

Reimagining and Reconfiguring New York City's Streets

By David Luberoff



Herald Square after the introduction of pedestrian plazas and bike lanes (Photo from NYC DOT)

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*Madison Square after the introduction of pedestrian plazas and bicycle lanes**

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Overview: From Salt Pile to Vision Zero

By some accounts, efforts to relocate a city salt pile in New York's East Harlem neighborhood in the mid 2000s triggered the process that over the last decade has fundamentally changed New York City's streets.

Until 2007, when the city released PlaNYC, its comprehensive long-range plan, its Department of Transportation (DOT) generally focused on optimizing the flow of motor vehicles on the city's streets while also accommodating the pedestrians on adjacent sidewalks and cyclists using the streets. This focus had begun to shift during the process of preparing PlaNYC, and DOT now is much more concerned with making New York's streets and sidewalks safer and more appealing for both pedestrians and bicyclists while also accommodating motor vehicles.

Illustratively, since 2007 New York City has converted (or is in the process of converting) more than 40 acres of roadway into more than 70 new pedestrian plazas in locations that include the world-famous Times Square, busy regional commercial centers such as Jackson Heights in Queens, and smaller local commercial areas such as Fulton Street in Brooklyn's Clinton Hill neighborhood. The city has also built more than 400 miles of interconnected bicycle lanes and launched Citi Bike, which is both the nation's largest and most heavily used bike-sharing system and the world's first large-scale, unsubsidized bike-share system. As well, New York City has lowered its speed limits, redesigned numerous streets and intersections to make them safer for pedestrians, cyclists, and motorists, and, in several heavily travelled corridors, launched "Select Bus Service," which includes many elements associated with full-scale Bus Rapid Transit (BRT) systems.

While these efforts drew on approaches pioneered in European cities, the speed and scope of New York's efforts has drawn international acclaim and helped inspire policymakers in other American cities. For example, in 2012 the second Lee Kuan Yew World City Prize honored then-NYC Mayor Michael Bloomberg and key city departments for "strategically orchestrating the remarkable transformation of New York City over the last decade" via a "holistic and integrated" series of initiatives that included the new bike lanes and plazas.¹

How could all of this have originated with a pile of road salt, which had been located for over 30 years on a Harlem River wharf near 125th Street? In the mid 2000s, the city wanted to move the pile so it could use the site as a staging area for the reconstruction of a nearby bridge and then repurpose it as part of a long-discussed extension of an existing East River esplanade. However, for several years, this plan had been blocked by local opposition to every proposed new site for the pile.

The city did ultimately find a relocation site, but during this contentious process Daniel Doctoroff, the city's Deputy Mayor for Economic Development and Reconstruction from 2002 until 2008, became convinced of the need to expand a strategic land-use planning process he had initiated in 2005. In particular, the planning needed to include a detailed examination of the city-owned sites currently housing unpopular but necessary uses that the city might want to relocate as part of

its ambitious efforts to redevelop former industrial areas. As this process got underway, Doctoroff and his staff concluded that the city “really needed something bigger, something broader, [and] something more integrated,”² and develop a coordinated strategy to accommodate the million new residents that planners projected would be living in New York by 2025.

Working with hundreds of officials from the key city agencies and leaders of New York’s civic groups – and drawing on ideas that advocates and some business leaders had been promoting for several years – Doctoroff’s office ultimately developed PlaNYC. Released in April 2007, the plan contained 127 detailed proposals in ten key areas, among them transportation, where it called for imposing congestion charges in Manhattan, with the net revenue allocated toward renovation and expansion of the region’s rail transit system, creating a host of new pedestrian plazas on streets and intersections owned by DOT, expanding the city’s nascent network of bicycle lanes, and rebuilding key intersections and streets to make them safer for pedestrians and cyclists. In calling for these and other policies, the plan noted:

The world is a different place today than it was half a century ago. Our competition today is no longer only cities like Chicago and Los Angeles – it’s also London and Shanghai. Cities around the world are pushing themselves to become more convenient and enjoyable, without sacrificing excitement or energy. In order to compete in the 21st century economy, we must not only keep up with the innovations of others, but also surpass them.³

Developing Strategies to Advance the Plan

The task of translating the transportation recommendations into action fell to Janette Sadik-Khan, who Bloomberg (with Doctoroff’s enthusiastic support) appointed as NYC DOT commissioner a few days after PlaNYC was released. Sadik-Khan, who had previously worked on transportation issues for the city and the federal government, and as a consultant with Parsons Brinckerhoff, embraced PlaNYC’s core idea of converting a small share of the city’s roads into plazas and bicycle lanes. As she noted in 2010:

I don’t hate cars. It’s a matter of balance. Until a few years ago, our streets looked the same as they did 50 years ago. That’s not a good business, to not update something in 50 years. We’re updating our streets to reflect the ways that people live now. And we’re designing a city for people, not a city for vehicles.”⁴

The congestion-pricing proposal appeared to enjoy broad popular support in the city, but it also required state approval, which ultimately was not forthcoming. In the wake of that defeat, Sadik-Khan focused even more intensely on the pedestrian and bicycling elements of PlaNYC, which did not require state authorization or funding. In doing so, she and the talented staff she assembled drew on work done in a variety of European cities and particularly on the ideas of Jan Gehl, a Danish architect and urban designer best known for his extensive work in Copenhagen. However, they also developed and honed four new strategies of note.

First, NYC DOT moved quickly, using paint and easily available materials, such as boulders and planters, to create new plazas and bike lanes as “interim” projects that could be easily removed or changed. This approach helped alleviate potential opponents’ concerns while also demonstrating the pent-up demand for such facilities and providing important insights as more durable improvements were subsequently undertaken.

Second, New York relied on partnerships with non-governmental entities to fund, sponsor, and support key elements of its program. Many of the plazas were built in partnership with publicly authorized but privately controlled Business Improvement Districts (BIDs), which generally provide enhanced sanitation and security services as well as marketing and programming designed to bring people to the areas they serve.⁵ Similarly, New York’s bike-sharing system was the world’s first to be built and operated without direct or indirect public subsidies and financial guarantees.

Third, NYC DOT made extensive use of data, including data from novel sources. It used recently installed GPS devices in all of its taxicabs to assess how closing Broadway in Times and Herald Squares affected traffic in Midtown Manhattan. It also created an extensive database on crashes to help develop and assess an ambitious effort to reduce the number and severity of injuries and fatalities from those crashes and, over time, to document the safety benefits of the pedestrian and cycling improvements.

Fourth, seeking to reinforce New York’s national leadership role, Sadik-Khan led efforts to revitalize the National Association of City Transportation Officials (NACTO) and to have the group produce new manuals focused on re-designing urban streets to enhance safety and amenity for pedestrians and bicyclists. She also helped get the Federal Highway Administration (FHWA) to approve these manuals as acceptable supplements to previously approved road design manuals that focused overwhelmingly on facilitating motor vehicle traffic flow.

Beyond Bikelash: Protecting the Program by Reframing its Mission

Despite these successes and plaudits by the middle of Bloomberg’s third (and final) term, the plaza and bicycle programs seemed to be in trouble. With polling showing that Bloomberg’s popularity had waned, several leading candidates questioned whether his urban streets initiatives truly reflected New Yorkers’ values and some indicated that, if elected, they might consider removing some bike lanes and plazas, including the signature one in Times Square.

Leaders of Transportation Alternatives (TA), a non-profit that had been at the forefront of efforts to remake the city’s streets, responded with two interrelated initiatives that succeeded in protecting key elements of the program. First, they reframed the initiatives as part of a broader safety-oriented agenda that polling showed was particularly popular with voters. In particular, they convinced Bill de Blasio, who was elected in November 2013, to embrace “Vision Zero,” an approach developed in Sweden that uses lower speed limits, improved roadway designs, and education to greatly reduce (and hopefully eliminate) deaths from crashes.

Second, TA helped foster the development of “Families for Safe Streets,” a group of people who had been injured in crashes or lost loved ones to them who actively lobbied for the Vision Zero approach. By putting a human face on the statistics about crashes, members of the new group played a key role in advancing the Vision Zero agenda, particularly elements that required changes in state laws.

While it is too early to tell if the new focus on safety will dramatically reduce the crash toll, there are promising signs that the number of those killed or seriously injured is falling. The de Blasio administration also has pledged to maintain existing bicycle lanes and pedestrian plazas and to build new ones. Though the commitment to existing plazas has wavered a bit in Times Square, the broader campaign to make the city's streets more pedestrian- and cyclist-friendly seems to be firmly on track.

Background: PlaNYC and the Transformation of New York

Long the nation's most populous city, New York, more than doubled its population in the first half of the 20th century. By 1950 it was home to 7.9 million people, more than twice as many as Chicago, then the nation's second largest city. After remaining roughly stable for the next two decades, New York City's population not only became significantly more diverse, it also fell to 7.1 million people in 1980 a decline of more than 10 percent. These shifts, which mirrored even greater transformations and declines in the populations of other large Northeastern and Midwestern cities, such as Chicago, Philadelphia, and Detroit,⁶ fueled a host of civic problems, which the opening paragraph of PlaNYC summed up by noting: “Government flirted with bankruptcy. Businesses pulled up stakes. Homes were abandoned. Parks were neglected. Neighborhoods collapsed. Subways broke down. Crime spiraled out of control. New York seemed unsafe, undesirable, ungovernable, [and] unsolvable.”⁷

Unlike many other cold-weather cities, New York City did not continue to lose population in the latter part of the 20th century. Rather, it started to grow – modestly in the 1980s and more rapidly in the 1990s – so that by 2000 it was home to 8 million people, more than ever before in its history (and more than the population of 38 U.S. states). Moreover, the city became even more diverse and began attracting and retaining more middle- and upper-income residents.

New York's decline was driven in large measure by a shift in the city's economy away from manufacturing jobs, whereas its resurgence was driven by phenomenal growth (after 1980) in its finance, management, and business service sectors. Its manufacturing employment fell from nearly one million in the immediate aftermath of World War II to just over 100,000 in 2007. In contrast, its employment in finance, management, and professional services went from less than one million people in 1960 and 1.2 million in 1977 to more than 2.6 million in 2008.⁸ As a result of these shifts, the share of jobs in New York that were in Finance, Insurance or Real Estate (FIRE), rose from about 7 percent in the 1950s, 1960s, and early 1970s, to about 12 percent by the early 1980s and has remained at about this level ever since.⁹

Following the city's near-bankruptcy in 1975, and major increases in crime during the 1970s and 1980s, New York underwent a series of reforms that placed it on a sound financial footing (during the early years of this period) and subsequently established it as a pioneer in crime control.¹⁰ Violent crime dropped dramatically, particularly after the New York Police Department launched its award winning CompStat program in the early 1990s. The revival of New York City also included an important transportation component. With major infusions of state and federal funding, the region's rail and bus systems, which the city does not control, were modernized starting in the 1980s and by the mid-2000s, transit patronage hit 50-year highs.¹¹ Major public facilities such as Central Park and Bryant Park were thoroughly revived as well, and in numerous cases are now managed by BIDs and other non-profit entities. Finally, with enormous infusions of city investment, tens of thousands of once-abandoned housing units were renovated or replaced while several once-working class neighborhoods have gentrified.

Mayor Bloomberg's Growth Strategy

Bloomberg, who before running for mayor had founded and headed Bloomberg L.P., a major financial software, data, and media company, and who was reportedly the richest person in New York, took office in January 2002, just a few months after the 9/11 attacks and in the midst of a downturn in the national economy. He was committed not only to rebuilding Lower Manhattan, but also more generally to the city's economic recovery and growth. As he said in his 2003 State of the City address:

New York is in a fierce, worldwide competition; our strategy must be to hone our competitive advantages. We must offer the best product – and sell it, forcefully. ... Our unique value added is our diverse eight million citizens and workforce. It's what makes us the best city to live in and do business. To capitalize on that strength, we'll continue to transform New York physically – giving it room to grow for the next century – to make it even more attractive to the world's most talented people.¹²

In keeping with his general approach to management, Bloomberg gave Doctoroff great leeway to develop and advance the specifics of this broad agenda, while retaining his authority to question recommendations and to make the most consequential decisions. Doctoroff later recalled:

The mayor provided a huge umbrella for people who were ambitious, and who were willing to take risks. ... You can't over-appreciate the importance of his creating that kind of environment, and then being willing to back it with a really staunch loyalty and a willingness to [publicly support efforts by] repeat[ing] the story over and over and over again.

Doctoroff and other key officials believed that while the city had been able to accommodate its growth since the 1980s in existing residential and commercial areas, future growth should be directed mainly to locations such as the East River waterfront in Brooklyn, where, in Doctoroff's words, the "decline in manufacturing [had] left large swaths of land essentially vacant or underutilized."¹³

The administration linked these development goals with the city's ultimately unsuccessful bid, which Doctoroff led, to host the 2012 Olympics. As part of that effort, NYC 2012, a nonprofit that Doctoroff had founded before entering the administration, hired Alexander Garvin, one of the nation's most eminent architects and urban planners (with extensive New York experience) to develop a plan showing how the city could accommodate the Olympic facilities in older industrial areas. The expectation was that these facilities would subsequently be repurposed for long-term redevelopment. In the end, London, not New York, was selected to host the 2012 Olympics. However, New York continued to build on the land-use agenda that had been developed in connection with its bid. Most notably, the Bloomberg Administration moved forward with plans to redevelop such areas as the far West Side in midtown Manhattan and the East River waterfront in Brooklyn and to extend the subway to the far West Side as well. As part of these and other efforts, the City Planning Commission ultimately rezoned 37 percent of the city.¹⁴

NYC DOT Before PlaNYC

The Olympic plan included an extension of the city's subway system to the Far West Side and new ferry services on the East River. However, it did not call for major changes at NYC DOT, which oversees more than 6,000 miles of streets, more than 12,000 miles of sidewalks, and over 12,000 signalized intersections, as well as the Staten Island Ferry. DOT Commissioner Iris Weinshall, a respected public administrator who was initially appointed by Mayor Rudolph Giuliani and reappointed by Bloomberg, had focused on improving the basic management of the department, which had been led by four commissioners in six years prior to her appointment. The rebuilt agency's staff primarily had focused on basic operations and improving traffic flow. This meant that for the most part, DOT resisted advocates' calls for substantial expansion of the city's nascent network of bicycle lanes and for new policies assigning more street space to pedestrians. In fact, Michael Primeggia, who was the department's long-time deputy commissioner of traffic operations, was known to many as "Dr. No" for his opposition to a variety of proposals, such as a call by the Times Square Alliance, a business-backed non-profit, to widen sidewalks to better accommodate that area's growing number of pedestrians.¹⁵ To a large extent, NYC DOT's priorities seemed to reflect the values of the mayor, who observed in 2006 that: "we like traffic [because] it means economic activity [and] it means people coming here."¹⁶

NYC DOT's priorities frustrated several of DOT's newer staff members, who were more supportive of efforts to encourage bicycling and improved pedestrian facilities. In July 2006, Andrew Vesselinovitch, who had directed NYC DOT's bicycle programs since 2001, announced his resignation via a widely distributed email, which later became the basis for a *New York Times* op-ed. In the email, he charged that Weinshall and her top aides had stymied implementation of a long-standing city plan to increase the number of bike lanes on the city's streets. "I waited for a long time for the direction from the commissioner's office to change, or for the commissioner to be changed," he concluded. "I hope that you won't have to wait much longer."¹⁷

Redefining NYC DOT's Mission

By mid 2005 the city's economy was doing so well that it was straining existing facilities and networks. Tim Tompkins, who has been president of the Times Square Alliance since 2002, recently commented: "The problem used to be that you couldn't get through Times Square without being killed or mugged. By the mid 2000s, you just couldn't get through Times Square."¹⁸

The emergence of such problems, along with the experience of trying to relocate facilities like the East Harlem salt pile convinced Doctoroff that the administration should emphasize strategic land-use planning in the mayor's second term, with a focus substantially on "the struggles that a growing population actually creates, in terms of crowds, noise, the difficulty of getting around, etc."¹⁹ Doctoroff also believed that rather than turning this work over to the city's planning commission and its city planning department, this effort should directly managed by his office, which oversaw about 40 units involved in physical development – including DOT, which until recently had reported to the deputy mayor for operations. He later explained:

The reason why government – or any big bureaucracy – moves slowly is largely [because] of either agency competition or misaligned agency priorities. ... And government ... or any large bureaucracy ... works best... when there is someone who is empowered to make decisions and move things along.

So if [the planning process] had been left to the city planning commission, we would not have been able to get the rapid buy-in that I needed to move things along, because it would not have been the Department of Transportation's priority. ... I would have had to ride herd over them, rather than just getting everyone to cooperate, which we were getting pretty good at. ... In fact, virtually every single one of the major initiatives done during the Bloomberg administration while I was there was ... driven out of City Hall. There might have been a lead [line agency], but really it was me and my team ... getting people [from different agencies] to work together.²⁰

As the planning process moved forward, two transportation-related issues moved to the fore. The first was traffic congestion. Even though New Yorkers were much more likely than other Americans to use transit or walk to work, the city's congestion was among the nation's worst, and likely to become even more severe if the projected growth in jobs, residents, and visitors actually occurred. A primary strategy for doing so was to provide more alternatives to driving, most notably expanding the region's rail transit system (which would require substantial new financial resources) but also encouraging travel by alternative modes, such as bicycles and walking. Illustratively, in a May 2006 report commissioned by Doctoroff's office as part of the planning process, Garvin warned: "If the city's infrastructure does not expand to accommodate new growth, the city will not be able to provide citizens with the high level of service that past residents have enjoyed and that has made the city so competitive."²¹ The second was lack of open space in both the city's major commercial areas and its growing neighborhoods.

Since buying land for new parks was likely to be prohibitively expensive, the planners began to focus on land the city already owned, such as the East Harlem pier, which – like 80 percent of the city-owned land in New York City – was owned by NYC DOT.

Looking Abroad for Ideas

Internationally, a host of cities, particularly in Western Europe, had been grappling with similar issues for many years. Copenhagen, for example, had spent decades converting large amounts of its street space into pedestrian plazas and bicycle lanes. London and Stockholm had introduced congestion pricing schemes in 2003 and 2006 respectively. Paris had created popular summer “beaches along the river Seine and was preparing to launch Vélib’, a massive bicycle-sharing system. Garvin’s May 2006 report cited many of these initiatives and approaches in support of its contention that:

The city’s streets, sidewalks, parks, and plazas can become a “mixed-use” public realm that balances pedestrians and cyclists with motor vehicles and mass transit. Greening boulevards, protected bike lanes, Sunday closings, and pedestrian reclamations are four strategies to create this balance on streets throughout the five boroughs.²²

The report, which also listed specific areas ripe for these treatments – including Times Square in mid-Manhattan and the Grand Concourse in the Bronx – added that:

... a fundamental shift needs to occur in planning and capital investment for streets. Currently, the DOT includes public realm improvements as a subsidiary of traffic improvements but only when the public realm improvement does not limit projected traffic flow. Vehicular traffic is one component, albeit an essential one, of the mixed-use public realm. It does not always deserve the highest priority. Sometimes a more pedestrian [friendly] environment promotes greater economic development, trumping traditional traffic capacity requirements.²³

A Growing Network of Local Support for New Approaches

While Garvin provided an important affirmation of new policy approaches, Paul Steely White, executive director of Transportation Alternatives (TA), maintains that “the more significant story... is that there was a community of New Yorkers – from bloggers to advocates to planners to philanthropists” who believed that if the city could “return our streets to the people, we could leave [behind] an environmental legacy and a safety legacy” and that “the city was on the cusp of doing something amazing” in this domain.²⁴

TA had been founded in the 1970s to advocate for bicycle-friendly policies. Now it began to focus equally on pedestrian-friendly policies. Its expanded efforts were facilitated by large contributions from Mark Gorton, a hedge fund manager, entrepreneur, and avid cyclist who gave TA about \$5 million between 2002 and 2012.²⁵ TA joined with The Open Planning Project (TOPP), a non-profit founded by

Gorton focused on the use of technology to improve streets and open spaces in New York, and the Project for Public Spaces (PPS), an influential non-profit long focused on the creative design and management of public spaces, “to develop a new campaign model for transportation reform.” The effort began formally in early 2006 with an exhibition at the Municipal Arts Society that explored “the problems, myths, and potential of NYC’s traffic dominated streets,” and showed “how cities around the world are addressing similar issues.” The campaign also included a series of high-profile events with outside experts, such as Gehl, and efforts carried out in partnership with innovative BIDs and other community groups.²⁶

Gorton also provided funding to launch *Streetfilms*, which produced short, online films “showing how smart transportation design and policy can result in better places to work and play,” as well as *Streetsblog*, a blog on transportation issues in New York City. The site soon drew 30,000-to-90,000 unique visitors a month. Former NYC DOT spokeswoman Kay Sarlin told *The New York Times* in June 2007: “Before Streetsblog launched, there was no centralized forum for people who are passionate about transportation. Advocates gained a powerful ally with its inception, because reporters and government officials started reading the site.”²⁷ Aaron Naparstek, the blog’s founding editor, adds: “We had this audience of one: Dan Doctoroff. We wanted him to know that New York City transportation policy was really an embarrassment and we were being lapped by London and Paris.”²⁸

At about this time, business entities also began calling on the city to explore and adapt approaches taken elsewhere. For example, the Partnership for the City of New York, a group of 200 CEOs, began sounding a vocal alarm about the dangers that growing congestion created for the city’s economy. To address the problem, they called on the city to examine a variety of strategies for managing congestion, including congestion pricing.²⁹ By late 2006, congestion pricing also was supported by several other entities from across the ideological spectrum.³⁰ However, Bloomberg was wary. While he agreed that congestion was a growing problem in the city, he noted that congestion pricing needed the approval of the state legislature where it was likely to be strongly opposed by members from outlying boroughs and the city’s suburbs. “We could never get it passed,” he observed in late 2006. “And ... I want to ... focus on those things that we can get passed.”³¹

In addition, by the mid-2000s, many businesses and business leaders had also become strong supporters of improved parks and plazas, which they viewed as enhancing the value of nearby properties. Illustratively, in the mid 2000s, the privately funded Central Park Conservancy, which had been founded in 1980, had raised more than \$325 million to restore and maintain the park, which it has had a contract to manage since 1997. Similarly, in the late 1980s and early 1990s, a non-profit corporation and nearby Business Improvement District joined forces to renovate and manage Bryant Park, a city-owned park located behind in the New York Public Library in midtown Manhattan. And in the early 2000s, the Bloomberg administration supported the creation of the High Line, a linear park built an abandoned elevated freight railroad on the far West Side of lower and midtown

Manhattan that primarily was funded by and now is maintained and operated by a non-profit entity backed by many of the area's major property owners and firms.³²

PlaNYC and DOT's Change of Course

In March 2006 NYC DOT surprised many of its critics when it proposed to convert a little-used two-block stretch of Willoughby Street in downtown Brooklyn into a pedestrian plaza that would be managed by a local BID. (See Figure 1) The proposal supposedly came about because Primeggia, who had been called for jury duty in downtown Brooklyn, "looked out of the courthouse window and noticed that the jagged area formed by Willoughby Street and the east of Adams service road was filled with illegally parked cars and little traffic."³³

Figure 1: Willoughby Plaza†



That summer DOT and Doctoroff's office began developing a broader program of pedestrian and cycling improvements to be carried out by DOT. Speaking at an October 2006 conference, Weinshall surprised and pleased many advocates when she announced that DOT would create four more pedestrian plazas in the next year and build 200 miles of bicycle lanes over the next three years. The city's overall planning effort was also being transformed in this period to highlight environmental issues. In September 2006 Bloomberg announced the creation of a new Office of Long-term Planning and Sustainability that would report to Doctoroff. "To make New York a truly sustainable city," the mayor added, "we need a bold plan to use our land in the smartest way possible."³⁴ Three months later, he stated in a major address that New York City had to simultaneously plan for growth, rebuild its basic infrastructure, and improve its environment. He then detailed ten specific goals that his administration's new plan, to be called PlaNYC, would address when it was released a few months later. These included creating "enough housing for almost a million more people" and "ensuring that even as land becomes more scarce, every New Yorker lives within a 10-minute walk of a park." Further, he called for increasing the capacity of the region's mass transit system "so congestion doesn't

† Map from New York City Department of Transportation. Photo from Downtown Brooklyn Inc. Reprinted with permission.

bring our economy to a grinding halt” and for investment that would achieve “a full state of good repair for New York City’s roads, subways, and rails for the first time in history.” Finally, the mayor called for “achieving the cleanest air quality of any big city in America. He did not, it bears note, mention congestion pricing in this talk, or identify revenue sources for his proposed transit and roadway investments.³⁵

New Leadership for a New Agenda

While Weinshall had publicly committed DOT to the mayor’s new agenda, she did not take the lead in implementing it. Rather, in January 2007, she announced that she was resigning to become a vice chancellor at the City University of New York. After a few months, the search for her replacement narrowed to two finalists. One was Sadik-Khan, who at the time was a Senior Vice President at Parsons Brinckerhoff, an international engineering firm. She had previously served as Deputy Administrator of the Federal Transit Administration in the Clinton Administration and as transportation advisor to NYC Mayor David Dinkins, who served from 1990 until 1994. The other was Michael Horodniceanu, the CEO of a New York-based engineering firm who had served as the city’s traffic commissioner under Dinkins.

Advocates of the emerging new agenda for NYC DOT, such as Steely White, pushed for Sadik-Khan. “We basically did everything we could to get her appointed,” he said, including making the case for her to friendly journalists and getting some of TA’s supporters who were close to Bloomberg to put in a good word for her as well. “And you know, it could have happened anyway. As advocates, it’s always sort of hard to tell whether you made a difference or not.”³⁶

However, Sadik-Khan’s interview with the mayor and his senior aides did not go well. Asked to describe NYC DOT’s recent accomplishments, she said: “nothing of note had really happened,” at NYC DOT during Bloomberg’s first five years in office. And when Bloomberg asked her, “Why do you want to be Traffic Commissioner?” she says she replied, “I don’t want to be Traffic Commissioner. I want to be Transportation Commissioner,” which, she later recalled, “went over like a lead balloon.” Sadik-Khan went on to lay out a vision that she thought was consistent with the forthcoming PlaNYC. When the meeting ended, she recalled:

I thought, well, you know, I tried. I had laid out these priorities about bus rapid transit and bikes, congestion pricing, and pedestrianization initiatives. And there was not a lot of response. So I thought... they didn’t like the ideas [even though they] had been so thoroughly vetted.³⁷

Despite the interview, Bloomberg, in consultation with Doctoroff, decided to appoint her. Doctoroff explained that they did so not only because Sadik-Khan “totally bought into the PlaNYC vision” but also because she was the “type of person that we liked to hire” – someone with “high energy, lots of ideas, [and] sort of fearless.”³⁸

The mayor released PlaNYC on Earth Day (April 22) 2007, a highly symbolic date for environmentalists since 1970. In a surprise development, the plan now called

for a weekday congestion-pricing program in Manhattan below 86th Street. Entering or exiting vehicles would be charged \$8 a day. Net revenues from the charges – which the plan estimated would rise from \$380 million a year to almost \$900 million in 2030 – would be applied toward investments in the region's transit system, which the city projected would cost (with federal and state participation) about \$30 billion in total over this period.³⁹

PlaNYC also proposed a variety of other transportation-related initiatives and changes, virtually all of them measures that the city could carry out on its own. Most notably, it called for the creation or enhancement of at least one public plaza (usually on DOT-owned land) in each of the city's 59 Community Board districts, completion of the city's 1,800-mile bicycle master plan, and the exploration of opportunities for a citywide bicycle-sharing program as well as enhanced bus services and new ferry service.⁴⁰

Implementing (and Expanding) the Plan

Five days following the release of PlaNYC Bloomberg announced Sadik-Khan's appointment as commissioner. Pedestrian and cycling advocates hailed the appointment. Steely White asserted: "Ms. Sadik-Khan has two things going for her: solid experience in planning for transit-oriented streets, and perhaps more importantly, a mayoral mandate to relieve congestion and create sustainable, greener streets."⁴¹

Sadik-Khan believed she brought a third critically important asset to the table. Unlike several of her recent predecessors, she had extensive experience in transportation, both nationally and in New York. This was important, she believed, because when senior officials "are not... subject matter experts, they tend to be much more conservative about their approaches. They don't want to do anything to rock the boat ...[and instead] stick with the status quo ... as the best way to go."⁴²

Philip Damashek, who Sadik-Khan retained as the agency's general counsel (and who continued in that post under her successor) added that while Sadik-Khan "is most known for... the quality of life," initiatives very few people appreciate that she also "understood and was really committed to" the agency's basic "infrastructure mission" of filling potholes, fixing bridges, and other important but seemingly mundane tasks.⁴³

Believing that Bloomberg would leave office in January 2010, at the end of his second term, Sadik-Khan moved quickly to carry out PlaNYC's ambitious transportation-related agenda. By the time her tenure ended in January 2014, when Bloomberg, who served three terms, left office, she and her team had overseen a remarkable transformation of the city's streets that, as noted earlier, saw the construction of dozens of new pedestrian plazas, several hundred miles of bicycle lanes, the launch of the nation's largest and first privately-funded bicycle sharing program, and launching the Select Bus Service which provided significantly improved service in six heavily travelled corridors.⁴⁴ While many of these efforts clearly drew on similar initiatives carried out by other cities, Sadik-Khan and her

leadership team developed and honed several innovative strategies that, as detailed below, helped get the projects done.

Sadik-Khan Hits the Ground Running

The new commissioner started by assembling a diverse team that included several of the department's most notable critics. Commenting on these appointments, Naparstek noted: "File under: Totally unimaginable just a few months ago."⁴⁵ At the same time, she also retained some long-time senior DOT officials (such as Primeggia and Damashek) and gave more responsibility to younger DOT employees who had chafed at the department's previous policies. In addition Sadik-Khan reached out to Gehl, who met with a small team (including Primeggia) that Sadik-Khan brought to Copenhagen in June 2007. City Planning Commissioner Amanda Burden, who was also on that trip, later recalled that when she heard that Primeggia had been "on his knees measuring the width of a bike lane ... I said, 'I have died and gone to heaven!' This agency is transformed!"⁴⁶

Sadik-Khan also "renegotiated" NYC DOT's relationship with advocacy groups, which she felt needed to shift away from their longstanding practice of mainly criticizing the department and instead become more "supportive," which "they were not used to doing." She added: "Over time, we certainly got there. But it was sometimes difficult."⁴⁷

Describing this relationship, Thomas Wright, executive director of the Regional Plan Association, recalled that Sadik-Khan "was not shy about calling us up and saying 'I need you guys to be out there pushing this stuff.'⁴⁸ Illustratively, at her request, TA tapped its network to raise money for the non-profit Mayor's Fund to Advance New York City, which used the money to hire Gehl as a consultant to work with DOT. Steely White, who said TA ultimately raised about \$2 million to support this and other DOT-related initiatives funded by the mayor's fund, added that if the agency had relied on its standard procedures to hire Gehl, "it probably would have taken several years to let the contracts."⁴⁹

Moving Forward with Signature Projects

Even as the team was being formed, NYC DOT actively pressed forward with projects and approaches begun during the development of PlaNYC because, Sadik-Khan said, "I felt really strongly that we needed to show some visible change in the street, and we needed to do that quickly in order to get some buy-in."⁵⁰

During her very first month in office, May 2007, the department unveiled plans to quickly create a pedestrian plaza at the intersection of three streets next to the anchorage of the Manhattan Bridge in Brooklyn's DUMBO neighborhood.⁵¹ The proposal built on work done by an architecture student from the nearby Pratt Institute who was interning at the local BID. Tucker Reed, who headed the BID at the time recalled: "Our rationale at the time was: let's just try this and see what happens," particularly given the fact that the project required eliminating a few parking spaces, which in New York [City government] was something that was "in

the holy trinity of things you don't touch." (The others were pension funds and union contracts).⁵²

Thanks in large measure to support organized by the DUMBO BID, the local Community Board overwhelmingly supported the project. Created quickly using paint, granite blocks from DOT's bridge division, planters and temporary street furniture (some of it provided by local merchants), the plaza was heavily used as soon as it was built. According to Andy Wiley-Schwartz, who Sadik-Khan had hired away from the Project for Public Spaces to develop and oversee the plazas' initiative, the project's development provided a model for the creation of future plazas. Interviewed by *Streetsblog* at the plaza's opening, he explained:

We want to find places in every Community Board district where there are community partners who can help maintain and run a place like this. This DUMBO project is the perfect example. We had a BID that wanted to make it happen [and] adjacent land uses that support it. ... The key is to have a BID or some [other] community partner willing to take care of the space."⁵³

DOT carried out another important early project in the Meatpacking District, which had been the focus of workshops run as part of the New York Streets Renaissance Campaign. Picking up on key ideas developed in that process, in June 2007 the department proposed to quickly create a public plaza at the intersection of 9th Avenue, 14th Street, and Hudson Street. The department's plan also took advantage of a scheduled repaving of 9th Avenue to extend sidewalks at intersections, shorten pedestrian crossing distances, and convert one traffic lane into a bicycle lane. (See Figure 2)

Designing the lane required developing new approaches, according to Ryan Russo, a young planner who had become head of DOT's bicycle and pedestrian programs. As a paper on the project that he later co-authored explained: "Traditional bicycle lanes are located between the parking lane and travel lane of a roadway, where they are subject to violation by motor vehicles, but where visibility between motorists and cyclists is good." In contrast, "European cycle tracks," which generally are located between the sidewalk and parking spots (and the roadway) "are typically raised and therefore costly and difficult to build quickly."⁵⁴

Lacking a precedent, Primeggia, Russo and others at DOT created a first-in-the-nation design that took the best of both worlds. Like the Europeans, they placed the bicycle lane between the sidewalk and relocated parking spaces. But drawing on U.S. models of bike paths and pedestrian plazas, they used paint to designate the bike lanes and barriers to separate it from the parked cars. They also gave cyclists their own traffic signals at cross streets and slowed turning traffic via left-turn bays. These approaches not only became a model for New York, which has subsequently built about two dozen more parking-protected bike lanes, but also for at least 16 other American cities that have built similar lanes since 2008.⁵⁵ Moreover, the Transportation and Planning Council of the Institute of Transportation Engineers (ITE), an international group of transportation professionals, named the 9th Avenue project the "Best Program" carried out by its members in 2008.

Figure 2: Ninth Avenue Before and After Changes



Changing DOT's Policies, Programs, and Culture

Among the first tasks that Sadik-Khan assigned her team was to develop NYC DOT's first-ever strategic plan. She recalled: "We pulled everybody together, and said ... we are laying out a new vision for this agency and for the city streets ... It's going to be basically the transportation translation of PlaNYC."⁵⁶ The effort was needed, added Wiley-Schwartz, because in many cases, PlaNYC, which had only brief descriptions of the policies and programs that the department was supposed to launch, was "text not Talmud."⁵⁷

As part of this process – and throughout her tenure as commissioner – Sadik-Khan also pressed her staff to set ambitious and measurable goals such as reducing deaths from crashes which had fallen from about 700 people a year in the early 1990s to 300 in the mid 2000s by another 50 percent before 2030. She recalled: “The agency’s engineers were very uncomfortable... because they felt there were so many factors that were outside of their control that they didn’t want to commit to a number.” However, she pressed and in the plan DOT pledged to cut deaths in half by 2025, which, she said, made NYC DOT that nation’s first local DOT to “commit to” a numerical traffic safety goal that could be used to assess its performance.⁵⁸

Sadik-Khan also strongly encouraged DOT’s staff to be pro-active in addressing legal, institutional or political obstacles. Wiley-Schwartz recalled:

Janette understands how to tell people, whether they’re engineers or they’re lawyers. ... “This is the outcome that I want. ... You figure out how to get us from where we are now to there.” ... This is what gets their buy-in. Because this is the part where they have to be creative thinkers and own the solution.

With me, she basically said: “You go make this program. I know what you did [before]. I know what you believe in. I know what your value systems are. And I’m on board with you. You come to me when you have a problem, I’ll solve it. Now go make this program work.”⁵⁹

Sadik-Khan herself recalled:

I think the other piece that [people] understood was that if we were going to do this, and anything went wrong, I would take the blame. ... If the bikes didn’t work out, if the buses didn’t work out, if the pedestrian plaza didn’t work out, it was my fault. I think ... that went a long way to getting the buy-in of the agency.⁶⁰

Sadik-Khan and several of her senior staff members also pressed for changes in the ways that the department related to the community. She said:

It used to bother me tremendously that people would write into the Department of Transportation and ask for a stop sign or a stoplight.... And the answer always came back, “No. It doesn’t meet the guidelines [as detailed in standard manuals].” ... But people didn’t want a specific treatment. ... [There] was a problem that they were asking us to solve.

So we changed the way we went to Community Boards. ... We didn’t go in saying: “No” or “here’s a bike lane [or] here’s a bus lane.” We went in saying: “What’s the problem you’re trying to solve?” We also started with the statistics, going into all the Community Boards, about how many people were injured or killed in the district ... and then working with communities ... to deal with the problems that either we saw or they saw.⁶¹

The Demise of Congestion Pricing

While NYC DOT was able to quickly move forward with the plaza and bicycle initiatives detailed in PlaNYC, it was unable to go forward with the plan's congestion pricing proposal. The problem was that – as Bloomberg had warned in late 2006 – the proposal needed approval by the state legislature, where it faced strong opposition from members from the city's outer boroughs and nearby suburbs. Governor Eliot Spitzer agreed to back the proposal, as did the (Republican) state senate leadership, but Assembly Speaker Sheldon Silver, a powerful Democrat from lower Manhattan, balked.

Unable to agree on the measure's fate before they prepared to adjourn in July 2007, Spitzer and the leaders of both legislative branches referred the matter to a 17-member commission that would include appointees of the governor, the mayor, and other key elected officials. The commission, which was charged with reviewing different plans for reducing traffic congestion in New York, including the pricing scheme, had until January 2008 to present its recommendations. Meanwhile, the U.S. Department of Transportation agreed to provide \$354 million to fund a variety of transit improvements in New York City but only if the city adopted a congestion-pricing plan (or a policy that would produce similar results) by early April.

In early 2008, the commission voted 13-2 to recommend a modified congestion-pricing plan. (Silver's appointees cast the two negative votes). Its analyses estimated that the plan would produce a 30 percent reduction in the amount of time that motorists within the affected zone would spend in near-breakdown traffic conditions and a 20 percent reduction in adjacent areas. The commission also estimated that the revised plan would generate over \$491 million annually (after operating expenses) to help expand and improve local transit services.⁶²

Sadik-Khan and other city officials worked feverishly to build a coalition in support of the revised plan, which was ultimately backed by a coalition of 135 civic, business, labor, environmental and advocacy groups, the editorial boards of the *Times*, the *Daily News*, and *Newsday*. Moreover, polling done at the time showed that a majority of the voters in each of the city's five boroughs (and more than two-thirds overall) supported the proposal, on the condition that the net revenue was applied toward transit improvements.⁶³

Nevertheless, many officials from the city's outer boroughs, viewing the fees as a new tax on their constituents who commuted into Manhattan by car, were opposed. In late March, after an intense lobbying campaign that reportedly included significant horse-trading involving some members' favored projects, the City Council voted 30-to-20 to approve the plan.⁶⁴ In general, the vote followed geographic lines. Backers generally came from Manhattan, the Bronx, and those parts of Brooklyn and Queens that were closer to downtown and midtown Manhattan and, therefore, were more likely to be home to more people who used transit to get to work in Manhattan.⁶⁵

The action then returned to Albany where the proposal was backed by David Patterson, who had become governor (following Spitzer's resignation in the wake of

a scandal) in mid March. The major obstacles were still opposition from some key Democrats in the Assembly, where Democrats outnumbered Republicans by more than two-to-one. In addition, *The New York Post*, which had supported Bloomberg's proposal in 2007, came out against the modified plan in early April.⁶⁶ Sadik-Khan lobbied hard, but reportedly offended some of these legislators when she told them: "You are either for this historic change in New York or you're against it. And if you're against it, you're going to have a lot of explaining to do."⁶⁷

Facing the federal government's April deadline, the Assembly's Democrats had a lengthy caucus to discuss the revised plan, which still faced strong opposition. After the caucus, Silver announced the measure would not come up for a vote because so many members opposed it. He contended:

Many [members of the caucus] just don't believe in the concept. Many of them think this bill is flawed. So... the congestion-pricing bill did not have anywhere near a majority of the Democratic conference, and will not be on the floor of the Assembly. ... They made a decision. If I were making the decision alone, I might have made a different decision.⁶⁸

While many observers believed that Silver could have rounded up the needed votes if he had been determined to do so, others said the opposition really was overwhelming. For example, Assembly Member Donna Lupardo, an upstate Democrat, later reported:

Through six hours of debate in the Democratic conference, the overwhelming majority of my colleagues (all from New York City and the suburbs) expressed their opposition. Honestly, the [Democratic] members representing Upstate New York could not have possibly swayed the outcome. As we are often supported by our New York City colleagues ... many felt obliged to defer to the opinions of those who represent New York City.⁶⁹

Bloomberg, who had seen Silver kill some of his other signature initiatives (such as a proposed stadium on Manhattan's far West Side), sharply criticized the speaker's decision, contending: "It takes a special type of cowardice for elected officials to refuse to stand up and vote their conscience on an issue that has been debated, and amended significantly to resolve many outstanding issues, for more than a year. Every New Yorker has a right to know if the person they send to Albany was for or against better transit and cleaner air."⁷⁰

However, judging that the city would never win legislative approval for the pricing plan, Bloomberg did not pursue the matter further. U.S. DOT redistributed the funds it had reserved for New York to other jurisdictions. And Jon Orcutt, former head of the Tri-State Transportation Campaign who Sadik-Khan had brought in to be DOT's policy director, quickly edited out all planned references to the congestion-pricing program in DOT's nearly finished strategic plan.

Less than a month after the demise of congestion pricing NYC DOT released "Sustainable Streets," its first-ever strategic plan. Its most conspicuous goals were to reduce traffic fatalities by 50 percent by 2030, to double bicycle commuting in the

city by 2015, and to significantly increase bus travel speeds. It proposed to achieve the first by a variety of design and enforcement strategies to make the city's streets more pedestrian- and bike-friendly. It proposed to achieve the second by rapidly expanding the city's network of bike lanes, providing more bicycle racks in strategic locations, and exploring the possibility of bringing a bike-sharing system to the city. And it proposed to achieve the third goal by implementing some Bus Rapid Transit routes and other bus-preference measures.⁷¹ Presenting the plan at the Municipal Arts Society, Sadik-Khan observed that while many people had called on New York to follow the lead of cities like London, Paris and Copenhagen, "I want to ... be clear that... we are implementing the New York City model. We are going to be... dealing with all this in the context of New York City's style of governance and democracy."⁷²

Tapping the Power of Interim Projects

In a May 2009 article, *New York Magazine* asserted: "Janette Sadik-Khan ... manages to be equal parts Jane Jacobs and Robert Moses."⁷³ Like Jacobs, Sadik-Khan was focused on how pedestrians used streets and sidewalks. And like Moses, she understood the importance of moving quickly and decisively. Both approaches were on display in the plazas initiative, where NYC DOT continued the practice of initially making them "interim" projects consisting of paint, granite blocks, planters, and moveable furniture. NYC DOT did so not only because it enabled the department to build quickly but also because it facilitated responsiveness to critics. If a new plaza failed to meet with broad approval, it could be easily removed. In practice, the "interim" plazas almost always generated new constituencies for making them permanent. This approach also enabled the final designs to be informed by observing how people actually used the new facilities. As Sadik-Khan later noted:

A lot of the ideas that we put into play in New York City weren't new ideas. ... But New York City did pioneer the idea of changing streets in real time. Going straight to the people with the ideas, and showing them [with] temporary materials what can happen was a game changer. Instead of going through the years and years of planning studies, and years and years of computer modeling, and showing a dry engineering drawing that nobody could really understand, you got a very different buy-in when people could see, touch, and feel these kinds of changes.⁷⁴

Over the next several years, this approach's power was demonstrated time and time again. In 2008, for example, as soon as NYC DOT put up barrels to create new plazas near Madison Square Park, several art students immediately lay down in the unfinished new space and, taking advantage of the new perspectives it offered, began sketching nearby buildings, which include the iconic Flatiron Building. Similarly, as soon as tables and chairs were placed in an "interim" plaza on Fulton Street in Brooklyn's Clinton Hill neighborhood, numerous people, including residents of an elderly housing development, brought out their chess sets, while others escaped the heat of a nearby laundromat and waited in the plaza for their loads to finish.

Leveraging the Benefits of Partnerships

While PlaNYC had called for creation of new plazas in each of the city's 59 Community Board districts (and for building more than half of them by 2009), it provided little guidance on how those plazas would be selected or managed. Doctoroff expected that most would be maintained and programmed by some of the city's more than 70 BIDs. These entities, he said, were appealing partners because "we were constantly trying to find ways to get these places paid for by someone else that would have a more stable source of revenue than the city."⁷⁵

The task of designing a process that would identify and select promising partners fell to Wiley-Schwartz, who consulted widely with local experts and drew on his analyses of partnerships (such as the Central Park Conservancy) that New York City had successfully used to renovate and manage public parks. In the end, he created what he believed was a first-in-the nation competitive application process that he described as follows:

There would be an application structured ... around a neighborhood organization, a non-profit. They had to have the wherewithal to bring a group of people in that neighborhood together around supporting creating a public space in that neighborhood. They had to agree to be the maintenance partner, to get the Community Board to sign off on it, and to amass as many letters of support from neighborhood institutions and local merchants and whomever else as possible. Basically [they had to] make the case for the space, and inoculate us against the inevitable backlash from parts of the neighborhood that said they didn't get a chance to consult on it.⁷⁶

The strategy relied, in part, on authorizing the non-profits to use the plazas for some commercial activities that would help defray the costs of maintaining them. While the city charter and related laws clearly allowed the city to authorize non-exclusive concessions on public parkland, it was not clear if DOT could use that approach on officially mapped roadways and streets, even if those roads were being used for plazas, recalled Damashek, then DOT's general counsel. In the end, he added, DOT's attorneys were able to "work closely with the Corporation Counsel to articulate a broader approach that applied the same legal principles" used for concessions in parks to concessions in the new plazas.⁷⁷

Despite the legal and fiscal challenges, Wiley-Schwartz believed that the "demand" for the new spaces would always exceed DOT's "ability to create" them. The key, he judged, was to provide broad guidelines and a process for fleshing out the details. In his own words:

"You just need to tell people what you want. A lot of people would say to me, "You know, the engineers commonly say, you can't do [the plazas] on a two-way street or you can't do it on a street that a bus runs down or whatever." ... They're giving me all these reasons why I can't do it. And I said, "That's great. Sit down with them and make a long list of the kinds of places where you can do it." And then publish the list. And your communities will find the places that meet those criteria. They will surprise you."⁷⁸

Bruce Schaller, another “outsider” brought in by Sadik-Khan to oversee the department’s efforts to carry out the PlaNYC agenda, added that the competitive process helped change the nature of conversations with local merchants, who often were “very fearful of change,” particularly the loss of parking spaces that usually were taken to create the new plazas. He continued:

You pose the question: “Do you really think that taking these ten parking spaces out is going to do you more damage than having a place that's attractive for people to come and have lunch and sit and play with their kids and sit in the sun? ... It poses the question, in a way that they have to ask: “What is best for me?” And that's what this is all about. It's people coming up with a different answer to the question: “What's best for me?”⁷⁹

In practice, the demand for new plazas far outstripped DOT’s ability to supply them. In 2008, the program’s first year, 22 entities applied and DOT could fund only eight. Over the next several years, DOT annually received eight to twelve additional proposals – most of them from BIDs – and generally selected three or four.⁸⁰

Illustratively, leaders of the Fulton Area Business Alliance (FAB), a BID created in 2009 that serves changing areas near Fulton Street in Brooklyn, quickly focused on several underutilized triangular spaces at three-way intersections. After internal discussions and consultation with DOT officials, FAB successfully proposed the creation of new plazas on two of these. There were local critics of both proposals, of course, concerned about the loss of parking and possible traffic problems, as well fears of how the plazas might be used and possible gentrifying effects. For example, some opponents of a proposed plaza circulated a flyer contending that “Fulton Street is controlled by Greedy 1%,” adding, “Let the leisure class lounge in Fort Greene Park. Come fight to keep S. Elliott open for business. Tell it. Yell it to FAB and DOT.”⁸¹ While a few people ardently opposed the proposed plazas, many who expressed concerns were assuaged by promises that their impacts would be reviewed before DOT decided whether to make them permanent. In the end, DOT, with overwhelming support from the Community Board, did make the plazas permanent, and, as in other areas, the final designs were greatly informed by how people had used the interim plazas.

Despite their successes, the plazas did often present fiscal challenges for the managing entities because the opportunities to generate revenue on the plazas were so limited. “It’s not a straightforward thing,” said Reed, former head of the DUMBO BID who now is president of the Downtown Brooklyn Partnership, which administers three separate BIDs that maintain plazas. “Creation of a plaza does not automatically unlock revenues.”⁸² In an effort to respond to these problems, which were particularly pressing for the city’s smaller BIDs and those in less vibrant commercial areas, the New York Horticultural Society in 2013 created the Neighborhood Plaza Partnership, which provides subsidized maintenance services and other assistance for these groups. In 2015, moreover, the city budget for the first time included some funding to assist them.

Replicating the Model with Citi Bike

Private financing and management were also hallmarks of Citi Bike, the signature bike-sharing program that the city launched in 2013 after several years of detailed planning. As with the plaza and bike lane initiatives, New York was not the first major city to launch such a system. However, it was the first to launch one without public subsidies or financial guarantees. For example, the capital costs of Paris' Vélib' bike-sharing system, which is larger and older than Citi Bike, were subsidized by revenues from over 1,500 city-owned billboards and ads at the bike stations. (In Paris, as in all other cities, user fees generally funded the system's operating costs.) In contrast, Citi Bike's capital costs were funded by the \$41 million that Citibank paid to be the system's "name sponsor" for its first six years and the \$6.5 million that MasterCard paid to have its logo on the payment machines at the system's more than 300 stations. As with the plazas, this arrangement required an innovative contracting process as well as several subsequent revisions to the initial contract.)

For the city, the arrangement was attractive because it avoided any taxpayer cost. For Citibank, which reportedly saw its favorability ratings among New Yorkers rise by 17 percentage points in the months after the system was launched, the deal offered a unique branding opportunity because its logo was prominently displayed on the payment stations and the bikes. In the words of Edward Skyler, Citigroup's executive vice president for global public affairs (and former deputy mayor for operations under Bloomberg who was approached by Sadik-Khan when DOT was looking for someone to sponsor the system): "When you're in New York City, you're inundated by ads everywhere you go. ... This is unique. It distinguishes itself. ... Frankly it's paid off a lot faster than we expected."⁸³

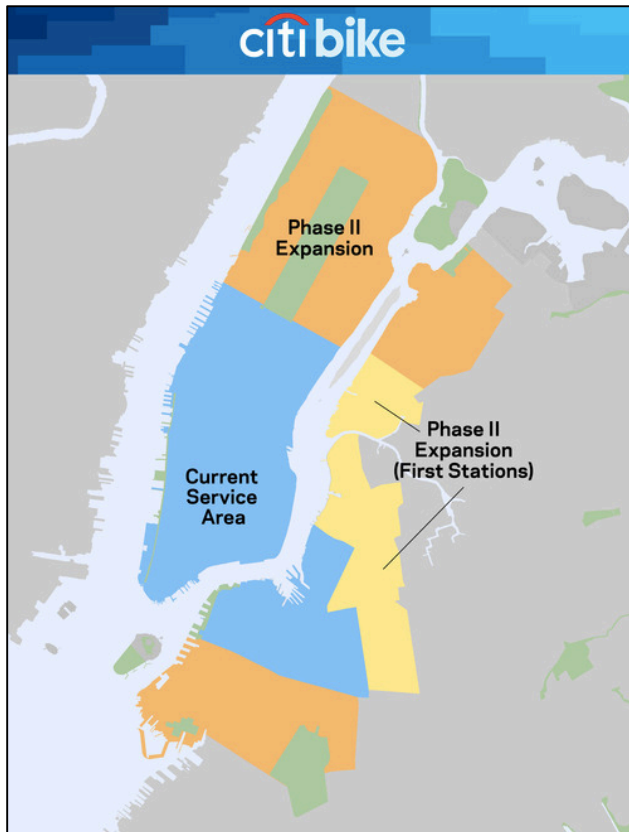
In a reflection of how at least some investors viewed the opportunities created by a heavily used bike-sharing system, in October 2014 Alta, the original system operator (which had developed and operated Montreal's bike-share system but was having major financial and operational problems), was bought out by a new, privately-held company backed by eminent local investors. These included senior executives from the Related Companies, a major New York-based developer; Equinox an upscale fitness chain; and Jonathan Schulhof, a private equity investor who brought the team together.

The new owners, who changed the company's name to "Motivate," hired Jay Walder, a former head of the Metropolitan Transportation Authority, as CEO. The new entity moved to improve service quality. The firm also began to move forward with a modified version of a required and long-promised expansion of the system which in its first phase had covered only Manhattan south of 59th Street (in effect, the CBD) and parts of Brooklyn closest to downtown Manhattan. (See Figure 3)

Motivate's managers also raised the system's annual subscription fees. In addition, Citibank agreed to pay \$70.5 million to extend its sponsorship of the system for another five years (until 2024) and Motivate actively began to explore other revenue strategies such as sponsorships of individual docking stations. Many

of these initiatives required extensive, and ultimately successful, negotiations over contract revisions with DOT. However, it remains to be seen whether the self-financing model will be effective as the system extends into lower-density and lower-income areas.

Figure 3: Citi Bike Service Areas



Motivate is also bringing its funding model to the San Francisco Bay area where it is funding a ten-fold expansion of Bay Area Bike Share, an existing bike-share program already operated by Motivate under contract with a group of public entities coordinated by the Bay Area Air Quality Management District. The existing system, which was started in 2013, had 350 bikes at 35 stations in downtown San Francisco, 150 bikes in downtown San Jose, and 200 bikes in Palo Alto and two other Silicon Valley locales.⁸⁴ In mid-2015 Motivate and the Bay Area's Metropolitan Transportation Commission (acting on behalf of a variety of public entities) agreed to a major, privately funded

expansion of that system. By November 2017, the new system will have 4,500 bikes in San Francisco, 1,000 in San Jose, and 1,250 in three East Bay cities (Oakland, Berkeley, and Emeryville).⁸⁵

Using Data to Transform Times Square

Although the plaza program produced dozens of well-used new public spaces, its signature project was a hotly debated reconfiguration of Times Square, which entailed closing five blocks of Broadway to create 140,000 square feet of new public space.⁸⁶ (See Figure 4)

For some years leaders of the Times Square Alliance had been looking for ways to better accommodate the increasing number of pedestrians passing through the area. Fearing negative impacts on traffic flow, Primeggia had resisted the Alliance's proposals to widen sidewalks in the area and connect some of its pedestrian islands. However, in 2006, persuaded by the Alliance's data, in 2006 Weinshall approve the

Alliance's plan, which required converting parts of Broadway and 7th Avenue and rerouting some traffic.

Sadik-Khan, who inherited this project, quickly began to push for an even more ambitious approach that would draw on what the city had learned from the work Gehl had done after he was hired by the Mayor's Fund to Advance New York City in mid-2007. He had found an extreme disjunction between Times Square's magnetism and its paucity of attractive public ways, where pedestrians could "stop, enjoy, and soak in the unique atmosphere."⁸⁷ Consequently, in September 2008, DOT converted two of Broadway's four lanes, from Times Square (at 42nd Street) to Herald Square (at 35th Street), into new plazas and bicycle lanes.

Figure 4: Times Square Before and After Changes



From the start of this effort, moreover, Sadik-Khan and her senior staff were considering the possibility of closing Broadway from Union Square (at 14th Street) to Columbus Circle (at 59th Street). Judging that this initiative was too controversial to adopt, they settled instead on a plan to close five blocks of Broadway in Times Square and two blocks in Herald Square. The plan would not only create additional space for pedestrians, it also seemed to have the potential to do so without slowing motor vehicle throughput because it would eliminate several three-way intersections that were currently congestion hot spots. As a result, the Times Square Alliance and many of the major property owners and tenants it represented were supportive. However, others, including some of the major theater owners, who believed that their most important patrons arrived by car, strongly opposed it.

Bloomberg himself was skeptical. In a 2013 interview, he recalled that when Sadik-Khan “came and told me about it ... I thought it was the stupidest idea I’d ever heard.”⁸⁸ As Sadik-Khan continued, the mayor’s resistance waned, particularly because he was intrigued by DOT’s traffic modeling which found that closing Broadway would produce a 17 percent improvement in travel speeds on Seventh Avenue, which passes through Times Square, and a 37 percent improvement on Sixth Avenue, which passes through Herald Square.

DOT’s implementation plan called for measuring the actual impacts of the change by having its employees drive these streets at various times of day, keeping track of their speeds and travel times. However, Bloomberg was concerned that this data would not be (or would not be seen as) having been collected by unbiased sources. Fortunately, Schaller, who had done several innovative studies of city transportation issues before Sadik-Khan had brought him into DOT, had been developing an alternative – using data from GPS equipment that had recently been installed (for other purposes) in all of the city’s taxicabs. He recalled:

I was sitting in the meeting [at DOT], and I said, ... “If the Mayor isn't happy with the speed runs [done by DOT staff] ... we could use the taxi GPS data. And Janette said, “That would be great,” particularly because the Mayor knew about [the GPS systems]. So we went in to explain to the Mayor what we were going to do, and he gave a five-minute tutorial on how the data were collected and how they could be analyzed. He is truly a data guy, after all. I was sitting next to him and I know the taxi GPS system inside and out. But after he went through his explanation, he asked if I want to say anything else. I didn't have anything to add.⁸⁹

Having decided to proceed with this plan on a trial basis, the next question was when. Some of the mayor’s advisors suggested that he should wait until after November 2009 when Bloomberg was running for a third term.⁹⁰ Bloomberg demurred, reportedly saying: “I don't ask my commissioners to do the right thing according to the political calendar. I ask my commissioners to do the right thing, period.”⁹¹ Accordingly, in February 2009, Bloomberg announced the proposed changes, noting: “Our goal is simply to give Midtown faster streets that are also, very importantly, safer.” He added: “People [in Times Square] are getting pushed out into the streets [because] the sidewalks can’t handle it. ... People don’t come [to Times Square] to look at cars stuck in traffic. They come to look at the lights, the buildings, and the excitement and this is going to have a lot more of it.”⁹²

Over Memorial Day weekend the plaza, which was to be managed and maintained by the Times Square Alliance, was put in place – initially with 376 folding rubber lawn chairs that the Alliance bought from two local hardware stores because the street furniture ordered for the plaza had not yet arrived. The new space, complete with the lawn chairs, was immediately a great hit with pedestrians. In an unexpected twist, the chairs, rather than the plaza itself, became the major topic of debate. Tim Tompkins, president of the Times Square Alliance, told *The New York Times* that “the lawn chair decision [was] far and away the most

controversial decision I've made in my seven years as head of the alliance." He added that people who loved the chairs hailed his "stroke of genius," in buying them while others, who disliked them, called him "the king of trailer trash."⁹³ Lost in those fights, he later added, was the more significant fact "the whole debate had shifted from being about cars to a debate about what kind of a public space we wanted to have in Times Square."⁹⁴

In August David Letterman, whose nationally televised show was taped in Times Square, joked that the city had turned "the greatest street in the world" into "a petting zoo" where tourists were "encouraged to bring coolers and sit at the intersections." Donald Trump, who was his guest that night, concurred, saying the design was "awful." In an interview after the show with *New York Post* columnist Steve Cuzzo, Trump added, "It's no longer Times Square. I love the mayor but I feel this is an experiment that should be reversed" not only because it changed the "100-year old fabric of Broadway," but also because it would be "terrible for retail."⁹⁵ In addition, many taxi drivers complained that the changes had worsened traffic and made it harder to pick up and drop off customers at key locations.

These were clearly minority viewpoints, however. In a July 2009 Quinnipiac University Poll, by a 58/34 margin, New York City residents said it was a good idea to close Broadway in Times and Herald Squares.⁹⁶ Surveys done a few months later by (and in some cases for) the Times Square Alliance found that more than two-thirds of the area's major property owners, employers, tenants, and users strongly supported the changes, as did 70 percent of recent theater goers.⁹⁷

However, the data from the taxis showed mixed results (as did the data collected by DOT's drivers). According to the GPS data, southbound speeds on the West Side avenues *decreased* by about three percent while speeds on the East Side's southbound avenues, which DOT used as a control group, had *increased* by about three percent. In contrast, the average speed of northbound vehicles on the West Side's avenues increased by 21 percent, which was about two-thirds of what DOT had projected and almost three times greater than the improvement on the East Side's northbound avenues. In addition, speeds increased by five-to nine percent on the West Side's crosstown streets, an improvement that was larger than gains found on comparable East Side streets.⁹⁸

Despite the less than projected traffic improvements, in February 2010, Bloomberg – who had been reelected in November 2009 though by a surprisingly small margin – announced that the interim plazas would become permanent and that new designs for those areas would be part of the city's long-term capital budget. "It's fair to say that this is one of those things that has succeeded," he noted. "Not in every way we thought but in some ways we hadn't thought about."⁹⁹ Tompkins hailed the decision, telling *The New York Times*: "It's shifted the paradigm for what a street and sidewalk experience is supposed to be like in New York City."¹⁰⁰

There were several lingering problems. Most notably, while the plaza functioned like a park, it was governed by laws that applied to streets and sidewalks, which meant that neither the city nor the Times Square Alliance could limit use of the plaza

by a growing number of hawkers, hustlers, and solicitors. These conspicuously included a growing number of costumed characters who aggressively tried to get tips from tourists who photographed them. Moreover, some New Yorkers continued to argue that something valuable had been lost when Times Square was changed. In 2013, for example, essayist (and former *New York Times* columnist) Frank Rich called on Mayor-elect de Blasio to “reconfigure Times Square so that it might a true Crossroads of the World again rather than a hideous quasi-food court for idling tourists.”¹⁰¹

Despite these criticisms, the new plazas not only continued to be heavily used, they also seemed to have an ongoing positive effect on nearby businesses. After the plazas were put in place, several major retailers, including Disney, Aeropostale, and American Eagle opened flagship stores in Times Square. In 2011, Cushman and Wakefield for the first time listed Times Square as one of the world’s top ten retail locations.¹⁰² And in 2013 NYC DOT reported that research by the Real Estate Board of New York found that between fall 2008 and spring 2013 retail rents in Times Square had nearly tripled and that this rate of increase was greater than for any other retail area tracked by the board.

Using Crash Data to Craft a Safety Agenda

DOT’s use of the taxi GPS data was far from unique. Rather, Sadik-Khan and her team routinely drew on sophisticated data analyses to plan and then assess new initiatives. For example, DOT drew on sales tax receipt data to show that bicycle lanes and better pedestrian spaces on 9th Avenue had a positive impact on retail sales, and data on vacancies to establish that new pedestrian plazas had benefited the area around Union Square.¹⁰³

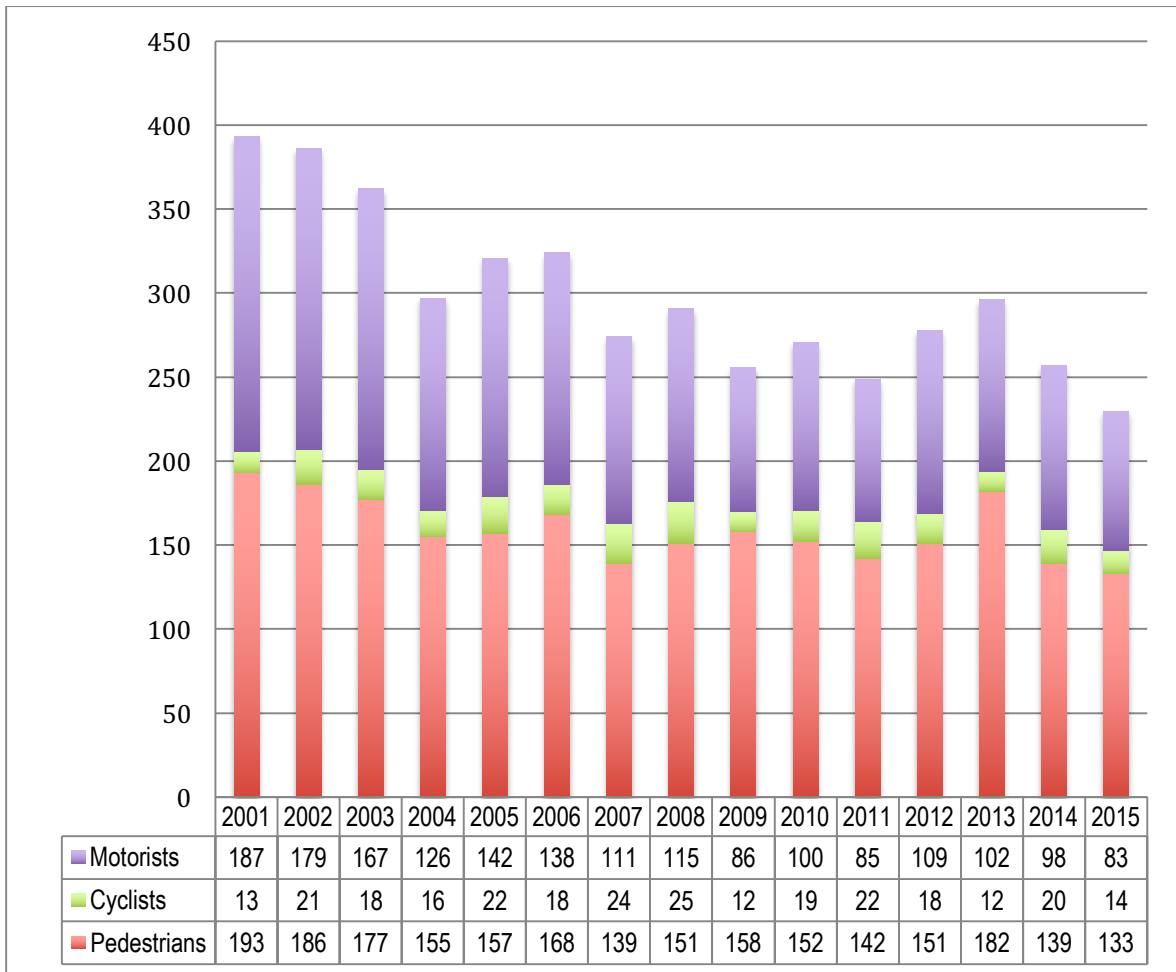
Above all, though, it focused its data analytic capabilities on safety. In 2010 DOT produced a report analyzing in detail the causes, nature, and location of crashes that killed or seriously injured pedestrians, cyclists, drivers and passengers; assessed recent efforts to reduce those crashes; and proposed new policies to achieve further reductions. The report (mandated by a 2008 city ordinance) began by noting that, compared to the 1990s, the number of people killed in crashes had declined by about 40 percent as had the number of people seriously injured in crashes. The report also noted that in every year since 2004, the number of annual traffic fatalities had been lower than the previous low in 1910, the year the city began measuring them. In 2009, the most recent year for which data were available, 256 people had died as a result of traffic incidents.¹⁰⁴ (See Figure 5)

About half of the people killed in recent years had been pedestrians (as were about a third of those seriously injured), with the elderly at particular risk. And contrary to popular opinion, fatal and serious crashes overwhelmingly involved private cars rather than taxis, trucks or buses.

Turning to the causes of crashes, the report found that that 37 percent of serious crashes were mainly attributable to driver inattention; 21 percent to “speed-related” factors; and 27 percent to the failure of drivers to respect traffic signals, stop signs, or marked crosswalks. It added that pedestrian fatalities tended to rise

exponentially with vehicle speeds, that 60 percent of pedestrian fatalities occurred on arterial streets, and that pedestrians hit by vehicles on streets with bike lanes were much less likely to be killed than those hit on similar streets without bike lanes.¹⁰⁵

Figure 5: Traffic Fatalities in New York City, 2001-2014¹⁰⁶



On the basis of these findings, DOT proposed to annually reengineer 60 miles of particularly dangerous streets, with at least a third of these projects involving such elements as sidewalk extensions, pedestrian plazas, and bicycle lanes. As well, it proposed a pilot program of neighborhood safety zones, in which the speed limit would be 20 mph instead of the widely ignored 30 mph standard used on most the city's streets. It also called for increasing the use of red light cameras and introducing speed cameras, measures that required changes in state laws. Finally, it indicated that the New York Police Department (NYPD), which had not previously assigned very high priority to traffic enforcement, now planned to work with DOT on a targeted effort to reduce speeding in key corridors and failures to yield to pedestrians at dangerous intersections. (However, the enforcement initiative was predicated on receiving funding from a competitive federal grant.)¹⁰⁷

DOT's proposals drew mixed reviews from TA and other street safety advocates. While hailing the steps the city had taken and was planning to take, TA's leaders believed the city could do more. In particular, they thought the city should replicate "Vision Zero," a Swedish program introduced in the late 1990s that uses design changes and lower speed limits (as well as education and enhanced enforcement) to greatly reduce and (hopefully) ultimately eliminate traffic fatalities. Leaders of TA, which in 2009 had issued a report contending that New York's police had never actively targeted speeding or failure-to-yield violations, also contended that there wasn't anything new on this score in DOT's new safety plan.¹⁰⁸ Asked at the press conference held upon release of DOT's report if the police department would now step up its enforcement efforts, Bloomberg replied that the department's resources were "stretched thin" and that "they will continue to do what they're doing."¹⁰⁹

Over the next four years, DOT did carry out many of its promised projects (though the state legislature allowed only limited use of speed- and red-light cameras). In a November 2013 report, DOT claimed that many of these seemed to have significantly enhanced safety. For example, following the addition of pedestrian plazas and islands on Macombs Road in the Bronx, and removing a traffic lane, serious injuries had declined by 41 percent. And following the addition of bike lanes on Leggett and Randall Avenues and Tiffany Street in the Bronx, serious injuries had declined by 23 percent.¹¹⁰ However, despite these and other site-specific successes, the number of people killed in crashes was virtually unchanged between 2009 and 2013.¹¹¹

Developing National Guidelines

The city's transport initiatives gradually attracted substantial attention, both across the United States and internationally. In 2009, for example, New York became the first American city to win a "Sustainable Transport Award" from a consortium that includes the World Bank and the non-profit Institute for Transportation and Development Policy. The award citation honored New York for having demonstrated that "political will, bold leadership and citizen engagement can lead to sweeping transportation reforms," and more specifically for having "reshaped the experience of walking on New York City streets" and demonstrating that "biking and walking" are "investment-worthy transportation alternatives."¹¹² Over the next several years long articles focused on New York's transport innovations, and on Sadik-Khan as their champion, appeared in *The New York Times*, *Forbes*, *Esquire*, *The American Prospect*, and *The Guardian*.¹¹³ In 2012, the city received the second Lee Kuan Yew World City Prize, "a biennial international award that honours outstanding achievements and contributions to the creation of liveable, vibrant and sustainable urban communities around the world."¹¹⁴ And a 2013 TED Talk by Sadik-Khan has attracted more than 800,000 viewers.¹¹⁵ Summing up the city's accomplishment in early 2014, Gehl (who consulted to the city at the start of key programs) asserted that New York City had done more than any other American city to "discourage commuting by car and increasing the use of subway, biking and walking to get around." He added, converting portions of

Broadway to pedestrian plazas and bike lanes in Times Square not only was a “huge success,” but also was a “fantastic influence on other cities”¹¹⁶

As local officials nationally became aware of New York’s efforts (and similar initiatives being carried out in a few other cities, including Washington, DC, Chicago, Boston, and Portland, OR) many began to explore whether they might adapt similar practices in their communities. They were commonly stymied, however, by omissions in the two road design manuals approved for use by the Federal Highway Administration (FHWA): one produced by a committee created by the FHWA, the other by the American Association of State Highway and Transportation Officials (AASHTO). Neither said anything at all about such cyclist-friendly design elements as parking-protected bicycle lanes, separate traffic signals for cyclists, and “bike boxes” (designated areas at enabling cyclists to get ahead of queuing traffic at red lights). Without the imprimatur of at least one of these manuals, some states would not allow such projects to be built. Even in places without such an explicit ban, state and local transportation engineers often feared liability should a crash occur, and thus would not sign off on designs that included such elements.

To help overcome this obstacle, Sadik-Khan turned to the National Association of City Transportation Officials (NACTO), a group of her peers in about 15 large American cities. NACTO, founded in the 1990s by one of Sadik-Khan’s predecessors, had been largely moribund when Sadik-Khan agreed to become its president in 2007. In addition to invigorating it generally, she took the lead in raising funds to produce an *Urban Bikeway Design Guide*, which NACTO published in 2011. Shortly thereafter, U.S. Transportation Secretary Ray LaHood lauded the Guide as “an extraordinary piece of work that’s long overdue.”¹¹⁷ Despite his embrace, officials in many jurisdictions were still wary because the guide still bore the formal imprimatur solely of NACTO. Illustratively, according to Ben Weiss, bicycle/pedestrian program manager for the city of Missoula, Montana, when his city asked the state DOT to consider protected bike lanes on state roads within the city, the response was: “If it's not AASHTO, we don't want to hear it.”¹¹⁸

In response, Sadik-Khan and NACTO launched an ambitious effort to get cities and states themselves to formally adopt the guide. Within about a year, more than 50 jurisdictions had done so, including four of the nation’s largest five cities and eight states. Finally, in September 2013, FHWA issued a memo stating that insofar as the existing federal manuals were silent, cities and states could use the NACTO manual to “plan and design safe and convenient facilities for pedestrian and bicyclists.”¹¹⁹ In 2014, FHWA extended similar support to NACTO’s *Urban Street Design Guide*, which combined information on cyclist, pedestrian, and transit-oriented street design elements, such as parklets, contra-flow bus lanes, and slow zones. Michelle Swanson, senior program specialist for the City of Olympia, Washington, was one of many local officials hailing this news, noting: “We often run into circumstances where we're reluctant to use certain design treatments because they have not been formally endorsed by the FHWA. This liberates us to create context-appropriate improvements to make our streets more safe and inviting.”¹²⁰

Bikelash and the Redefinition of New York's Transportation Agenda

Despite these national successes, Sadik-Khan and DOT became the objects of increasing criticism as Bloomberg's popularity waned during his third term. The critics, who included several contenders to succeed him and several prominent local journalists, charged that Bloomberg and Sadik-Khan were trying to turn New York into a European city that catered to elite outsiders. Typical of this genre was a March 2011 cover article in *New York* magazine entitled: "Not Quite Copenhagen. Is New York Too New York for Bike Lanes?"¹²¹ Some also charged Sadik-Khan with running roughshod over communities that were forced to accept unwelcome plazas and bicycle lanes. Illustratively, *The New York Post* captioned one piece: "Wheely crazy: Janette Sadik-Khan has imposed disastrous, bike-centered schemes across the five boroughs." and one of its columnists referred to her as the city's "wacko nutso bike commissioner."¹²²

Jake Dobkin, publisher of *The Gothamist* website, observed in 2013 that the stories showed that the public particularly loved to read about the bike disputes. "There are certain stories in New York that hit at a nerve," he commented. "There are these oppositions in our society: Young people versus old people, rich people versus poor people, people that drive cars versus people that don't. And somehow, bicycling touches every single one of them."¹²³

The Battle of Prospect Park West

One particularly intense dispute involved a parking-protected bicycle path on Prospect Park West, a stately boulevard in Brooklyn's upscale, largely liberal, Park Slope neighborhood. Located between the sidewalk and relocated parking spaces in what had been one of three traffic lanes on the one-way road, the path "became the most controversial slab of cement outside of the Gaza Strip," noted *The Brooklyn Paper*, which published numerous articles about the path.¹²⁴ These fights became so intense and known that at the height of this controversy, *theguardian.com* suggested that the outcome of the fight had the potential to "affect the future of cycling worldwide."¹²⁵ (See Figure 6)

The project dated back to 2007, when the local Community Board asked DOT to study whether bike lanes would reduce speeding and improve bicycle access to the world-famous Prospect Park. Following much discussion, the project was implemented in June 2010. According to data collected by DOT six months later, the share of cars speeding on the affected stretch of Prospect Park West fell from 74 to 20 percent while the number of weekday cyclists tripled.¹²⁶ Richard Bashner, who chaired the local Community Board when the project was approved, later said: "I am proud of the extensive democratic process that took place here. ... DOT should be lauded for its collaborative community process, rather than being accused of making an 'arbitrary and capricious' decision. Thanks to this process, Prospect Park West – the street where I live – is much safer today."¹²⁷

However, many residents of Prospect Park West disagreed, including Norman Steisel, who had served as the city's first deputy mayor under Mayor David Dinkins

(1990-1994) as well as Iris Weinshall, Sadik-Khan's immediate predecessor as DOT who was (and is) also the wife of U.S. Senator Charles Schumer. Opponents tapped into their extensive networks of political and media contacts to lobby against the bike lanes. They also challenged the project in court, where Jim Walden, then a partner with Gibson Dunn and Crutcher, a global law firm (and former Assistant U.S. Attorney), represented them on a pro bono basis. In his brief, Walden alleged that DOT had cherry-picked data – for example, by using a rainy day for its baseline analyses of pre-path bike ridership and ignoring the fact that even before the project was implemented serious crashes (i.e., those resulting in injuries) had been declining on Prospect Park West. He also charged that DOT had inappropriately worked with bike path advocates to attack the lane's critics.

Figure 6: Prospect Park West Before and After Changes



Two days before the lawsuit was filed, the Sunday *New York Times* prominently featured a 3,000 word article opining that while Sadik-Khan had “earned international fame” for transforming the city’s streets, she had “also become notorious for a brusque, I-know-best style and a reluctance to compromise. In public screeds and private whispers, many city leaders say they have felt rebuffed, alienated or outright dismissed by Ms. Sadik-Khan, with several recounting in interviews having picked up their phones to find her yelling on the other end.”¹²⁸

The article also suggested that Sadik-Khan was becoming a political problem for Bloomberg, whose favorability ratings had dropped from over 60 percent in late 2008 to around 40 percent by March 2011.¹²⁹ Illustratively, the paper reported that at a June 2010 dinner, U.S. Representative Anthony Weiner, a Brooklyn Democrat, who was a likely candidate for mayor in 2013, had told the mayor: “When I become

mayor, you know what I'm going to spend my first year doing? I'm going to have a bunch of ribbon-cuttings tearing out your f***ing bike lanes." Moreover, the paper reported that some of the mayor's closest aides were beginning to wonder if Sadik-Khan (who Weiner later called a "policy jihadist") was becoming too much of a liability for the administration.¹³⁰ Reflecting on the disputes several years later, Sadik-Khan said:

My son Max, who was growing up as this is happening, ... came home and we're talking about the *New York Post*. And he's like, "oh Mom, nobody reads the *New York Post*." The next few months go by, and I'm talking about the *Daily News*, and he's like, "oh Mom, nobody reads the *Daily News*." Then one day he comes home and I'm talking about *The New York Times*, and he's like, "yeah, well, some people do read *The New York Times*." ... It was a painful piece.¹³¹

Despite these controversies, the highly respected Quinnipiac University poll found in the same month as *The New York Times* article, that city residents favored bike lanes by a 54/39 margin.¹³² Also in that month, the mayor (at one step removed) issued a defense of Sadik-Khan and DOT. Its format was a two-page memo to "Interested Parties" from Howard Wolfson, then Bloomberg's Deputy Mayor for Government Affairs and Communications. In the memo, which was written on "Office of the Mayor" letterhead and posted on the mayor's website, Wolfson cited the Quinnipiac poll, noted that many bike lanes were built at the request of local Community Boards, and pointed out that while the city had added 255 miles of bike lanes in the previous four years, it still had over 6,000 miles of streets. He concluded by asserting that construction of the lanes usually produced at least a 40 percent drop in fatalities and serious injuries to drivers, pedestrians, and cyclists.¹³³ A few days later Bloomberg, speaking at a fundraiser for the city's then-proposed bike-sharing program, said that his administration planned to fight the "misinformation" being spread about the bike lanes.¹³⁴

Wolfson – who had been communications director for Hillary Clinton's 2008 presidential campaign and had held senior positions on the campaigns for and offices of several of the city's leading Democrats – later recalled that he believed the city had made a tactical mistake by not taking on the bike path critics sooner because "in any public policy debate if you allow the other side to advance their agenda without a response, you will be at a disadvantage."¹³⁵ His involvement, Sadik-Khan added: "was such a life-saver. ... It made a huge difference [because] it was a very strong signal that City Hall was going to fight for this [and] we were not going to be dangling out there by ourselves." Sadik-Khan, who now works for Bloomberg Associates, a consulting service founded by the former mayor, added: "I can't say enough about the leadership of Michael R. Bloomberg [for] standing up to just a torrential hailstorm of criticism. Having the political courage to do what he did, without blinking an eye, was extraordinary."¹³⁶

Buoyed by the mayor's support, advocates mobilized to support the Prospect Park West bike path. Several hundred people, most of them supporters, turned out in April for a Community Board meeting about the path. Later that month, the board voted to support the path, with minor revisions proposed by DOT. Backers of the

lane won another victory in August 2011, when a state Supreme Court Judge dismissed the suit challenging the project on the grounds that since DOT had approved the project in June 2010, the plaintiffs had filed the suit after the four-month deadline for challenging such decisions. The bike lane's opponents appealed, contending that Sadik-Khan and other DOT officials had promised that the project was a done on a "trial" basis that would be reviewed in six months (an assertion that DOT officials denied). In December 2012, a state appellate court ruled that the lane's foes could seek to conduct limited discovery on whether DOT had installed the lane on a trial basis and ordered the lower court to hold a new hearing on the question. The court also allowed the lanes to stay in place. Despite the ruling, the bike lane's opponents did not press the issue and the hearing was not held for several years. However, in late 2015, it finally was scheduled for February 2016.¹³⁷

In the aftermath of the Prospect Park fight, DOT stepped up its efforts to consult with communities where it was planning new initiatives and with local elected officials, such as the many city councilors who felt that DOT had ignored their concerns or kept them in the dark about its plans in their districts. Drawing on lessons from other large bike-sharing systems, it wanted to find sites for approximately 600 bike stations, each within a quarter mile of at least one other station, which was a denser concentration than many other U.S. systems. The sites considered were all currently designated for parking, traffic, or pedestrian (sidewalk) use. In an extensive block-by-block review, the department identified almost 3,000 possible sites within the areas to be served in the system's first phase, which covered parts of Manhattan, Brooklyn, and Queens.

Beginning in fall 2011, DOT staff began meeting with Community Boards, BIDs, elected officials, and other business and civic organizations to review potential locations. By spring 2013, when the system's 332-station first phase was launched, DOT reported that it had held more than 400 meetings including 14 community planning workshops and received more than 10,000 suggestions via an online portal. This process, it asserted, had been unprecedented in the planning of local bike share systems. (See Figure 7)

Not surprisingly, there were complaints nonetheless, mainly from residents who viewed the new bike racks and bright blue bicycles (and the prominent display of the Citibank sponsorship on both) as garish and out of place. Dorothy Rabinowitz, a Pulitzer-prize winning member of the *Wall Street Journal's* editorial board, expressed an extreme version of this critique in its on-line offshoot, *WSJ Live*, when she said:

Do not ask me to enter the mind of the totalitarians running this government. ... The majority of citizens of the city ... are appalled by ... this dreadful program. ... We now look at a city whose best neighborhoods are absolutely ... begrimed ... by these blazing blue Citibank bikes. ... It is shocking to walk around the city to see how much of this they have sneaked under the radar in the interest of the environment. ... The bike lobby is an all-powerful enterprise.¹³⁸

Rabinowitz's comments, which went viral, provoked a host of responses from a variety of commentators including comedic newscaster Jon Stewart who observed: "The good news is the *Wall Street Journal* is finally recognizing the corrosive effect of lobbying. The bad news is, its [target is] the bike lobby."¹³⁹ Several property owners even sued, including the owners of the famed Plaza Hotel, but none of these suits were successful or significantly slowed implementation of the program.

Figure 7: Citi Bike Station



On the ground, the system was a hit. The shared bikes were used for more than 18 million trips during the program's first two years. In addition, with each bike being used about five times a day, New York City's bike-share system had a third more rides per bike than any other in the U.S., and about as many as its Paris counterpart, which also featured a particularly dense urban fabric and a dense network of bike stations.¹⁴⁰ Even non-riders seemed to like the new system. A *New York Times* poll in August 2013, found 73 percent support for the new bike sharing system in general and 64 percent support for the recent creation of 250+ miles of bike lanes on city streets. In addition, 72 percent of those polled expressed support for the pedestrian plazas created by DOT.¹⁴¹

Mayor de Blasio and the Campaign for Vision Zero

Bloomberg was soon to leave office, though – his successor would take office in January 2014 – and none of the leading contenders to succeed him had expressed enthusiasm about the mayor's livable streets initiatives. Writing in the summer 2012 issue of *Transportation Alternative's* magazine, Steely White reviewed the state of play as follows:

I'm not much of a worrier, but there's something underway in Toronto that's keeping me up at night. Their new mayor, Rob Ford, has taken aim at bike lanes and mass transit: "Roads are built for buses, cars and trucks, not for people on bikes," he's said, and he's acting on his impulses, ripping up livable streets improvements as fast as he can.

Normally, I'd shake my head and mutter something about how misguided he is, but New York City has a mayoral election fast approaching, and some of the candidates are saying things that don't sit well.

Sure, Council Speaker Christine Quinn took time to pose with a Citi Bike, and Manhattan Borough President Scott Stringer promised to make mass transit a centerpiece of his campaign. But Comptroller John Liu loves to stir up trouble when it comes to the economics of livable streets—he recently published a scaremongering report warning that bike share would generate a firestorm of frivolous lawsuits. And the candidate I know best, Public Advocate Bill de Blasio, told an audience of Brooklyn donors that bike lanes are often "ill conceived" and pledged to put the brakes on the rollout of safer street designs in favor of a more "incremental" approach.

Yikes! What's worse is that Bill is a good guy, a neighbor of mine and, until recently, a livable streets stalwart. So what happened? When did the tide change? I can't say for sure, and I'm not convinced it truly has, but I do know that there are some well-connected, deep-pocketed people in this city who have an outdated view of our streets—and all the mayoral candidates on speed-dial.¹⁴²

De Blasio, who prevailed in the end, did, in fact, seem to have an evolving position on key initiatives. As a city councilman from 2001 to 2009, he had supported some policies favored by cycling advocates, such as more car-free hours in Prospect Park and creating a bike lane on 9th Street in Park Slope. But he had voted against congestion pricing and, as the city's Public Advocate from 2010 to 2013, he had been a frequent critic of Bloomberg's livable streets initiatives. For example, in a February 2010 *New York Times* article addressing Bloomberg's decision to permanently transform Broadway into pedestrian plazas in Times to Herald Squares, de Blasio had asserted: "Too often we have seen this administration decide for the people, instead of engaging them in the process of making our city better. I believe that while this project has some benefits, we cannot make such a fundamental change to Times Square without first giving the community a greater say in the process."¹⁴³ In March 2011, at the height of the Prospect Park bike path controversy, he had called on DOT to carry out independent evaluations of its projects because its in-house evaluations had "provided a rubber stamp on every single one" of DOT's major initiatives, including Times Square where, he asserted, DOT's analyses "ignored city data critical of the project."¹⁴⁴ And in 2012 he told the *New York Post* that Sadik-Khan was a "radical" on bike lanes and plazas, while he was an "incrementalist."¹⁴⁵

In this politically charged context, Transportation Alternatives hired Penn Schoen, a nationally known polling firm, to shed additional and more timely light on

voter perspectives about the pedestrian and cycling initiatives. “What they discovered,” TA later reported, “occasionally contradicts long-held beliefs, confuses seasoned political players and complicates matters royally.”¹⁴⁶ In particular, Steely White said, while the polling found that overwhelming majorities of likely voters supported the recent programs and policies, “the [principal] reason that people supported this stuff wasn’t to make New York a world-class city. It wasn’t health. It wasn’t environment. It was safety.”¹⁴⁷

The question for mayoral candidates was how to emphasize safety while differentiating themselves from Bloomberg. While Bloomberg and Sadik Khan had emphasized the quality of life and economic development benefits of their livable streets initiatives, with safety as an additional (and increasingly prominent) benefit, TA now moved to reframe the policies as almost entirely focused on safety. To do so, it revived its call for the city to adopt a Vision Zero approach, which TA had detailed in a 2011 report that had received virtually no coverage.

While noting that New York was already the safest city in the United States (by the measure of traffic deaths per capita), TA’s 2011 report had emphasized that some great cities abroad – such as Berlin, Paris, and Tokyo – had fatality rates less than half New York’s. Further, it found that between 2000 and 2009 more New Yorkers had died as a result of crashes than had been murdered by guns. The report had gone on to note that speeding or driving at unsafe speeds were the primary causes of pedestrian deaths in NYC, adding that pedestrians hit by a car going 40 mph have only a 30 percent chance of surviving, while those struck by a car going 30 mph have an 80 percent chance and those struck by a car going 20 mph have a 98 percent chance of surviving. Therefore, it concluded, the city should redesign key streets to discourage speeding, reduce the default speed limit on city streets from 30 to 20 mph, and vigorously enforce speed limits and other traffic laws. The report added that since these approaches would require the collaboration of multiple city departments: “the Mayor [personally] must make safe streets a priority and directly lead the effort to eliminate traffic deaths and serious injuries.”¹⁴⁸

Christine Quinn, a mayoral candidate who was then president of the City Council, seemed to embrace some of these approaches in the spring of 2013 when she called for the city focus on cutting traffic-related deaths in half by 2025 (essentially the same the goal Sadik-Khan had set for the department in 2008). To do so, Quinn called for creating a street safety interagency task force, installing more speed cameras, deploying limited police resources such as speed guns in high-fatality areas, and using data to identify intersections that needed countdown clocks and better crosswalks.¹⁴⁹

While early polling had Quinn leading the race, by the early summer she began to fall in the polls, in part because voters viewed her as too close to Bloomberg and too supportive of his administration’s policies. Consequently, Steely White began to focus heavily on de Blasio, who was starting to rise in the polls. TA’s leaders not only shared TA’s polling data and policy recommendations with key members of de Blasio’s staff (who included TA’s former communications director), they also arranged for de Blasio to meet with some long-time TA supporters who had recently

lost family members in crashes. This proved decisive, Steely White judged, in getting “Vision Zero over the finish line” with de Blasio.¹⁵⁰

In August, de Blasio, who polling now showed as running a close second to Quinn, announced that, if elected, he would “take decisive and sustained action to reduce street fatalities each year until we have achieved ‘Vision Zero’ — a city with zero fatalities or serious injuries caused by car crashes.” His strategy for doing so included having DOT revamp at least 50 dangerous corridors and intersections a year. In keeping with his overall campaign focus on inequality, he added that this effort would focus on poorer neighborhoods, areas near schools, and neighborhoods with high numbers of senior citizens. Materials released by the campaign added that this effort would require “narrowing excessively wide streets that encourage reckless passing and speeding, widening sidewalks and medians to make streets easier and safer to cross, and adding dedicated bicycle infrastructure to create a safe space for New Yorkers on bikes” as well as having NYPD “track and prioritize the enforcement of [the laws against] speeding, failure to yield to pedestrians, and reckless driving.” More broadly, de Blasio also called for greatly expanding the Select Bus Service program, which had provided BRT-like service in several heavily travelled corridors.¹⁵¹

None of the other Democratic or Republican candidates embraced the safety agenda or embraced cycling and walking. Consequently, the choice for many advocates came down to de Blasio and Quinn, who by this time were the two frontrunners in the race for the Democratic nomination. Both sought the endorsement of StreetsPAC, a new political action committee founded by several people with close ties to TA. After interviewing both of them, in early September, the group’s board endorsed de Blasio, in part, said StreetsPAC Board Member Eric McClure, because unlike Quinn, de Blasio promised to replace Police Commissioner Ray Kelly, who had resisted calls for more aggressive enforcement of traffic laws. (De Blasio’s promise to replace Kelly was primarily due to the commissioner’s strong support for controversial “stop-and-frisk” policies that de Blasio opposed.) Speaking at the time, StreetsPAC board member Doug Gordon added: “I was actually pretty impressed by Quinn. She really was great in person and talked about this stuff with a high level of knowledge. But when you really just look at what Bill is offering ... he of all the candidates has the most quantifiable, measurable goals for how he is going to increase the safety and livability of city streets.”¹⁵² In September, de Blasio, who surged in the race’s waning days, received 41 percent of the vote in the Democratic primary, enough to avoid a runoff. In November, he was elected with 73 percent of the vote. A host of city council candidates endorsed by StreetsPAC were elected as well.

Implementing Vision Zero

Since taking office, de Blasio has continued to support the Vision Zero agenda. He assigned his First Deputy Mayor, Anthony Shorris, to shepherd interdepartmental collaboration in support of Vision Zero. His choice for transportation commissioner was Polly Trottenberg, a New Yorker who had served

as U.S. Undersecretary of Transportation for Policy in the Obama Administration and had previously worked in a senior policy capacity for two New York Senators, Moynihan and Schumer. She recalled that in her interview with de Blasio:

The Mayor and I discussed [Vision Zero]... and I certainly knew that it was going to be one of his priorities. But at the same time ... the Mayor basically said, "Look, I love transportation but I don't know that it's going to be the first thing [on the agenda]." ... He was quite clear. The first things that he wanted to tackle were Pre-K, housing, and better relationships between ... the police in the minority community.¹⁵³

William Bratton, who was appointed the city's police commissioner, also had other priorities, notably improving relationships with minority communities. However, he promised to make traffic enforcement a high priority. Speaking at a forum in November 2013, just prior to his selection, he asserted: "The time for this issue has come. You do not have to accept the status quo."¹⁵⁴ Since his appointment, the department has devoted more attention to traffic enforcement via such measures as reinvigorating and expanding the department's "TrafficStat" program, which was based on the nationally known CompStat program that Bratton had launched when he was the city's police commissioner in the early 1990s.

Just a month after de Blasio's inauguration (and a few weeks after several pedestrians were killed in high-profile crashes), the city released a Vision Zero plan that included most of the key elements promised in the campaign. The document also called for several changes in state laws, including a reduction in the city's default speed limit from 30 to 25 mph and full power for the city to deploy red-light and speed cameras. (At the time, state law, which had been changed a year earlier after intensive lobbying by the Bloomberg Administration, allowed the city to deploy 150 red-light cameras and 20 speed cameras, but only near schools and during school hours.)

The mayor's legislative requests greatly benefitted from the active support of a new organization, Families for Safe Streets, which was part of TA. (See Figure 8) The group, which brought together people who had lost loved ones in crashes, grew out of informal meetings convened by Amy Cohen and Gary Eckstein, long-time (but previously uninvolved) TA members whose son was hit and killed by a van on their Brooklyn street in October 2013. "What we bring to this is a human face," Eckstein told *The New York Times*. "People are killed and families are turned inside out. It's important for people to see this."¹⁵⁵

The new group was modeled in part on Mothers Against Drunk Driving, a group founded in the 1980s that had been enormously influential in bringing about both attitudinal and legal changes against drunk driving. The connection was no accident. One of those killed in January 2014 was nine-year old Cooper Stock, who uncle Barron Lerner had written a history of drunk driving. Shortly thereafter Lerner wrote in *The New York Times*' "Well" blog: "Reckless driving, circa 2014, is what drunk driving was prior to 1980: it is poorly defined in the law, sometimes poorly investigated by police and almost never results in a criminal charge... The

carnage caused by reckless driving, like that caused by drunk driving, should also be viewed as criminal.”¹⁵⁶

Figure 8: Rally for Policies Related to Vision Zero[‡]



Juan Martinez, TA's former general counsel who Trottenberg tapped to be DOT's Director of Strategic Initiatives believes the group's efforts fundamentally changed the nature of the debates about speed limits and enforcement. After legislators met with Cohen or other members of the group, he recalled, "they'd get the gravity of the situation. Humans are funny like that. We don't trust numbers, but we trust people."¹⁵⁷ Among those swayed by the group's lobbying was State Senator Jeffrey Klein (D-Bronx/Westchester County), who as a leader of the Independent Democratic Caucus, a breakaway group allied with the Senate's Republicans, reportedly made the speed limit and a scaled back version of the cameras' proposals his conditions for remaining in the precarious Senate governing coalition. And just before it adjourned in June 2014, the state legislature passed (and the governor subsequently signed) measures that allowed the city to lower the default speed limit on its streets to 25 mph, to add 120 additional speed cameras in school zones, and to continue operating its red-light camera program for five years.¹⁵⁸

With the legislation in hand, the city has intensified its efforts to move forward with the Vision Zero agenda. In addition to stepping up enforcement, it has employed sophisticated data analysis to prioritize individual streets and

[‡] Photo by Dmitry Gudkov. Reprinted with permission.

intersections for design changes. Illustratively, in July 2015, the city broke ground on a multi-year project to create new pedestrian zones and bike lanes on a portion of heavily travelled Queens Boulevard, which, despite previous safety-oriented design changes made in the mid-2000s, was still the site of an unusually large number of crashes. The police department also used the data to identify crash-prone corridors, like Queens Boulevard and the Grand Concourse in the Bronx, that would benefit from stepped-up enforcement efforts. More broadly, in 2014 the NYPD issued 117,719 speeding tickets, 42 percent more than in 2013. Finally, making use of a revised city ordinance toughening penalties for failing to yield to pedestrians, the police also issued 18,723 summonses for that violation, an increase of 126 percent from 2013.¹⁵⁹

While it is too early to tell if these efforts will greatly reduce deaths and serious injuries from crashes, preliminary indications are promising. In 2014, 139 pedestrians were killed in crashes, the fewest since the city began keeping track in 1910. The total number of traffic fatalities was 256, which was tied for the second-lowest total on record since 1910. The positive trend continued in 2015 when the city set another record low with 131 pedestrian deaths and 230 total deaths.¹⁶⁰

On the other hand, in August 2015 de Blasio again expressed ambivalence about Times Square, where various street performers, most notoriously topless (though painted) women, who invite tourists to pose for pictures with them and then seek tips for doing so, had become increasingly numerous and were attracting huge media attention. Responding to articles about the topless street performers, Bratton stated: "I'd prefer to just dig the whole damn thing up and put it back the way it was" and de Blasio said he would consider removing the plaza as well. The plaza's supporters outnumbered its critics, however. Times Square Alliance President Tim Tompkins, for example, told *The New York Times*, "Sure, let's tear it up. We can't govern, manage, or police our public spaces so we should just tear them up. That's not a solution. It's a surrender."¹⁶¹ In October, a task force appointed by de Blasio recommended that the plaza be retained, with the women and other solicitors limited to a small portion of it.

DOT Commissioner Trottenberg expresses confidence that the changes started in the previous administration – including a commitment to continue expanding the city's bike lane network – are here to stay:

When it comes to transportation, we're not radically different than the last administration. ... Perhaps the flavor is a little different... I think we try harder to work with the City Council and make the process consensual. We also benefit from the fact that a lot of these projects were a lot more controversial six or seven years ago than they are today. But I don't view us as a radical change.¹⁶²

Endnotes

¹ (Lee Kuan Yew World City Prize Secretariat 2012)

² (Doctoroff 2015)

³ (City of New York, Mayor's Office of Sustainability and the Mayor's Office of Recovery and Resiliency 2007, 10)

⁴ (Taddeo 2010)

⁵ The BIDs are created by the City Council and the Mayor at the request of local businesses. See (City of New York, Department of Small Business Services n.d.)

⁶ Between 1950 and 1980 Chicago's population dropped by 17 percent (from 3.6 to 3 million), Philadelphia's dropped by 14 percent (from 2.1 to 1.7 million) and Detroit's dropped by 35 percent (from 1.8 to 1.2 million). In the same period, Los Angeles, which was the only other American city with more than one million residents in 1950, grew by 51 percent (from 2 to 3 million). New York's land area is greater than all of these cities except Los Angeles. Cite author's calculations from (Gibson 1998).

⁷ (City of New York, Mayor's Office of Sustainability and the Mayor's Office of Recovery and Resiliency 2007, 3)

⁸ Author's calculations from (Brecher and Horton 1993, 7) (Gladstone and Fainstein 2003, 86), and (Gladstone and Fainstein 2013, 85)

⁹ (Glaeser 2005, 22)

¹⁰ The board – which was created by the state in September 1975 – consisted of the governor, the state comptroller, the mayor of New York City, the city's comptroller, and three members appointed by the governor and approved by the State Senate. Between 1975 and 1986 all of the city's financial plans, financial plan modifications, and borrowings, together with certain contracts, had to be approved by the board before they were implemented.

¹¹ The primary transit provider is the Metropolitan Transportation Authority (MTA), which operates the subways, commuter rail lines, buses, several major bridges and two tunnels. The MTA is governed by a 19-member board nominated by the governor and approved by the State Senate. The board includes a chairman and CEO and five other members directly nominated by the governor, four members recommended by the mayor of New York, and three members recommended by the county executives of Suffolk, Nassau and Westchester Counties. It also includes four members nominated by the executive of four farther-flung counties who together cast only one vote. The remaining members are non-voting representatives of the MTA's workers and riders. The Port Authority of New York and New Jersey, which is governed by a board appointed by the two state's governors, provides subway service under the Hudson River, which divides the two states. New Jersey Transit, a state agency, also runs buses and trains to NYC.

¹² (City of New York, Office of the Mayor 2003).

¹³ (Doctoroff 2015)

¹⁴ For a good discussion of how the Olympics shaped development plans see (Moss 2011). For more on the Bloomberg administration's general approach to development see (Brash 2011) and (Larson 2013). For a good overview of rezoning the physical changes during the Bloomberg Administration see (New York Times 2013).

¹⁵ (Crowley 2009)

¹⁶ (Naparstek, Mayor Bloomberg Says NYC Traffic Congestion is Good 2006)

¹⁷ (Naparstek, Outgoing Bike Program Director Rips Agency Bosses 2006)

¹⁸ (Tompkins 2015)

¹⁹ (Doctoroff 2015)

²⁰ (Doctoroff 2015)

²¹ (Alex Garvin & Associates, Inc. 2006, 4) Note that this report was not made public by the city. Rather, it was leaked to – and published by – *Streetsblog NYC*.

²² (Alex Garvin & Associates, Inc. 2006, 2) See also (Naparstek, Sneak Preview of Bloomberg's 21st Century Urban Vision 2006)

²³ (Alex Garvin & Associates, Inc. 2006, 61)

²⁴ (Steely White 2015). For more on the role of advocacy groups in these efforts see (Tsay 2015, 14, 35-36)

²⁵ (White 2016) The *New York Times* reported that Gorton had given \$10 million but White said that is a mistake. See (Goodman 2012). See also (Tsay 2015, 36-37)

²⁶ See (Project for Public Spaces n.d.).

²⁷ (Chan 2007). See also (Lydon and Garcia 2015, 159)

²⁸ (Naparstek 2015)

²⁹ (Partnership for New York City 2006)

³⁰ These included TA, the Regional Plan Association, and the Manhattan Institute, a neo-conservative think-tank.

³¹ (Neuman and Cardwell, Mayor Says Fee on Peak Traffic Is Not Likely 2006). For more on politics of congestion pricing see (Altshuler 2010).

³² See (Donahue and Zeckhauser 2011, 156-187), (Berens 1997), and (David and Hammond 2011)

³³ See (City of New York, Mayor's Office of Sustainability and the Mayor's Office of Recovery and Resiliency 2007, 37)

³⁴ (City of New York, Office of the Mayor 2006)

³⁵ The mayor also called for developing critical back-up systems for New York's water network and for providing cleaner and more reliable electricity as well as cleaning up contaminated land, and opening up 90 percent of the city's waterways to recreation by reducing water pollution and preserving natural areas. See (City of New York, Office of the Mayor 2006)

³⁶ (Steely White 2015)

³⁷ (Sadik-Khan 2015)

³⁸ (Doctoroff 2015)

³⁹ The plan identified five priority capital projects: building the 2nd Avenue Subway, adding a third track to the mainline of the Long Island Railroad, building a second trans-Hudson train tunnel, building a second express bus lane in the Lincoln Tunnel, and replacing Penn Station with the Moynihan Station Project at the former Farley Post Office Building. (City of New York, Mayor's Office of Sustainability and the Mayor's Office of Recovery and Resiliency 2007, 94-96)

⁴⁰ The plan also called for improving and expanding bus service, including introducing new Bus Rapid Transit service in heavily travelled corridors; improving pedestrian access to existing subway stations and bus stops; expanding ferry services; strengthening enforcement of traffic violations; creating new land for mixed-use development by decking over major transportation facilities, such as the train yards in the Far West Side near Penn Station; and building more than 1,000 housing units on municipal parking lots (while replacing most of the current parking). See (City of New York, Mayor's Office of Sustainability and the Mayor's Office of Recovery and Resiliency 2007)

⁴¹ (Naparstek, Sadik-Khan Has Two Things Her Predecessors Lacked... 2007)

⁴² (Sadik-Khan 2015)

⁴³ (Damashek 2015)

⁴⁴ (New York City Department of Transportation and the Metropolitan Transportation Authority 2013)

⁴⁵ (Naparstek, Jon Orcutt Appointed as DOT Senior Policy Advisor 2007)

⁴⁶ (Crowley 2009)

⁴⁷ (Sadik-Khan 2015)

⁴⁸ (Rubinstein, Sadik-Khan's rearguard 2014)

⁴⁹ (Steely White 2015)

⁵⁰ (Sadik-Khan 2015)

⁵¹ DUMBO stands for **D**own **U**nder the **M**anhattan **B**ridge **O**verpass, an area near the East River.

⁵² (Reed 2015)

⁵³ (Naparstek, City Launches “Public Plaza Initiative” at DUMBO Pocket Park 2007)

⁵⁴ (Russo, et al. 2008)

⁵⁵ (Green Lane Project 2015)

⁵⁶ (Sadik-Khan 2015)

⁵⁷ (Wiley-Schwartz 2015) The quote refers to the fact that in the Jewish tradition, a relatively brief statement in the Torah (the first five books of the Old Testament) generated detailed commentaries from noted rabbis, which are collected in the Talmud, which in standard print is more than 6,000 pages long.

⁵⁸ (Sadik-Khan 2015)

⁵⁹ (Wiley-Schwartz 2015)

⁶⁰ (Sadik-Khan 2015)

⁶¹ (Sadik-Khan 2015)

⁶² This section draws on (Schaller 2010).

⁶³ (Quinnipiac University Poll 2008)

⁶⁴ See (Gonzalez 2008)

⁶⁵ See map at (Fried, The City Council Vote in Two Dimensions 2008)

⁶⁶ (New York Post Editorial Board 2007) and (New York Post Editorial Board 2008)

⁶⁷ (Cardwell and Hakim 2008)

⁶⁸ (Lisberg and Benjamin 2008)

⁶⁹ (Aaron, Upstate Assembly Member Says City Delegation Killed Pricing 2008)

⁷⁰ (Confessore 2008)

⁷¹ See (New York City Department of Transportation 2008)

⁷² See (Streetsfilms 2008) for both a transcript and a video of the event.

⁷³ (Crowley 2009). Others used the same formulation to describe the Bloomberg Administration’s general approach to development. See (Larson 2013) For good background on the battles on Moses and Jacobs, see (Flint 2009)

⁷⁴ (Sadik-Khan 2015). See also (Lydon and Garcia 2015, 156-164)

⁷⁵ (Doctoroff 2015) and (City of New York, Mayor's Office of Sustainability and the Mayor's Office of Recovery and Resiliency 2007)

⁷⁶ (Wiley-Schwartz 2015)

⁷⁷ (Damashek 2015)

⁷⁸ (Wiley-Schwartz 2015)

⁷⁹ (Schaller 2015)

⁸⁰ (New York City Department of Transportation 2012)

⁸¹ (Fried, Productive Exchange of Ideas Breaks Out at Fort Greene Plaza Workshop 2012)

⁸² (Reed 2015). See also (Lydon and Garcia 2015, 161-163)

⁸³ (Summers 2013)

⁸⁴ The system, which also had bikes in Mountain View and Redwood City, was a partnership of several entities that together covered its capital costs. These included the Bay Area Air Quality Management District, the San Francisco Municipal Transportation Agency, the county of San Mateo and its transportation authority, and some local governments. See (Bay Area Bike Share n.d.)

⁸⁵ The privately funded expansion will not include other Silicon Valley communities. However, those communities can join the system if they subsidize the stations within their borders. See (Motivate 2015) and (Boone 2015)

⁸⁶ Figure on square footage from (City of New York, Office of the Mayor 2013)

⁸⁷ (New York City Department of Transportation 2008).

⁸⁸ (Gertner 2013)

⁸⁹ (Schaller 2015)

⁹⁰ In October 2008, Bloomberg had announced that in light of challenges for the city created by the global financial crisis he had decided to try and seek a third term in November 2009. To do so, he had to get the City Council to amend the City Charter, which, under the terms of two referenda passed by the city's voters in the 1990s, limited the mayor and other city elected officials to two terms. After an intense lobbying campaign, the council narrowly approved the change later that month.

⁹¹ (Holeywell 2013)

⁹² (Neuman 2009)

⁹³ (M. M. Grynbaum, Tourists and New Yorkers Take a Rubber Seat in Times Square 2009)

⁹⁴ (Tompkins 2015)

⁹⁵ (Cuozzo 2009)

⁹⁶ However, by a 38/57 margin, New Yorkers rejected the idea of building such plazas in their own neighborhoods. See (Quinnipiac University Poll 2009)

⁹⁷ Specifically, in surveys done by the alliance, 70 percent of its 48 board members, 68 percent of the area's 22 major commercial tenants, and 83 percent of the area's 25 largest employers all supported making the plazas permanent. Independent interviews conducted for the Alliance also found that contrary to theater owners' concerns, 70 percent of recent theatergoers thought the plazas had a positive impact on the area. See (Times Square Alliance 2010)

⁹⁸ See (New York City Department of Transportation 2010, 10)

⁹⁹ (M. M. Grynbaum, New York Traffic Experiment Gets Permanent Run 2010)

¹⁰⁰ (M. M. Grynbaum, New York Traffic Experiment Gets Permanent Run 2010). See also (Gehl and Svarre 2013, 132-133) and (Lydon and Garcia 2015, 1-2, 150-153)

¹⁰¹ (Kaminer 2013)

¹⁰² (New York City Department of Transportation 2013, 141)

¹⁰³ See (New York City Department of Transportation 2013, 134) and (New York City Department of Transportation 2012, 4)

¹⁰⁴ (New York City Department of Transportation 2010, 8)

¹⁰⁵ (New York City Department of Transportation 2010, 6)

¹⁰⁶ Data is author's calculations from (City of New York and New York City Department of Transportation n.d.) and (New York City Department of Transportation 2010)

¹⁰⁷ (New York City Department of Transportation 2010, 6)

¹⁰⁸ (Singer 2009)

¹⁰⁹ (Kadzis 2010)

¹¹⁰ (New York City Department of Transportation 2013, 6)

¹¹¹ Author's calculations from (New York City Department of Transportation 2013, 5)

¹¹² (Sustainable Transport Award Committee 2009) Previous winners were Bogota, Seoul, Guayaquil (Ecuador), Paris and London (which shared it in 2008). San Francisco, which received the award in 2012, is the only other American city to receive the award.

¹¹³ See (Adams 2009), (Bruni 2011), (Goldstein 2008), (Seaton, New York's transportation chief is a latter-day Robin Hood 2011), (Taddeo 2010) and (Williams 2007)

¹¹⁴ Bilbao was honored in 2010 and Suzhou won in 2014. See (Lee Kuan Yew World City Prize Secretariat 2015)

¹¹⁵ See (Sadik-Khan, *New York's streets? Not so mean anymore* 2013). With 829,359 views (as of July 22, 2015), the talk ranks 1,116th out of the 2023 TED talks posted as of July 22, 2015. Sadik-Khan's talk was about as popular as talks given by such well-known people as biologist E.O Wilson, linguist Steven Pinker, futurist Stewart Brand, playwright Eve Ensler, and ALS activist Nancy Frates (who started the Ice Bucket Challenge). The most popular talk – by educator Ken Robinson's on "Do schools kill creativity?" – had more than 34 million views; the least popular, on "Street art with a message of hope and peace," had 31,806 views. Sadik-Khan's talk was also the 38th most popular of 102 talks on cities and the fifth most popular of 28 talks on transportation. Source: author's calculations from (TED Conferences LLC n.d.)

¹¹⁶ (Green 2014)

¹¹⁷ (Szczepanski 2011)

¹¹⁸ (Anderson 2013)

¹¹⁹ (Shepard, et al. 2013)

¹²⁰ (Anderson 2013). See also (National Association of City Transportation Officials 2012) and (National Association of City Transportation Officials 2013)

¹²¹ (Schaer 2011)

¹²² See (New York Post Staff Report 2011) and (New York Post PageSix.com staff 2011).

¹²³ (Miller, *Howard Wolfson Looks Back on the Rise and Fall of the NYC Bikelash* 2013)

¹²⁴ (O'Neill 2011)

¹²⁵ (Seaton, *How one New York bike lane could affect the future of cycling worldwide* 2011).

¹²⁶ See (New York City Department of Transportation 2011, 5, 26, 27)

¹²⁷ (Fried, Lander and Former CB6 Chair File Amicus Brief Supporting PPW Bike Lane 2011)

¹²⁸ (M. M. Grynbaum, *For City's Transportation Chief, Kudos and Criticism* 2011)

¹²⁹ (Marist College Institute for Public Opinion 2011)

¹³⁰ (M. M. Grynbaum, *For City's Transportation Chief, Kudos and Criticism* 2011) and (Pillifant 2013)

¹³¹ (Sadik-Khan 2015)

¹³² (Quinnipiac University Poll 2011)

¹³³ (Wolfson, Memorandum to Interested Parties 2011)

¹³⁴ (M. M. Grynbaum, Promoting Bicycle Lanes as if They Were on the Ballot 2011)

¹³⁵ (Wolfson 2015)

¹³⁶ (Sadik-Khan 2015, Chan 2007)

¹³⁷ See (Seniors for Safety et al. vs. NYC Department of Transportation et al. 2011)

¹³⁸ (WSJ Live 2013)

¹³⁹ (Comedy Central 2013)

¹⁴⁰ For all these reasons, both the influential Institute for Transportation and Development Policy and the National Association of City Transportation Officials (NACTO) have touted the design of Citi Bike system as a model for other cities. See (Institute for Transportation & Development Policy 2013) and (National Association of City Transportation Officials 2015)

¹⁴¹ (Barbaro and Thee-Brennan 2013). See also (Miller, Times Poll: New Yorkers Really Love Bike Lanes, Bike-Share, and Plazas 2013)

¹⁴² (Steely White, Northern Exposure 2012)

¹⁴³ (M. M. Grynbaum, New York Traffic Experiment Gets Permanent Run 2010)

¹⁴⁴ (Selfman 2011)

¹⁴⁵ (Rubinstein, De Blasio, who called Sadik-Khan a 'radical,' comes around on an expansion of bike lanes 2013)

¹⁴⁶ (Transportation Alternatives 2013)

¹⁴⁷ (Steely White 2015)

¹⁴⁸ (Petro and Ganson 2011, 8, 14, 17)

¹⁴⁹ (Rubinstein, Christine Quinn wants to cut street fatalities in half 2013)

¹⁵⁰ (Steely White 2015, Tompkins 2015)

¹⁵¹ (Aaron, Bill de Blasio Outlines His "Vision Zero" Plan 2013)

¹⁵² (Rubinstein, Safe-streets advocacy group picks de Blasio over Quinn, with Thompson out of the running 2013)

¹⁵³ (Trottenberg 2015)

¹⁵⁴ (Hinds 2013)

¹⁵⁵ (Kleinfeld 2014)

¹⁵⁶ (Lerner 2014)

¹⁵⁷ (Martinez 2015). See also (Tsay 2015, 40-41)

¹⁵⁸ (City of New York n.d.)

¹⁵⁹ (Donohue 2014)

¹⁶⁰ Author's calculations from (City of New York and New York City Department of Transportation n.d.)

¹⁶¹ (Grynbaum and Flegenheimer 2015)

¹⁶² (Trottenberg 2015)

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