

PLAN FOR RESILIENCE TO CLIMATE CHANGE

Coastal Protection
Coastal areas are in need of green infrastructure that provides ecosystem and flood protections. NYC is currently implementing a coastal protection project worth \$3.7 billion and has released its first-ever comprehensive coastal protection plan, A Stronger, More Resilient New York. The plan seeks to deepen public participation in waterfront restoration and protection by expanding the Waterfront Management Advisory Board and includes pledges to



Networked technology controls energy usage and monitors environmental conditions.

Community Land Trusts (CLT)
Organizing property ownership through a CLT is one way to preserve affordable housing by removing properties from the speculative market. CLTs also allow participants to collectively use space for local agriculture, energy production, recreation, and even social services such as childcare. Such shared governance structures can help rebuild the commons in terms of how we use space/resources.

Cooperatively Owned Housing
The City plans to create and/or preserve 200,000 units of affordable housing between 2015 and 2025. This will be done by maximizing use of City-owned land, mandating inclusionary zoning, and providing tax incentives to developers, among other things. However, many are skeptical that these efforts will provide the necessary amount of housing at truly affordable prices (particularly for vulnerable populations such as the homeless, criminalized populations, the elderly, etc.). Therefore, new cooperative homeownership mechanisms such as community land trusts must be explored.

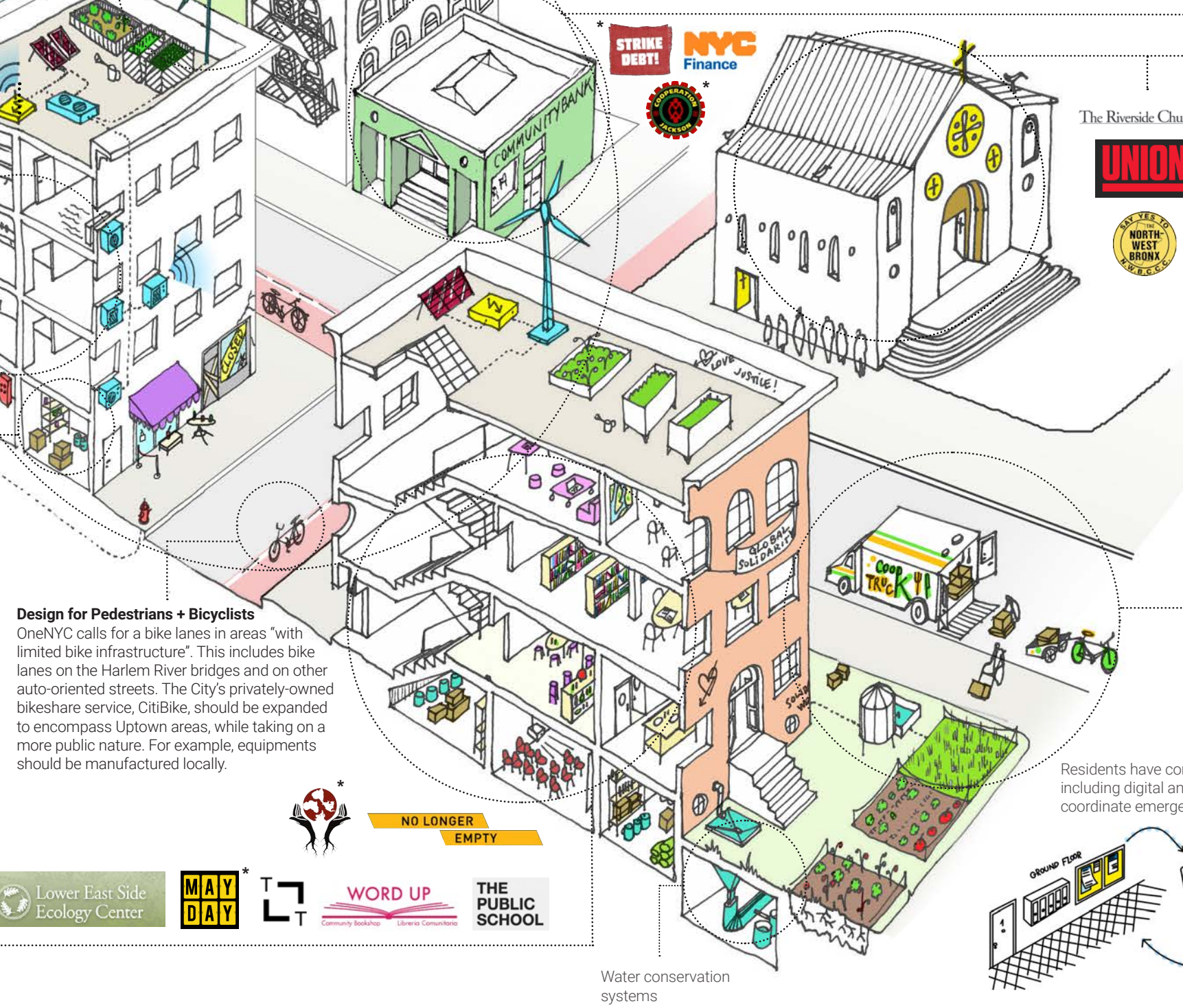
Social Hubs
Community meeting spaces are crucial to support ongoing planning efforts, as they are necessary for local organizations to host educational programs, hold meetings, produce materials, use for storage, etc. Having a local hub open for community use can support centralized planning and production activities while remaining grounded in local needs and capacities.

Multipurpose Infrastructure
New design guidelines should be implemented so that waterfronts promote industrial activities while remaining accessible to the public. This can be done through constructing green spaces that both mitigate flood damage and support water-based transportation should be constructed. These spaces are also important for cooling the urban heat island and supporting physical activity, local agriculture, and more.

Local Markets
Manufacturers, farmers, and other "makers" within the hub can sell their goods at local markets, which support non-conventional commerce, including bartering networks and alternative currencies.

Ferry Service
The West Harlem Piers (pictured below) is a good location to add ferry services for daily commuters and to create alternate evacuation routes. OneNYC calls for several new ferry routes.

Goods from the Hudson Valley
Farms in the Hudson Valley can make use of improved waterfront infrastructures to ship food into NYC, which can strengthen NY state's economy while providing healthier food options for local food deserts. OneNYC plans to invest \$100 million in marine terminals for freight movements.



Design for Pedestrians + Bicyclists
OneNYC calls for a bike lanes in areas "with limited bike infrastructure". This includes bike lanes on the Harlem River bridges and on other auto-oriented streets. The City's privately-owned bikeshare service, CitiBike, should be expanded to encompass Uptown areas, while taking on a more public nature. For example, equipments should be manufactured locally.



Cooperatively Owned Microgrids
Both the City and state government have called for an expansion of distributed generation (DG) technology, including wind, solar, and geothermal. This plan supports the implementation of DG in the form of microgrids that are deployed in vulnerable areas and/or are managed by local stakeholders. The City is currently undertaking a microgrid feasibility study and removing policy roadblocks to



microgrid construction by working with ConEd and the Public Service Corps to revise "ConEd's standby tariffs to lessen economic impediments to DG". Microgrids provide multiple benefits, including reliable power when the main grid experiences a blackout, reductions in energy costs, more control for residents over their own energy consumption, and employment opportunities.

Community Bank
Financial services should be provided by local institutions connected with the community. Locally-run finance can shift the focus of banks away from their short-term profit towards long-term investment in infrastructure, development of small businesses, and other much-needed investments in shared resources that will benefit the community.

Places of Worship
Churches, mosques, synagogues, and other religious institutions provide flexible spaces for community planning and emergency services, while conveying important climate-related messages through religious practices. Many churches, urged on by Pope Francis, are joining the struggle for climate justice.

Urban Agriculture
Local agriculture is an integral component of climate resiliency, as it helps build communities' self-reliance while reducing the massive petro-chemical footprint of existing industrialized food systems. The City plans to increase its number of community gardens by partnering with schools, helping gardeners sell

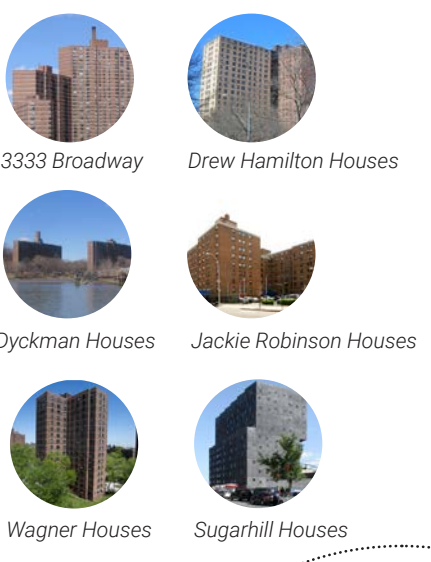


Resilient Housing
True victory in the climate struggle is not simply based on the preservation of physical conditions, but also on the achievement of lasting security for communities that are now under threat of displacement. Therefore, affordable housing should be a priority for climate advocates, just as it is for the Mayor's office and many NYers. Supporting NYCHA by investing in its infrastructure is a necessary first step, but we must also ensure that further price hikes do not happen and that NYCHA property leased to private developers does not cause further gentrification. Simultaneously, alternative models for transitional housing, such as the Sugarhill development by Broadway Housing Communities should be explored.

It is particularly important to ensure that homes are cool enough for the elderly. Between 2000 and 2011, 85% of those who died from heat in NYC died in their own homes.



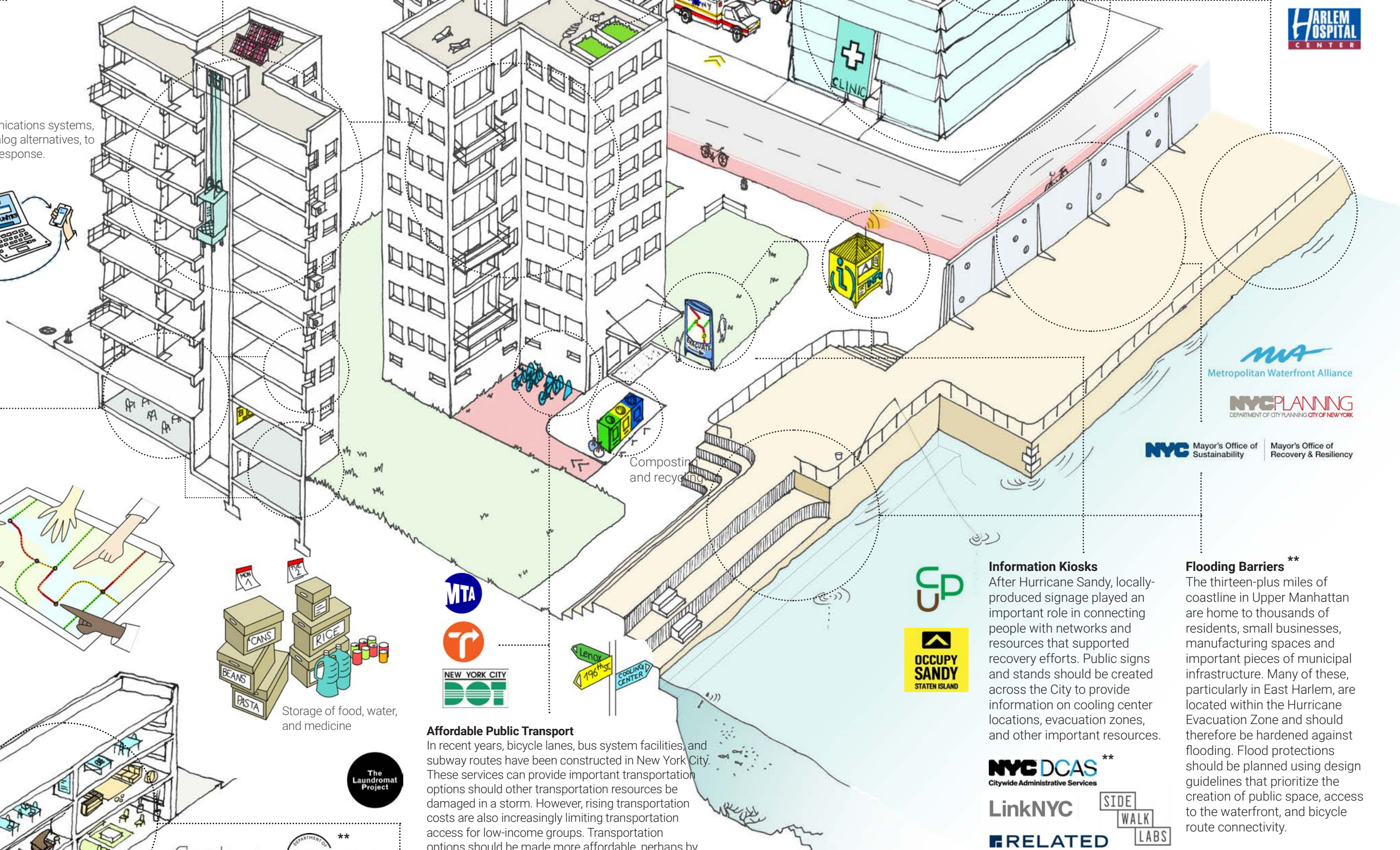
Healthcare
Healthcare services should not only be expanded to provide aid to more people; they must also be made resilient enough to continue to function during the next superstorm, heatwave or other crisis. Post-Sandy healthcare resilience efforts include installing infrastructure to protect against flooding, building distributed generation systems (and microgrids), and connecting precarious demographic groups with health services. Healthcare providers should establish connections with local emergency response systems so that people who need special health services during a crisis can be reached and treated quickly.



Research Institutions
Universities and government agencies can align their research capacities, including access to technology, in order to support community-based plans. Creating information pipelines between academia and the community can support grassroots research and policymaking, build awareness about climate emergencies such as weather predictions and sea level rise, while providing opportunities for students to build partnerships with the communities of New York City.



Global Finance
A network of banks, foundations, creditors, and others, control the flow of capital for investments in infrastructure, philanthropic donations, and other measures for enhancing resiliency.

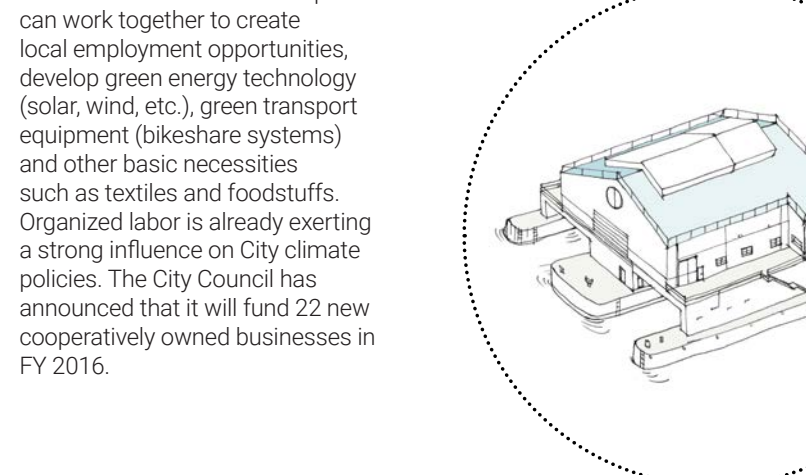


Space for Social Services
Flexible space within residential buildings can be used for social services such as childcare and healthcare, as a meeting space for local groups, and for other activities that can build social cohesion while allowing more freedom for working class people to pursue employment and engage in other forms of social reproduction.

Local Brewery
A local brewery in the manufacturing district can build on local tradition and culture while creating a local craft food industry.

Local Media Production
Dedicated space for critical media outlets, training for citizen journalism, and cooperatively owned equipment for digital and hard copy media production.

Manufacturing Facilities
New York's coastal and interior areas provide many opportunities for light industrial activities (manufacturing of consumer goods), which can both provide jobs for low-income residents and produce tools for local climate resilience. Public and private financial institutions, organized labor, and local organizations that focus on workforce development can work together to create local employment opportunities, develop green energy technology (solar, wind, etc.), green transport equipment (bikes/ride systems) and other basic necessities such as textiles and foodstuffs. Organized labor is already exerting a strong influence on city climate policies. The City Council has announced that it will fund 22 new cooperatively owned businesses in FY 2016.



Affordable Public Transport
In recent years, bicycle lanes, bus system facilities, and subway routes have been constructed in New York City. These services can provide important transportation options should other transportation resources be damaged in a storm. However, rising transportation costs are also increasingly limiting transportation access for low-income groups. Transportation options should be made more affordable, perhaps by means of more public investments, expansion of the bikeshare system, and reduced costs for subway and bus services. Transportation services should also be made free to low-income residents during emergency situations.

Live/Work Spaces
One of the most effective (yet currently underutilized) tools for communication in relation to climate change is the arts. However, it is difficult for young artists to secure live/work spaces in NYC, forcing them to leave NYC for other cities. As a result, OneNYC pledges to develop 1,500 live/work spaces, including 500 affordable units, by 2024.



Environmental Justice Networks
Non-governmental organizations have formed coalitions to increase their organizing capacity and influence in policy making.



Black and Afro-Latin Nationalism
For decades Black and LatinX New Yorkers have fought for justice by demanding access to land, reparations, and greater rights within how their communities are governed.



Information Kiosks
After Hurricane Sandy, locally-produced signage played an important role in connecting residents with networks and resources that supported recovery efforts. Public signs and stands should be created across the City to provide information on cooling center locations, evacuation zones, and other important resources.



Flooding Barriers
The thirteen-plus miles of coastline in Upper Manhattan are home to thousands of residents, small businesses, manufacturing spaces and important pieces of municipal infrastructure. Many of these, particularly in East Harlem, are located within the Hurricane Evacuation Zone and should therefore be hardened against flooding. Flood protections should be planned using design guidelines that prioritize the creation of public space, access to the waterfront, and bicycle route connectivity.

Illustration Key
Organizations in this illustration are given the following designations. They represent entities that have been engaged by the creators of the plan or informed in some way.

- * Anti-capitalist
 - ** Re appropriated
 - *** Legacy
- Map pictured right
- Projected sea level rise
 - NYCHA Developments
 - Upper Manhattan Study Area

Study Area
This plan uses research collected in Upper Manhattan from 2014-2019. Research included interviews with residents and professionals, along with scientific data collection from satellites and sensors.

