“What is a green city? First, it is an ideal, yet to be attained by any urban place in the world but certainly achievable in the twenty-first century.”

—Eugenie L. Birch and Susan M. Wachter  
(From Urban Greening and the Green City Ideal)
9. Urban Sustainability
At its foundation, NYU 2031 establishes a process for achieving sustainable growth. The plan is built on a core University philosophy that fostering community, protecting resources, and strengthening urban life are the best ways to grow responsibly.

This strategy not only encompasses physical expansion but also presents a methodology for evolving sustainably. It provides a way to fulfill the University’s overarching objectives, create a new urban landscape that will benefit NYU’s community and the city well into the future, introduce predictability and transparency to the University’s planning efforts, and be mindful of NYU’s impacts on the environment.
Equity, Economy, and Environment

The modern movement for sustainable growth represents a holistic approach to development, and its proponents often refer to the “three Es” of sustainability: economy, equity, and environment. NYU has taken the same approach in its long-term planning. It has detailed the importance that process has played in formulating NYU 2031—an iterative, measured, responsive, and transparent course of action that NYU believes essential for its continued development. The University will proceed with the plan in the same manner.

This approach means providing appropriate stewardship in the historically significant areas that require it, improving access to open space, and fostering social, economic, and cultural vitality on individual streets and in neighborhoods through good urban planning and design. It also means strengthening NYU’s own community by creating more viable internal spaces for social interaction, which has the added benefit of lessening the University’s impact on the public realm.

The strategy builds on NYU’s strengths as an urban university, deriving the best benefit from the innate attributes that make great cities inherently sustainable. This can be seen in how the plans maximize growth on the two NYU superblocks, centering academic activities within the University’s core while making aggressive use of below-ground space. The plans also promote pedestrian uses while channeling growth along transit routes, reinforcing NYU’s identity as a primarily pedestrian landscape.

Additionally, NYU 2031 allows the University to reach its additional square footage goal while continuing to reduce its impact on the environment. Maximizing the use of space and resources is central to the strategy, and it tries to accomplish this in many ways, including adaptive reuse of existing spaces, a commitment to LEED Silver certification for all new construction, and setting important benchmarks, such as carbon neutrality and zero waste, as the University adheres to city and national program commitments.

NYU is pursuing this plan at the same time it sets major climate-related goals, and it is working intently to meet several measures even as it grows in size. For example, NYU has joined New York City Mayor Michael Bloomberg’s call to reduce the University’s carbon emissions by 30 percent, on a per square-foot basis, by 2017. NYU has also signed on to the American College and University Presidents’ Climate Commitment and has set a goal of reaching carbon neutrality by 2040.

NYU in the Public Realm

NYU 2031 reimagines how the University will interact with the public realm. While this will make the University easier to navigate and more accessible to visitors, it will also minimize NYU’s physical impact on the city’s neighborhoods. The strategy changes the way University-owned and public spaces coexist by setting higher standards and design strategies for NYU buildings. It also creates a network of new and improved open spaces and relies on appropriate interventions, including reuse, stewardship, and greater sensitivity to context.

Where NYU is the dominant landowner, as it is in its remote academic centers, the University will uphold its added responsibility for contributing to the health and viability of the public realm and to its citizens, without losing the essential distinction between public and private spaces. Where appropriate, NYU 2031 promotes the integration of NYU into the city fabric through the addition of public ground-floor uses in NYU buildings, thus creating greater opportunities for the public to access parts of the University. This might include, for example, improving the ground-floor uses of existing buildings east of Washington Square Park. Another possibility is the proposed inclusion of such mixed uses as retail, artistic, and other public offerings on the ground floors of the new buildings at the NYU Jerome S. Coles Sports and Recreation Center on Mercer Street; in the addition of the fourth tower on the University Village superblock; and in the two new buildings on the Washington Square Village superblock.

Additionally the heights, shapes, and scales of NYU buildings will fit into the immediate context of their surrounding structures. This guiding principle would be apparent with the addition of the fourth tower on the University Village superblock, which would align with the three existing towers in their current pinwheel formation. Similarly, the heights of the new buildings on the Washington Square Village superblock would reflect those of the buildings across from them on La Guardia Place and Mercer Street, and their shapes would maximize sunlight, air, views, and pedestrian movement throughout the superblock. The strategy is also to apply these standards of appropriate integration with the public realm at each of the University’s locational contexts, as well as in any individual buildings NYU acquires in the neighborhood.

A central idea of NYU 2031 is to cultivate a hierarchy of public green spaces, referred to as “University Landscapes,” which will serve the needs of NYU’s community while also benefiting the University’s neighbors. Interspersed with the city’s streets, sidewalks, and parks, complementary yet distinct in character, these new spaces will enhance the existing network of
public open spaces, reduce the University’s demand on city parks, and provide richly conceived visual amenities for the community with landscaping that, in keeping with University wayfaring already under way, will feature native plants, chemical-free fertilizing, and sustainable irrigation methods.

New Landscapes
The concept of University Landscapes will be seen most dramatically in the open space at the center of the Washington Square Village superblock. Accessible to everyone at the ground level, this space will also feature a sunken garden, a prime example of the academic space beneath the Washington Square superblock. Here, classrooms, particularly larger lecture halls or large performance spaces that require little natural light, will be placed above ground. At the same time, converted superblocks and in doing so with significant amounts of new space created below ground. NYU 2031 also emphasizes pedestrian uses and transit-based development patterns for NYU’s neighborhood and remote sites. The concept of density is fundamental to NYU 2031 central organizational scheme. Based on existing urban conditions, such as NYU’s core location near several major public transportation lines (including five subway lines and the PATH trains), the University’s core represents critical mass: a confluence of academic programs, student activities, faculty research, and intellectual and cultural sustenance. It is the hub that anchors a global institution with sites around the city and the world.

Benefits of Urban Density
Cities can be inherently sustainable models of living. Urban density brings numerous advantages: it allows for compact, walkable, vibrant, mixed-use neighborhoods with strong connections to surrounding areas and communities. It reduces sprawl by building structures closer to existing centers of activity and providing easy access to public transit. It encourages compact development patterns while reducing pressure on natural resources.

NYU, in turn, excels at thriving in a dense urban environment, and even if it builds the maximum estimated six million square feet proposed in NYU 2031, the University’s square-feet-per-student ratio will remain by far the lowest of its peers and one of the lowest in the country. This alone makes NYU a model for other institutions seeking to operate with less environmental impact. While preserving the existing La Guardia Corner Community Gardens and Time Landscape, the plan creates new open spaces for the entrance of the two buildings to be developed on the University Village superblock and in the revitalized plaza area between NYU’s Bobst Library and Shimmel Hall. Such landscapes will be important thresholds for major centers of NYU activity, fostering a sense of community and enabling learning to occur in informal interactions. They will also help to delineate the boundary between public and private, making University locations easier to navigate for NYU visitors, new students, and the community at large.

NYU 2031 reorganizes how the University utilizes space at its core in order to enhance it. Academic programming and first-year student housing will be located closest to the core, within a 10-minute walk from Washington Square. This will enable the University to concentrate a great number of faculty, students, and researchers in proximity to one another, which will help to promote interdisciplinary collaboration, improve attendance at University-sponsored events, and foster a culture of intellectual exchange. First- and second-year students embedded in this experience will be connected to the essence of the University in an environment that supports their intellectual growth and personal wellness. After the early years, students grow more familiar with their environment and routine and thus more prepared, if they choose, to venture into the city’s diverse neighborhoods for housing.

The premise of core / neighborhood / remote also depends heavily on the ways in which transit lines determine which individual buildings in the neighborhood represent growth choices for NYU and influences the creation or enhancement of remote locations and academic centers. For example, locating upperclassmen and graduate residence halls beyond the NYU core but proximate to transit can help alleviate the need for supplemental transportation. Moving some non-student-service administrative offices that operate mostly during standard business hours away from the core and into nearby neighborhoods also lessens the University’s impact in these areas.

Density determines design. Just as it influences the decision of where to build—as seen on the superblocks—it also determines how to build. In densifying the core, NYU 2031 calls for as much as 37 percent—more than one-third—of the square feet proposed there to be located below ground. A prime example is the academic space beneath the Washington Square Village superblock. Here, classrooms, particularly lecture halls or large performance spaces that require little natural light, will be created (with the added benefit of eliminating blank street walls if such lecture halls were placed above ground). At the same time, common areas will abut the below-grade windows giving students and faculty members access to sunlight and views.

A Pedestrian Orientation
NYU’s community commutes largely by environmentally friendly means. A 2009 transportation survey found that 35 percent of NYU’s population walks to work at Washington Square and another 48 percent uses public transportation as the primary means of getting to and away from the University. Less than 1 percent uses a car.
5. Located on public transportation lines. The new open spaces, the plans create a network of routes that will exist with the main public circulation network. This network linking the new open spaces will make the NYU core easier to navigate, lessening congestion and overcrowding in the public realm.

By creating new paths and shortcuts, encouraging their use through signs and maps, and connecting the public spaces to interior routes through NYU buildings, NYU 2031 creates a better sense of place and helps build a more robust University community.

A primary challenge facing NYU is to create open spaces that offer a relief from the sense of crowding while remaining vital: in other words, to use its density to the greatest advantage while still creating opportunities for accessible communal open spaces. To this end, the strategy calls for corridors between new public spaces and through the large superblocks that will facilitate pedestrian movement and help ease pedestrian congestion on public streets. In and between the new open spaces, the plans provide secure, centralized bicycle parking and identify bicycle and less than 10 percent does so occasionally; safety concerns and fear of having one’s bicycle stolen were the top two reasons given for not using bicycles more often. To complement New York City’s initiatives in this direction, the plans provide secure, centralized bicycle parking so that students can make one-round-trip per day, minimizing their time on an automobile. The plan builds on this established system: the core, within a 10-minute walk from one side to another; the neighborhood, within roughly a 10- to 20-minute walk from the core; and remote sites located on public transportation lines.

NYU 2031’s organizing principle is based on commuting time to Washington Square: the core, within a 10-minute walk from one side to another; the neighborhood, within roughly a 10- to 20-minute walk from the core; and remote sites located on public transportation lines.

Opportunities also exist for encouraging more people to commute by bicycle. The same 2009 transportation study showed that only 1 percent of NYU’s community commutes primarily by bicycle and less than 10 percent does so occasionally; safety concerns and fear of having one’s bicycle stolen were the top two reasons given for not using bicycles more often. To complement New York City’s initiatives in this direction, the plans provide secure, centralized bicycle parking so that students can make one-round-trip per day, minimizing their time on an automobile. The plan builds on this established system: the core, within a 10-minute walk from one side to another; the neighborhood, within roughly a 10- to 20-minute walk from the core; and remote sites located on public transportation lines.

NYU 2031 highlights a series of issues that will continue to frame discussions regarding sustainable development on this scale. One of the driving forces of resource protection is adaptive reuse. By integrating and revitalizing the existing building stock, NYU 2031 seeks to capitalize on the inherent advantages of city life and provide a new vision that reinforces the relationship between urban life and sustainable growth. In doing so, it seeks to build on the University’s strong reputation for, and emerging leadership in, resource protection.

Sustainability is a core value embedded in everything NYU does, from what it teaches and how it serves its city to how it interacts with the public and how its buildings are designed. To grow sustainably is to create healthy living environments while protecting resources of all kinds. It is to be thoughtful and systematic in planning, seeking to conserve natural, spatial, and financial resources. The plan underscores numerous ways that NYU can grow while preserving natural resources: by relying on adaptive reuse of existing buildings; adding the square footage sought while still creating opportunities for accessible communal open spaces. To this end, the strategy calls for corridors between new public spaces and through the large superblocks that will facilitate pedestrian movement and help ease pedestrian congestion on public streets. In and between the new open spaces, the plans create a network of routes that will exist with the main public circulation network. This network linking the new open spaces will make the NYU core easier to navigate, lessening congestion and overcrowding in the public realm.

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Protecting Resources

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By focusing on occupying space below ground, the plan reduces pressure on existing buildings in the neighborhood and lessens the areas affected by construction. Once completed, below-ground buildings require less energy to heat and cool, since there is little loss through the perimeter and the temperature of the ground is more stable than that of the air.

The shapes and forms of the buildings have been designed to lessen environmental impacts as well. Buildings will be placed to maximize the amount of landscaped, at-grade space for common areas and pedestrian circulation. Their forms will be shaped to enhance solar access inside and out. Each of the new buildings on the two southern superblocks will feature narrow, rather than deep, floor plates, thereby enabling daylight and views and encouraging a passive solar strategy, which will reduce lighting costs. Similarly, the design of the zipper building focuses on windows and space, offering more light and air and reducing shadows for pedestrians.

When adaptive reuse is not a viable option and a new structure needs to be built, NYU has committed to a minimum of LEED Silver certification in all new construction—or meeting comparable standards as certification processes evolve over the next two decades. What does this mean? New NYU buildings will have to, at a minimum, achieve the following:

—Implement heat island effect mitigation strategies on buildings and outdoor areas
—Include the appropriate selection of plant species for landscaping to promote and enhance local ecology and minimize irrigation requirements
—Collect rainwater and reuse it for irrigation
—Minimize light pollution and external lighting energy demands
—Minimize building energy peak
demands and reduce overall energy consumption
— Increase ventilation rates, CO2 sensors, and low volatile organic compound materials for improved air quality
— Install appropriate plumbing fixtures (such as low-flow fixtures and waterless urinals) to minimize water consumption
— Reuse excavated and demolished materials where feasible
— Use recycled materials for concrete and steel
— Implement sustainable construction practices such as redirecting construction waste
— Building commissioning, which requires a LEED-certified professional to oversee and verify the various sustainable approaches

As NYU develops the superblocks, planners can employ additional technologies that are available when working on such a scale; many of these technologies have some upfront costs but also the potential for significant sustainability benefits and long-term savings. Such technologies include ground source heat pump, grey-water harvesting, stormwater retention, heat recovery, automated waste collection system, enhanced building commissioning, and displacement ventilation.

These practices are obviously easier to describe for areas where construction will begin earlier. Such details, where available, also serve to illuminate the intentions and goals that will guide all development within NYU’s core and remote sites, as well as in the individual buildings the University may acquire in its neighborhood.

The following ideas have informed the planning and massing of building design for the NYU superblocks:

— Adaptive Reuse: By integrating and revitalizing the existing buildings on the Washington Square Village superblock, the plans make efficient reuse of completed structures, reducing the energy and material use associated with new construction.

— Below-ground Use: The extensive use of below-ground areas reduces pressure on existing buildings in the neighborhood and focuses construction impacts in a smaller area. Below-ground buildings also require less energy to heat and cool since there is little loss through the perimeter and the temperature of the ground is more stable than that of the air.

— Building Orientation and Massing: New buildings will be placed to maximize the amount of landscaped, at-grade space for common areas, circulation, and playspace. The buildings’ forms will be shaped to maximize solar access inside and out.