

NYC Park Rises from Rusty Rails



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Abandoned Lower Manhattan rail line reborn as chic elevated park



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Photo by Iwan Baan, _ 2011.

What was once a mile-and-a-half long crumbling urban relic of black steel topped by rusty rails and frequented by graffiti artists and X-treme sports daredevils is now New York City's second most-visited urban park after the legendary Central Park.

This linear landscaped botanical garden, consistently drawing up to 25,000 visitors a day, wends its way through Chelsea, the gentrified chic west side neighborhood of lower Manhattan. Thanks to a grassroots organization "Friends of the High Line", it was saved from the wrecking ball and converted into a public park in 2009. What makes it so unique is that it is, in places, only 30 to 60 feet wide and that it's located 18 to 30 feet above the street.

Built as a series of "episodes," the High Line has several unique features. Let's start with "Chelsea Thicket" planted with dense plantings of shrubbery and small trees. Then there is the "Grasslands" featuring walking planks surrounded by ornamental grasses and wildflowers. The "Woodlands" is a shady canopy of large trees and dense plantings, which contrasts sharply with the "23rd Street Lawn", an open lawn area. Finally, "The Sundeck" overlooks the Hudson River with a dozen wood chaises. It features a section where water cascades over its sidewalk for barefoot wading.



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The High Line began as an aerial freight rail line that operated from 1934 to

1980, as shown above. Now, it is the second most-visited urban park in New York City after the legendary Central Park.

Photo by Joel Sternfeld, _ 2000.

Visitors to the High Line landscape can view more 300 species of grasses, shrubs, trees and wildflowers along with the self-seeded grass, trees and other plants that had established themselves between the rail tracks for the past 50 years.

Dutch horticulturalist Piet Oudolf designed the High Line's main wildflower gardens. James Corner Field Operations landscape architects and Diller Scofidio & Renfro design studio, both of New York City, are responsible for the central walkway.

Oudolf used his trademark wild-prairie palette for the High Line's featured gardens. The palette includes swaths of native, drought-tolerant and low-maintenance species, such as meadow sage, loosestrife, stonecrop and switchgrass among 20 other species. About 50 percent are plants native to North America and 30 percent are plants native to the U.S. Northeast.

"We went off the traditional path of plants as decoration," Piet said in a recent article appearing in the New York Times of this philosophy he modeled after his home garden in The Netherlands. "We tried to work with the seasons, and show that plants are even beautiful after flowering."

Local growers supplied most of the plants used in High Line. They include some from the New York City Parks Department's Greenbelt Native Plant Center.

What surprises most visitors to the High Line most is its lush stretch of lawn, 4,900 square feet of sod placed along a wide section of the line that once accommodated an extra track. Every Monday and Tuesday in the summer the lawn is closed to give it a chance to recover after entertaining an estimated 80,000 guests each nice weekend.

"This is just one of the many challenges of maintaining such a popular green space," says Maeve Turner, senior gardener, who also developed the organic program to keep the lawn healthy. "It's really hard to keep it looking good and green with so much traffic throughout the summer."



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What is so unique about the High Line is that in places it is only 30 to 60 feet wide and that it's located 18 to 30 feet above the street.

Photo by Iwan Baan, _ 2011.

A new type of green roof

The High Line is inherently a green roof, reducing the amount of stormwater runoff, as the planting beds absorb water that would otherwise run directly into the sewer system. The pathway's system of open-jointed concrete plans

aid in capturing runoff. The High Line's irrigation system can be operated automatically and manually. Energy-efficient LED lights gently illuminate the park's pathways and gardens at night and also the sidewalks below.

Even though The High Line was built with cutting-edge technologies, the maintenance practices are quite low-tech and mostly manual. Gardening tools, dirt and other materials are hauled around on tricycles. Winter crews use regular shovels, small hand-operated snow blowers and push-behind snow brooms to remove snow and ice. Prior to a winter storm, an eco-friendly ice melt product is applied at all of the High Line's access points. No rock salt is used so it doesn't damage the plants.

A compost tea is used to fertilize plants. It is manufactured from compost, natural fish fertilizer and food for bacteria and fungi, such as molasses or flour, all brewed together overnight in an aerator to promote microbial growth.



[Click image to enlarge.](#)

Built as a series of episodes, one of the High Line's unique features, is the "Grasslands" with walking planks surrounded by ornamental grasses and wildflowers.

Photo by Iwan Baan, _ 2009.

The High Line never uses pesticides or chemical fertilizers. The maintenance crew is in the process of developing an IPM program to sustainably address any issues dealing with potential pests and diseases.

Spring Cutback is the High Line's biggest horticultural task of the year involving trimming back its more than 100,000 plants to make way for fresh green growth.

"To help get the job done, dozens of volunteers join our 23-person operations crew over the course of the entire month of March spending more than 550 hours trimming back the dried grasses, raking the planting beds and cleaning up the landscape," says Kate Lindquist, director of communications and marketing.

From freight line to park

The High Line began as an aerial freight rail line that operated from 1934 to 1980. Nineteen years after its closing, visionaries Joshua David and Robert Hammond, both freelance creatives who lived in the High Line's shadows, started Friends of the High Line as concerned neighbors for re-purposing the elevated tracks. They modeled their project idea after La Promenade Plantée in Paris, an abandoned rail line near the Place de la Bastille that had been turned into a highly successful linear park in the 1980s.

David and Hammond were quickly able to attract philanthropic hedge fund managers and real estate executives who contributed to the \$153 million cost of the first two building phases that also included federal, state and city

money. When it was time for drawing up the plans, Friends expected a few dozen proposals to roll in from New Yorkers, but their call brought in 720 entries from 36 countries.

Today, Friends of the High Line operates as a nonprofit conservancy working with the New York City Department of Parks & Recreation to manage and maintain the High Line. In addition to overseeing maintenance, operations and public programming for the park, it works to raise the essential private funds to support more than 90 percent of the park's annual operating budget.



Engineering challenges

"There's a lot of engineering in the High Line that one doesn't see," says James Corner, in the UK Guardian. Corner was the leader of the 80-man High Line design team and a principal of field operations. As part of construction, the structure was fully rehabilitated including concrete repair, repainting, and drainage improvements, prior to its conversion to public open space.

The building process for the High Line was quite extensive. First, came the removal of the original rails, ties and gravel ballast. Then, putting up of the garden bed infrastructure as well as the re-installation of many original railroad tracks and tapered concrete planks. The planting-bed base prep from bottom to top consisted of a concrete tub, primer, two layers of hot rubberized asphalt, polyester fabric and asphalt protect board.

Then when it came time for planting, a root blocker, drainage mat, filter fabric and just 14 to 20 inches of low-fertility soil (loam) filled most of the planting beds.

Work on the High Line's \$90 million third and final section kicked off September 2013. Called "High Line at the Rail Yards," it runs in a half-mile arc around the Long Island Rail Road storage yard. Currently, the interim walkway winds through the existing landscape of wild plants that randomly took seed there. Newly planted gardens, a beam-and-girder playground and a train car cafe are currently being integrated into the new landscape.

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