

Sustainability & Green Infrastructure at Sunnyside Yard

30 April 2019



Agenda

1. Introduction
2. Sunnyside Yard Master Plan Project Overview
3. What NYC is Already Doing
4. Sunnyside Yard Master Plan & Future of Sustainability
5. Small Group Discussions

Introduction



Overall Process



Master Plan Schedule

Master Plan Schedule:

Ongoing:

Stakeholder Engagement (Steering Committee, Public Meetings, Workshops, Interviews, Pop-up Events)

Part 1:

Due Diligence & Background Analysis

Part 2:

Using input from stakeholder engagement meetings, iterative analysis of site scenarios for the Master Plan

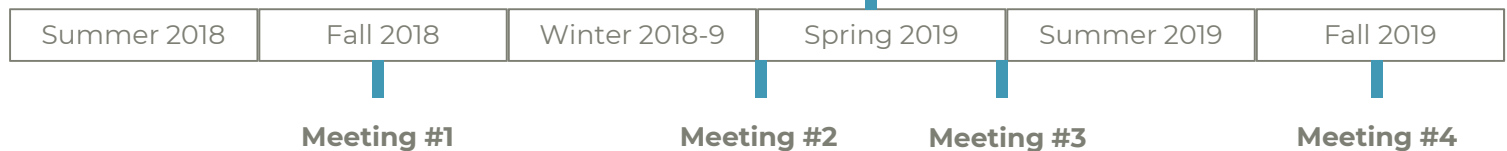
Part 3:

Develop master plan concept and identify Phase 1 location.

Part 4:

Final Production for Public Release

We are here!



Tentative Public Meeting Schedule:

Sunnyside Yard Steering Committee

Co-chairs

Elizabeth Lusskin, President, Long Island City Partnership

Sharon Greenberger, President and CEO, YMCA of Greater New York

Angela Pinsky, Executive Director, Association for Better New York

Antonios Benetatos, President, Dutch Kills Civic Association

April Simpson, President, Queensbridge Houses Tenants Association

Carlo Scissura, President and CEO, New York Building Congress

Dean Devita, Secretary-Treasurer, National Conference of Firemen & Oilers

Deborah Alexander, Co-President, Community Education Council 30

Denise Keehan-Smith, Chair, Community Board 2

Elizabeth Erion and Gerry Caliendo, Land Use Committee Chair, Community Board 1

Felix Ciampa, Executive Director, Urban Land Institute New York

Frank Wu, President, Court Square Civic Association

Gail Mellow, President, LaGuardia Community College

Gary LaBarbera, President, Building and Construction Trades Council

Holly Leicht, Executive Vice President, Empire State Development

Jaime-Faye Bean, Executive Director, Sunnyside Business Improvement District

Janno Lieber, Chief Development Officer, Metropolitan Transportation Authority (MTA)

Jonathan Bowles, Executive Director, Center for an Urban Future

Judith Zangwill, Executive Director, Sunnyside Community Services

Katie Denny Horowitz, Director of External Affairs, Socrates Sculpture Park; Chair of LICAA

Lisa Deller, Land Use Committee Chair, Community Board 2

Lynne Sagalyn, Professor, Columbia University

Marie Torniali, President, Steinway Business Improvement District

Melissa Orlando, Executive Director and Founder, Access Queens

Mitchell Moss, Director of Rudin Center, New York University

Sheila Lewandowski, Member, Long Island City Cultural Alliance

Sylvia White, Co-Chair, Justice for All Coalition

Thomas J. Grech, President & Chief Executive Officer, Queens Chamber of Commerce

Tom Wright, President, Regional Plan Association

Co-hosts

Vicki Bean, Deputy Mayor for Housing & Economic Development

Tony Coscia, Chairman of the Board, Amtrak

Elected Officials

Melinda Katz, Queens Borough President

Jimmy Van Bramer, NYC Councilmember

Charles Schumer, US Senator

Kirsten Gillibrand, US Senator

Carolyn Maloney, US House of Representatives

Alexandria Ocasio-Cortez, US House of Representatives

Michael Gianaris, NY State Senator

Catherine Nolan, NY State Assemblywoman

Brian Barnwell, NY State Assemblyman

Stakeholder Engagement Update

Nearly **400** people attended the first Public Meeting

200+ people attended the second Public Meeting

100+ interviews with local stakeholders

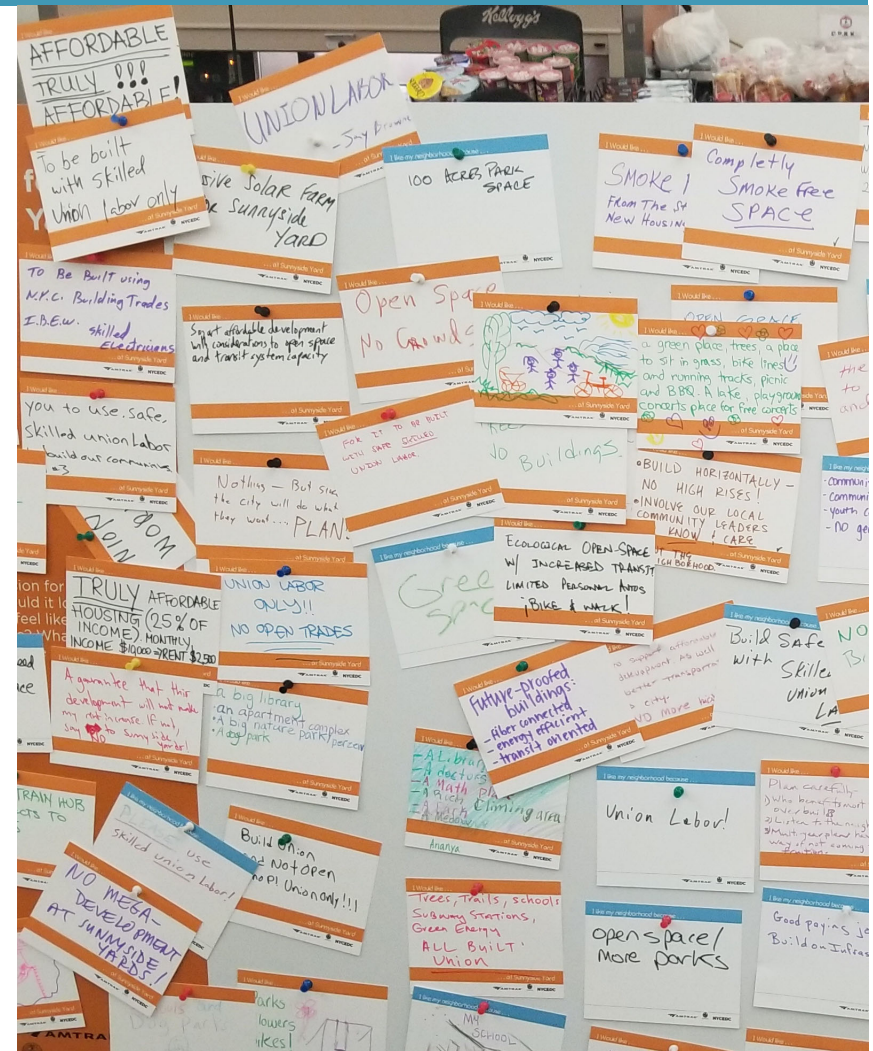
Dozens of small group discussions

Tabling at local events throughout the summer



What We've Heard about Sustainability

- Sustainability as binding principle
- Zero emissions
- Mandate renewable energy use & generation
- Green space for mitigation
- Opportunity to tie into future industries, training workforce in green jobs
- Concern with CSOs and stormwater
- Recycling/waste management as anchor institution
- Community gardens, farmers' markets, & urban agriculture
- Green infrastructure for stormwater, waste, & efficiency
- Geothermal energy systems
- Leveraging rail energy
- Living walls
- Promote walking, biking, and transit
- No cars or parking requirements
- Charging stations for electric vehicles
- Freight solutions
- Mandatory composting
- Off-grid energy
- Plastic free



Stakeholder Engagement: Workshops

4/8: Urban Design

4/9: Open Space

**4/30: Sustainability &
Green Infrastructure**

5/1: Transportation &
Mobility



Stakeholder Engagement: Summer Events

The team will be present at events throughout the summer. Please let us know if there are any you think we should attend!



Guiding Principles

Drafted by Sunnyside Yard steering Committee, with input provided at the 1st public meeting

Sunnyside Yard: A 21st Century Neighborhood for Western Queens

1. Design infrastructure and transportation systems to meet current needs and anticipate future trends
2. Address the neighborhoods' needs for affordable housing, commercial, industrial, community services, and cultural spaces
3. Ensure sustained economic diversity in the community
4. Pilot and incorporate innovative approaches to technology, sustainability, and climate change adaptation
5. Create public spaces that support health, creative expression, community-building and quality of life
6. Create more good jobs that lead to careers and workforce development strategies like union jobs, MWBE, local hiring, etc.
7. Support creative approaches to education, careers, and industries that envision how we want to live and work in the future
8. Respect and build on the heritage and diversity of the surrounding neighborhoods
9. Ensure high-quality, human-centered design at every scale
10. Adapt to evolve with the needs of Western Queens and NYC over time

Sunnyside Yard Master Plan Project Overview

NYCEDC

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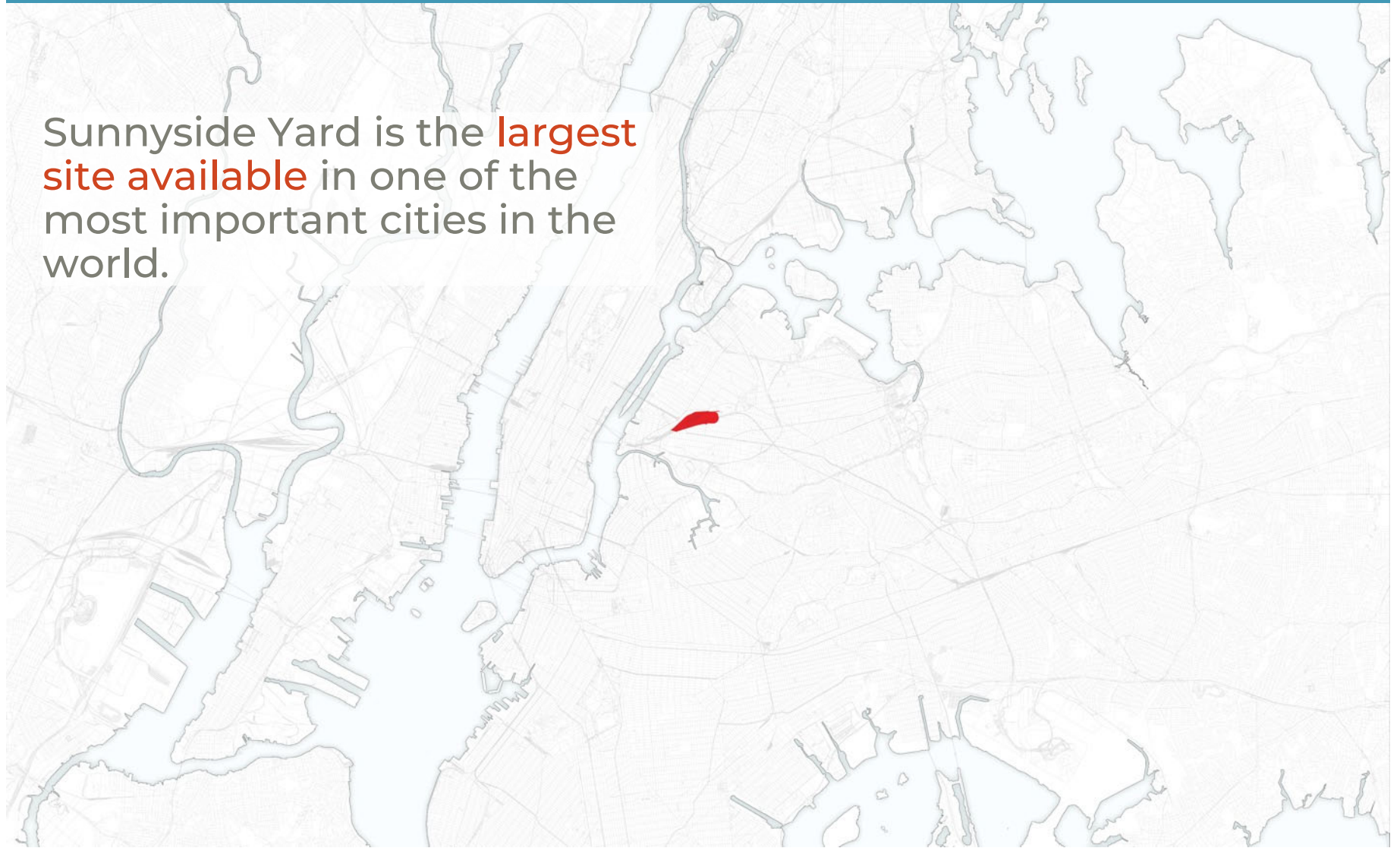


Master Plan Update

Why Deck Over Sunnyside Yard?

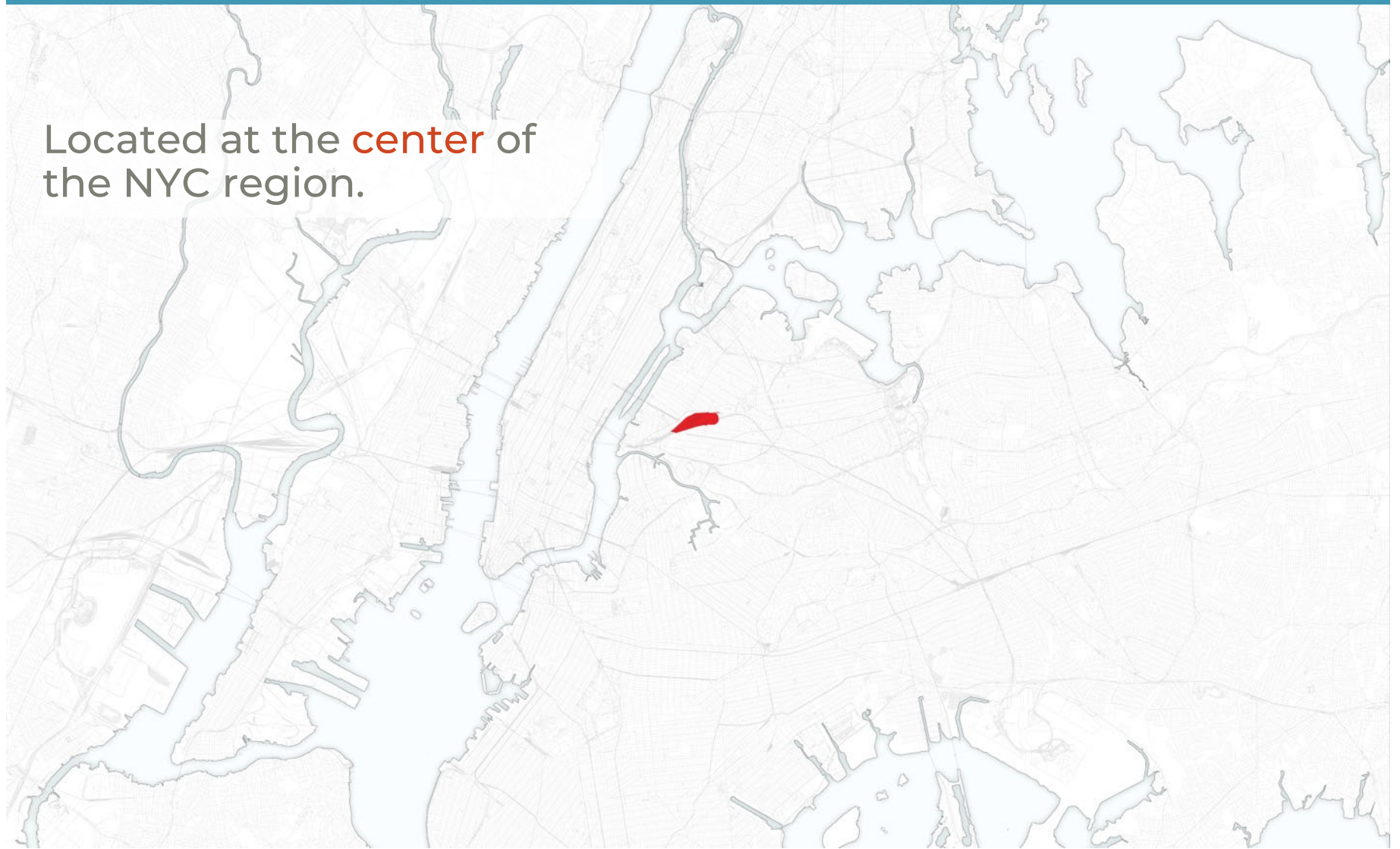
Master Plan Update

Sunnyside Yard is the **largest site available** in one of the most important cities in the world.



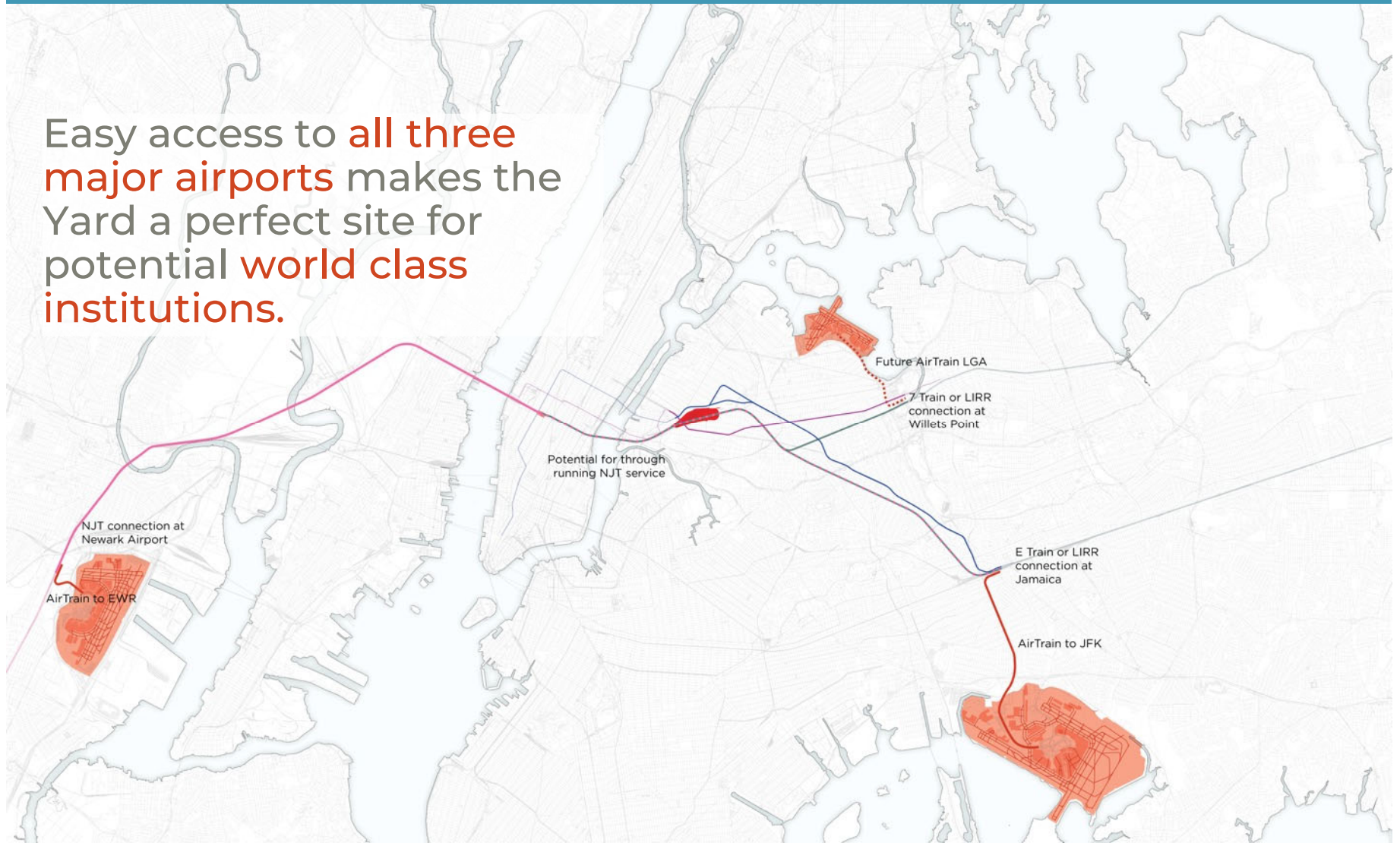
Master Plan Update

Located at the **center** of the NYC region.



Master Plan Update

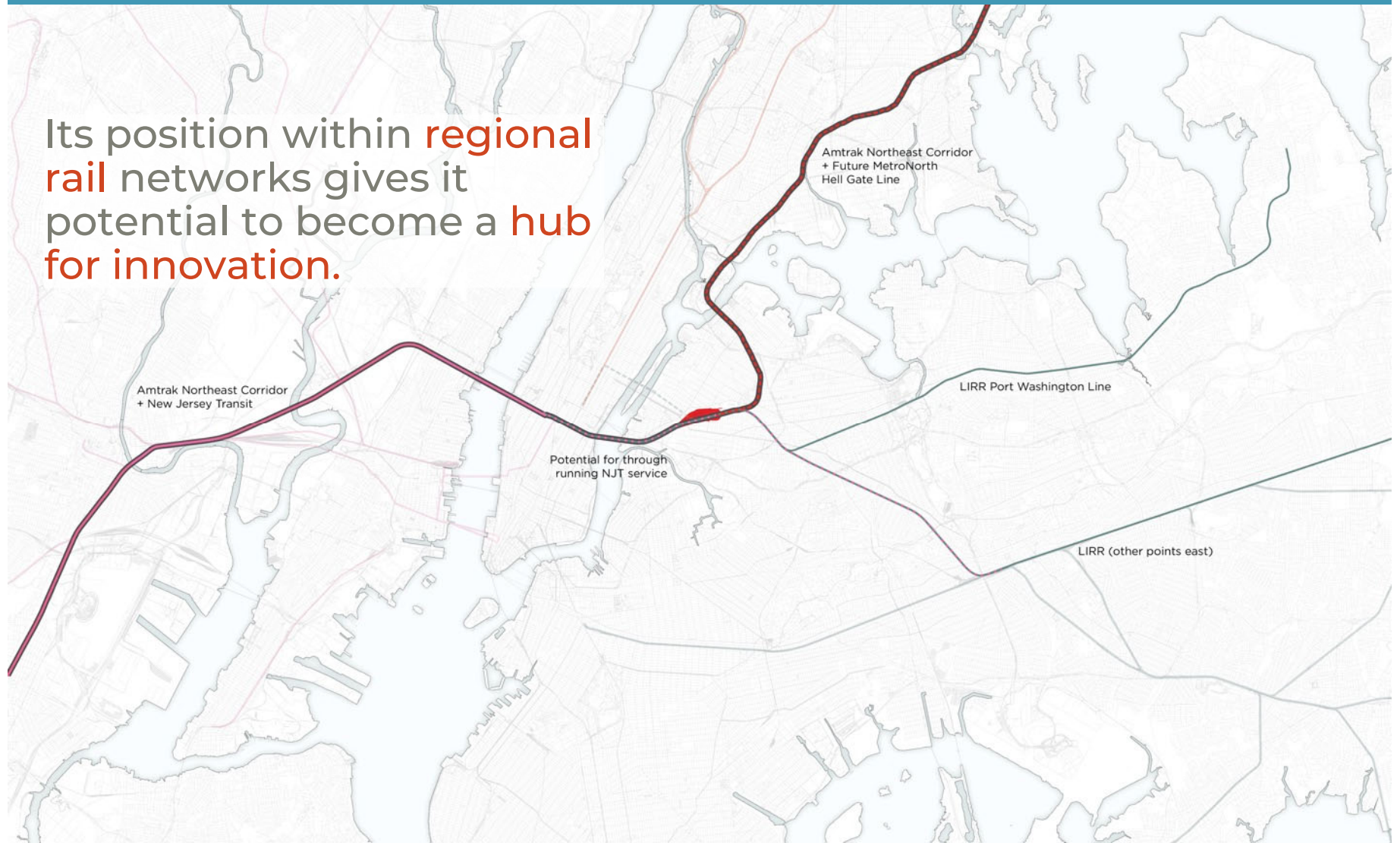
Easy access to **all three major airports** makes the Yard a perfect site for potential **world class institutions**.



16 - Sunnyside Yard Master Plan

Master Plan Update

Its position within **regional rail** networks gives it potential to become a **hub for innovation.**



Master Plan Update

Sunnyside Yard is large enough to **accommodate numerous neighborhood needs** including major public spaces, affordable housing, and jobs.



18 - Sunnyside Yard Master Plan

Master Plan Update

Sunnyside Yard provides an opportunity for New York to define the future of cities **by the public, for the public.**



19 - Sunnyside Yard Master Plan

What are we talking about today?

1. New York City sustainability initiatives
2. What the Master Plan team is studying now
3. Future ideas of ways to incorporate sustainability at Sunnyside Yard

Climate Change & NYC

NYCEDC

 **AMTRAK**

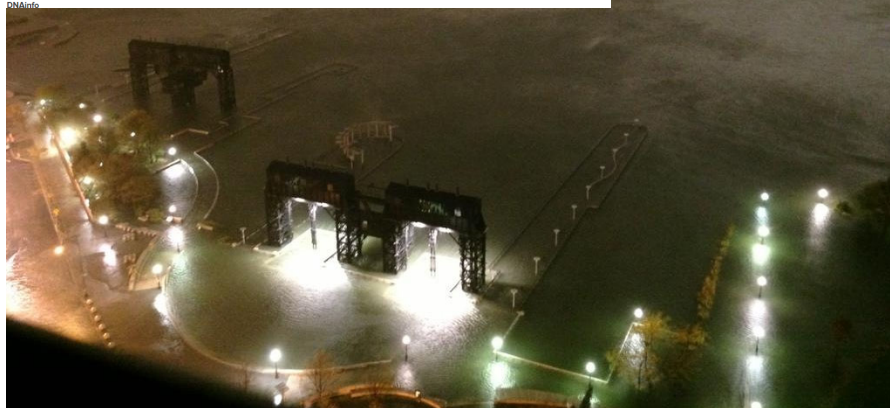


The Problem At Hand

Anthropogenic Climate Change –
a human-induced alteration in Earth's normal climate.

Climate Change in NYC

NYC Sandy Death Toll Reaches 44 After Body Found In Rockaways Months After Storm



NYC warned of floods as heavy rain, damaging winds wallop tri-state amid peak holiday travel



Bloomberg Estimates \$19B In Public, Private Losses From Superstorm Sandy

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ENVIRONMENT JULY 14, 2018

The Heat In New York Is Literally Killing People. Here's What the City Has to Do Now.

The city is in a race against time.

JUSTINE CALMA
Bio



OFFICE OF THE QUEENS BOROUGH PRESIDENT

Polar vortex claims eight lives as US cold snap continues



WEATHER

Water pours into NYC subway stations as remnants of Florence make for wet commute

SUSTAINABILITY / RESILIENCY

SUSTAINABILITY / RESILIENCY
mitigation adaptation



Action Plans for NYC

2007

PlaNYC

Focus on climate change, infrastructure, & economic growth



2015

OneNYC

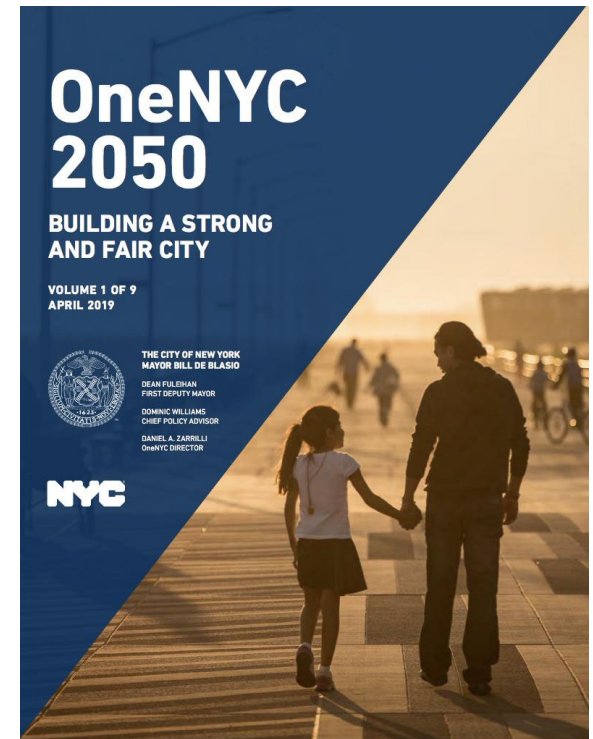
Focus on sustainability, resiliency, & equitable growth



2019

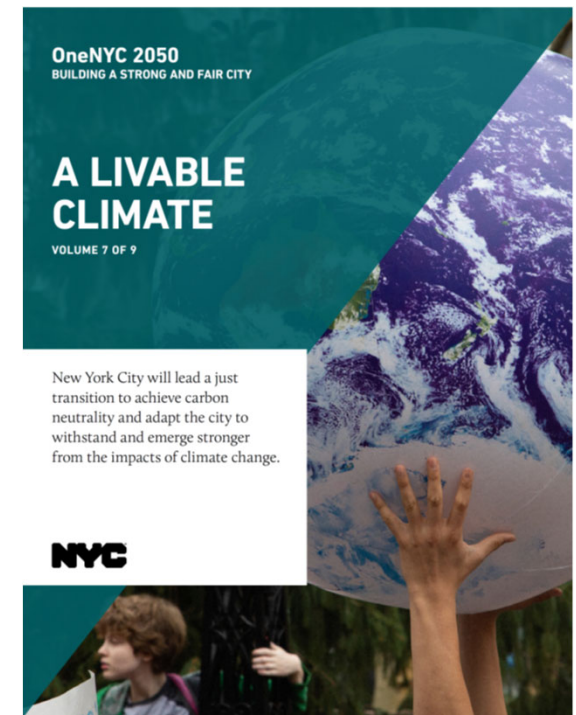
OneNYC 2050

Focus on bold action on climate crisis, equity, & strengthening democracy



ONENYC 2050

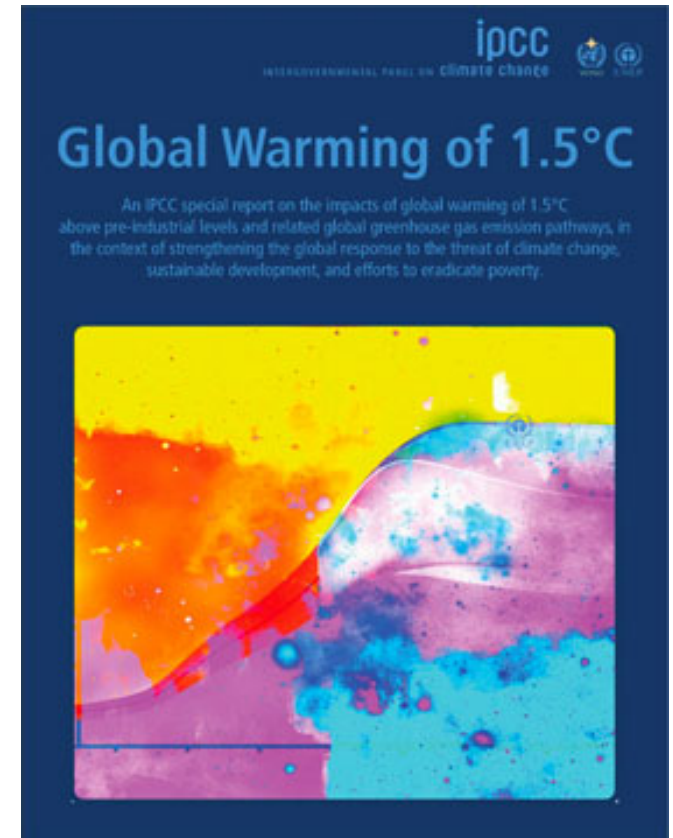
“A strategy to secure our city’s future against the challenges of today and tomorrow. With bold actions to confront our climate crisis, achieve equity, and strengthen our democracy, we are building a strong and fair city.”



SUSTAINABILITY

Global Targets for Climate Change Mitigation

- Need to keep global warming to 1.5° C above industrial levels to avoid catastrophic impacts
- Currently approaching 1° C of warming
- Globally, climate emissions need to be on a downward path by 2030 and reach net zero by 2050

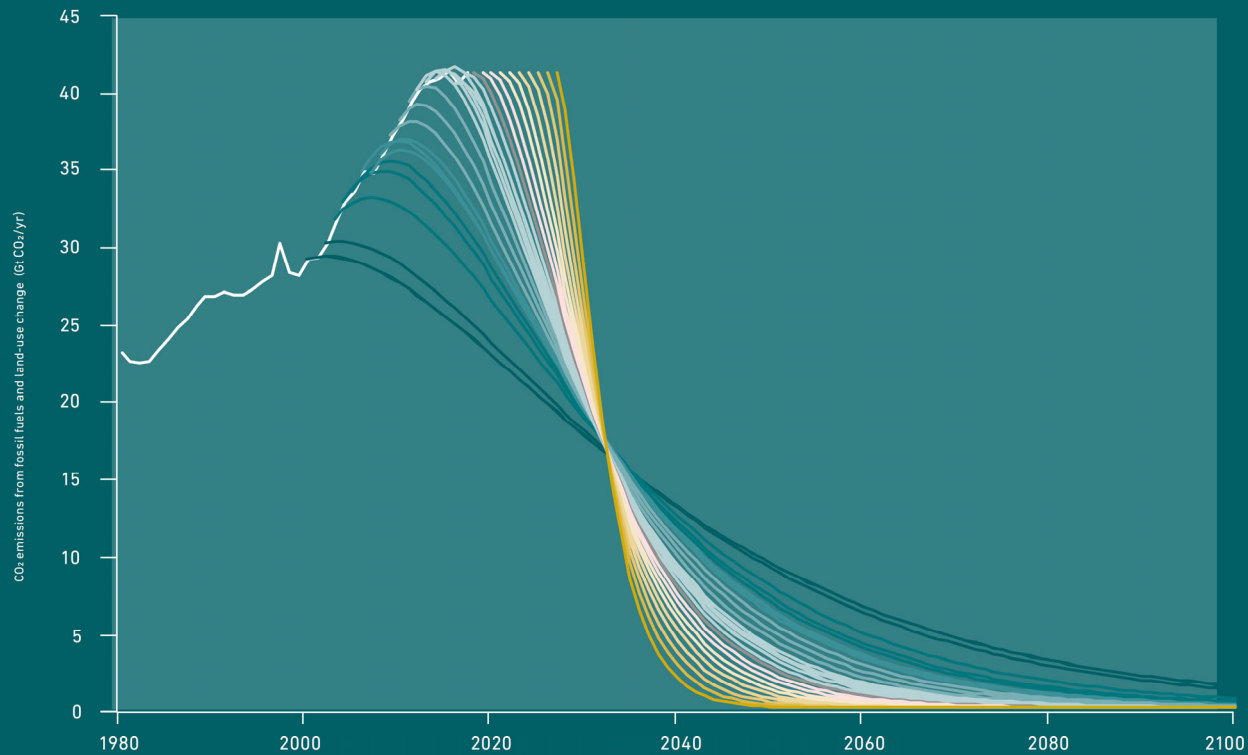


IPCC Special Report on Global Warming of 1.5°

Sustainability Goals for NYC

The longer we wait to reduce GHG emissions, the harder it will be.

Source: Center for International Climate Research



**CARBON
NEUTRALITY by
2050**

**100% CLEAN
ENERGY by
2040**

Source: OneNYC 2050 ; A Livable Climate

Sustainability Initiatives in NYC

Climate Mobilization Act – A Green New Deal for NYC

- Requires existing large buildings to retrofit in order to cut their emissions by 40% in 2030, and double cuts by 2050
- Requires all new construction to deploy solar, green, or cool roofs

Investing in Renewables

Electric Vehicle Infrastructure

Zero Waste by 2030

- Mandatory organics recycling

Reclaiming Streets

- Congestion Pricing
- People Priority Zones



RESILIENCY

Resiliency Challenges for Western Queens

Based on NPCC 2019 Report & Fourth National Climate Assessment:

Extreme heat & cold events

Health risks from vector-borne diseases and air quality

Sea-level rise & storm surge

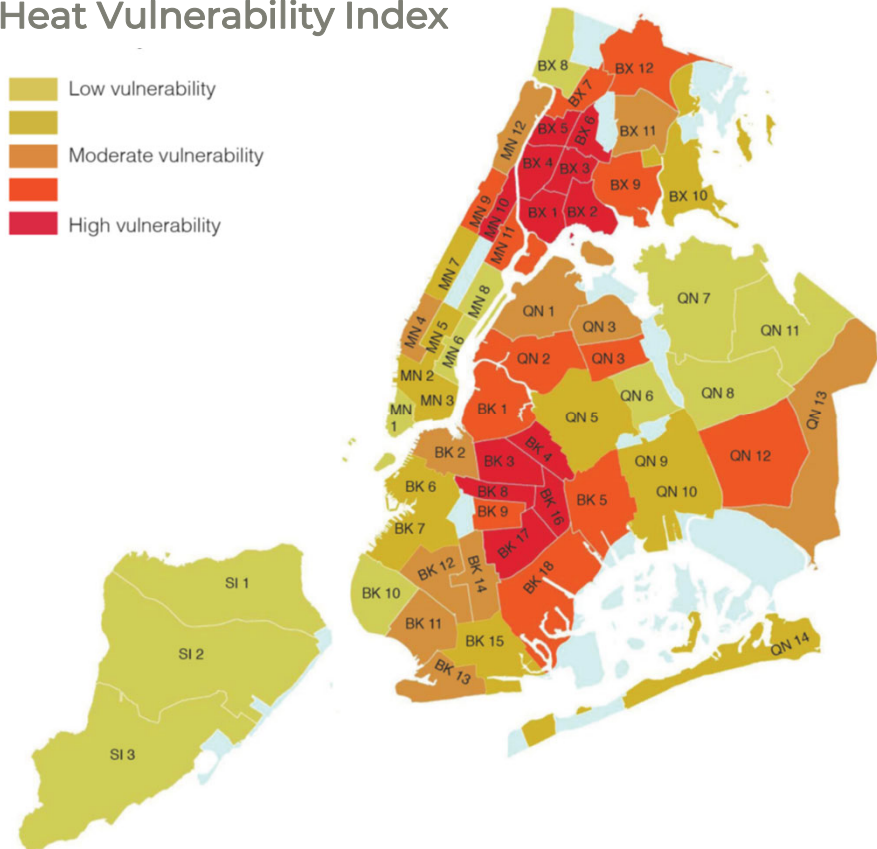
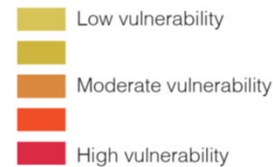
More frequent & intense precipitation

Critical infrastructure vulnerability

Vulnerabilities in global food systems

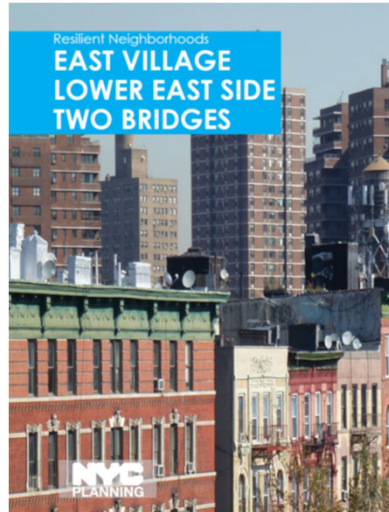
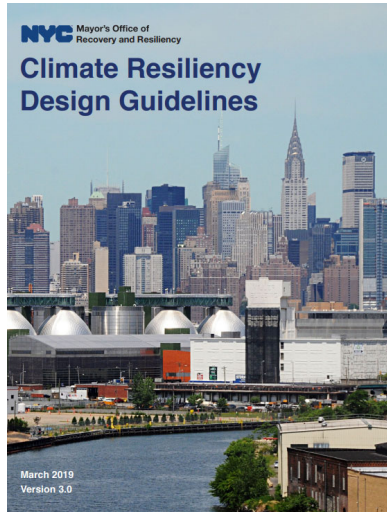
Economic loss

Heat Vulnerability Index



Source: NYC Climate Resiliency Design Guidelines v3.0

Resiliency Initiatives



Climate Resiliency Design Guidelines

Comprehensive Resiliency Planning

Green Infrastructure

- Rain Gardens
- Green & Blue Roofs
- Permeable Paving
- Stormwater Green Streets

NYC Cool Roofs

Infrastructure Hardening

- Electric & gas systems
- Sewage & wastewater systems

RISE NYC

NYC Care

Promote community-led preparedness



SUSTAINABLE TECHNOLOGIES

Sustainable Technologies in the Incubation Phase



RENTRICITY
Hydropower Energy



BOWERY FARMING:
Vertical Farming



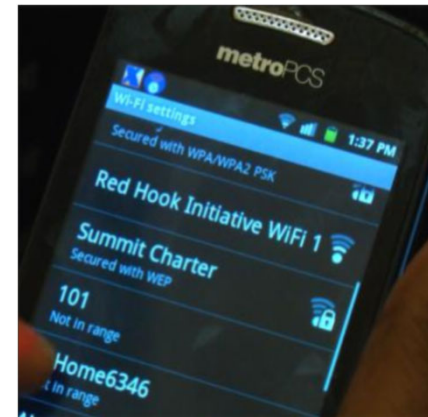
EVBOX
Electric Vehicle Charging



KINESTRAL
Smart-Tinting Glass



THINKECO
Smart Air Conditioning

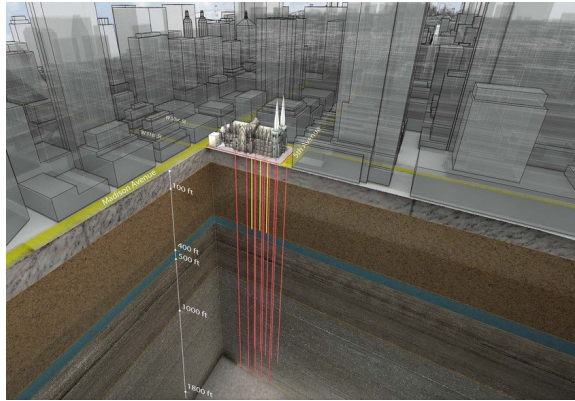


RED HOOK INITIATIVE
Resilient Mesh Wifi

Sustainable Technologies for Further Exploration



Passive Design & Construction:
The House at Cornell Tech | NYC



Geothermal Heating Systems:
St. Patrick's Cathedral | NYC



Solar PV Building Facades:
Park Slope, NY



Community Microgrids
Brooklyn, NY



District Energy Systems &
Neighborhood Shared Storage
Bunhill Energy Centre | London



Low carbon building materials
Williamsburg, NY

What can the Sunnyside Yard Master Plan **address**?

Ideas for ways to support sustainability at Sunnyside Yard



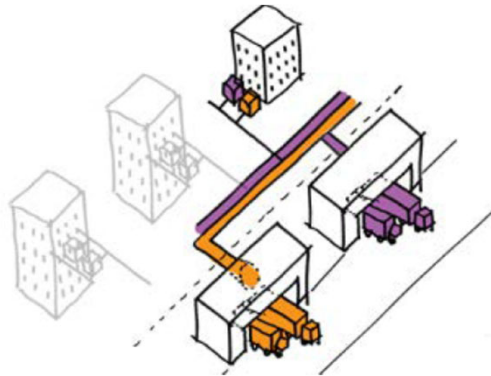
Energy



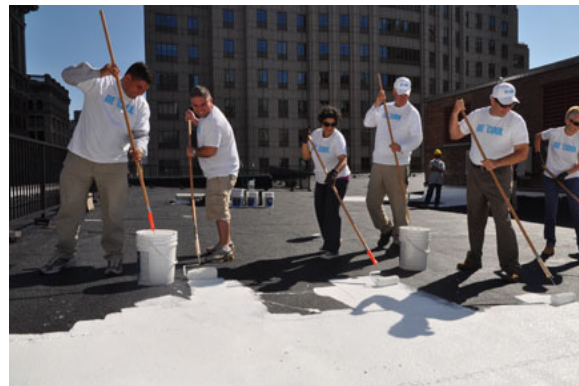
Sustainable Living



Transportation



Infrastructure



Job Training



Policy

Opportunity to develop **away** **from major flood risk**



A **testing ground** for new technologies



Sunnyside Yard as a **Community Hub** or **Resource Center**



A Potential Site for Green Industry



What can the Sunnyside Yard Master Plan **enable**?

The concept of Futurecraft

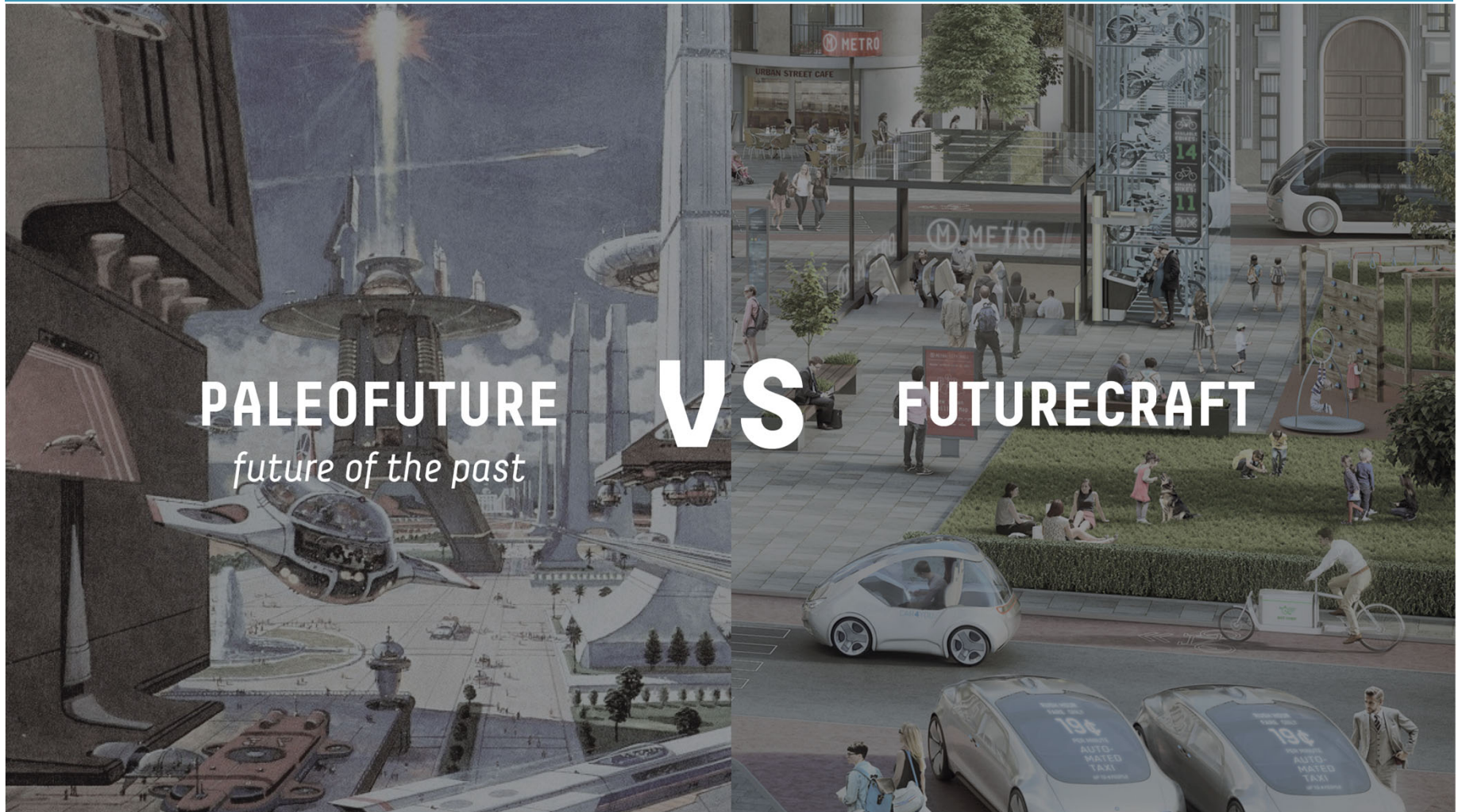


CRA does 'design innovation': from the scale of furniture to urban planning, we merge design with cutting-edge digital technologies, to create architecture which "senses and responds".

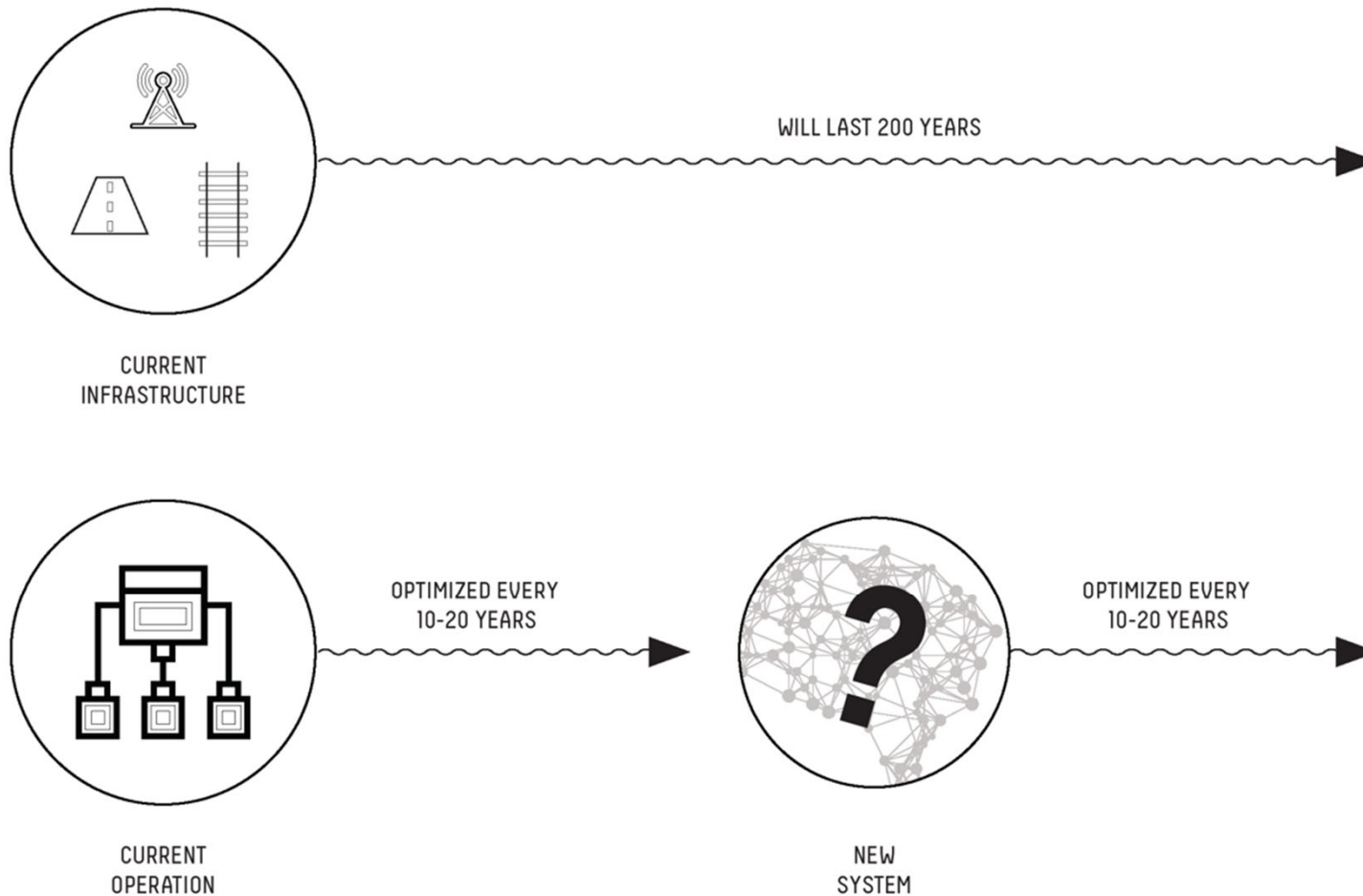


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We are tasked with 'futureproofing' the master plan. However, we don't predict the future. Instead, we employ the theory of 'futurecraft'



How can we design for an unpredictably evolving future?



Big Ideas for Sunnyside Yard



Some big ideas could realistically be implemented at Sunnyside Yard, others are more speculative...

Categories of big ideas:

- **LIVING WITH CLIMATE CHANGE**
- **LIVING CITIES AND BUILDINGS**
- **ENERGY GENERATION**
- **FLEXIBLE PUBLIC SPACES**
- **PERFORMATIVE PARKS**
- **CLEANER SURROUNDINGS**
- **PUBLIC ENGAGEMENT**

LIVING WITH CLIMATE CHANGE

Sun & Shade

Carlo Ratti Associati, Dubai



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LIVING WITH CLIMATE CHANGE

Sun & Shade

Carlo Ratti Associati. Dubai



53 - Sunnyside Yard Master Plan

LIVING WITH CLIMATE CHANGE

Sun & Shade

Carlo Ratti Associati, Dubai



54 - Sunnyside Yard Master Plan

LIVING WITH CLIMATE CHANGE

Living Nature

Carlo Ratti Associati, Milan



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LIVING WITH CLIMATE CHANGE

Living Nature

Carlo Ratti Associati, Milan

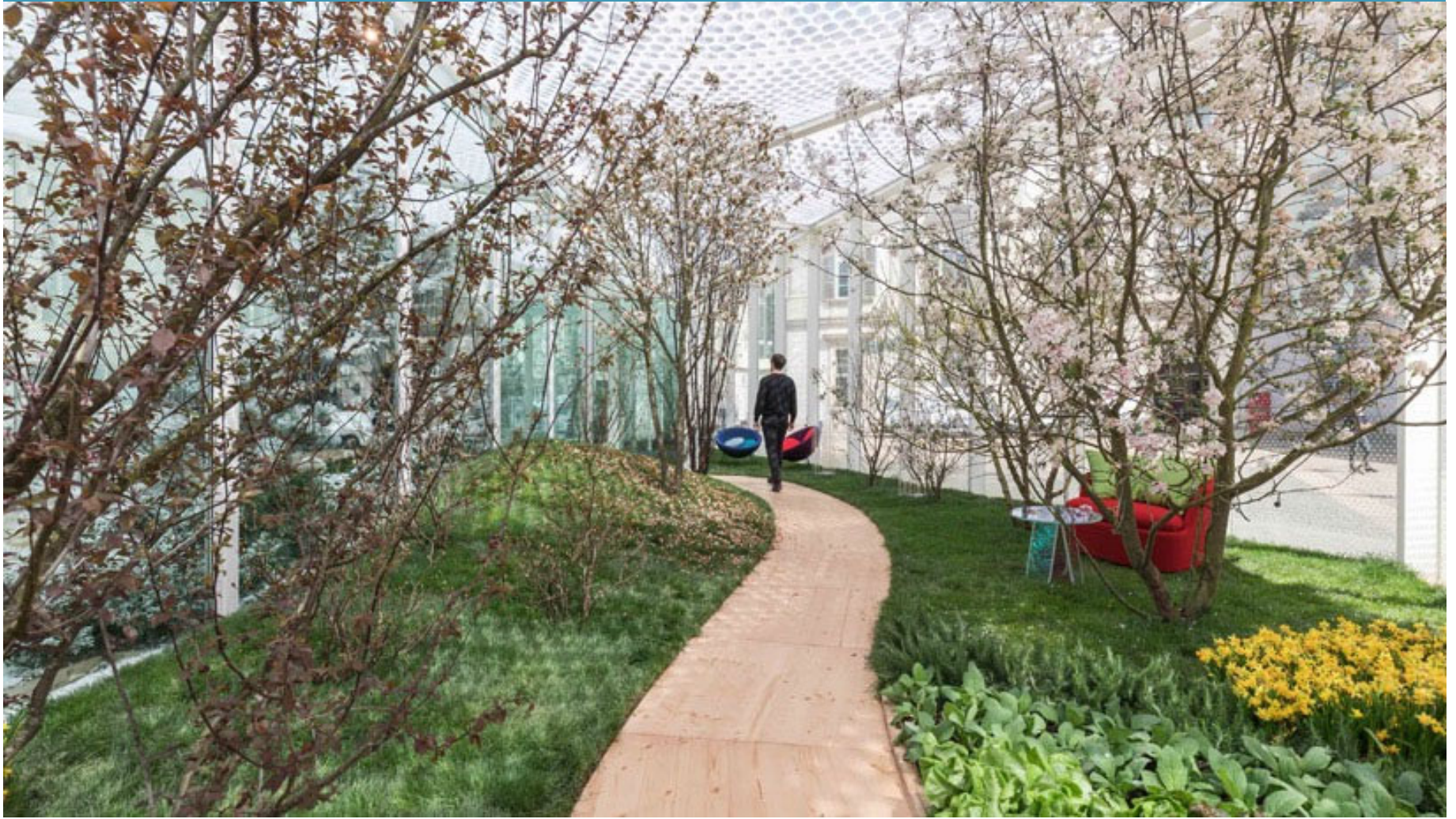


56 - Sunnyside Yard Master Plan

LIVING WITH CLIMATE CHANGE

Living Nature

Carlo Ratti Associati, Milan



57 - Sunnyside Yard Master Plan

LIVING WITH CLIMATE CHANGE

Cloudcast

Carlo Ratti Associati



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LIVING WITH CLIMATE CHANGE
Cloudcast
Carlo Ratti Associati



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LIVING CITIES AND BUILDINGS

Milan Innovation District

Carlo Ratti Associati, Milan



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LIVING CITIES AND BUILDINGS

Milan Innovation District

Carlo Ratti Associati, Milan

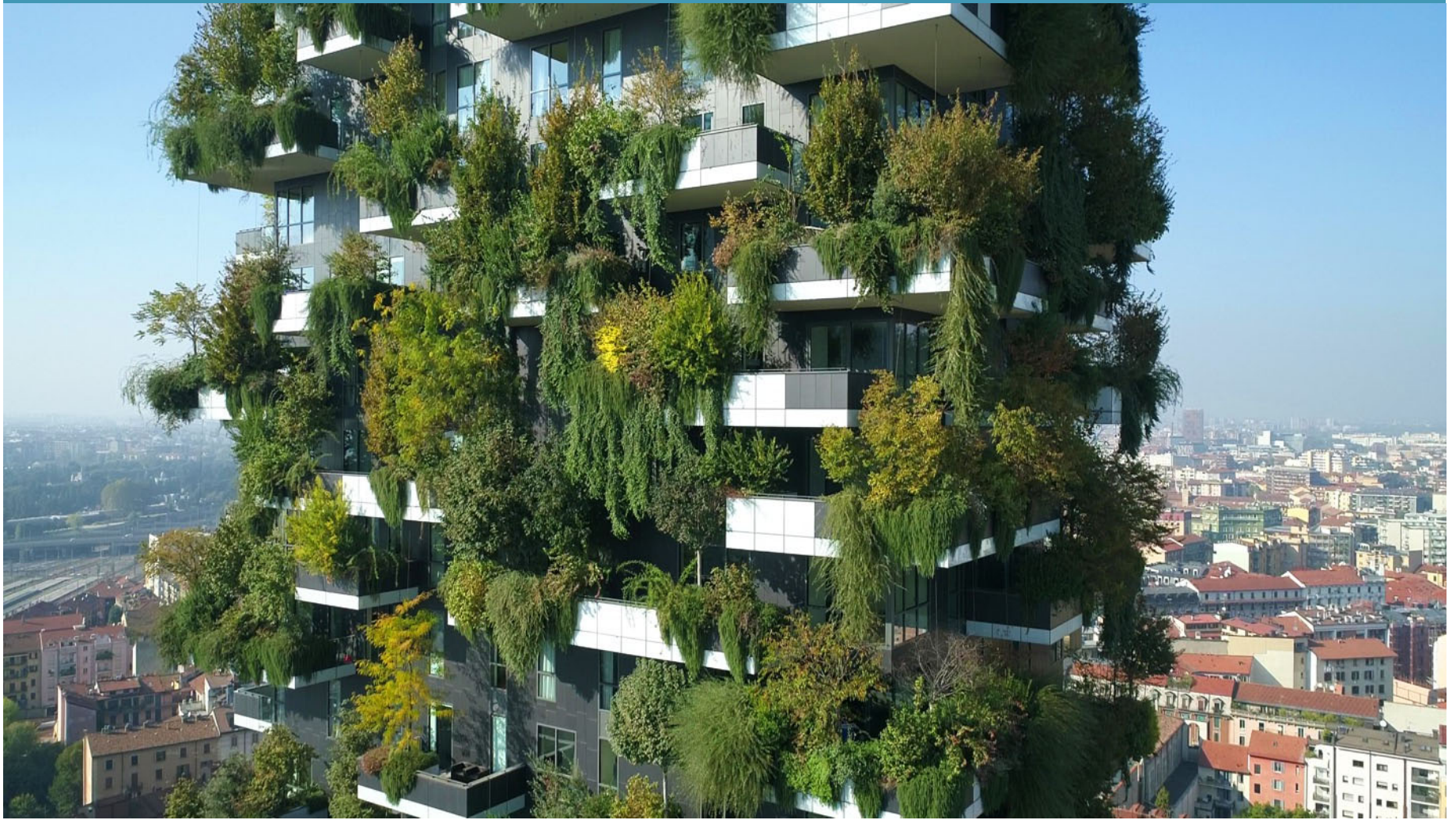


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LIVING CITIES AND BUILDINGS

Bosco Verticale

Stefano Boeri, Milan



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LIVING CITIES AND BUILDINGS

Algaetecture

Carlo Ratti Associati, Milan



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ENERGY GENERATION

Electricity from footsteps

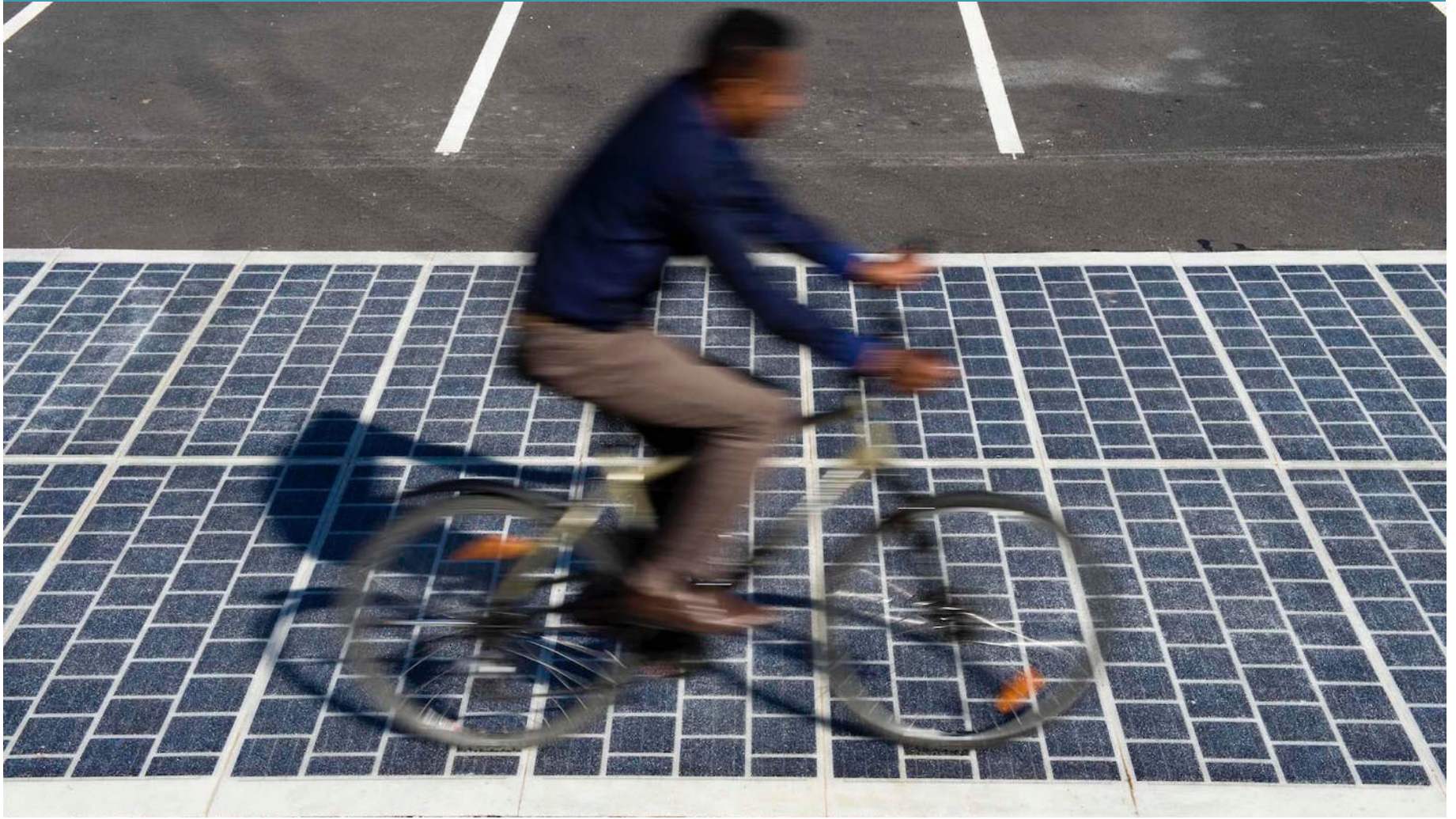
Pavegen



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ENERGY GENERATION

Solar Roadways



65 - Sunnyside Yard Master Plan

ENERGY: REDUCING USAGE & ON-SITE GENERATION

Solar Roadways



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FLEXIBLE PUBLIC SPACE

Dynamic Street

Carlo Ratti Associati, Toronto



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FLEXIBLE PUBLIC SPACE

Dynamic Street

Carlo Ratti Associati, Toronto



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PERFORMATIVE PARKS

Tianjin Qiaoyuan

Turenscape, Tianjin



69 - Sunnyside Yard Master Plan

PERFORMATIVE PARKS

Tianjin Qiaoyuan
Turenscape, Tianjin



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PERFORMATIVE PARKS

Tianjin Qiaoyuan

Turenscape, Tianjin



CLEANER SURROUNDINGS

In-unit Pneumatic Waste Collection



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PUBLIC ENGAGEMENT

Hortus @ FICO Eataly World

Carlo Ratti Associati, Bologna



PUBLIC ENGAGEMENT

Hortus

Carlo Ratti Associati, Bologna



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Small Group Discussions

NYCEDC

 **AMTRAK**



Discussion Questions

ON SUSTAINABILITY

1. What is a sustainable community to you?
2. What are the roadblocks you, or your community, face to living more sustainably?
3. How might Sunnyside Yard alleviate those roadblocks?

ON RESILIENCE

1. What is a resilient community to you?
2. In what ways might you, or your community, be vulnerable to climate change impacts?
3. How might Sunnyside Yard help make you more resilient?

