Reimagining Our Waterfront

A Vision for Manhattan's East Side and the Future of the FDR

Manhattan Community Board Six

WXY

BUROHAPPOLD ENGINEERING

PRESENTED TO
Manhattan Community Board Six - 2024

PREPARED FOR
Manhattan Community Board Six (CB6)

PREPARED BY
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KEY TERMS & ABBREVIATIONS

MN CB6	Manhattan Community Board Six
CD6	Manhattan Community District Six
FDR	Franklin D. Roosevelt Drive
Con Ed	Consolidate Edison
UN	United Nations
EV	Electric Vehicles
ESCR	East Side Coastal Resiliency Project
DCP	NYC Department of City Planning

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architecture + urban design

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Envisioning a **Safe, Accessible, and Resilient** Future for our **Waterfront and the FDR Drive**

Executive Summary

Reimagining Our Waterfront is a community-driven initiative to envision the future of the FDR Drive ("the FDR") in Manhattan Community District Six (CB6), between 14th Street and 59th Street along the East river. This vision reimagines what is today viewed as a disruptive urban highway as a community asset, focusing on providing safe multi-modal access to the waterfront while enhancing the neighborhood's environmental resiliency.

WXY architecture + urban design was commissioned to undertake this study by Manhattan CB6 in 2023 with the goal of evaluating the highway's existing conditions, developing community-centered design strategies, addressing environmental resiliency concerns, and proposing a set of short and long-term opportunities. This initial study was conceived as a quick design sprint and is not the result of a comprehensive planning exercise. Rather, this vision attempts to spark ideas for what the FDR might become in the near and distant future, given the right planning, investments, and coordinated community input.

The construction of 'East River Drive,' later renamed as FDR Drive (NYPL, 1937)

THE FDR DRIVE IN MANHATTAN CB6

Franklin D. Roosevelt Drive, originally named the East River Drive, was originally envisioned as a regional connector as part of the 1929 Regional Plan of New York by the Regional Planning Association (RPA).

Early segments of a two-way parkway were opened to the public in the 1935 and later modernized, in specific segments, into a limited-access highway spanning all the way from the Battery at the South to 125th Street at the north, where the highway turns into the Harlem River Drive.

The evolution of the FDR Drive over the years resulted in the conversion of what was once envisioned as a tree-lined parkway into a limited access highway, disconnecting neighborhoods along the East River from their waterfront.

Manhattan Community Board Six Boundaries

Today, the FDR is a major regional connector with vehicular volumes that compare only to the Brooklyn-Queens Expressway (BQE), and surpassing the West Side Highway. While the parkway is a critical link in the region's highway network, from a community perspective, it is a major source of noise and air pollution, and a barrier to access to the East River. The FDR is the only toll-free, limited-access route for drivers going north-south in Manhattan, making it an attractive and affordable option for many local and regional drivers. When congestion pricing finally comes into effect in Manhattan, the FDR will remain free from congestion-related charges.

Over the past 40 years, New York City's formerly industrial waterfront has transformed from an edge into a focal point of new development. New residential towers, expanded institutional campuses, and investments in parks and greenways along the East River, have heightened the demand for access to the waterfront in neighborhoods with limited access to open space, especially along the far east side. This imperative, combined with a growing frustration with the noise, pollution, and other negative externalities of traffic, prompted CB6 leadership to take a fresh look at the highway's future.

CONTEXT & ONGOING PLANS

While few recent studies have contemplated a radical transformation of the FDR's design, a variety of planning efforts since 2000 have sought to address the East River's vulnerable edge condition from a resiliency, accessibility, open space, and environmental sustainability perspective. Some are in progress along the FDR Drive or even recently completed.

Prior and Ongoing Waterfront Projects

Ongoing Planned Study

These past studies have focused primarily on flood-resilient infrastructure, envisioning pedestrian-friendly waterfronts, potential green spaces or caps over the highway, and access improvement to enhance safety and multi-modal connectivity. These projects include:

1. East Midtown Greenway Project (2023)
2. UN Esplanade Greenway (Est. 2027)
3. East Side Coastal Resiliency (Ongoing - est. completion 2026)
4. East River Blueway (2013)
5. CB3 Waterfront Access Study (2024)
6. Brooklyn Bridge - Montgomery Coastal Resiliency Plan (BMCR) (Ongoing - est. completion 2026)
7. 'Raze the FDR', MBP Mark Levine (2023)
8. FiDi & Seaport Climate Resilience Master Plan (In Planning)
9. Lower Manhattan Coastal Resiliency Plan (LMCR) (In Planning)

DESIGN SPRINT

Early in the study, WXY and Buro Happold convened a group of leading experts in the field, including advocates, key stakeholders, and community board representatives, to brainstorm ideas for the future of the FDR.

This collaborative working session included:

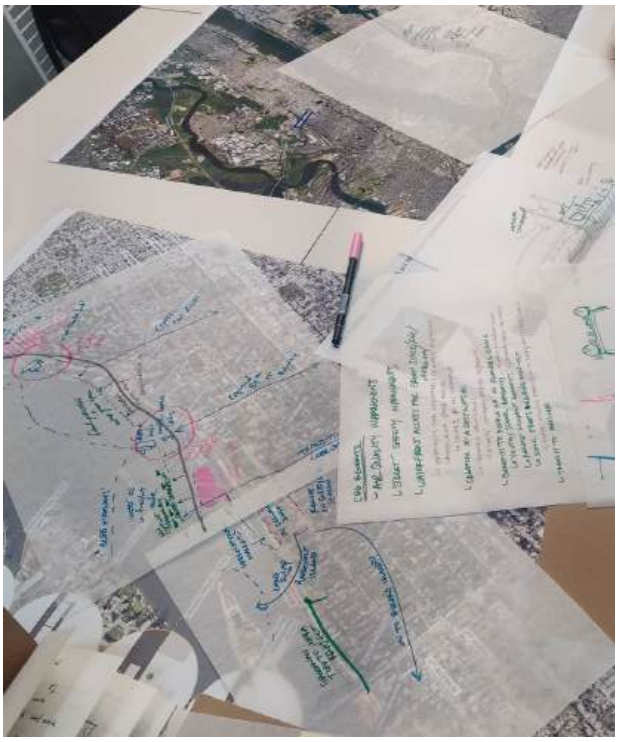
- Kyle Athayde - CB6
- Brian Van Nieuwenhoven - CB6
- Gabriel Turzo - CB6
- Emily Jacobi - Transportation Alternatives
- Daniel McPhee - Urban Design Forum
- Sara Lind - Open Plans
- Tiffany-Ann Taylor - Regional Plan Association
- Keri Butler - Municipal Art Society
- Marc Norman - NYU Schack Institute of Real Estate

The design sprint started with a historic look at the origins and evolution of the FDR and reviewed the existing conditions of the parkway segment within the district. Representatives from CB6 shared community priorities and concerns, setting the stage for an in-depth discussion of short and long-term design opportunities.

Participants engaged this set of issues in three breakout groups to establish principles that would serve as foundation for the design vision. The group discussion was organized into three key themes:

1. NEIGHBORHOOD & WATERFRONT DEVELOPMENT:

- How is the future of the FDR Drive connected to that of the East River waterfront and the adjacent neighborhoods?
- How can waterfront development support and enhance new investments in mobility, resiliency, and open space infrastructure?



Design sprint at WXY architecture + urban design (Sept 2023)

2. MULTI-MODAL MOBILITY & TRANSPORTATION

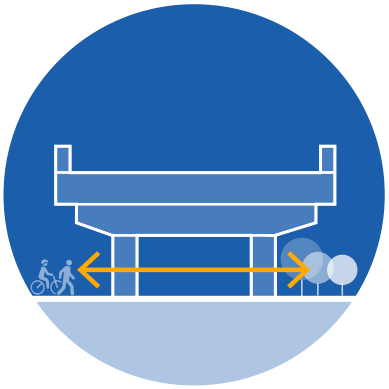
- How can a reimagined FDR Drive address New York City's dire need for safer, more accessible, and more sustainable multi-modal and transportation systems?

3. ENVIRONMENTAL RESILIENCE & OPEN SPACE

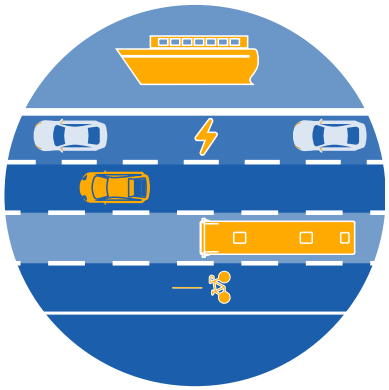
- What does a resilient FDR Drive look like at a time of greater climate risks, more extreme weather events, and ever increasing rates of air and noise pollution?

Principles for the Future of the FDR Drive

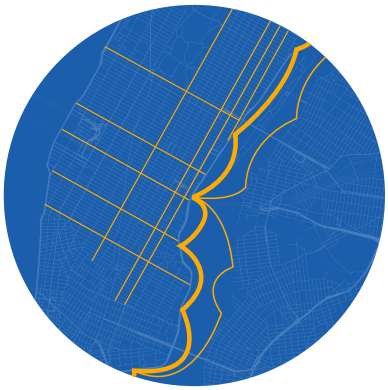
Increase Waterfront Access & Public Amenities



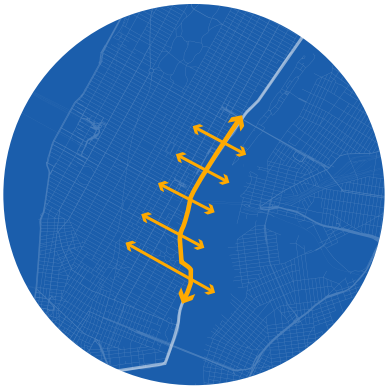
Prioritize Multi-Modal Safety & Connectivity



Reduce Dependency on the Highway



Restitch the FDR Drive to the City Grid



Empower Community Stakeholders

Study Goals & Timeline

This study is meant to serve as a foundation for future analysis and community engagement within Manhattan CD6. In order to establish that foundation, the following objectives were established at the outset:

- Identify existing conditions and key challenges facing the FDR in its current form
- Refine the goals and key objectives of CB6 for the future of the FDR
- Review key traffic considerations and challenges that require in-depth analysis in future phases to assess the feasibility of any potential transformation
- Brainstorm opportunities for both the short and long-term transformation of the FDR with a focus on the segment running through CD6 (14th Street – 59th Street)
- Explore opportunities to elevate the profile of this issue and spark interest within the community and among local elected officials

FDR Reimagined Study Initiated	Existing Conditions & Analysis	Design Sprint	Mobility Analysis & Vision Development	CB6 Review & Feedback	Study Final Report
July 2023	Aug 2023	Sept 2023	Oct 2023	Jan 2024	Mar 2024

FDR Drive South of Manhattan CB6 - Credit: Curbed

STUDY THEMES

This study centers on three central themes to ground the transformation of the FDR Drive- Environmental resiliency and open space; neighborhood and waterfront development, multi-modal mobility and transportation, and environmental resiliency and open space. These themes serve as a framework for reimagining the FDR Drive, striving to meet the evolving needs and aspirations of residents while addressing challenges and unlocking opportunities for a more resilient, accessible, and interconnected urban landscape.

Neighborhood & Waterfront Development

Understanding the future of the FDR in relationship to the future growth and development of Manhattan's waterfront neighborhoods and public realm

Multi-Modal Mobility & Transportation

Exploring sustainable multi-modal options to elevate public transit, pedestrian, and bike connectivity along and across the FDR

Environmental Resiliency & Open Space

Examining the role of the FDR and adjacent waterfront public space in creating a buffer to protect the district from extreme weather events and sea-level rise

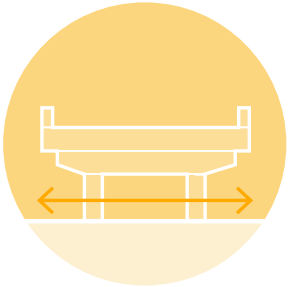

GEORGE WASHINGTON BRIDGE
HARLEM RIVER DRIVE
BRONX
125TH STREET
NEW JERSEY
MANHATTAN
TRIBORO BRIDGE
LAGUARDIA AIRPORT
ED KOCH / QUEENSBORO BRIDGE
CB6
QUEENS
QUEENS / MIDTOWN TUNNEL
HOLLAND TUNNEL
WILLIAMSBURG BRIDGE
THE BATTERY
MANHATTAN BRIDGE
BROOKLYN BRIDGE
HUGH L. CAREY TUNNEL
BROOKLYN
N

Community Board Priorities

Envisioning a transformative future for the FDR Drive along Manhattan's East Side will require attention to a range of community needs, aspirations, and priorities. At the forefront stands the critical need for centering environmental sustainability, specifically addressing the risks associated with flooding, air pollution, and noise pollution. Given the district's expansive waterfront, a strategic approach to mitigate environmental risks is imperative, safeguarding against potential hazards while fostering a more resilient community fabric.

Protecting the district from flooding should not come at the expense of waterfront access to residents and visitors alike. Establishing safe and convenient pathways along the waterfront serves not only recreational purposes but also enhances environmentally friendly modes of transportation, encouraging healthier lifestyles while deepening the connection between the community and its natural surroundings.

Environmental Sustainability
and mitigation of risks of flooding, air and noise pollution



Waterfront Access
for cyclists and pedestrians throughout the district

Safe Multi-modal Infrastructure
for local and regional connectivity

Community Amenities
under the FDR and along the waterfront

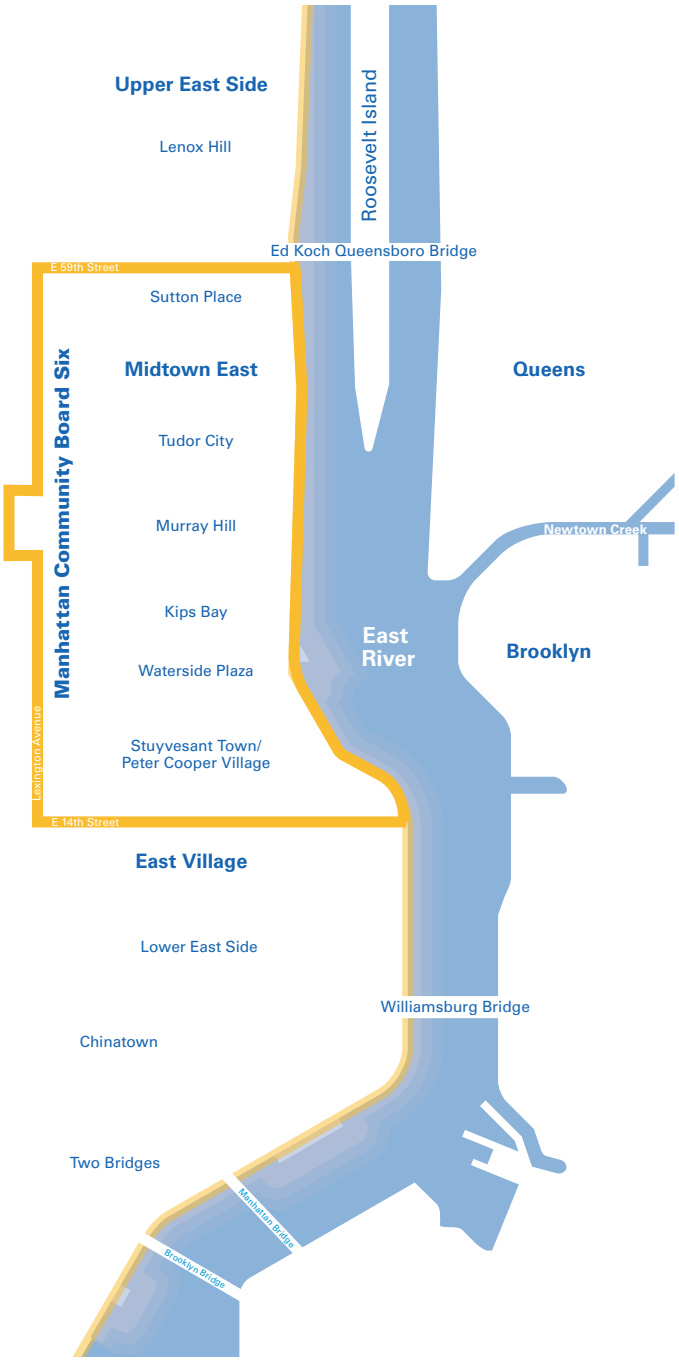
Furthermore, the creation of safe and efficient multi-modal infrastructure is vital for fostering local and regional connectivity. Well-designed pathways accommodating various transportation modes serve as a linchpin for connectivity, facilitating ease of movement while prioritizing the safety of commuters.

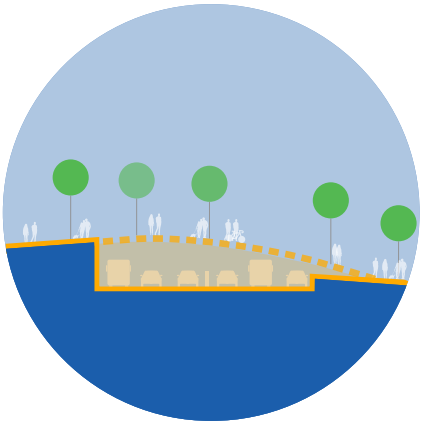
Simultaneously, optimizing spaces beneath the elevated segments of the FDR Drive and along the waterfront is a crucial aspect of this vision. These areas, when thoughtfully activated, hold the potential to serve as vibrant community hubs, fulfilling logistical and operational needs of the community while maximizing the utilization of underused urban areas.

These community priorities collectively form a blueprint for a sustainable, connected, and thriving district, laying the groundwork for a dynamic environment that addresses present challenges and cultivates resilience for the future.

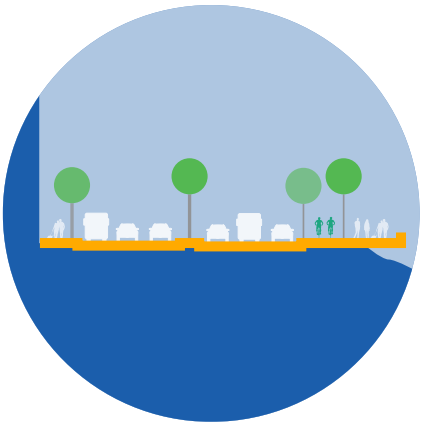
Design Opportunities for the FDR Drive

This study explore a range of design opportunities for the future of the FDR, from elevated parks spanning over the drive to selectively transforming segments into boulevards at ground level, and activating the spaces beneath elevated sections. Collectively, these strategies can help optimize urban spaces and foster community cohesion.

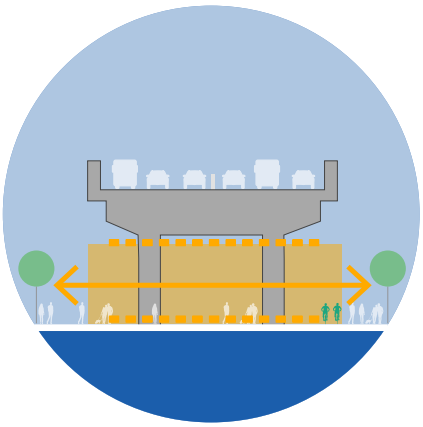




Overbuild



Boulevard



Under the FDR
Access & Activation

East River Drive, NYPL Archive (1937)

2 INTRODUCTION

FDR Drive History

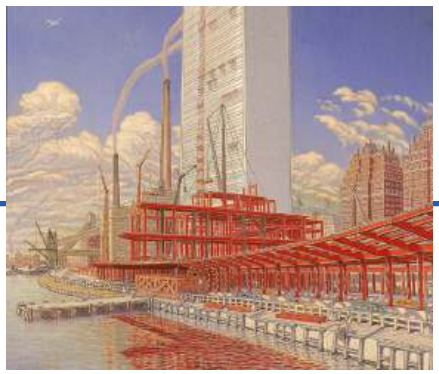
The idea of a north-south running parkway along Manhattan's East River edge emerged out of the 1929 Regional Plan for New York and its Environs by the Regional Planning Association (RPA). Inaugurated in 1935, the thoroughfare took shape as the East River Drive and was originally a limited access, at grade boulevard. The original vision for the FDR Drive was inspired by London's renowned Victoria Embankment along the Thames, a picturesque tree-lined promenade that integrated tideal control infrastructure with wastewater and transpotrtation systems.

As the city's highway network evolved, the FDR was incrementally reconfigured into a limited-access elevated highway. Over the course of the next 50 years, the FDR bore witness to multiple developments along its edges, including Waterside Plaza, the United Nations Headquarters, Rockefeller University, Weill Cornell Medical Center, and Carl Schurz Park. These developments, and more recently constructed and planned esplanades and parks are a testament to the FDR's ongoing evolution.

1945

Construction continues on surface-arterial boulevard from Battery Park to 92nd St

1950



Carl Schurz Park and the UN campus are cantilevered over the FDR.

1960-1970s

New viaducts constructed at 23rd, 34th, and 42nd streets. Boulevard between 14th and 42nd is converted to limited-access parkway

1929

'East River Drive' envisioned by RPA as a local and regional connector

1935

Early segments of 'East River Drive' opened

1940

Parkway renamed FDR Drive after the death of Franklin D. Roosevelt

1980-1990s

South Street and Battery viaduct segments, and other ramps, deemed structurally unsound and gradually rebuilt

2000-2010s

Major safety rehabilitation projects of the three-tiered segments and overpasses between 54th to 63rd

2010-CURRENT

Various visions and plans proposed to remove and replace viaduct segments of the FDR Drive in Lower Manhattan

FDR Drive in CB6

FDR Drive & 52nd Street

FDR Drive & 41st Street

FDR Drive & 34th Street

FDR Drive & 25th Street

FDR Drive & 16th Street

CB6 EXISTING ASSETS AND NEIGHBORHOOD CHARACTERISTICS

Manhattan's Community Board Six (CB6) is an area on the east side of Manhattan extending from 14th Street to 59th Street, from the East River to Lexington Avenue, and extending west to Madison Avenue between 34th and 40th Streets. As of 2020, CB6 is home to approximately 175,000 residents.

This diverse district comprises multiple mixed-use neighborhoods and abuts the East Village to the south and East Midtown to the West, including:

- Murray Hill
- Gramercy Park
- Turtle Bay
- Kips Bay
- Stuyvesant Town/Peter Cooper Village
- Sutton Place
- Tudor City

CB6 ranks among the districts with the least amount of open space per capita in New York City. Existing parks and open spaces in the district include:

- Stuyvesant Cove Park
- Carl Schurz Park
- East River Esplanade
- Peter Detmold Park
- St. Vartan Park
- Asser Levy Park
- Bellevue South Park
- Kips Bay Park
- Vincent F. Albano Jr. Playground
- Andrew Haswell Green Park

FDR Drive has had a profound impact on the adjacent neighborhoods within Manhattan Community Board Six. Serving as a vital transportation artery, it offers both advantages and challenges. While enhancing connectivity and accessibility, the FDR Drive has also created a physical barrier between the neighborhoods and the East River waterfront. This has influenced the development patterns and urban landscapes, affecting the accessibility of the waterfront and prompting the need for innovative solutions for pedestrian access and community engagement. The drive's presence shapes the neighborhoods' character, influencing the dynamics of transportation, urban planning, and community life in this bustling district of Manhattan.

FDR Drive at 25th Street

The FDR Drive Across Multiple Scales

Region

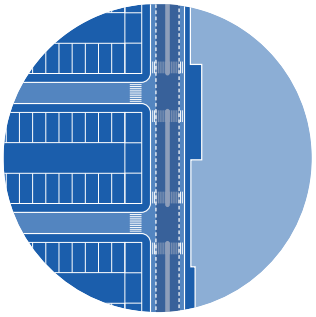
The FDR Drive is a critical regional connector within New York State and to neighboring New Jersey and Connecticut

City

The FDR Drive is a primary connection between various city boroughs, and key north-south link in Manhattan

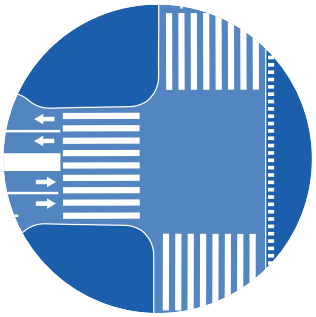
Community District

The eastern edge of MN CB6 is fully covered by the FDR Drive, impacting all the waterfront residences



Street

The FDR Drive ties to key cross-town streets, and creates a number of dead-end streets in Midtown and East Village



Block

Intersections with the FDR drive, on and off ramps, and crossings over and under the highway structure

Challenges and Opportunities

Manhattan Community Board Six grapples with multifaceted challenges concerning the FDR Drive. Environmental risks loom large, with the district vulnerable to flooding and plagued by air and noise pollution due to the highway's continuous traffic. Limited multi-modal mobility options compound the issue, fostering traffic congestion and hampering seamless transportation.

Moreover, the FDR's presence interrupts waterfront access, posing a hurdle in creating inviting spaces along the river for pedestrians and cyclists, necessitating innovative solutions to address these complexities.

Enviornmental risks, flooding, air and noise pollution

Limited Multi-modal Mobility Options

Traffic Congestion

Interrupted Waterfront Access

Community Needs

Improved Environmental Sustainability and Waterfront Access

Opportunity for Neighborhood and Waterfront Development

Safe Mutlimodal mobility options along and across the FDR

The community's aspirations for the future of the FDR Drive converge on pressing needs. There's a clear demand for heightened environmental sustainability and enhanced waterfront access, fostering a balanced coexistence between urban development and natural preservation. This presents an opportunity for thoughtful neighborhood and waterfront development, aimed at creating vibrant, inclusive spaces. Safe and efficient multi-modal mobility options are essential, ensuring access to and along the FDR Drive, addressing the community's evolving transportation requirements while harmonizing with the district's aspirations.

Mobility, Congestion & Road Safety

The FDR Drive contends with persistent challenges including congestion, safety concerns, and limited mobility options. Traffic bottlenecks along the corridor result in congestion, compromising safety and hindering efficient movement all while forming a continuous block that obstructs pedestrian and cyclists access to the waterfront.

And while CB6 is the district with the second highest number of bus lanes in New York City, it ranks 56th out of 59 districts in bus movement speeds with an average 4.7 mph. This crawling speed undermines the role of public transit as a viable alternative for New Yorkers and further enforces the belief that vehicle ownership is a must in one of the richest districts in the country in terms of multi-modal options. By carving out dedicated space for buses on the FDR Drive, buses could once again be considered a reliable and affordable alternative for many.

Congestion Pricing

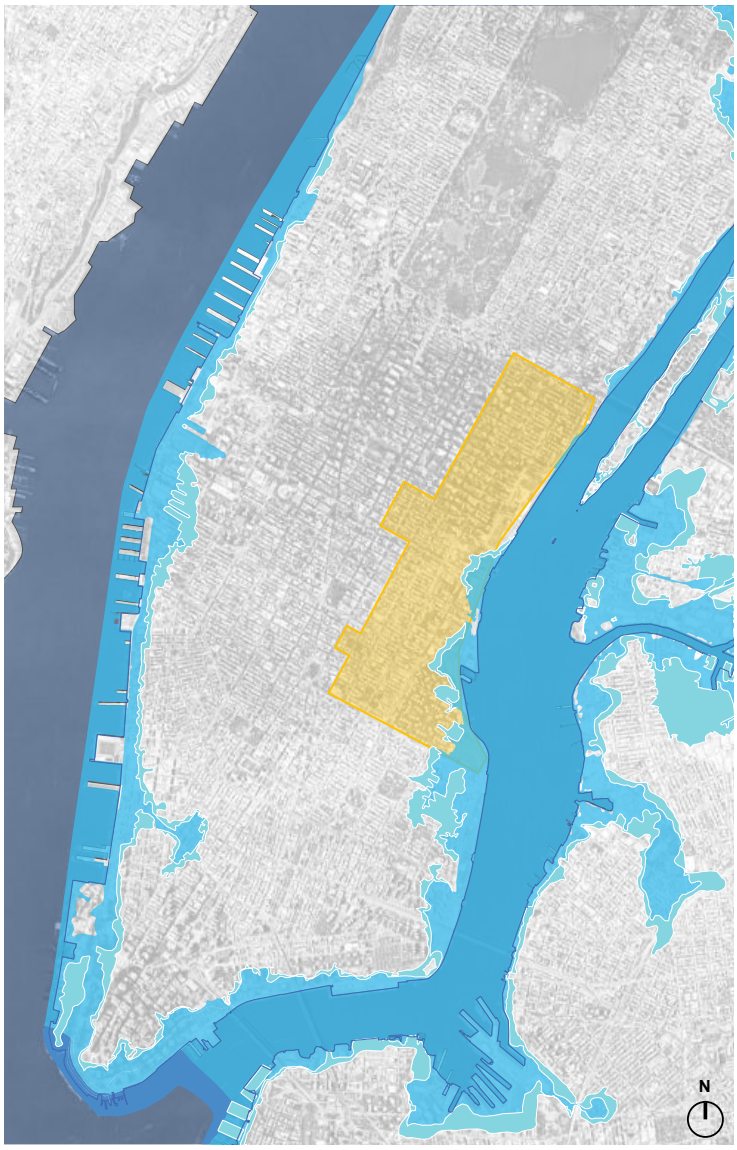
New York State, through the MTA, is implementing a congestion pricing scheme below 60th Street in Manhattan that will charge vehicles a toll to enter the congestion zone. The FDR Drive is not tolled as part of the Congestion Business District Tolling Program, which is set to go into effect later this year. Despite the FDR Drive being excepted from the toll, based on the outcomes in other cities, it is possible that traffic will decline on the FDR Drive after implementation. A reduction in traffic on the FDR Drive would help to justify a redesign that eliminates the highway. More details are provided in the appendix of this study.

FDR Drive congestion within CB6

Environmental Resiliency

The FDR Drive also faces pronounced vulnerability to flooding, notably demonstrated during Hurricane Sandy's impact. Submergence of segments and damage to infrastructure revealed the highway's susceptibility to extreme weather events.

Over the past few years, extreme weather events and storms have become more frequent, and segments of the FDR Drive have been repeatedly submerged partially or fully on a more regular basis. This new reality highlighted the urgency for robust resilience measures to safeguard the FDR Drive against future flood-related disruptions and mitigate potential damages. However, this transformation shouldn't come in the form of edge-fortification with concrete flood walls and physical barriers, but rather presents the opportunity to be integrated in a comprehensive master plan that combines a resilient ecological buffer with community public spaces and shared-use infrastructure that could be used year-round by New Yorkers.



FDR Drive after Hurricane Sandy

3 Visions for the FDR Drive

Ongoing and Planned Projects

East River Resiliency and Open Space Projects

Several projects have been contemplated or are in progress along the FDR Drive, aiming to address various aspects. These include studies on flood-resilient infrastructure, envisioning pedestrian-friendly waterfronts, considering green spaces atop the FDR, and proposing redesigns to enhance safety and multi-modal connectivity, indicating a comprehensive revitalization effort.

1. East Midtown Greenway Project
2. UN Esplanade Greenway
3. East Side Coastal Resiliency
4. East River Blueway
5. CB3 Waterfront Access Study
6. Brooklyn Bridge - Montgomery Coastal Resiliency Plan (BMCR)
7. 'Raze the FDR', MBP Mark Levine
8. FiDi & Seaport Climate Resilience Master Plan
9. Lower Manhattan Coastal Resiliency Plan (LMCR)

1. The East Midtown Greenway Project 53rd St. - 61st St. (Complete 2023)

6. Brooklyn Bridge - Montgomery Coastal Resiliency Plan (BMCR) (Planned)

2. The UN Esplanade Greenway Project 41st St. - 53rd St. (Planned)

7. 'Raze the FDR' - MNPB Mark Levine (2023)

3. East Side Coastal Resiliency Project Montgomery St. - 23rd St. (Ongoing est. 2026)

8. FiDi & Seaport Climate Action Master Plan The Battery to Brooklyn Bridge (Planned)

4. The East River Blueway Plan Brooklyn Bridge - 38th St. (Study, 2013)

9. Lower Manhattan Coastal Resiliency Plan (LMCR) The Battery (Planned)

5. East Village/Lower East Side Waterfront Access Study - CB3 (2024)

FDR Reimagined - CB6 (2024)

FDR Design Vision Principles

Neighborhood & Waterfront Development

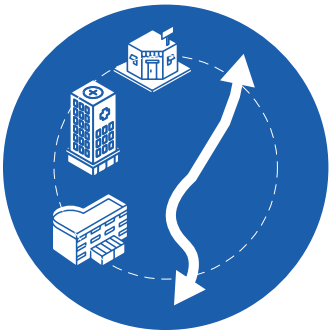
The present and future of the FDR Drive wield considerable influence over neighborhood and waterfront development. Its redesign potential serves as a catalyst for community revitalization, fostering community engagement and amplifying the waterfront's appeal, thereby shaping vibrant and connected urban landscapes.

Multi-Modal Mobility & Transportation

Reshaping the FDR Drive presents an opportunity to prioritize transportation and multi-modal mobility across the district, with positive impacts extending to the city and region. A redesigned FDR Drive has the potential to uplift micromobility and bike infrastructure, transform the role of public transit in the daily routine of New Yorkers, all while enabling a shift to sustainable and safe freight delivery systems.

Environmental Resiliency & Open Space

A transformed FDR Drive holds the potential to significantly enhance the environmental resilience of the district and city. By introducing green infrastructure, and mitigating flooding risks, this transformation would be a strategic investment in the future of New York City. This transformation also presents an opportunity to maximize open space while fostering ecological sustainability.



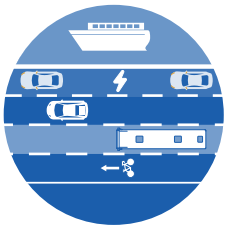
Neighborhood and Waterfront Development

Integrate Mobility with Resiliency

Improve multi-modal mobility to reduce the reliance on singular modes and foster sustainable and efficient urban transport options.

Close the Manhattan Greenway Loop

Redesign the FDR Drive to integrate bike infrastructure, closing the Manhattan greenway loop.



Reduce Reliance on the FDR

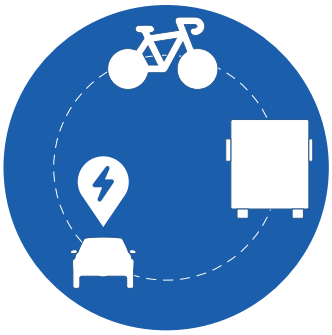
Invest in public transit, busways, ferries, and bike infrastructure, to reduce the reliance on the FDR in daily commute.

Leverage Public Needs and Interests

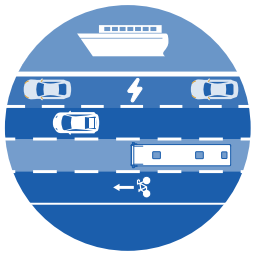
Consider the priorities of adjacent institutions, communities, and the city and region to create a vision for the future.

Use the Whole Highway

Eliminate private and underutilized parcels under or adjacent to the FDR to maximize use of the right of way for mobility and environmental resiliency.



Multi-modal Mobility and Transportation



Prioritize Multi-modal Connectivity

Center multi-modal connectivity as a fundamental principle in the planning and design of the FDR Drive.

Restitch the FDR to the City Grid

Reconnect the FDR Drive with the surrounding street network to improve connectivity, and pedestrian access to the waterfront.

Manage freight access and movement in the district

Capitalize on multi-modal infrastructure to facilitate last-mile delivery using active sustainable modes.

Increase Waterfront access

Improve permeability to the waterfront by increasing crossing opportunities for pedestrians and cyclists.

Reduce dependency on FDR

Invest in public transit, busways, ferries, and bike infrastructure, to reduce the reliance on the FDR in daily commute.

Environmental Resiliency and Open Space

Return space to community

Reclaim underutilized spaces, and rethink waterfront access along the FDR to aling with community priorities.

Create access to the Waterfront

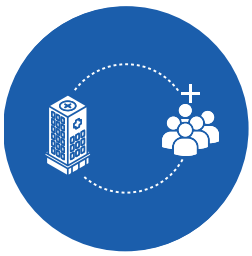
Through frequent at-grade crossings, and accessible overpasses at locations with elevation differences.

Involve Community stakeholders

Engage community stakeholders as vital partners throughout the planning process for the highway and waterfront development.

Address environmental justice within and beyond CB6

Consider the environmental impacts of the current and proposed form of the FDR Drive on neighborhing communities.



Invest in NYC systems and public health and wellness

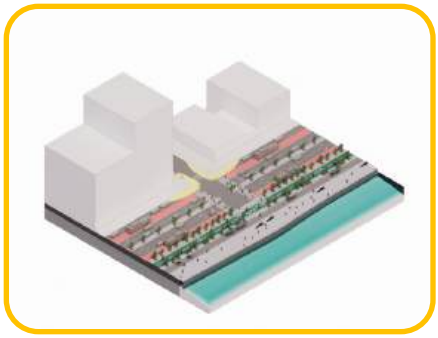
Capitalize on partnerships and funding to spread the positive impact beyond the district to reach the city and region.

FDR Drive Vision Opportunities

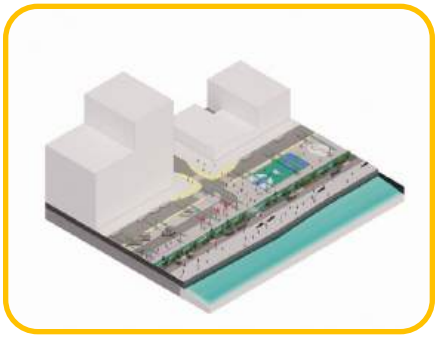
The FDR Drive segment within Manhattan's Community Board Six presents diverse design opportunities, acknowledging varying contexts along the highway. Overbuild parks propose elevated green spaces, fostering waterfront access. Boulevardization adapts at-grade segments for pedestrian connectivity. Activation under the FDR elevations transforms neglected spaces into vibrant community hubs. Each approach harmonizes with specific segments, urban surroundings, and waterfront conditions, aiming to revitalize the corridor, maximize land use efficiency, and create inviting public spaces, addressing the distinct needs and potentials of different FDR segments within the community.

Overbuild

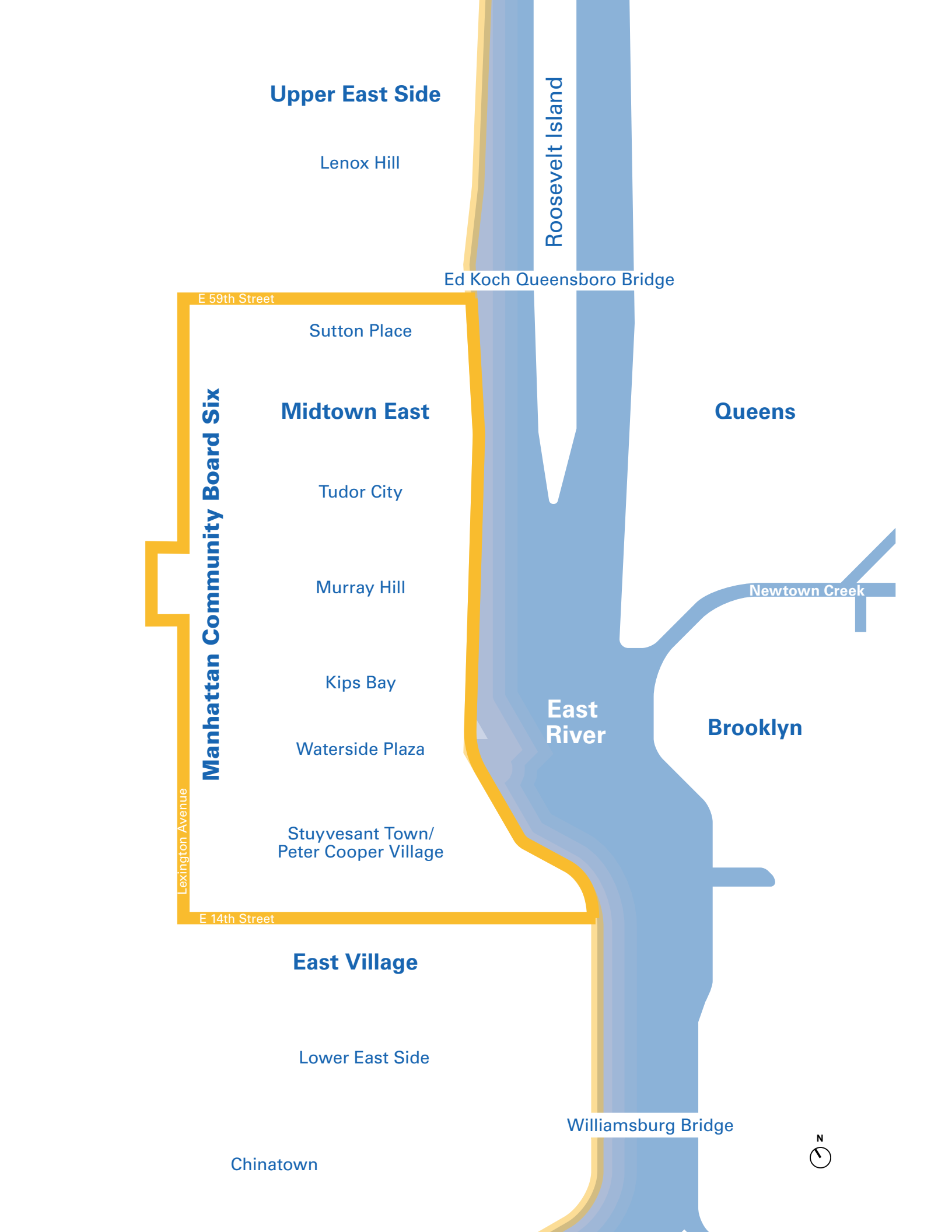
Boulevardization



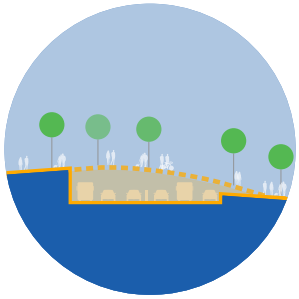
Activation



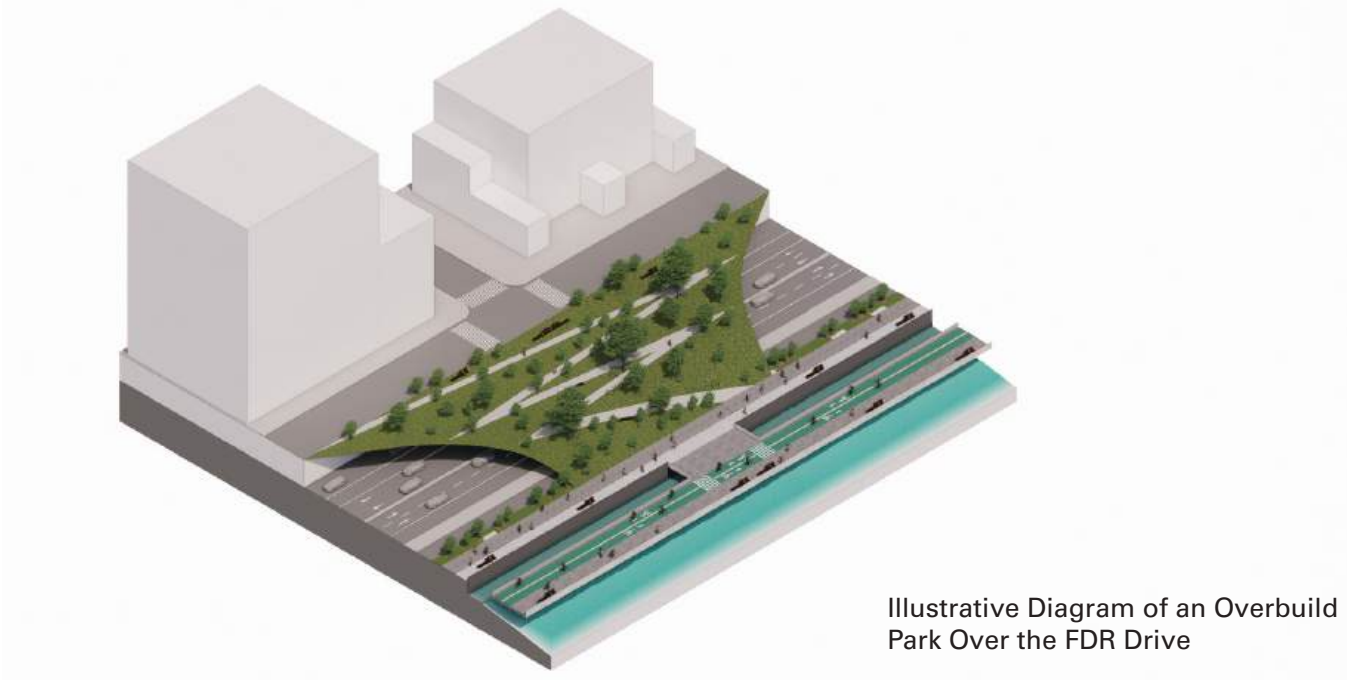
Further analysis is imperative to ascertain the most suitable design intervention for specific FDR Drive segments within Manhattan's Community Board Six. Factors such as on/off ramps configuration, waterfront condition and utilization, flooding vulnerability, roadway width and condition, traffic volumes, road safety, and additional contextual elements need thorough evaluation. Understanding these factors will guide the tailored application of interventions—be it overbuild parks, boulevardization, or activation under the FDR—to optimize waterfront access, address vulnerabilities, improve safety, and enhance community connectivity, ensuring the chosen design strategies align seamlessly with the distinct characteristics and needs of each FDR segment.


Upper East Side
Lenox Hill
Roosevelt Island
Ed Koch Queensboro Bridge
E 59th Street
Sutton Place
Manhattan Community Board Six
Midtown East
Queens
Tudor City
Murray Hill
Newtown Creek
Kips Bay
East River
Brooklyn
Waterside Plaza
Lexington Avenue
Stuyvesant Town/
Peter Cooper Village
E 14th Street
East Village
Lower East Side
Williamsburg Bridge
N
Chinatown

Overbuild Park



Overbuild parks atop segments of the FDR Drive aim to create elevated green spaces fostering improved exposure and access to the waterfront. These segments, similar to the UN and Carl Schurz overbuilds, offer recreational areas, gardens, and walkways, maximizing urban land use while providing inviting public spaces for community gatherings and enhancing connectivity to the waterfront in urban areas.

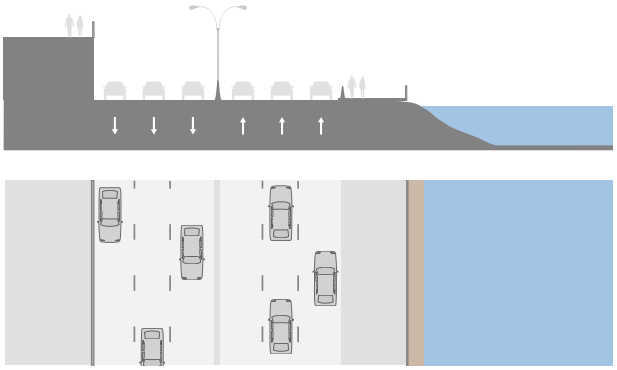


Illustrative Diagram of an Overbuild Park Over the FDR Drive

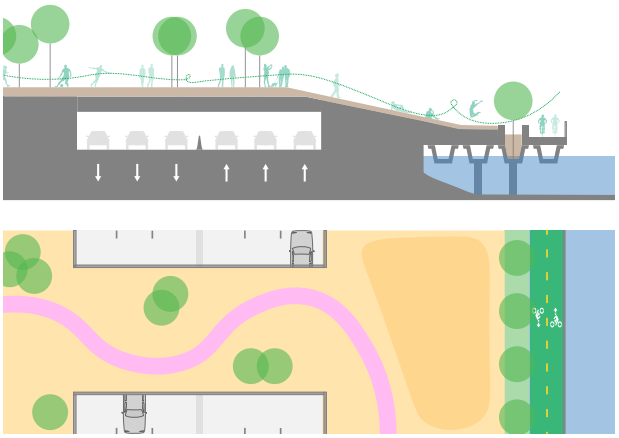
There are multiple locations of the FDR Drive within CB6 that are already covered, either by an overbuild park like that of the United Nations between 42nd and 48th streets, or by residential buildings in Sutton Place, between 53rd street and the Ed Koch Bridge. Yet the segment between these two, along Beekman Place and Peter Detmold Park, presents a major opportunity to extend the existing park over the FDR Drive, benefiting from the elevation difference, and connecting to the future planned greenway in the East River.

An overbuild park within CB6 presents an opportunity to restitch the waterfront to the Sutton Place neighborhood between 48th to 53rd street. Leveraging the current elevation difference, this expansion would be an extension of the UN overbuild segment, and aims to seamlessly connect Beekman Place and Peter Detmold Park to the waterfront, enhancing urban connectivity and providing a dynamic, elevated space for residents and visitors to enjoy the stunning views of the surrounding landscape and waterfront.

Potential Segments for an FDR Overbuild Park



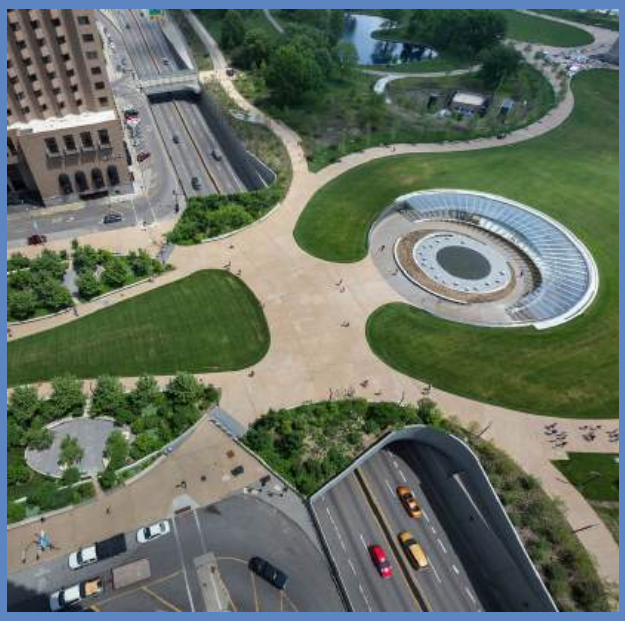
Existing - FDR Drive at 50th Street



Proposed - FDR Drive at 50th Street

Case Study

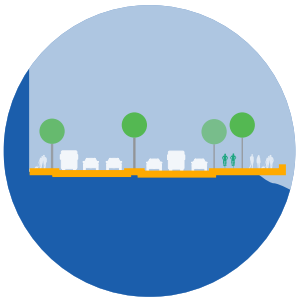
Park over Highway
Gateway Arch Park, St. Louis, MO



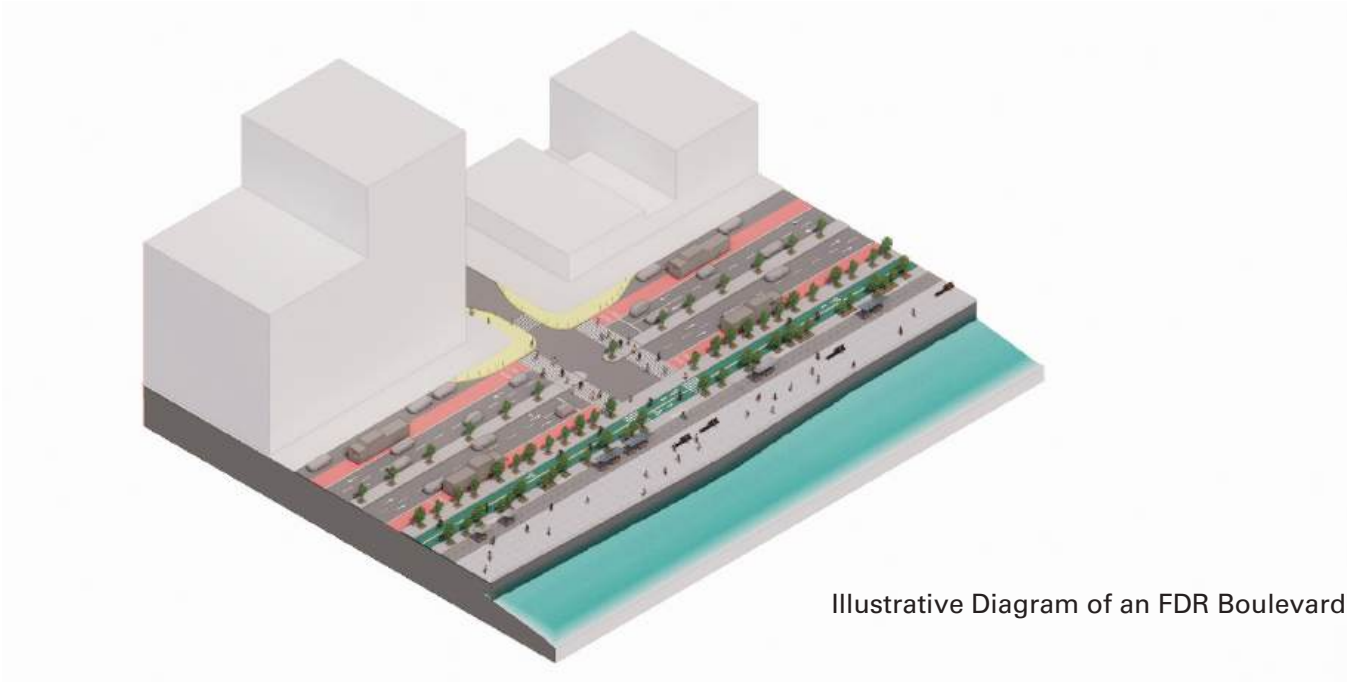
St. Louis' Gateway Arch Park was reconnected to the rest of Downtown St. Louis by an overbuild park over a sunken section of I-70. The newly added park is a 285-foot long land bridge that carries a landscaped pedestrian greenway making a seamless connection between downtown and the Arch grounds.

This approach would be applicable on segments of the FDR Drive with an elevation difference that allows for an overbuild park without significant changes to the existing grade, limiting costs and operational disruptions. Segments of the FDR Drive that could be suitable for this approach are those in Sutton Place between 48th and 53rd streets, and near Houston Street.

Boulevardization



Boulevardizing, or turning select at-grade segments of the FDR Drive into boulevards, involves redesigning the FDR Drive to include pedestrian-friendly features, such as wider sidewalks, landscaped medians, bike lanes, and reduced traffic speeds. The aim is to create a more accessible, aesthetically pleasing, and safer urban environment while maintaining vehicular traffic flow and integrating various modes of transportation.

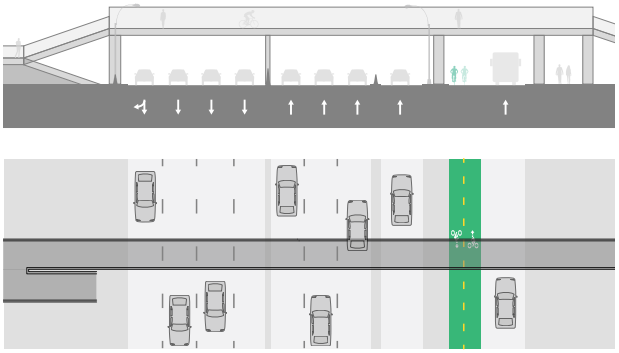


Illustrative Diagram of an FDR Boulevard

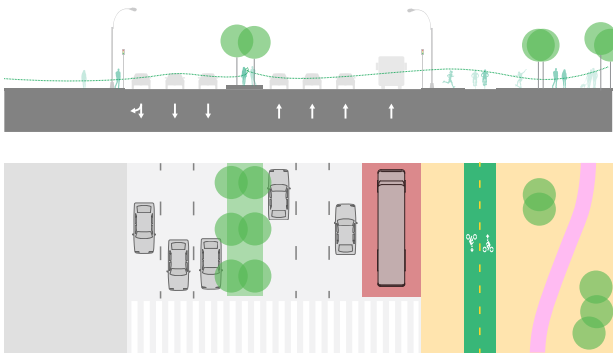
There are multiple locations where the FDR Drive within CB6 is at grade, or is elevated to allow for an at-grade crossing for vehicles and pedestrians. These segments present a major opportunity to transform the FDR Drive from a limited-access parkway with over and underpasses, to its original vision as a boulevard with transit, bike paths, planted median, and signalized crossings that present accessible and more frequent waterfront connections for pedestrians and cyclists.

While the conversion of a limited-access parkway like the FDR into a planted boulevard with signalized intersections and pedestrian crossings would require complex and costly physical and operational system changes, certain segments will be easier to transform that others. Segments that are currently at-grade, like those between 25th and 30th streets, and between 48th and 54th street, present an opportunity to contemplate a transformation with minimal demolition. Viaduct segments removal would be feasible following an extensive analysis like that of the West Side Highway.

Potential Segments for an FDR Boulevard



Existing - FDR Drive at 25th Street / Waterside Plaza



Proposed - FDR Drive at 25th Street / Waterside Plaza

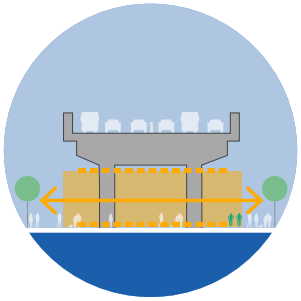
Case Study

West Side Highway, New York City

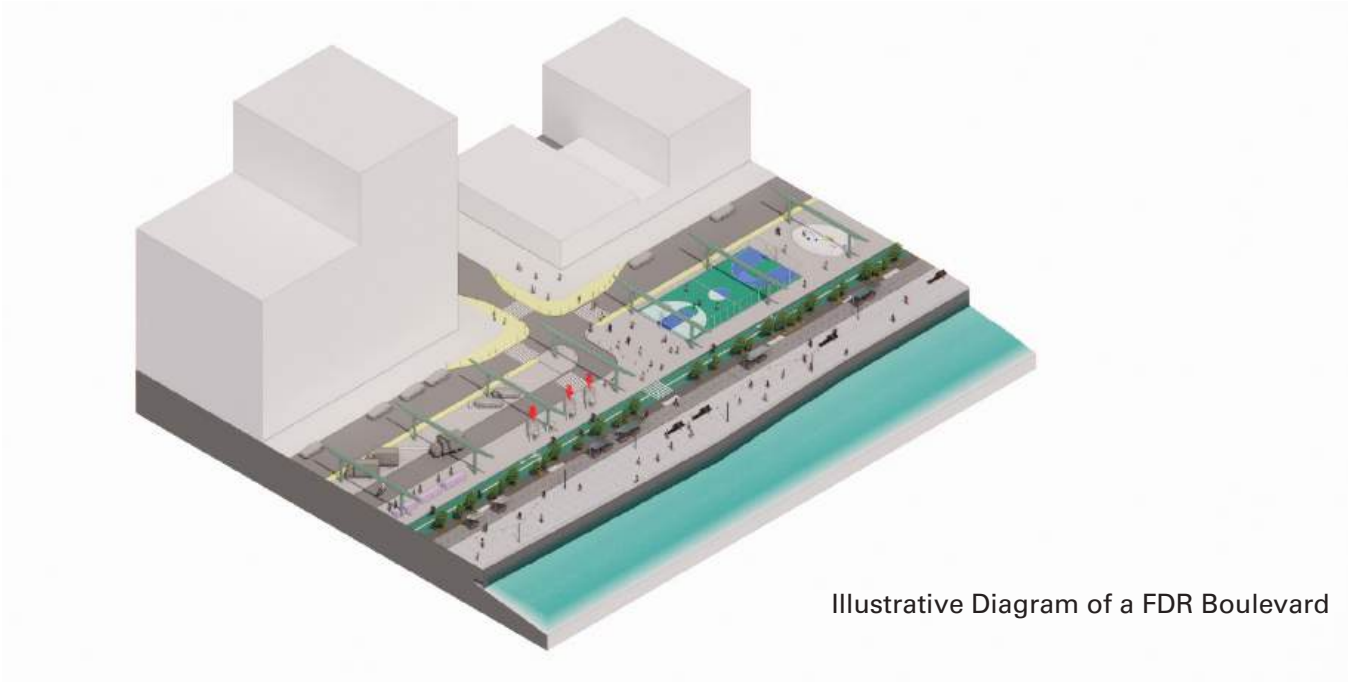
Manhattan's elevated West Side Highway built in the 1930s to increase road safety, improve vehicle travel times, and aid commerce, but it physically and visually cut off neighborhoods from the Hudson River. As a vision of the NYSDOT and city stakeholders, the highway was transformed to a 5.9 mile-boulevard with a safer, more inviting space for residents, business owners and patrons, and visitors.

Replacing the elevated highway with a boulevard significantly changed the streetscape, spurred real estate development activity and public space expansion, improved waterfront access, and a green urban oasis that is both a shelter and an ecological buffer that protects against flooding and sea level rise in the Hudson River.

Activation and Permeability



Activation beneath the FDR Drive aims to enhance community amenities while creating safe and inviting waterfront access. Activation could involve transformative interventions, including enhanced lighting for safety and ambiance. Community programming, like art installations, brings engagement and vibrancy. Implementing pedestrian-priority segments creates safe pathways, linking neighborhoods to the waterfront.

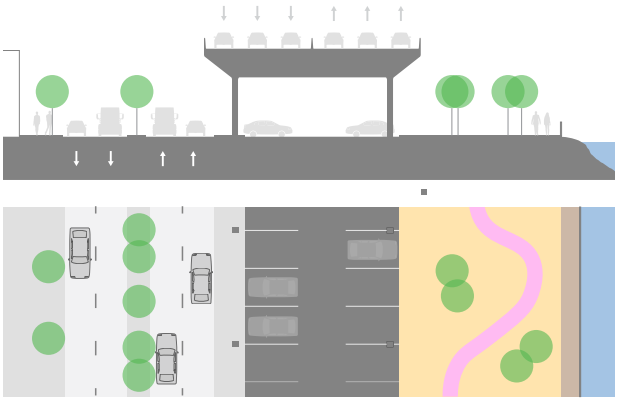


Illustrative Diagram of a FDR Boulevard

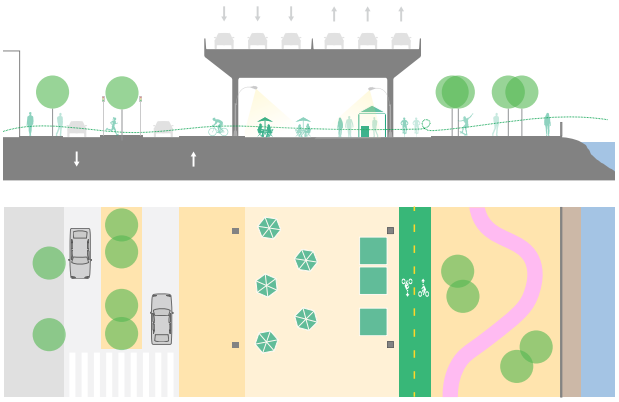
In segments where the FDR Drive viaduct is retained, in the short or medium terms, there are a number of toolkit design ideas that could be implemented to improve its functionality and contribution to the community. Activating what's currently reserved as storage, informal parking, or poorly lit spaces present an opportunity to add community programming, back-of-house uses such as micro-distribution centers, charging stations, and other green infrastructure.

The activation of under the viaduct areas, like segments along Stuyvesant Town and Peter Cooper Village, would be a first step to maximize community amenities and introduce short-term benefits of a larger visioning project while medium and long-term visions are being studied. Segments under the FDR viaduct south of CB6, along South Street, have already been reclaimed and repurposed with outdoor seating, multi-purpose courts, vegetation, bike greenway, and outdoor exercise equipment.

Potential segments for under viaduct activation



Existing - Peter Cooper Village viaduct



Proposed - Peter Cooper Village viaduct

Case Study

The Bentway, Toronto, CA

The Bentway is a public trail and corridor space underneath the Gardiner Expressway in Toronto, Ontario, Canada. The Bentway re-imagined the city's most divisive symbol of 20th century transportation planning as a new model of activated public space. The Gardiner Expressway's series of supportive concrete columns created a series of 'civic rooms' that can function collectively or on their own to offer spaces for a diverse range of programming and events.

The activation of the Bentway allows for programming that includes a highly flexible open-air theatre and balcony overlook with a series of rotating backdrop panels to screen from adjacent road noise which would be applicable in the FDR Drive context.

FDR Drive Design Vision

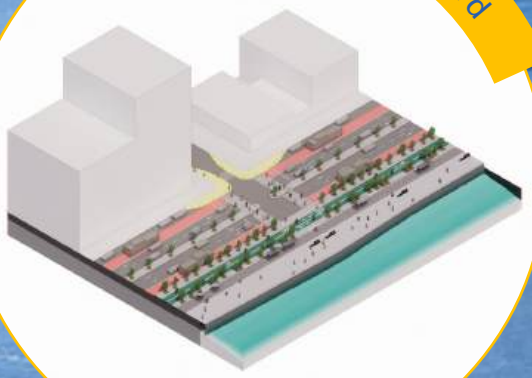
Reimagining Our Waterfront is a transformative vision blending boulevards, overbuild parks, and activated spaces at different segments throughout the urban highway that's been limiting waterfront access throughout the district for decades. This vision centers environmental resiliency, improved waterfront access, elevated mobility and road safety, and maximized open space and community assets.

Bridging the gap in the e
Greenway elevates a safe
network in Midtown East

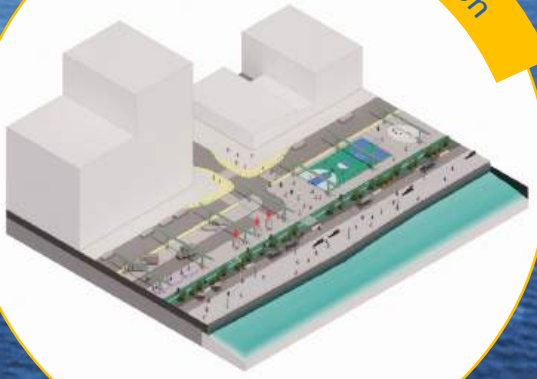
Boulevard segments would allow for at-grade crossing, increasing waterfront access for pedestrians and cyclists.

Overbuild Park

Boulevard



Activation



A park built over FDR Drive would connect existing parks to the waterfront and future greenway

xisting East Side
e protected bike

FDR Drive Design Toolkit

Multi-modal Mobility

Community Amenities

Busways

Busways serve as dedicated lanes exclusively for buses, enhancing multi-modal mobility by prioritizing public transportation. These lanes separate buses from regular traffic, reducing congestion and travel times. With fewer delays and reliable schedules, busways encourage more people to opt for efficient and sustainable public transit options within urban areas. More analysis is needed to assess the feasibility and implications of having a busway on the FDR drive.

Pedestrian & Bicycle Infrastructure

Improved and continuous pedestrian and bike infrastructure along the FDR Drive would offer dedicated and safe pathways to and along the waterfront, promoting active mobility and recreation. Investment in safe spaces for pedestrians and cyclists would foster connectivity, elevate road safety, allow new waterfront community amenities to flourish, and grant access to scenic views of the East River.

Micro-Distribution

Micro-distribution centers, strategically located beneath the FDR Drive, offer a promising solution to curb freight traffic in Manhattan's Community Board Six. These centers serve as localized hubs for last-mile deliveries, reducing the need for trucks navigating through the streets. By efficiently managing goods closer to their final destinations, they mitigate congestion, decrease vehicle emissions, and enhance urban mobility, aligning with the goal of creating a more sustainable and efficient logistical framework within the community.

Environmental Resiliency

Public Amenities and Seating

An integrated stepped seating design introduces transformative possibilities for an undeserved waterfront like that of CB6. This innovative infrastructure not only creates opportunities for community gatherings and leisure but also bolsters resilience against climate risks by creating a permanent integrated buffer against rising sea levels. A tiered layout would facilitate the activation of the area by providing a communal space for social interaction and events without over fortifying the waterfront with retention walls.

Resilient Playgrounds

Floodable playgrounds is another tool that offers a dual benefit by combining community amenities with waterfront resilience in CB6. These innovative spaces are designed to adapt during floods, serving as recreational areas during dry periods while efficiently managing excess water during high tides or storms. This integration maximizes community spaces and bolsters the waterfront's ability to withstand environmental challenges, promoting both recreation and resilience.

Green Infrastructure

Green infrastructure comprises natural or nature-based systems integrated into urban areas, offering multifaceted benefits. Examples include permeable pavements, rain gardens, and vegetated swales. These elements mitigate flooding by absorbing and filtering stormwater, enhance air quality, and promote biodiversity. Additionally, they provide aesthetic value, reduce the urban heat island effect, and contribute to overall environmental sustainability, showcasing nature's integration within the urban landscape.

4 Appendix

FDR Drive Mobility Review

1. Key Summary

Average Speed (2023)

The FDR Drive has a maximum 40 mph speed limit due to its high traffic volumes and non-standard design (meaning it does not mean modern highway design standards). However, average travel speeds are well below speed limit. Figure 2 details the average travel speed along the FDR Drive from the Hugh L. Carey Tunnel to Robert F. Kennedy Bridge, based on a sampling of hourly speeds collected between August and September of 2023 by the NYC DOT. The figure shows the following variations in travel speeds along FDR Drive:

- During the AM peak hour (7–10 a.m.), the average speeds are 27 mph (approximately 32.5% slower than the posted speed limit) in both the north and south directions.
- During the PM peak hour (4–7 p.m.), average speeds decrease further, 19 mph (approximately 50% slower than the posted speed limit) in both the north and southbound directions.
- On average, speeds are 30% slower than the posted speed limit, traveling at an average of 28 mph in the northbound direction and 30 mph in the southbound direction.

These figures reflect a significant decrease from the posted speed limit, highlighting the substantial impact of congestion.

Traffic Volumes (2019)

Traffic volumes were acquired from the NYSDOT. Due to the significant impact of COVID-19 on traffic conditions, the base year for analysis was set to 2019. The data revealed the following:

- The segment with the highest combined total traffic volume occurred between 34th St. and 14th St.), with an AADT (Average Annual Daily Traffic) of 142,000 vehicles per day.
- The highest southbound traffic volume occurred between 34th St. and 14th St., which experienced an AADT of 76,000 vehicles per day.
- The highest northbound traffic volume occurred between 34th St. and 42nd St., which experienced an AADT of 71,000 vehicles per day.

Street Width and Number of Lanes

Street widths and lane counts for FDR Drive within the study area were sourced from the DCP online data portal. Table 1 provides a summary of this data. Within the study area:

- There are 7 exits and 5 entrances along FDR Drive.
- Exits and entrances along the FDR Drive are typically one-lane wide, with a width ranging from 12 to 30 feet.
- The total width of the FDR Drive ranges from 60-68 feet and accommodates three lanes in each direction.

Built vs. Unbuilt

The State Arterial System in New York City is a shared responsibility between the City and State, with the State acquiring additional segments of city-owned arterials as they undergo reconstruction to meet modern highway standards. Currently, nearly all of the FDR Drive is classified as "unbuilt," signifying that it is city-owned and does not meet modern highway standards. This can mean a variety of things, including sub-standard lane widths,

sightlines, curve radii, exit ramp capacity, merge lengths, and inadequate shoulders. Any major reconstruction or replacement of the FDR Drive would need to meet modern design standards.

2. Considerations

2.1 Congestion Pricing

New York State, through the MTA, is implementing a congestion pricing scheme below 60th Street in Manhattan that will charge vehicles a toll to enter the congestion zone. The FDR Drive is not tolled as part of the Congestion Business District Tolling Program, which is set to go into effect later this year. Despite the FDR Drive being excepted from the toll, based on the outcomes in other cities, it is possible that traffic will decline on the FDR Drive after implementation. For instance, in London, the introduction of congestion pricing resulted in an average traffic reduction of 30–50% within the congestion charging zone. A reduction in traffic on the FDR Drive would help to justify a redesign that eliminates the highway.

2.2 Shifting Traffic to the West Side Highway & Brooklyn-Queens Expressway

A redesign of the FDR Drive to a surface street would likely cause some traffic to shift to the West Side Highway and the Brooklyn-Queens Expressway. Some trips might shift to other time periods, other modes, or not happen at all (this is very common when road capacity is reduced). First Avenue, Second Avenue, and other parallel East Side avenues may also become alternatives, potentially leading to an increase in traffic on these streets.

2.3 Second Ave Subway

The Second Avenue Subway (SAS) project is organized into four phases, with Phase I already completed (from 63rd St to 96th St) and Phase II is currently in planning (with an extension up to 125th St). It is possible that Phase II could be the final phase built due to the cost and complexity of the project so far. However, Phase III would extend the project south along Second Avenue from 72nd St to Houston St. If Phase III is built, it could lead to a significant shift in travel patterns on the East Side of Manhattan toward the subway. For example, Phase III would offer Metro North commuters a direct transfer to the

subway at 125th St to the major medical and research employers along First Avenue in Community Board 6 (CB6).

2.4 Bus Rapid Transit (BRT)

The conversion of FDR Drive into a surface street with an exclusive Bus Rapid Transit (BRT) corridor could also lead to a significant shift in travel patterns on the East Side of Manhattan. The new boulevard would allow for an expanded East River Greenway, with greater permeability into the adjacent neighborhoods. This corridor could reduce commute times for travelers, attract new ridership, and shift trips to transit and biking.

2.5 Coastal Flooding

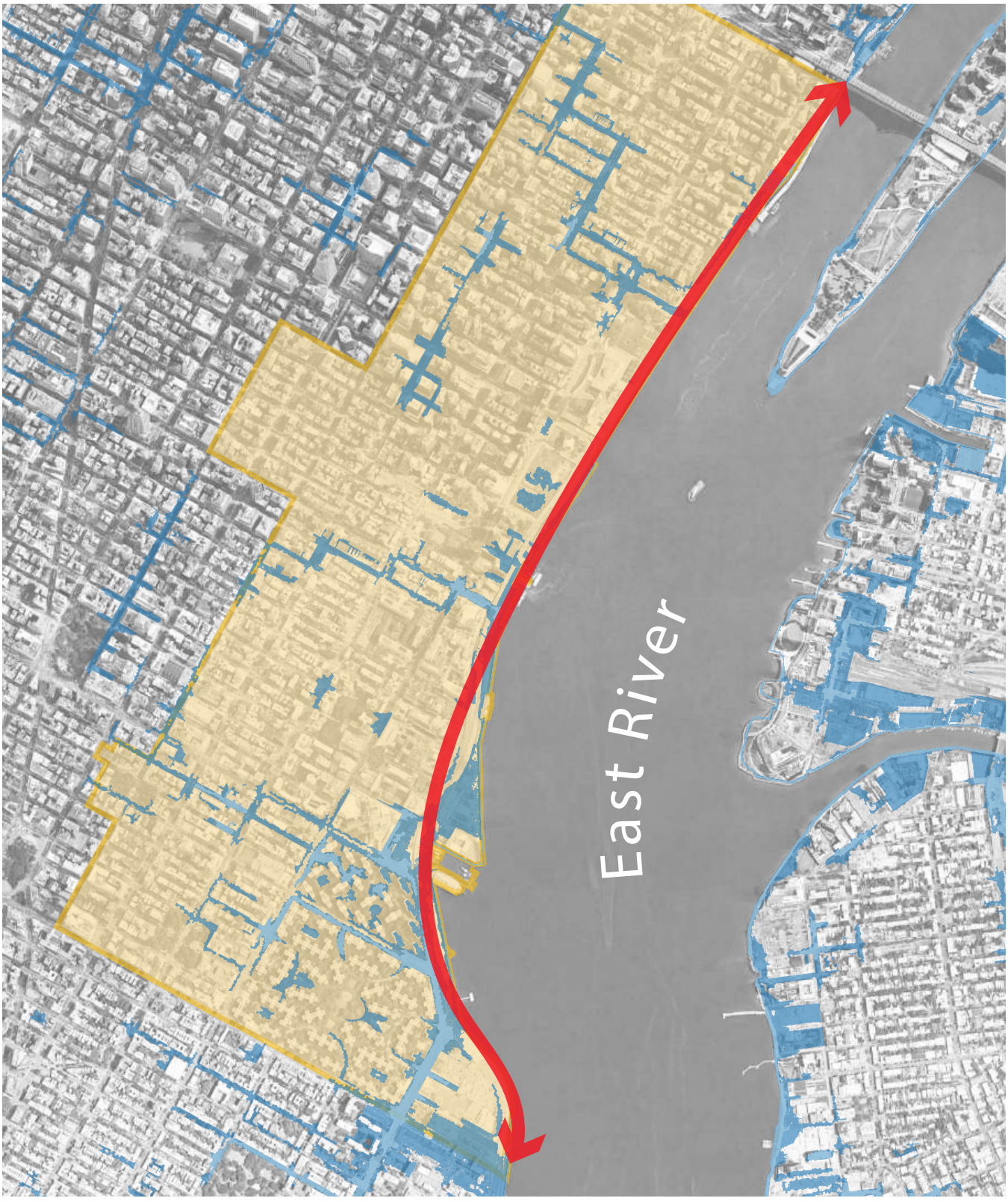
Climate change makes coastal flooding and severe rain events more common and damaging. Due to its proximity to the waterfront, FDR Drive is especially vulnerable to flooding during storm events and high tides. Figure 1 illustrates areas at risk of flooding based on sea level rise, encompassing the 1% annual chance storm, also known as the 100-year floodplain, and the 0.2% annual chance floodplain, referred to as the 500-year floodplain. According to the New York City Panel on Climate Change (NPCC) for projected sea level rise in 2050 and 2080, the FDR Drive is within areas that are likely to experience future flooding.

3. Next Steps

Knowing who drives on the FDR Drive, when, and their origins and destinations, would help to understand existing travel patterns and what alternatives exist to these trips. This would help in developing more meaningful alternatives for these trips. It can also help to build support for the project by knowing who uses the FDR Drive and who it impacts directly. For example, 77% of CB6 households do not own a car and less than 8% drive to work (2021 5-year ACS, https://www.nyc.gov/site/planning/planning-level/nyc-population/american-community-survey.page.page).

It is very likely that the majority of people who live and work in CB6 do not use the FDR Drive – but further analysis is required to verify this assumption.

Figure 1: NYC Flood Hazard Mapper



Data Source: New York City Department of City Planning (2017)

Average Traffic Speed

Figure 2:
Average Traffic Speed
Source: New York City Department of Transportation (2023)

Table 1: Street Width & Number of Lanes along FDR Drive (Between 14th Street and 59th Street)

Roadway Segment	Street Width (Feet)	Number of Lanes	Begin	End
NORTHBOUND/SOUTHBOUND				
FRANKLIN D ROOSEVELT (FDR) DRIVE	30-34	3	E 14TH ST	QUEENSBORO BRIDGE
NORTHBOUND				
EXIT 7	20	1	E 15TH ST	E 20TH ST
EXIT 8	22	1	E 25TH ST	E 27TH ST
EXIT 9	20	2	E 36TH ST	E 42ND ST
ENTRANCE @ E 34 ST	12	1	E 34TH ST	E 38TH STT
SOUTHBOUND				
EXIT 7	30	1	E 26th ST	E 25TH ST
EXIT 8	22	1	E 41st ST	E 38TH ST
EXIT 10	20	1	E 51st ST	E 49TH ST
EXIT 11	20	1	E 54th ST	E 53RD ST
ENTRANCE @ E 48 ST	18	1	E 48TH ST	E 51ST ST
ENTRANCE @ E 20 ST	20	1	E 20TH ST	E 18TH ST
ENTRANCE @ E 30 ST	10	1	E 30TH ST	E 28TH ST
ENTRANCE E 34 ST	12	1	E 34TH ST	E 30TH ST

Source: New York City Department of City Planning (2023)

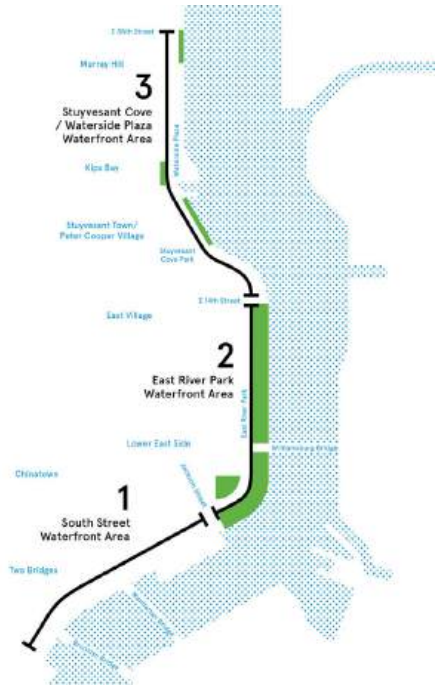
Table 1:
Street Width & Number of Lanes along FDR Drive (Between 14th Street and 59th Street)
Source: New York City Department of City Planning (2023)

Additional Site Studies

The East River Blueway (2013, WXY)

Brooklyn Bridge - 38th Street

The East River Blueway project envisioned a transformative blueprint for New York City's East River waterfront. The proposal aimed to revitalize the East River's edges, creating an interconnected network of public spaces, recreational areas, and ecological zones. WXY's design incorporated multifunctional elements such as protected bike lanes, kayak launches, resilient parks, and ecological enhancements. This blueprint not only provided enhanced access for pedestrians and cyclists but also integrated green infrastructure to mitigate flooding risks and bolster environmental resilience. By reimagining the East River's edges, the project envisioned a dynamic and inclusive waterfront that catered to the diverse needs of the community while fostering sustainability and engagement with New York City's iconic waterways.



The East River Blueway Plan, WXY

The East Midtown Greenway Project (2023)

53rd St. - 61st St.

The East Midtown Greenway project aims to close the Manhattan greenway loop by adding designated path for cyclists and pedestrians along Manhattan's East Side. This stretch between East 61st and 53rd Streets aimed to transform the area into an inviting green corridor, featuring pedestrian-friendly pathways, lush landscaping, and recreational spaces along the East River waterfront. By emphasizing environmental sustainability and connectivity, the project aimed to enhance public access to the waterfront, offering a harmonious blend of natural beauty and urban functionality within this specific section of East Midtown Manhattan. Future phases to the south of 53rd street are currently being designed.

Illustration of the East Midtown Greenway, NYCEDC

East Midtown Greenway

Additional Site Studies

The East Side Coastal Resiliency (Ongoing - estimated completion 2025)

Montgomery St. - 23rd St.

The East Side Coastal Resiliency project was a comprehensive initiative aiming to fortify Manhattan's East Side against climate change-induced threats. Focused on a stretch from Montgomery Street to East 25th Street, it aimed to create a resilient coastal barrier while enhancing public spaces. This visionary project proposed a multi-layered approach, combining flood protection infrastructure, green spaces, and recreational amenities. Although facing community concerns and construction challenges, the project sought to bolster the area's resilience against future storms and rising sea levels while ensuring improved access to the waterfront for the community.

Illustrations of the ESCR project, NYCEDC

The UN Esplanade Greenway (Planned)

41st St. - 53rd St.

The UN Esplanade Greenway project is envisioned as an extension to the greenway system along the East River, planned for the waterfront stretch between 41st and 53rd streets. This development will integrate lush greenery, dedicated bike lanes, and inviting recreational spaces. By prioritizing sustainability and connectivity, it seeks to enhance pedestrian and cyclist access while creating a serene environment. Despite anticipated logistical challenges, this project aims to close the gap in the East Midtown Greenway system, one of the last major gaps in the larger Manhattan greenway loop.

Illustrations of the proposed UN Esplanade Greenway, NYCEDC

Additional Site Studies

FiDi & Seaport Climate Resilience Master Plan
(Planned)

The Battery to Brooklyn Bridge

Lower Manhattan Coastal Resiliency (LMCR)
(Planned)

The Battery

The two plans envision fortifying Lower Manhattan's Seaport and Battery areas against aims to fortify this stretch multi-layered approaches and resilient infrastructure to safeguard the area from future environmental challenges.

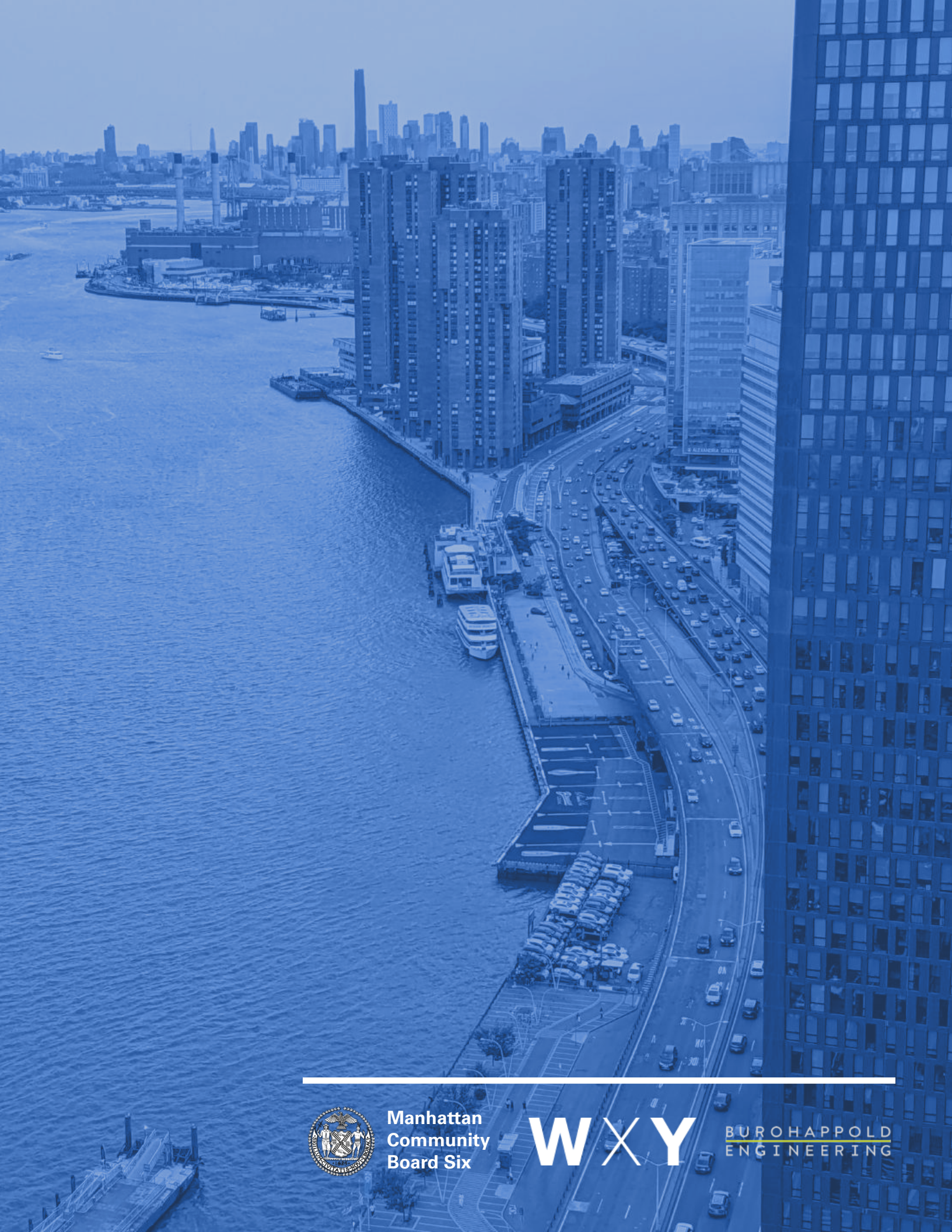
Illustrations of the proposed LMCR projects, NYCEDC

Brooklyn Bridge - Montgomery Coastal Resiliency Plan (BMCR) (Planned)

Brooklyn Bridge - Montgomery St.

The BMCR presents a visionary strategy to fortify Lower Manhattan's waterfront against climate change risks. Focused on a stretch from the Brooklyn Bridge to Montgomery Street, this project aims to mitigate flood risks by implementing a multi-layered coastal barrier system. Encompassing resilient infrastructure, green spaces, and community amenities, it seeks to bolster the area's resilience to storm surges and rising sea levels while enhancing public access, offering a comprehensive approach to safeguard Lower Manhattan's waterfront against future environmental challenges.

Illustrations of the proposed BMCR project, NYCEDC



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