

## CIVIL ENGINEERING NEWS

According to the CRS report, further policy options might also arise from work being done by other groups. The report states that one of the most important groups working on such issues is the National Surface Transportation Infrastructure Financing Commission, which has been charged with developing recommendations for Congress on the role of the federal government in funding surface transportation infrastructure. The group issued a preliminary report on February 1, 2008, and its final report is expected next year.

Just weeks after the CRS report was issued, Peters announced a new federal proposal for the nation's transportation system. Similar in tone to the minority viewpoint voiced in *Transportation for Tomorrow: Report of the National Surface Transportation Policy and Revenue Study Commission*, the approach calls for increased tolling and direct pricing options to supplement the

“antiquated mechanism” of the gas tax, increased flexibility for state governments to invest in mass transit, and a renewed federal focus on the interstate highway system.

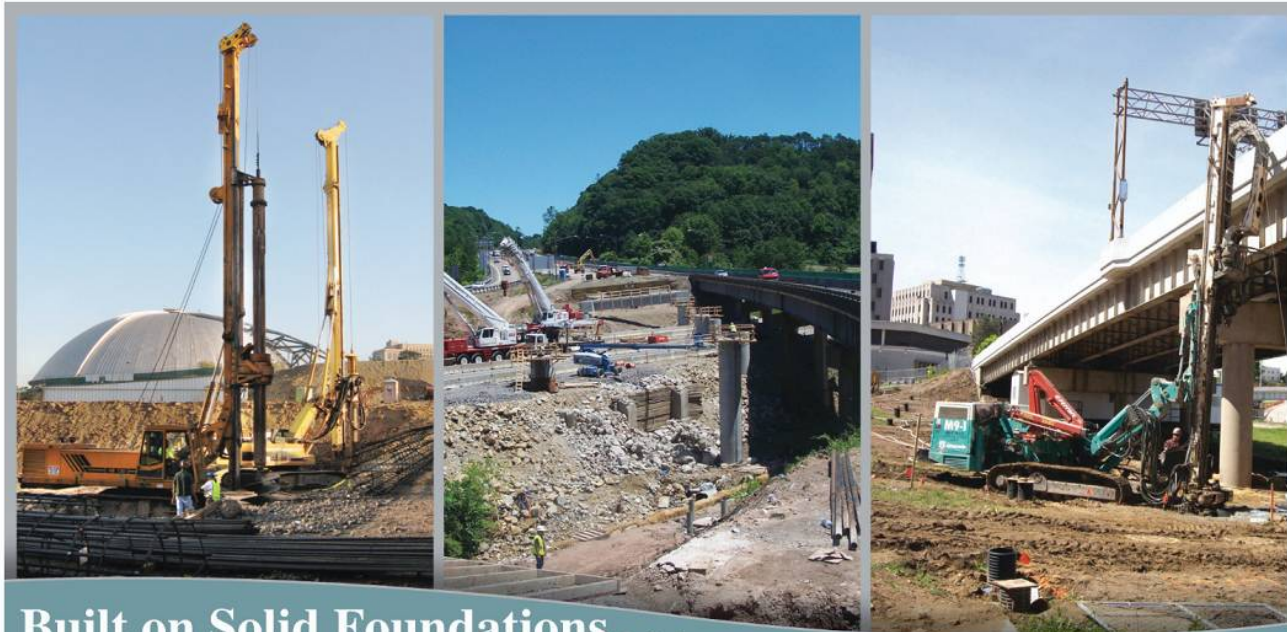
—Catherine A. Cardno, Ph.D.

### URBAN PLANNING **Broadway Receives Pedestrian-Friendly Makeover**

The New York City Department of Transportation (NYCDOT) has taken an unexpected approach to reducing traffic congestion in Manhattan on the portion of Broadway that links Times Square to Herald Square: halving the number of lanes available to motor vehicles. Stretching downtown from West 42nd Street to West 35th Street, “Broadway Boulevard” reclaims 22,383 sq ft (2,079 m<sup>2</sup>) of roadbed

and offers a dedicated bike lane as well as open plazas that have been furnished with umbrellas, tables, and seating areas.

According to Gerard Soffian, P.E., the assistant commissioner of the NYCDOT's traffic management division, “Broadway has long been identified as having untapped potential as a pedestrian street.” He explains that because Broadway was originally a Native American trail, it does not fit into Manhattan's traffic grid, particularly in the midtown area. “It cuts across as a diagonal,” says Soffian, and it adds complexity to traffic operations within the city. “We've always been deemphasizing Broadway as a major vehicles corridor,” he explains, although because it has four travel lanes it tends to attract more—and faster—traffic than desired by the NYCDOT. By decreasing the capacity of this and other stretches of Broadway, traffic operations on the north-south avenues have been retimed to operate more efficiently, thereby improving traffic flow in the entire area, says Soffian.



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Ryan Russo, the director of pedestrian and bicycle programs for the NYCDOT, says the project is also about “trying to make Broadway a better experience through the heart of midtown, something that’s about more than moving traffic, moving pedestrians, [or] moving bicycles.” The goal, he adds, is to create a “world-class street for a world-class city.”

Because traffic on Broadway is south-bound, the NYCDOT decided to locate the improvements on the eastern side of the street so that buses could use the western curb to provide access to those in wheelchairs. Two vehicle lanes and one parking lane are located to the west of the pedestrian plaza space, while a 7 ft (2 m) wide bike lane runs between the plaza and the eastern sidewalk. Vehicle and bike lane signals operate independently of one another to protect bikes from left-turning vehicles.

In addition to removing two of the four travel lanes, the two remaining lanes

were maintained at 10 ft (3 m), rather than 11 ft (3.3 m), a more common lane width. The NYCDOT has been phasing in the use of 10 ft (3 m) travel lanes and 8 ft (2.4 m) parking lanes in the midtown area. “We’ve been looking at narrower lane widths over the past several years as being what’s adequate for the motorists to operate the vehicle safely, yet not promote people traveling at excessive speed,” says Soffian. “We find that generally a ten foot lane width is enough.”

Plastic planters—some of them weighing 600 lb (272 kg), the others 1,000 lb (454 kg)—delimit the plazas and prevent vehicles from using the spaces for parking. The plazas vary from being 13 ft (4 m) wide strips next to parking lanes to 22 ft (7 m) wide “roomlike areas” at the ends of blocks not having east-side street parking. Because the plazas have been constructed directly on the roadbed, the current drainage system continues to function, the crown of the roadbed sloping toward the curb and

the catch basin system. The three business improvement districts that the boulevard crosses—one encompassing the Fashion District, one encompassing Times Square, and the 34th Street Partnership—covered the cost of landscaping the plazas and take care of daily maintenance as part of their responsibility to promote business development and improve the area’s quality of life.

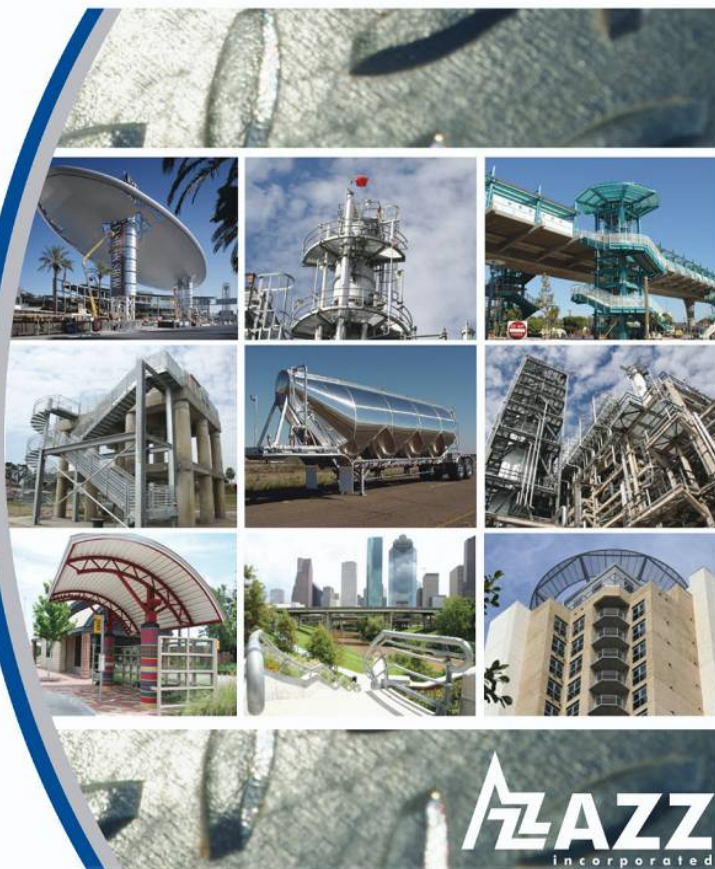
Fire department access is available through the north end of the pedestrian spaces, and in those areas the NYCDOT has placed the smaller (600 lb [272 kg]) planters, which can be readily pivoted out of the way by a single firefighter to ensure fire truck access. “We actually had a fire chief meet us out in the field to prove to himself that he could do it,” explains Randy Wade, the director of pedestrian projects for the NYCDOT. “The bottom line is [that] when you rotate it on its corner edge you can roll it easily out of the way.”

The plazas are designated by a beige gravel surface that has been affixed with

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epoxy to newly paved and cured asphalt—the crushed stone surfaces resembling those found in parks, according to Soffian. A green coating placed atop the asphalt designates the bike lane.

The bike lane additions are part of the 200 mi (322 km) of lanes that are being added to the city's bike network as part of a three-year effort to double the bike lane mileage on New York City streets, according to the NYCDOT. As Soffian explains it, the Broadway project has become a classroom for "retraining cyclists to operate on a new walking-speed path that encourages cautious and inexperienced bicyclists to try this mode of travel." Options for a faster bike lane located closer to traffic are currently being explored by the NYCDOT.

The project was implemented a mere nine months after the NYCDOT made the decision to redesign this portion of Broad-

way, and construction took only a few weeks in midsummer. The department used its own designers, planners, engineers, and project managers for the project, says Soffian, and its bridge painters were recruited to apply the epoxied gravel surfacing. The project therefore cost a modest \$700,000, most of the resources coming from the regular operating budget. The cost of items purchased expressly for the project totaled \$250,000.

According to Soffian, implementing the changes on the roadbed made it possible for the project to be completed on a compressed schedule, in contrast to the 5 to 10 years that a capital reconstruction project of this type can take. However, the roadbed plaza is being considered as an interim measure and a permanent sidewalk expansion is planned for the future.

The environmentally friendly devel-

The New York City Department of Transportation has decreased by half the number of lanes available to motor vehicles in a seven-block stretch of Broadway near Times Square. "Broadway Boulevard" includes a bike lane that is sandwiched between the sidewalk and plaza areas bedecked with umbrellas, tables, and seating areas. Heavy plastic planters demarcate the plazas.

opments associated with the project—less traffic congestion and pollution and more space for pedestrians and bicyclists—are in keeping with the transportation and infrastructure development goals recently articulated by the city's mayor, Michael R. Bloomberg, and the NYCDOT's commissioner, Janette Sadik-Khan, as part of the strategic development of the city.

The public has embraced the new spaces. As Soffian puts it, "As soon as chairs went out, bodies were sitting in them."

—Catherine A. Cardno, Ph.D.