush	●		●					Nostrand BRT
	Flatlands	●		●		●	●		
	Kensington				●				
	Sheepshead Bay				●				Nostrand BRT
QUEENS	Bayside	●	●			●			LIRR East Side Access
	Cambria Heights	●	●	●					Merrick Blvd BRT
	College Point	●		●				●	
	Jackson Heights	●	●		●	●	●	●	Bus Lane on Queensboro Bridge
	Kew Gardens	●	●	●					LIRR East Side Access
	Maspeth / Middle Village / Ridgewood		●		●				
	South Ozone Park	●	●	●	●				
	Astoria / Steinway		●	●	●				Bus Lane on Queensboro Bridge
STATEN ISLAND	New Springville							●	Hylan Blvd BRT



INITIATIVE 8

Expand ferry service

We will seek to expand service and improve integration with the city's existing mass transit system

Along Newtown Creek, which separates Brooklyn and Queens, the transformation of New York's waterfront is clear. To the north, apartment buildings are rising and land is being cleared for thousands of additional units of housing at Queens West, many of which will be affordable to middle-income families. To the south sit the low-lying factories and warehouses of Williamsburg and Greenpoint, which are being converted into a waterfront esplanade, parks, and housing.

Across the city, more than 60 miles of largely-abandoned waterfront land is being reclaimed for recreation and new communities. But some of these neighborhoods lack the basic transportation infrastructure required for sustainable growth. In some areas, the nearest subway stop is more than three-quarters of a mile away. Where there is service, the trains and buses are increasingly crowded as growing numbers of commuters use stations closest to Manhattan.

Ferries and water taxis can help solve both of these problems. In addition, ferries have proven that they can provide critical backup transportation for the city during emergencies, as they did on 9/11 and during the 2003 blackout.

That's why we will seek to expand ferry service to emerging neighborhoods across the city and seamlessly integrate it into the city's transportation network.

The City will seek to initiate a new privately-operated ferry system along the East River that will connect developing areas of Brooklyn and Queens with Midtown and Lower Manhattan. This new service would connect ferry landings at Queens West, Greenpoint and North and South Williamsburg, with landings at Pier 11 (Wall Street) and East 34th Street in Manhattan. In addition, we will seek to pilot service between Manhattan and the Rockaways in Queens. Other parts of the city where ferry service may make sense—such as southern Queens, the south shore of Staten Island, and the Bronx—will be evaluated based on potential ridership and financial flexibility.

Ferry service is most effective when it connects riders with land-based transit bringing them close to their inland destinations. That is why we will work with the MTA to extend bus routes to ferry docks from Midtown. We



will also explore the possibility of using BRT or other fast service on crosstown routes for more efficient connections, especially across 34th Street and 42nd Street.

Finally, for ferries to be considered an effective component of the city's mass transit system, they must be treated that way. That is why ferry passengers must be able to use their MetroCards for ferries and the connecting bus service. We will work with the MTA and the ferry companies to achieve this intergration.



INITIATIVE 9

Promote cycling

We will pursue strategies to encourage the growth of cycling across the city

Cycling also offers an environmentally-friendly and space-efficient way to travel around the city. Other cities have embraced cycling as emission-free, low-cost travel mode that promotes a healthy lifestyle—and one that New Yorkers are increasingly embracing. Cycling in the city is estimated to have increased 75% from 2000 to 2006. But there is still plenty of room to grow; less than 1% of New Yorkers commute to work by bicycle. (See case study: *Cycling Emerges Around U.S.*)

We will complete the city's 1,800-mile bike master plan

In order to reduce traffic and reach our clean air and greenhouse gas reduction goals, New Yorkers should be given the option of reaching their jobs and major city destinations through cycling. That is why we will dramatically accelerate the implementation of the City's 1,800-mile bike lane master plan, to ensure that the entire system is in place before 2030. (See chart above: *Bike Lane Construction*)

CASE STUDY Cycling Emerges Around U.S.

When Brean Martin needs a ride across Chicago, he plops his bike on a rack between a bus's headlights.

"Now, every bus has carriers," said Martin. "I get the feeling it helps bus drivers be more careful about bikers on the road."

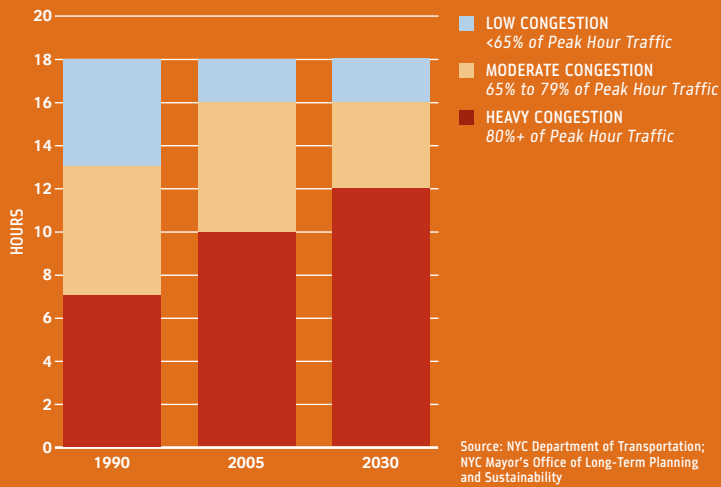
Cities across the nation are looking to the two-wheeler as a key to creating sustainable, enjoyable public transportation. They're planning miles of bike paths, starting public bicycle programs, and zeroing in on safety measures. Seattle, Portland, and Boulder have instituted major networks. Baltimore and Philadelphia are on the road to better biking, too.

By 2015, Chicago wants at least 5% of all trips less than five miles to be on bicycle. The city has discovered that shifting trips to bikes can become a congestion management strategy. It has already installed more than 160 miles of bike lanes throughout the city.

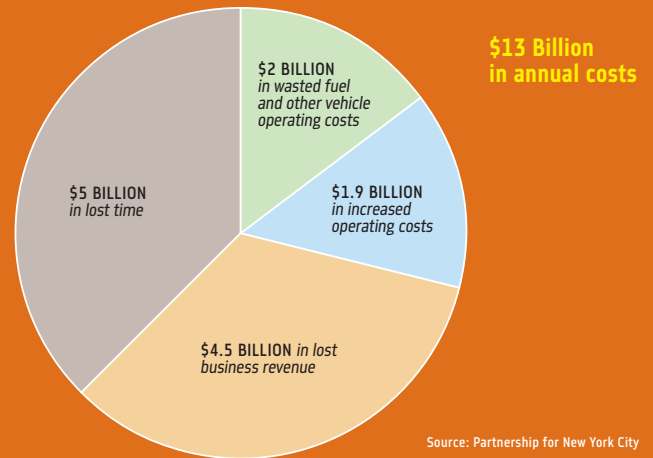
Brean Martin thinks car congestion has already lightened up.

"It used to be that I'd go flying on my bike through dead-stopped traffic," said Martin. "Now, the cars actually move."

Hours of Congestion



Annual Cost of Congestion to the New York Region



The plan includes 504 miles of separated bike paths (Class 1 facilities) and 1,296 miles of striped bicycle lanes or markings reminding drivers and cyclists to share the road (Class 2 and 3). To date, only 420 miles have been constructed.

We will complete Phase 1 of the plan in 2009, which will add 200 lane miles in targeted areas across the city—with the first 40 finished by June 2007.

We will prioritize areas with high demand, building connections between existing portions of the network, and strengthening access to parks through special bike paths known as greenways. These greenways not only offer their own recreational benefits such as biking, skating, and walking throughout our city's park system; they can also open up new areas of parkland.

Phase 2 and beyond will complete the remaining bike lanes, resulting in 1,800 total lane miles of bicycle facilities in New York City.

BIKE MASTER PLAN STATUS

LANE MILES	CLASS 1	CLASS 2	CLASS 3	TOTAL
Built	200	176	44	420
Planned for 2030	42	1,076		1,380
TOTAL	504	1,296		1,800

Source: NYC Department of Transportation

We will facilitate cycling

In addition to implementing the master plan, we must provide support for city cyclists and encourage New Yorkers to explore this form of transportation. That means improving public education on the benefits of cycling and on safety issues, increasing necessary bicycling infrastructure such as bike racks and lockers, and improving observation of traffic and bicycling laws.

Cyclists often point out that their main concern is having safe places to store their bikes. To solve this problem, the City's Depart-

ment of Transportation (DOT) will continue the CITYRACKS program by installing 1,200 additional on-street bicycle racks throughout the City by 2009, and commit to that level of installation until every neighborhood has adequate bike parking. We will also pursue legislation to require that large commercial buildings make provision for bicycle storage either on site or reasonably nearby.

Improve traffic flow by reducing congestion

The city's quality of life and economic prosperity depend on a transportation system that can meet demand. That means we must use our streets more efficiently if we are to absorb millions of new residents, workers, and tourists.

To achieve this goal, we will expand proven strategies to smooth traffic flows; and we will encourage commuters to shift from their cars onto an improved transit system, while providing better service for those who choose to continue to drive. (See charts above: Hours of Congestion and Annual Cost of Congestion to the New York Region)



INITIATIVE 10

Pilot congestion pricing

We will seek to use pricing to manage traffic in the Central Business District (CBD)

Over the last 30 years, even significant improvements in our subway system have not substantially changed the way New Yorkers get to Manhattan. Despite enhancements in safety,

efficiency, and aesthetics, the percentage of drivers has remained essentially unchanged.

On a given workday, the Manhattan CBD is home to nearly 2 million workers from around the region, hundreds of thousands of tourists, and several hundred thousand residents. Cars compete for the road with buses, trucks pedestrians, cyclists and taxis. Vehicles trapped in traffic spew pollution into the air, putting the health of those living near congested roads at risk; and the resulting jams cost the region more than \$13 billion dollars every year. As our population grows by another 900,000 people, we add more than 20 million visitors annually, and 750,000 new jobs—many concentrated in the CBD—the consequences of congestion will become ever more severe.

The strategy that has emerged around the world as the most effective tactic to this gridlock is congestion pricing, a system that charges drivers a fee for entering a city's center. London, Stockholm, and Singapore all employ congestion pricing. Here in the United States, the U.S. Department of Transportation has also encouraged cities to undertake market-based congestion reduction initiatives. (See case study on facing page: London Congestion Pricing)

In every case where it has been implemented, congestion pricing has been successful at reducing traffic both within the "congestion zone" and outside it, speeding bus service, decreasing delivery times, improving air quality, and cutting greenhouse gas emissions, with no material impact on the economy, including retail activity in the zone in which the charge applies.

Key to the success of congestion pricing in those cities—and the widespread acceptance of initially reluctant businesses and residents—is the fact that congestion pricing is only one part of an overall commitment to increase investment in mass transit.

That is what we propose for New York. We believe a thoughtfully designed congestion pricing program should be part of a solution to the regional and city-wide transportation gridlock we will be facing. Its proceeds would be dedicated to funding billions of dollars of transportation improvements, including immediate enhancements to some of New York's least transit accessible communities. (See following page: *New York City's Congestion Pricing Plan*)

Summarized below is an illustrative example of how congestion pricing could be implemented and its impact. The details would have to be determined through a collaborative process between the City and the State, because State legislation would be needed to enable the City to impose a fee and give the City the right to fine violators. State law could authorize the City to define the pricing area, the amount of the charge, the hours it would apply, and the fines for failure to pay, or it could specify those details in the legislation. The legislation would also need to specify the type of environmental review that would be necessary.

Given its successful track record in other major global cities, we seek to pilot congestion pricing in New York for a test period of three years. The best way to predict whether it will work—and whether the benefits outweigh the inconveniences—is to try it. Further, we believe that a pilot could be undertaken with no outlay of City or State funds, but leveraging Federal and private dollars.

Operating congestion pricing

Passenger vehicles entering or leaving Manhattan below 86th Street during the business day (weekdays 6 am to 6 pm)—with the exception of the FDR Drive, the West Side Highway, and West Street—would pay an \$8 daily fee. Trucks would pay \$21. Autos that drive only within “the Zone” would pay half price. The charge would apply to all vehicles, except emergency vehicles, those with handicapped license plates, taxis, and for-hire vehicles (radio cars).

Vehicles using E-Z Pass that travel through MTA or Port Authority (PA) tolled crossings on the same day would pay only the difference between their MTA or PA tolls and the congestion charge, so that drivers don't have an incentive to detour across free bridges. Because roads on the periphery of Manhattan will not be in the Zone, trips around the Zone (for example, from Harlem to Brooklyn) would not be charged.

Payment would involve no toll gates or waiting areas. The technological backbone of the system would be E-Z Pass, which relies

on high-speed sensors, and is used by more than 70% of New York area drivers. The charge would appear on drivers' E-Z Pass statements.

For those drivers without E-Z Pass, their license plates would be checked automatically by cameras mounted on traffic light poles, with payment options available through Internet, the telephone, or at participating retail outlets. Drivers would have two days to pay the charge.

Impact of congestion pricing

The main benefit of congestion pricing would be reduced traffic congestion. Traffic within the Zone would decrease 6.3%. Speeds are projected to increase 7.2%. The impact would also be felt in the other boroughs, since the number of cars passing through other neighborhoods on their way to Manhattan will decline. This is especially the case on key thoroughfares leading to bridges, including Flatbush Avenue in Brooklyn and Queens Boulevard in Long Island City. (One study suggested that 43% of all traffic in downtown Brooklyn and 57% of rush-hour traffic in Long Island City is bound for Manhattan). Overall, travel speeds in all four boroughs would get better due to congestion pricing in Manhattan.

The 4.6% of New York City residents who drive to work in the Zone would pay a daily charge less than the cost of commuting by Express Bus, and they would have a faster commute than today. Everyone who drives, especially in Manhattan, would experience the benefits of reduced traffic and higher speeds. Workers and companies whose income depends on providing services in Manhattan would be more productive. A plumber who currently spends a quarter of his day sitting in his van in Midtown traffic traveling from site to site would be able to do more work every day—increasing his income far more than the \$8 fee he pays. Delivery firms would have fewer packages delayed. Buses would run faster. Taxi drivers would carry more fares in a shift. These benefits would lower costs of doing business in the city, and benefit all New Yorkers.

The implementation of short-term improvements would be essential to the success of any congestion pricing program and to the transit infrastructure described earlier in this chapter, including: bus rapid transit, improved express bus service, dedicated bus lanes on bridges, and new ferry service, especially to areas of the city that lack convenient mass transit access to Manhattan today. In many cases, these improvements would be put in place prior to implementation of congestion pricing.

CASE STUDY London Congestion Pricing

In 2000, headlines often compared the speeds of central London traffic to Victorian horse-and-buggies. And so did Londoners.

“Some days, it took me almost an hour to drive six miles from home to work in the morning,” said Gregory Phillips, an architect who works in the city's West End.

But when Mayor Ken Livingstone introduced an internationally proven congestion-mitigation strategy he was named the city's “Deadliest Enemy” by the *London Daily Telegraph*.

The strategy was congestion pricing—a plan to charge drivers a daily fee for the use of London's busiest roads during business hours.

Opponents of the congestion charge argued the charge would “strangle retailers” in the area. More than half of Londoners believed that the fee would make no difference in traffic patterns at all. Westminster City Council called on the High Court to order a full-scale public inquiry into the program, and more than 60% of the city's population stood against the idea.

Despite the skepticism, in February 2003, London began charging cars £5 (\$10) to access central London's most congested streets.

Traffic delays in London have plunged substantially—by 30%. Road speeds have increased 19% from the introduction of congestion pricing. A feared drop in retail spending never materialized.

Since the program started, more than \$360 million has been funneled into expansions and improvements of mass transportation—improvements that are attracting more Londoners to public transit. Bus ridership has increased 30% during peak periods. The extra road space has been reshaped into stunning public spaces like the new plaza at Trafalgar Square.

Now, Gregory Phillips rides his bicycle to work. “Since the introduction of the congestion charge, I find that I cycle in almost every day, and I love it,” he said.

In fact, Phillips said, his commute has actually become much quicker. “If I'm cycling, I can get into the office in 35 minutes.”

Now that's an improvement.

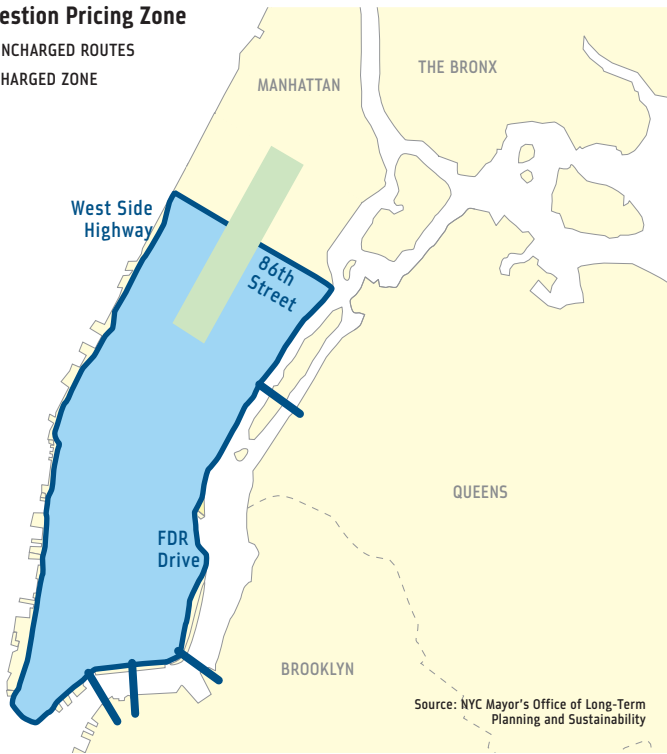
CHANGE IN TRAFFIC WITHIN LONDON'S CHARGING ZONE AFTER CONGESTION PRICING	
Automobiles	-34%
Heavy trucks	-7%
Vans	-5%
Buses	+21%
Taxis	+22%
Bicycles	+28%
ALL VEHICLES	-12%

Source: Transport for London

New York City's Congestion Pricing Plan

Congestion Pricing Zone

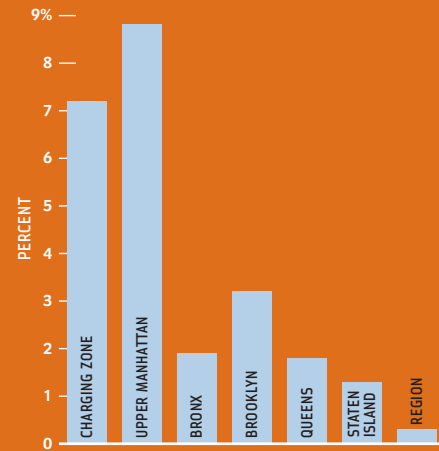
- UNCHARGED ROUTES
- CHARGED ZONE



Source: NYC Mayor's Office of Long-Term Planning and Sustainability

Traffic Improvement After Congestion Pricing

Increase in average speed over 24 hours



Source: NYC Mayor's Office of Long-Term Planning and Sustainability



CONGESTION PRICING FEATURES

Zone boundaries	Manhattan below 86th Street, except <ul style="list-style-type: none"> • West Street and West Side Highway • FDR Drive • Battery Park Underpass • Queensboro, Williamsburg, Manhattan and Brooklyn Bridges and their approaches.
Hours	6 am–6 pm, Monday–Friday (no charges on weekends)
Charges: autos	\$8 daily charge to enter, leave, and move within the zone during charging hours \$4 daily charge for travel only within the zone during charging hours
Charges: trucks	\$21 daily charge to enter, leave, and move within the zone during charging hours \$5.50 daily charge for travel only within the zone during charging hours
Trips bypassing the Zone	Drivers do not pay unless they enter the zone. For example, driving from Brooklyn to the Bronx on the Brooklyn Bridge and FDR Drive would still be free
Toll rebates for E-Z Pass users	E-Z Pass users paying bridge and tunnel tolls to enter the zone will be credited the amount of their round-trip tolls that day, up to \$8. For example, an E-Z Pass driver who now uses the Battery Tunnel to enter and leave Manhattan will pay no additional charge, because the current round-trip toll they pay is already \$8
Exemptions	No charges for: <ul style="list-style-type: none"> • Handicapped license plates • Emergency vehicles and transit buses • Yellow taxis and livery cabs
Collection technology	At-speed E-Z Pass readers will allow fee collection without slowing vehicles down. Vehicles not equipped with E-Z Pass will be recorded by cameras and drivers can pay the fee by phone, internet or at participating retailers within 48 hours.
Revenues	All net revenues will be dedicated 100% to transportation investments through the SMART Financing Authority
Operating entity	NYC Department of Transportation will control the system, which will be built and maintained by a contractor yet to be selected

Source: NYC Mayor's Office of Long-Term Planning and Sustainability

Over time, more and more commuters would benefit from the longer-term investments in mass transit, 50% of which would be funded by the nearly \$400 million net revenues of congestion pricing in its first full year.

Although areas near the congestion pricing zone should experience reductions in traffic due to fewer drivers passing through on their way to the Zone, we would work with local communities if it seems that they would be impacted by drivers seeking to avoid the congestion pricing charge. Possible solutions include parking permits for residential neighborhoods and an expansion of the Muni meter program in commercial areas.

Overall, 94,000 travelers are projected to take advantage of new and improved transit choices, achieving the city's first significant mode shift in decades. Only 1.4% are expected not to take the trip into the Zone at all because of the congestion charge. The majority of these will travel instead to destinations in Upper Manhattan and the outer boroughs, helping businesses in those areas. As a result, the overall economic impact of the congestion charge is expected to be neutral to positive, consistent with the experience of cities where congestion pricing is in operation.



INITIATIVE 11

Manage roads more efficiently We will increase the use of Muni meters within the city and develop an integrated traffic management system for our regional transportation network

We will expand the use of Muni meters

Muni meters, first introduced in New York in 1996, offer numerous advantages compared to traditional single-space parking meters. For drivers, they increase parking capacity by allowing cars to park closer together. They also enable the city to improve traffic flow by charging vehicles progressively higher fees for longer stays, encouraging shorter stays and more turnover. This increased turn-

over reduces double-parking and cuts the amount of time drivers spend “cruising” for a parking space. The meters also allow for more flexible payment options, accepting coin, credit card or city parking cards, and they create more sidewalk space for pedestrians—one Muni meter can replace up to six single space meters.

While Muni meters are currently only in use in certain areas, DOT will introduce them in business districts across the city, completing installation in all possible locations by 2011.

We will create an integrated traffic management system

The region's congestion problems are compounded by inefficiencies and lack of coordination among agencies and travelers. Poorly timed signals can cause backups, and drivers are often not alerted to traffic jams until they are actually sitting in them.

That's why the City has launched a five-year plan to unify and expand the information systems on our transportation network and enhance coordination throughout the region. Although we have utilized Intelligent Transportation Systems (ITS) for years through the use of cameras and electronic signage on highways, the real benefits can only be achieved when the information is centralized and coordinated.

Also in 2008, the New York Police Department, New York State Department of Transportation and the City's DOT will open the Joint Transportation Management Center, in Long Island City, which will enhance our ability to track and coordinate responses to traffic incidents.

But coordination is only the beginning; significant improvements require significant investments in technology. We will continue technological upgrades. By 2009, we will electronically control the timing on more than 70% of the city's traffic signals, allowing us to respond in real-time to emerging traffic conditions; by 2012, all of the city's highways will be equipped with ITS technologies.

Expanded technology and coordination will improve our ability to respond to traffic incidents, manage traffic congestion, and deliver information to drivers in real time.



INITIATIVE 12

Strengthen enforcement of traffic violations We will improve our ability to enforce traffic laws

The number of vehicles is not the only contributor to congestion. Drivers who violate traffic laws make congestion worse. While the City undertakes focused efforts to increase enforcement, we must make broader, more systematic changes to enhance enforcement. We will undertake two initiatives and advocate for State action on a third to ensure that many drivers do not suffer from unnecessary congestion due to the illegal behavior of a few.

We will expand the number of Traffic Enforcement Agents

There are an estimated 800 intersections around New York City—in all five boroughs—where the presence of traffic enforcement agents (TEA) will be beneficial—not as ticket writers, but as traffic directors. The NYPD currently has approximately 500 “level 2” traffic enforcement agents whose main role is to direct traffic. But on any given day, the majority wind up not controlling the flow at busy intersections, but ensuring the movement of traffic around construction sites and other disruptions. To provide the coverage that will keep traffic moving, the NYPD will increase the force of level 2 TEAs by 100 agents this year, to be followed by further increases in the future.

We will enable all TEAs to issue blocking-the-box tickets

A major cause of true gridlock is drivers choosing to “block the box”—to cross an intersection even if there is no room on the other side. But writing a “blocking-the-box” ticket is currently a state-regulated moving violation, which may only be issued by police officers and selected traffic enforcement agents. We will seek to create a new parking violation that will allow both police officers and all TEAs to write block-the-box tickets faster, which will encourage more vigilant ticketing of violators.

We will expand the use of traffic enforcement cameras

Along with blocking the box, another significant cause of congestion—and a major safety hazard—is the running of red lights. Currently, New York State law allows the City to use only 100 red light cameras among the city's 12,000 signalized intersections. Further, cameras are not allowed to be used for speeding violations.

To improve the flow of traffic and to improve safety on our streets, we will seek state authorization to expand the use of red light cameras dramatically, and to begin using them to enforce speeding laws. We will also use the cameras more effectively, by rotating them around the city, so that drivers will not be able to predict where they are located. In this way, we will change driver behavior and at the same time minimize the chance that drivers will cause accidents by stopping short at the last minute in order to avoid receiving a summons.



INITIATIVE 13

Facilitate freight movements

We will work to expand options for freight movements

One of the major ways that New Yorkers bear the costs—economic, health, and social—of congestion is in the movement of freight. Delays to deliveries increase the cost of the goods sold in New York stores. Congestion—and inconsistent tolling policies—lead trucks to take circuitous routes through neighborhoods. Deliveries require curbside space, and when trucks can't find it they often cause more congestion, either by cruising for a space or by double parking. Congestion is even threatening the status of John F. Kennedy International Airport (JFK) as one of the nation's leading airfreight hubs—and the airport is one of the largest employers in Queens. Still, for the vast majority of deliveries to New York businesses and homes, trucks are the only viable option, even in the long term.

The City and its regional partners are undertaking several efforts to improve freight access across the region. In some cases, capacity would be added; more often, we would be attempting to manage the capacity we have more wisely, for the benefit of the truckers and the neighborhoods they drive through. For example, the results of the DOT's Truck Route Study will improve the overall manage-

ment of truck traffic in New York City leading to improved efficiency of truck traffic, while at the same time working to keep non-essential truck traffic out of residential neighborhoods. Muni-meters will create curbside space to allow truckers to make deliveries more easily. Better traffic management and information will speed up all types of traffic. Congestion pricing will apply to trucks, but will also create an incentive for night time deliveries and eliminate the practice of trucks passing through Brooklyn and Manhattan to avoid the one-way tolls on the Verrazano-Narrows Bridge.

Two additional initiatives will be specifically focused on freight movement, but will also have benefits for other travelers.

We will improve access to JFK

Congestion en route to JFK is bad and getting worse, making the city less convenient and business-friendly. It also reduces the airport's competitiveness: in the last decade, JFK has been losing cargo business to airports outside the region, primarily due to delays and congestion on the road leading to the airport.

In June 2006, the City, in partnership with the Port Authority, created a private/public task force focusing on improving roadway access to JFK for passengers, employees and cargo. It has recently issued several short-term recommendations. These include: marketing the Cross Island Parkway as alternative to the Van Wyck Expressway for non-commercial vehicles; improvements to the Van Wyck Expressway; allowing 53' trailer access to JFK; and providing a southern route to JFK for commercial vehicles. We will pursue these recommendations, and explore the long term solutions the task force recommends in the future.

We will explore High-Occupancy Truck Toll (HOTT) Lanes

Around the world and in several states, truck traffic has been accelerated by the creation of new lanes dedicated to trucks, which pay for themselves through tolls charged for traveling on these lanes. In many cases, high-occupancy vehicles are allowed access for free, and in some, those driving alone can choose to pay a variable toll to travel on them. Thus, they are referred to as "HOTT" Lanes—for High-Occupancy Truck Toll.

On several of New York City's main highways, the opportunity exists to explore this concept, using medians and in some cases service roads for additional lanes. Key bottlenecks where trucks encounter—and cause—congestion include the Cross-Bronx Express-

way, the Staten Island Expressway, the Van Wyck, and the Brooklyn-Queens Expressway.

The City will work with and support the New York State Department of Transportation (NYSDOT), which controls these roads, to explore these self-financing lanes.

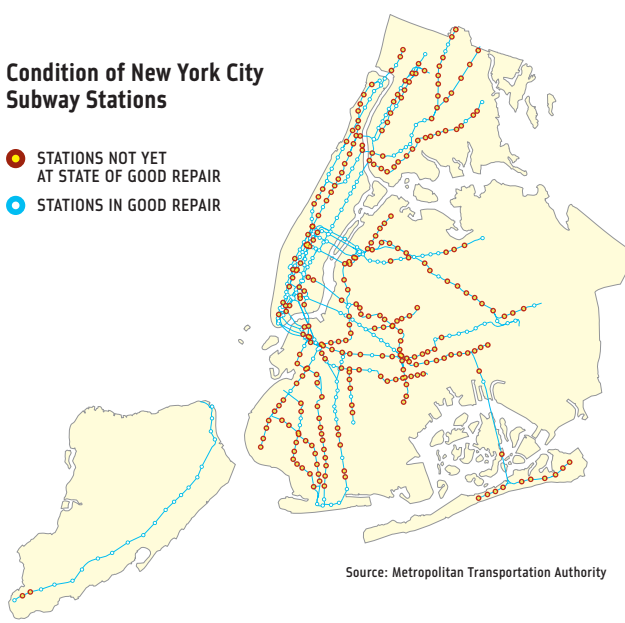
Achieve a state of good repair on our roads and transit system

We have come a long way toward improving the condition of our aging and fragile transportation network. But we must not forget that we have not achieved the state of good repair on our roads, subways, and rail network that we have sought for 30 years. In fact, the need for additional capital is serious, if largely unseen. (See map on facing page: *Condition of New York City Subway Stations*)

That's why, even as we meet our new expansion needs, we must continue to vigilantly pursue a state of good repair—and preserve the progress that has been made. Doing so will not only prevent the breakdowns that cause crippling delays, but also contribute to our complementary goal of increasing capacity and improving travel times.

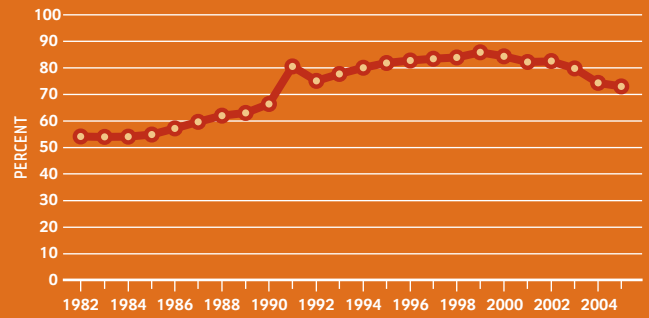
Condition of New York City Subway Stations

- STATIONS NOT YET AT STATE OF GOOD REPAIR
- STATIONS IN GOOD REPAIR



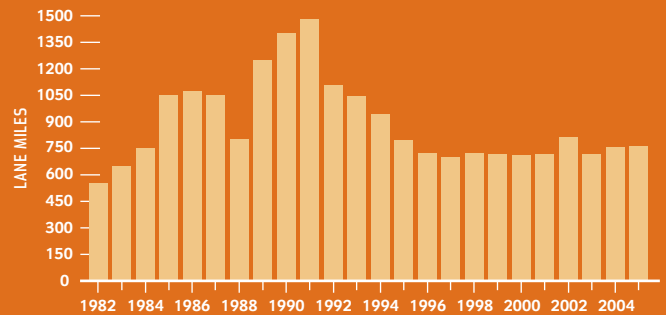
Source: Metropolitan Transportation Authority

Lane Miles in Good Repair in New York City



Source: NYC Department of Transportation

Lane Miles Resurfaced Per Year in New York City



Source: NYC Department of Transportation



INITIATIVE 14

Close the Metropolitan Transportation Authority's state of good repair gap

We will seek a grant from the SMART Authority to cover the MTA's funding gap

In 1981, the MTA halted all expansion projects until the transit system could be brought back into a state of good repair. The goal was to restore all system components so that they could start being upgraded on a normal replacement schedule—before they started to fail. The next year, the MTA launched its first five-year capital plan—an attempt to establish long-term priorities for renewing our deteriorated transit system. Since that decision, New York's transit network has undergone a renaissance. The dedication of the MTA's leadership and staff have made it one of the core components of New York City's recovery.

But even with the progress that has been made, the MTA system is still nearly \$15 billion away from a state of good repair, only \$5.5 billion of which has a dedicated source of funding—leaving a gap of \$9.5 billion that will begin in 2010. More than 60% of our subway stations remain in disrepair. Fan plants, which

remove smoke from tunnels during fires and other emergencies, won't be fully upgraded until at least 2028. Almost half of our tunnel lighting does not meet current lighting safety standards, or have additional power sources to stay on in case of a blackout. Last October, there were 514 weekday train delays due to "signal trouble."

Obsolete equipment has capacity consequences as well; older signal technology allows fewer trains to be run safely on the same track than modern systems. Modernizing these could dramatically improve service on crowded lines such as the E train. The MTA has invested \$288 million to test its first computerized signaling system on the L line—including electronic messaging boards alerting passengers of train arriving times—but we are billions away from modernizing the full system.

The challenge is that the MTA is chronically under-funded. Every five years, it develops a capital plan and then has to ask the State for the funding sources to cover the costs. We believe that achieving good repair is as fundamental as expanding the system, and will seek to have the SMART Authority provide the MTA with a one-time grant to cover its unfunded need to achieve a full state of good repair.



INITIATIVE 15

Reach a state of good repair on the city's roads and bridges

We will seek a grant from the SMART Authority to fund accelerated capital repairs and upgrades

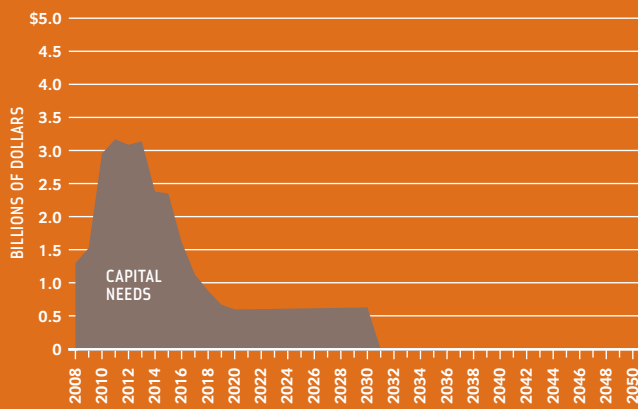
During the 1970's fiscal crisis, the City's road resurfacing efforts virtually stopped. Repaving was limited to our principal arterials, which received a lower quality of resurfacing than would be acceptable today. New layers of asphalt were simply laid over the older, damaged sections and sealed up. Each new layer caused the road level to rise closer to the curb. To avoid having streets at the same level as the sidewalks, repairs were simply avoided longer.

As the city's budget crisis eased, New York restored funding for street repair. Using new equipment, as well as additional personnel and private contractors, resurfacing increased through 1991, and the roads steadily improved. (See chart above: Lane Miles Resurfaced Per Year in New York City)

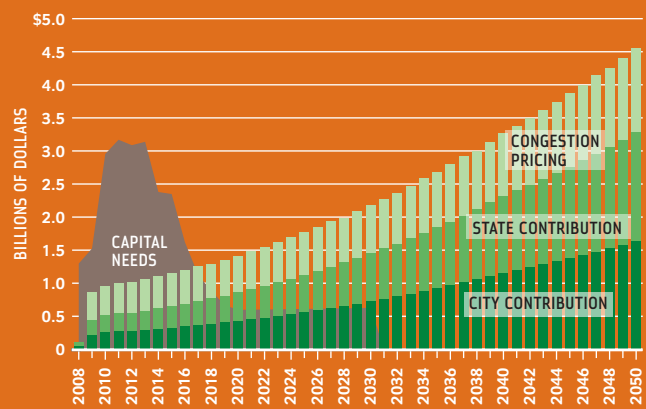
But since then, the average yearly resurfacing has fallen back below what was needed to maintain the quality of the city's streets. To keep pace with the wear of daily travel, we must resurface approximately 1,000 lane

How the SMART Financing Authority Would Fund Regional Transportation Projects

Expenditures



Expenditures and revenues



miles of its roads per year. In the past 15 years we have averaged only 800 lane miles. This under-investment has resulted in a consistent decline in street assessment ratings, to a current low, where only 69.9% of our streets are rated “good” or better. (See chart on previous page: *Lane Miles in Good Repair in New York City*)

We will reverse this trend by increasing the City’s street resurfacing output with a limited SMART grant paid out over 20 years.

We will also seek to improve our efficiency by increasing the use of recycled asphalt pavement (RAP). With RAP the City takes the asphalt that is about to be removed and recycles it as fresh asphalt. RAP has the potential to replace as much as 50% of the new material we use for asphalt. In addition to reducing our waste disposal needs, this will cut down on truck trips and on the need for new aggregate and asphalt cement.

The City has done a better job at maintaining the 787 City-owned bridges and tunnels that connect the five boroughs. After the Williamsburg Bridge was closed in 1988 for emergency repairs, the City began a significant rehabilitation program and is in the process of completing all deferred maintenance. But with more traffic every year, the City’s bridges require significant periodic capital upgrades and replacement. We will not substitute that work for routine maintenance, but we will seek a SMART Fund grant to provide enough capital to allow the needed, but costly upgrades necessary to keep our bridges safe.

Develop new funding sources

There is wide agreement on a series of projects that would bring mobility to our city. But despite impressive recent funding commitments, none of them has actually secured enough financing to be completed. For all the projects outlined in this plan, the combined budget gap is \$30.9 billion. And the longer it takes to fund these projects, the higher the costs—so the combined budget gap will grow. (See chart on facing page: *Projects Financed through the SMART Fund*; see maps on page 96: *Rail and Subway Conditions*)

Good planning is not enough to secure the future of our city; we must be willing to identify, organize, and raise the financing that is required to build the things we need. To that end, we will work to create a dedicated, regional fund to finance our needed transportation infrastructure, tapping new sources of revenue as well as dedicated commitments from existing sources.



INITIATIVE 16

Establish a new regional transit financing authority

We will seek to create a SMART Financing Authority to advance new projects and achieve a state of good repair

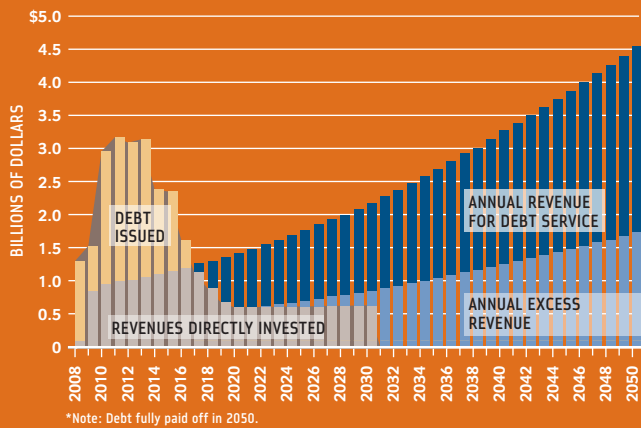
We will seek to work with the State to establish the Sustainable Mobility and Regional Transportation (SMART) Financing Authority, which would serve as a transportation infrastructure bank for the region. This authority would be funded through dedicated revenue streams that could be bonded against to advance critical capital expansions that improve connections between the city and the surrounding region. (See charts above: *How the SMART Financing Authority Would Fund Regional Transportation Projects*)

Revenues

For two generations, our inability to raise sufficient funds for transportation investments has undermined the mobility of our region. That is why we must tap new sources of funding if we are to make our goals a reality. Further, that funding responsibility must be borne equitably.

All of these projects serve New York City in some way, so the City must share in funding them. Virtually all of them—even those wholly within the five boroughs—serve the region’s commuters as well, and so non-city residents should also contribute. That is why we will seek to partner with the State to establish three dedicated revenue streams that split the contributions evenly between city and non-city resident commuters.

Financing Capital Plan Through 2050*



Additional projects eligible for SMART Fund financing include:

- Improvements and extensions to the region's subway, light rail, and commuter rail networks
- Improved local transit systems serving transportation centers and business districts in the city and the region
- Improved transit access to the region's airports
- Enhanced, high-speed intercity rail services

Source: NYC Mayor's Office of Long-Term Planning and Sustainability

Projects Financed Through the SMART Fund

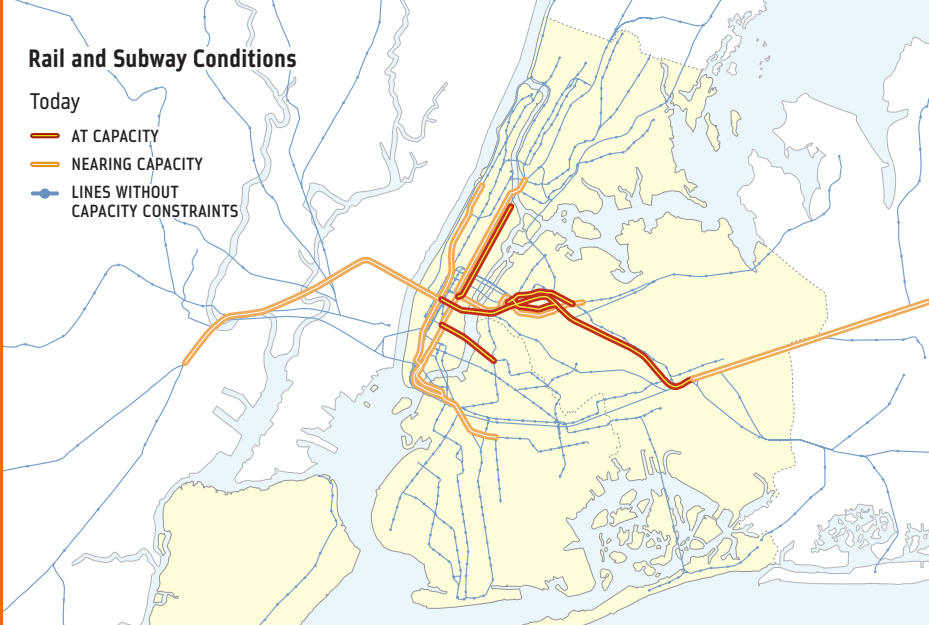
PROJECTS	TOTAL PROJECT COST (DOLLARS IN MILLIONS)	CONSTRUCTION		EXISTING FUNDING		GAP COVERED BY SMART FUND
		START	END	AVAILABLE	EXPECTED	
7 Train - 10th Avenue Station	\$450	2013	2017		\$225	\$225
Access to the Region's Core	\$7,381	2009	2016	\$2,580	\$1,111	\$3,691
Bicycle Lanes	\$23	2008	2030		\$12	\$12
BRT: First Five Routes	\$438	2008	2014	\$60	\$159	\$219
BRT: Five Additional Routes	\$527	2010	2016		\$264	\$264
Congestion Pricing	\$224	2009	2009			\$224
East River Bus/HOV Capacity	\$43	2009	2010		\$21	\$21
East Side Access	\$6,350	2007	2013	\$4,382		\$1,968
Express Bus Lane to Lincoln Tunnel	\$1,300	2010	2011	\$100	\$550	\$650
Ferry Service	\$40	2011	2013		\$20	\$20
LIRR Third Track	\$770	2010	2013	\$416		\$354
Lower Manhattan Rail Link	\$7,500	2010	2015	\$2,960	\$790	\$3,750
MNR Penn Station Access (Hudson Line)	\$455	2012	2013		\$228	\$228
MNR Penn Station Access (New Haven Line)	\$357	2012	2013		\$178	\$178
Nassau County Hub	\$738	2010	2013		\$369	\$369
North Shore Alignment	\$350	2012	2016		\$175	\$175
Penn / Moynihan Station	\$1,000	2008	2015		\$500	\$500
Second Avenue Subway (Phase 1)	\$3,838	2007	2013	\$2,864		\$974
Second Avenue Subway (Phase 2)	\$3,400	2011	2018		\$1,700	\$1,700
State of Good Repair (MTA)	\$13,681	2010	2030			\$13,681
State of Good Repair (NYC Roads & Bridges)	\$1,722	2009	2029			\$1,722
TOTAL FIRST PRIORITY PROJECTS	\$50,222			\$13,362	\$6,302	\$30,925

Note: Costs are nominal, year of construction. Where available, agency's year-of-construction estimates are used. Otherwise, annual construction industry inflation estimates used. Existing funding includes Federal, state, local, and agency funding; "expected" is based on reasonable expectation based on past trends. Second Avenue Subway Phase 1 estimate assumes receipt of Federal Full Funding agreement. MTA SGR estimate based on unfunded remaining state of good repair gap after current MTA Capital Plan.

Rail and Subway Conditions

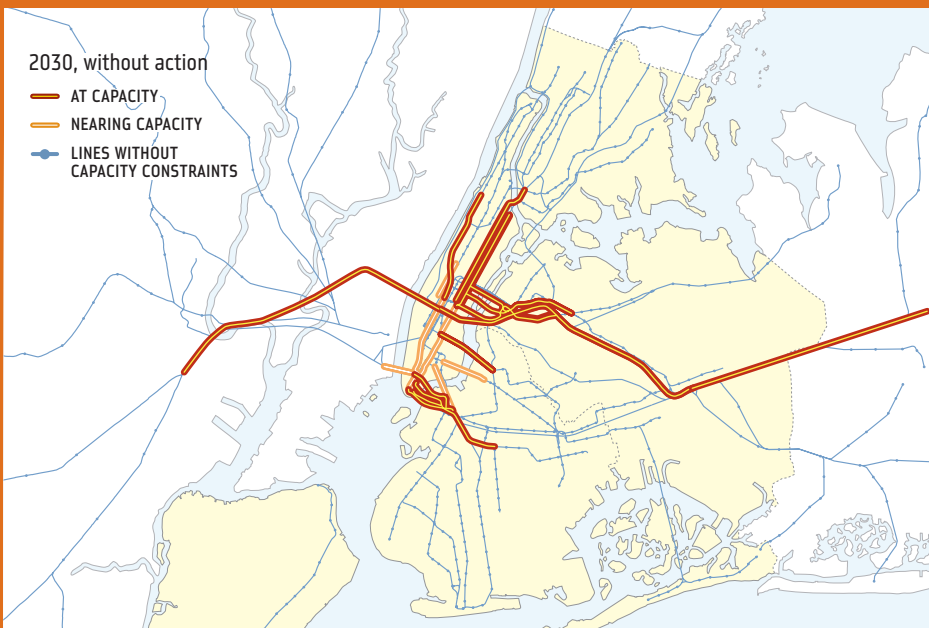
Today

- AT CAPACITY
- NEARING CAPACITY
- LINES WITHOUT CAPACITY CONSTRAINTS



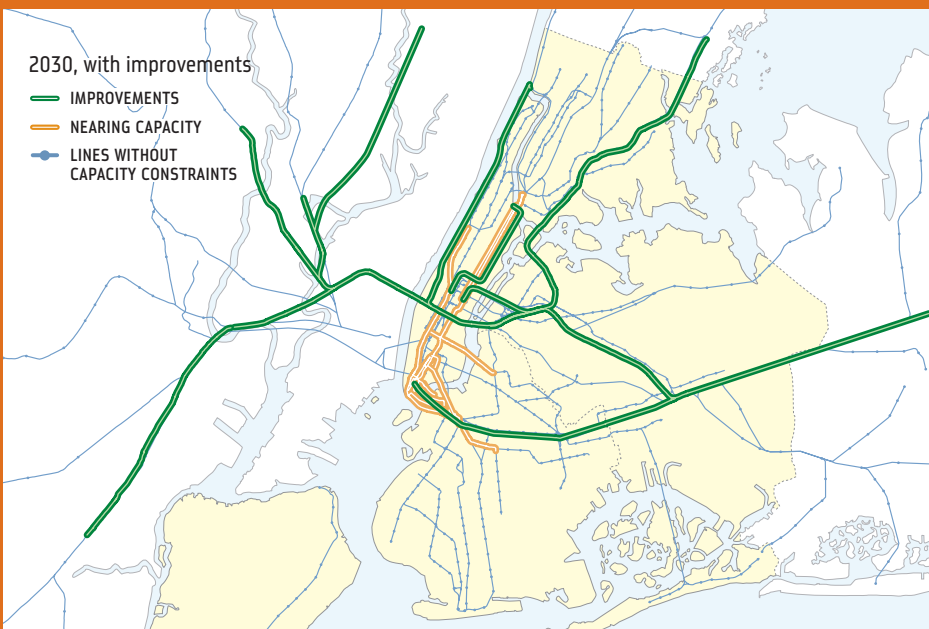
2030, without action

- AT CAPACITY
- NEARING CAPACITY
- LINES WITHOUT CAPACITY CONSTRAINTS



2030, with improvements

- IMPROVEMENTS
- NEARING CAPACITY
- LINES WITHOUT CAPACITY CONSTRAINTS



City and State Contributions

The City proposes a matching partnership with the State. The City will commit \$220 million to the SMART Authority in an annual payment starting in 2008, rising to \$275 million in 2012 and increasing at the growth rate of the City's personal income tax thereafter.

The City contribution will be contingent on the State matching these funds. To ensure that the SMART Financing Authority is able to issue bonds against these revenues, both commitments must be enshrined in law. The State could determine any source of funds for this contribution.

Congestion Pricing

Congestion pricing is projected to generate net revenues of \$380 million in the first year of operation, increasing to over \$900 million by 2030. Based on traffic patterns, roughly half the revenues from congestion pricing would be paid by New York City residents, and the other half by non-city residents.

Investment criteria

Regional, state, and city transportation agencies would apply for funding for specific projects. These projects would be evaluated by a board of directors with representatives from around the region and appointment criteria to ensure a balanced and impartial perspective. The board would be supported by a professional staff that would analyze funding requests, undertake independent assessments of regional transportation needs, and develop financing structures for selected projects. Once a project has been chosen, the SMART Authority would monitor its progress to ensure that investments are being spent efficiently and as promised.

Although regional priorities may change over time, the SMART Authority will only provide support to two broad categories of projects:

Expansions or improvements to our regional transit system

Meeting the following criteria:

- **Capital investment** to expand or improve transit infrastructure in the New York City Metropolitan region, with all projects needing to provide either direct or indirect service to New York City
- **Ready-to-go projects** that have received all required legislative, local, and environmental approvals
- **At least 50% funded** so as to use the SMART Fund to provide a match to local, State, agency, and Federal funding already in place

Achieving a state of good repair on city streets and the transit system

A series of **one-time block grants** would be awarded to the MTA and the City's DOT to achieve a state of good repair as the need was identified in 2005. These grants would be conditional on the agency's certification each year that it is replacing infrastructure on a normal cycle and conducting preventative maintenance at a level to prevent a relapse into disrepair.

Financing

The series of urgent capital projects—such as Second Avenue Subway, East Side Access, and ARC—are sufficiently far along in their planning and construction that the need for investments over the next several years will exceed even the revenues projected here. To provide the resources needed *when* they are needed, the SMART Authority would issue debt secured by its three revenue streams. Based on extensive modeling, not only should we be able to meet all of our identified needs, but there would also be excess funding available. Beginning in 2022, this could be used for the final phases of the Second Avenue Subway and a next wave of regional projects, such as subway extensions and expansions, commuter rail lines, and providing transit on a new Tappan Zee Bridge.

Governance

With its revenues split between City and State sources, the SMART Financing Authority should be governed by a Board that is similarly evenly split. Further, to ensure the independence of the Board, the enabling legislation should state that Board members must not be government employees; that membership terms should be staggered; and that expertise in finance, planning or transportation be a prerequisite for membership.

Implementation

Multiple legislative actions will be required in order to establish the SMART Financing Authority. The State Finance Law must be amended to establish the entity and empower it to issue debt and allocate funding to regional projects. In order to bond against future revenues, a dedicated funding source must be secured. That means the identified revenue streams must be protected to the extent possible by State law and bond covenants.

Conclusion

We can accept increasing congestion and the damage it will inflict on our economy and quality of life. Or we can act to reshape our transportation network and ensure that New York maintain its position as the world's premier city. That means providing every New Yorker, visitor, and worker with transportation that is as attractive, efficient, and sustainable as possible.

As a result of the policies outlined above, New Yorkers like Bryan Block will experience reduced travel times, more comfort, and more reliable rides, whether they are going to work, going shopping, attending cultural events, or visiting family and friends. By accelerating long-delayed projects, implementing smart, short-term improvements, and embracing a new set of transportation priorities, New York can achieve a new standard of mobility.