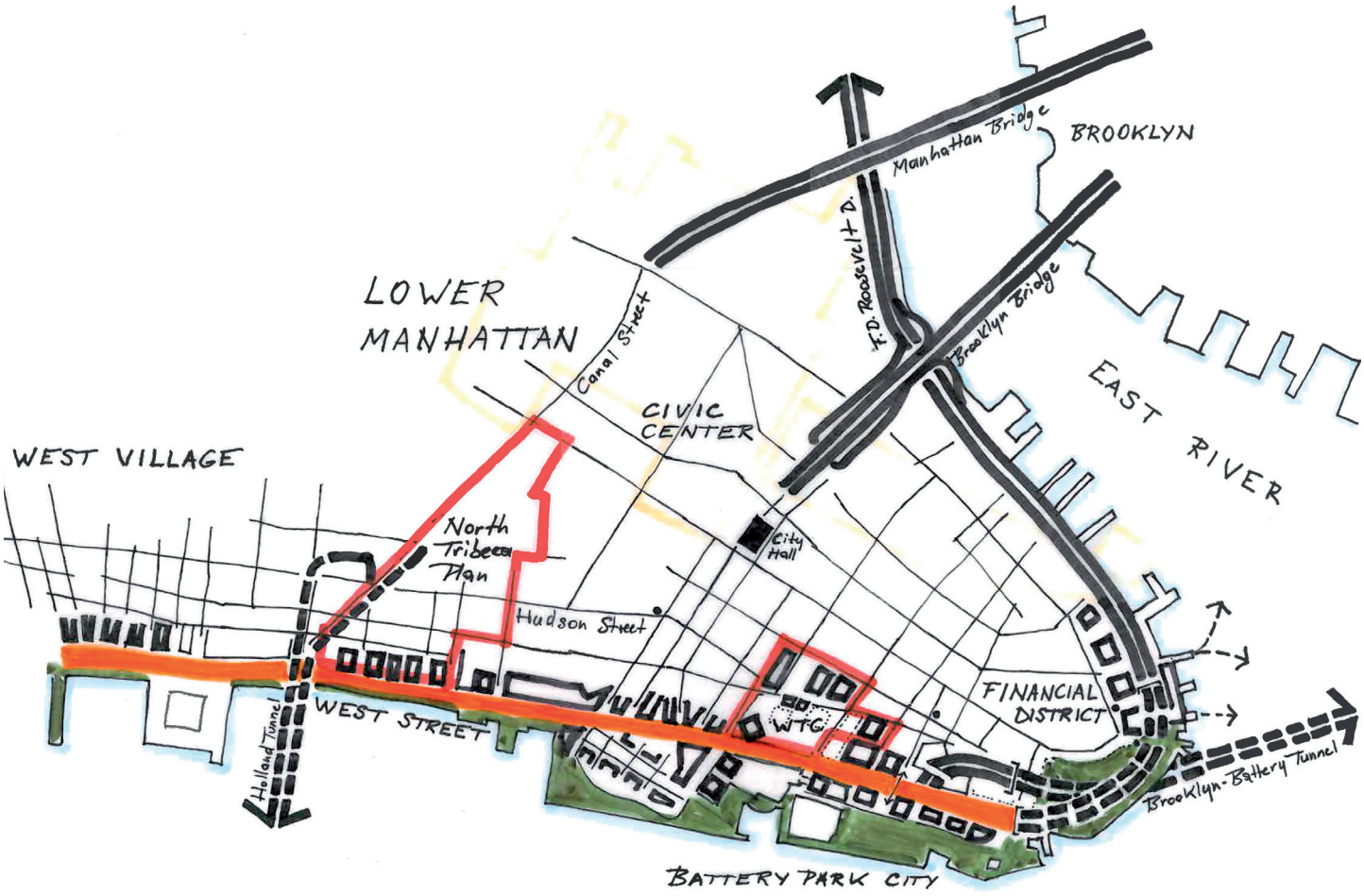
NEW YORK. WEST SIDE HIGHWAY

FROM EXPRESSWAY TO CITY BOULEVARD: CASE STUDY



JANUARY 2021
6.20.003

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L'INSTITUT PARIS REGION

New York:
West Side Highway

• From Expressway to City Boulevard: Case Study •

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Research Reference: French Edition # 1.11.002. English Edition # 6.20.003

This translation of a report first published in French in 2013 was supported by the City of Oslo's *Agency for Planning and Building Services*, lead partner of EUROCITIES *Urban Regeneration on the City Fringe* working group.

When quoting from this report, please mention: Paul Lecroart / *New York. West Side Highway. From Expressway to City Boulevard* / French Edition: IAU Île-de-France, August 2013; *English Edition:* L'Institut Paris Region, January 2021.

Acknowledgements:

I would like to thank the people I met in New York for this research, whose names are listed on the last page of this report, and especially Sam Schwartz (Sam Schwartz Engineering).

The research was supported by University of California in Los Angeles *(UCLA),* Luskin School of Urban Affairs, Dept. of Urban Planning*: thanks to Brian Taylor, Anastasia Loukaitou-Sideris, and Martin Wachs. The translation was supported by the City of Oslo: thanks to Pernille Grimeland Røsvik & Jørn Roar Moe.*

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Introduction

Beginning in the 1940s, major U.S. cities began to develop large-scale program plans for the construction of urban highway networks. At the time, North American policy makers believed that to save downtowns (city centres) from inevitable decline, they needed to be easily accessible by car from the suburbs, where the middle classes were moving to. Even if it meant demolishing entire neighborhoods, often the most disadvantaged ones…

This model was imported into Europe in the 1960s and largely inspired the design of the 1965 Paris Region Master Plan. Today, the high-speed road network plays an important role in the mobility of goods and people, but it generates socially penalizing disturbances and compartmentalizes territories. It also tends to encourage automobile lifestyles that in turn maintain urban sprawl, congestion, and the occupation of valuable space.

The transformation of the urban expressways inherited from the *Trente Glorieuses* (The Glorious Thirty) has become a major subject of contemporary urban planning. Marked by a dense network of expressways that penetrates into its core, the Paris metropolitan region is particularly concerned by this issue.
Is their transformation into "urban boulevards," or rather into "avenues," often radial roads, a solution?
Where does the expressway stop and where does the city begin?
These questions are being debated in the Île-de-France Region, around a series of projects led by local authorities.

In North America, but also in Asia, cities that have been abruptly crossed or pierced by expressways have opted for their elimination.

- How did they do it?
- Under what conditions?
- With what impact?
- What can we learn from these experiences for the Paris Region and other cities?

A case study-based research

To answer these questions, the Paris Metropolitan Region Planning Agency (IAU îdF) has selected nine cases rich in lessons learned regarding the issues that arise in Paris and, more broadly, in many European metropolitan regions. These cases concern either highways cutting through cities or highway spurs leading to their hearts.

Six cases involve completed projects whose impacts can be measured retrospectively and from which general lessons can be learned: Portland (Harbor Drive), New York (West Side Highway), San Francisco (Embarcadero Freeway and Central Freeway), Milwaukee (Park East Freeway) and Seoul (Cheonggyecheon Expressway).

Three cases concern ongoing projects, which make it possible to directly observe the way in which debates are conducted regarding the exploration of scenarios, consultation methods and decision-making processes: New York (Sheridan Expressway), Montreal (Autoroute Bonaventure) and Vancouver (Dunsmuir & Georgia Viaducts).

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Each experience was studied on site, based on field analyses and interviews with project leaders, designers, and experts.

The case studies looked at the different dimensions of the projects: urban development, transport and roads, landscape and environment, economy and finance... The impact of projects is considered at several levels: from the scale of the highway corridor to that of the metropolitan region.

In order to provide the reader with the keys for understanding the underlying rationale behind each experience, the account of each case study is presented in a stand-alone report. This report focuses on the case of the West Side Highway in New York City.

In future works, we'll provide perspective on the experiences studied in line with the progress made on the transformation of the highway network of the Paris metropolitan region and the current thinking on the post-carbon city.

Many of these questions are addressed in the Institut Paris Region Notes "*From Expressway to Urban Avenue: The Possibility of an 'Other' City?*" (October 2012) and *'Rethinking post-carbon cities. From expressway to boulevard'* (Nov. 2015) available at en.institutparisregion.fr.

A summary of the findings can be read in *"Rethinking Cities. From Urban Highway to Living Space",* Urban Design #147, London, Summer 2018.

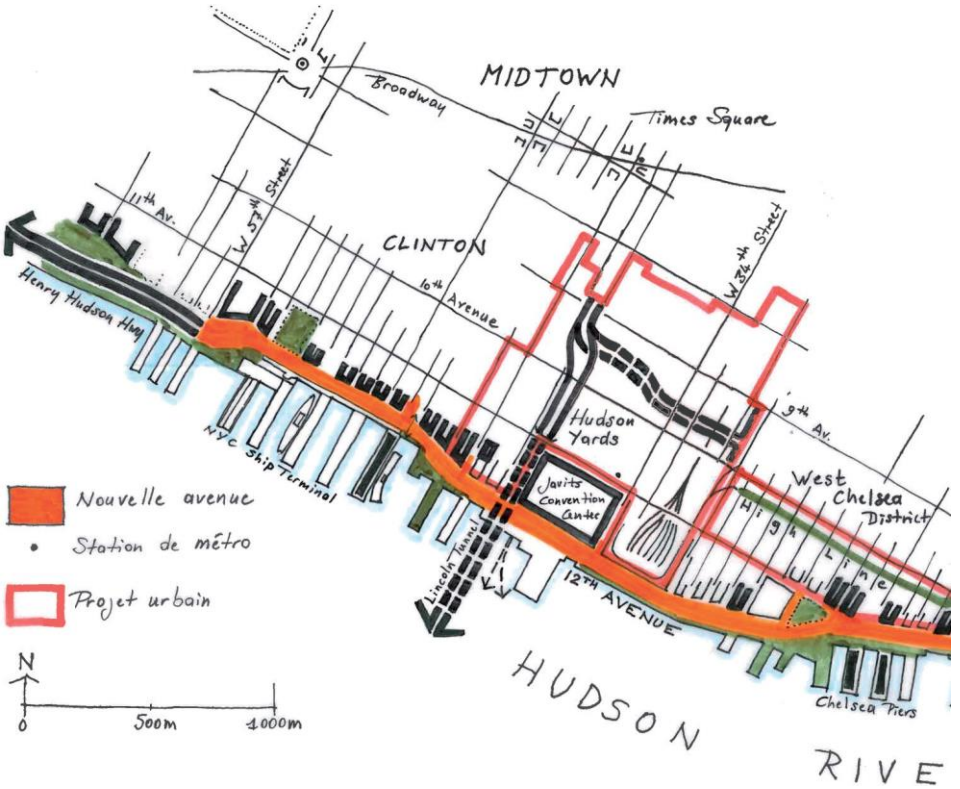
The West Side Highway in New York

Until the early 1970s, the west side of Manhattan was bordered by a very high-traffic urban expressway, the West Side Highway. Following an accident, the expressway viaduct had to be closed to traffic. After thirty years of research, controversies, and redevelopment work, the avenue that replaced it, since 2001, has become one of the most attractive public spaces in New York City

After decades, New York was finally overlooking the Hudson River. Car traffic has been reduced by a third, pedestrian and bicycle mobility has dramatically increased. Developers and big names in architecture are jostling to build housing in areas formerly devalued by the expressway.

The West Side project demonstrates how a new avenue can help transform a waterfront, improve mobility, and revitalize riverside neighborhoods while continuing to play an essential role in the functioning of the metropolitan region.

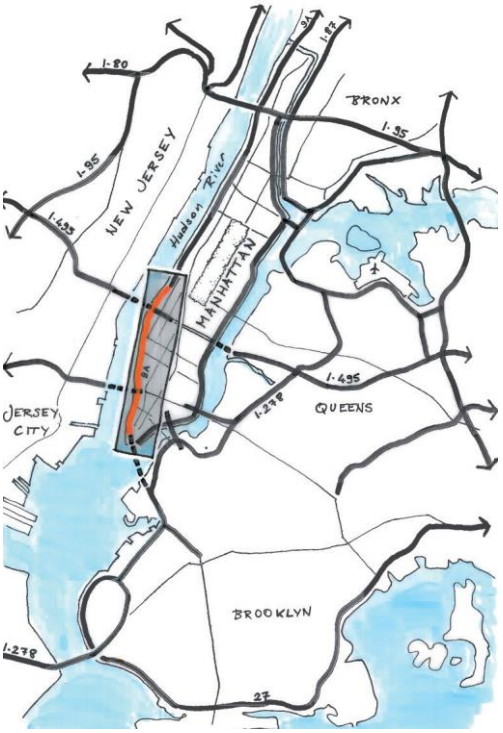
The context



Country: United States
City: New York City, (New York)
City Population: 8.3 million
Metropolitan Region Population: 18.9 million
Highway Stretch: 8.2 km
Traffic volume before: 140-110,000 vehicles/day
Traffic volume after: 80,000 vehicles/day

In 2001, New York City completed the transformation of the West Side Highway, a former expressway along the Hudson River in Manhattan, into an avenue. The West Side Highway was the first elevated highway built in the United States between 1927 and 1931, and is one link in a ring of expressways circling the entire island of Manhattan[1]. This lasted until its partial subsidence due to lack of maintenance in 1973.

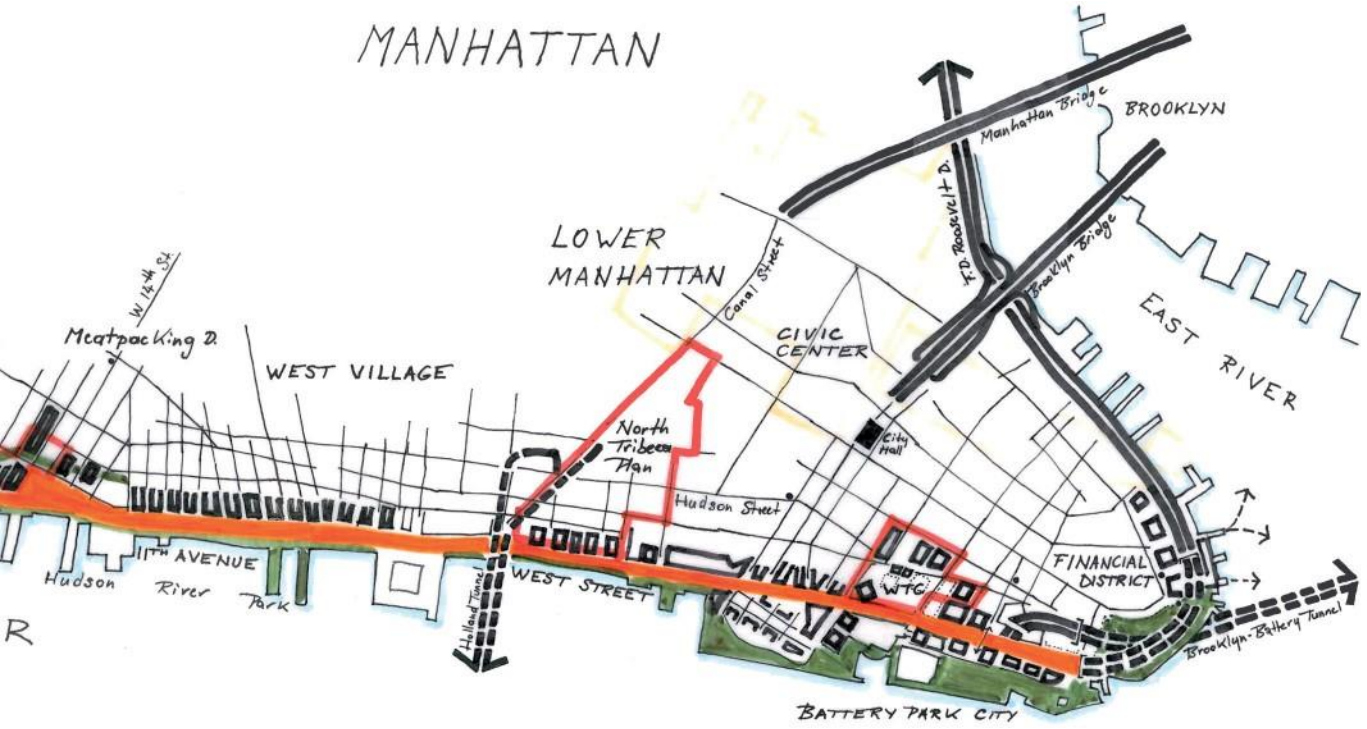
Location of the West Side Highway project in the road network© P. Lecroart IAU îdF



The vanguard of American urban automobile civilization

When it was built, the West Side Highway, also known as the Miller Highway, was at the forefront of the new urban age that was emerging in New York City and across the United States. Beginning in 1941, the route was destined to become part of a large urban highway network planned by Robert Moses, New York's all-powerful planner from the 1920s to the 1960s[2]. A twofold objective: to "modernize" the city to adapt it to the automobile economy, a symbol of progress; and to make the jobs in Manhattan

The West Side Highway project in its urban context
© P. Lecroart IAU îdF



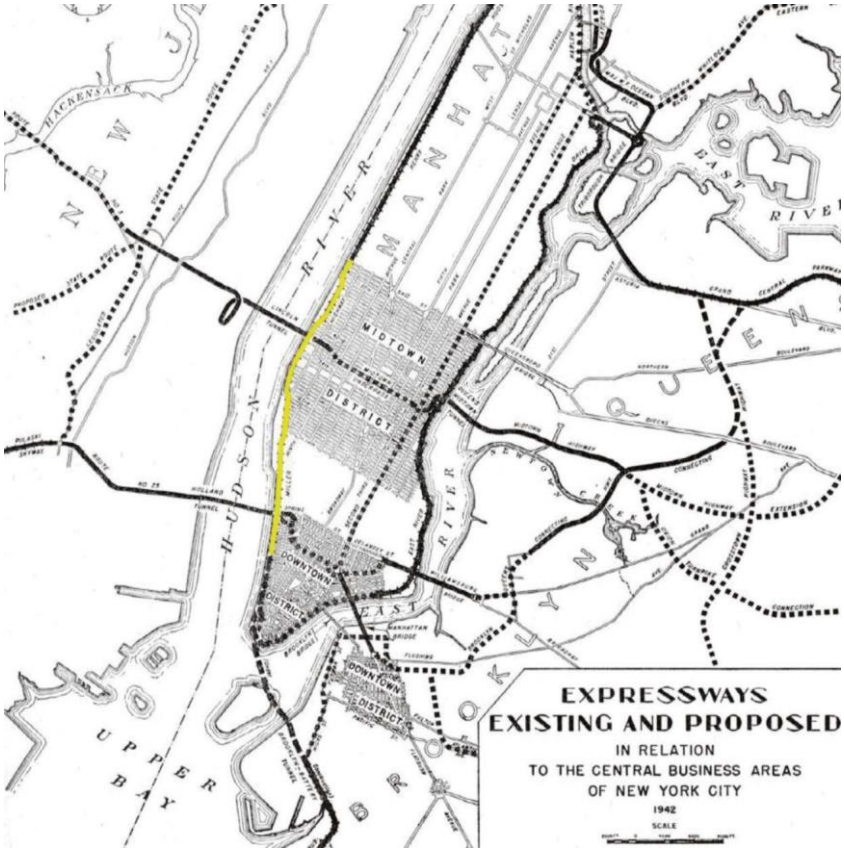
Location map :
The West Side Highway in New York
© G. Crozet IAU îdF

- Secteur d'étude / *Study area*
- Centre métropolitain / *Central Business District*
- Zone urbaine / *Urban area*
- Autoroute ou voie express / *Highway or expressway*
- Route principale / *Major road*
- Limite d'état / *State limit*
- Limite de la ville centre / *City limit*

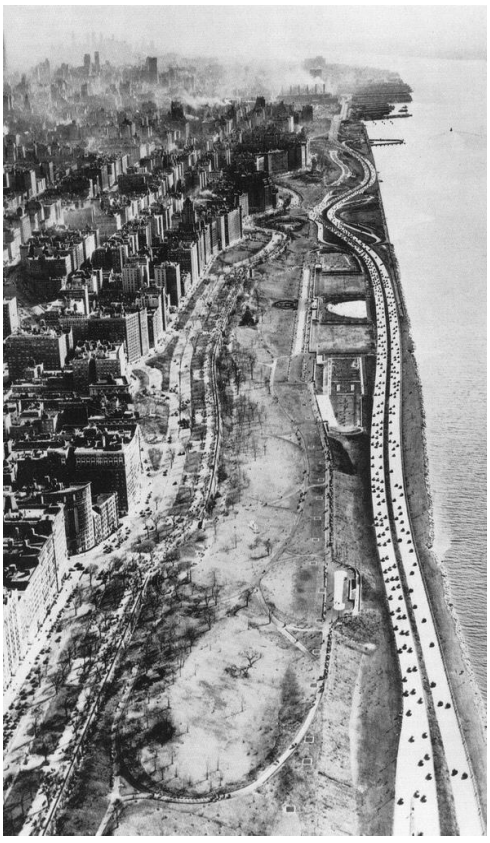
easily accessible to the new motorized middle classes settling in the suburbs.

The West Side Highway (8.2 km long) was to be linked with the Lower Manhattan Expressway and Mid-Manhattan Expressway projects, two highways designed to cross Manhattan's dense urban fabric. After decades of opposition from residents of the neighborhoods doomed to demolition, led in particular by the journalist Jane Jacobs[3], These urban highway projects were abandoned in the early 1960s. Fifty years later, the neighborhoods saved in extremis from these major urban renewal operations - the architectural counterpart of the creation of highways - are among the most dynamic and most valued in Manhattan (Greenwich Village, SoHo).

The Westside Highway (in orange) in the network of existing and planned expressways in 1942. Dotted line, uncompleted Lower Manhattan Expressway and Mid-Manhattan Expressway.
© Regional Planning Association (1943)



The Henry Hudson Parkway north of West Side Highway in 1938
© DR Fine Print NYC



In the 1950s, the West Side Highway (New York State highway numbered NY9A), with its tight curves and its accident prone central ramps, no longer met modern standards: in 1957, studies were undertaken to define a reconstruction project, but no conclusions were reached.

The West Side Highway :
Heavy traffic, lack of maintenance

In the early 1970s, despite its inadequacies, this route played an important role in the metropolitan road network: it served the port areas along the Hudson River, provided access to the heart of Manhattan (Midtown, Lower Manhattan) and connected upstate New York to Brooklyn. The expressway's average daily traffic volume is around 110,000 vehicles.

Westside Avenue in 2012. The transformation of the highway makes it possible for all modes of travel to share the space.©
P. Lecroart IAU îdF

Traffic volumes are higher in the north (140,000 vehicles/day) than in the south (100,000 vehicles/day).
Ironically, on December 16, 1973, a truck that was tasked with repairing the track caused part of the viaduct to collapse!

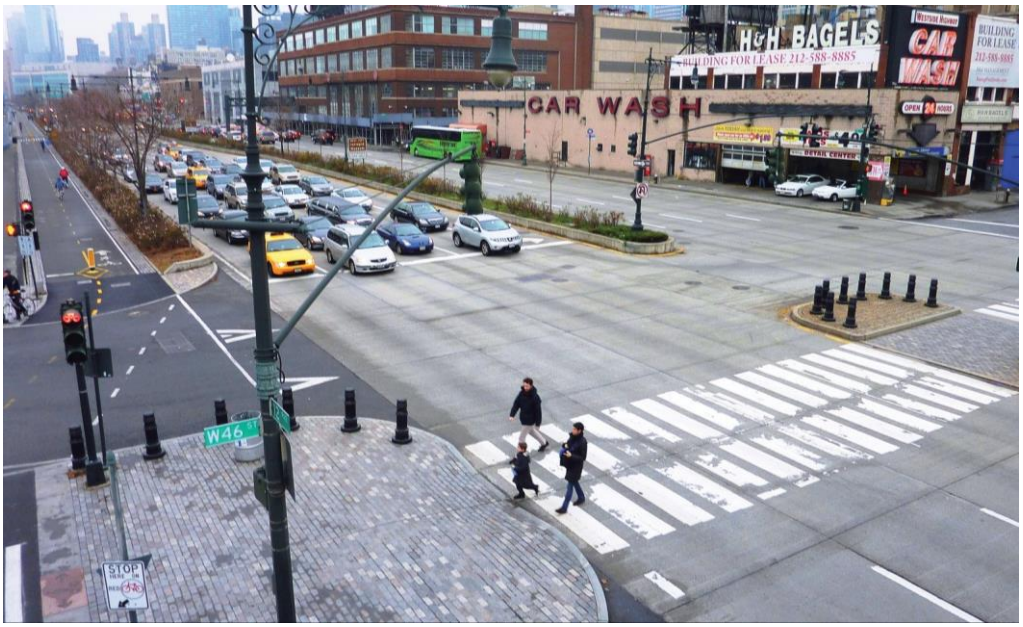
Thirty years of discussions, a new avenue, traffic "disappeared".
Following thirty years of research, controversies and renovation, the avenue that replaced it became, in 2001, with the Hudson River Park bordering it, one of the most attractive public spaces in New York. After decades, New York finally has a view to its river. Car traffic has decreased by about a third in the corridor whose official name today is the Joe Di Maggio Highway. Today, developers and big names in architecture are jostling to build in areas that were once underprivileged and disreputable.

- How did we get here?
- Where did the traffic go?

Sam Schwartz, then an engineer with the New York City Department of Transportation (NYCDOT), now President and CEO of Sam Schwartz Consultants, said: "One of my first tasks was to measure the impact on traffic: we set up traffic counts along the [north-south] avenues and set up a detour. But over time, there was no increase in traffic: it simply disappeared."(4)

The West Side Expressway and the urban renewal policy in late 1967 south of Manhattan
© Danny Lyon/Magnum Photo-DR

The West Side today, north of 47th Street
© P.Lecroart IAU îdF



The West Side Highway closed to traffic and abandoned in 1979
© Photo Joedicke.

The West Side Highway in 1975 heading towards the Brooklyn-Battery tunnel south of the World Trade Center towers
© DR.

The collapse of the West Side Highway viaduct in 1973 due to lack of maintenance
© Steven Zane/Library of Congress

The decision-making process

From highway to avenue: 30 years of conflicts, projects and construction work

The story of the replacement of the West Side Highway is that of a long and bitter conflict between the State of New York, the City of New York and local associations, with a series of projects that have not been implemented. For two decades, the West Side Highway was closed to traffic from Battery Place on the south side to West 57th Street, with traffic taking a "temporary" route via West Street and 12th Avenue. Demolition of the expressway viaduct began in 1977, but its demolition was not completed until 1989.

Between these two dates, the abandoned roadway symbolizes the decline of New York. On the fringe of the city, the neighborhoods of Chelsea, the Meatpacking District or Clinton experience a strong economic and social decline resulting in the proliferation of urban wastelands, prostitution and slums. On weekends, a few joggers and people strolling enjoy the view from the viaduct of the disused expressway.

Cancellation of an underwater road tunnel project

As early as 1974, to replace the West Side Highway viaduct, which was technically obsolete and too expensive to repair, the City of New York proposed a radical reconstruction project based on a project dating back to 1971: thanks to the hundred meters wide embankment of the Hudson River, the Westway project featured an underground highway, topped by a park and a real estate project

Postcard of the West Side Highway from the 1930s
© DR

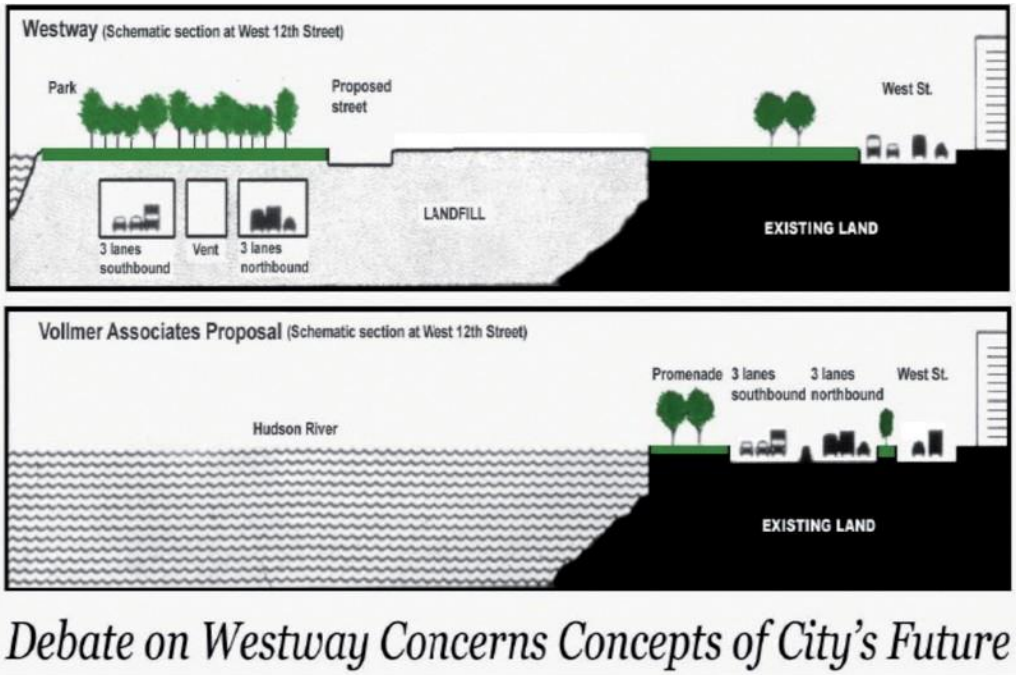
of 85,000 housing units along the new waterfront.

In 1981, President Ronald Reagan pledged federal government support for the project, whose cost was estimated at $1.8 billion for a length of 6.7 km. However, due to a flaw in the impact study report (lack of mention of a protected species), the project was cancelled in 1982 by the Justice Department, as requested by the associations.

Various types of urban avenues

In 1985, the City chose not to proceed with this project and instead decided to allocate 3/5ths of the federal road grant to public transit, setting aside $811 million for the definition and the

Closed expressway viaduct near the World Trade Center in 1974. On the right, the future site of Battery Park City
© Wavs13



In 1981, the project that was prefered by the State of New York was to rebuild the highway in an artificial landfill in the Hudson River. This project is abandoned in 1985.
© The New York Times

Debate on Westway Concerns Concepts of City's Future

construction of a new urban artery project, the Westway Replacement Project.

Beginning in 1986, a new process of study and coordination was initiated around three main development scenarios:

1. Upgrade existing avenue with pedestrian/bicycle infrastructure,
2. Urban landscaped avenue with 2 x 3 traffic lights and bike path,
3. High-capacity artery with underpasses at major intersections.

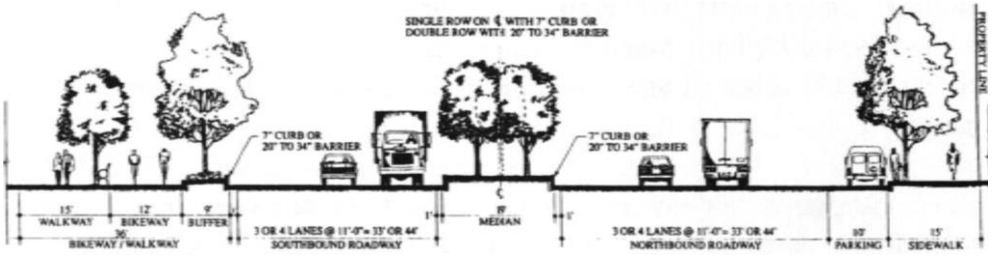
In 1987, the West Side Task Force, a special commission appointed jointly by the Governor of the State and the Mayor of New York, published its recommendations on the reconstruction of the West Side Highway and the redevelopment of the waterfront: it proposed the principle of a 2 x 3 lane urban avenue with a large public space on the Hudson River for pedestrians and a continuous bicycle path.

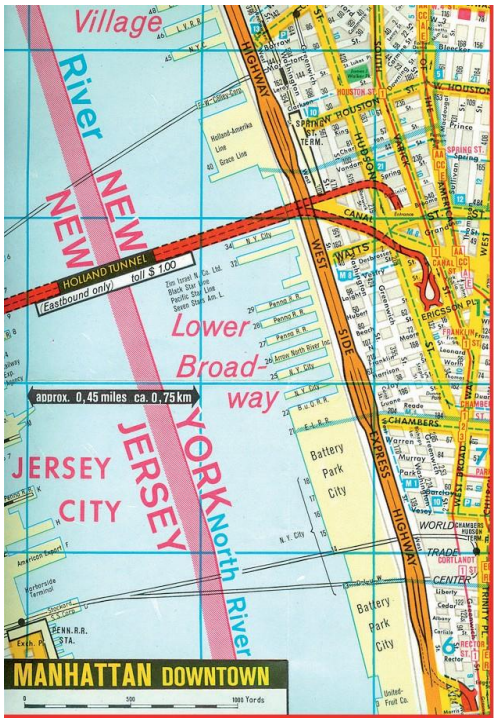
As a result of the consultation on the environmental impact report and after seven years of discussions, a variant of scenario 2 was approved by the City: it is referred to as a *Lessway* by the associations because it is the least expensive, costing about $380 million.
Work on the new avenue began in 1996, under the management of the New York State Department of Transportation (NYSDOT), the design being carried out by a local landscape architect.

In 1998, Mayor Rudolf Giuliani and the Governor of the State of New York decided to create the Hudson River Park, a 220-hectare linear park with a bicycle path on the waterfront between the Hudson and West Street.

In August 2001, the new lane opened as Joe Di Maggio Highway/NY9A. Built on the right-of-way of pre-existing lanes, it appears on the New York plans as West Street in its southern segment, 11th Avenue in its central segment and 12th Avenue in its northern segment.
For practical purposes, it will be referred to here as West Side Avenue.

The profile across the completed avenue
© NYCDOT





One month later, on September 11, 2001, the track was badly damaged in its southern segment due to the tragic attack on the World Trade Center towers and had to be closed to traffic once again. A new 2 x 4 lane avenue with level pedestrian crossings and footbridges is currently being constructed up to the Battery Park tunnel.

Map of the west of Manhattan from 1979:
The central ramps of the West Side Highway can be seen
© New York Streets Maps

The West Street today
© P. Lecroart IAU îdF

The completed project

The New Avenue and Hudson Park

West Side Avenue

The new avenue, built between 1996 and 2001, is 8.2 km long and follows the 8.2 km right-of-way of West Street/11th and 12th Avenues that existed under the former West Side Highway viaduct. It is composed of two wide pavements separated by a central planted median approximately 6 m wide and 4.5 m wide planted sidewalks on both sides. A wide 4.9 m wide two-way bicycle path is established on the west side along the Hudson Park shoreline.

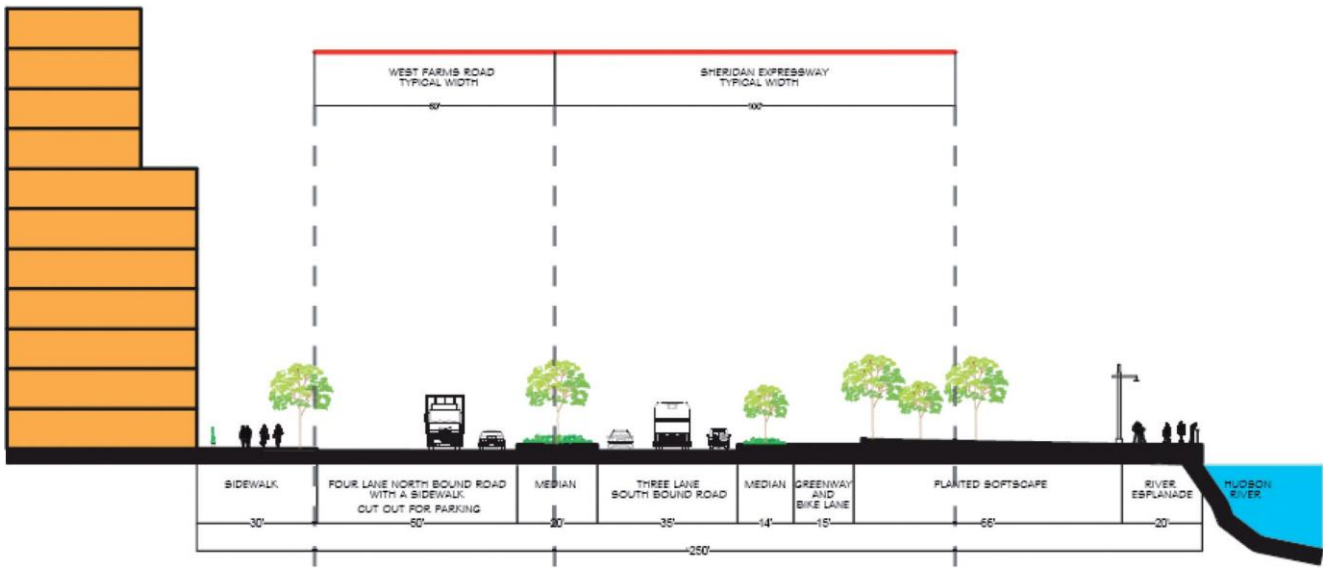
The avenue is approximately 50 m wide and has a fairly roadway-like appearance with 2 x 3 lanes south of 24th Street, 2 x 4 lanes to the north, high curbs around the median and authorized parking only on the "city side".

Nearly all streets perpendicular to the avenue have a pedestrian crossing regulated by traffic lights.

The design of the crossings, particularly at the exit of major pedestrian streets and accesses to the piers, is treated in such a way as to affirm the continuity between the city, the park and the water. However, the layout does not allow vehicles all left turns.

To the north, from 57th Street, the avenue connects to the Lincoln Highway. The continuation of the Hudson Park is developed under the highway viaduct, which should eventually be replaced by a tunnel.

The profile across West Street today
© NYCDCP-Sheridan Hunts Point Study Public Workshop Oct.2011



Protected pedestrian crossing in the axis of 23rd Street. At the end the High Line.
© P. Lecroart IAU îdF

Pedestrian crossings are level, protected by a sufficient number of traffic signals
© P. Lecroart IAU îdF

The West Side (12th Avenue) at its busiest part at 48th Street with 4 lanes of traffic per direction
© P. Lecroart IAU îdF

Access to the cruise terminal and the Intrepid Museum is either via a pedestrian footbridge or a ground crossing© P. Lecroart IAU îdF

Hudson River Park

The new West Side Avenue was designed and built by the New York City Department of City Planning (NYCDCP), in coordination with the development of the different segments of Hudson River Park. This linear park is a key element of the City's strategy of making the waterfront accessible to the city proposed in 1992 by the New York City Comprehensive Waterfront Plan, developed as part of the 1997 Comprehensive Manhattan Waterfront Plan.

These objectives take shape through the development project on the shoreline of the Hudson River defined in 1998 (Hudson River Park Act). The concept of the park project is to offer New Yorkers and visitors direct access to the water and to promote sports, cultural, recreational, and water sports activities in an attractive setting. The park also aims to contribute to the revitalization of the river's ecosystem.

Begun in 1999, this park is the largest in Manhattan since Central Park. It is, at the time of this report, 4/5th completed. Its development is governed by the Hudson River Park Trust, established to bring together the City and the State of New York, with the support of several private organizations that finance its maintenance. This partnership ensures the development and unified management of 220 hectares of natural and urban spaces

on riverside sites that welcome millions of visitors every year. The principle of a contribution from the owners along the river, who benefit from an increase in property value, is currently being considered.

The demolition of the expressway paved the way for the creation of Hudson River Park, one of the most beautiful promenades in New York City. The reconversion of the piers created "green beaches" with views of Jersey City.
© Photos of the double page: P.Lecroart IAU îdF

Impacts of the project

Mobility: fewer cars, smoother traffic flow
The analysis of the impact of the initial closure of the West Side Highway carried out by Sam Schwartz[5], then Chief Engineer at NYCDOT. It shows that between 1973 and 1975, inbound traffic to New York City's CBD south of 60th Street was halved on the West Street/12th Avenue replacement road, decreasing from an average of 111,000 to 55,000 vehicles per day.

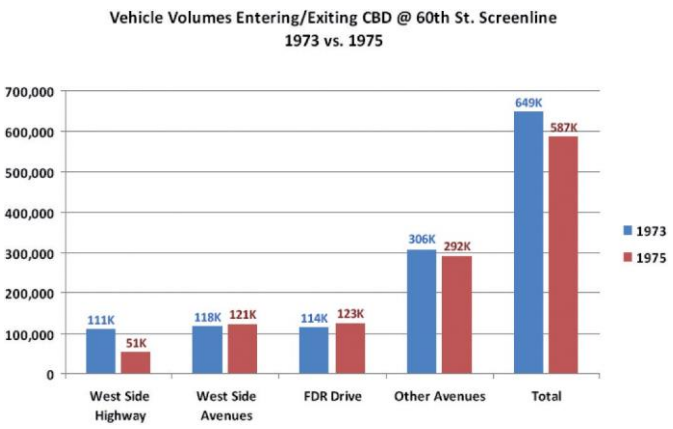
But what initially surprised the experts was that traffic did not increase significantly on the parallel north-south routes, including the Franklin D. Roosevelt Expressway on the other side of Manhattan. On the contrary, it decreases on most routes. Overall, automobile traffic decreased from 649,000 to 587,000 vehicles/day between 1973 and 1975, a decrease of 10%.

On the other hand, still in the short period between 1973 and 1975, if we look from the perspective of the number of people (rather than the number of vehicles), we observe that some of the 88,900 fewer users on West Street/12th Avenue opted for public transport (+36,000 passengers/day, mainly the subway).

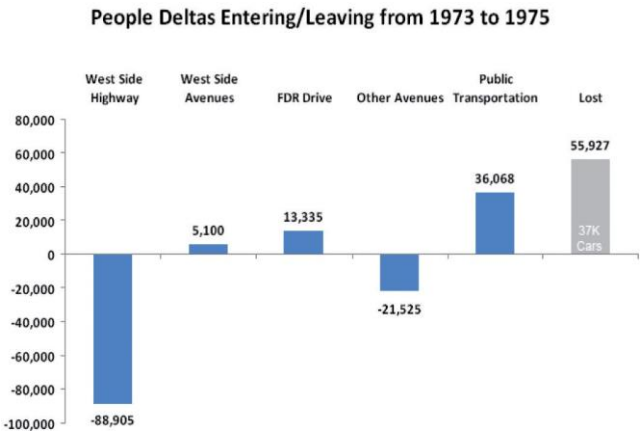
Above all, experts observe that 55,900 trips of people per day to the business center have "disappeared". Sam Schwartz's explanation: this traffic corresponds to the traffic induced by the convenient presence of the expressway; as travel conditions became more difficult (slower), some users would have given up trips that were not imperative.

Since the return to service of a high-capacity avenue (2001), traffic has resumed :

After the closure of the West Side Highway, traffic is halved in the corridor, but not all of it is shifted to the parallel roads: the number of vehicles (in thousands) entering the Manhattan Central Business District (CBD) at 60th Street decreased between 1973 and 1975
© Sam Schwartz/NYCDOT



Between 1973 and 1975, -37,000 vehicles per day (-56,000 car drivers or passengers) enter or leave Manhattan's CBD despite total growth travel to the area (+25,000 people/day)
© Sam Schwartz/NYCDOT

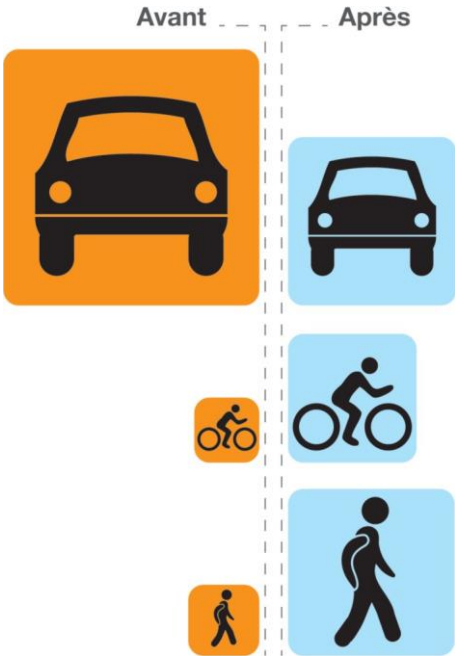


based on data from the New York State Department of Transportation[6], weekday traffic in 2010 ranged from an average of 65,900 vehicles/day at 10th Avenue to 95,000 vehicles/day in the north (2008 figures). In the central segment of the "West Side Avenue", there are 83,700 vehicles/day on 22nd Avenue and 73,000 vehicles/day on 57th Avenue in 2010.

The currently average on the West Side Highway is about 80,000 vehicles/day. This is well below the 1973 average level of 110,000 vehicles/day (-27%), while total traffic volumes in New York City increased during the period. The share of heavy goods vehicle traffic is also declining significantly.

At the same time, pedestrian and bicycle traffic on this route has increased significantly. Pedestrian use may have increased tenfold, but there is a lack of data to verify this (no tally recorded). Weekday bicycle traffic along the West Side Highway was virtually zero before 2000, rising to 2,100 cyclists/day in 2001 and 5,060 cyclists/day in 2011 (+140 per cent) on the Hudson River Greenway, the bicycle path along West Side Avenue.
It is the busiest route in New York City.

The removal of the expressway has led to a decrease in automobile traffic and a strong increase in all other modes of travel
© S. Castano IAU îdF



Excessively high vehicle speeds pose road safety problems
© P. Lecroart IAU îdF

Road safety:
coexistence and conflicts between users

Overall, the coexistence between pedestrians, cyclists and drivers is going remarkably well. Nevertheless, the new West Side Avenue retains a strong roadway atmosphere and speeds are quite fast. The street is limited to 35 mph (56 km/h) like other major urban streets in New York City, but the lane geometry was designed for speeds of 40 to 45 mph (64 to 72 km/h) and actual speeds can sometimes be higher. Traffic volumes are also high.

Pedestrian waiting times are long (between one and two minutes), but the duration of the pedestrian green (about 30 to 45 seconds) allows a relatively comfortable crossing of the six or eight traffic lanes. As a general rule, crossings are direct, without detours.

Pedestrian/vehicle and cyclist/vehicle conflicts are relatively frequent and several serious accidents have been reported. Several explanations are given, including:

- excessively high vehicle speeds and the large number of lanes of traffic to be crossed;

The reduction in traffic on Sundays allows families to get out their bikes
© P. Lecroart IAU îdF

- pedestrian waiting times that are too long (the phasing of the lights gives priority to north-south traffic);
- Lack of pedestrian visibility due to high curbs and "roadside-style" landscaping that make drivers feel like they are on a highway.

These problems are exacerbated by the high density of pedestrians and cyclists resulting from the success of Hudson Park and the revitalization of waterfront neighborhoods, especially on weekends when the apparent low traffic in the lane encourages pedestrians

The West Side Highway closed to traffic in 1979
© Joedicke

North of 57th Street, the highway lane has been maintained, leaving only a narrow bike lane along the waterfront
© P. Lecroart IAU îdF

Refrigerated warehouses in the Meatpacking District in 2011 along the West Side Avenue
© P. Lecroart IAU îdF

À Chelsea, les entrepôts sont peu à peu remplacés par des immeubles d'habitation
© P. Lecroart IAU îdF

not to wait for the green light to cross. The City of New York has recently installed pedestrian crossing time counters and other measures are being considered to reduce the risk of accidents.

Urban planning: the rebirth of Manhattan's East Side

The urban context of the West Side Avenue project has radically changed from that of the West Side Highway: in the 1930s, at the time of the construction of the expressway, Manhattan's Lower East Side was an active

To the south of Manhattan, the Battersea Park City office operation carried out in the 1980s and 1990s benefited greatly from the demolition of the expressway
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port and industrial area, supplied by a private railroad, the High Line. These activities began to decline as early as the 1950s.

Between 1970 and 1990, the sector was abandoned between Tribeca and West Village: the imposing presence of the abandoned expressway and the uncertainties regarding its replacement slowed redevelopment projects.

After the failure of the urban renewal project associated with the replacement of the West Side Highway with the Westway Expressway in 1985, the City of New York embarked on revitalization strategies more respectful of the character of the Hudson Riverfront neighborhoods. One of the goals was to accommodate more public and private housing in these former industrial areas.

Beginning in the 1990s, and especially with the completion of West Street in 2001, the neighborhoods of Chelsea, East Greenwich Village and the Meatpacking District became "trendy" places drawing creative communities and executives. Today, with the success of the Hudson River Park and,

The development of the High Line, an industrial rail line that was transformed into an elevated green walkway, is helping to add value to the Chelsea neighborhood
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The removal of the expressway has a very positive economic impact, especially in terms of tourism. Here, the Intrepid Sea-Air-Space Museum
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recently, from the first stretches of the High Line (a railway viaduct transformed into an urban promenade from 2009 thanks to the initiative of the Friends of the High Line association), these neighborhoods now attract tourists, upscale boutiques, developers, and... international architects.

This is exemplified by the new residential buildings designed by Richard Meier, Frank Gehry or Jean Nouvel built between the High Line and 12th Avenue. The special constructability rules of the West Chelsea Master Plan facilitate urban development through land use transfer coefficient rules. Further south, the other major project is of course the ongoing transformation of the Twin Towers site with the development of the World Trade Center Memorial and a commercial

New buildings by architects Frank Gehry and Jean Nouvel's are adjacent to the West Side Avenue warehouses in the Chelsea neighborhood
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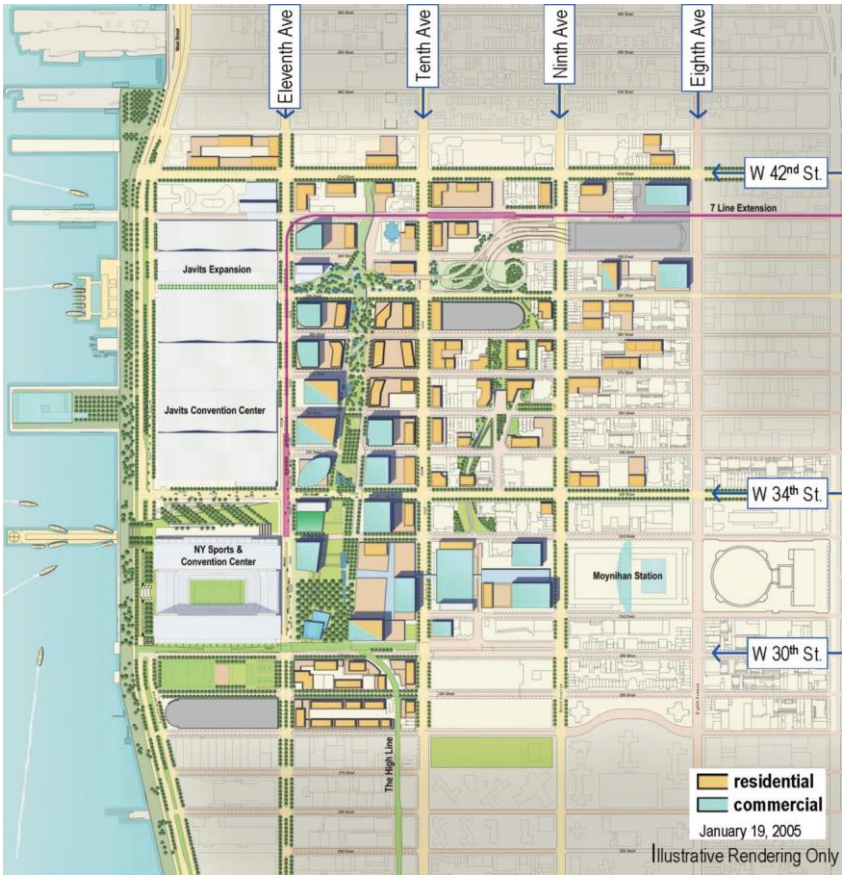
Hudson Yards, a controversial, large urban project for New York

One of the most spectacular urban projects in Manhattan made possible by the conversion of the expressway into an avenue is the transformation of the Hudson Yards: 150 hectares of former railroad rights-of-way should gradually be converted into a mixed neighborhood of 12,500 housing units, offices and hotels, in connection with the extension of metro line 7 and the extension of the Javits Convention Center along 12th Avenue (Hudson Yard Map). Under debate for several decades, this site was intended, in early 2000, to host the "West Side Stadium", the Olympic stadium for New York's bid for the 2012 Olympics. In 2010, following a lawsuit won by a coalition of local associations for pedestrian-friendly urban planning and in order to encourage housing construction, the City of New York decided to cap the number of parking spaces.

The new special plan for the development zone sets a maximum of 6,900 spaces to be built, compared to 17,500 spaces in the earlier plan.

The City confirms its urban planning strategy of reinventing itself on a pedestrian scale, rather than a car-centred one.

According to the *New York Times* (April 7, 2012 edition), since the development plan was approved in 2005, the Hudson Yards Development Corporation estimated that 5,000 housing units have been built and $5 billion in private investment has been made in the sector. Project is almost fully delivered today.



Hudson Yards development plan (2005)
© NYC Department of City Planning/Hudson Yards Development Corp.

Hudson Yards site
© P. Lecroart IAU îdF

and cultural urban planning program developed by the Lower Manhattan Development Corporation. The complex will include five office towers that will overlook an elevated public space, connected across West Street to the shoreline of the Hudson River.

Strategy: *Waterfront Plan* and *PlaNYC*, a new vision for New York

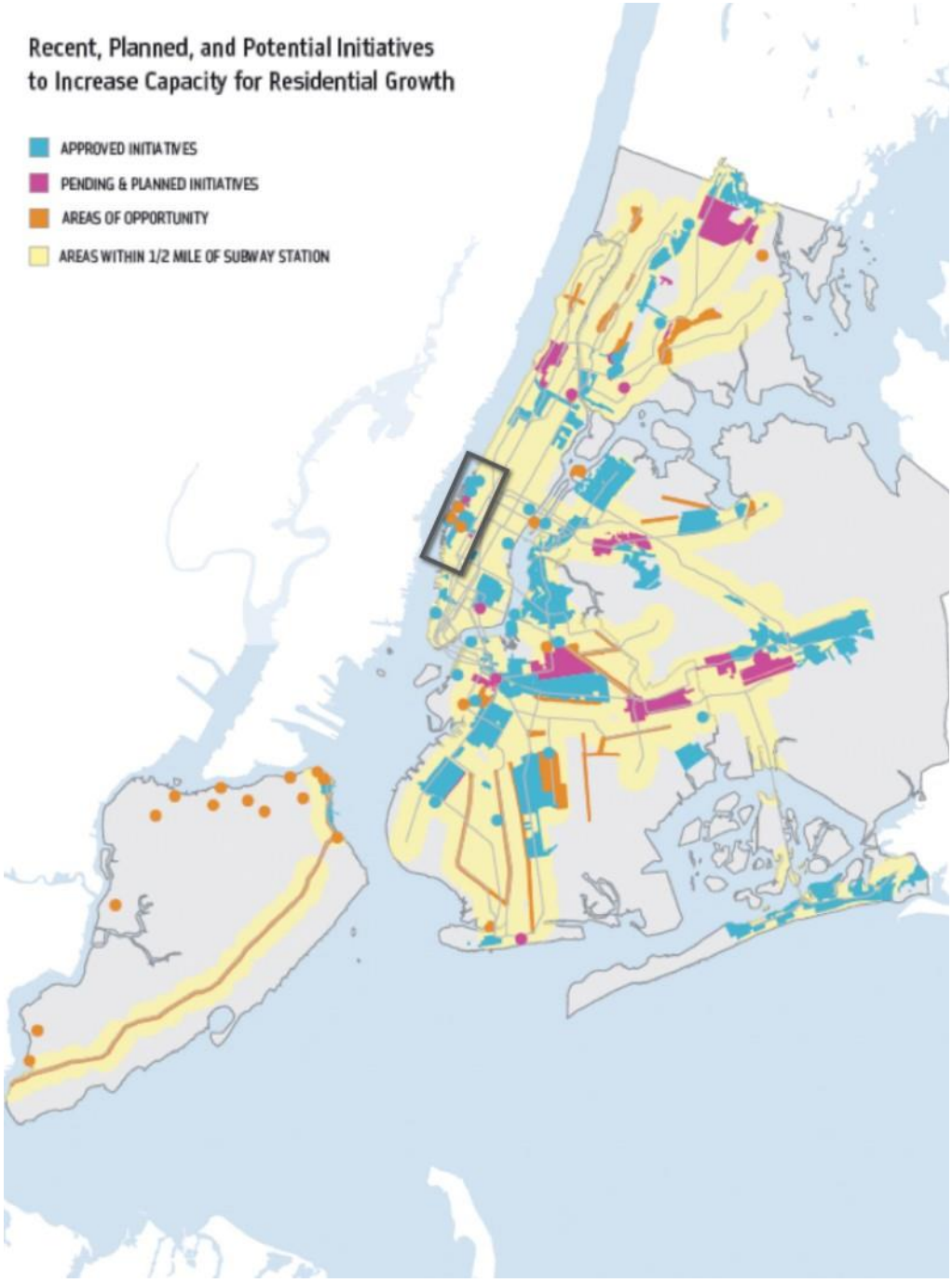
The redevelopment of the West Side Highway predates New York City's new sustainable development strategy, which is based on two program plans adopted in 2011.

The *Vision 2020: New York City Comprehensive Waterfront Plan* (March 2011), advocates extending the city's access to the shoreline by means of new public spaces and the development of the river front, and especially for the construction of housing.

The *Waterfront Plan*, is one component of a global strategy, *PlaNYC: A Greener, Greater New York* (April 2011, revision of the 2007 PlaNYC).

This plan sets out a strategy that emphasizes "green growth" by focusing on reducing the city's ecological footprint, building social housing and balanced neighborhoods, developing public spaces, and encouraging mobility alternatives to the car (buses, bicycles, walking, car-sharing, reducing travel demand). One of the City's goals is to have 95% of urban development within a 10-minute walk of a subway station by 2030 (87% today).

The regeneration of the West Village and Chelsea riverfront for residential use is linked to the removal of the West Side Highway barrier and the development of Hudson Park
© P. Lecroart IAU îdF



PlanYC, New York's sustainable development strategy involves developing housing along the Hudson Waterfront
© NYCDCP

Lessons from the project

The redevelopment of waterfront roads in Île-de-France

The example of New York is particularly spectacular and interesting for the redevelopment of roads along the banks of the Seine in the Paris metropolitan region:

- it applies to a large metropolitan region comparable to that of Paris,
- it covers a long stretch (more than 8 km) of a main road that crosses the city and functions as a highway both upstream and downstream,
- it involves a road that cuts off access to the river, as occurs in many places in the Ile-de-France region.

This case is particularly interesting regarding the project for the development of the expressways on the right and left banks of the Seine promoted by the City of Paris. It demonstrates the potentials in terms of quality of life, leisure, nature, and tourism offered by better access to the river for pedestrians and bicycles. It also reveals the challenges in terms of road safety.

The New York example illustrates the scenario of a decrease in road traffic parallel to the reduction in lane capacity. It also suggests that we could go much further in the Île-de-France region: far from being a Utopian

The new avenue does not eliminate the barrier effect, especially north of 24th Street where it has eight traffic lanes, but it does ensure co-existence with the city
© P. Lecroart IAU îdF

dream, far from being a Utopian dream, the transformation of the riverside roadways into pedestrian avenues on the scale of Paris and the rest of the urban area is a hypothesis that deserves to be explored in greater depth.

The case of West Side Avenue and Hudson River Park illustrates what the shorelines of the Seine or Marne rivers could become if they were no longer considered solely in terms of their road transit function. From Issy-les Moulineaux to Gennevilliers (RD7), from Argenteuil to Bezons (RN311), from Bougival to Saint-Germain (RN13), or from Charenton to Saint-Maurice (highway A4)... there is no shortage of potential sites to be redeveloped.

This example shows that it is possible to enhance the landscaping, civic and urban planning qualities of riverbanks as long as the automobile is not entitled to take up all the space. Many elected officials are now aware of this in the Île-de-France region. But, currently there is a lack of a shared strategic vision at the level of the metropolitan region.

Fear of traffic congestion is unfounded

One of the lessons of the West Side Highway transformation is that the fear of traffic **congestion** is not always justified. In New York City, there has been an overall decrease

"The sooner you park your car, the sooner you stop thinking about parking your car" Billboard along the High Line
© P. Lecroart IAU îdF

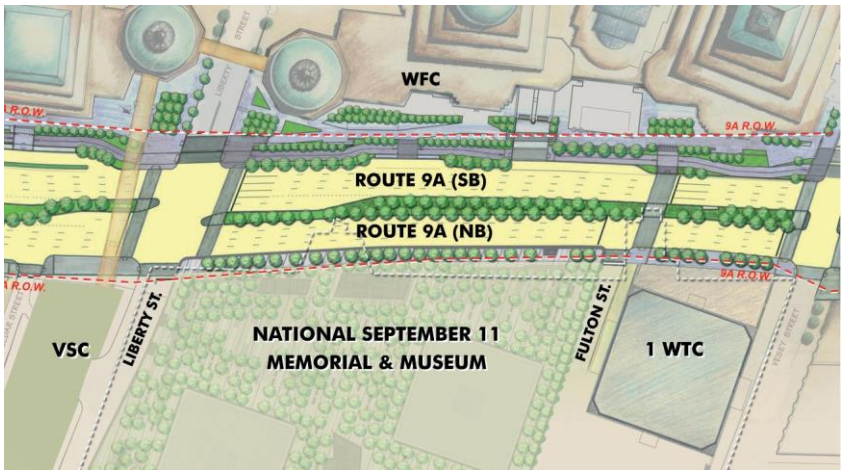
in traffic levels on all avenues providing access to southern Manhattan and Brooklyn in a context of population and economic growth.

The existence of a public transit alternative is not the only reason, given that the subway and bus lines are quite far away.
Many drivers have adopted alternative transportation arrangements (carpooling, switching to walking or biking) or have foregone driving when it wasn't essential. The experience of New York could be applicable to other types of large roads or expressways in Île-de-France and elsewhere in France.

Time: a factor influencing shifts in mobility behaviors

One of the explanations for the decrease in traffic is the time that passed between the closing of the freeway (1973) and the opening of the new avenue (2001): over the years, New Yorkers became used to living without an easy access expressway connecting drivers to Manhattan's eastern neighborhoods, with traffic being diverted to parallel routes.

When the corridor was reopened to traffic, it was perceived as a new option that led to an increase in traffic. But this increase was curbed by policies discouraging the use of cars for commuting and by economic and societal changes that were taking place.



The development of the West Street Promenade underway near the future World Trade Center
© New York State Department of Transport -NYSDOT

New York, for example, is experiencing very rapid growth in bicycle use for these trips, resulting in a doubling of the number of commuters between 2007 and 2011 and a +140 percent increase in the number of commuters on the West Side Avenue axis, the Henry Hudson Bikeway. This bicycle path is part of a New York-wide plan, the Greenway Plan.

Coordination and impact studies

The project to transform the West Side Expressway into an avenue was initially the result of a formal error by the project owner as part of the impact study process: the lack of reference to the existence of a protected species of fish in the impact study report allowed the associations to rescind the initial authorization for a project to replace the elevated highway with a tunnel highway.

This shows the need, in France as in the United States, for a well-informed and opposing public debate on road development projects. The example of New York also underlines the need for counter-expertise in the decision-making process[7].

Technical obsolescence of infrastructures and funding

The collapse of the West Side Highway viaduct in the 1970s also shows that major highway infrastructures are vulnerable, especially when they are elevated. Their regular maintenance has a cost that weighs on public finances in periods of economic crisis.

Bike path map for New York (Manhattan) in 2012
© New York State Department of Transport -NYSDOT

• West Side Highway •

What is interesting in the case of New York City is the (legal) "reallocation" by the City of federal grants originally earmarked for roads, transit and new avenue development. Road funds are being used to transform New York's waterfront, benefiting as many people as possible[8].

An urban avenue costs less to maintain and generates new social and economic values. In New York City, the real estate development of waterfront properties did not help finance the transformation of the expressway into an avenue, but it did provide the city with significant retrospective fiscal resources.

In New York City, the maintenance of some 9,300 km of existing urban highways is one of the city's largest budgets and costs are rising

A large number of bridges, roads and tunnels will need to be brought up to standard in the coming years as public budgets become increasingly tight. What is the situation in the Paris metropolitan region? Let’s shed some light on this point.

Opening the city onto the river helps urban revitalization

The example of the West Side Highway redevelopment demonstrates the urban revitalization capabilities offered by the transformation of a highway into an urban avenue.

The overpass of the old expressway and the disturbance of automobile traffic have long made the neighborhoods virtually uninhabitable and uninhabitable. The ground floors were windowless and even storage operations were on the decline.

The development of the road into a public space paved the way for the creation of Hudson River Park and stimulated the reconversion of the port jetties, the transformation of the High Line into a promenade, and the real estate development of its outskirts. The decline in port activities and the clean-up of the river have undoubtedly accelerated an inevitable change.

A comparison with the East Side, Manhattan's eastern bank along the East River is instructive: unlike the West Side, which is revitalizing around West Side Avenue, the Franklin D. Roosevelt Drive highway encapsulates the banks of the East River and slows down the waterfront's redevelopment.

On the other side of Manhattan, the Franklin D. Roosevelt Drive penalizes access to water and the development of waterfront neighborhoods like the West Side Highway did before its transformation

With more than 5,000 cyclists a day, the Hudson bike path along the West Side Avenue is one of the busiest in New York City
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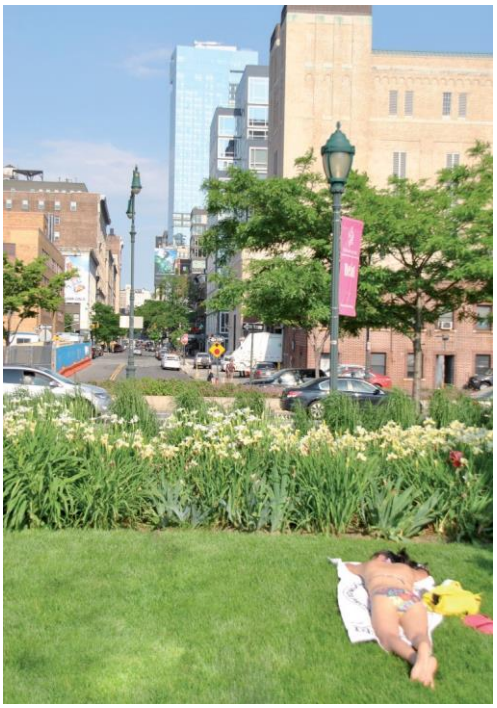
Revisiting the use and shape of urban highways

The New York metropolitan area in the 1940s and 1950s, like the Paris region in the 1960s, experienced extensive plans for urban highway networks that were partly built in the suburbs in the absence of organized opposition, but were sometimes abandoned in the center. In both cases, these networks were designed on the basis of traffic models that were not, as some authors, such as Gabriel Dupuy, have shown[9], to solve transportation problems, but to encourage an increase in the vehicles on the road and urban sprawl.

New York has undertaken a strategic reflection on the transformation of its major highways. The shoreline confiscated by automobiles along the East River River
© P. Lecroart IAU îdF

In New York, as in Paris, urban strategies today favor a model of development that is, at least rhetorically, the antithesis of the models of the 1950s and 1960s. Beyond the city centers, it is the layout and use of the entire network of major urban routes that needs to be reconsidered on the scale of the two metropolitan regions.



A thin strip of green separates the park from the avenue
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The case of the West Side Highway shows that riverbanks can have other functions beyond just serving car transport
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The West Street today from One World Centre (2015)
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Sources

- Interview with Sam Schwartz, former Chief Engineer, New York City Department of Transportation (NYCDOT), former New York City Traffic Commissioner, currently President and CEO of Sam Schwartz Engineering (New York 31 May 2011)
- Interview with Douglas Adams, Project Manager, Sam Schwartz Engineering (New York 31 May 2011)
- Interview with John Norquist, President of Congress for the New Urbanism (Chicago 13 June 2011)
- Field visit : June 2011 and November 2012.

- *Debate on Westway concerns Concepts of City's Future. An Appraisal, Goldberger (Paul), The New York Times, February 10, 1981.*
- *Freeway Teardown, Sam Schwartz*, Document presented at *Congress for New Urbanism*, 21 May 2010
- *Removing freeways, restoring cities : New York (NY), West Side Highway*, The Preservation Institute,2007 [www.preservenet.com]
- *West Side (Joe Di Maggio) Highway NY9A:Historic overview*, www.nyroads.com
- *Case studies of Urban Freeways for the I-81 challenge: Westside Highway, New York, Syracuse Metropolitan Transportation Council, 2010.*
- *Flexibility in Highway Design : Case Studies - Route 9 Reconstruction: New York, NY, Federal Highway Administration (FHWA), US Department of Transportation,* http://www.fhwa.dot.gov
- *PlaNYC : A Greener, Greater New York, New York City, April 2011.*
- *Vision 2020 : New York City Comprehensive Waterfront Plan, New York City Department of City Planning, March 2011.*
- *NYC Commuter Cycling Indicator 2010, New York City Department of Transportation, 2011.*
- *2010 Traffic Volume Count, New York State Department of Transportation, July 2011.*
- *New York City Department of City Planning : Hudson Yards Area Plan 2005; North Tribeca Rezoning 2010; West Chelsea Area Plan 2005; Far West Village Plan 2011,* www.nyc.gov.
- *Hudson River Park, Planning & Construction,* www.hudsonriverpark.org

Endnotes

(1) *This is reminiscent of the Paris périphérique (ring road).*

(2) *Caro (Robert A.),The Power-Broker: Robert Moses and the Fall of New York, Vintage, New-York, 1974.*

(3) *Jacobs (Jane), The Death and Life of Great American Cities, Vintage Books, New York 1961.*

(4) *Moving beyond the Automobile : Highway Removal, Press (Elisabeth) Street Films, March 29, 2011.*

(5) *Interview in New York, 31 May 2011.*

(6) *2010 Traffic Volume Count, New York State Department of Transportation, July 2011.*

(7) *Lecroart (Paul) & Perrin (Laurent), Démocratie participative et aménagement régional. Points de vue croisés sur trois expériences. Volet 1, IAURIF, April 2000.*

(8) *Goldberger (Paul), The New York Times, Feb. 10, 1981.*

(9) *Dupuy (Gabriel), Une technique de planification au service de l'automobile : les modèles de trafic urbain, Paris, Publications de Recherches Urbaines, 1975.*