

Grid Commons

Necessary Transformation

In the second half of 2022, the national office vacancy rate hit a nearly 30-year high of 17.1%. In Manhattan, in the second quarter of 2022, office vacancies reached 16%, its highest in two decades.

1633 Broadway's location in Times Square makes it ideally attractive to potential office tenants. Despite its appealing location, the building has undergone extensive renovations and updates and will struggle to compete with the recent trophy buildings on the market. To attract tenants in today's challenging market, any facility must meet or exceed tenant expectations, including ESG metrics such as achieving Net zero and other carbon commitments and strategies.

Because office tenants can be highly selective in this unprecedented market, even slightly older buildings cannot compete, and a flight to quality ensues. In addition to the inherent economic considerations, repositioning a building such as 1633 Broadway into residences could yield a positive solution -- providing much-needed housing opportunities. New York State is currently facing a severe, once-in-a-generation housing crisis. According to the Population Reference Bureau, more than half of New York renters are rent-burdened, meaning that they pay more than 30% of their income on rent – the second-highest rate in the nation.

Given this dire economic and environmental context, among the most meaningful and responsible strategies to reduce our impact on the future would be to reuse existing assets.

Our built environment is responsible for 75% of annual global Green House Gas (GHG) emissions. Buildings alone account for nearly 40% of annual GHG emissions - 28% from operating existing facilities and 11% from new construction.

To meet global climate action targets for reducing carbon emissions, both sources of emissions need to be minimized. The Architecture 2030 Challenge has defined realistic and achievable targets:

- Operating emissions for new buildings: 80% lower now, carbon neutral by 2030;
- Operating emissions for existing buildings: 50% lower emissions now, carbon neutral by 2050; and,
- Embodied emissions: 50% lower by 2030, zero by 2050.



Embracing the Challenge

Updated energy codes, building electrification efforts, and cleaner grids are thankfully moving the delivery of new buildings closer to zero operating emissions. In tandem, there is also an increased focus on reducing embodied emissions from the construction process. However, these encouraging trends and codes are primarily focused on new buildings. The number of existing buildings is exponentially higher than the number of new buildings built each year. Existing buildings comprise a significant density of materials (and embodied carbon), and, more often than not, they are typically very inefficient in many regards. While it is untenable to consider replacing all older buildings, a responsible approach is to include selected such efforts as part of an overall solution.

Reusing an existing building – including reasonable interior renovations and energy upgrades – can lower its embodied carbon by 50 to 75% over similar new construction. Building reuse is but one of the many strategies to be considered. These should also include reducing current operating emissions through efficiency upgrades, broader electrification, and greater access to cleaner sources of electricity.

Due to increasingly rising tides and floodwaters, thousands of New York City residents in its lowlands will inevitably be forced to find reasonable housing on higher ground. Rather than displacing these residents away from New York, more viable long-term housing should be prioritized. With its higher, safer elevation, midtown provides a more resilient location for such housing. Furthermore, the creation of all repurposed, sustainable and flexible built environments must withstand increasingly severe weather events over the structure's life.

Grid Commons transforms 1633 Broadway into a future forward building that exceeds the challenge.

Embracing the Challenge

Despite a renewed focus on new residential buildings in New York City, there remains a significant gap in the growth of new residential properties in the Broadway Theatre District, particularly properties that cater to families.

Understanding the site and surrounding community are driving factors in the design - this analysis is fundamental to the design process of Grid Commons.



- Residential Properties
- 🌿 Parks & Plazas
- 👤 Daycare Facilities
- 🎓 Schools & Universities
- 📖 Libraries
- + Health & Human Services
- 🍴 Restaurants
- 🛒 Grocery
- >30% of households are families
- >30% of households have kids

- 1** 7 West 60th Street | 670 units
- 2** 220 Central Park South | 118 units
- 3** 217 West 57 Street | 179 units
- 4** 1710 Broadway | 670 units
- 5** 210 West 54 Street | 400 units
- 6** 242 West 53 Street | 400 units
- 7** 250 West 49 Street | 136 units
- 8** 201 West 54 Street | 400 units
- 9** 53 West 53 Street | 161 units
- 10** 20 West 53 Street | 173 units

New Residential Construction

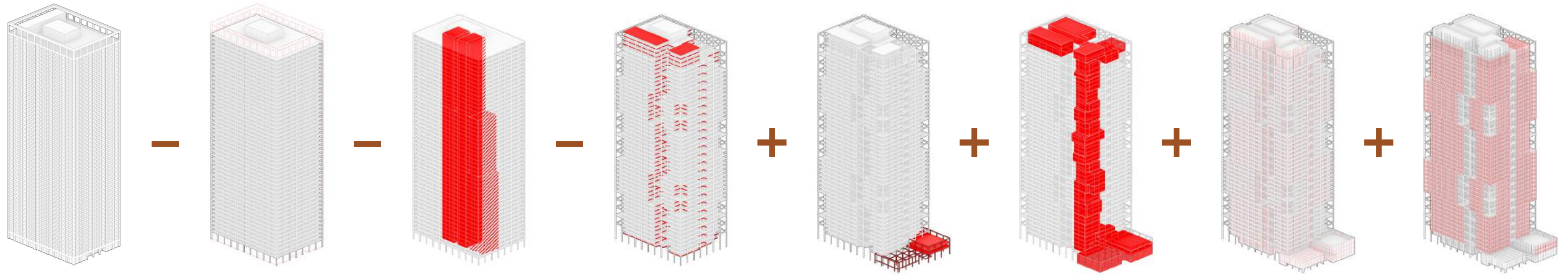
Grid Commons

1/2 mi - 10 min walk

1/4 mi - 5 min walk

Subtraction

Addition



01 Existing 1633 Broadway

02 Enclosure Removed

03 Core Reconfigured

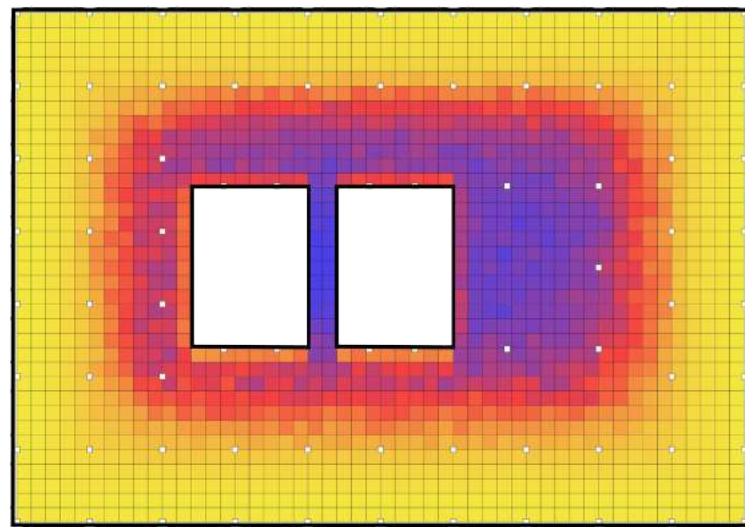
04 Slab Edges Modified

05 Ground Level Program Extended

06 Amenity Program Added

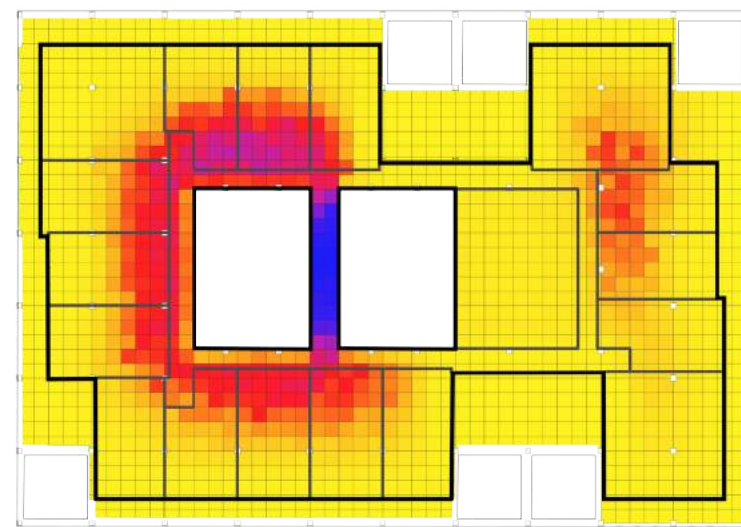
07 Enclosure Added

08 Screens Added



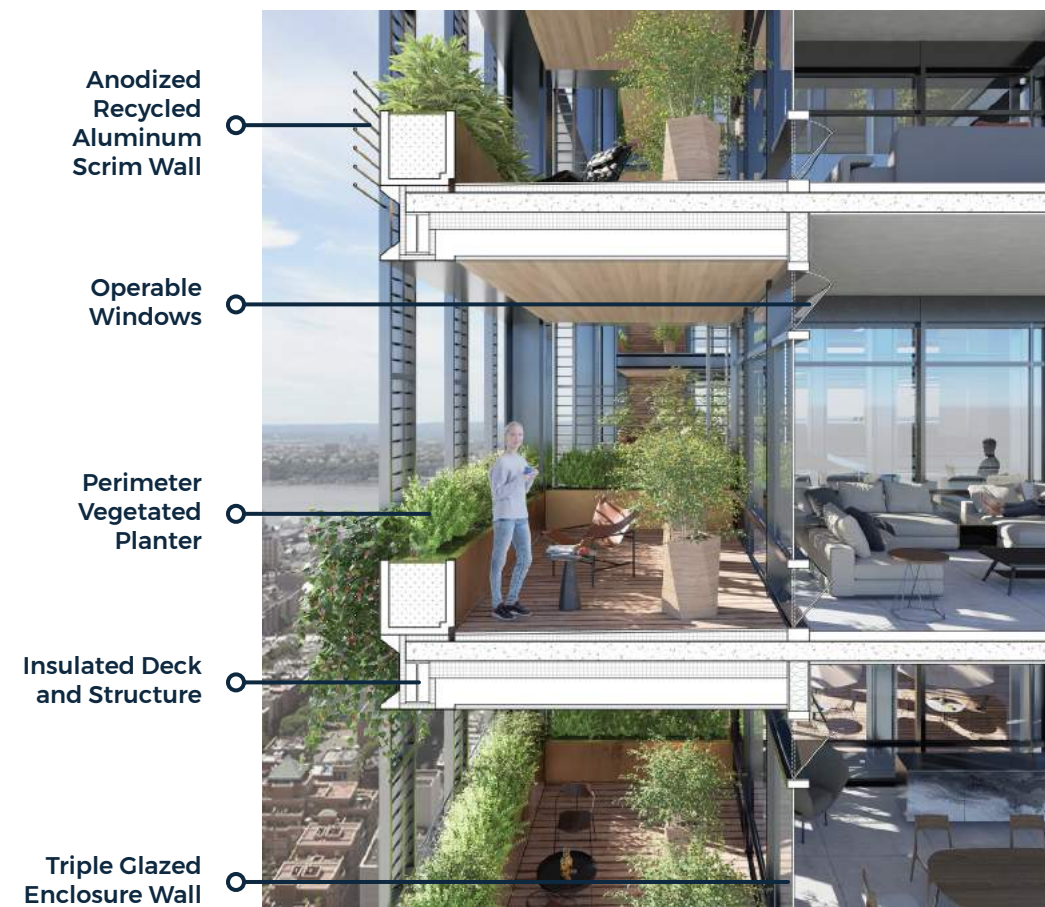
Transforming the Floor Layout

Transforming the program usage from commercial to residential yields the opportunity to consolidate and reduce the footprint of the building core infrastructure. Daylight analysis of the resulting floor plan demonstrates the primary challenge, the center of the building receives inadequate natural daylight for residential use. In addition, the deep lease depths of the existing commercial floor plan create challenges in providing market appropriate



Continuous Daylight Autonomy Study (300 Lux Target)

unit layouts. To address these issues, the floor plates are strategically carved to allow natural daylight to the center of the building and the enclosure wall is offset from the perimeter of the floor. The resulting floor layout provides the unprecedented opportunity for every unit to have a spacious balcony, or an "urban back porch". Also, the new well-lit center of the building provides the opportunity for a variety of potential uses.



The Urban Back Porch

The new enclosure configuration will allow for ample, personalized terrace experiences. Nature is a key attribute of the design that will positively impact occupants' mental and physical health. Additionally, the integration of natural vegetation will provide opportunities to further sequester and reduce the carbon footprint of the building.

Maximizing daylight and views is crucial to interior experience. With ample natural light, the 12' floor-to-floor height will allow for daylight to penetrate deep into the interior spaces. Operable windows and doors are woven into the enclosure to allow for fresh air movement when the weather permits. The resulting design connects the interior to the exterior, allowing the occupants to control their experience.

An Enclosure That Answers The Challenge

The structural grid is the organizing element of both the exterior enclosure and the interior layout. The steel grid is expressed throughout the design while also being appropriately protected and insulated as needed for a modern, high-performance building.

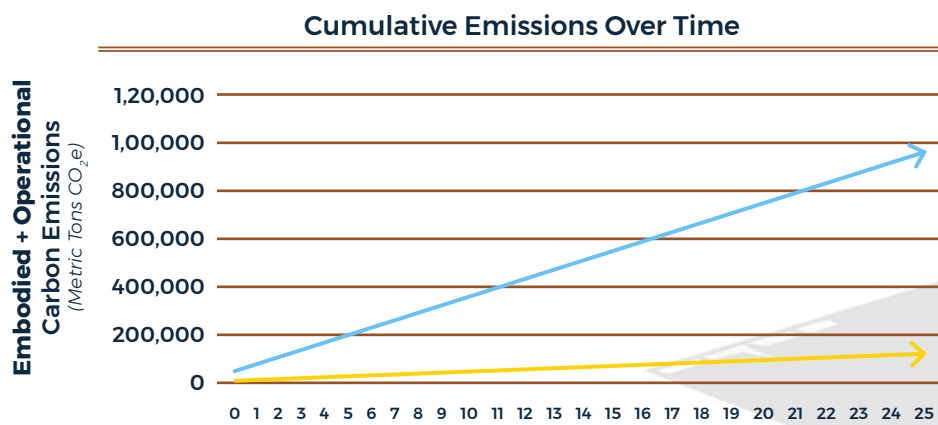
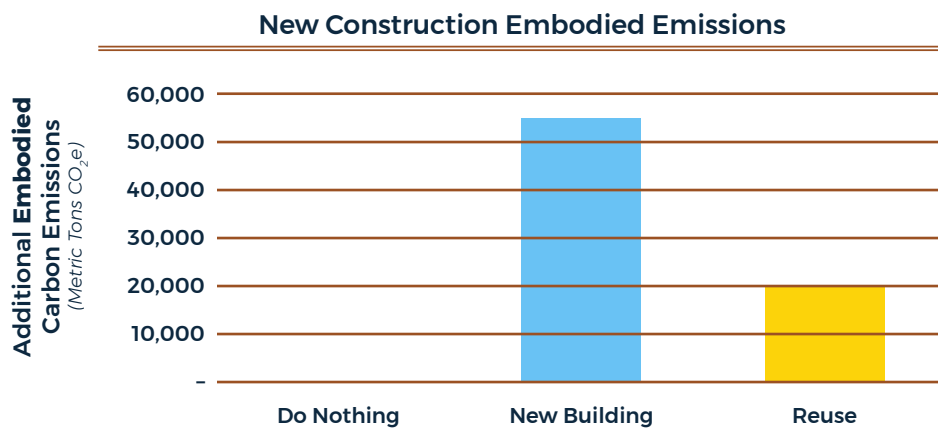
Exterior finishes will be anodized and/or use No-VOC coatings in order to reduce the embodied carbon emissions of the project. All newly incorporated aluminum and steel will comprise of 100% recycled content and sourced with the goal of reducing the embodied carbon of each product. Terrace soffits and planters are made of anodized metal with a maple finish. The warm finish offers a natural looking material that will endure for decades with minimal maintenance.

All materials sourced will comply with the *Architecture & Design Materials Pledge*, which was developed to inspire a shift in evaluating the products and finishes.

- 1 Existing Structural Frame
- 2 Removed Floor Slab
- 3 Central Amenity Hub Beyond
- 4 Communal Terrace Deck
- 5 Operable Wall Opening
- 6 Unit Specific Balcony
- 7 Aluminum Scrim Wall
- 8 Vegetated Balcony Planter



	Do Nothing (Existing Building)	New Building (Alternate)	Reuse (Proposed Design)
Embodied Emissions <i>(Metric Tons CO₂e, cradle to gate)</i>	-	56,200	19,900
Operational Emissions <i>(Metric Tons CO₂e / 25 years)</i>	738,400	165,300	108,000
Total Emissions <i>(Metric Tons CO₂e / 25 years)</i>	738,400 ▲	221,500 ▲	127,900 ▼
Total Emissions Intensity <i>(kgCO₂e/ft² / 25 years)</i>	279 ▲	150 ▲	87 ▼



● New building + Do Nothing

● Reuse building

● New building calculations are based on a standard MEP approach.

● Reuse building calculations are based on a high performance MEP approach yielding lower carbon emissions.

Predicated Emissions data utilized the AIA 2030 CARE tool (<https://caretool.org/>)

Carbon Reduction Strategies

Structure

- Maintain primary structure
- Optimize additional components to reduce material mass

Building Systems

- Energy recovery enthalpy wheels with dehumidification condition fresh air intake with heat from exhaust air
- Air source heat pumps connected to subway for heat source
- Photovoltaic Roof Panels
- Building management systems provide real-time feedback to encourage better energy usage

Vertical Transportation

- Open stairs increase physical activity of occupants
- Efficient elevator belt technology to reduce energy; add regeneration drive to recapture energy lost in braking

Enclosure

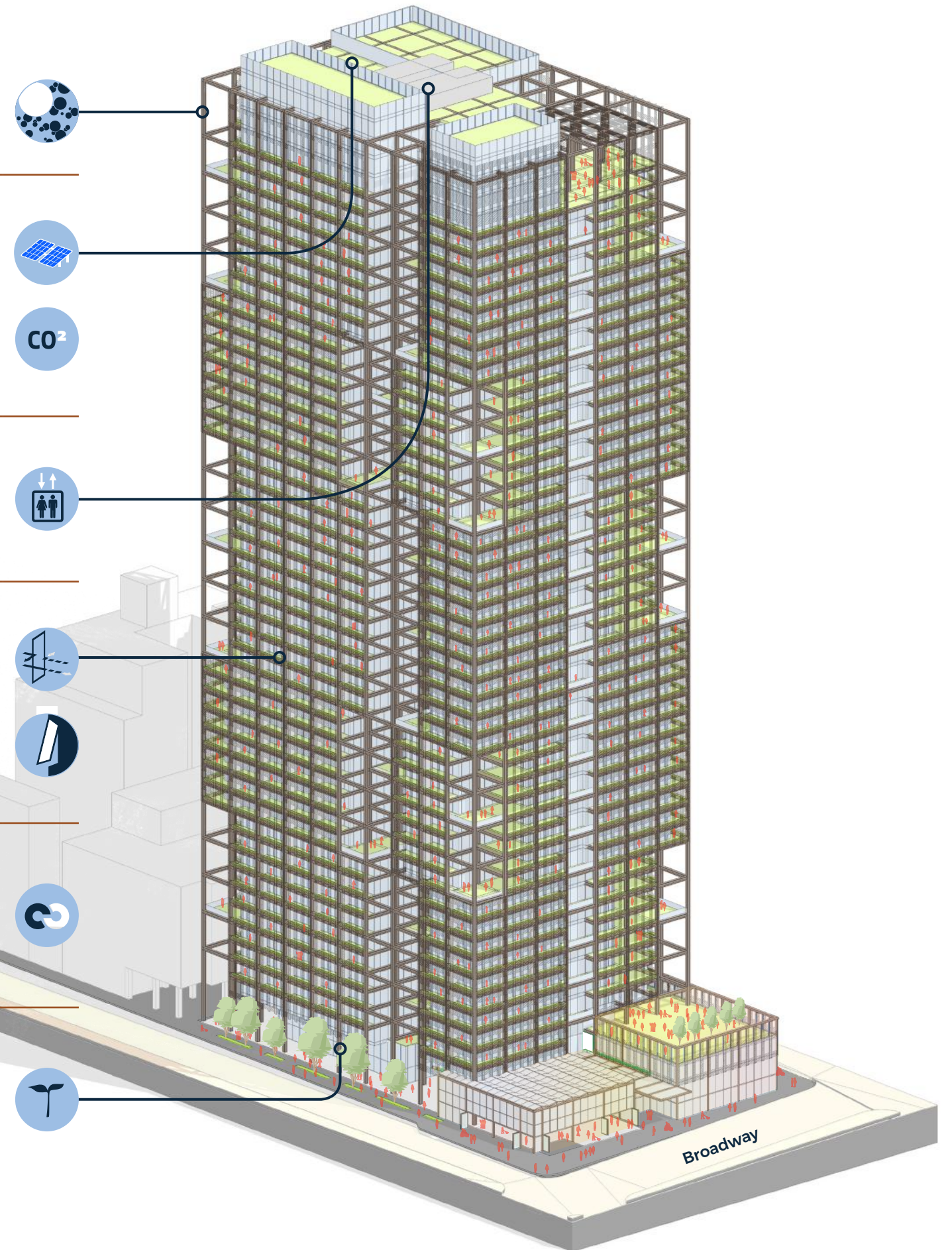
- Incorporate recycled steel and aluminum
- Anodized aluminum finishes instead of coated finish
- Triple-glazed low-e gas filled curtain wall glass
- Operable windows provide natural ventilation
- Continuous insulation avoids thermal breaks

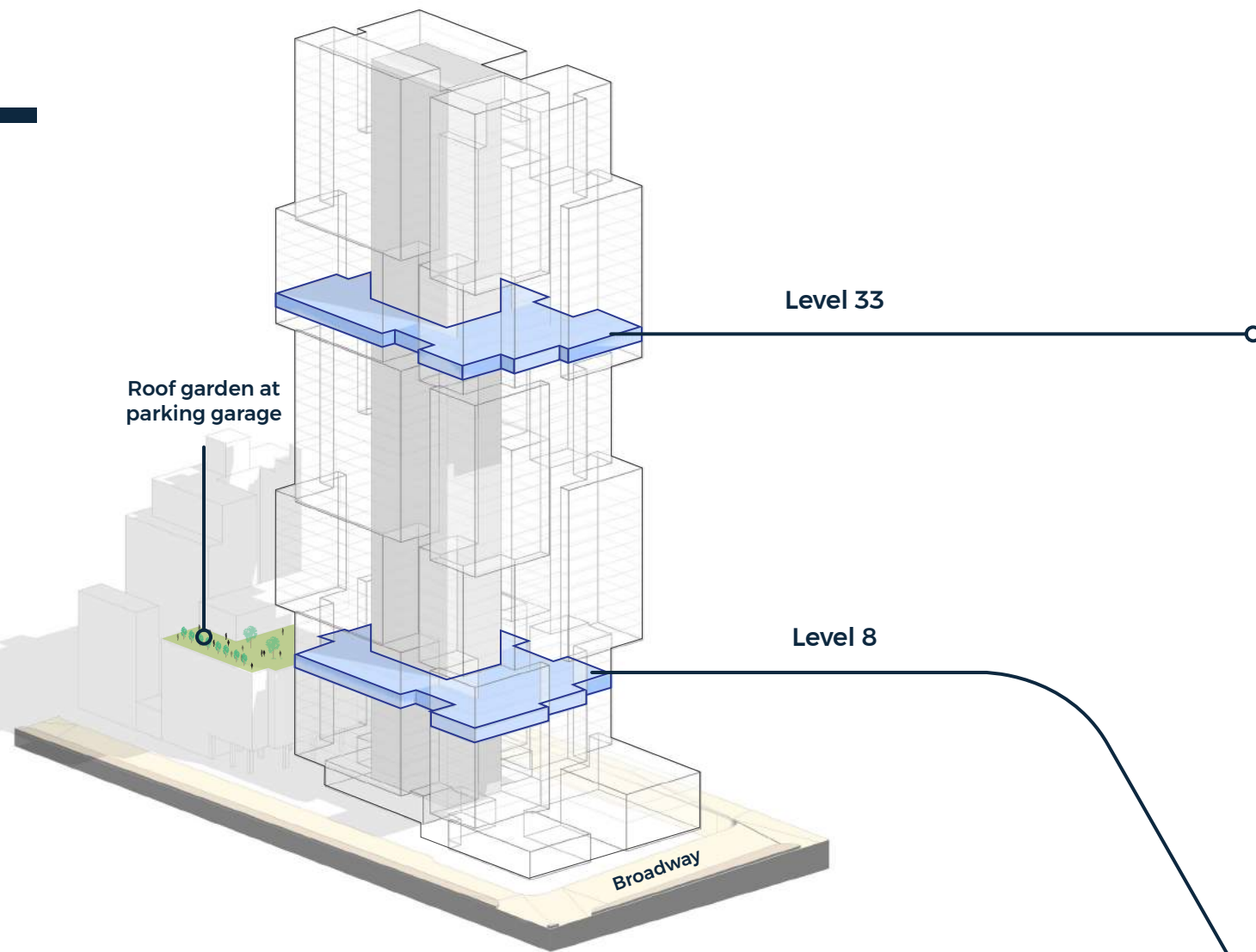
Manufacturing

- Incorporate Cradle-to-Cradle conscious materials
- Favor locally extracted and manufactured materials
- Favor products manufactured with renewable energy

Site Interventions

- Incorporate trees to offset building carbon emissions
- Urban trees reduce the urban heat island effect, shade buildings thus reducing energy consumption and absorb various air pollutants





The state-of-the-art 48-story office-to-residential conversion of the Grid Commons tower will provide units ranging from studio to three-bedroom. The visionary building is future-forward, offering close to 850 units with impeccable views and an unparalleled location in the heart of the Broadway Theater District. Referred to as "The Hub," a centrally located amenities-rich experience rises through the core of the entire tower. With more publicly oriented spaces and features located within the base, specific fee-based venues or activities will provide nominal income opportunities to offset potential rent increases for tenants. It is anticipated that lower residential units will be offered as short-term rentals.

	Studio		1 Bedroom		2 Bedroom		3 Bedroom		Total Units per floor	Total Units
Level 1										0
Level 2										0
Levels 3-7	9	45%	8	40%	1	5%	2	10%	20	100
Levels 8-11	11	48%	7	30%	2	9%	3	13%	23	92
Level 12	6	40%	5	33%	2	13%	2	13%	15	15
Levels 13-33	4	24%	5	29%	5	29%	3	18%	17	357
Level 34	3	27%	4	36%	2	18%	2	18%	11	11
Level 35-48	5	26%	6	32%	6	32%	2	11%	19	266
Totals	287	34%	266	32%	206	24%	117	14%		841

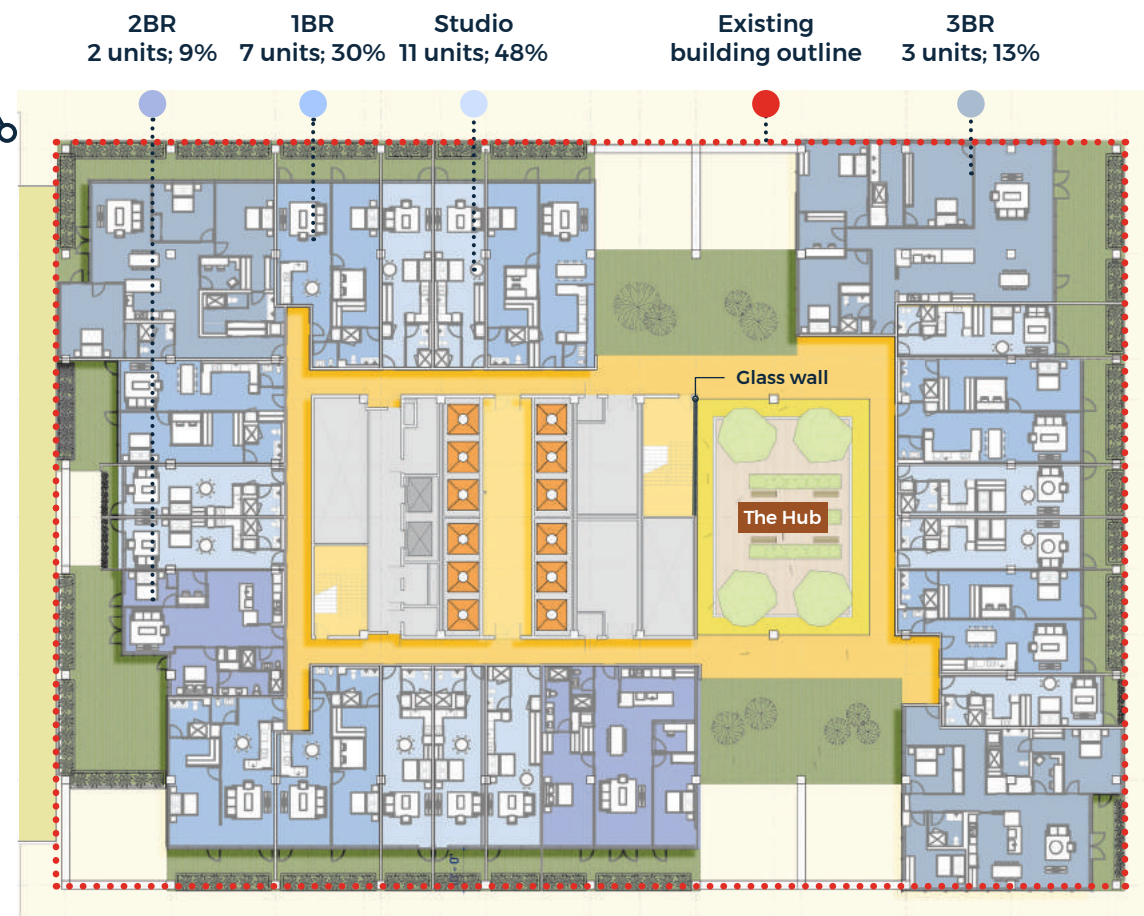
Maintaining the towers existing 25' structural grid establishes the framework for the unit layout and sizes. The grid provides a distinctive frame for the residential units and relates to the area's urban network of interlocking streets. Each residence will have a private terrace to offer opportunities to connect with nature while enjoying remarkable views.



The tower's 40,000 sf floor plates accommodate flexibility in the efficiency of unit layouts while still allowing for larger gathering spaces and a central amenity zone on each level.

The existing building's outdated and large floor plates ironically yield ideal opportunities to reimagine them to include amenity and community gathering spaces unmatched in the market.

With fewer elevators required for residential use, the size of the existing central core will be reduced.



The new smaller core frees up the center of the floorplate to allow for a rich blend of communal spaces on each floor for all to enjoy. Dramatic interventions and alterations to the original façade will articulate the new building while also bringing natural light deep into the building, allowing for greater planning flexibility.

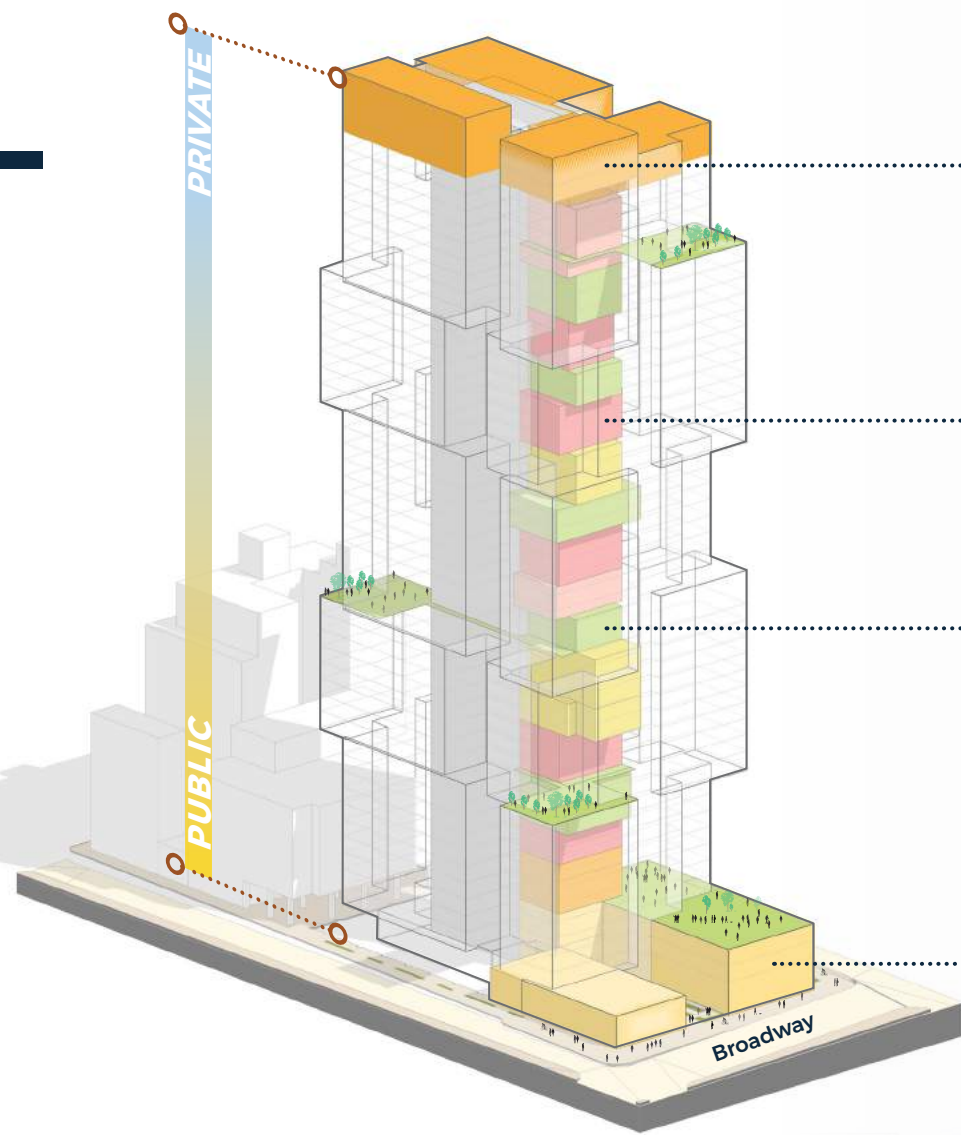
The center of the new building will also yield additional space for sought-after tenant storage. Centrally located shafts connect to efficient mechanical units on portions 2, 12 & 34.

Working with the Module

The dramatic post-Covid work-from-home shift has significantly impacted both workplace and home environments. As such, the tower's new residences will be generous, allowing ample space for families to feel comfortable yet have rooms that can serve as private work areas. With tenant terraces throughout the entire complex, residents will enjoy a strong connection between the interior and exterior environment. Each floor will offer studios, one-, two- and three-bedroom units, and bespoke options for solar exposure and views for a range of price levels.

Studio apartments are half a module wide and are 535 sf. Efficient yet open and flexible, studio units offer a wonderful option for young professionals. Balconies extend the unit to expand the living spaces. Utilizing the complete 25' module, the one-bedroom unit is a generous 1,050 sf, offering a separate workspace for quiet work-from-home use. One-bedroom units also include a half-bath for guests. The two-bedroom units are one-and-a-half modules and are comfortable at 1,370 sf. Two full bathrooms and a spacious kitchen and living area open to the balcony beyond make these units a welcome yet rare find in New York City. The building's amenities are ideal for families and three-bedroom units offer a spacious living environment. Utilizing two structural modules, the three-bedroom is 1,915 sqft. A private home office is provided along with ample closets and two full bathrooms. Three-bedroom units also include larger balconies for expanded living opportunities.





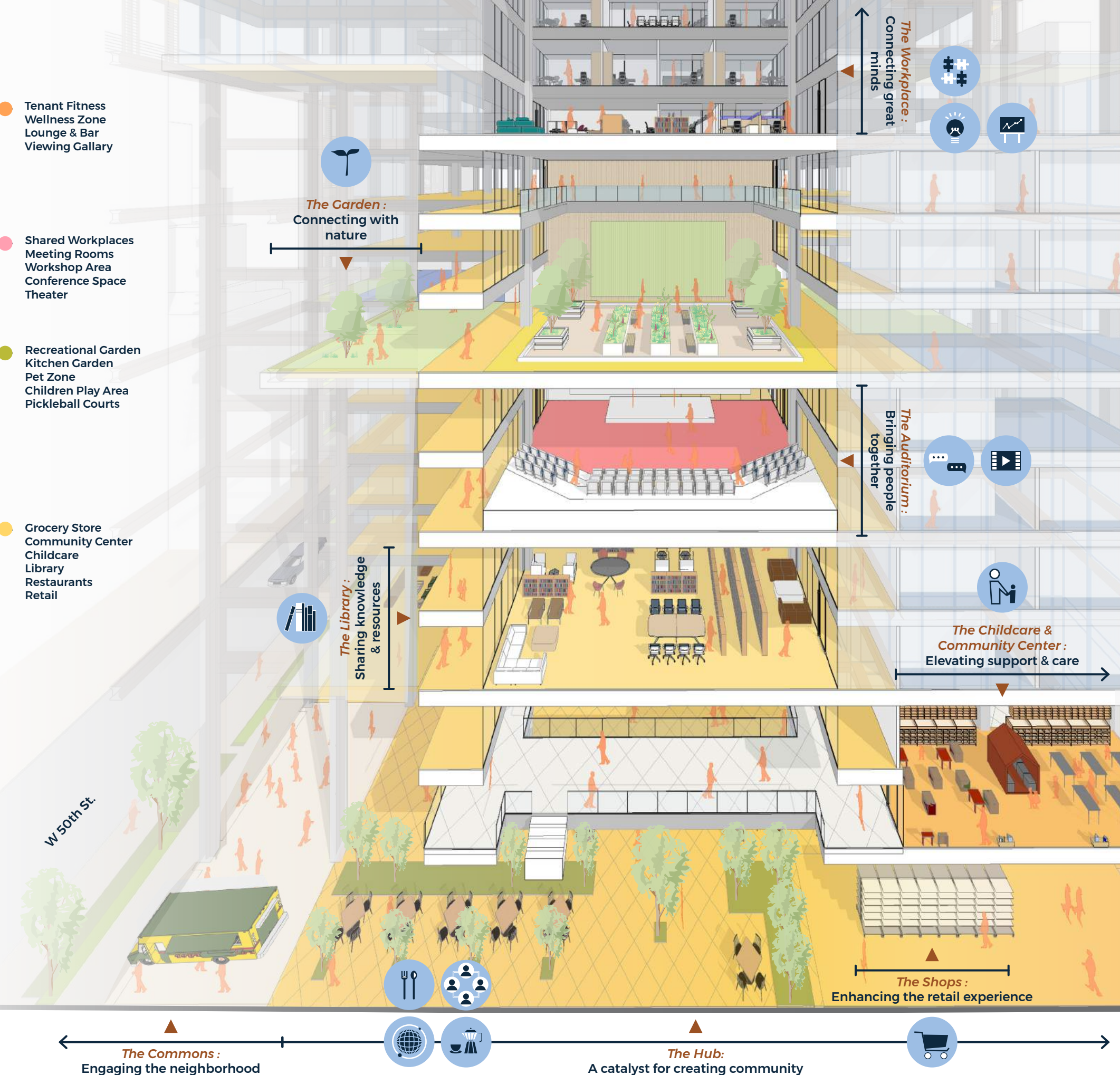
- Tenant Fitness
Wellness Zone
Lounge & Bar
Viewing Gallery
- Shared Workplaces
Meeting Rooms
Workshop Area
Conference Space
Theater
- Recreational Garden
Kitchen Garden
Pet Zone
Children Play Area
Pickleball Courts
- Grocery Store
Community Center
Childcare
Library
Restaurants
Retail

The Hub - A Vertical Community

The tower base is designed to welcome the broader public and community. A large grocery store and Community Center will flank a welcoming entryway anchored by an inviting central stair that will offer direct access to the second level of the Community Center and the neighborhood childcare center. The childcare center enjoys outdoor play opportunities at Level 3. Additional community offerings are available up through Level 10. The adjacent stair at the core encourages use by having a glass wall into the Hub's amenities.

Accommodating amenities for the residents, levels 11 through 48, will include options for rentable collaboration areas for large group meetings or other community events. The significant alterations to the existing building's enclosure will allow ample daylight deep within the Hub and allow for flexibility of uses for all to enjoy.

The upper portion of the Hub will be dedicated to a resident's lounge and additional fitness space. Residents will also enjoy direct access to an exclusive roof garden that will feature stunning city views. The roof garden will be the perfect getaway or retreat for a family gathering or event.



← **The Commons:**
Engaging the neighborhood

The Hub:
A catalyst for creating community →

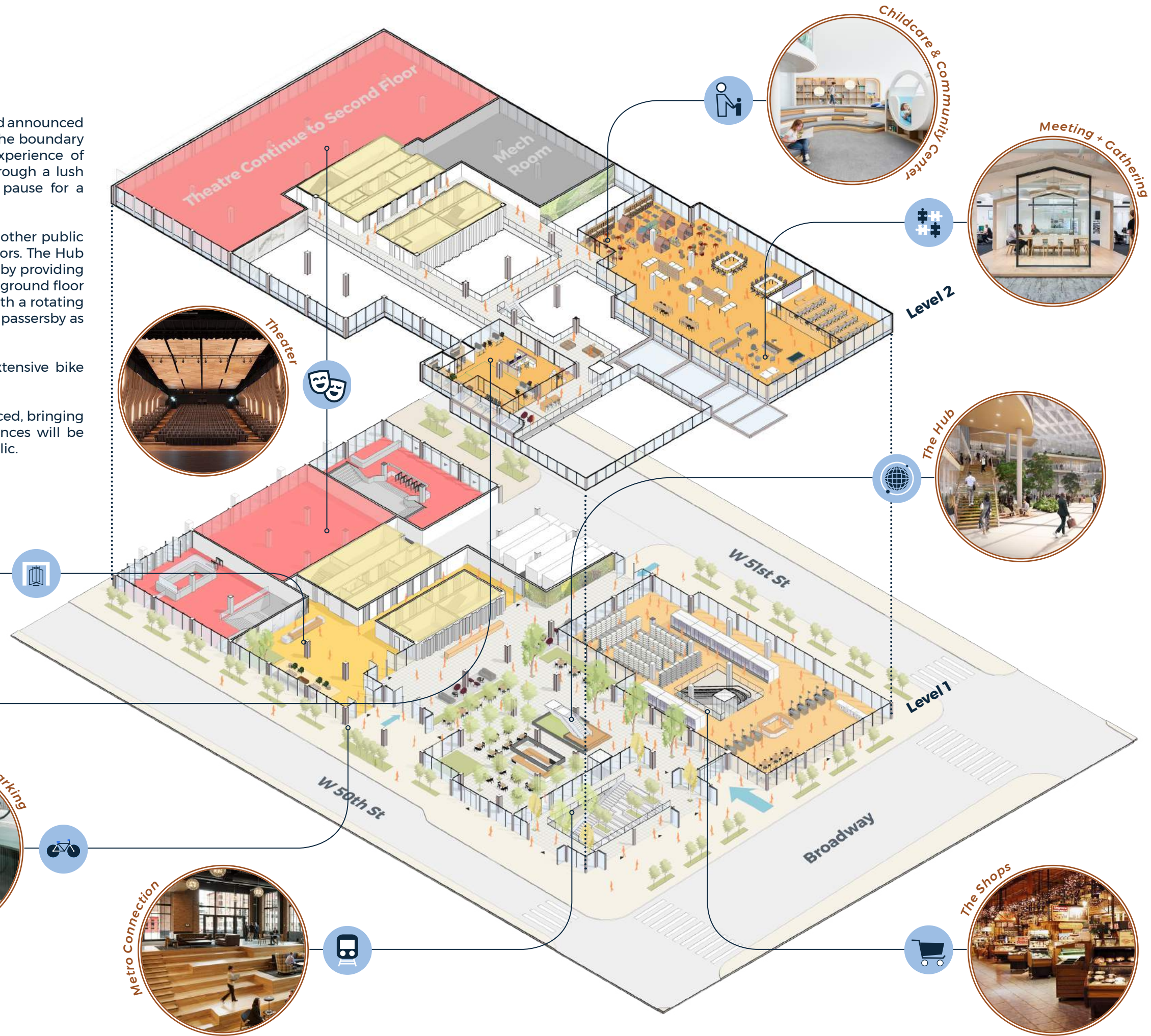
A Reimagined Plaza

Direct access to the subway system below will be celebrated and announced with a series of large glass doors that will open, eliminating the boundary between the plaza and the dynamic space within. The experience of accessing the subway will offer the sense of descending through a lush garden. The monumental stairway encourages visitors to pause for a respite.

Access to the subway, grocery store, community center, and other public amenities will activate the site and continuously draw in visitors. The Hub will energize the ground floor up through the entire building by providing numerous amenities for residents and visitors alike. The Hub's ground floor presence will be accented by an engaging graphic tableau with a rotating exhibition of public art. The tableau will continuously engage passersby as it changes to feature local events and artists.

The lower level includes another grocery store level and extensive bike parking storage.

The Gershwin and Circle in The Square theaters will be enhanced, bringing additional excitement to the block and district. Their entrances will be accentuated with new entrance canopies welcoming the public.



Grid commons

