

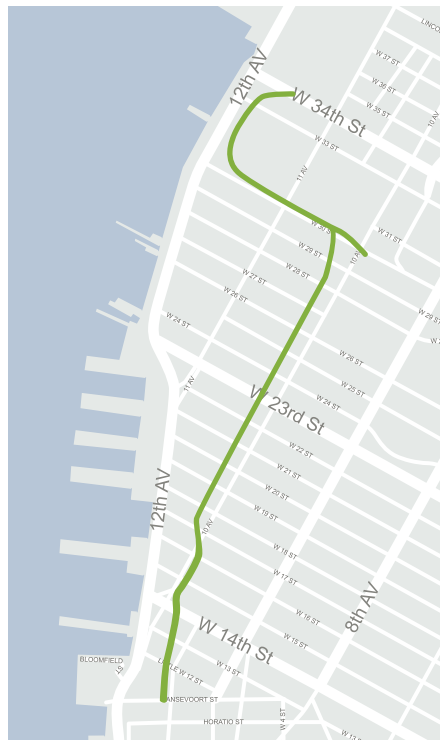
From rails, to ruins, to rebirth

The High Line, a truly unique New York City park, started life as a railway thoroughfare from one end of the city to the other, transporting goods high above the congested streets. After years of neglect and deterioration, the High Line has been reinvented as a dazzling, elevated public space, thanks in no small part to molybdenum-containing stainless steel used in its reconstruction.

Slated for demolition, the once bustling New York City High Line railway had not seen a train in almost two decades. Despite the lack of attention, under tangles of wild grasses and poison sumac its steel bones gleamed – still sound after three-quarters of a century. Revitalized with Type 316 stainless steel cables, nets, staircases and railings, the High Line began its second life as an elevated public park in 2014. Today the High Line attracts more than five million visitors a year. By juxtaposing the original steel beams with new molybdenum-alloyed stainless steel additions, the High Line is a testimony to both the flexibility and longevity of steel. Furthermore, it exemplifies the importance of molybdenum-alloyed stainless steel in a new chapter of industrial history: reimagining the remains of yesterday’s infrastructure as material for tomorrow’s public spaces.

The High Line: past and present

The High Line, located in Manhattan’s West Side, runs from Gansevoort Street in the Meatpacking District to West 34th Street, between 10th and 12th Avenues. The 2.3 kilometer-long elevated park features art displays, scenic overlooks, shopping, green spaces, and activities. A monthly calendar lists events for families, couples, and individuals of all ages, ranging from Tai-Chi to stargazing. Along the High Line trail itself, railroad trestles peek through butterfly gardens. Children attend nature-based summer camp, and teens train for jobs in urban revitalization. Families lean over stainless-steel railings to take in sweeping views of Manhattan. Today the High Line is a happy place: a bustling, but also peaceful public space.



Yet, less than twenty years ago the High Line was an eyesore; an untended industrial gravesite. Long gone were its days as a vital railway carrying goods through Manhattan’s largest industrial neighborhood. Originally completed in 1934, the High Line railway started life as part of the largest transportation infrastructure project in New York City’s history. It replaced a grade-level railroad along the center of 10th Avenue, where so many accidents had occurred over the years that the road was nicknamed “Death Avenue.” The High Line signified hope for commercial activity and renewed prosperity during the Great Depression. Carrying food

and other goods, the railway became known as the “lifeline of New York”. After decades of national highway expansion, however, the High Line gradually became irrelevant in a trucking-dominated industry. Carrying just three cars of frozen turkey breasts, the final train made its way down the track in 1980 and the “lifeline of New York City” fell silent. In the absence of activity, its steel skeleton concealed itself among the grasses; rusted edges obscured a still-sound foundation.



Type 316 stainless steel stairs, hand rails and netting are leading visitors up to the High Line in New York City. © Jakob Rope Systems

From wreckage to reconciliation

Indeed, it was the well-preserved steel beams that signaled hope for the High Line in spite of pushes for its demolition. In 1999, Manhattan residents Joshua David and Robert Hammond started a community group called “Friends of the High Line.” Galvanized by the efforts of local railroad enthusiast and activist Peter Obletz, the group aimed to protect the existing High Line from impending demolition. Their vision was an ambitious one: to transform the defunct railway into an elevated park-greenway, inspired by the beautiful Promenade Plantée in Paris. In 2004, the New York City government committed \$50 million to create a railbanked trail on the High Line site. “Railbanking” allows a railroad to “bank” a corridor for future rail use if necessary. During the interim other uses are considered viable. In 2005, the federal Surface Transportation Board granted a Certificate of Interim Trail Use, legitimizing city funding. The High Line was finally ready to begin a nine-year transformation, with stainless steel to play a critical role.



The elevated High Line park is embedded in the neighborhood. Some stretches are flanked by buildings on either side and new ones are added every year. © Jakob Rope Systems



The park invites visitors to relax and take in the views of the city and nature. © Jakob Rope Systems

Stainless steel fulfills a dream

Construction of the High Line was funded by Friends of the Highline in partnership with the New York City Department of Parks and Recreation, and work commenced in 2006. The design team included architects and landscape architects, as well as a planting designer. Wanting to play up the colossal under-beams as much as possible, the team used structural steel to reinforce the existing infrastructure. Due to high population density and traffic in the West Side, all steel work had to be managed meticulously in order to minimize road closures and other disturbances. Type 316 stainless steel with 2% molybdenum was chosen for its durability, corrosion resistance and low maintenance costs to help bring the High Line into the 21st century. This



Stainless steel netting is very versatile. It ensures the safety of visitors and can also be visually adapted to the environment where it is installed. On the left it protects existing steel railings and has therefore been colored black to better blend in. On the right, where it is used on a newly installed stainless steel staircase, it has been left in its shiny state. © Jakob Rope Systems

stainless steel minimizes the need for continued maintenance in such a high-traffic area and provides the durability required to stand up to millions of visitors annually. Molybdenum imparts excellent resistance to atmospheric corrosion, a problem for some metals in environments like New York City that are near the ocean or subject to deicing salts.

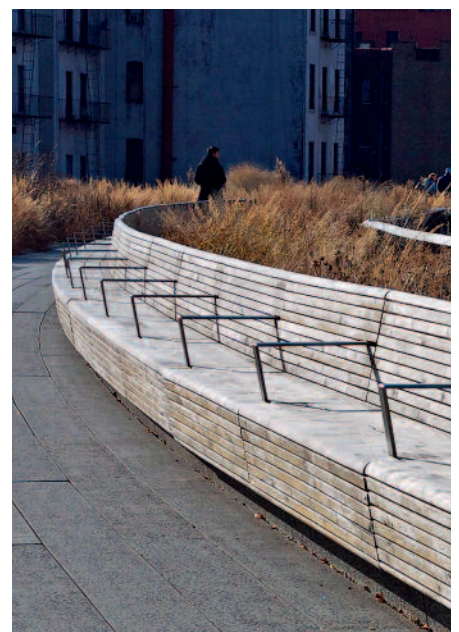
Some of the High Line’s most visible elements are made of Type 316 stainless steel. For the railing of the High Line, the architects chose a stainless-steel net and cable system. This railing and net system is used throughout the park and functions as both a design and a safety element. The netting used with stainless steel railings, for example around the staircases, displays stainless steel’s bright finish. Other netting that utilizes existing steel railings is made of black-oxide coated Type 316 to blend in with the architecture. Stainless steel hardware also beautifully accents the wooden furniture which provides opportunities to relax and contemplate throughout the park. Fully accessible Type 316 stainless-steel staircases lead the public from the busy streets below to the peaceful promenade above. Perforated to allow excellent drainage

and plasma-sprayed with a proprietary slip- and corrosion-resistant coating, they allow the public, including the mobility impaired, to have safe access to the High Line. Stainless steel even provides a moment of drama: the “30th Street Cutout,” where the existing floor of the High Line has been excised and replaced with a glass-floored viewing platform running diagonally across the route, uses stainless steel grating as a support structure to assure pedestrians’ safety. The tri-functionality of structure, safety, and design underscore the flexibility of Type 316 stainless steel.

A model for the future

The High Line is the first park of its kind in the United States. It runs for nearly 22 blocks between the neighborhoods of the West Side and provides a unique horizontal experience in an otherwise vertical landscape. By updating the original steel elements with modern stainless steel, those who played a role in restoring the High Line successfully transformed an important piece of New York City history without disturbing the surrounding area in the process. The success of the High Line speaks to the enduring legacy of steel in history;

one where the industrial bones of the past flower with the innovation of the future. Durable, corrosion-resistant and easy to maintain, molybdenum-alloyed stainless steel has the potential to outfit countless re-imaginings of forgotten places throughout the world. (Karlee Williston)



The wooden street furniture is complemented with stainless steel arm rests and other hardware.