

CONNECT EVOLVED

Uber Elevate 2019

UBER ELEVATE SUMMIT 2019
SKYPORT MOBILITY HUB
PRESENTED BY

CORGAN 



Kimley»Horn

wsp

Contents

4 / Introduction

8 / Skyport Experience

32 / Downtown Dallas

60 / Frisco

76 / Skyport Operations

94 / Environmentally Responsible Design

102 / Charging and Power Solutions

118 / Interior Finish Selections

126 / Construction & Cost Analysis

136 / Technical Drawings

158 / Early Design Process

164 / The Skyport Team

174 / Appendix

Introducing:

The Uber Skyport Mobility Hub

Soaring above traffic congestion is now possible with aerial rideshare. As our skies become more accessible and novel transportation networks are developed, a convenient and well-choreographed transition between air and ground rider modalities is essential to the success of Urban Air Mobility.



Project Overview

Skyport Mobility Hub

The transportation infrastructure of the world's cities has in many cases reached its limit, and people are searching for alternatives. By addressing these all-too-familiar transportation bottlenecks, vertical mobility will reduce commute times, alter our perception of distance, and create new value in existing underutilized property, improving the quality of life throughout our communities. This hyper-connected lifestyle will reshape our cities and change how we organize our lives.

Working with essential stakeholders, Uber intends to create an aerial ridesharing network that is safe, quiet, and environmentally conscious, connecting passengers between suburbs and cities, and providing multiple last-mile transportation options in the process. Dallas and Los Angeles will be the first cities to offer Uber Air flights, launching commercial operations in 2023.

Many degrees of design freedom support this exciting future. For the third annual Uber Elevate Summit, Uber invited Corgan to create a unique vision for the Uber Skyport Mobility Hub.

The design brief called for a solution that feasibly demonstrates operational efficiency and choreography of electric vertical take-off and landing (eVTOL) vehicles in concert with passenger safety through two responses: a bespoke solution and a solution to retrofit an existing seven-level parking garage. Both visions require five aircraft parking positions and two unobstructed touchdown and liftoff (TLOF) locations, enabling a 15-minute maximum aircraft turn-time. Solutions must address noise concerns and provide a community benefit for the surrounding neighborhoods, in addition to employing innovative ways to embrace responsible design and give back to the city's electrical grid. Lastly, exhibiting accelerated speed-to-market methods was encouraged.

Corgan's design was selected for presentation on stage at the 2019 Uber Elevate Summit, an annual event that brings together a diverse community of builders, investors, policymakers, and government officials, all in pursuit of enabling the future of urban aerial ridesharing. The future is closer than you think.



Welcome To:

The Skyport Experience

Navigating this multi-layered third dimension changes the function and expectations of our daily destinations, requiring them to support a cohesive relationship between the human, the eVTOL, and the urban fabric. Skyport Mobility Hubs must enable a convenient and well-choreographed transition between air and ground rider modalities, exhibit operational efficiency of precise aircraft movement that can scale as demand increases, and provide solutions that minimize the impact on a city's electrical grid. Most importantly, they must address the greater needs of the surrounding communities, striking a balance between benefits and disturbances to become a true neighborhood amenity.

Skyport Mobility Hubs will be centrally located in the heart of our growing cities, creating vital connections for passengers, adding a new value perspective to our existing infrastructure and reconnecting our once divided communities.



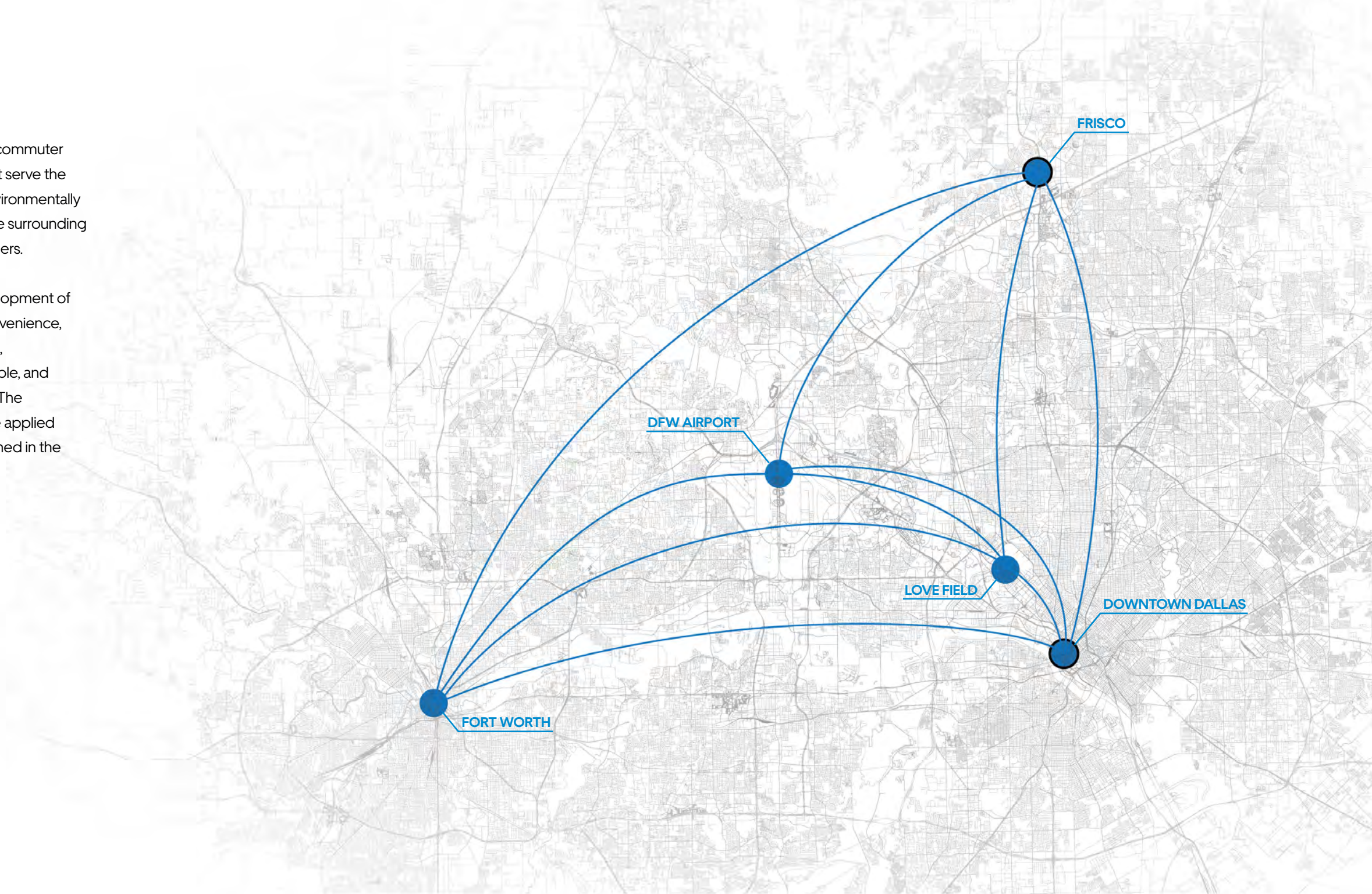
Design Principles

Aerial ridesharing has the unique ability to connect disparate communities, dissolve current perceptions of distance and perceived boundaries, and shift how and where we spend our time.

As we begin to examine this emerging market and its impact on our lives, several guiding principles will help to encourage socially responsible design. By creating a convenient solution that is easily accessible, intuitive, and encourages choice in modality, we will begin to see better connections between communities, neighborhoods, and cities alike. The Skyport Mobility Hub must be operationally efficient, maximizing throughput and scaling as demand increases, without compromising the safety of the passenger, or

creating bottlenecks associated with commuter traffic today. Lastly, these facilities must serve the general public in a way that is both environmentally responsible as well as beneficial for the surrounding communities and the eVTOL passengers.

Design principles applied to the development of the Skyport Mobility Hub include: Convenience, Connectivity, Intuitive User Experience, Operationally Feasible, Modular/Scalable, and Environmentally Responsible Design. The design principles and the way they are applied to the Skyport Mobility Hub are explained in the subsequent section.

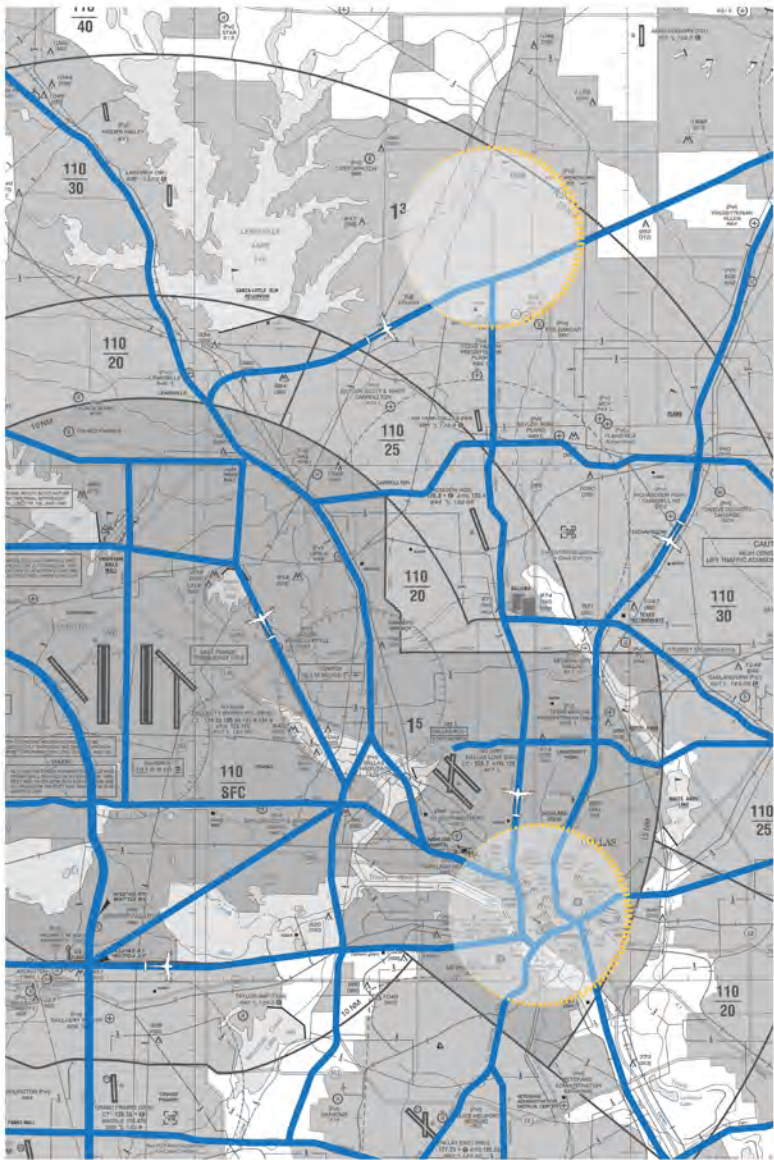


Connectivity

To become a useful component of the mobility mix, eVTOLs must be thoughtfully integrated into existing transportation networks, such as approved airspace monitored by the Federal Aviation Administration (FAA). FAA established helicopter routes called “skylanes” are located over rivers, major roadways and highways to give pilots visual references for navigation. To mitigate noise, leveraging existing skylane networks will accommodate increasing demand within high density air traffic areas.

Properly siting Skyport Mobility Hubs ensure the success of aerial rideshare, sufficiently providing the community with last mile ground modality connections such as electric scooters and bikes, on-demand fleet services, access to light rail, and within walking distance to high speed rail.

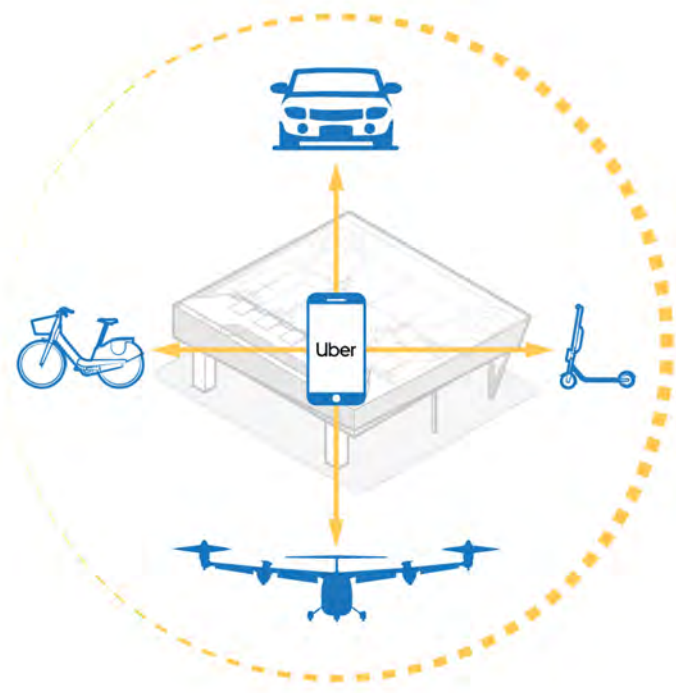
Additionally, emphasizing public activity within these facilities allow skyports to connect seamlessly into existing neighborhoods, serving as a landmark, contributing to the community’s wellness, and providing amenities consistent with the neighborhood’s culture.



ESTABLISHED FAA SKYLANES OVER DFW

Convenience

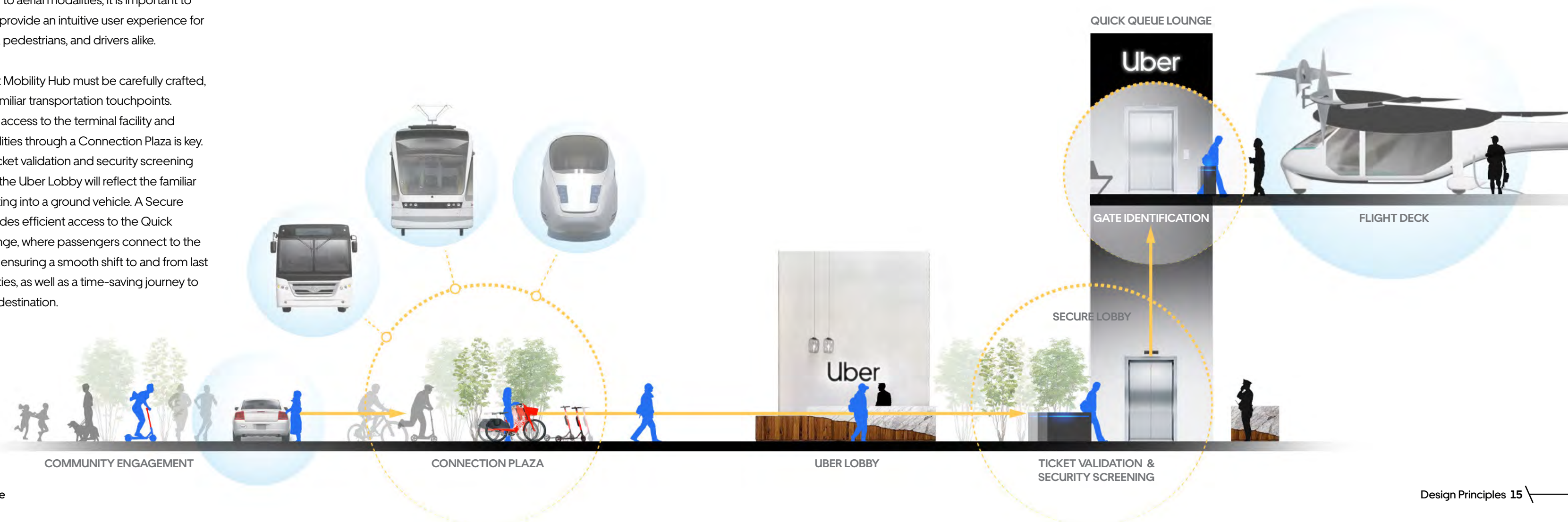
For urban air mobility to be a success, it must integrate effortlessly into the lifestyle of the user. Uber’s current on-demand service is intuitive and easy to use, convenient for both the passenger and the driver. By first leveraging familiar technology and behaviors, the Skyport Mobility Hub will reinforce the ease already associated with Uber’s service, creating a facility that is convenient for daily commuters, episodic explorers, annual travelers, and novice tourists alike. Choosing convenient locations for these facilities will also play a major role in their use. They must be sited in locations that are both easily accessible by designated skylanes, but also in areas of the city to which passengers and pedestrians alike are wanting to connect. Locating these facilities near offices, schools, residences, civic buildings, and entertainment venues, while also providing a programmatic mix that supports the surrounding community enables use throughout the day, allowing the facility to fit easily into multiple lifestyles and ensuring lasting value.



Intuitive User Experience

Uber has mastered an intuitive user experience as an on-demand transportation service. In transitioning to aerial modalities, it is important to continue to provide an intuitive user experience for passengers, pedestrians, and drivers alike.

The Skyport Mobility Hub must be carefully crafted, providing familiar transportation touchpoints. Convenient access to the terminal facility and other modalities through a Connection Plaza is key. Seamless ticket validation and security screening methods in the Uber Lobby will reflect the familiar ease of getting into a ground vehicle. A Secure Lobby provides efficient access to the Quick Queue Lounge, where passengers connect to the Flight Deck, ensuring a smooth shift to and from last mile modalities, as well as a time-saving journey to the arriving destination.



Operationally Feasible

Establishing standards of design for a new paradigm requires embracing evolving technologies. Accommodating the diverse eVTOL fleet calls for a facility that considers flexible solutions to adapt to advancements in the coming years as eVTOL flight matures. In addition, operational efficiency must maximize throughput without compromising passenger safety. Likewise, the design of these facilities must consider the use and regulation of low-altitude airspace that does not impact the city or prohibit future development.

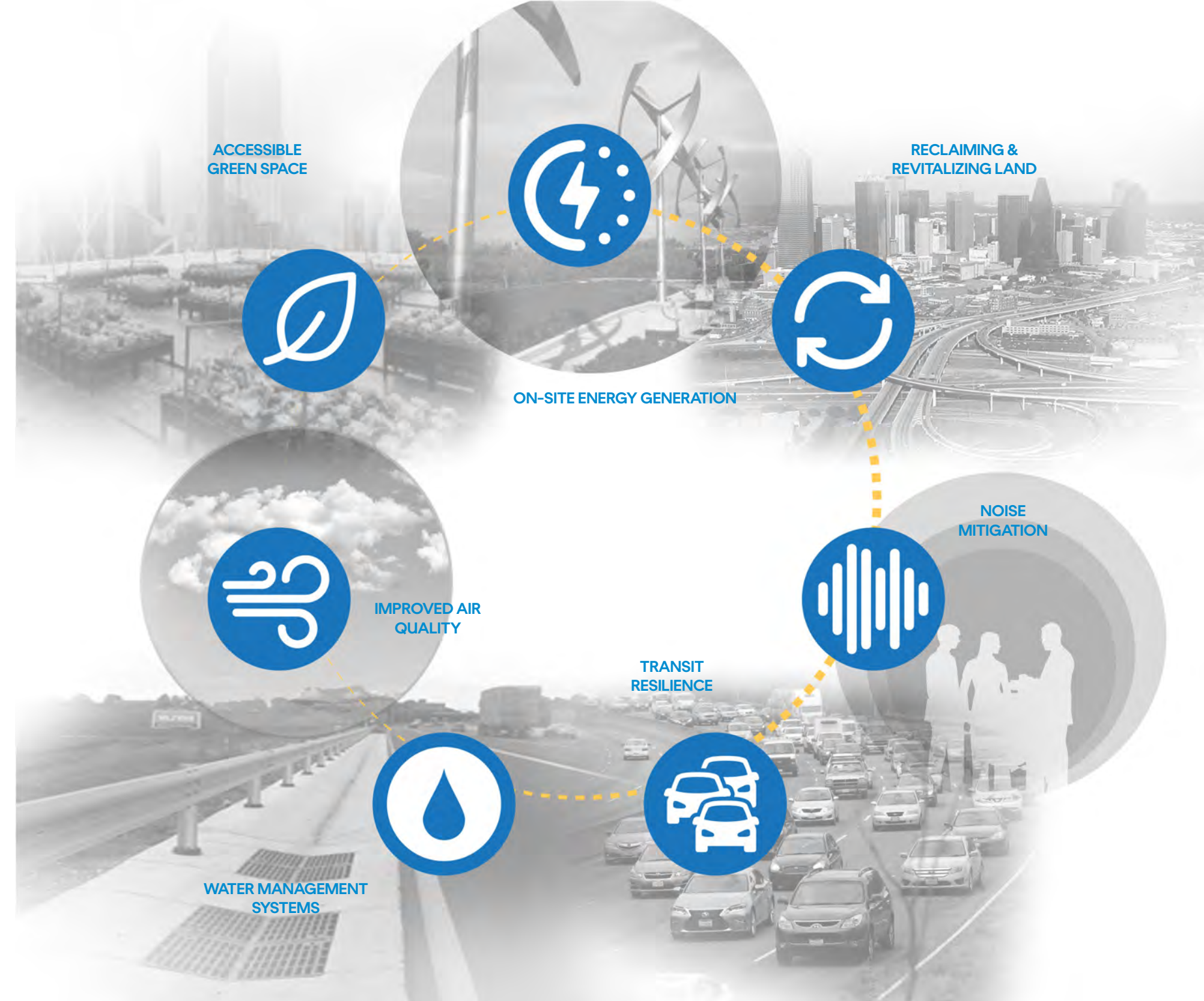
Modular and Scalable

To provide frameworks for Urban Air Mobility, an understanding of the current need and potential adoption is needed. Skyport Mobility Hubs must meet current demands, and scale as demand increases through a readily deployable, modular design that is easily repeated with minimal additional development. This allows for ease of construction, with the possibility that each component can be fabricated off-site and brought to site for construction, reducing time and realizing cost savings.

Environmentally Responsible Design

Skyport Mobility Hubs will enter preexisting environments, and will in turn affect them through energy consumption, stormwater runoff, and air quality, among other things. In addition to reconnecting divided communities, these facilities have a responsibility to sufficiently coexist with existing networks and systems, by reclaiming and revitalizing underutilized land in prime urban areas which are poised for transformation.

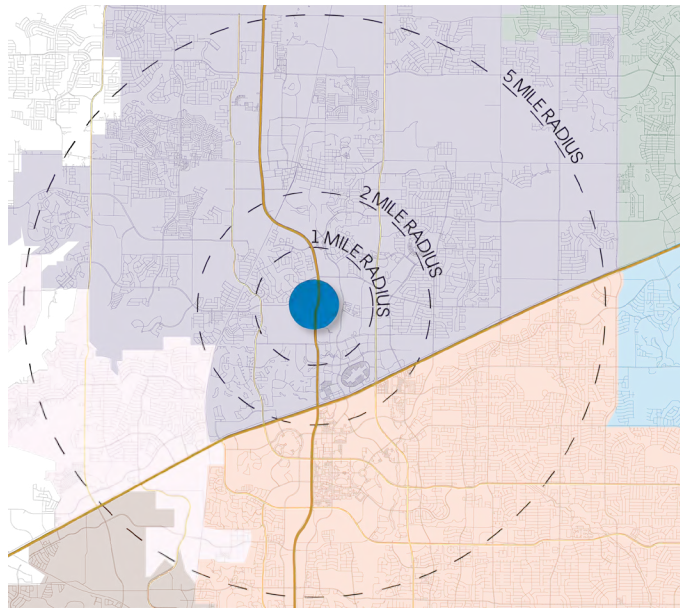
Introducing innovative water management systems and on-site energy generation techniques, in addition to using natural noise corridors to mask unwanted disturbances, enable a responsibly and thoughtfully designed Skyport Mobility Hub. Additionally, offering accessible greenspace through parks, playgrounds, and urban farming, can be beneficial for surrounding neighborhoods while reducing the heat island effect in our cities. Lastly, removing a portion of vehicular traffic from our city streets provides an opportunity to create a much more integrated bike network and pedestrian-friendly streetscape, allowing neighborhoods to become more resilient and better connected.



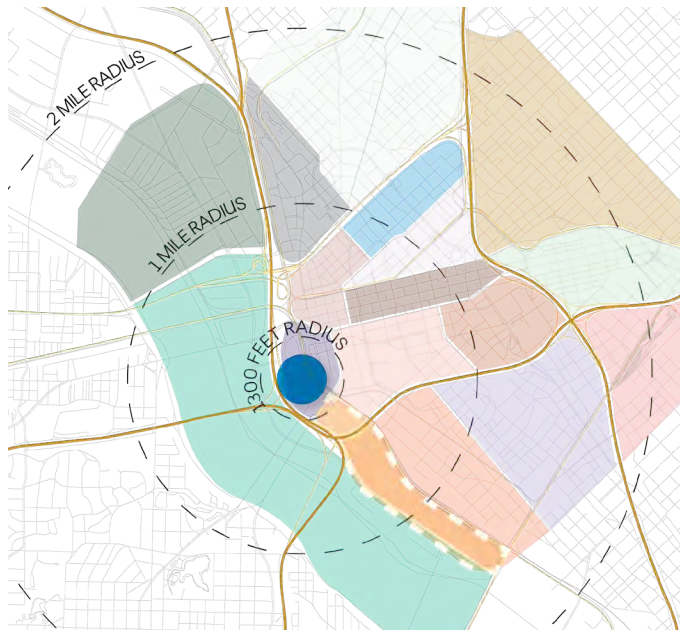
Site Conditions

The Dallas/Fort Worth Metroplex (DFW) has seen consistent population growth over the years, finding itself at the top of many lists for corporate relocation and job creation¹. Because a large percentage of the DFW population does not live near their places of employment, surrounding transportation infrastructure is increasingly burdened, causing some of the longest commute times in Texas, with significant increases in cross-county commuting. According to one study, almost half of the employed residents in Collin County travel outside their county to work, 37% of which commute to Dallas¹. In contrast, 86% of people who live in Dallas County work there¹.

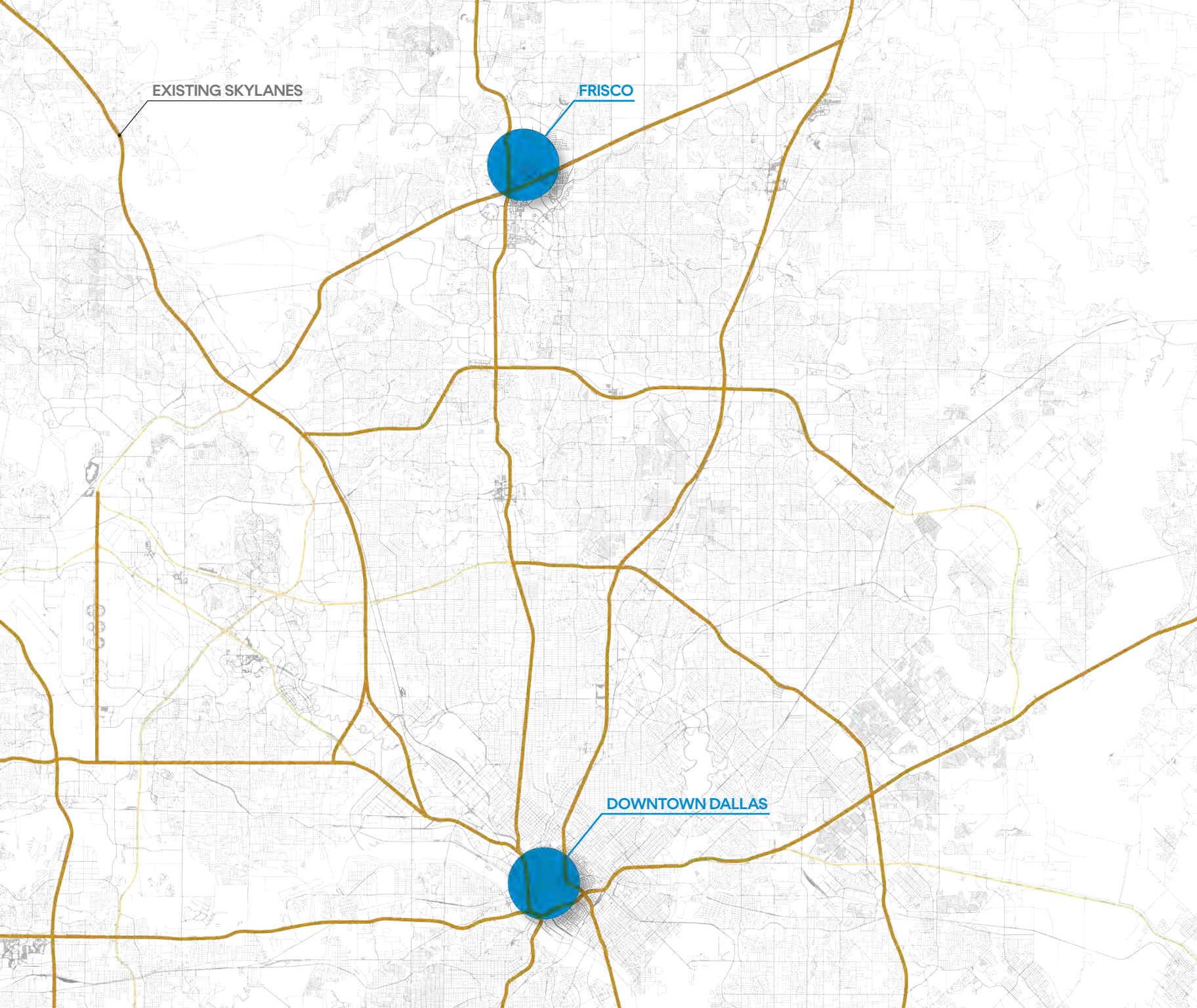
DFW is seeing job growth in both the central business district of Downtown Dallas, as well as the suburbs², and the highly educated workers to fill those businesses' positions are increasingly choosing to live in Dallas' urban core², seeking walkability, authenticity, and collaboration. This has increased "reverse commuter" traffic as workers living in city centers commute to jobs in the suburbs. This uniquely dynamic commuter profile provides the platform for a dialogue between two distinctively different areas within the DFW Metroplex: Downtown Dallas and Frisco.



FRISCO



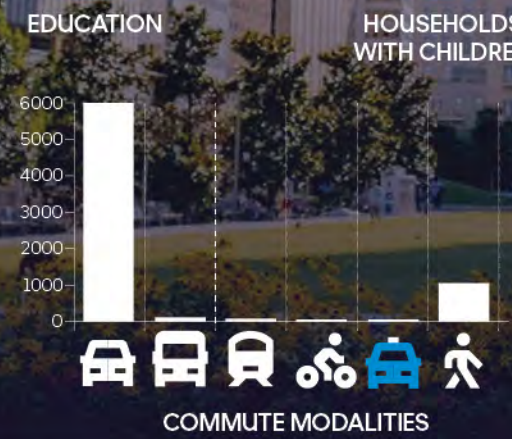
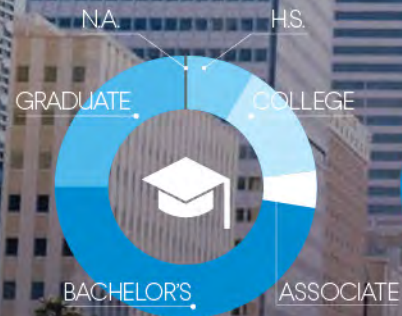
DOWNTOWN DALLAS



10,000
LIVE IN DOWNTOWN

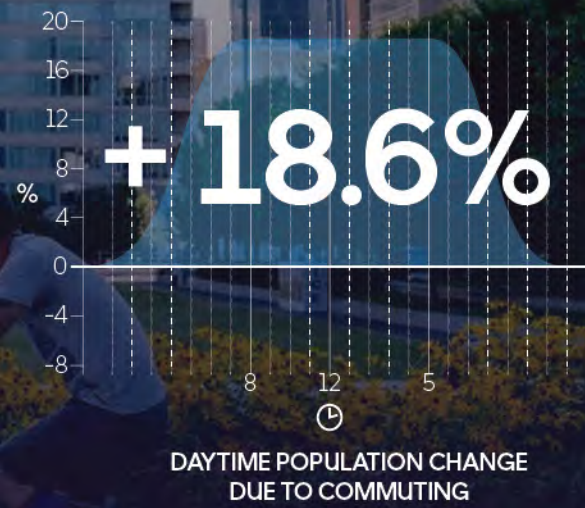
50,000
LIVE IN GREATER DOWNTOWN

135,000
WORK IN DOWNTOWN



HOUSEHOLDS WITH CHILDREN

27.2 MILLION
PEOPLE VISITED DALLAS IN 2018



FULL-SERVICE GROCERY IS MOST DESIRED AMENITY BY
67% DOWNTOWN RESIDENTS

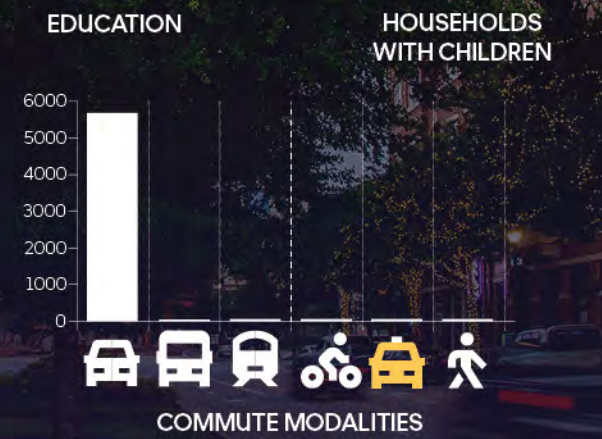
46% NON-RESIDENTS ATTENDED EVENTS DOWNTOWN 13+ TIMES IN 2018



37%
PEOPLE LIVING IN COLLIN COUNTY WORK IN DALLAS



OF FRISCO RESIDENT COMMUTES
2% ARE IN EXCESS OF 90 MINUTES



36.5 AVERAGE AGE

#1 BEST PLACE TO LIVE IN AMERICA (MONEY MAGAZINE 2018)

155,363 LIVE IN FRISCO



HOUSEHOLDS WITH CHILDREN

Downtown Dallas

Frisco

*See appendix for source information

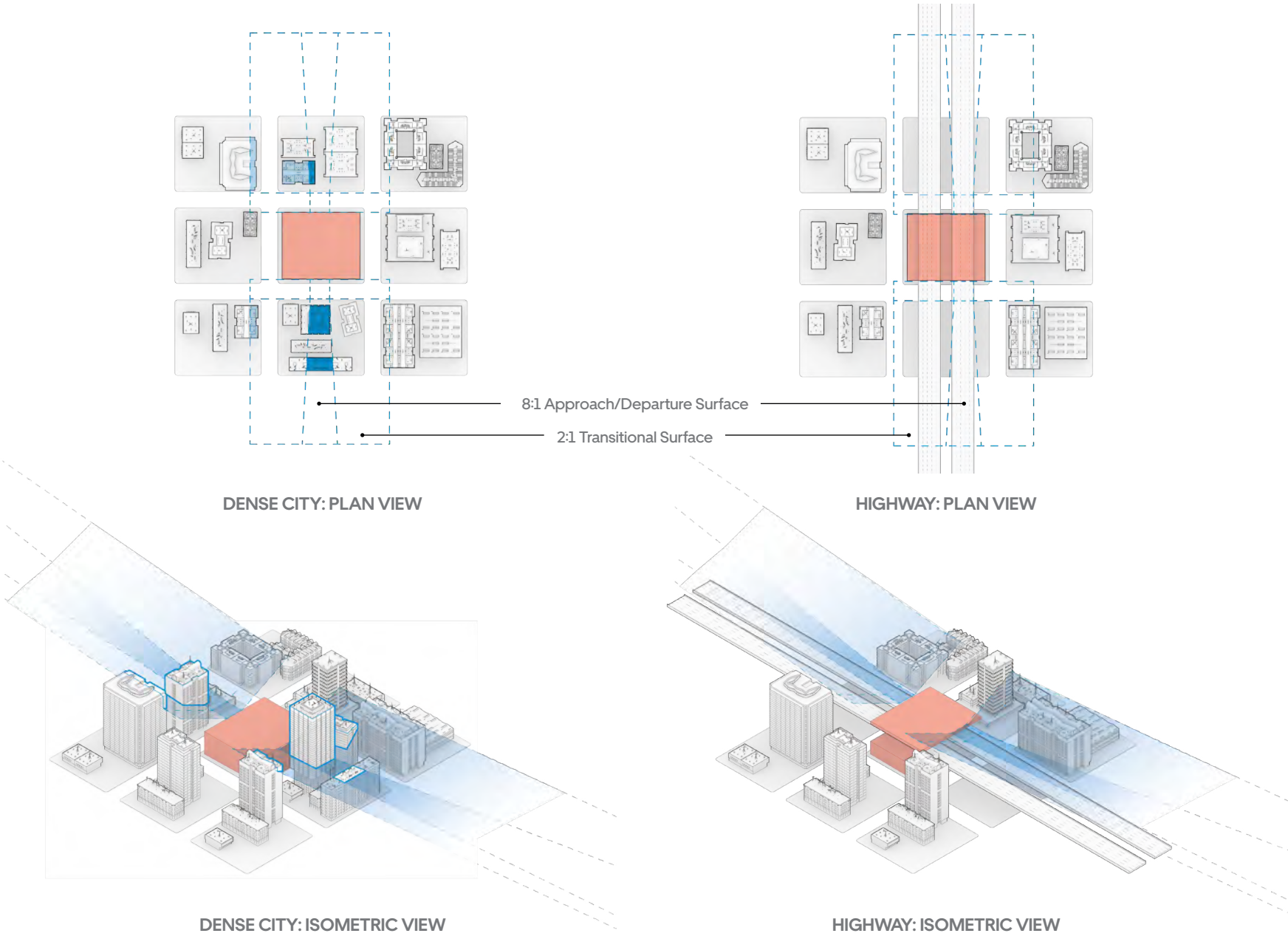
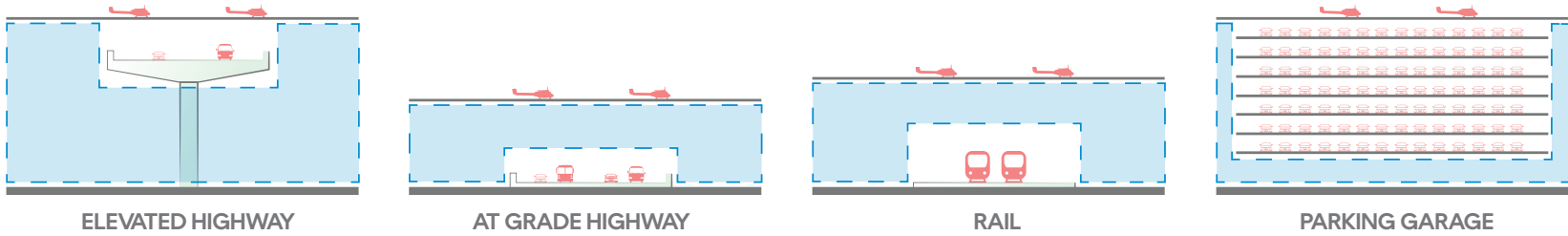
Airspace for Approach/Departure in the Urban Environment

Whether considering a dense urban environment or an open air suburban development, interfacing with existing infrastructural networks is key when considering optimal site locations to access existing and developing skylanes. Existing highway corridors are not only a zone of compatible use, but have defined otherwise underutilized low-altitude airspace that is optimal for eVTOL flight, in addition to providing familiar ambient noise that can mask the potential impact of noise the skyport may generate throughout cities and neighborhoods.

Building over existing roadway infrastructure allows the Skyport Mobility Hub to capitalize on

this underutilized airspace. Because the aircraft must maintain specific approach and departure clearances, building in a dense urban area can create airspace/air right conflicts with the adjacent buildings, or unintentionally restrict the height of the surrounding future development.

In response to the needs of the aircraft, the elevation of the Flight Deck must increase substantially to accommodate the surrounding context. However, by leveraging existing skylane networks over primary roadways, the Flight Deck can exist at lower elevations, reducing unnecessary structural costs and minimizing site constraints and adjacent building conflicts.



Site Selection Considerations

A series of considerations must be met to determine the best location for the skyport within the Dallas/Fort Worth Metroplex. These include cost, airspace flexibility, noise mitigation, and scalability. To appeal to both airspace flexibility and noise mitigation, the skyport must either increase in elevation, or be located on the outskirts of the city. While placing the skyport in a field condition can gain airspace flexibility, scalability, and cost savings, this solution does not provide convenient connections to urban activity. At the same time, increasing the elevation of the Flight Deck high enough to gain substantial airspace flexibility without limiting the development of surrounding context, such as a high rise condition, reduces the scalability and increases the cost.

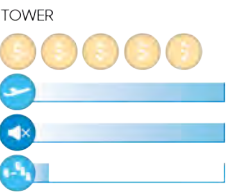
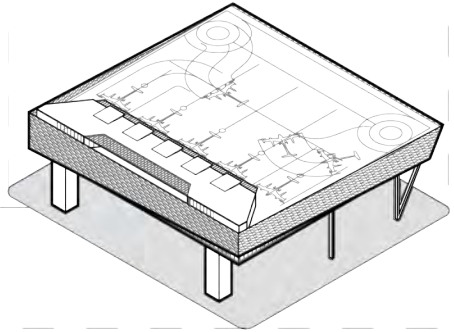
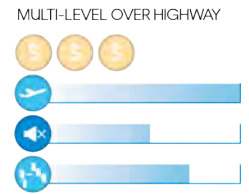
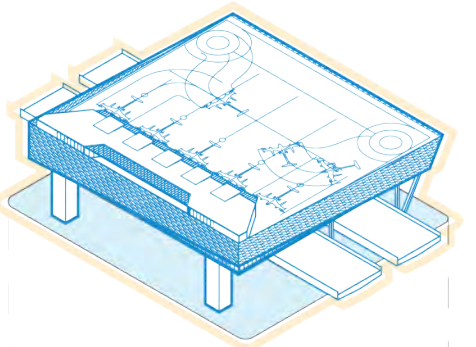
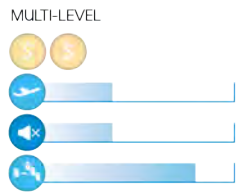
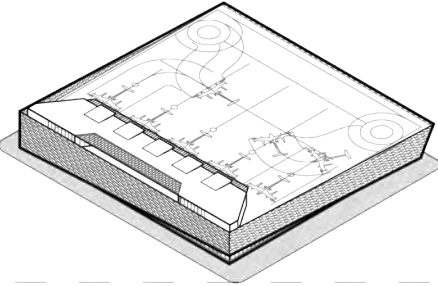
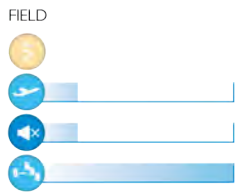
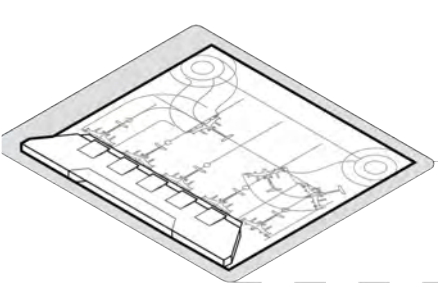
The current skylane network over major highways in DFW provides an opportunity for the skyport to easily locate over a highway and tap into underutilized infrastructure, while retaining scalability. Additionally, locating the skyport over an elevated highway places it within an existing noise corridor, mitigating additional noise pollution to the surrounding community.

COST

AIRSPACE FLEXIBILITY

NOISE MITIGATION

SCALABILITY



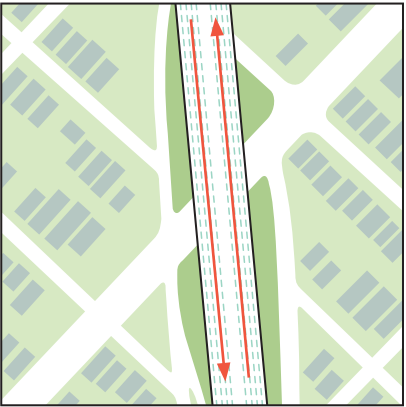
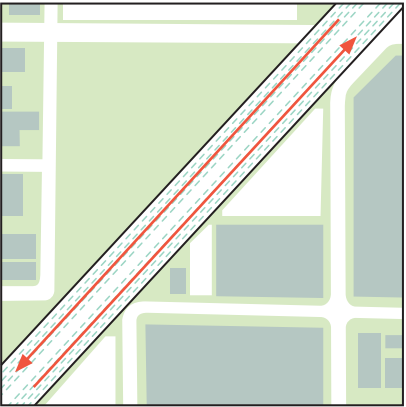
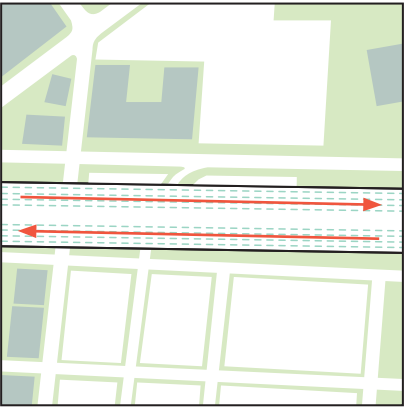
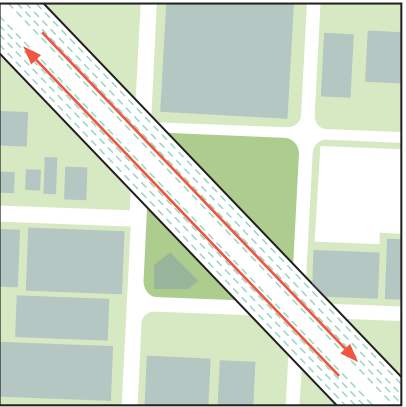
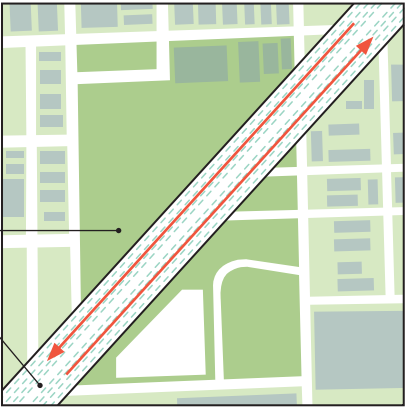
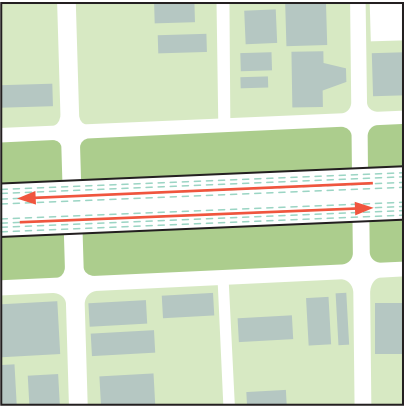
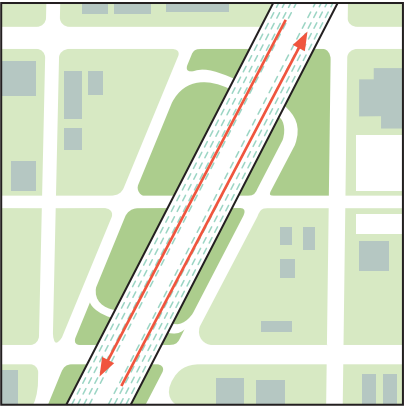
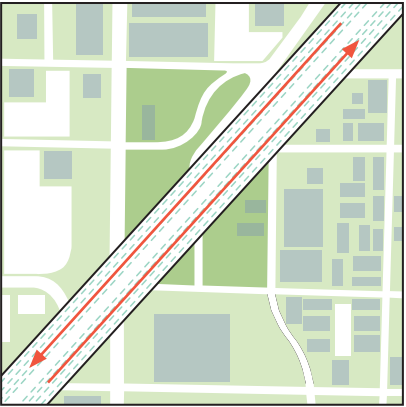
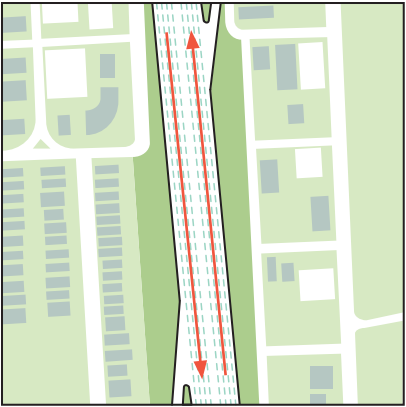
PREFERRED OPTION

Highway Conditions

After analyzing the highway conditions throughout Downtown Dallas, there is an abundance of underutilized space immediately adjacent and underneath existing highway infrastructure, with direct access to airspace that has been identified as part of the skylane network. Just as in Dallas, similar site conditions exist in a variety of locations along highway networks in most major cities.

While it is important for these facilities to leverage currently underutilized airspace, it is equally important to provide a convenient connection for neighboring communities across the highway divides, revitalizing space to serve as more prominent connection points for people moving from one neighborhood to another.

UNDERUTILIZED SPACE
HIGHWAY

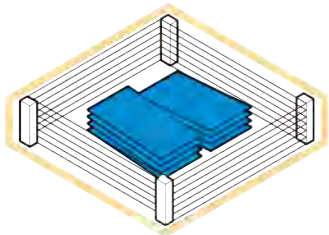


Garage Typologies

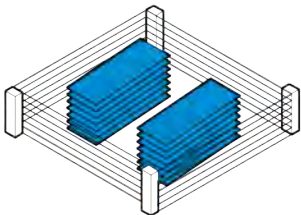
With the growing popularity of rideshare and the introduction of electric scooters and bicycles, existing parking garages have already started to see a decline in annual revenue. In urban areas, many parking garages have outlived their useful life and are not suitable to be retrofitted for Skyport Mobility Hub operations. However, newer construction, with sufficient capacity to handle live load additions from landing eVTOLs can more easily be transitioned into a Skyport Mobility Hub.

A wide variety of parking garage typologies exist throughout the DFW metroplex, including those with exterior spiral ramps, exterior speed ramps, or even mechanical lifts. The most prevalent typology however, includes an internal sloped parking ramp with vertical cores at each corner of the building. This typology is typical of garages located near entertainment venues, shopping malls, and universities. Increasingly DFW metroplex parking structures are beginning to be built to allow for future flexibility, enabling them to transition to office space as the need for parking minimizes.

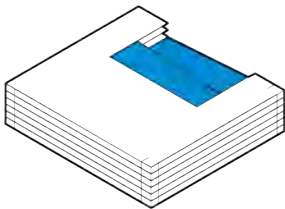
PREFERRED OPTION



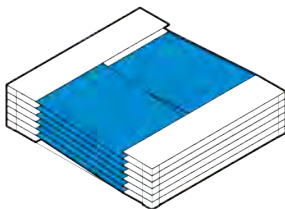
Interior



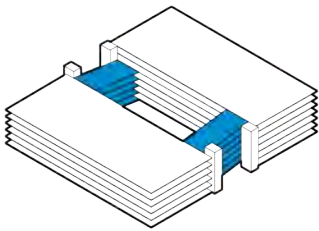
Interior



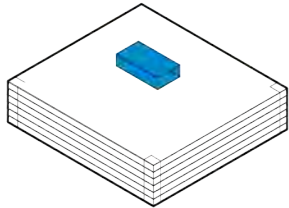
Exterior



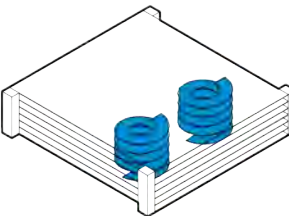
Exterior



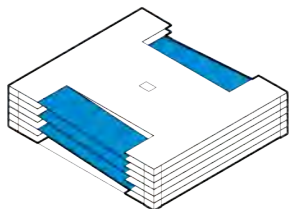
Exterior



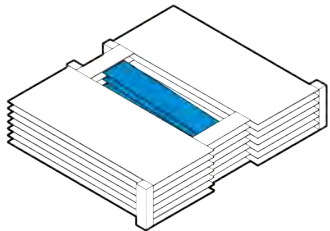
Interior



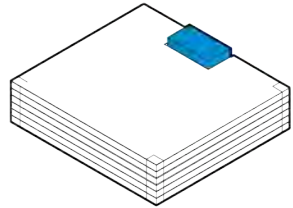
Interior



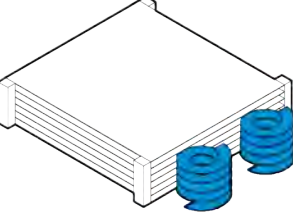
Exterior



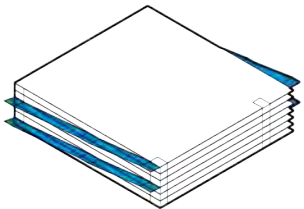
Interior



Exterior



Exterior



Exterior

FUTURE SERIES

LIFT SERIES

HELIX SERIES

RAMP SERIES

Minimum Site Criteria for Skyport Development*

GREENFIELD OPTION

CONNECTIVITY	
Proximity	Directly above or within ½ mile of a major roadway or highway
	Proximity to sky lanes with high air traffic capacity within 1 mile
Access	Vehicular access on minimum 1 side of the site, from adjoining street that has capacity to accommodate 43 vehicles per hour and has a curbside frontage of 125 ft for drop-off and pick-up
	Pedestrian access on minimum 1 side for passengers on foot or riding scooters or bicycles
CONVENIENCE	
Proximity	Proximity to commercial, business, or entertainment node within ½ mile
	Proximity to residential district within 1 mile
	Proximity to public transit stop within ¼ mile
SITE	
Footprint	A site footprint that can accommodate a 300 ft long and 275 ft wide flight deck
UNOBSTRUCTED APPROACH AND DEPARTURE	
Airspace	Unobstructed airspace above a 500 ft wide and 4000 ft long imaginary approach surface extending from each TLOF at 8:1 slope

RETROFIT OPTION

CONNECTIVITY	
Proximity	Proximity to a major roadway or highway within ½ mile
	Proximity to sky lanes with high air traffic capacity within 1 mile
Access	Vehicular access on minimum 1 side of the site, from adjoining street that has capacity to accommodate 43 vehicles per hour and has a combined curbside frontage of 125 ft for drop-off and pick-up
	Pedestrian access on minimum 1 side for passengers on foot or riding scooters or bicycles
CONVENIENCE	
Proximity	Proximity to commercial, business, or entertainment node within ½ mile
	Proximity to residential district within 1 mile
	Proximity to public transit stop within ¼ mile
STRUCTURE	
Garage	A garage that can hold a 300 ft long and 275 ft wide flight deck on the top level
	The garage must have at least two vertical cores that are accessible from street level
UNOBSTRUCTED APPROACH AND DEPARTURE	
Airspace	Unobstructed airspace above a 500 ft wide and 4000 ft long imaginary approach surface extending from each FATO at 8:1 slope

*Following criteria must be met when selecting a site for development of a single module Skyport. A single module consists of 2 TLOFs and 5 eVTOL parking pads.

Explore:

Downtown Dallas

Downtown Dallas is an incredibly diverse community, linked by running trails to a growing park network, and sprinkled with local art installations, impromptu street performances, museums, and theaters. A dense mix of skyscrapers and local eateries, the makeup of Downtown Dallas strikes a balance between global city and local vernacular.

Nestled within the downtown highway loop, downtown is bounded on all sides. Its continued growth however, spills past the highway loop, creating 15 unique districts, each contributing to the character and culture of Greater Downtown Dallas. It welcomes a consistent influx of commuters, visitors, and tourists daily, catering to a variety of experiences, such as diving deep into historical memorials, grabbing barbeque at a food truck or spending happy hour with a rooftop view. Home to a diverse mix of over 10,000 residents living in a blend of condominiums and townhomes, Downtown Dallas is transitioning to a more walkable and pedestrian focused city, promoting ambient wellness and ubiquitous connection.

Downtown Dallas is well-connected, supported by a variety of urban linkages including the Dallas Area Rapid Transit (DART) light rail system and the Trinity Railway Express (TRE) commuter train to Fort Worth. The historic Union Station connects people to Chicago and Los Angeles through Amtrak, while a free trolley line leisurely connects people hopping from one brunch spot to the next.



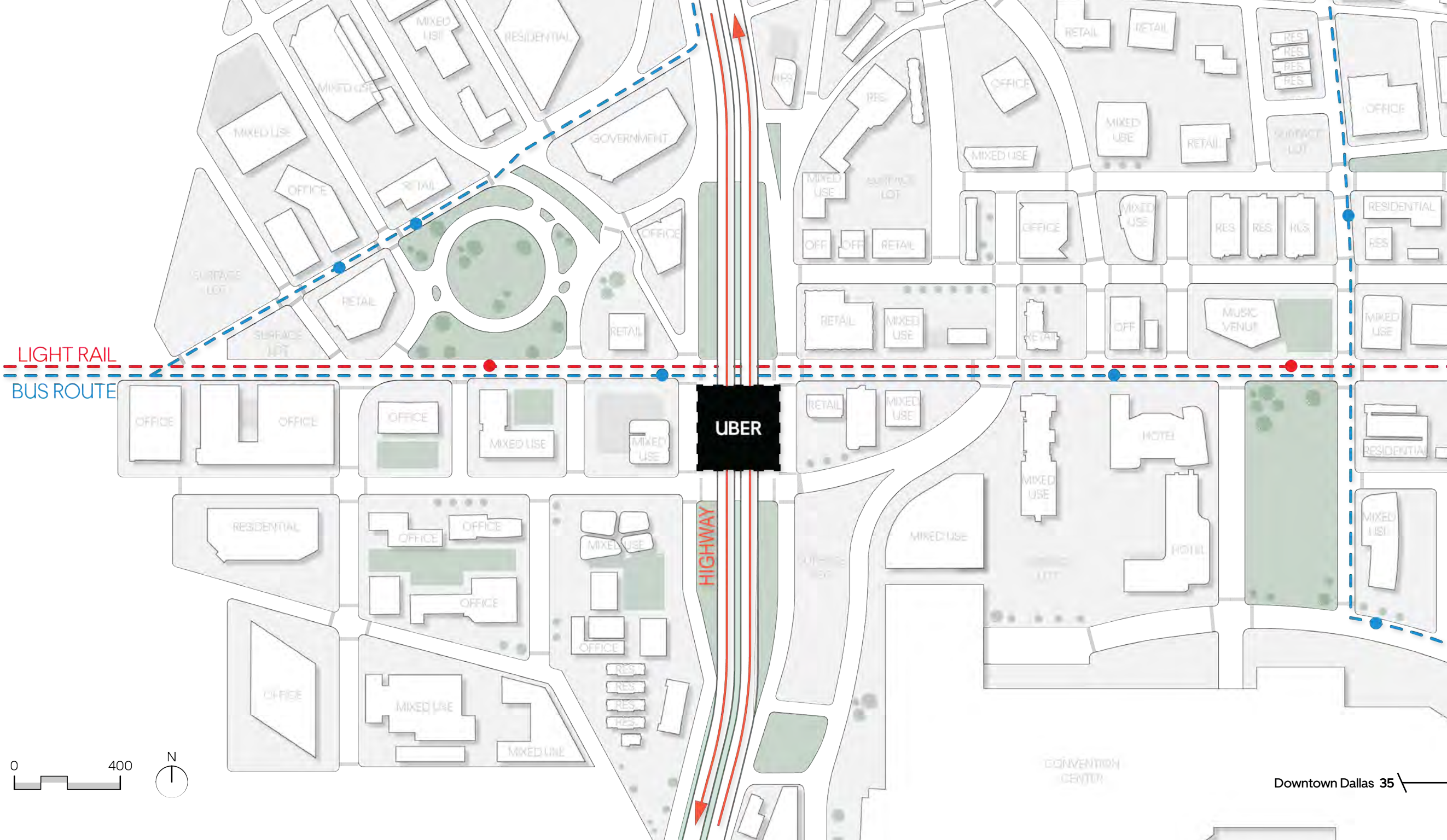
Downtown Dallas

The Greenfield

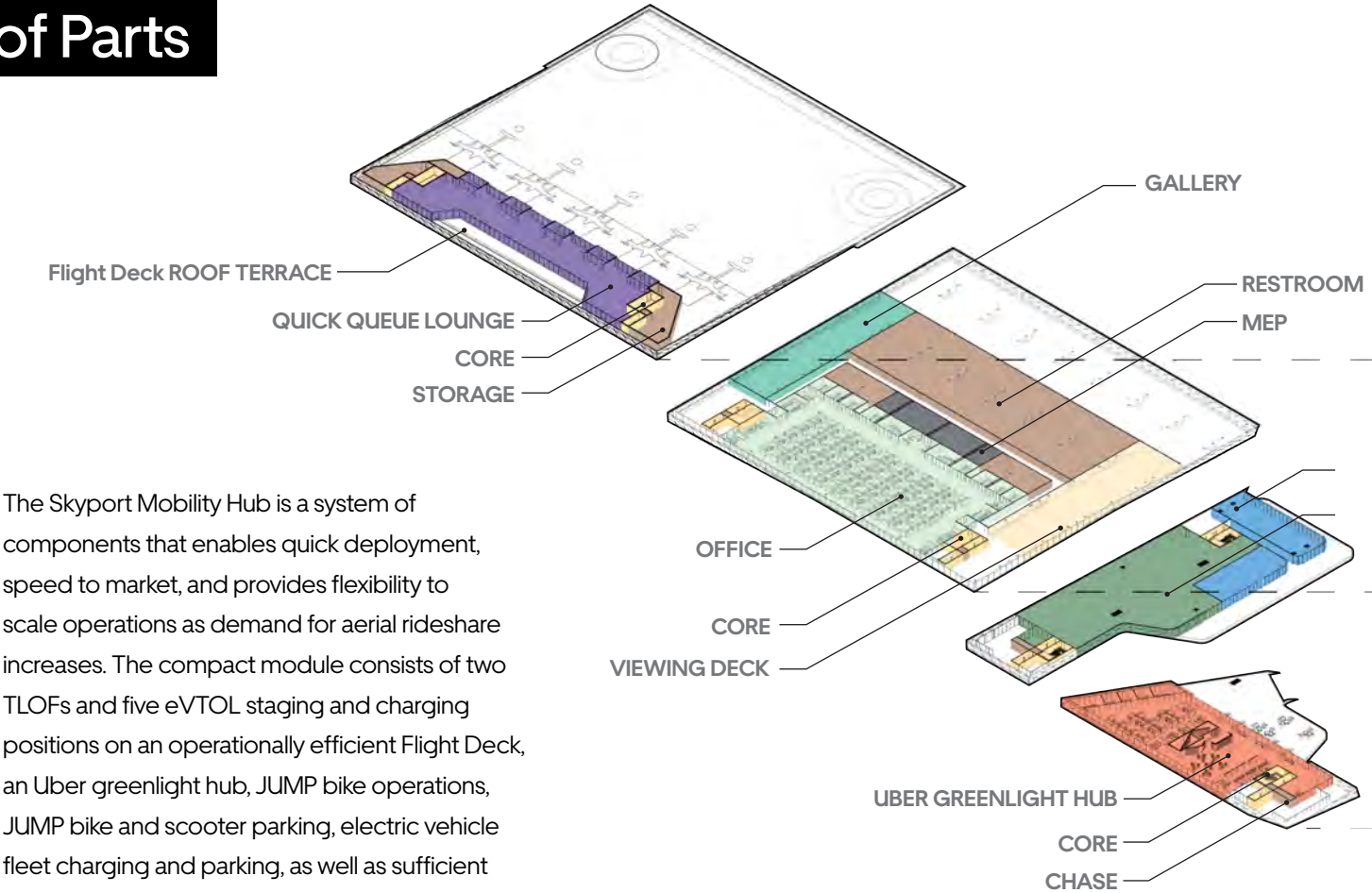
eVTOL flight will become a valuable part of the mobility mix as skyports are thoughtfully integrated into locations to which people travel regularly. Within DFW, Downtown Dallas is ideal, as its population positively fluctuates daily with tourists, visitors and commuters. It is also important to consider the connections between divided neighborhoods as Downtown Dallas continues to develop past the highway loop.

The pulsing change in population density throughout the day supports the need for a skyport that realizes more far reaching goals for the city. The Downtown Dallas Skyport Mobility Hub has the opportunity to leverage the existing highway loop and its surrounding underutilized green space, tying directly into the skyline networks, and providing a much needed pedestrian connection across highways.

The Skyport Mobility Hub is strategically located adjacent to light rail stops, is situated within an existing bus route, and is also a convenient walk from the future high-speed rail location.

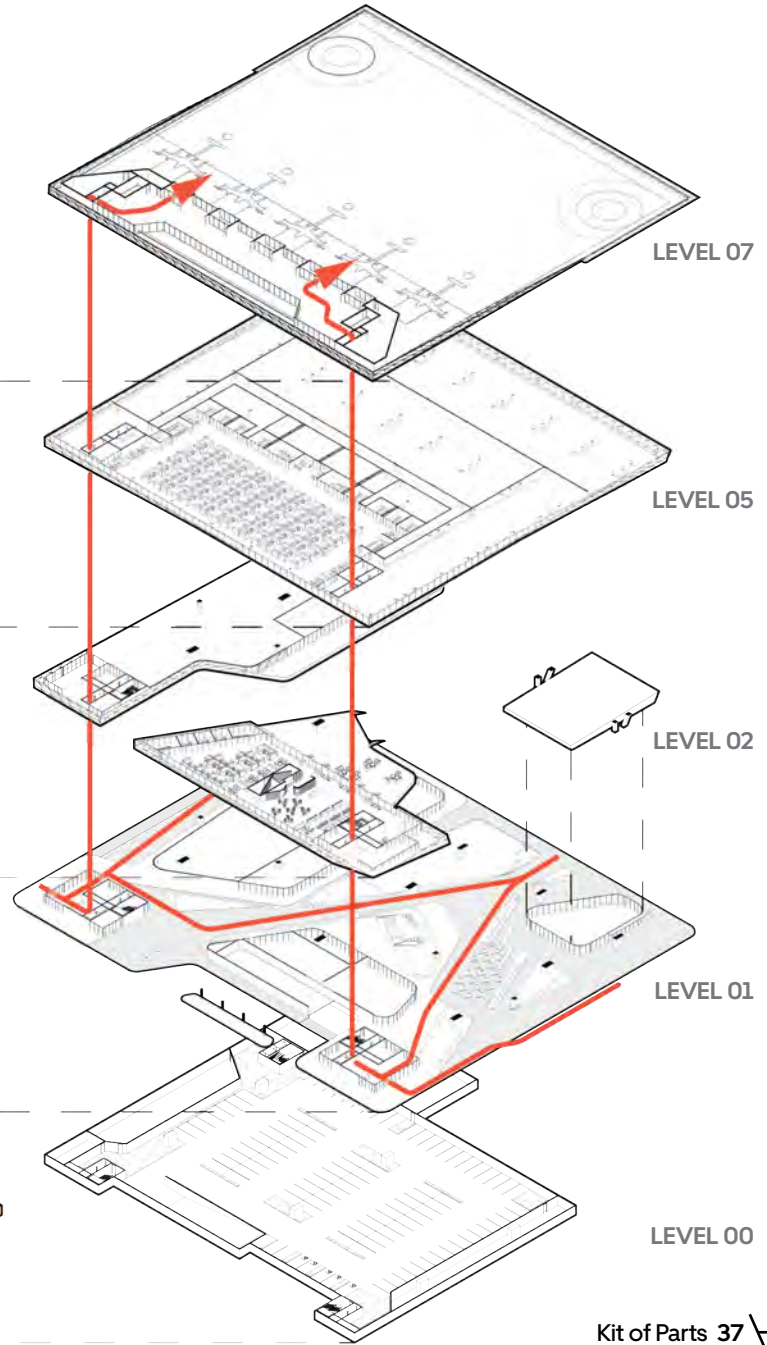
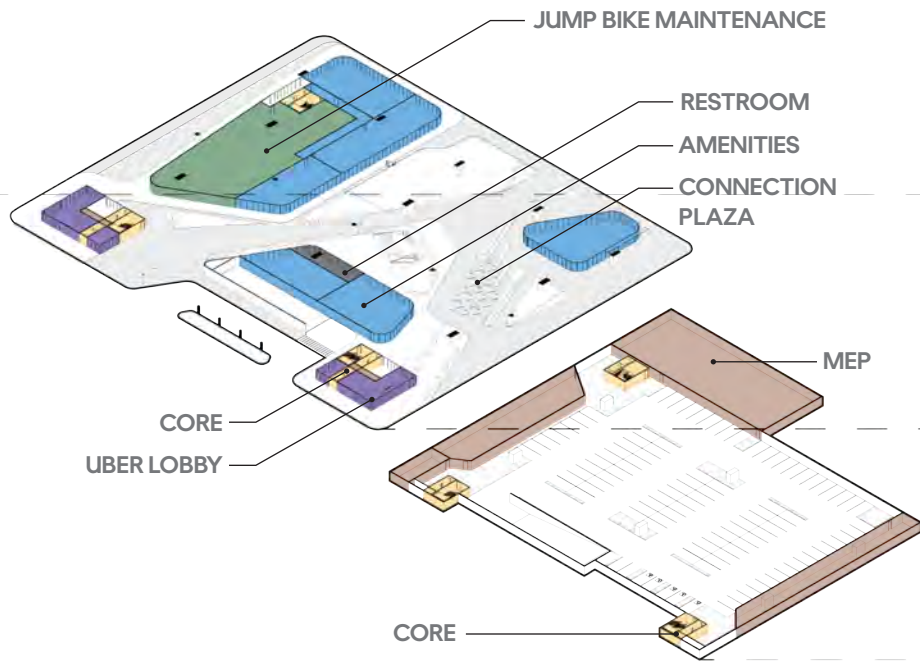


Kit of Parts



The Skyport Mobility Hub is a system of components that enables quick deployment, speed to market, and provides flexibility to scale operations as demand for aerial rideshare increases. The compact module consists of two TLOFs and five eVTOL staging and charging positions on an operationally efficient Flight Deck, an Uber greenlight hub, JUMP bike operations, JUMP bike and scooter parking, electric vehicle fleet charging and parking, as well as sufficient battery storage to provide power to charge all of the vehicles. Additional amenities, such as restaurants, retail, and coworking spaces, enable the facility to better support the surrounding community. The Skyport Mobility Hub is designed to be deployed as both a greenfield solution as well as atop existing buildings and parking garages.

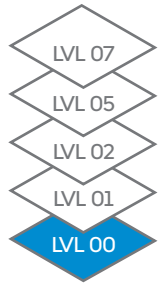
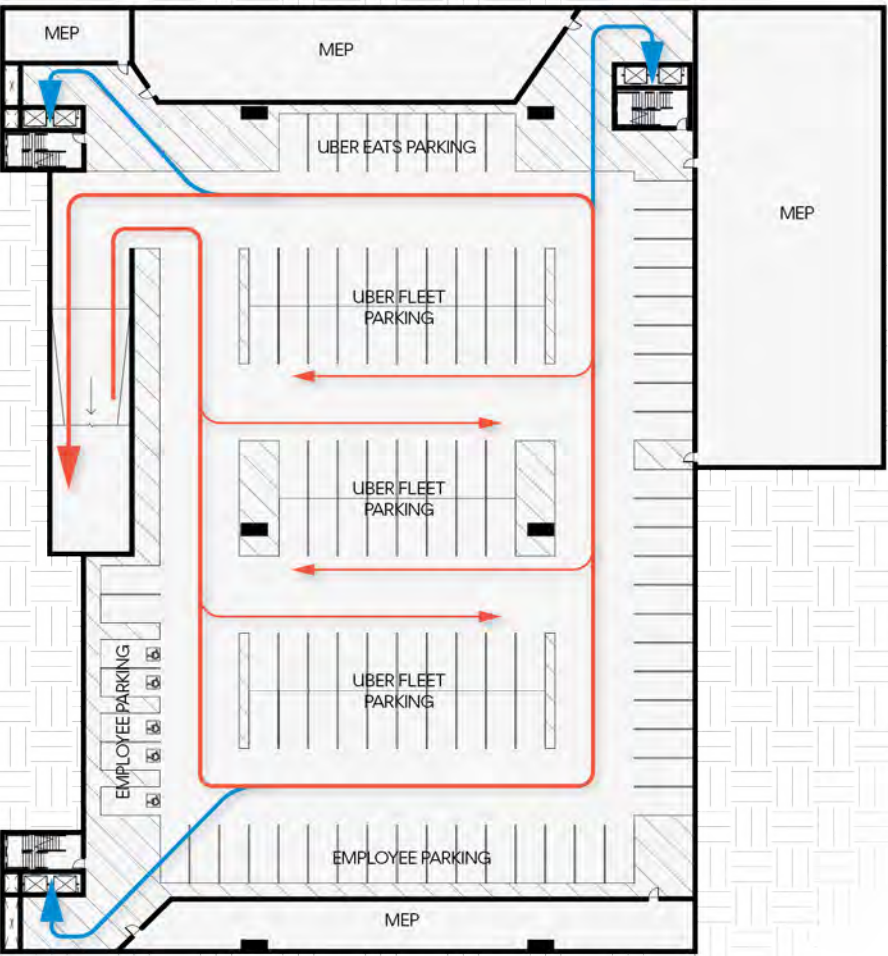
AMENITIES
JUMP BIKE OPS



Electric Vehicle Parking/Charging

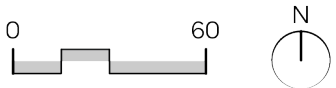
To safely separate vehicular and pedestrian activity and keep the ground level open for pedestrian connection, all parking and charging facilities are located below grade. This allows parking to remain dedicated to Uber’s autonomous ground vehicle fleet, as well as any UberEats delivery services that

may use the facility to charge. Parking is accessed via a speed ramp on the west side, which provides easy access to the passenger pick-up location at grade level. Dedicated employee parking for those working in the restaurants and retail above is adjacent to the fleet parking, allowing for future expansion. Additionally, vestibules on this lower level connect into the underground pedestrian network.



VEHICULAR PATH
PEDESTRIAN PATH

LEVEL 00



Connection Plaza

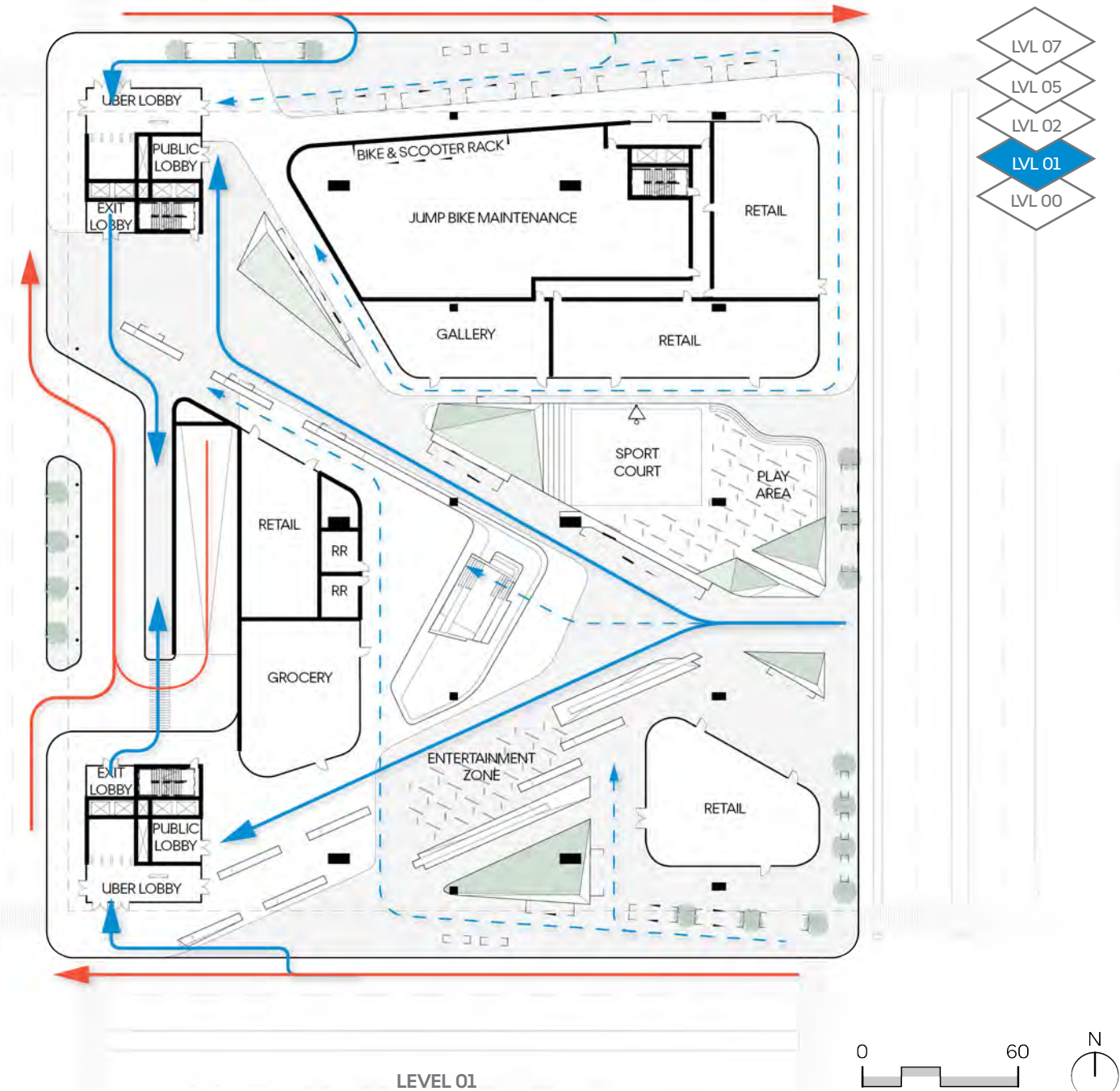
A meeting point for the community, the Connection Plaza contains shops and restaurants, hosts performances and events, has parks and fountains, and provides amenities consistent with the neighborhood's culture. The welcoming point into the Skyport Mobility Hub, it safely connects pedestrians to neighboring areas across the highway and provides connections to various last-mile transportation modalities, with direct access to the highway for ground vehicle drop off and pickup, on-site bus stops, and proximity to light rail.

An active space, the Connection Plaza hosts a variety of visitors throughout the day, from workers on a midday lunch break, to students playing an after-school pick-up game. It consists of multiple zones that allow for highly active play to areas of respite. Interactive kinetic pavement turns on fans to circulate air, fountains and lighting turn on and off with movement in the space, and light displays capture the moment of lift off, creating an active, fun, and engaging space. This elevates surroundings, excites users, and enables the skyport to become a true neighborhood amenity and a new destination for Downtown Dallas.



It is not uncommon to see many people of varying ages and backgrounds whizzing around Downtown Dallas using Uber's electric on-demand JUMP bikes and scooters. They have become a familiar and useful member of the transportation network - simple to find and locate - connecting people to nearby destinations with ease.

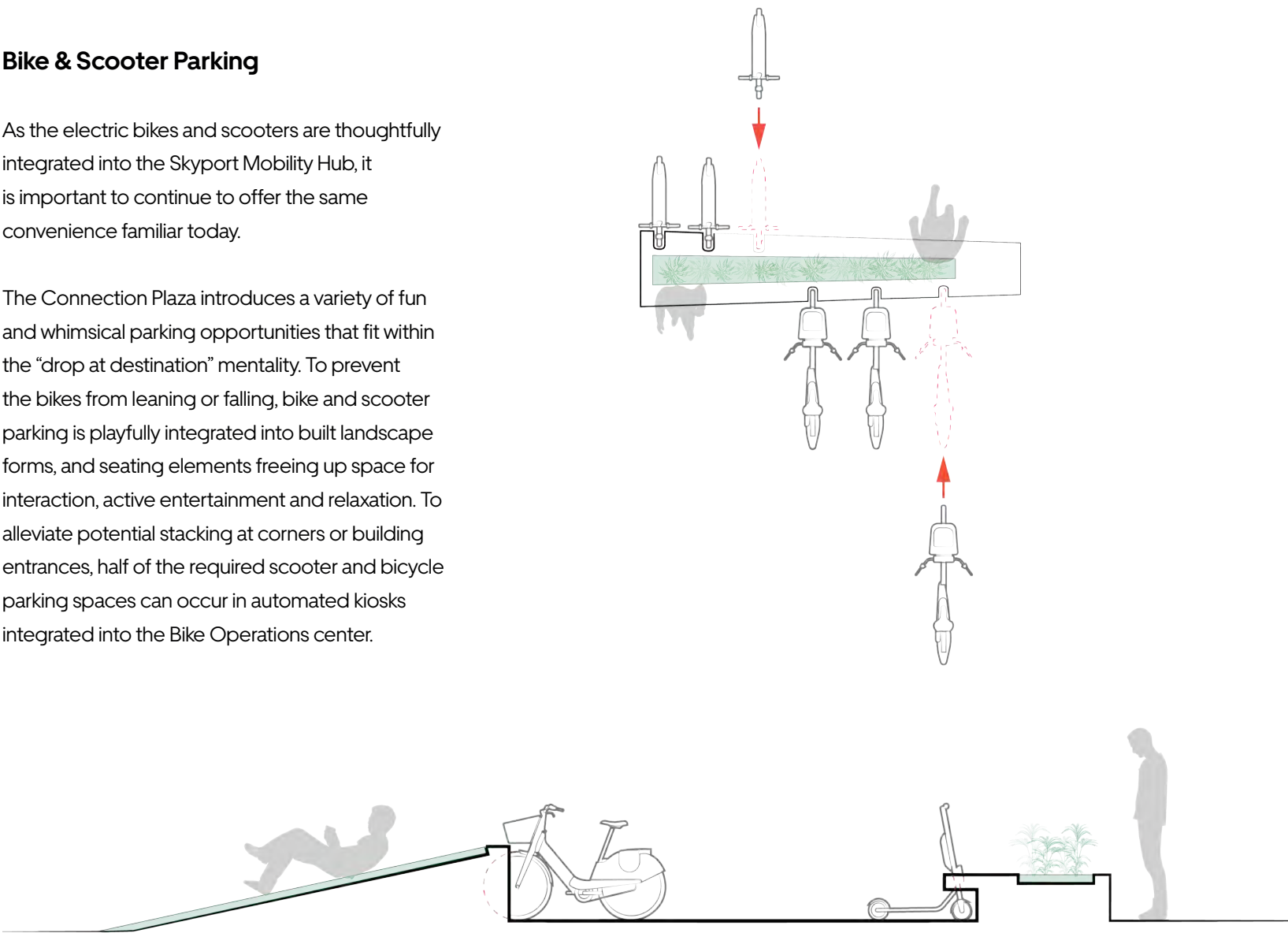
An architectural rendering of a modern building with a glass facade and a blue, perforated metal upper section. People are walking on a balcony and riding bicycles in the foreground. The building is situated under a large, curved, metallic structure.



Bike & Scooter Parking

As the electric bikes and scooters are thoughtfully integrated into the Skyport Mobility Hub, it is important to continue to offer the same convenience familiar today.

The Connection Plaza introduces a variety of fun and whimsical parking opportunities that fit within the “drop at destination” mentality. To prevent the bikes from leaning or falling, bike and scooter parking is playfully integrated into built landscape forms, and seating elements freeing up space for interaction, active entertainment and relaxation. To alleviate potential stacking at corners or building entrances, half of the required scooter and bicycle parking spaces can occur in automated kiosks integrated into the Bike Operations center.



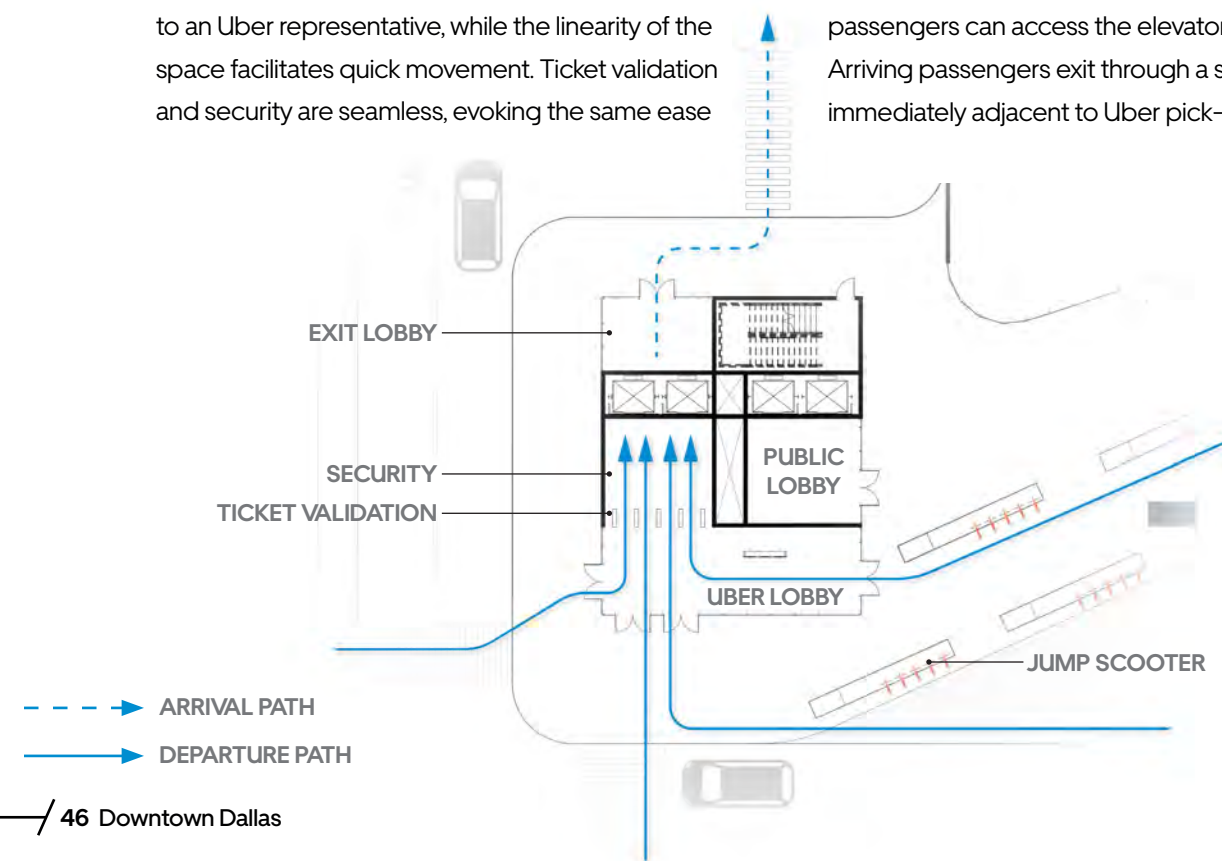
Uber Lobby

The Uber Lobby is the first touchpoint between the passenger and UberAir. Welcoming passengers in from the street corner, a wooden accent ceiling transitions from exterior to interior, intuitively guiding people in.

Designed for efficiency, a reception desk is located to the side, allowing those with questions to speak to an Uber representative, while the linearity of the space facilitates quick movement. Ticket validation and security are seamless, evoking the same ease

of getting into a ground vehicle. Slender biometric devices use a combination of active millimeter wave imaging and facial recognition to scan visitors in motion without the need to remove personal belongings. In seconds, passengers scan their mobile ticket verifying their flight purchase, are weighed, and are determined secure.

Passengers enter a secure lobby with direct access to the Flight Deck above. Only departing passengers can access the elevator from the lobby. Arriving passengers exit through a separate lobby immediately adjacent to Uber pick-up operations.



Greenlight Hub

The Greenlight Hub is designed to give drivers and future pilots alike the support they need. Greenlight Hubs serve as a resource for one-on-one in-person support for help with the Uber app, while also providing a space for drivers to connect with other drivers in the area.

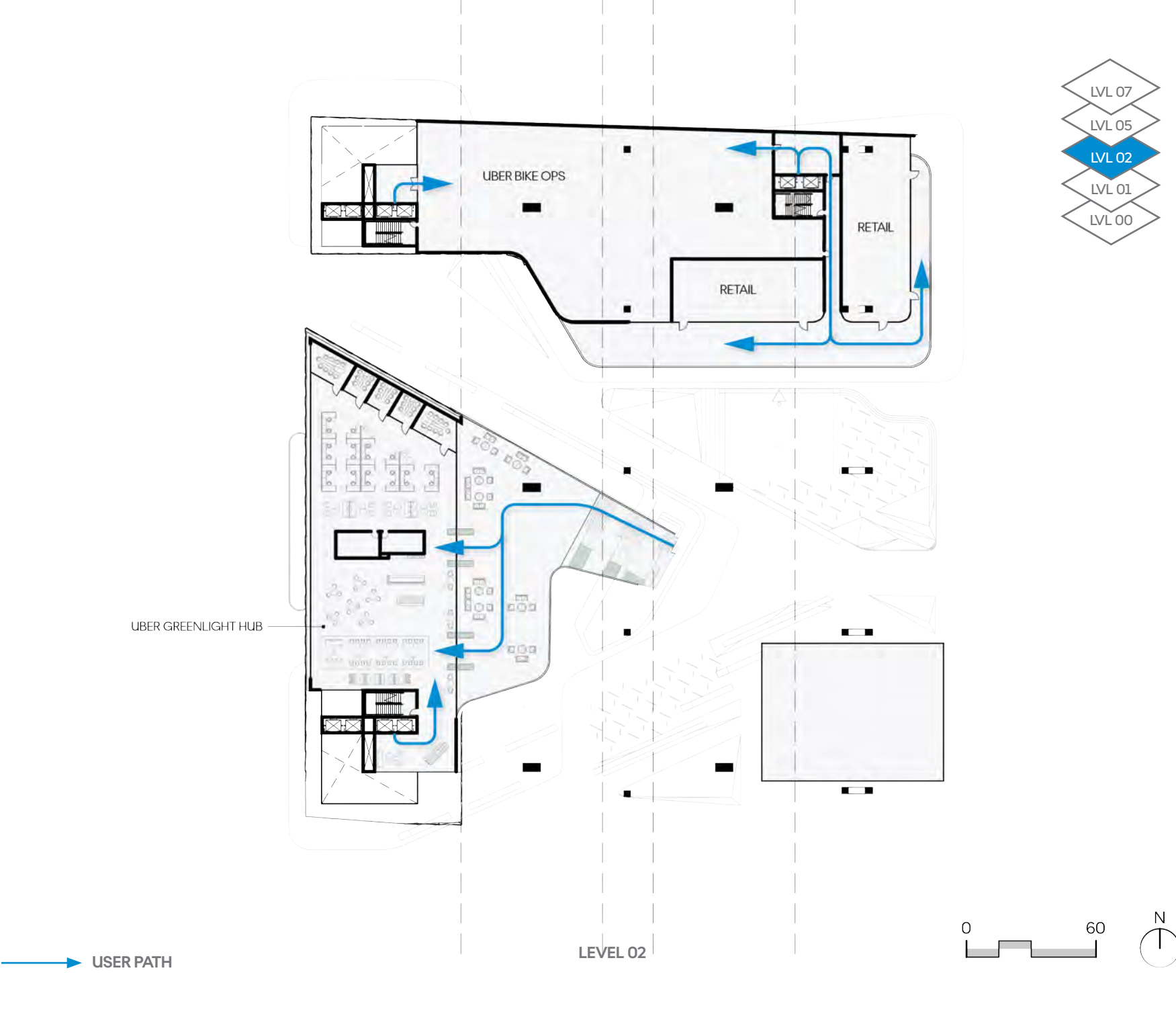
Located on the second level, drivers conveniently access the Greenlight Hub via public elevator lobby or the centralized grand stair in the Connection Plaza. This location provides the Greenlight Hub with access to an elevated plaza, allowing the street level to remain open to amenities focused on community benefit. Active help desks are available upon entry, in addition to multiple lounge spaces that encourage socializing between drivers. A café also supports the driver community, while they are using the facility.





The second level remains accessible to the public via a grand stair. People are welcome to sit and enjoy their lunch on the steps near landscaping and water features, or even wander up to the balcony level retail, restaurants, and other public amenities

Uber drivers are inherently entrepreneurial, a lifestyle that is replicated in other second level programmatic spaces such as a small maker space, and a relocated Dallas Entrepreneurial Center, allowing the Skyport Mobility Hub to support an entrepreneurially focused community.

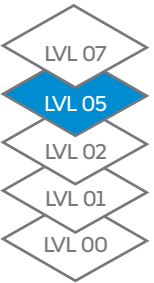
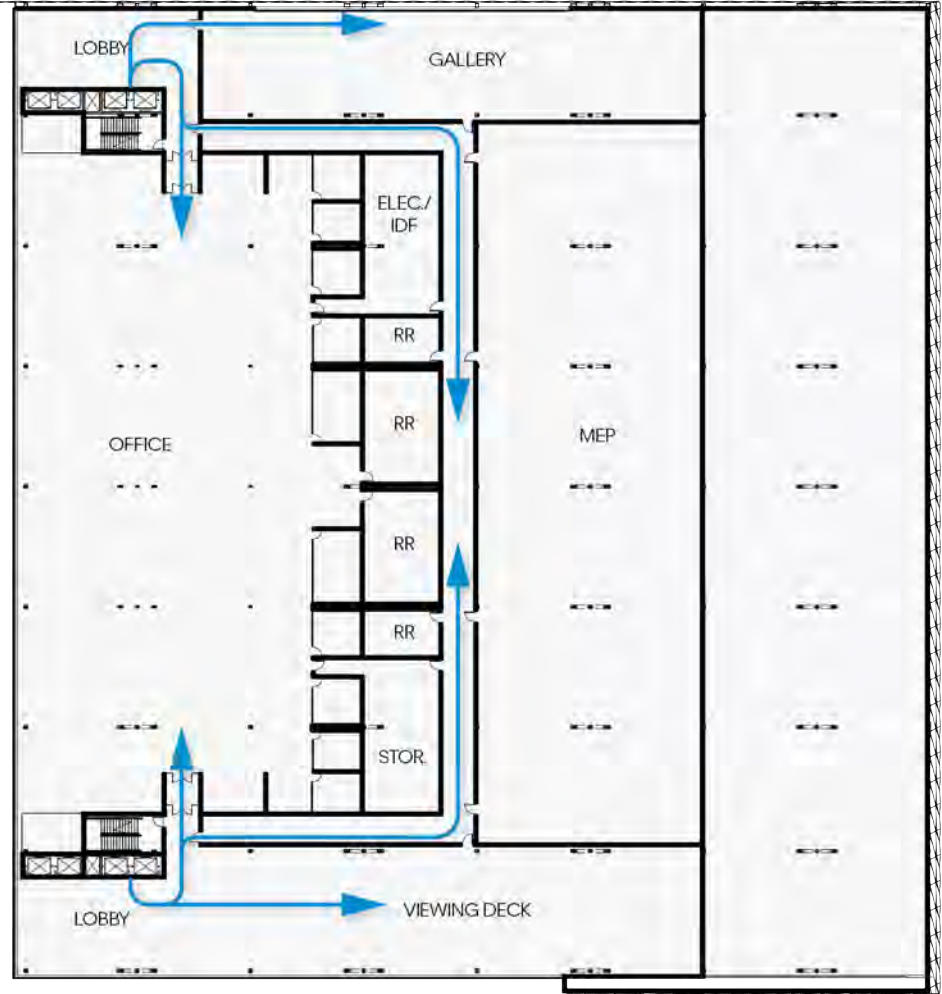


Office Level

The influx of reverse commuters who prefer to live downtown in a walkable environment but are employed by large corporations headquartered in Frisco has created the need for new coworking spaces located strategically in downtown. By providing space within the Skyport Mobility Hub for this demographic, companies now can provide incentive programs for their employees to use UberAir as a method for their commute into the office on an as-needed basis.

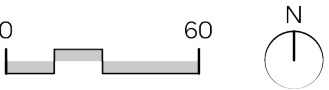
Structure and Core

Elevating the Flight Deck above existing infrastructure can only be possible with proper structure and core access. The Flight Deck is supported by a 30-foot deep truss system, supported by columns sitting within the split highway system below. Shear walls within the elevator cores on the west side help to support the loads, while sculptural columns on the east side



— USER PATH

LEVEL 05

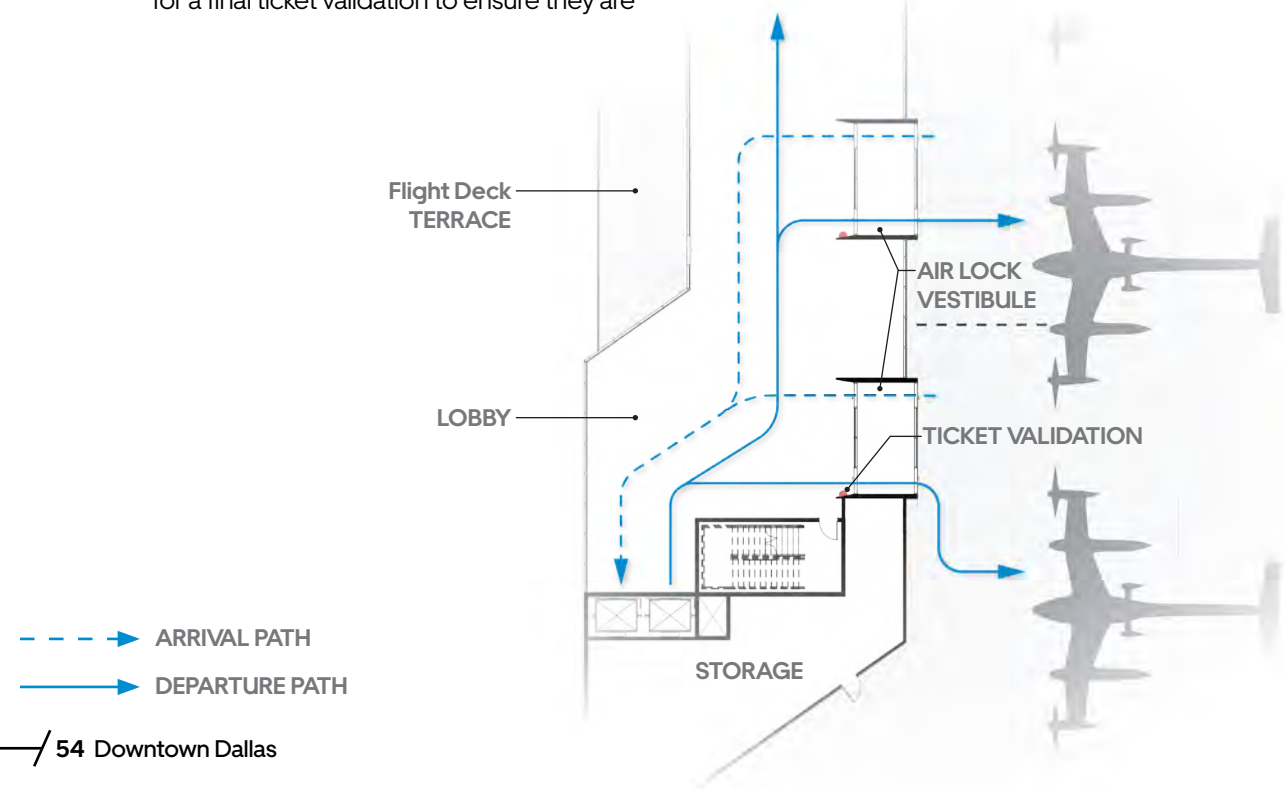


Quick Queue Lounge

At the Flight Deck, passengers are welcomed into a Quick Queue Lounge where they can easily match their mobile ticket to their boarding gate. Each eVTOL is accessed via mobile ticket access through an airlock vestibule. Numbers carved into the side of the vestibule are illuminated, allowing passengers to quickly identify their gate.

Passengers scan their mobile pass at the vestibule for a final ticket validation to ensure they are

boarding the correct eVTOL. Once validation is confirmed and the vestibule door opens, a member of the ground crew will greet the passenger and show them to their seats. Arriving passengers will pass through the same vestibule on the left side and will be directed through the space via visual cues and wayfinding etched into the glass immediately in front of them. Accented by embedded lights, a safe walking zone transitions from interior to exterior, intuitively and safely guiding both passengers boarding and exiting the eVTOL.



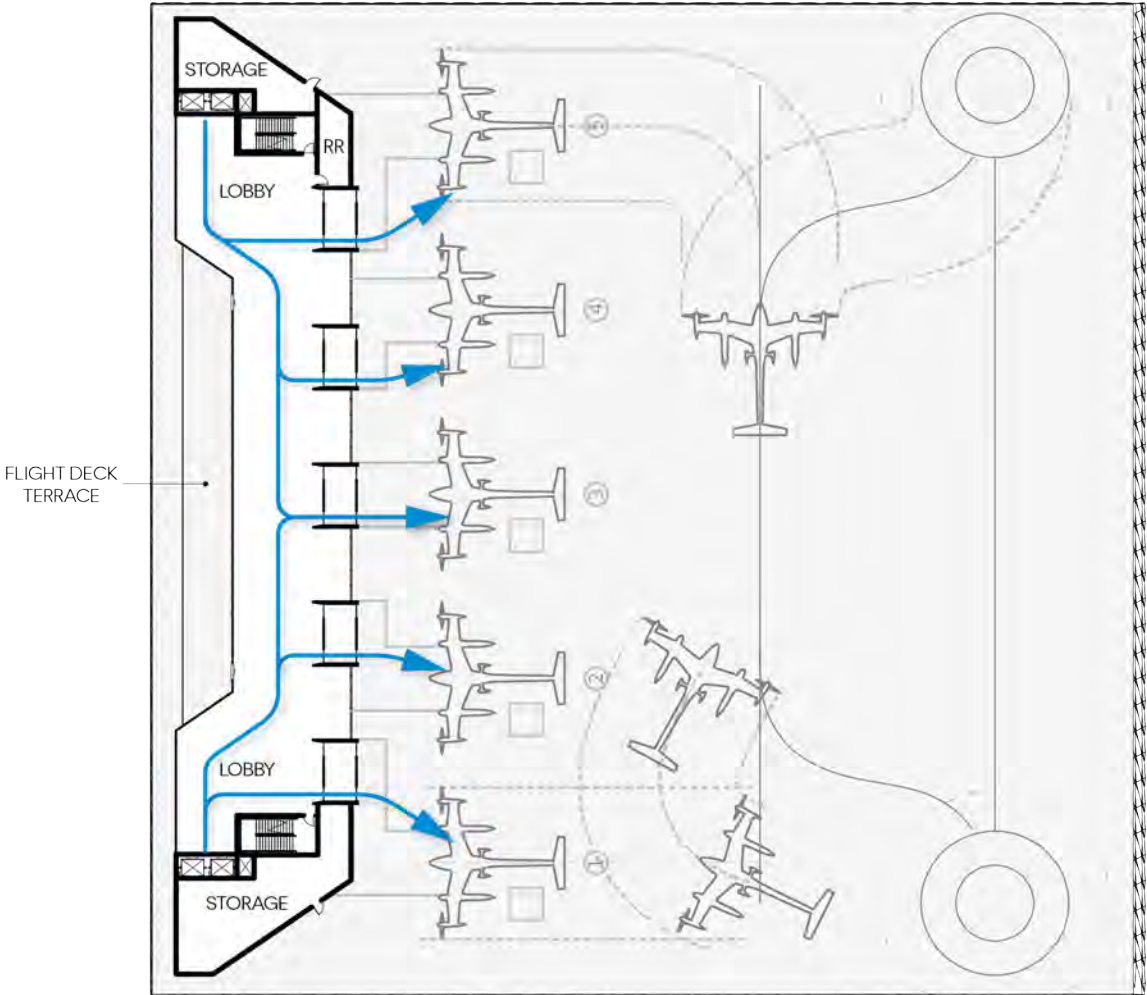
Flight Deck

During peak operations, the Flight Deck is in constant fluid motion, with the potential for 25 take offs and 25 landings every hour. Once eVTOLs land, they taxi to a designated parking position to allow passengers to exit the aircraft and to recharge. A charging lift access hatch at each parking position provides access to eVTOL charging cables, used by a small number of ground crew members available on-demand to service the aircraft. As passengers exit the eVTOL, new passengers

board, a circular motion that contributes to the precision choreography of the Flight Deck.

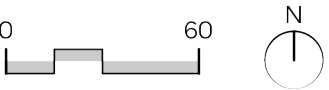
The Flight Deck is designed to be flexible, providing maximum operational efficiency for variety of eVTOL vehicles used by the Urban Aerial fleet. It can also be multiplied to add capacity as demand increases.

At night, the glowing vestibules serve as beacons for the incoming passengers, signaling them to find respite inside.



→ PASSENGER PATH

LEVEL 07



Zoning of Public Space – Weaving in Public Space

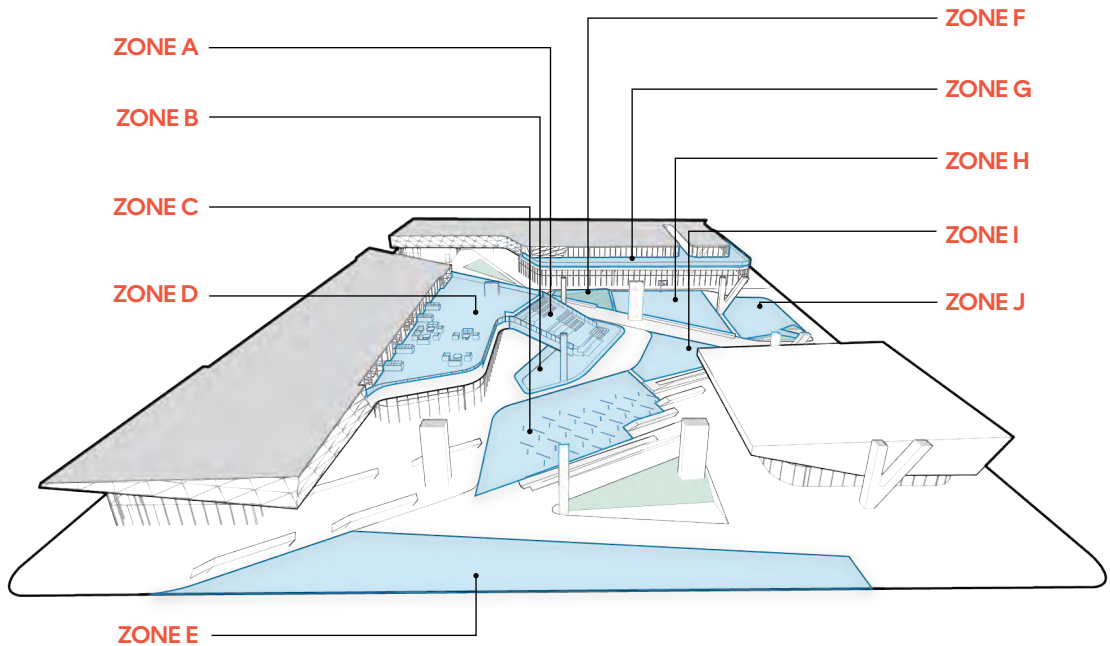
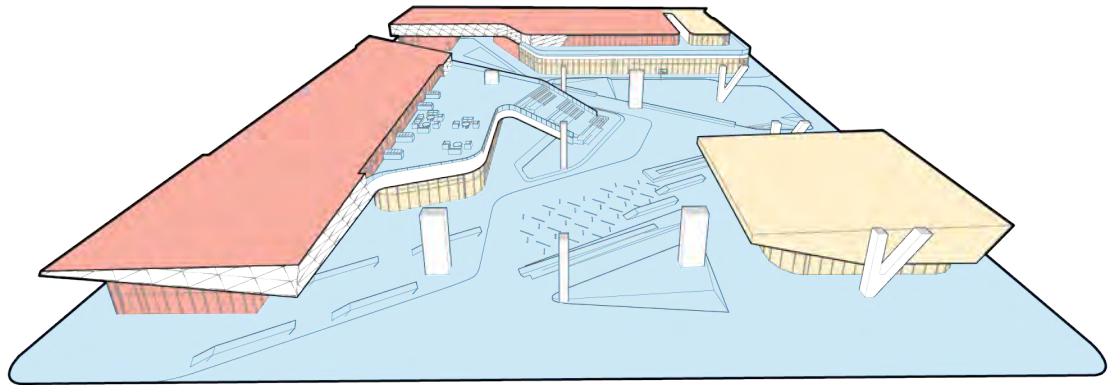
In addition to providing a new, convenient mode of public transportation, The Skyport Mobility Hub is a facility that can benefit and support communities by offering amenities not currently found in those specific locations. Providing lifestyle components such as a grocery, convenience store, and flexible outdoor market space, passengers, pedestrians, and residents alike are more likely to use the facility to its fullest. Additionally, these facilities must serve the communities by integrating flexible elements of social infrastructure to support entrepreneurial functions as well as other daily use.

Dog parks and basketball courts, open ping pong tables, as well as rotational interactive local artwork, can all make for a very lively and highly activated

plaza experiences. But this doesn't end at the ground level; aspects of the plaza are woven into the very fabric of the interior spaces and are easily accessible from one level to the next. These are all spaces that can remain active throughout the day.

These facilities should also foster networking opportunities for growing innovative and entrepreneurial communities, contributing to the programmatic makeup of the facility. By giving the Dallas Entrepreneurial Center a more prominent home, as well as hosting maker-spaces, fab labs, and coworking spaces, this facility will bring together people from diverse backgrounds trying to reach similar goals. Lastly, connecting to civic buildings such as convention centers, entertainment venues, and being located near historical landmarks, allows the skyport to become the true neighborhood amenity.

- PUBLIC AMENITIES
- PUBLIC PLAZA
- UBER SPACES



ZONE A
GRAND STAIR, VEGETATED PLANTING, INTEGRATED SEATING

ZONE B
FLEXIBLE SEATING, EVENT VIEWING, RETAIL/CAFE SEATING

ZONE C
STAGING AREA, EVENT SPACE, ART INSTALLATION, LIGHTING DISPLAY

ZONE D
OUTDOOR SEATING, EVENT VIEWING, LOUNGE SEATING

ZONE E
UBER DROP-OFF, BIKE & SCOOTER PARKING

ZONE F
LANDSCAPED SEATING, EVENT VIEWING

ZONE G
OUTDOOR SEATING, PLAZA VIEWING, RETAIL SEATING

ZONE H
SPORT COURT, FITNESS AREA

ZONE I
SCULPTURAL DISPLAY, ART INSTALLATION, ENTRY PLAZA

ZONE J
CHILDREN'S PLAY AREA, WATER FEATURE

Come Home To: Frisco

Recently acknowledged as the fastest growing city in the United States***, Frisco is a bedroom community for a burgeoning young-professional population who work all over the DFW metroplex. It is one of the most sought-after upscale suburbs in North Texas, with winding tree-lined residential neighborhoods and stroller-pushing families. A sprawling suburb that saw most of its growth in the early 2000s, Frisco is a car-centric development with few connections to public transportation, aside from the occasional bus route. Located up the Dallas North Tollway from Downtown Dallas, it is accessible by every major freeway with few definitive boundaries aside from the Sam Rayburn Tollway.

Characterized by rapid development and vast open space, Frisco continues to lure several of the U.S.' largest companies' to relocate their headquarters, and simultaneously develops extensive neighborhood communities to support the anticipated influx of workers, families seeking phenomenal school districts, and well-educated professionals willing to make the daily commute to their inner-city places of work. With a population of over 186,000 - projected to reach over 300,000 in the next decade - Frisco is a symbol of family-oriented success.

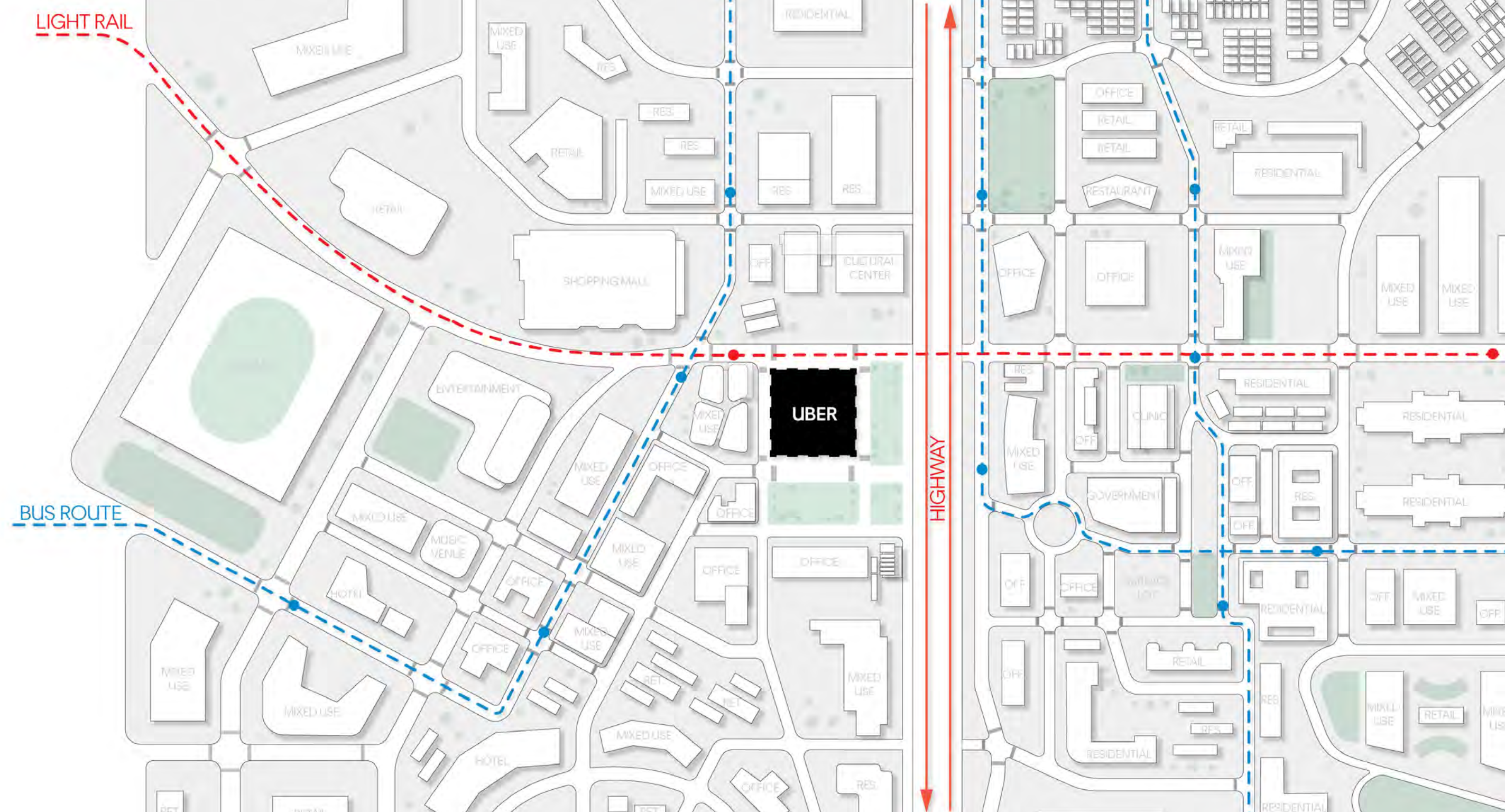


Frisco

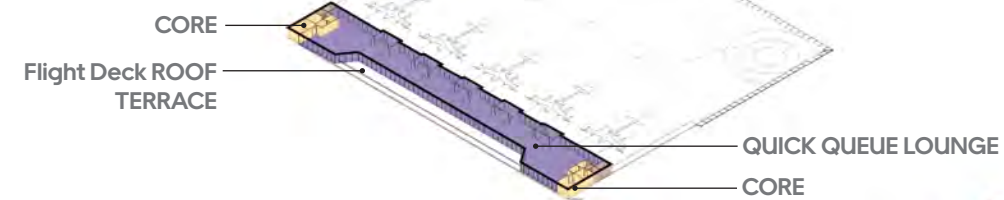
The Retrofit

The Frisco population fluctuates daily, with many commuters traveling outside the county for work. To best support commuter traffic in the peak morning and evening hours, the Frisco Skyport Mobility Hub should retrofit an existing 7-level garage. Frisco's youth as a city, and rapid growth within recent years assures that construction of most garages will be newer and might require less intervention than a parking garage in Downtown Dallas. As a car-centric city with few connections to public transportation and few walkable areas, the 7-level parking garage allows users to drive and park on-site daily.

Whether a greenfield solution or a retrofit, the Skyport Mobility Hub benefits from being located near a highway that serves the skylands above. Existing parking garages near entertainment venues and corporate buildings along Frisco highways can easily serve residential neighborhoods nearby, and must consider future bus routes and light rail connections to become easily connected and useful for the neighboring communities, adding to the convenience of inter-city commuting.

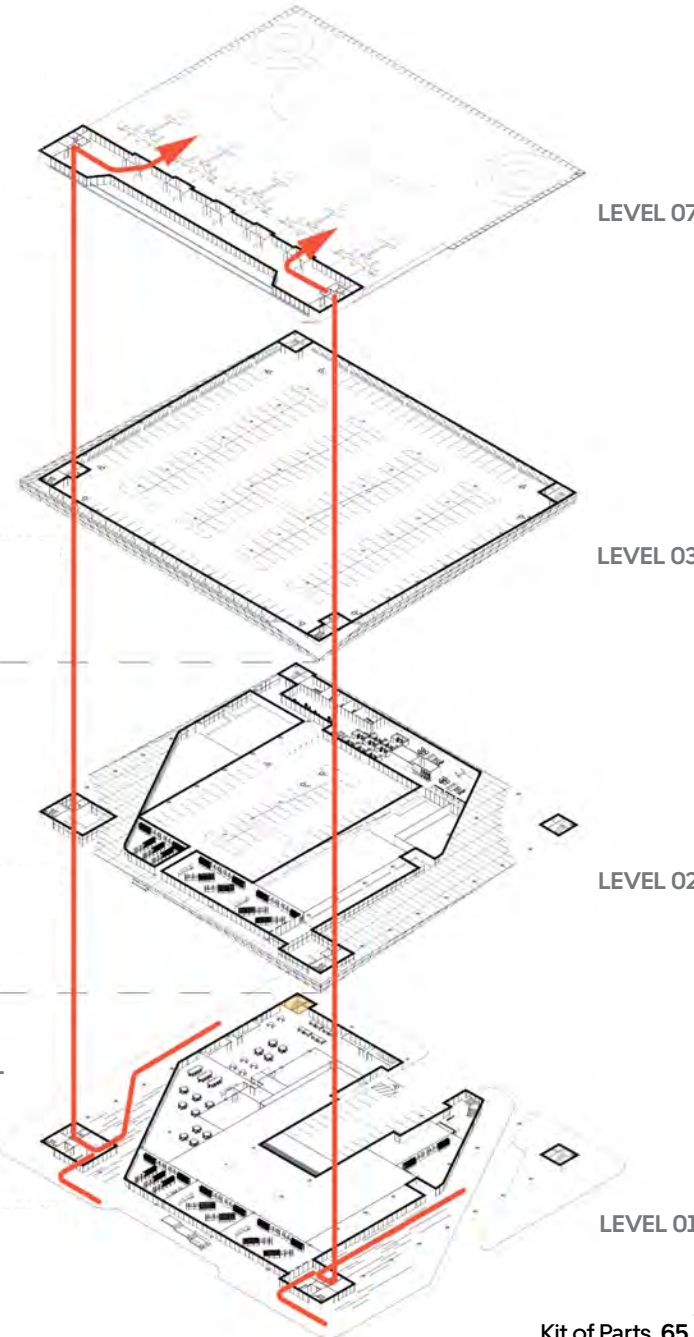
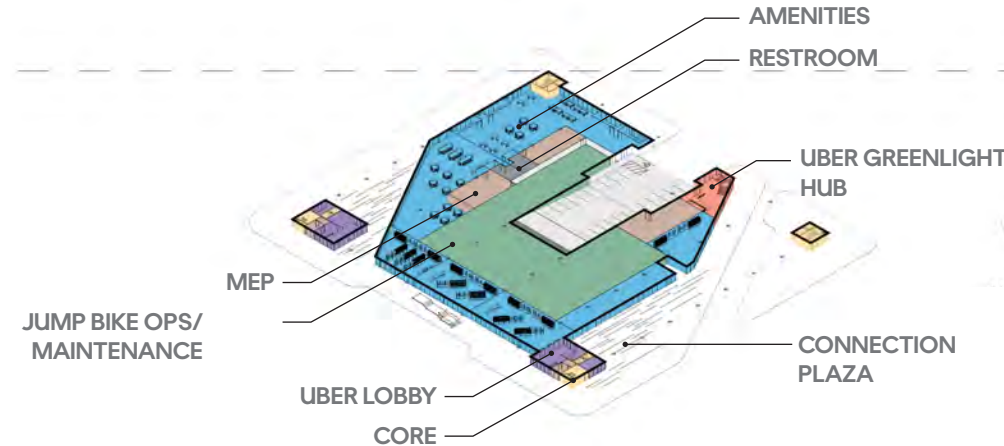
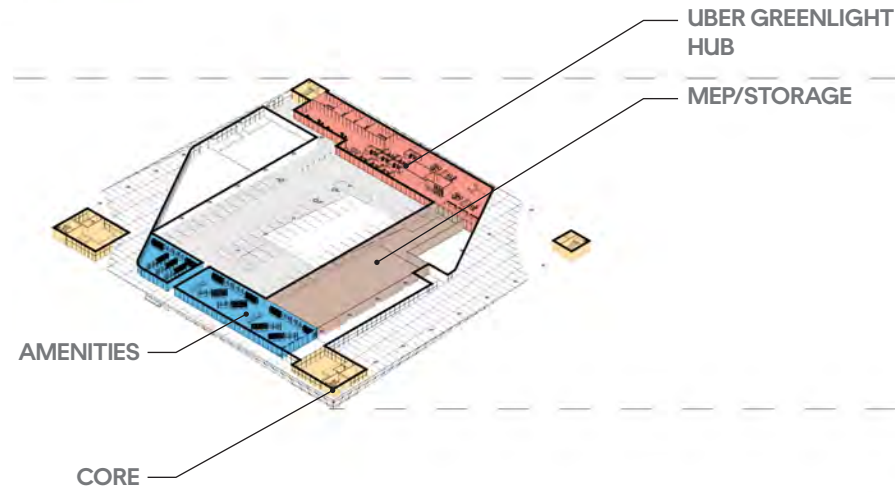
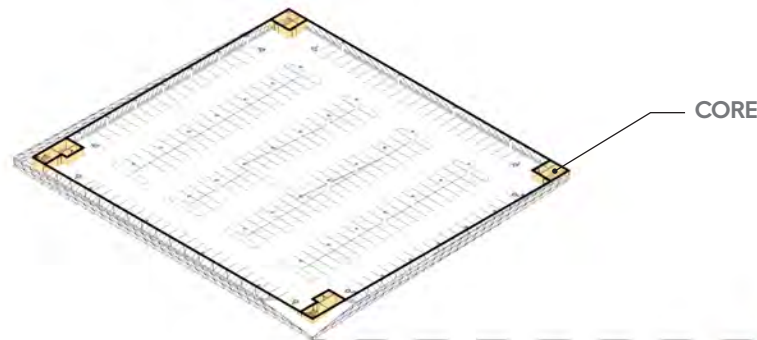


Kit of Parts



The Skyport Mobility Hub is a system of components orchestrated to be quickly deployed across various markets and built environments. Essential components of the module for the skyport to become functional consist of two TLOFs, five eVTOL parking and charging positions, an operationally-efficient Flight Deck on the garage's top level, an Uber Greenlight Hub, JUMP Bike Operations, JUMP bike and scooter parking, electric vehicle fleet charging and parking, as well as charging power adequate for charging all five eVTOLs. The design spatially maximizes the use of existing structural grid and leverages existing cores to arrive at a functional and cost-effective solution.

As a retrofitted parking garage, this skyport will be deployed over existing structures while allowing for maximum flexibility due to found conditions in each site. The retrofit program introduces amenities such as food halls, restaurants, retails, and gallery spaces to increase public engagement within the surrounding community.



Connection Plaza

Strategic design decisions allow the retrofit solution to maintain easy access for pedestrians via the Connection Plaza. Portions are removed from the second level parking, allowing for double height retail, gallery space, and an integrated food hall accessible to the public. On the northwest side, the pedestrian-oriented Connection Plaza provides a simple connection for corporate employees to access the skyport for a midday coffee run or an art gallery happy hour. Additionally, quick grab grocery similar to AmazonGo, and a small food hall afford the convenience of grabbing needed items for those coming home from a long day at work.

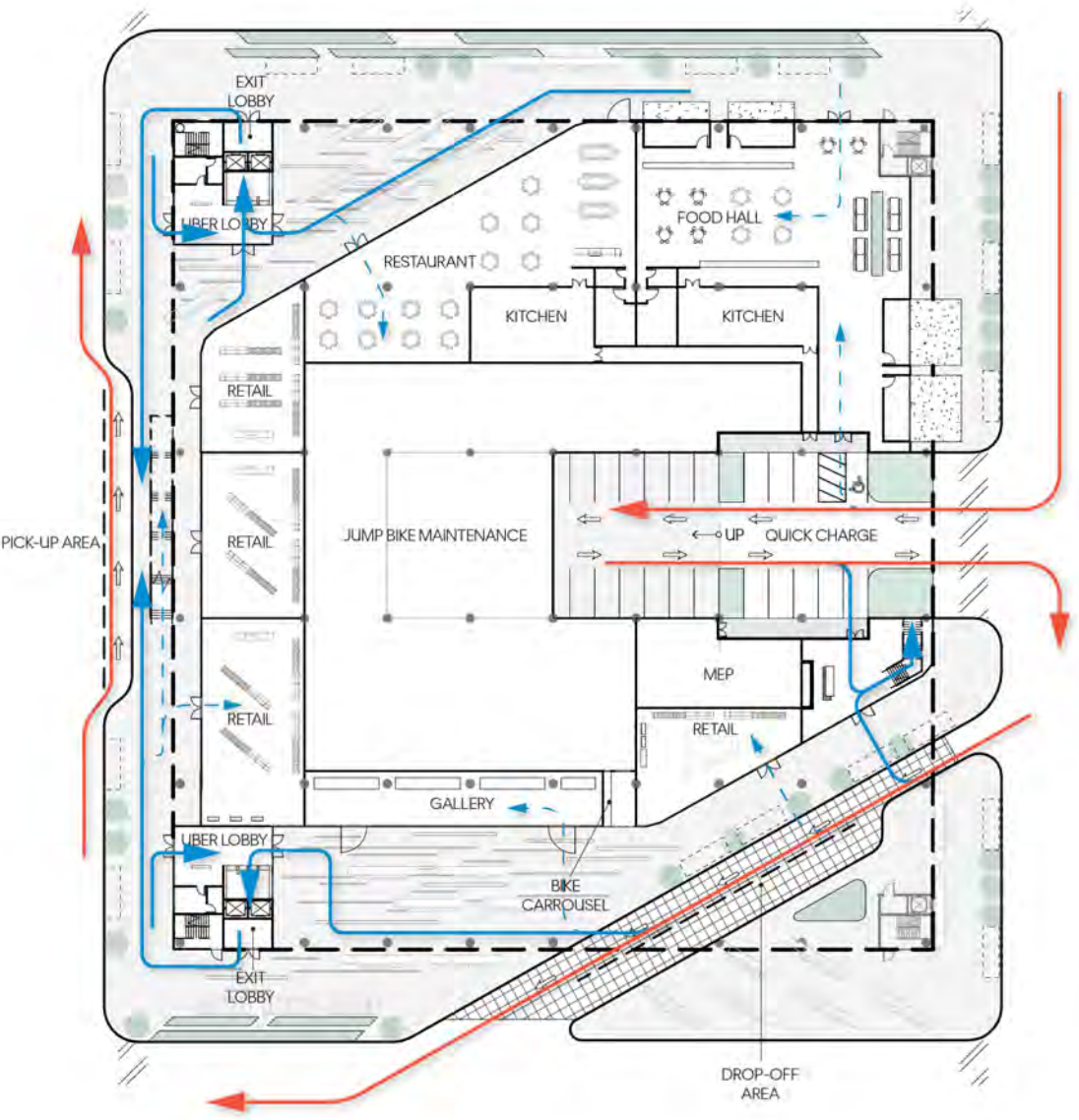
Bike parking planters throughout the Connection Plaza encourage fun and convenient bike and scooter parking, preventing them from toppling over, and are located near the Uber lobbies. Located at the corners of the building, the Uber lobbies leverage existing stair and elevator cores to minimize initial costs. These spaces are easily accessible and noticeable from the street crosswalks and drop off locations.



Vehicular Access

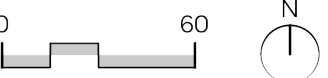
On the southeast corner, the vehicular drop off is immediately accessible from the highway service road and cuts through the lowest level of the garage, using the floor plate above as a sheltering device. Separating the fast-paced vehicular access from pedestrian flows allows for a safer facility.

A Quick Charge Lobby provides 20-minute parking and charging zones for UberEats drivers picking up food from the food hall, as well as drivers dropping in for a quick break at the Greenlight Hub. Daily commuters and those with longer visits can park and charge on higher parking levels.



- VEHICULAR PATH
- PEDESTRIAN PATH (PRIMARY)
- PEDESTRIAN PATH (SECONDARY)

LEVEL 01



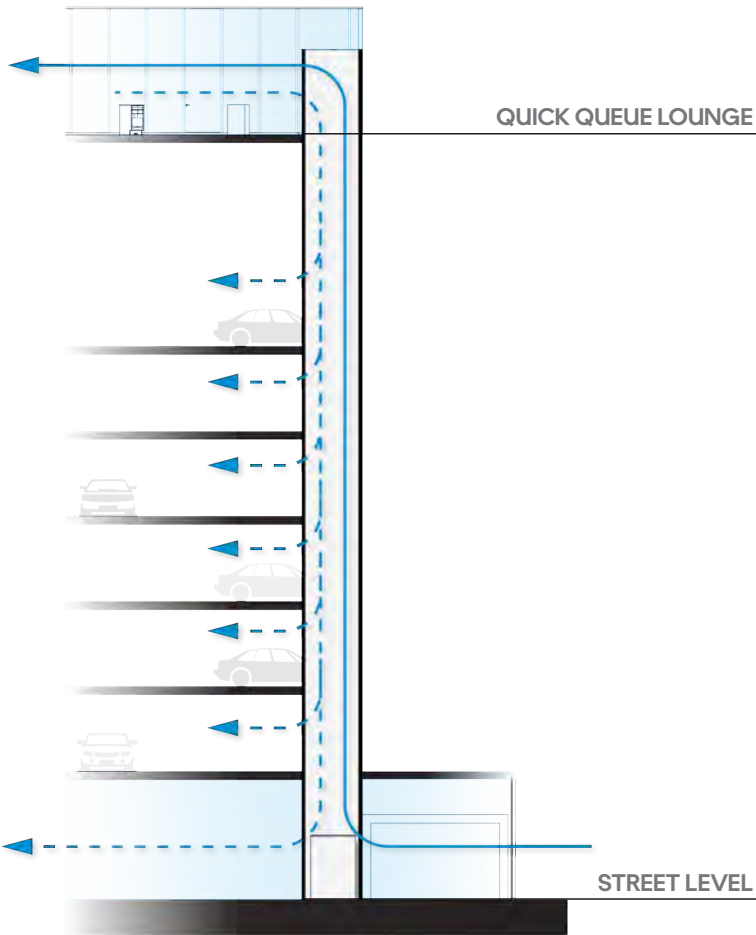
Parking Level

Passengers and visitors alike are all allowed access to the parking levels within the Skyport Mobility Hub. Charging facilities accommodate the request for fleet charging and can be found on the second and third levels of the garage. Additionally, a dedicated Uber pick-up zone is also located on the third floor, where passengers connecting to a last-mile Uber vehicle can do so. Alternatively, connections to other modes of transportation are located on the ground level Connection Plaza.

The Greenlight Hub is located on the second level, allowing the lower level to remain available for retail, restaurants and other public amenities. It can be accessed by both the second level parking as well as a pedestrian-oriented entry on the ground level.

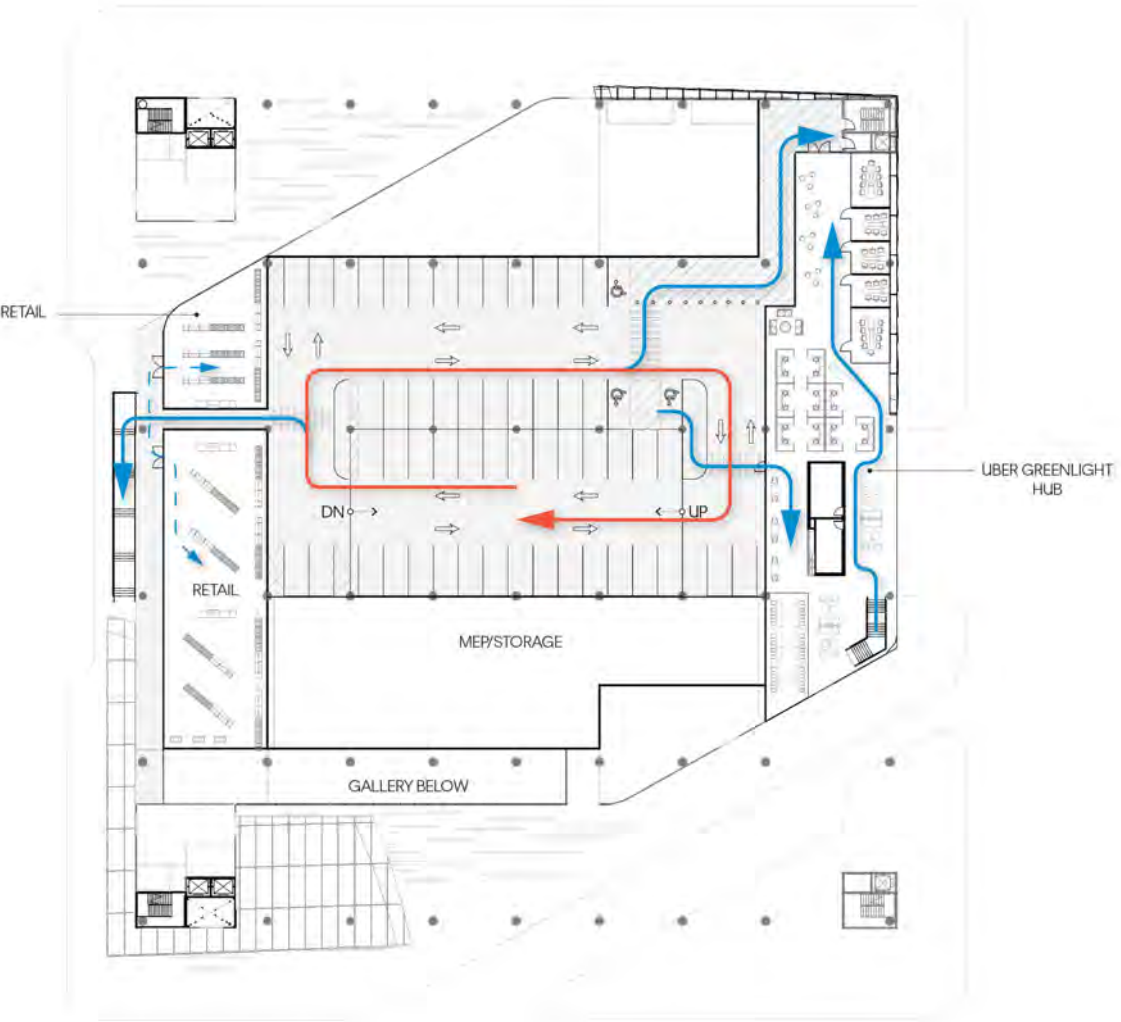
Secure Access Throughout Facility

Unique to the retrofit solution, the elevators provide direct secure access to the Flight Deck for departing passengers and open access on all levels for arriving passengers. This creates a secure upward motion, and non-secure downward motion, allowing arriving passengers easy access to the parking levels.



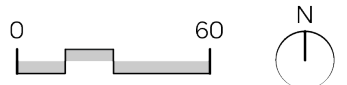
PASSENGER FLOW SECTION

- - - - -> ARRIVAL PATH
- > DEPARTURE PATH



LEVEL 02

- LVL 07
- LVL 03
- LVL 02
- LVL 01



Flight Deck

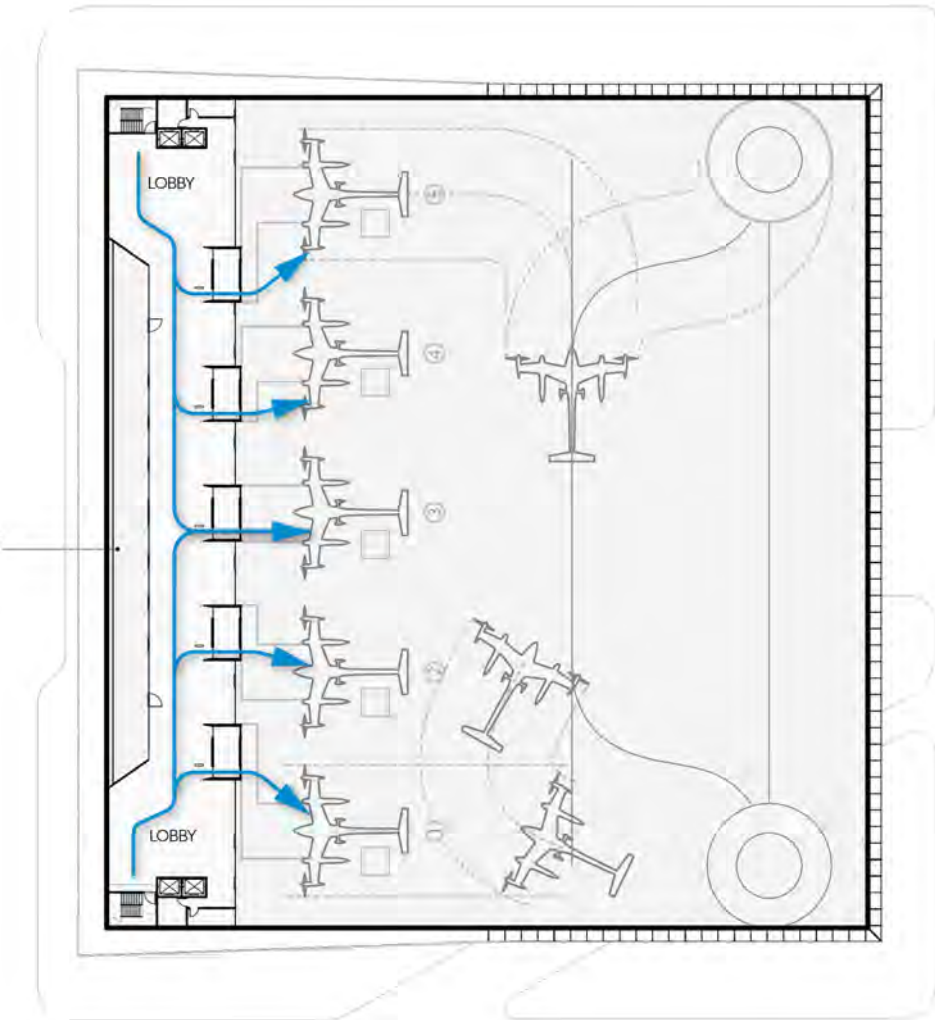
The Flight Deck of this retrofit is identical to that of the greenfield solution to eliminate any confusion for passengers and pilots alike. Precision operations take place that allow for a seamless transition from flying to other rider modalities, as one enters and exits the eVTOL.

Rooftop Terrace

Whether downtown or in Frisco, punctual passengers can enjoy a gentle breeze and a breathtaking view out on the rooftop terrace as they await their eVTOL.

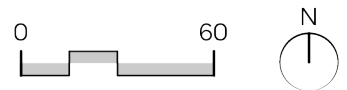


FLIGHT DECK
TERRACE



→ PASSENGER PATH

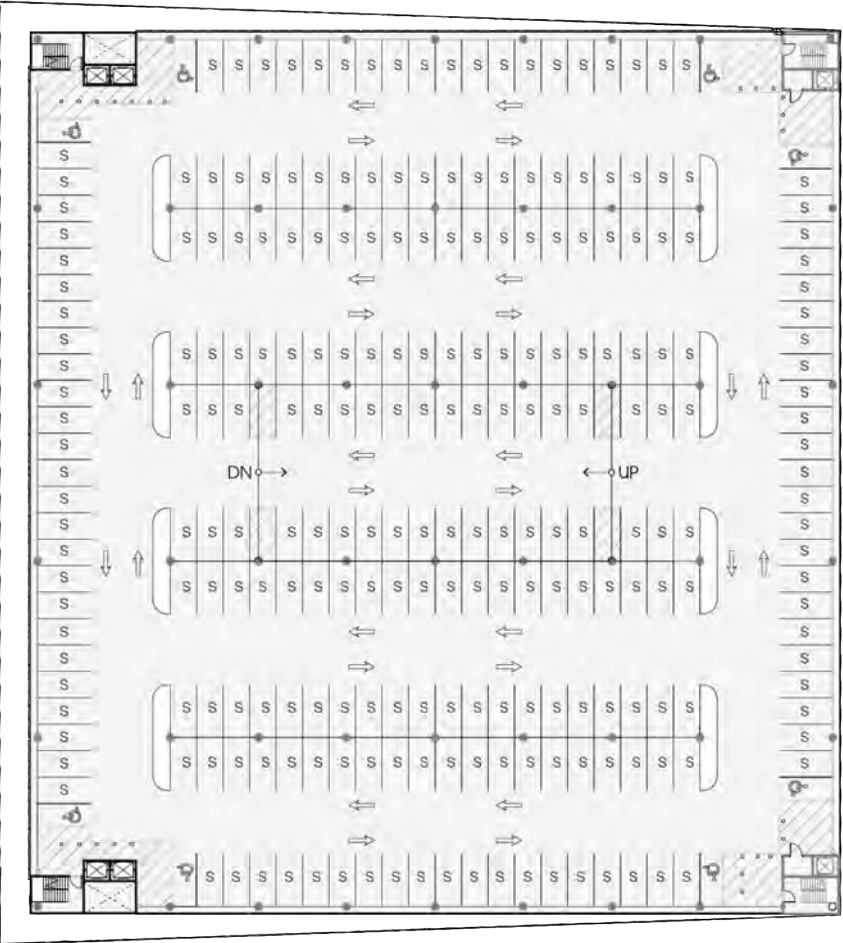
LEVEL 07



Future Garage Capabilities

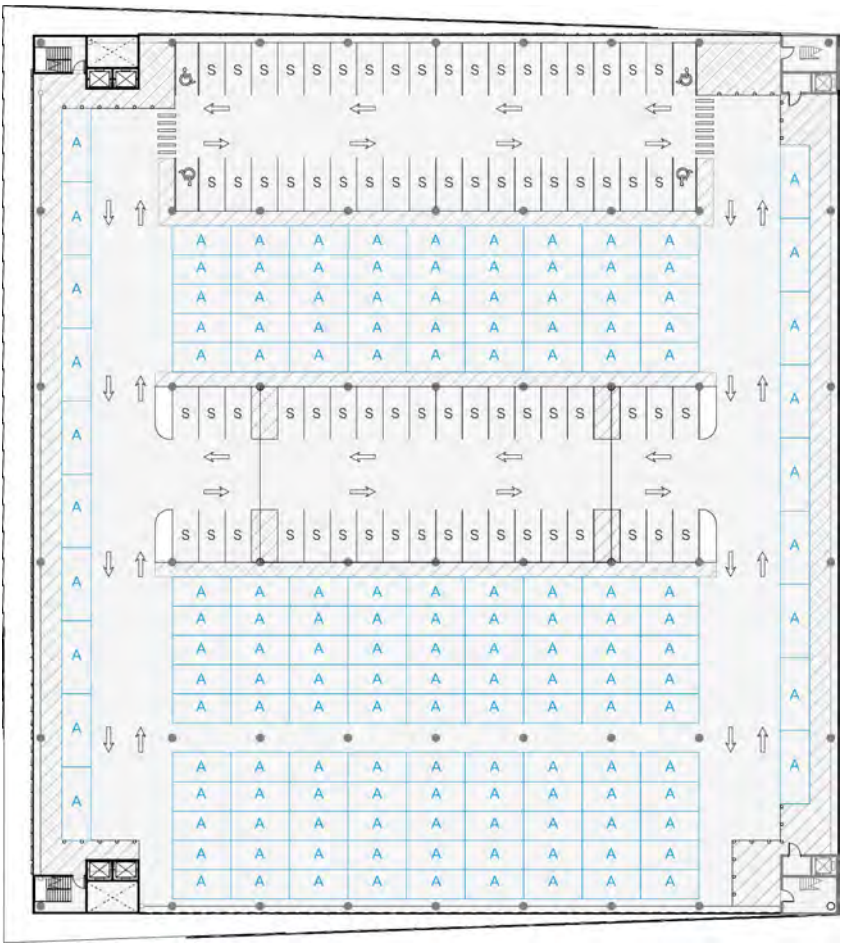
Autonomous vehicles will transform how parking garages are initially designed. When cars are parked by drivers, they require space for doors opening as well as a walkway. Autonomous cars have no need for additional space, and users are dropped off at an elevator or entrance, relieving them from having to walk through the parking garage. This improves safety as well as efficiency of parking layout. Researchers from the University of Toronto found that autonomous vehicle parking could accommodate 62 to 87 percent more cars.

The existing garage can be easily converted to an autonomous ground vehicle fleet operations center in the near future, with only slight modifications such as re-stripping the garage. Having electrified the existing garage to meet the demand of the eVTOL and Uber fleet operations, more flexible charging positions can easily be installed.



STANDARD PARKING LAYOUT
8 CARS = 60% PARKING CAPACITY

- S STANDARD PARKING SPACE
- A AUTONOMOUS PARKING SPACE



AUTONOMOUS PARKING LAYOUT
11 CARS = 100% PARKING CAPACITY

Dive Deep Into:

Skyport Operations

As aerial rideshare is developed and continues to mature, precision choreography between the eVTOL and passenger is imperative to successfully provide safe and efficient connections. Developing certain standards of design will not only enable a convenient experience for the passenger but will also provide the future flexibility needed to accommodate the variety of eVTOLs currently in development. Likewise, a thoughtfully designed modular approach will allow this incredibly dynamic typology to scale as demand increases, creating a convenient transportation experience.



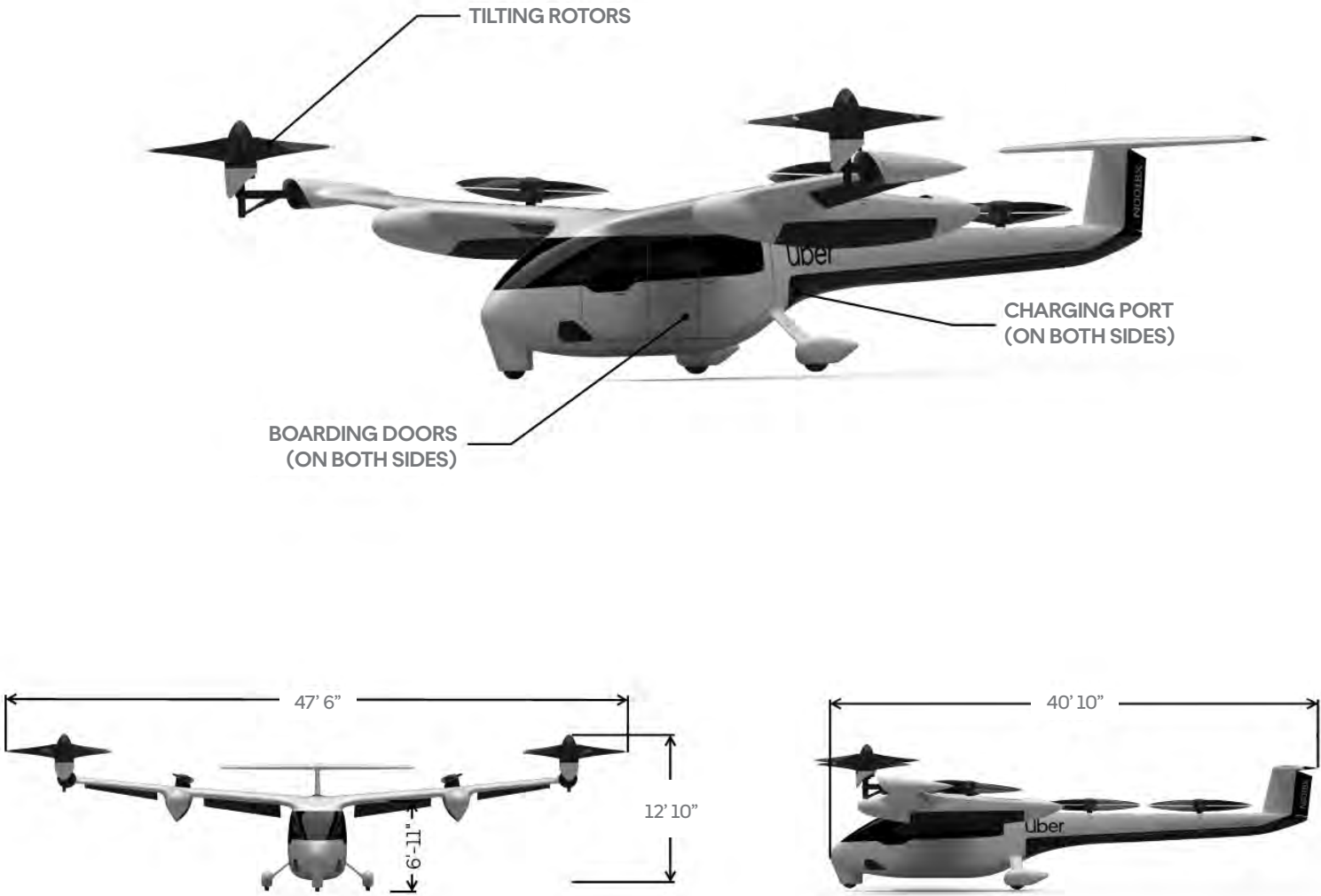
The Uber eVTOL

Uber has defined specific design requirements for eVTOLs that will operate out of the Skyport Mobility Hub and these requirements have been communicated to Uber’s partnering eVTOL manufacturers. Uber provided a conceptual eVTOL model to serve as the design aircraft for the skyport design process. This eVTOL can accommodate four passengers and one pilot. It also provides storage space for personal baggage

Typical eVTOL Operation

During landing and take-off, the eVTOL operates like a helicopter. However, unlike a helicopter, it is outfitted with multiple small rotors in lieu of a single large rotor. these rotors tilt upwards for lift-off. Once in air, the rotors tilt forward to propel the eVTOL in forward motion.

As an emerging technology, eVTOL operations are expected to be primarily governed by the same flight regulations that apply to helicopters. Currently, the Federal Aviation Administration (FAA) regulates the airspace for helicopters and also provides design criteria for heliports. Therefore, it is critical that the airspace surrounding the skyport as well as ground operations on the skyport must follow FAA standards in its early stages. It is possible that the standards may change or be replaced in the future as the eVTOL evolves along with other technologies supporting aerial mobility.



Landing and Take-off

Based on current FAA standards, the landing and take-off pad consists of an unobstructed TLOF area with a concentric Final Approach and Takeoff (FATO) area. The TLOF is a load-bearing, generally paved area, on which the eVTOL lands or takes off. The FATO is the area over which the pilot completes the approach to landing or from which the pilot begins takeoff. Circular shaped TLOF and FATO are permitted by FAA and are preferred as they minimize the footprint of the pad, and are also more noticeable in urban

environments. The approach and departure paths for the FATO shall be aligned with the predominant wind direction depending upon the orientation of the skyport site. A minimum angle of 135 degrees center-to-center is to be maintained between approach and departure paths if they serve the same FATO.

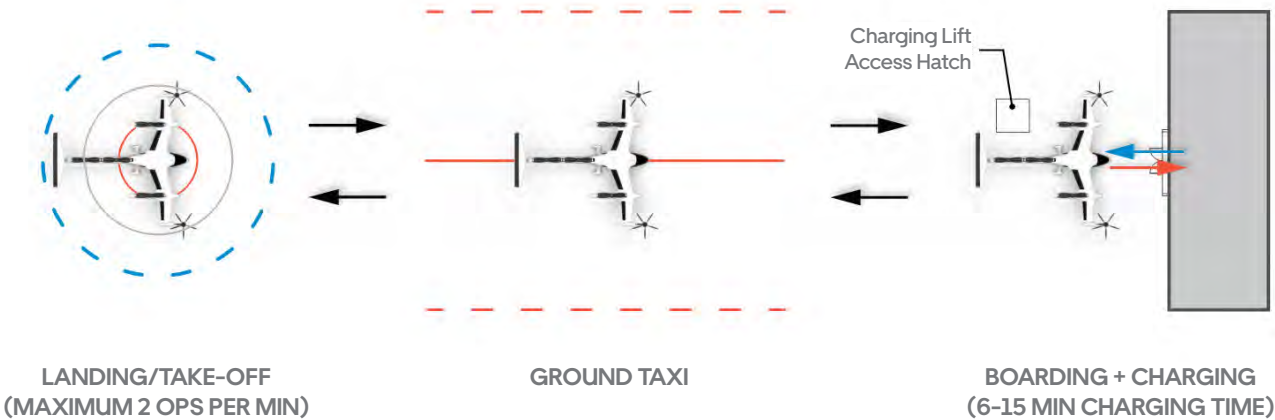
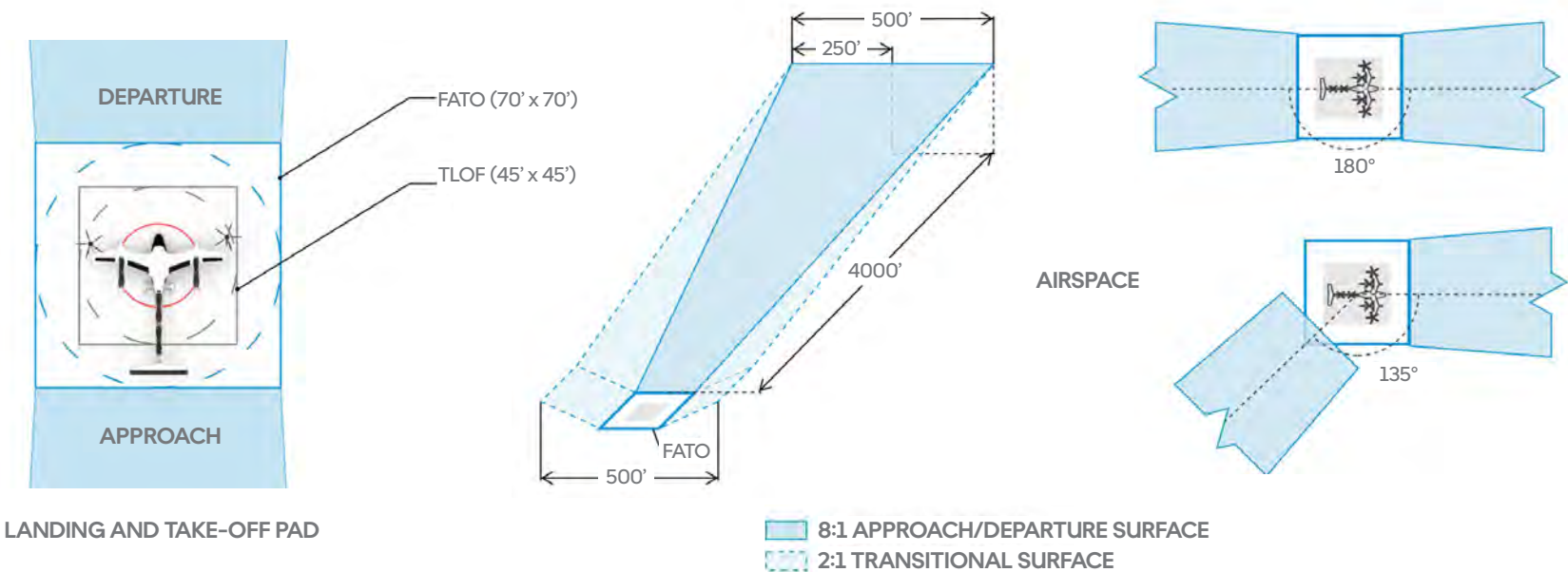
eVTOL Parking

Once the eVTOL lands, it moves to the parking pad. The parking pads facilitate passenger boarding as well as eVTOL charging. Uber expects

its design eVTOL to maneuver via ground taxiing and not hover taxiing. Moreover, the ground movement of the eVTOL is powered by a separate motor and not by rotors' thrust. The rotors are turned off during ground maneuvering. The eVTOLs move on dedicated taxiways that are compliant with FAA design criteria for ground-taxi helicopter operations. Sufficient wingtip separation is provided between parked eVTOLs . Since the FAA does not provide guidance on wingtip separation, standard separation prescribed by International Civil Aviation Organization (ICAO) will be followed to ensure safe parking operations.

Boarding and Charging

Once the eVTOL reaches the parking pad, passengers can board or disembark from both sides of the eVTOL. The eVTOL is designed in such a way that its wings are high enough to allow passengers to walk underneath the wings. As boarding takes place, the eVTOL simultaneously charges via an electric lift stored beneath the Flight Deck. Each parking pad is equipped with a lift that will be operated by a ground crew member.



Flight Deck Configuration

All eVTOL operations are accommodated on the flight deck level. The Flight Deck level is comprised of landing pads, parking pads, movement area for eVTOLs, charging stations and a Quick Queue Lounge for passenger loading. As per Uber’s design requirements, skyports in Downtown Dallas and Frisco will each have two FATOs and five parking pads. The skyports may either be retrofitted over an existing parking structure or be built as a new independent structure on a greenfield site. These structures must be assumed to be 300 ft long and 275 ft wide. It is preferred that the Flight Deck be sized so that it fits entirely within this 300 ft X 275 ft rectangular footprint. Exceeding the footprint would require additional infrastructure and real estate which would significantly add to the costs and diminish feasibility.

Peak Hour Operational Demand

According to Uber’s operational requirements, an eVTOL would complete a turn (wheels down to wheels up including boarding and charging time) in 6-15 minutes. Assuming an average turn time of 10 minutes 30 seconds, each parking pad can facilitate a maximum of five turns per hour.

Therefore, a skyport with 2 FATOs and 5 parking pads can accommodate a peak hour operational demand of 25 landings and 25 takeoffs per hour i.e. a total of 50 operations per hour. This yields a passenger demand of 200 passengers per hour, assuming all four seats are occupied on every flight. The skyports at Frisco and Downtown Dallas are designed to provide capacity that meets this peak hour demand and capacity for eVTOL charging, curbside for ground modalities and parking.

If Uber decides to maximize the capacity of two FATOs , the skyport would need to accommodate 240 operations during peak hour, which would require 24 parking pads. A skyport module with two FATOs and five parking pads could be scaled up by building multiple skyport modules to develop a large-scale mega skyport, which would maintain the same operational and passenger flow as a single module.

UBER SKYPORT DESIGN REQUIREMENTS

	FRISCO	DOWNTOWN DALLAS	DFW AIRPORT
Turns Per Parking Pad Per Hour	5	5	5
Total Number of Parking Pads	5	5	7
Total Number of FATOs	2	2	2
Operations Per Hour (Landings + Take-offs)	50	50	70
Passengers Per Hour	200	200	280
Area Required for FATOs and Parking Pads (sf)	18,425	18,425	24,175

UBER SKYPORT DESIGN REQUIREMENTS AT MAXIMUM FATO CAPACITY

	LANDINGS	TAKE-OFFS	TOTAL OPERATIONS
Number of FATOs	1	1	-
Max Operations Per Hour Per FATO	120	120	240
Passengers Per Hour	480	480	960
Number of Parking Pads Needed	24	24	24
Area Required for FATOs and Parking Pads (sf)	73,050		

eVTOL Movement and Parking Strategies

To optimize area required on the Flight Deck for landing pads, parking pads, and movement areas, various eVTOL movement and parking strategies were investigated.

Nose-in

This strategy provides two parallel taxiways and parks eVTOLs perpendicular to the taxiways. It requires a pushback operation that allows the eVTOL to align itself to the taxiway centerline as it backs out of the parking pad. The dual taxiways provide sufficient space for a pushback operation to occur without obstructing the flow of eVTOLs attempting to access other parking pads.

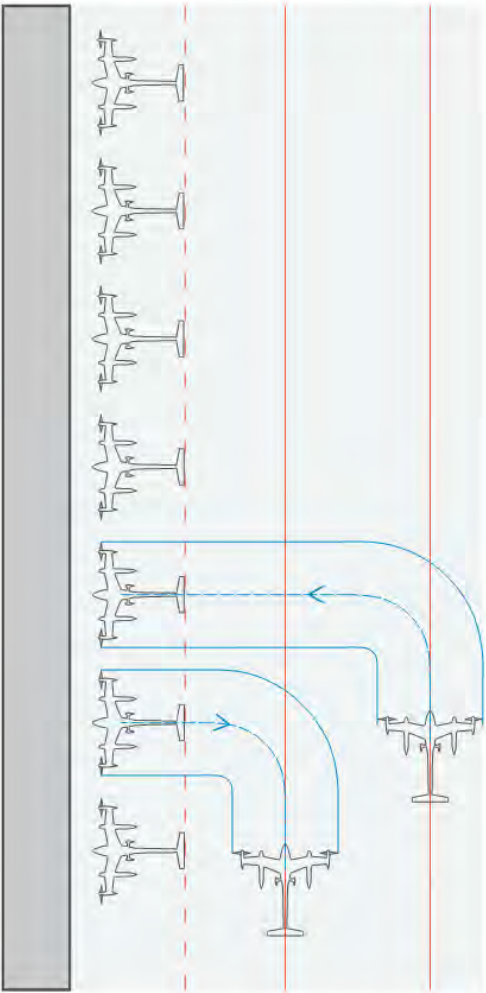
Parallel

This strategy follows a typical curbside configuration where an eVTOL can pull in and out of a taxiway and park parallel to the boarding area. Sufficient space is provided between the parking pads to allow safe power-in and power-out operations for eVTOLs.

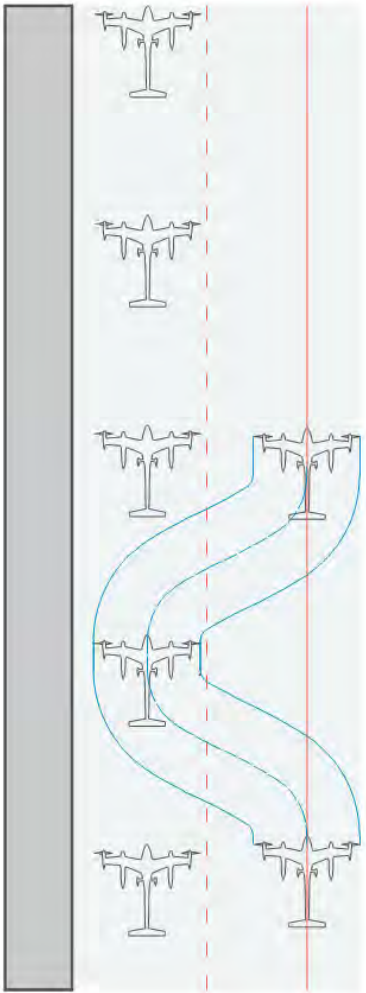
Queue

In this strategy, the eVTOLs move on the taxiway in a queue while passengers wait in a singular location. As an eVTOL approaches this location, the queue stops and holds until boarding and charging is completed. No by-pass taxiways are provided.

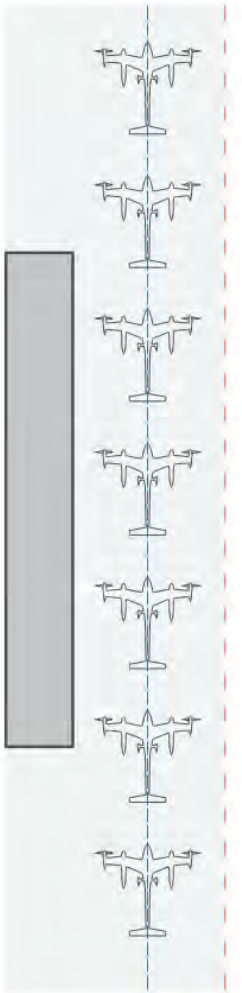
The nose-in strategy maximizes the number of parked eVTOLs in the available area. The disadvantage of the nose-in strategy is that it requires a significant amount of area for two taxiways. The parallel strategy requires less area for taxiing. But the space needed between two parking pads decreases the number of parked eVTOLs in the available area. The parallel strategy only allows passengers to board from one side and creates unsafe conditions for ground crew members walking between parking pads during power-in operations. The queue strategy significantly increases the turn time because simultaneous boarding and charging cannot occur for multiple eVTOLs. If one eVTOL breaks down, the queue would shut down. The queue strategy may become efficient with future developments in autonomous technologies and rapid charging.



NOSE-IN



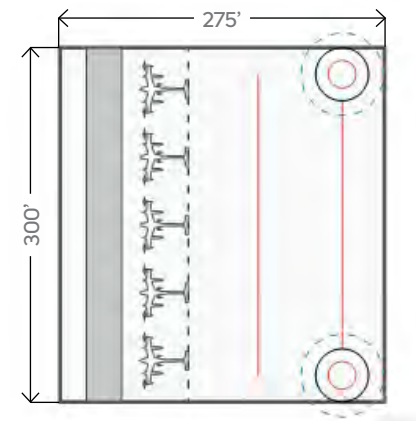
PARALLEL



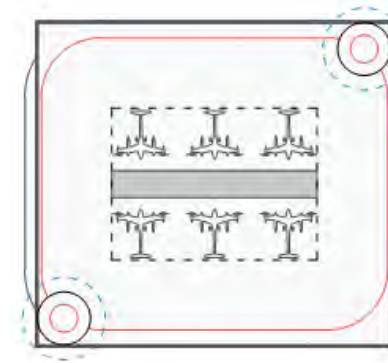
QUEUE

Flight Deck Alternative Layouts

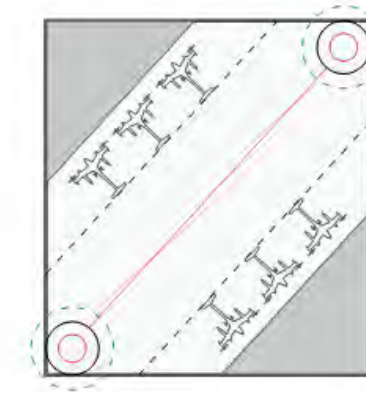
Uber envisions an aerial ridesharing service that will create a high demand and operate like a mass transit system. Hence, the skyport needs to facilitate safe, rapid, efficient, and uncongested operations. A Flight Deck layout that achieves these operational goals but remains modular for incremental expansion is vital to the success of skyport design. To remain compliant with current safety standards, FAA design criteria for general aviation heliports were followed for taxiway separation and ICAO standards were followed for adequate wingtip separation between parking pads. Applying eVTOL movement and parking strategies discussed earlier, several alternative layouts were explored for the Flight Deck. All alternatives provide at least five parking pads and two FATOs. The boarding area for each alternative consists of a vertical core that brings passengers up to the Flight Deck from lower levels. Alternatives one through six feature the nose-in parking strategy, alternative seven features parallel parking strategy and alternatives eight and nine feature queue strategy. Alternatives two, four, five, six and nine locate boarding area centrally while the remaining alternatives locate boarding area on the edge. The alternatives were overlaid on a 300 ft X 275 ft footprint to determine if built-up area beyond the footprint is needed.



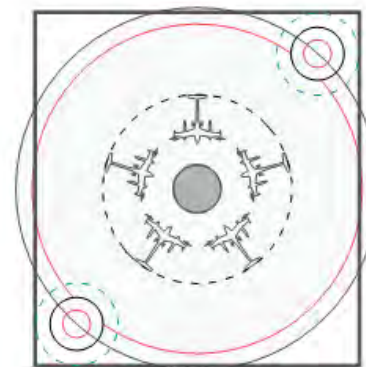
ALTERNATIVE 1



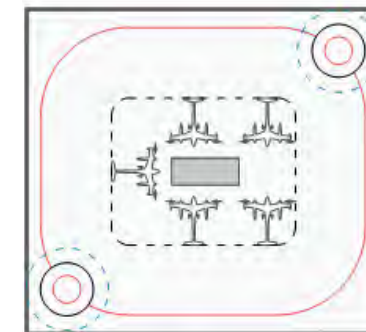
ALTERNATIVE 2



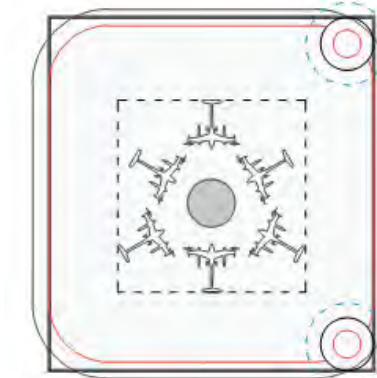
ALTERNATIVE 3



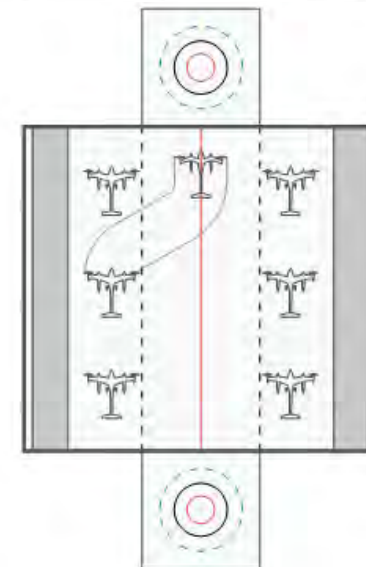
ALTERNATIVE 4



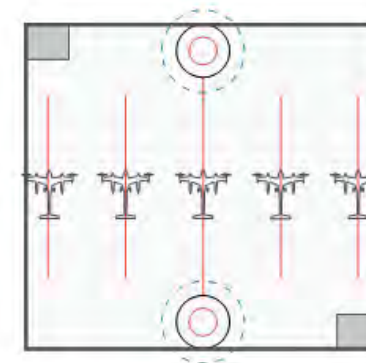
ALTERNATIVE 5



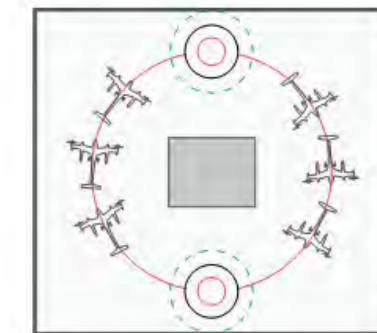
ALTERNATIVE 6



ALTERNATIVE 7



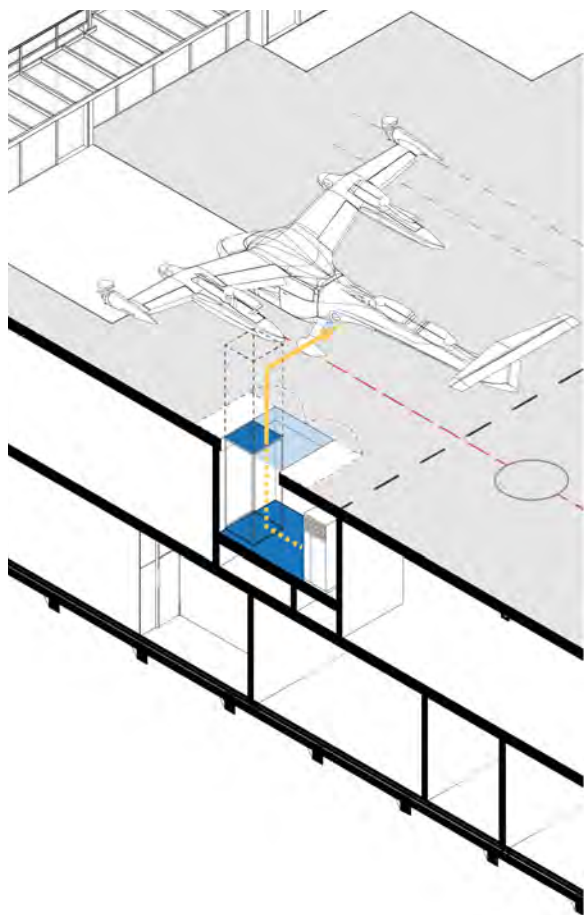
ALTERNATIVE 8



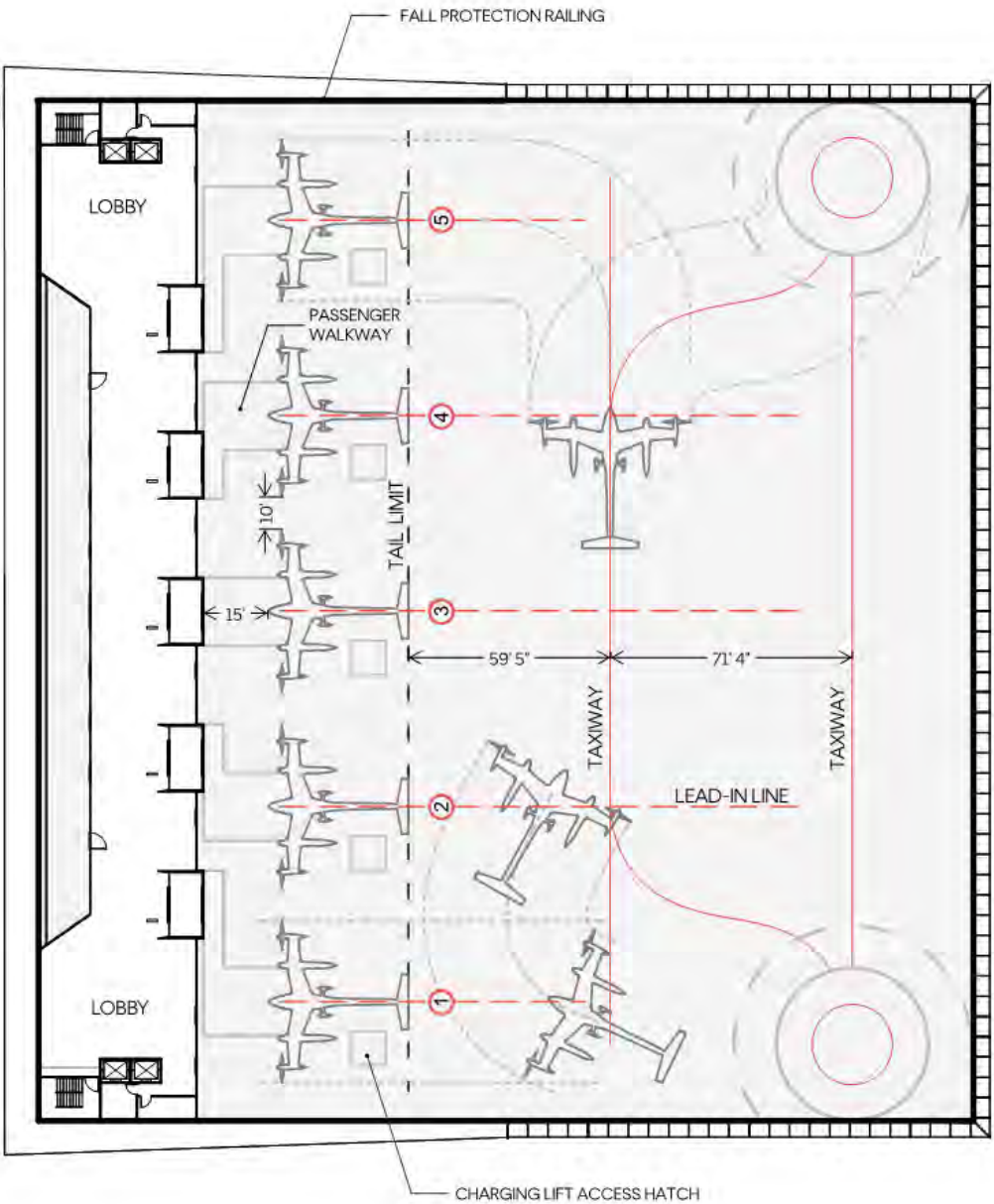
ALTERNATIVE 9

Preferred Flight Deck Layout

A thorough evaluation of alternatives was conducted using criteria such as safety, operational efficiency, compliance with FAA standards, passenger experience, modularity, constructability, and adaptability to existing parking garage structures, built-up area requirement and cost effectiveness. Following the evaluation of various alternatives, alternative one was determined to be the preferred development alternative. One of the biggest advantages of this alternative is the operational efficiency provided by the dual taxilane configuration. This apron layout provides the greatest apron capacity and eliminates conflicts between eVTOLs backing out of the parking pads and those powering onto the parking pads. As explained earlier in the nose-in strategy, provision of dual parallel taxiways allows pushback and power-in operations to occur simultaneously on adjacent pads without impeding access to remaining parking pads from the FATO. Moreover, this alternative completely fits within the site footprint eliminating the need for additional built-up area. It also utilizes existing vertical cores commonly located on the corners of parking garage structures, thus eliminating the cost of adding new vertical cores to the garage.



CHARGING LIFT ACCESS DIAGRAM

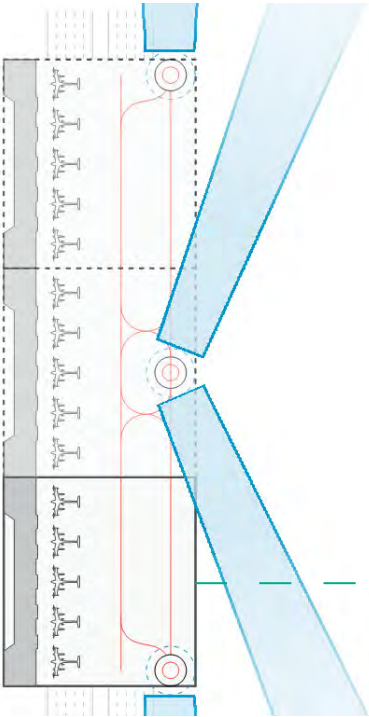


PREFERRED FLIGHT DECK: ALTERNATIVE 1

The Flight Deck Module

Expandability

The preferred Flight Deck layout is a single module that can be replicated for expansion or multiplied to develop a mega skyport for higher demand. Modules can be multiplied in two arrangements – one where the boarding lounge expands linearly on either ends and the other where it is replicated

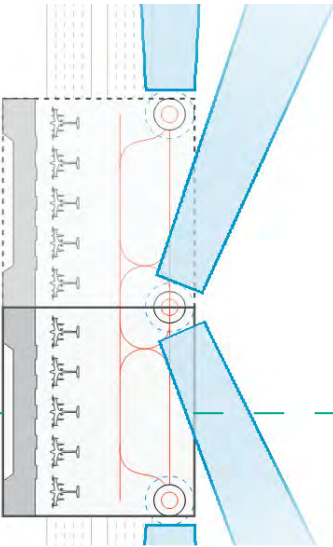


THREE MODULES

parallelly. The two arrangements offer flexibility in terms of site orientation and available airspace surrounding the site.

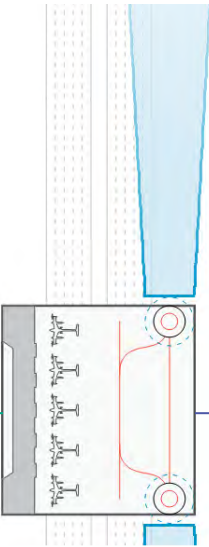
Linear Arrangement

The linear arrangement provides connectivity between the vertical cores in the Quick Queue Lounge as well as connectivity between all parking pads and FATOs. It can operate with just two FATOs – one operating as a dedicated landing pad and other as a dedicated take-off pad. A third auxiliary



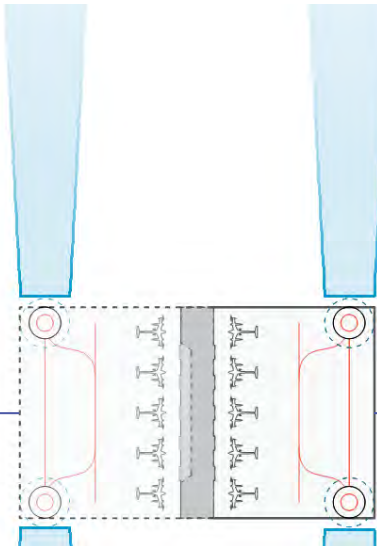
TWO MODULES

LINEAR



ONE MODULE

PARALLEL



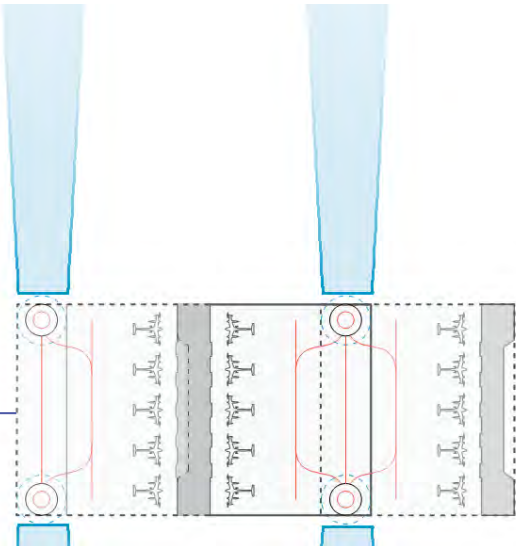
TWO MODULES

FATO is recommended for redundancy in case any one of the remaining two FATOs is temporarily shut down or occupied by a disabled eVTOL.

Parallel Arrangement

The parallel arrangement maintains low travel distance between parking pads and FATOs, but requires higher number of FATOs. The utilization of Quick Queue Lounge is maximized in this arrangement as eVTOLs park on both sides of the lounge, thus increasing linear frontage for parking.

The Flight Deck module also allows for expansion in smaller increments by adding one or more parking pads on either ends of the Quick Queue Lounge or on the opposite side of the Lounge as dictated by site constraints. The Quick Queue Lounge consists of two vertical cores, one on each corner with five vestibules between the cores serving five parking pads. Thus parking pads can be added to the Flight Deck level without adding new vertical cores unless a threshold of five additional parking pads is reached. Eliminating the need for additional vertical cores reduces the cost of construction.



THREE MODULES

Ground Mobility Mix

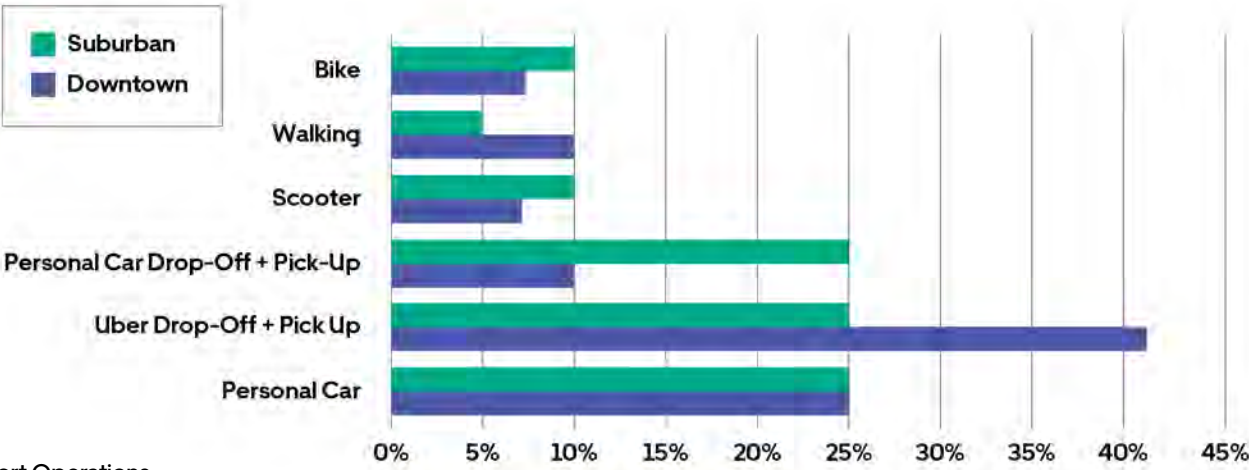
Throughout the design process, an analysis of the expected ground transportation mix was conducted for two different scenarios: a downtown location and a suburban location. Both scenarios were analyzed based on the location and expected users.

Downtown, trips would be composed of an even mix of commuter and business traffic. The commuter traffic arrives from a suburban site, using non-personal modes to reach a destination. Because of this, the percentage of Uber usage is higher than the suburban site. In addition, due to

higher density expected on a downtown site, a higher percentage of walking traffic expected.

Meanwhile, trips to the suburban facility would have a higher composition of commuter and park-and-ride style trips. This led to the assumption that personal car drop-off/pick-up would be higher in the suburban site.

Once the ground transportation mix assumptions were complete, the necessary curb length for curbside drop-off/pick-up was calculated, using 25 peak hour arrivals and departures - each arrival and departure having 4 passengers. This results in the need for 75 lineal feet of curbside for drop-off/pick-up for the downtown location and 50 lineal feet for the suburban location.



Street Enhancements

Most major cities have seen an 180% increase in traffic congestion since the launch of Uber and other Transportation Network Companies (TNC). Rather than competing with personal car ownership, this ridership competes with public transportation, and in Dallas, personal car ownership is continuing to rise. However, as aerial rideshare matures and demand increases, our streets will begin to see less ground vehicle congestion due

to rideshare, enabling excess space to be given back to our cities for safer pedestrian access.

In anticipation of this shift, the Skyport Mobility Hub encourages reducing adjacent streets by one lane, continuing to allow for turning access and providing enhanced crosswalks, to slow traffic speeds and create safer pedestrian crossings. Additionally, introducing medians, planters and bicycle lanes will inspire healthier lifestyles and encourage use of both regular and electrified bicycle usage.

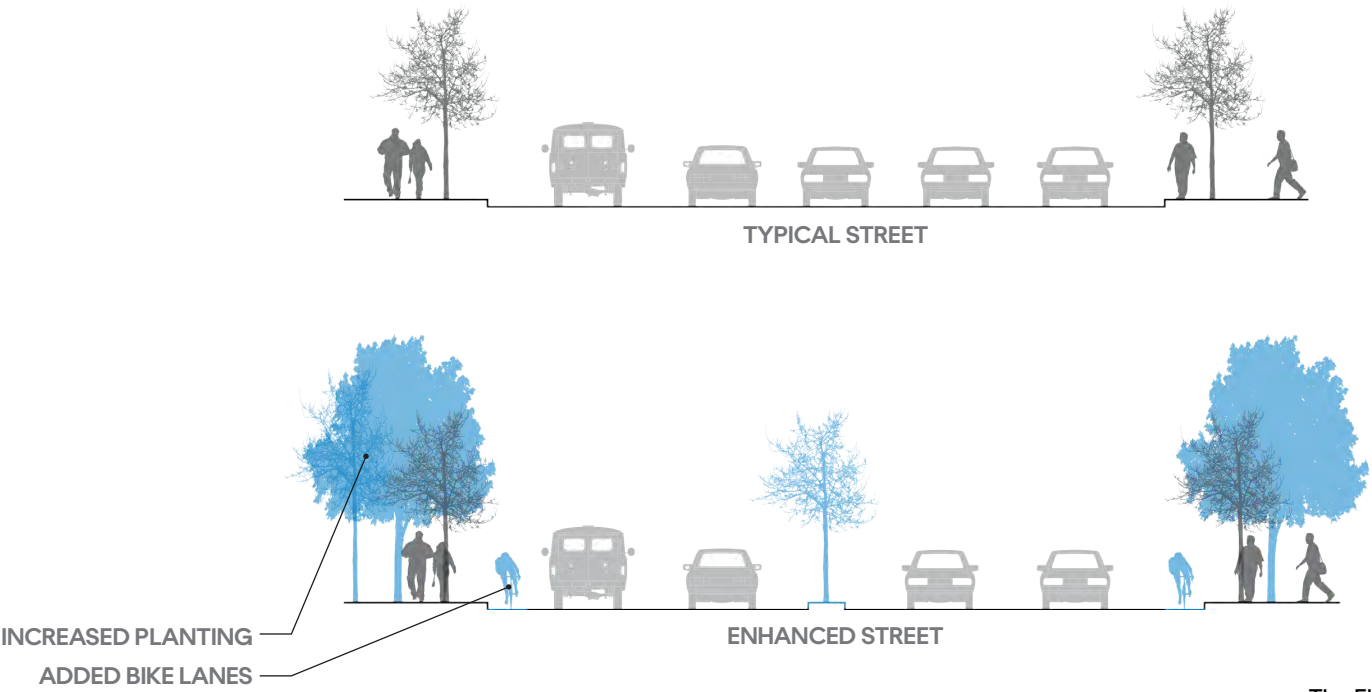


Exhibit:

Environmentally Responsible Design

It is our challenge today to realize how these emerging typologies will reshape our cities, and how this aerial lifestyle can help our cities discover value in previously unutilized property. By understanding the impact these facilities will have on the environment and surrounding neighborhoods, we can become better stewards of a sustainable, inclusive, and equitable design that enhances the experience of the surrounding communities.



Environmentally Responsible Design

Introducing syports into cities will have various impacts on the environment and surrounding communities, creating the need to be integrated responsibly by identifying and revitalizing underutilized space.

Green Infrastructure

Stormwater management, including rain gardens and green roof elements, reduces peak outflows, filters stormwater prior to release, and collects stormwater for irrigation and other non-potable uses. It also provides visitors with exposure to natural elements, promotes biodiversity, reduces ambient noise, and improves air quality.

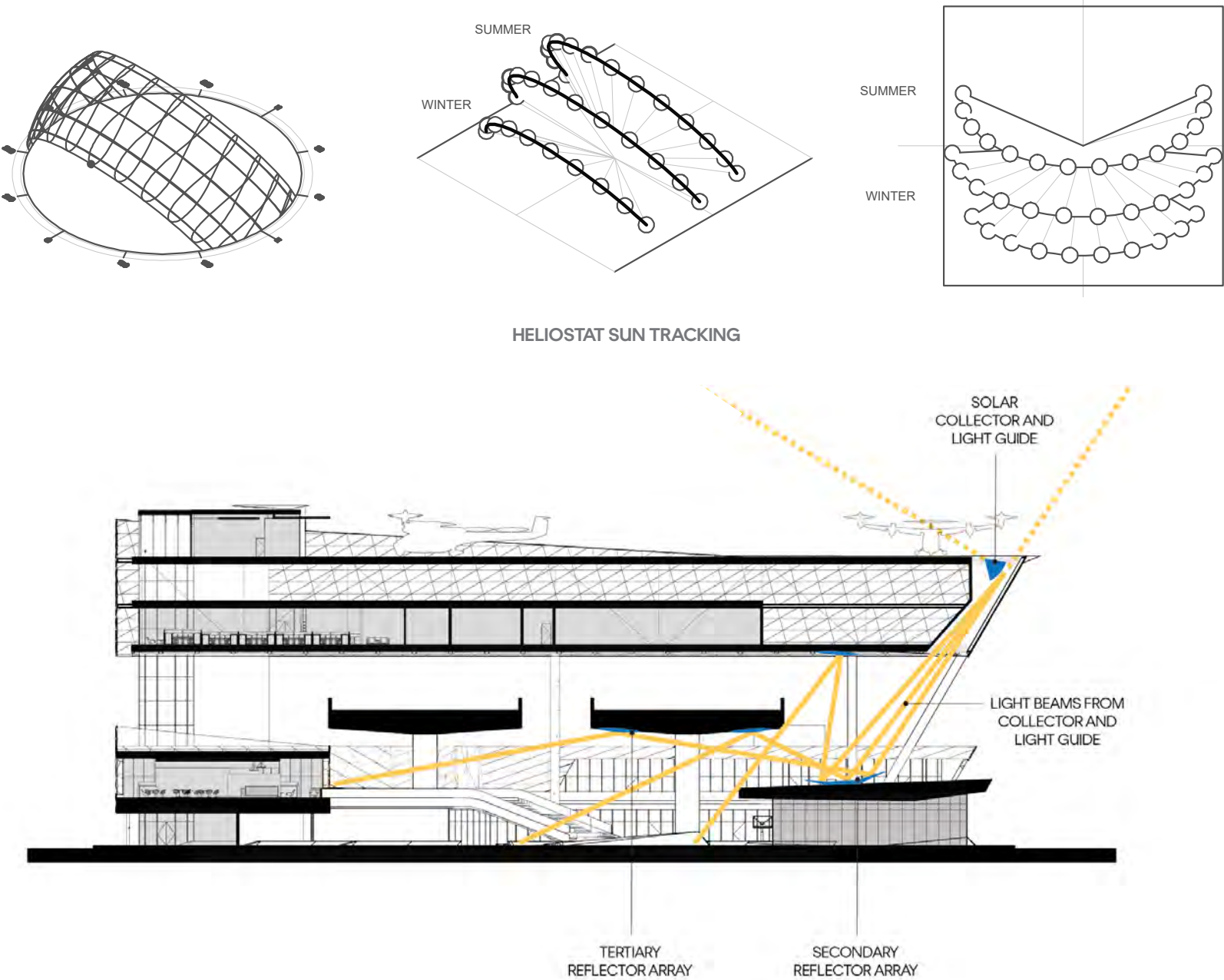
The Greenfield building benefits from other green infrastructure like a green canopy located underneath the highways to block out dust and noise. The installation of a green wall along the Retrofit building’s cladding and on the Western façade provides visitors with protection from air pollution and mitigates noise from the highway.

Daylighting

To bring a greater amount of daylight under the roadways and Flight Deck, an array of heliostat solar collectors are located in a trough on the Flight Deck level. The collectors automatically track with the sun for optimal collection from mid-morning to late afternoon, channeling the light through a fiber optic assembly and dispersing below. An array of parabolic reflectors bounce the light to a secondary array, diffusing the light at strategic locations within the Connection Plaza.

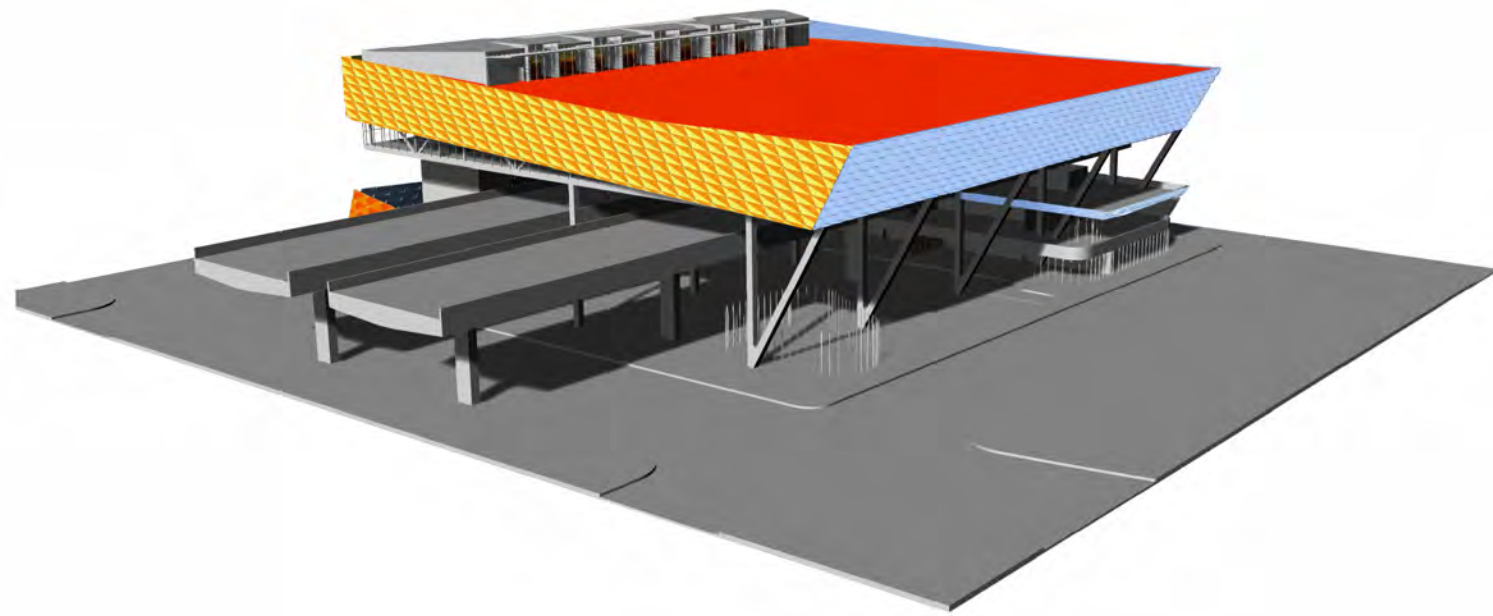
In the evening, the array of reflectors mounted to the underside of the highway use high-performance LED spots in combination with the reflectors to create a similar effect. Tunable lighting with RGB/W LED assemblies create various color effects and visual interest to the underside of the roadways, creating an exciting evening attraction.

For the Retrofit design, thin and flexible optical fibers can be used to transmit natural light from façade and roof collectors to the interior, providing a soft general illumination, reducing the need for artificial lighting.

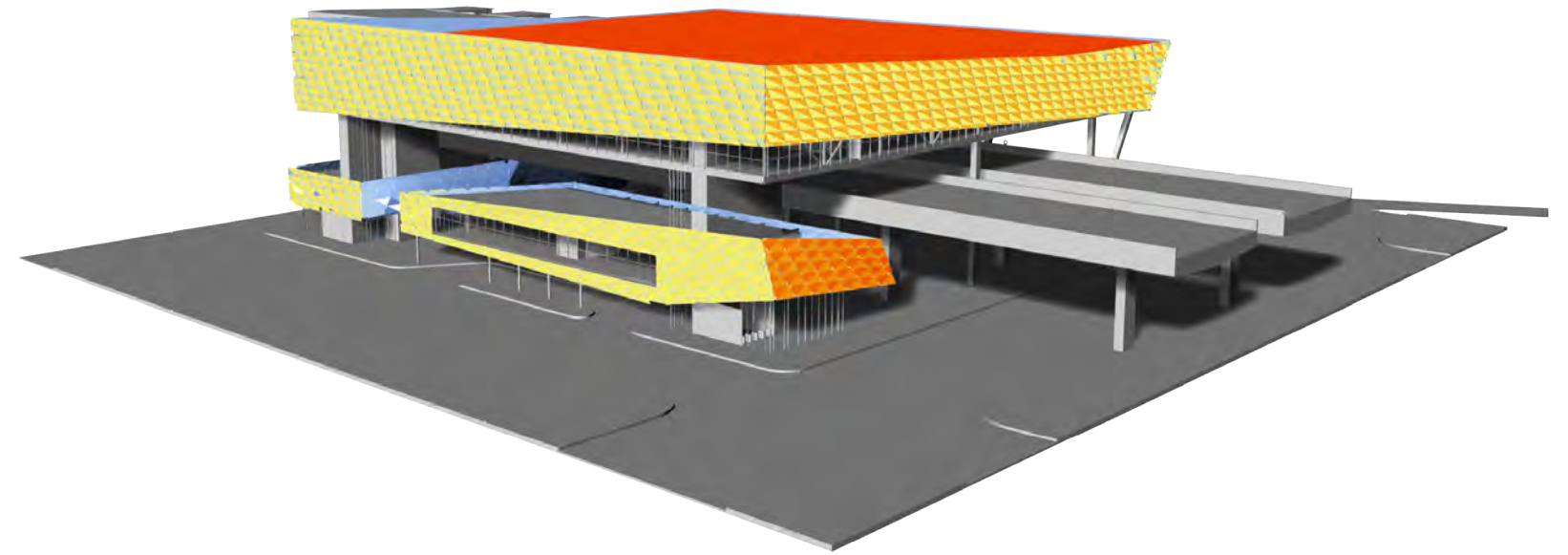


HELIOSTAT SUN TRACKING

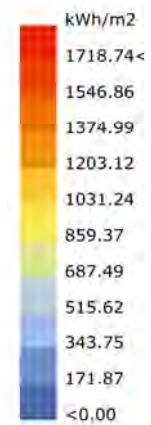
HELIOSTAT SECTIONAL REFERENCE



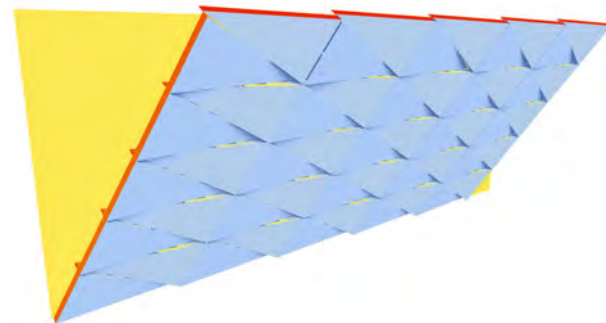
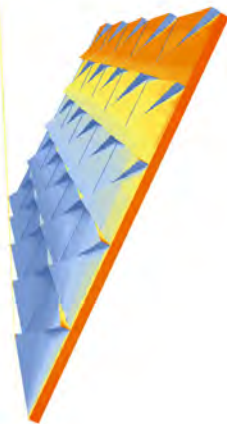
SOLAR RADIATION OF SOUTH EAST CORNER



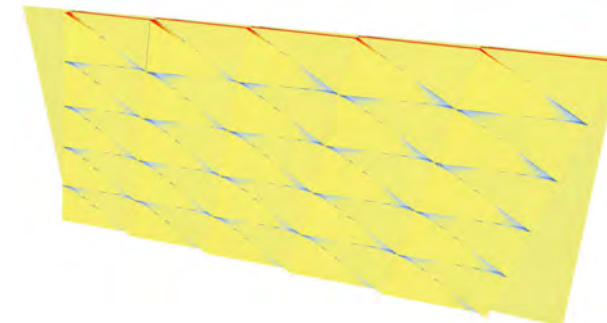
SOLAR RADIATION OF SOUTH WEST CORNER



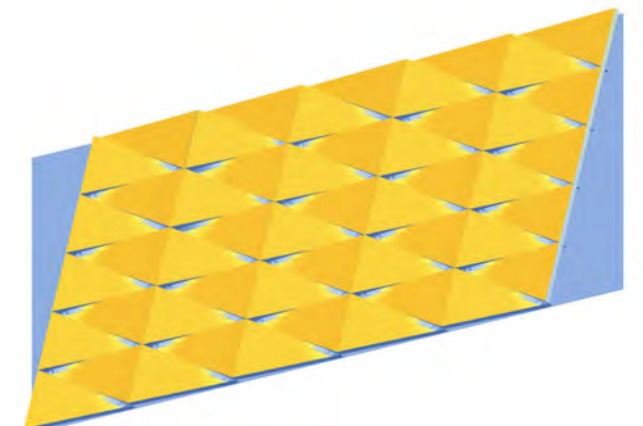
HELIOSTAT COLLECTORS



EASTERN FAÇADE



WESTERN FAÇADE



SOUTHERN FAÇADE

Noise Control

Although eVTOLs are relatively quiet in flight compared to other transportation modes, as demand increases and a denser network is created, it is important to manage the impact of potential noise disturbances throughout cities and neighborhoods. Maintaining a manageable distance between flight operations and pedestrian movement on the ground reduces noise impact to that of a standard electric vehicle and becomes increasingly negligible as the height of the Flight Deck continues to increase.

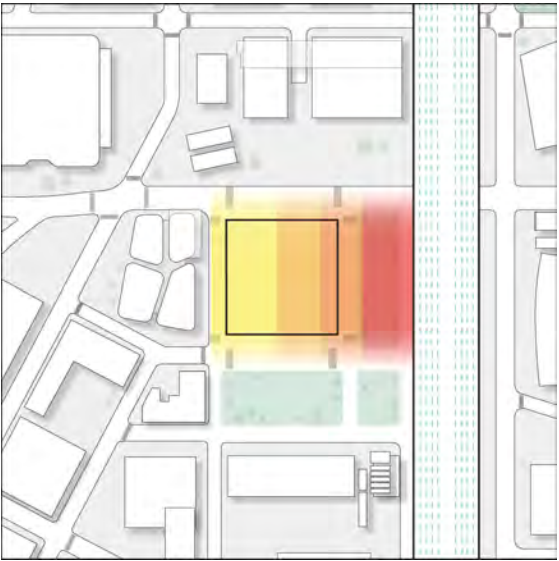
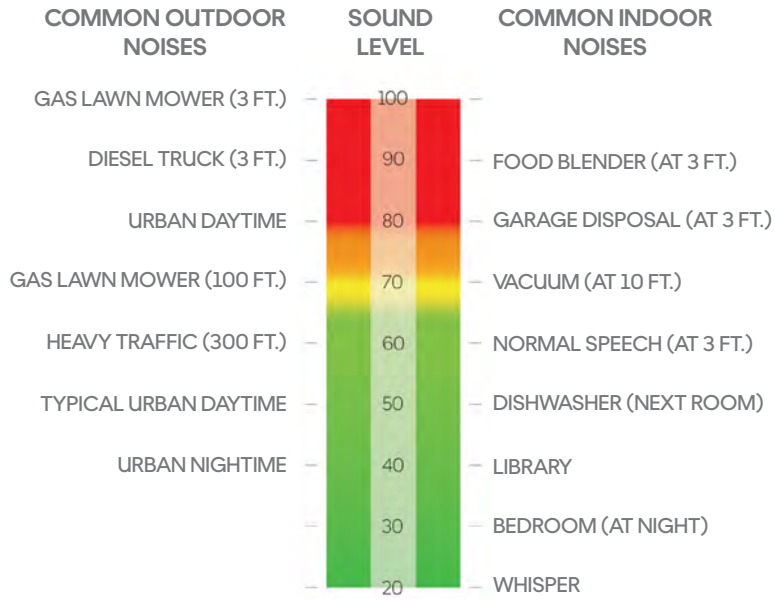
However, the primary way to eliminate the impact of noise on the surrounding community is to locate skyports within compatible use zones of existing noise contributors. Concealed within an existing noise profile, skylanes located above highways are able to balance the effects of any additional noise with that of a familiar ambient traffic.

Locating the skyport adjacent to or above an existing highway is a positive site choice from an acoustics perspective, due to the existing background noise that people are familiar with. This ambient traffic hum serves as a sound mask

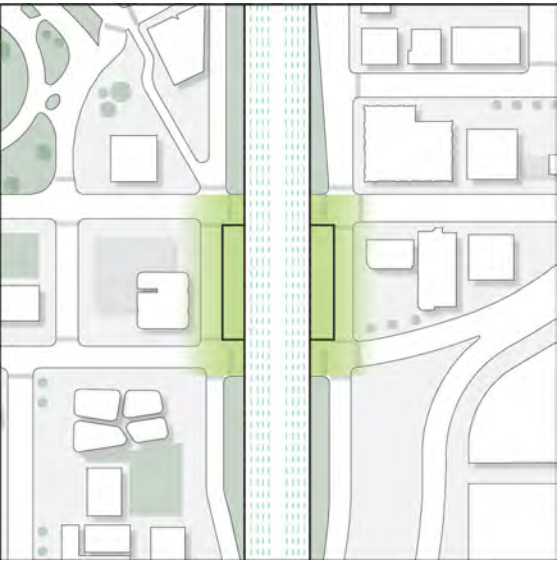
for any potential noise from the eVTOLs, creating acoustically preferable areas within the facility and enhancing the user experience while onsite.

To mitigate the impact of traffic noise in the common spaces under and around the highway, the skyport utilizes landscape features such as fountains and water features that can act as acoustic and visual barriers to vehicles and other surroundings. Water features, especially when integrated with green walls and other vertical and horizontal planted landscape features connect visitors with natural elements in an otherwise concrete space, providing refuge from the busy urban world. Research by Heerwagen (2016) suggests that visuals and sounds of nature are proven to be emotionally restorative and stress relieving.

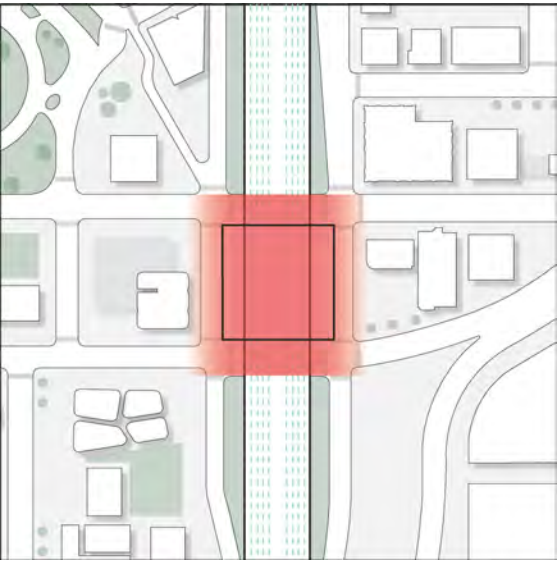
The skyport benefits from water features that act as barriers between the skyport’s outdoor spaces and the highway. In the Retrofit building, a large water feature is located on the Western face of the building, providing acoustical relief from the highway. In the Greenfield building, a water feature provides similar relief by the first floor stairs beneath the highway.



RETROFIT



GREENFIELD - LEVEL 1

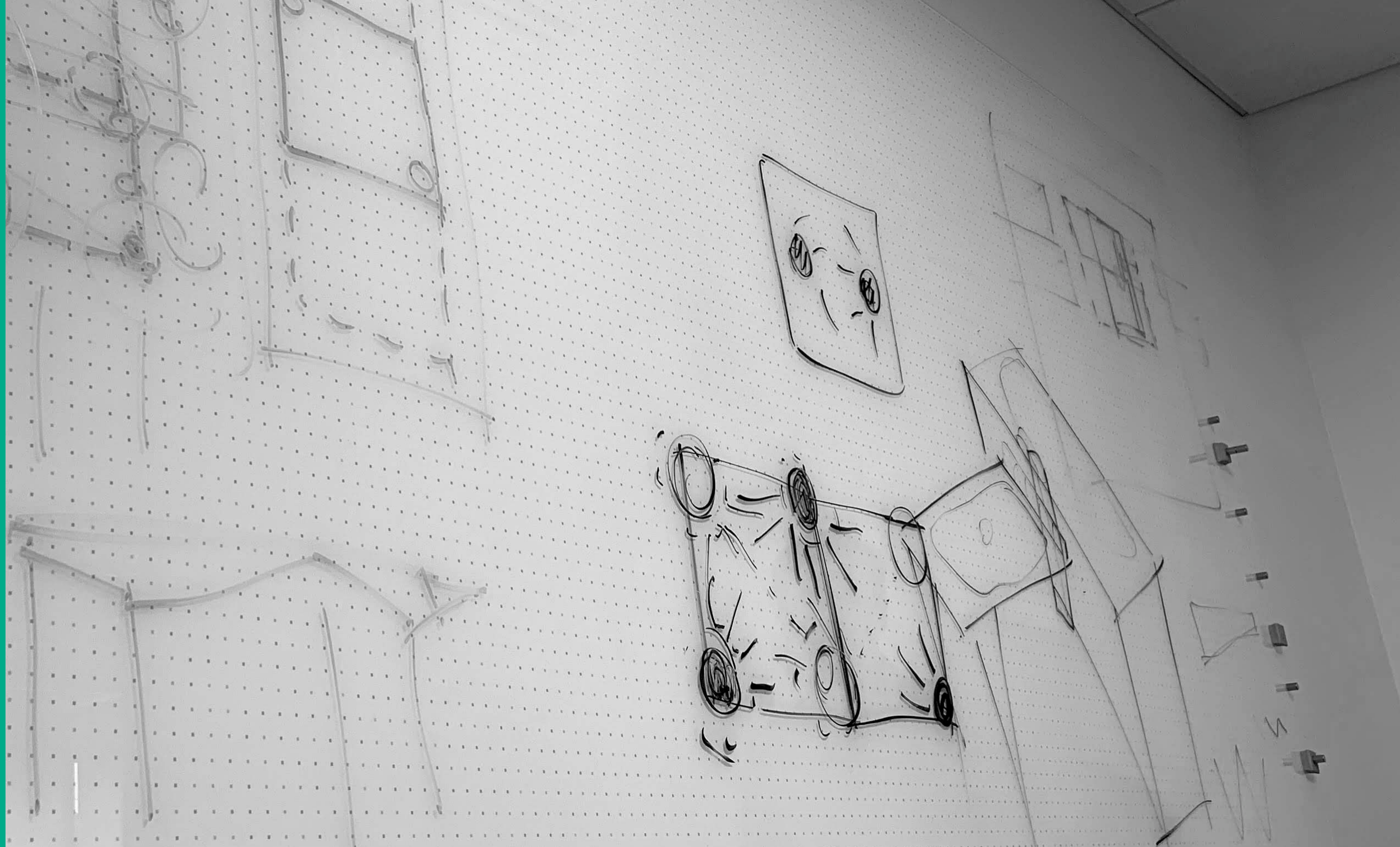


GREENFIELD - LEVEL 2

Investigate:

Charging and Power Solutions

The Skyport Mobility Hub is not only a place for commuters to board and disembark eVTOLs, but it is a facility that provides power to charge both eVTOLs and ground vehicles alike. Therefore, these facilities must be thoughtfully designed to respect the current city's electrical needs by providing infrastructure to support grid functionality and also by finding ways to sufficiently meet the needs of the terminal on-site.



Sustainable Energy Strategy

Our approach to sustainable energy includes a strategy for both grid resiliency and decarbonization, bringing the full benefits of the electrified transportation options that this project represents. From a resiliency perspective, the intent is to minimize the impact on the grid from the charging of the eVTOLs, each of which represent a 2.2 MW swing when turned “on” or “off,” without constraining when the eVTOLs can charge. From a decarbonization perspective, the intent is to

reduce the need for peaking power plants, and to provide onsite power with a lower carbon intensity than the grid, including the use of onsite solar PV and natural gas-based fuel cells.

Power Systems

The following power system design is recommended to accommodate the new space programming for the Retrofit or Greenfield Uber skyport concepts and the power charging needs..

PROJECT CHARGING REQUIREMENTS

POWER REQUIREMENTS	SITE QTY (MAX)	PROJECT LOAD ASSUMPTIONS
600 kWh per eVTOL per charge (5 minutes of ground time rapid charging yielding +30% power)	5	22MW each eVTOL Charger
200 Wh per eBike	200	200 Wh per eBike
200 Wh per eScooter	200	200 Wh per eScooter
100kWh per eAV (electric self driving vehicle)	100	50 Dual Chargers (2 cars per charger at 62.5 kW each)

Incoming Power Service

The project requires (2) dedicated circuits (1-preferred circuit + 1-optional backup circuit). Max power service load is estimated to be between 4MW to 11MW; mainly dependent on the skyport operations two main factors: 1) quantity of required eVTOLs charging at the same time and 2) time duration of rapid charging needs.

Skyport Power Load Profile Analysis

An energy load analysis profile was performed for typical midday hour scenarios with energy strategies for peak shaving:

- Scenario 1: Spaced eVTOL Charging at 2.2MW each at 5min duration
- Scenario 2: Random eVTOL Charging Causing High Peaks at 2.2MW each at 5min duration
- Scenario 3: Worst Case All 5 eVTOLs Charging Coincidentally at 2.2MW each at 5min duration

ENERGY STRATEGY

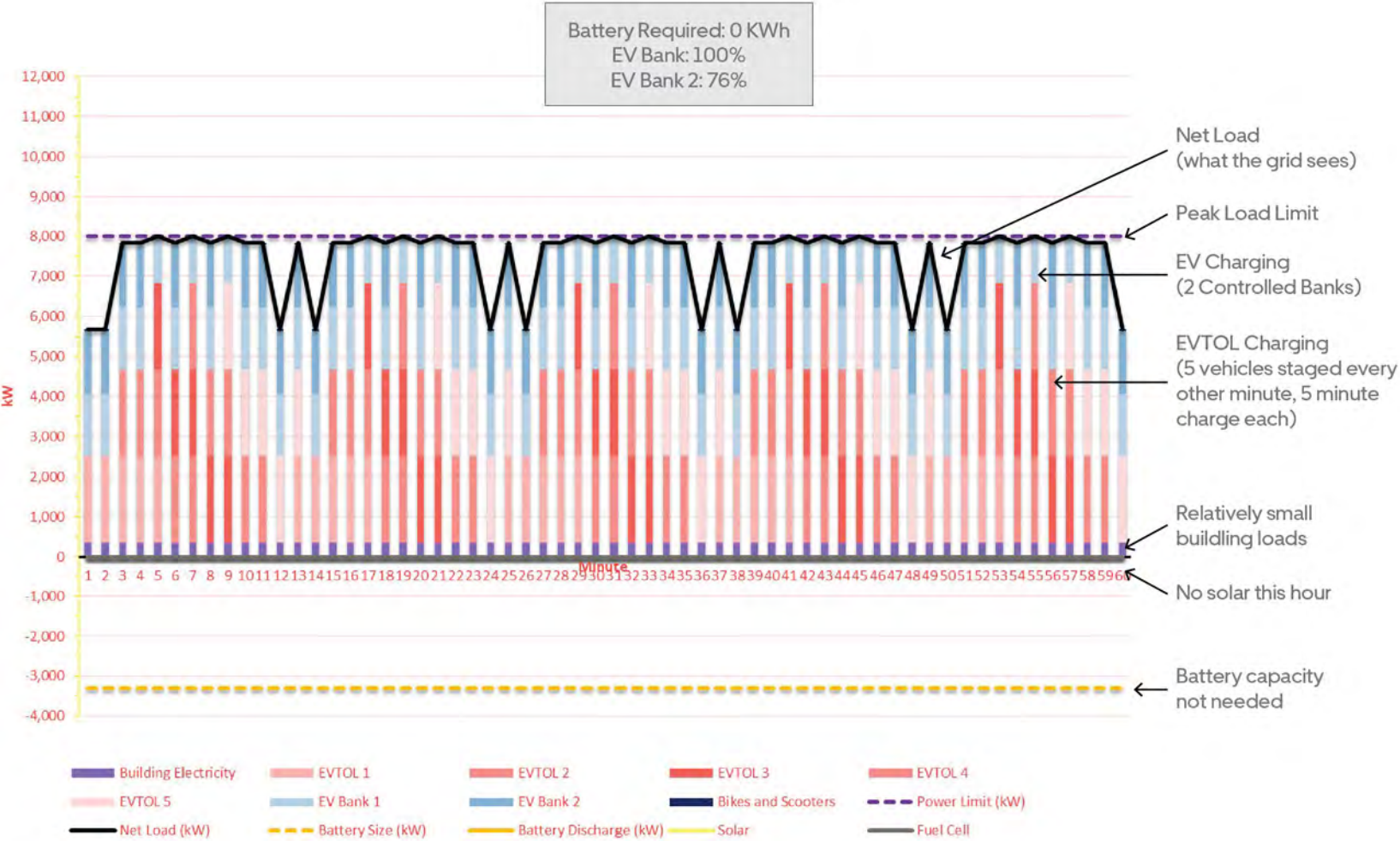
Goal: allow simultaneous charging of all 5 EVTOL pads, 2.2 megawatts (MW) each
Limit peak load to 8 MW, corresponding to non-emergency condition service
Charge EVs (cars) when there is capacity available under the 8 MW peak (i.e. when 3 EVTOLs or fewer are charging) <ul style="list-style-type: none">Split EVs into multiple charging “banks” that can be charged in order of priority
Include building electrical use (<0.5 MW)
Include onsite solar (~1-2 MW)
Use a battery (2-4 MW) to limit peak loads and suport rapid load ramping when EVTOLs begin to charge
Optional, use onsite generation to cover resulting baseload (~4 MW) <ul style="list-style-type: none">Fuel cell: no air quality emissions, only CO2. Significant GHG reductions in year 1, diminishing over time as the grid becomes cleanerCogeneration or Trigeneration: to be used if a large heating or cooling load exists nearby (likely not onsite)

Grid Resilience

The local utility providers have different delivery service procurement for demands above and below 8 megawatts (MW). For speed to market deployment, staying below an 8 MW demand power procurement is preferred for the project site. Because each eVTOL requires 2.2 MW, to allow the simultaneous charging of all 5 eVTOL pads, the electric vehicles, and the building electrical needs (<0.5 MW, including cooling, lighting, and plug loads), an onsite battery for peak shaving is required to remain under the 8 MW limit. Batteries are good at fast-ramping loads (such as an eVTOL plugging in to charge), where other onsite generation doesn't ramp as quickly. Therefore, batteries are the proposed first order solution for grid stability and load management, and a 2-4 MW battery with the ability of discharging at peak power for 2-5 minutes would meet the project's needs. A reciprocating engine power generator could also provide fast ramping charging, but has associated greenhouse gas (GHG) and air pollution emissions that would limit the overall benefit.

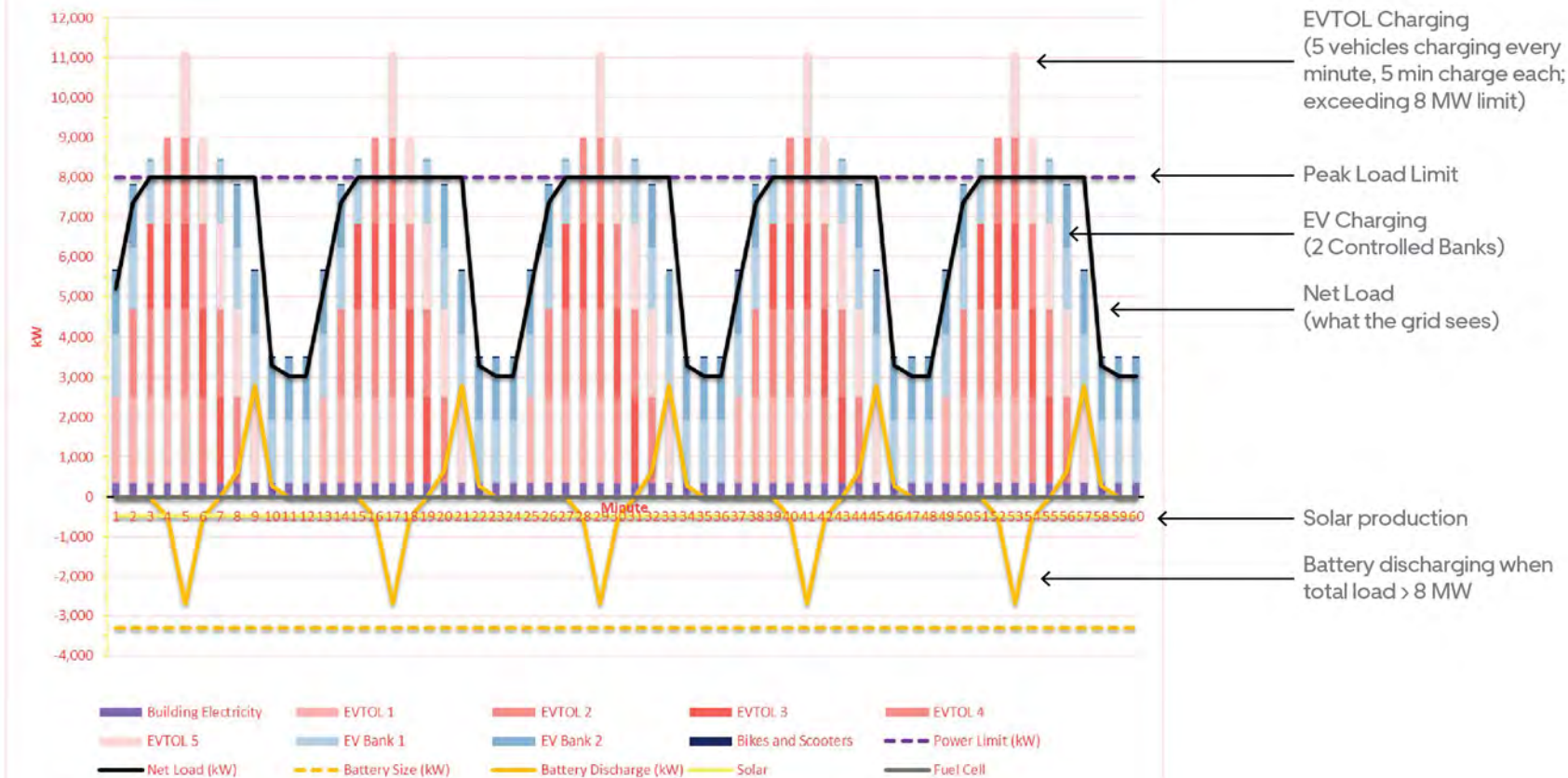
In addition, the facility needs to provide charging power for electric vehicles (EVs), bikes and scooters, estimated at a total of ~3.2 MW when fully loaded, accommodating 100 cars and 400 bikes and scooters. The approach is to divide this EV charging into two or more distinct charging “banks” which can be controlled separately, and charged in order of priority. For example, one bank might represent Uber drivers who need to park and leave their vehicles and come back with a full charge after 15-30 minutes, while another bank might represent more long-term charging needs such as someone who needs a partial charge over several hours. In either case, because the eVTOLs will only exceed the 8 MW limit for ~30% of the time in peak hour (where 25 eVTOLs are landing, charging, and taking off again), the first proposal is to charge the EVs during the 70% of the time when there is capacity under the 8MW limit. This would effectively provide between 60 to 100% of the charging capacity for the first priority charging bank, and 50-75% of the capacity for the second priority bank. Still another option would be to increase the size of the onsite battery to accommodate more first priority charging. Further, when vehicle-to-grid charging becomes available, the entire site will increase its ability to provide grid benefits and services.

LOAD PROFILE FOR A TYPICAL MIDDAY HOUR
Scenario 1: Spaced EVTOL Charging

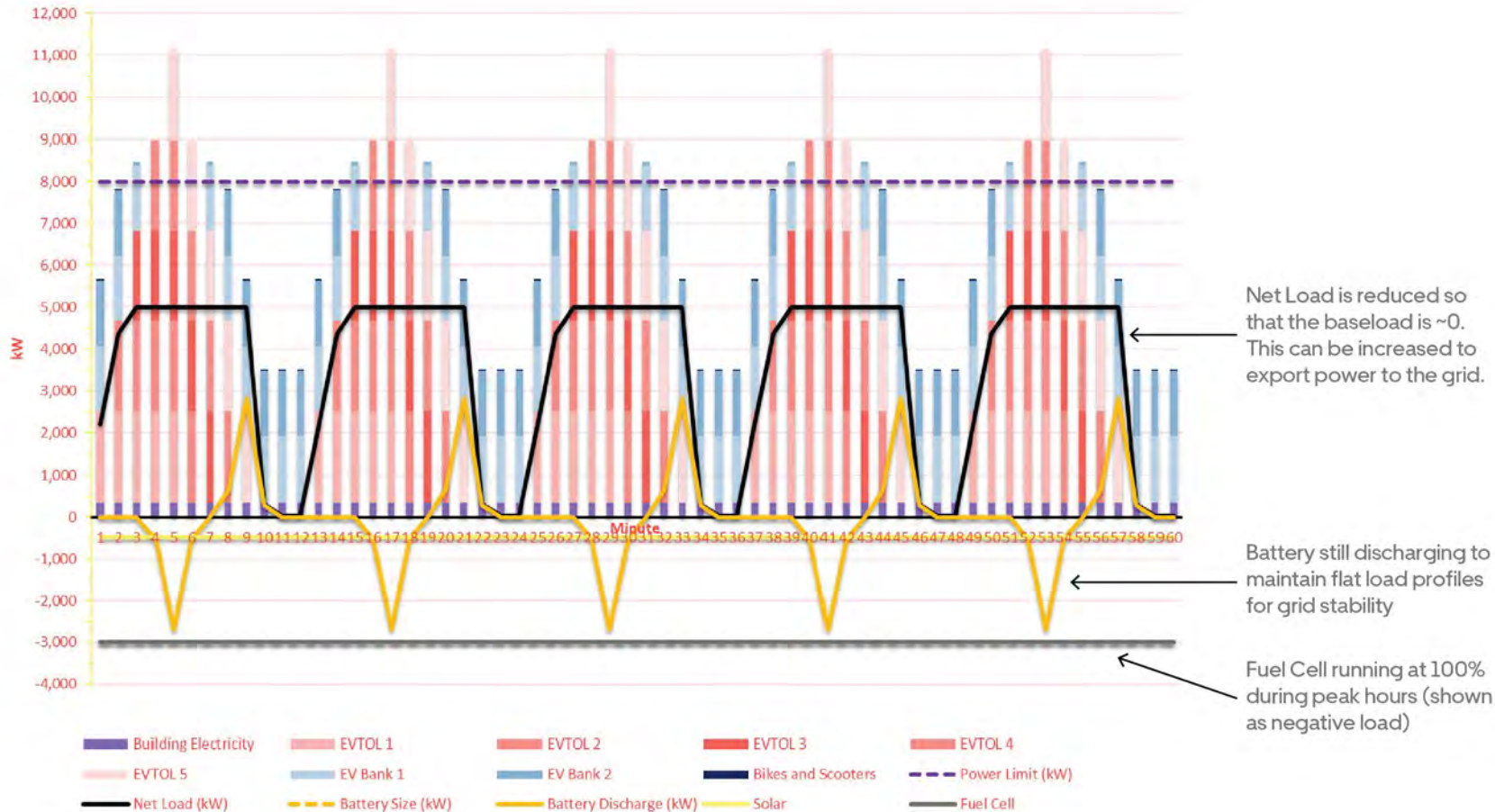


LOAD PROFILE FOR A TYPICAL MIDDAY HOUR
 Scenario 2: Random EVTOL Charging Causing High Peaks

Battery Required: 67 KWh
 EV Bank: 75%
 EV Bank 2: 59%



LOAD PROFILE FOR A TYPICAL MIDDAY HOUR
 Scenario 2: With a 4 MV Fuel Cell



Decarbonization

Our approach to decarbonization is to provide onsite energy sources to improve upon the grid’s GHG emissions factor in a way that continues to provide benefits as the grid itself becomes cleaner over time. The non-baseload grid GHG emission factor for the ERCOT region is 1402 lbs/MWh.

The first level of onsite energy generation is a solar PV installation of 1-2 MW in rated capacity, which delivers ~80% of the rated capacity during the peak summer months. Solar energy is carbon-free, and distributed installations located near energy loads generally have an amplified benefit.

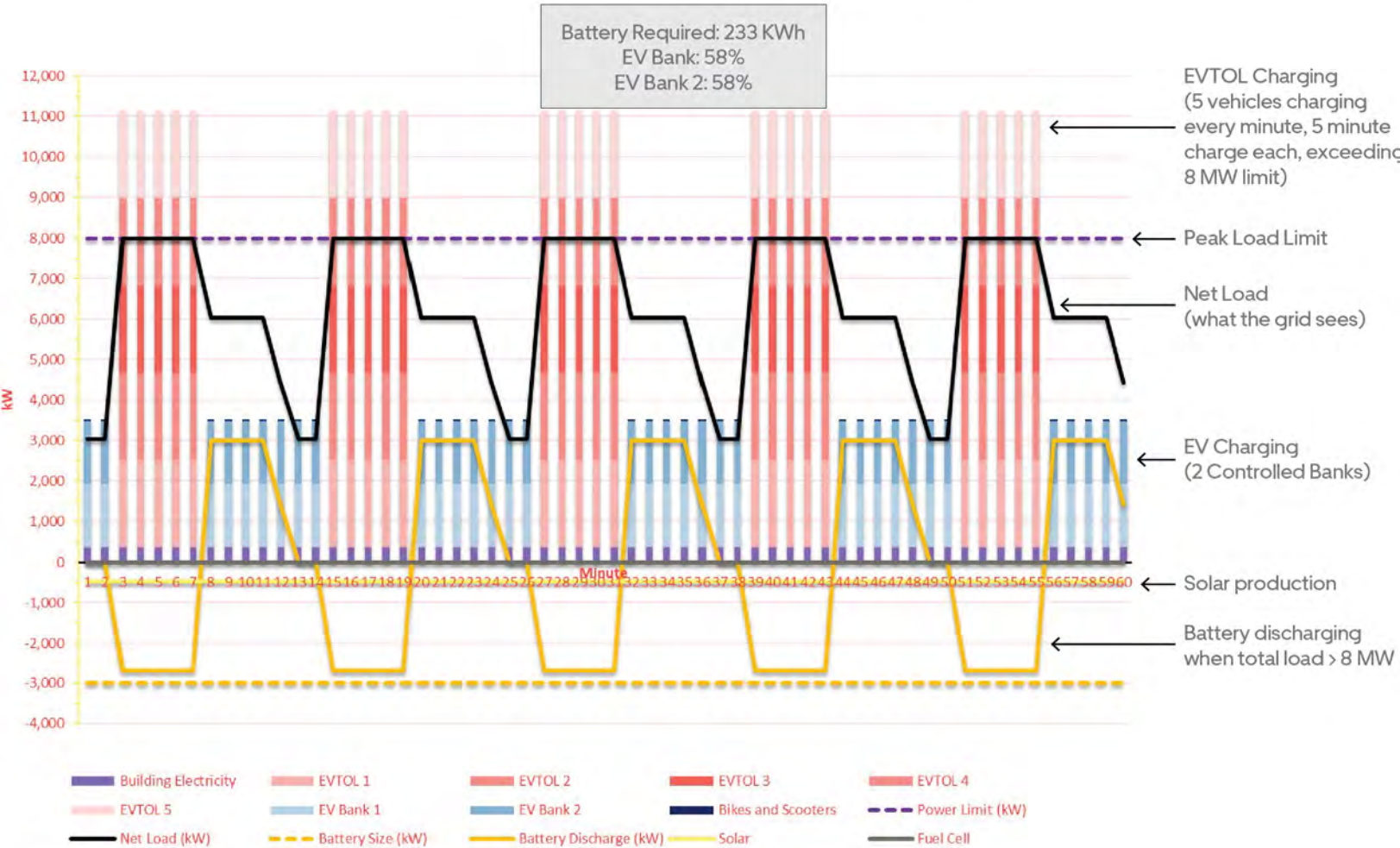
In addition to solar, several other onsite generation options were evaluated, including gas-fired microturbines and reciprocating engines, building integrated wind, and gas-based fuel cells. Building integrated wind is a low priority given the minimal energy contribution and the high level of technical and structural challenges it represents. Of the gas-based options, fuel cells have the highest benefit since they can be all-electric, with high levels of electric generating efficiencies, whereas the turbines and engines are best suited for applications

with a use for the waste heat in a cogeneration or trigeneration configuration. Further, since fuel cells aren’t combustion based, there are no air quality impacts or associated permitting to address. Given the overall load profile, estimates show that up to 4 MW of capacity could be located onsite, operating at nearly 100% capacity factor, and providing a steady baseload that, with an emissions factor of ~880 lbs/MWh would reduce carbon impacts by 37%. This further reduces the load impact to the grid from a footprint that swings between 4 and 8 MW to one that ranges from between 0 to 4 MW.

Offsite Renewable Energy Procurement

For the balance of the site’s power needs, partnering with a local utility or wind energy supplier is recommended, to enter into a power purchase agreement (PPA) for 100% of the purchased power needs. This takes the form of high value and additional renewable energy, as opposed to generic renewable energy credits (RECs) or carbon offsets. This means contracting for new or planned renewable energy, located within the same grid region as the project site. Doing so results in a lower overall energy cost than a business-as-usual grid purchase scenario.

LOAD PROFILE FOR A TYPICAL MIDDAY HOUR
Scenario 3: Worst Case: All EVTOLs Charging Coincidentally



Kinetic Energy

Designed to connect and engage with the public, the Skyport Mobility Hub harnesses kinetic energy through interactive art, promoting sustainability while simultaneously educating the public on the energy usage of buildings. One example is the use of Energy Floor’s Sustainable Dance Floors that use human movement on the floor tiles to power the floor’s LED lights. This system is strategically implemented in walkways throughout the Connection Plaza, capitalizing on major pedestrian movements, encouraging interaction and exploration of various spaces around the site. Kinetic floors in the sport court provide the ability to power adjacent fans, directly using the energy to cool players, a must have for hot Texas summers.

The WindNest is another example of an art installation that harnesses wind energy for conversion to electricity used for lighting and phone charging. One WindNest turbine is estimated to produce 2,000 kWh per year. These methods of using renewable energy sources are both sustainable and creative ways to educate and engage the community. The Uber skyport facility incorporates dedicated site infrastructure to support the skyport operations and

ground vehicle charging needs for the Retrofit or Greenfield concept. The basic infrastructure for the skyport is similar to a Tier 1 data center’s strategic level of operational sustainability and is driven by time-to-market and first-cost issues rather than lifecycle costs. The facility will have a single path power and cooling, and limited, if any, redundant and backup component.

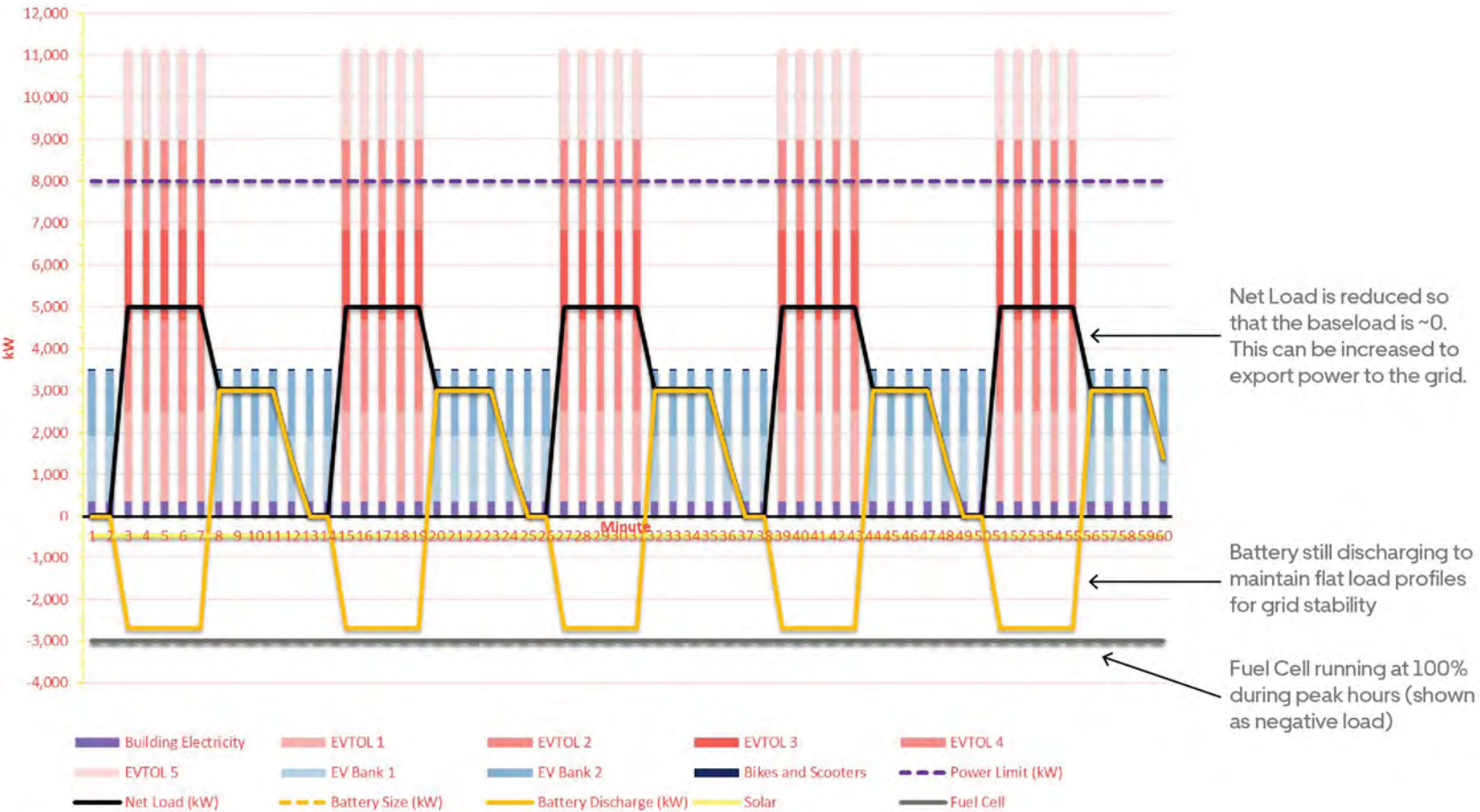
Mechanical Systems

The Uber skyport facility supports the skyport operations and ground vehicle charging needs for the Retrofit or Greenfield concept. The basic infrastructure for the skyport is similar to a Tier 1 data center’s strategic level of operational sustainability and is driven by time-to-market and first-cost issues rather than lifecycle costs. The facility will have a single path power and cooling, and limited redundant and backup component.

Installing an air-cooled system to accommodate the new space programming for the Retrofit or Greenfield Uber skyport concepts is recommended through two options: a Packaged Air Conditioning System or a Split Air Conditioning System.

- Retrofit Est. Total Cooling Capacity: 181 tons
- Greenfield Est. Total Cooling Capacity: 287 tons

LOAD PROFILE FOR A TYPICAL MIDDAY HOUR
Scenario 3: Worst Case: with 4 MW Fuel Cell



Reduced Load, Lowest Cost Approach

It is possible to reduce the overall power demand load of the facility by imposing a few constraints on the skyport terminal operations without spending the CAPEX costs associated with a battery or fuel cell system. An additional load profile analysis was performed to help reduce the peak load demand by changing the eVTOL charging criteria from “rapid charging of 2.2 MW for 5-minutes” to “standard charging of 1MW for 10-minutes”.

- Goal 1: Maintain Power Under 6MW (All 5 eVTOLs Charging Coincidentally at 1MW each at 10min duration)
- Goal 2: Maintain Power Under 6MW (All 4 eVTOLs Charging Coincidentally at 1MW each at 10min duration)
- Goal 4: Maintain Power Under 4MW (All 3 eVTOLs Charging Coincidentally at 1MW each at 10min duration)

To reduce to a 6 MW total load, this could be achieved by reducing the power draw of each EVTOL from 2.2 MW to 1.0 MW, and increasing the charging time from 5 to 10 minutes. This would achieve roughly the same energy per charge, but

would do so at a reduced power draw. It would require loading and unloading to take place while the vehicle was charging if the goal was to maintain 25 flights per hour using the 5 EVTOL charging pads. However, this would limit the amount of EV charging to 66% for EV Bank 1, and 7% and 0% for EV Bank 2 and the Bikes and Scooters, respectively. To balance the EVTOL and EV charging needs, the 6 MW goal could also be achieved by reducing the number of flights per hour to 15 from 25, likely only needing 4 EVTOL pads.

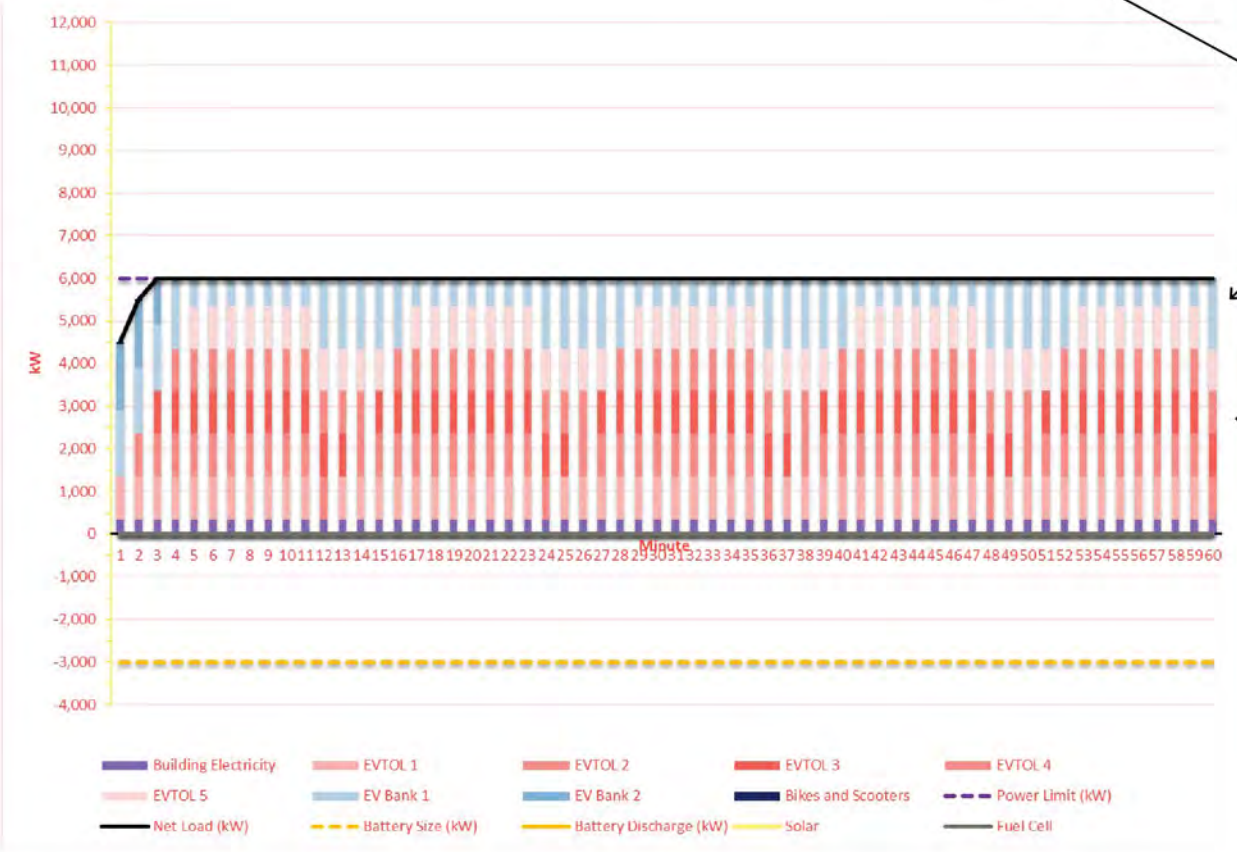
To reduce to a 4 MW total load, this would require reducing the number of EVTOLs and trips per hour to 3 EVTOLs or 10 trips per hour, each EVTOL charging at 1 MW or less for 10 minutes or more to achieve the same energy per charge for each trip.

Reduced Load, Lowest Cost Approach Option 2: Power Infrastructure Modular Scalability

Provide Day 1 = 4MW demand load with Day N space and infrastructure provisions to scale the power system to a Day N = 11 MW. This can be achieved by deploying modular power system blocks of 2MW or 3MW increments.

GOAL: MAINTAIN POWER UNDER 6MW

EV Charging Dashboard
EV Bank: 66%
EV Bank 2: 7%
Bikes and Scooters: 3%

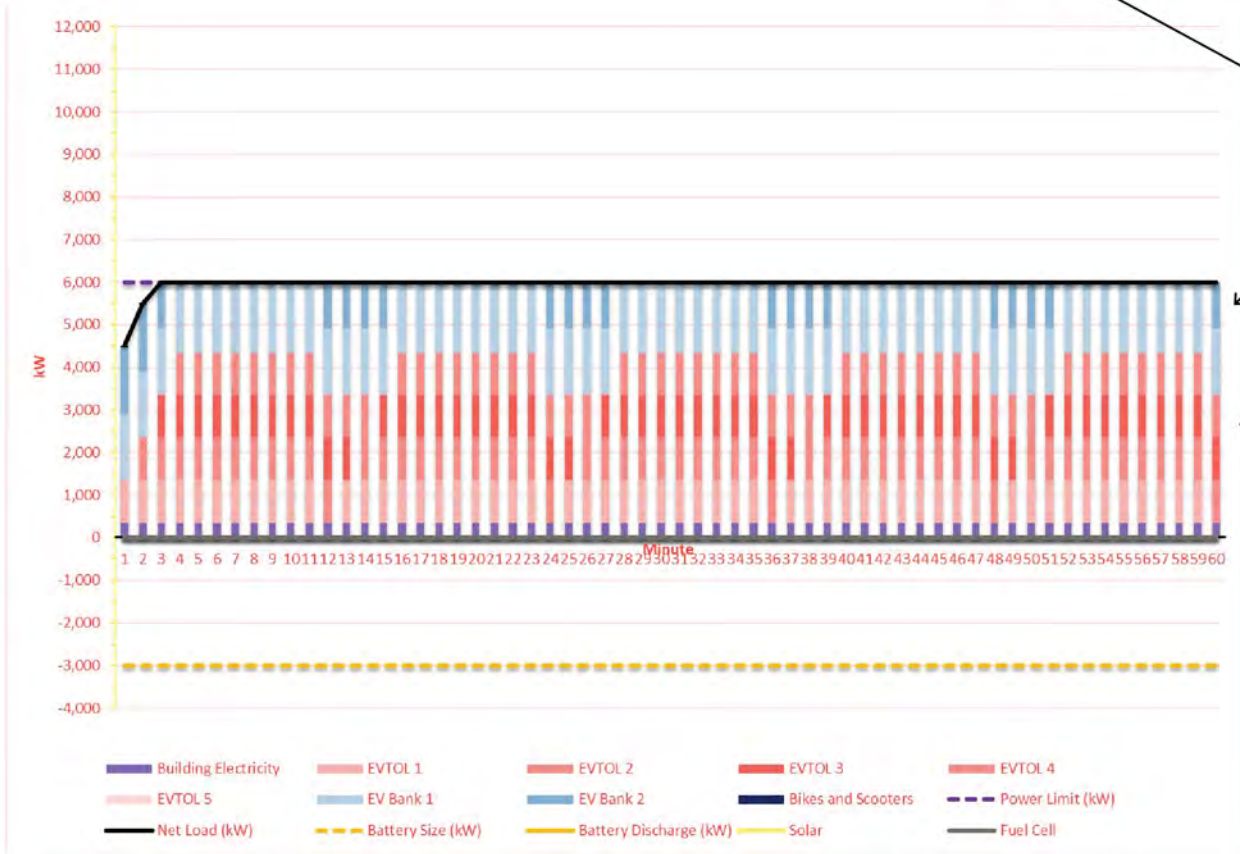


Limited capacity
for EV Charging

All 5 EVTOLs charge at
1 MW for 10 min each.
This means that boarding
and charging would take
place simultaneously.

GOAL: MAINTAIN POWER UNDER 6MW

EV Charging Dashboard
EV Bank: 100%
EV Bank 2: 28%
Bikes and Scooters: 3%

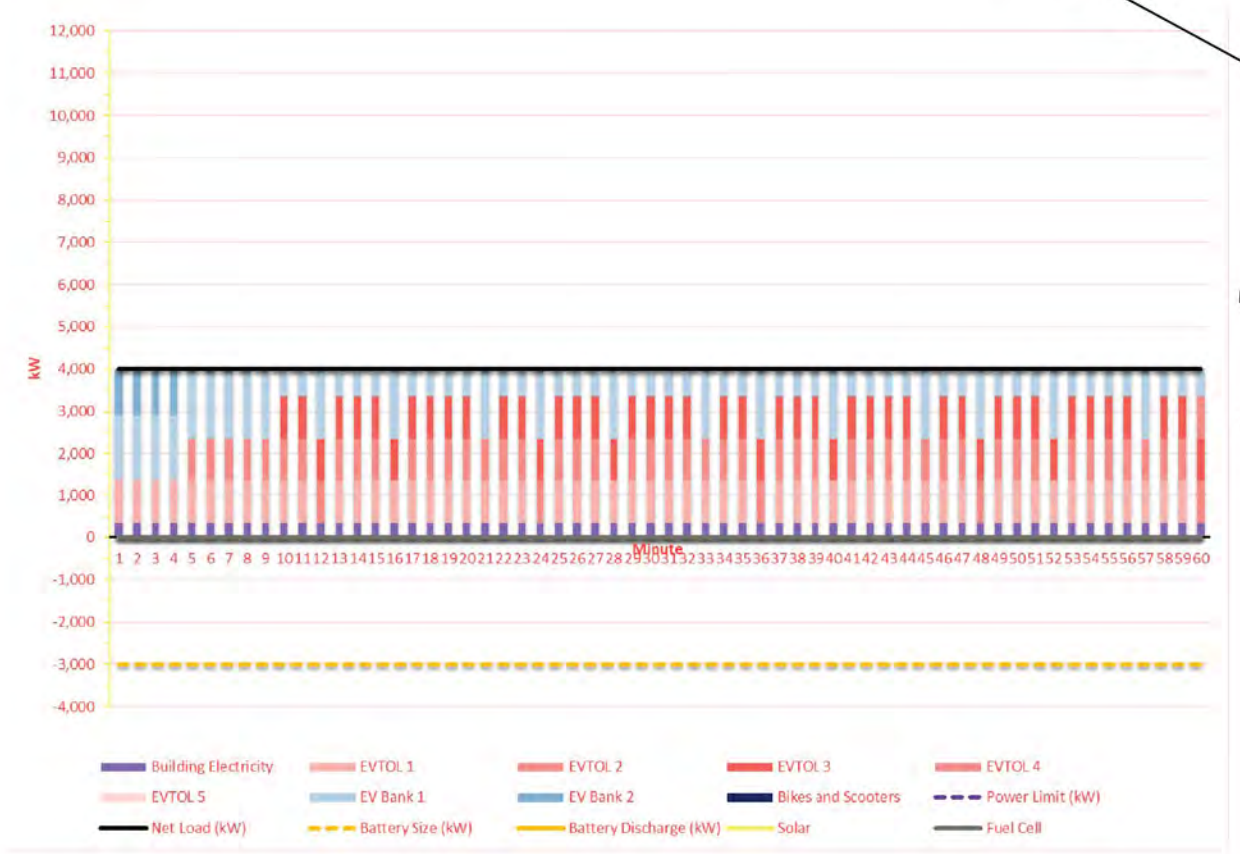


Increased capacity
for EV Charging

Or reduce to 4 EVTOLs
and/or fewer total flights
per hour (15).

GOAL: MAINTAIN POWER UNDER 6MW

EV Charging Dashboard
EV Bank: 62%
EV Bank 2: 6%
Bikes and Scooters: 0%



Limited capacity
for EV Charging

Reduce to 3 EVTOLs
charging at 1 MW each
for 10 min, or reduce
number of flights to
10/hour. Reduce further
EVTOL flights to increase
EV charging capacity.

Take A Peek Into:

Interior Finish Selections

Placing an emphasis on personal touchpoints within the Skyport Mobility Hub creates a lasting impression and a strong connection between the Uber brand and the user.

This requires an architectural identity that surpasses momentary trends, integrates seamlessly into any local context, and most importantly, remains consistent with the app interface for a seamless user experience.

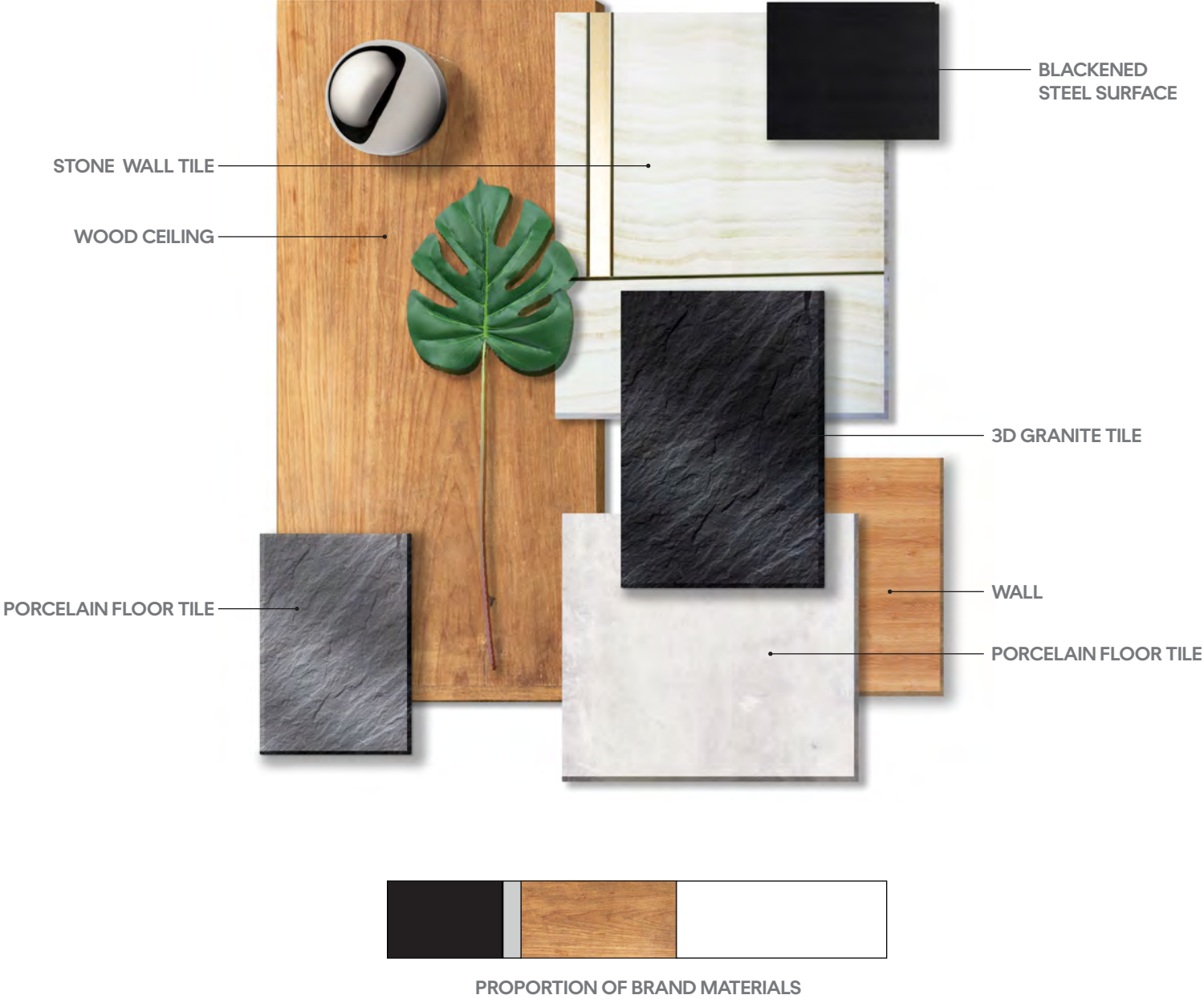


Interior Design Concepts

Uber Lobby

Combining the sophistication of raw stone edges and natural wood tones with crisp clean lines, the interior spaces of the Skyport Mobility Hub find unique ways to identify with the Uber brand. Visible from the exterior, the lobby invites guests in with a natural wood accent ceiling, with embedded light fixtures. While light fixtures from above help to create an ambient tone throughout, lights integrated into the floor highlight the intentionally simple and efficient path to ticket validation and security check. A stainless-steel portal contrasts against white Castagna stone to identify the transition between the entrance lobby and the secure lobby.

In addition to the secure lobby, the Castagna stone is used to anchor the lobby behind the reception desk, providing a unique contrast between spaces of movement and spaces of respite. The Uber logo is hand carved into the stone, reflecting the firm and sleek Uber identity.



*See appendix for source information

Greenlight Hub

The Greenlight Hub is a place for drivers to relax, get help with the Uber app, and enjoy making connections with fellow drivers. Continuing the core palette of white, grey, wood tone, and black, this space takes a playful approach to the brand by adding specific color highlights in areas of social interaction.

A greenwall at the entry greets visitors and evokes a healthy, lively atmosphere. Wood ceiling elements are a continued gesture from the lobby, and help to strategically create an information zone, versus social areas. Intimate framing moments are created with integrated nook seating elements, while playful hanging chairs invite visitors further into the space.

Color accents in hues of blue define and highlight social spaces such as the banquet seating and lounge space, as well as window seating elements that pull visitors around the corner and into the space. A small café area further supports social engagement by keeping a view to the exterior and keeping an open design.



PROPORTION OF BRAND MATERIALS

*See appendix for source information

Quick Queue Lounge

As a transitional space, the Quick Queue Lounge strategically uses contrasting materials to create clear and intuitive wayfinding. The black stainless-steel vestibules are immediately identifiable as visitors enter the lounge, with engraved glowing gate numbers signaling passengers to their specific aircraft. The transition from interior to exterior continues to be highlighted with wood accents.

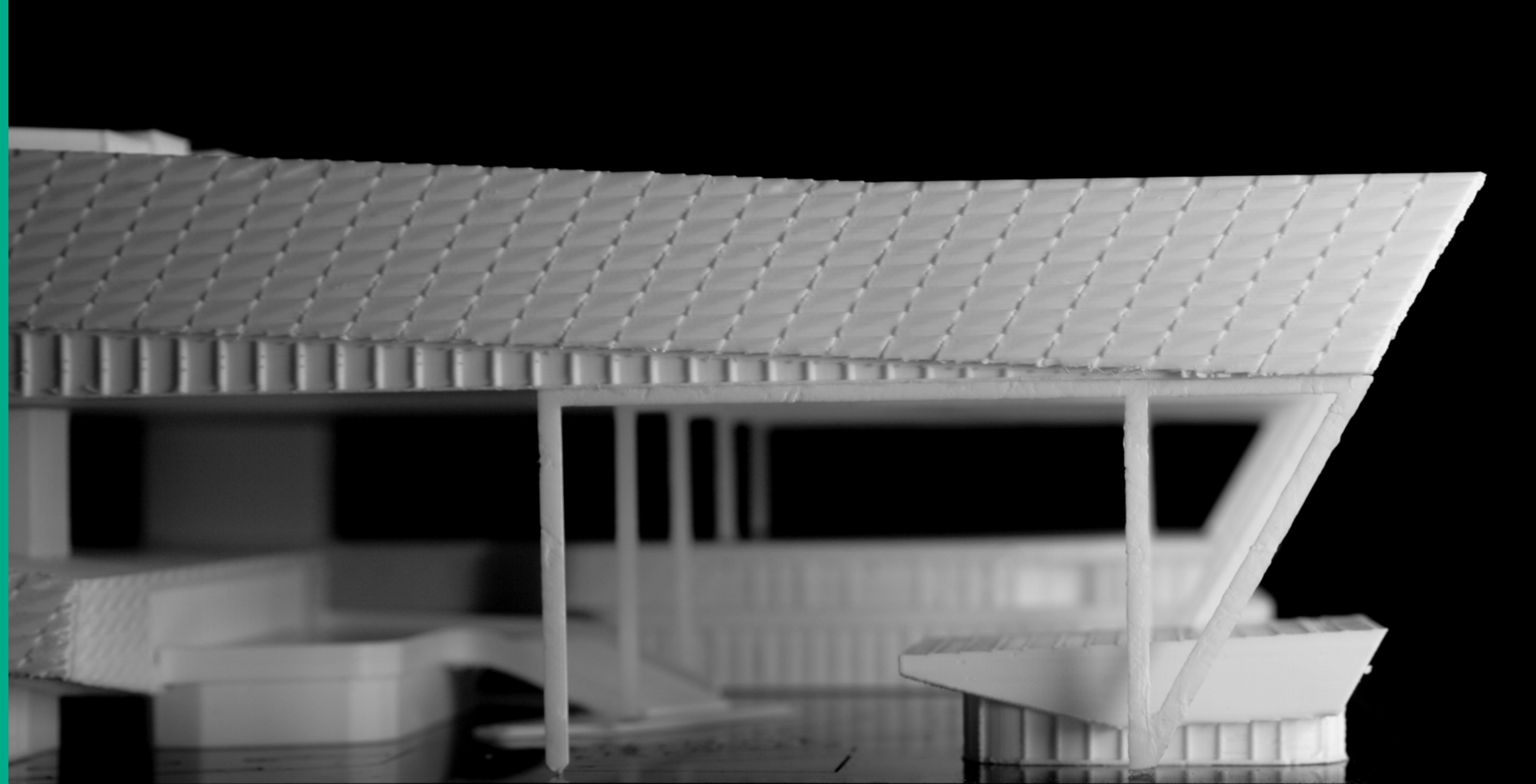
A final ticket validation occurs at the vestibule, where passengers tap their mobile ticket one last time, to ensure they are boarding the correct eVTOL. Lighting elements embedded in the tarmac lead passengers to their aircraft within a safe walking zone, a detail that seeps into the lobby space as a continuation of the seamless transition of the interior to exterior experience.



Examine:

Construction & Cost Analysis

Understanding the need for the skyport to be immediately implementable and exhibit speed to market methods, a construction and cost analysis is provided to clarify the feasibility of the solution. This analysis explores how the design will utilize prefabrication techniques for low start up costs, in addition to being immediately retrofit-ready, while remaining scalable across a variety of skyport locations.

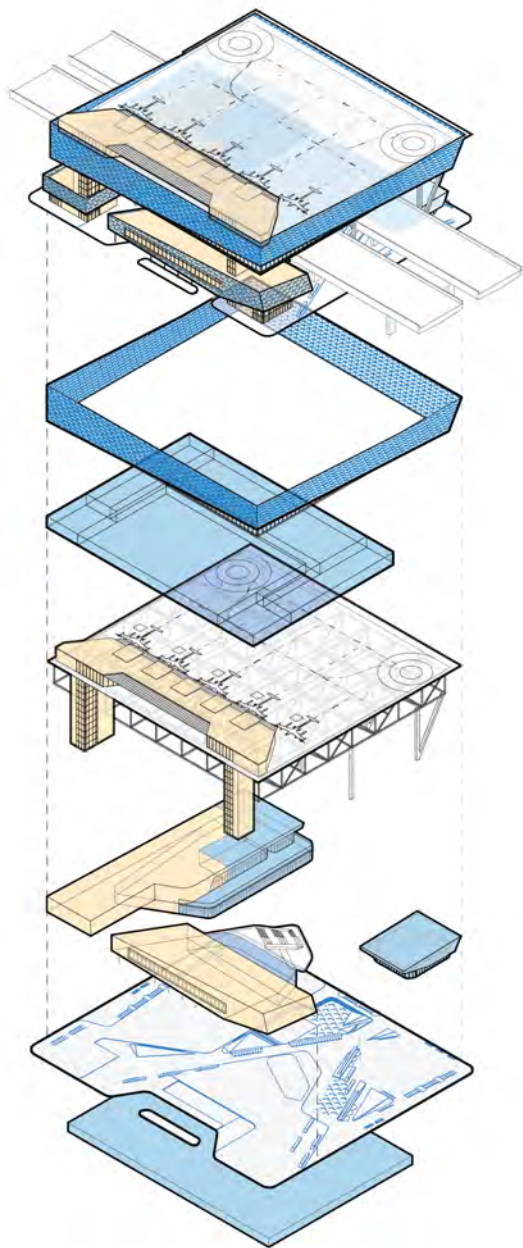


Process of Construction

Considering adjacent structures in urban areas, the greenfield solution is designed around an elevated highway. The project will be phased to consciously reduce impact to the highway traffic.

Spanning each of the northbound and southbound lanes, it is crucial that the structural steel trusses supporting the Flight Deck be shipped to the site in large sections and assembled on site. Vertical core trusses will be assembled into large “unitized panels” with metal decking attached to the lower flange, providing protection to the elevated traffic below. This process will require periodic nightly/ weekend road closures/diversions to the highway below, not unlike other similar construction projects. The connection plaza, retail area and lower level Uber functions will be completed without impacting the elevated highway traffic.

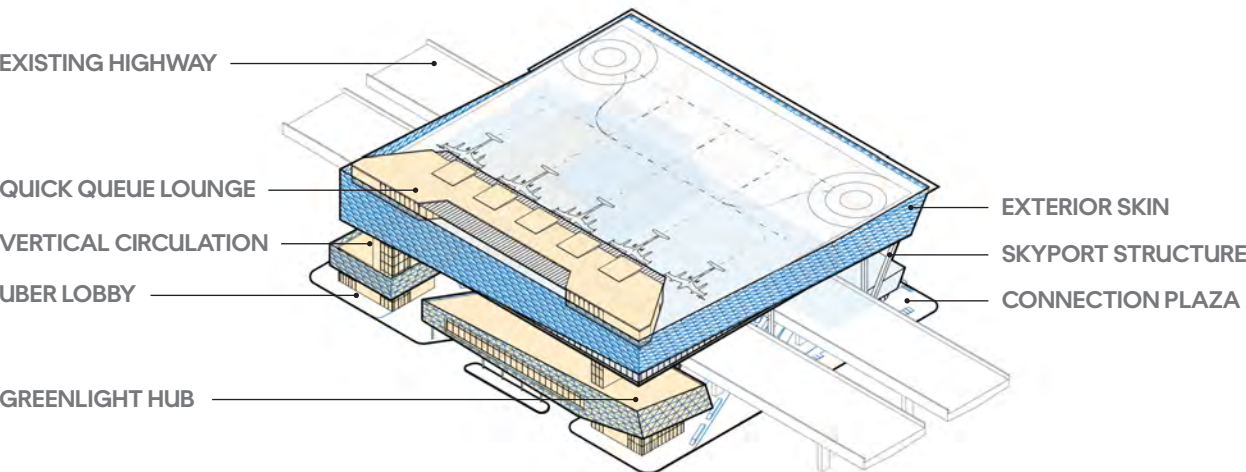
Prefabricated materials shipped directly to the site for installation utilize controlled off-site environments for a higher quality finished product that can accelerate the overall project schedule.



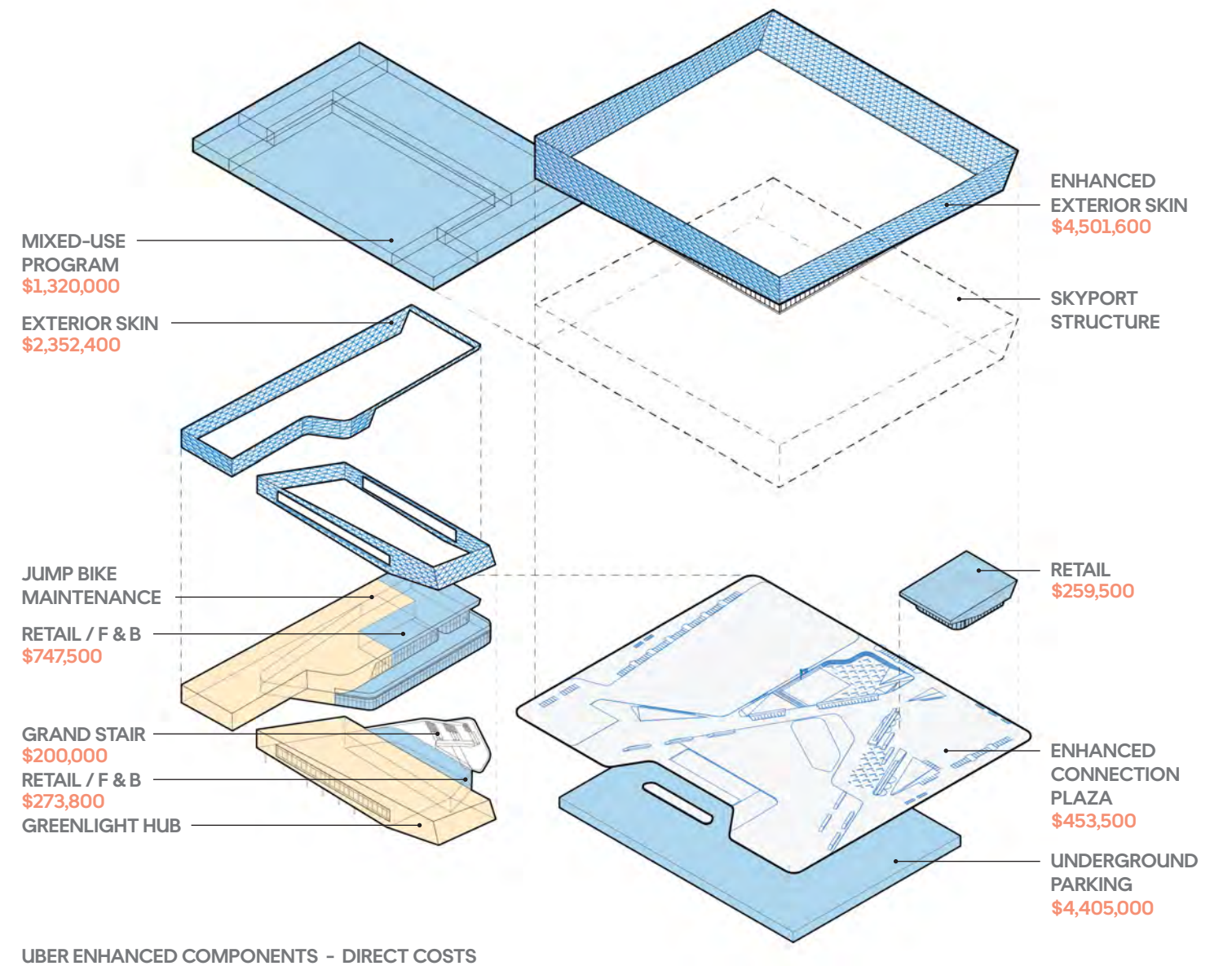
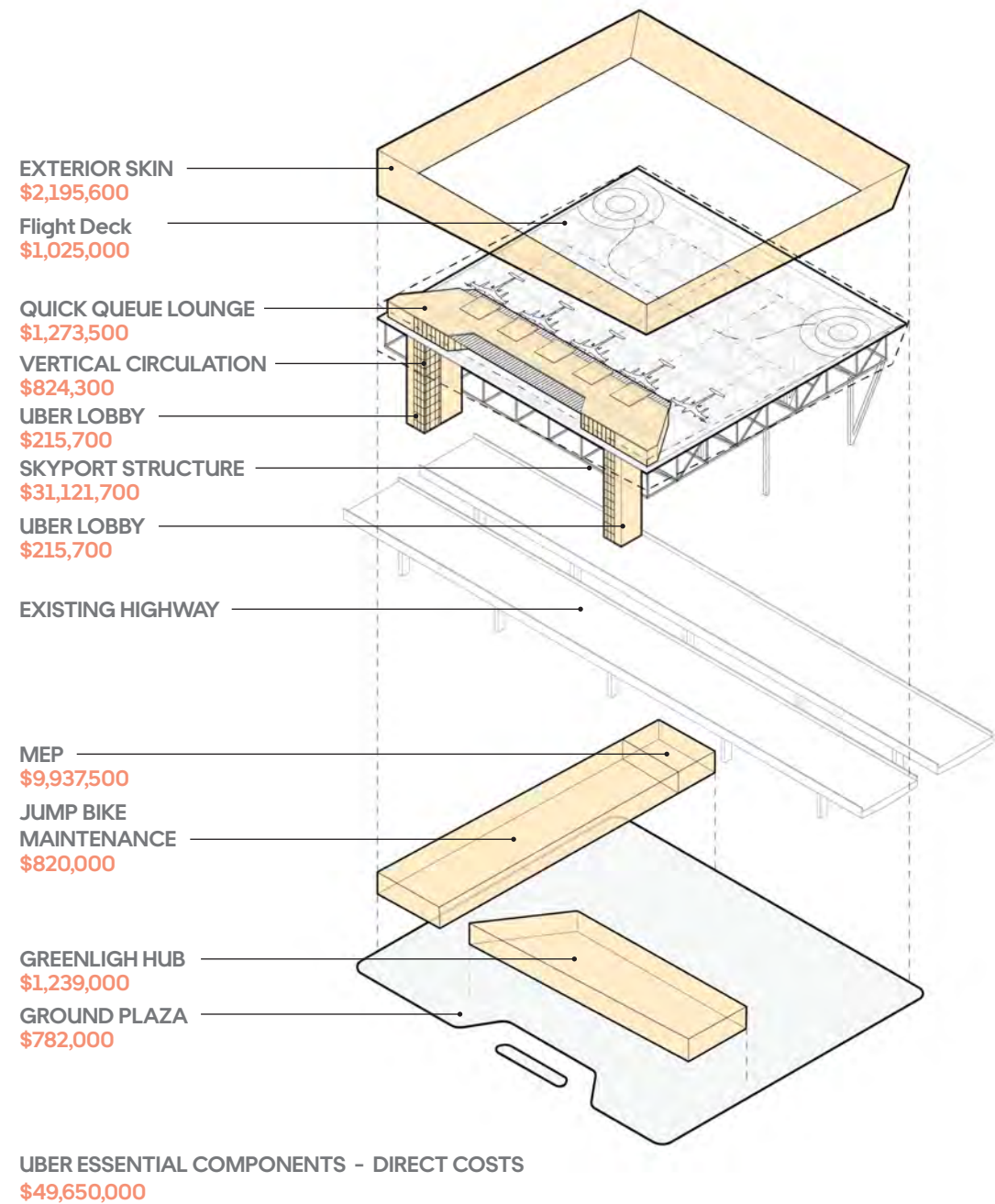
The Greenfield Cost Analysis*

The Uber essential components, denoted in yellow, comprise the primary programmatic elements required for Skyport operations in this Greenfield solution. The essential components provide the program requested by Uber and include all the key elements within the kit of parts. The development of the Skyport has the potential to change how communities incorporate transportation into their

lifestyle choices, and to realize the full social and community benefits and to create the additional revenue generating spaces shown in this concept, enhanced programmatic components, denoted in blue, have been developed and priced. These enhanced components help to position the Skyport as a community partner and include mixed use and additional retail spaces, larger public and community amenities, and enhanced high performance building skins to name just a few.



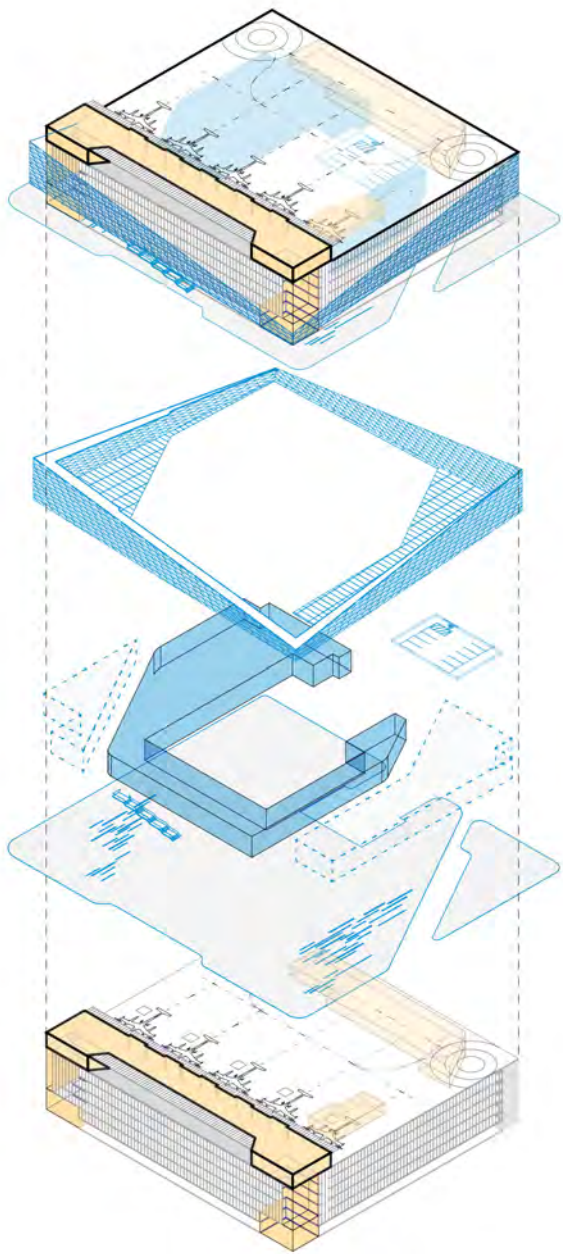
*Refer the appendix for full pricing break down including contingency and contractor mark ups.



Process of Construction

To support eVTOL operations, any garage will likely undergo strategic reinforcement, as new uses and occupancies will increase existing live loads and additional dead loads for walls/partitions, ceilings, flooring, and equipment. The additional dead load will likely add 25 to 30 psf at each renovated location. This retrofit solution considers an existing Post Tensioned Parking structure, with a typical floor live load of 40 psf. Pending the excess strength capacity provided, structural reinforcement of existing floors will be required. Composite Fiber Reinforced Polymer (FRP) can increase capacity if bonded to the top and underside of the concrete beams and slabs.

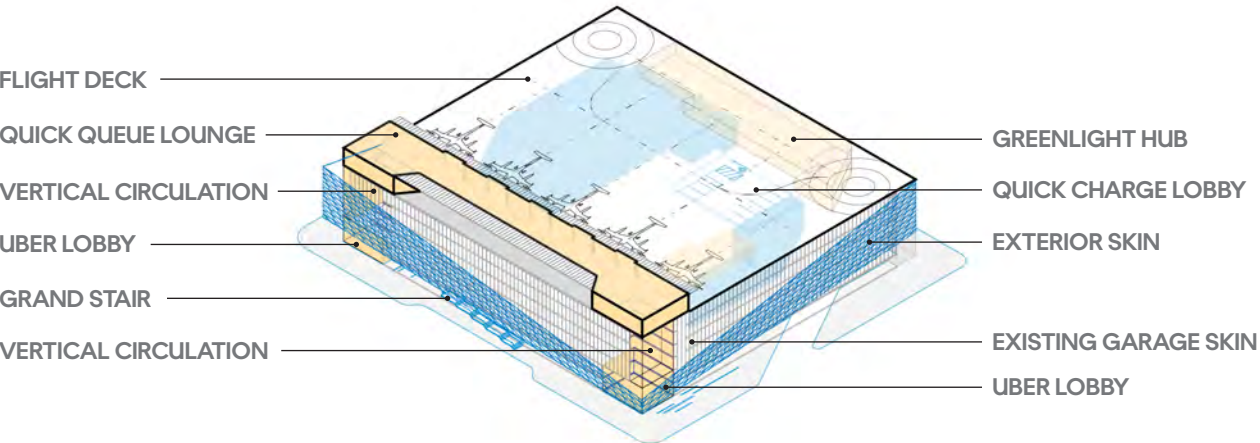
Strategic removal of the second floor creates double height spaces at the Connection Plaza, requiring all adjacent columns to be reinforced for the increased unbraced length. Columns are jacketed with 6” of reinforced concrete on all sides from the ground to the underside of the third floor. Floor removal will weaken the remaining slab areas, requiring reconstruction to provide proper tendon drapes and anchorage conditions.



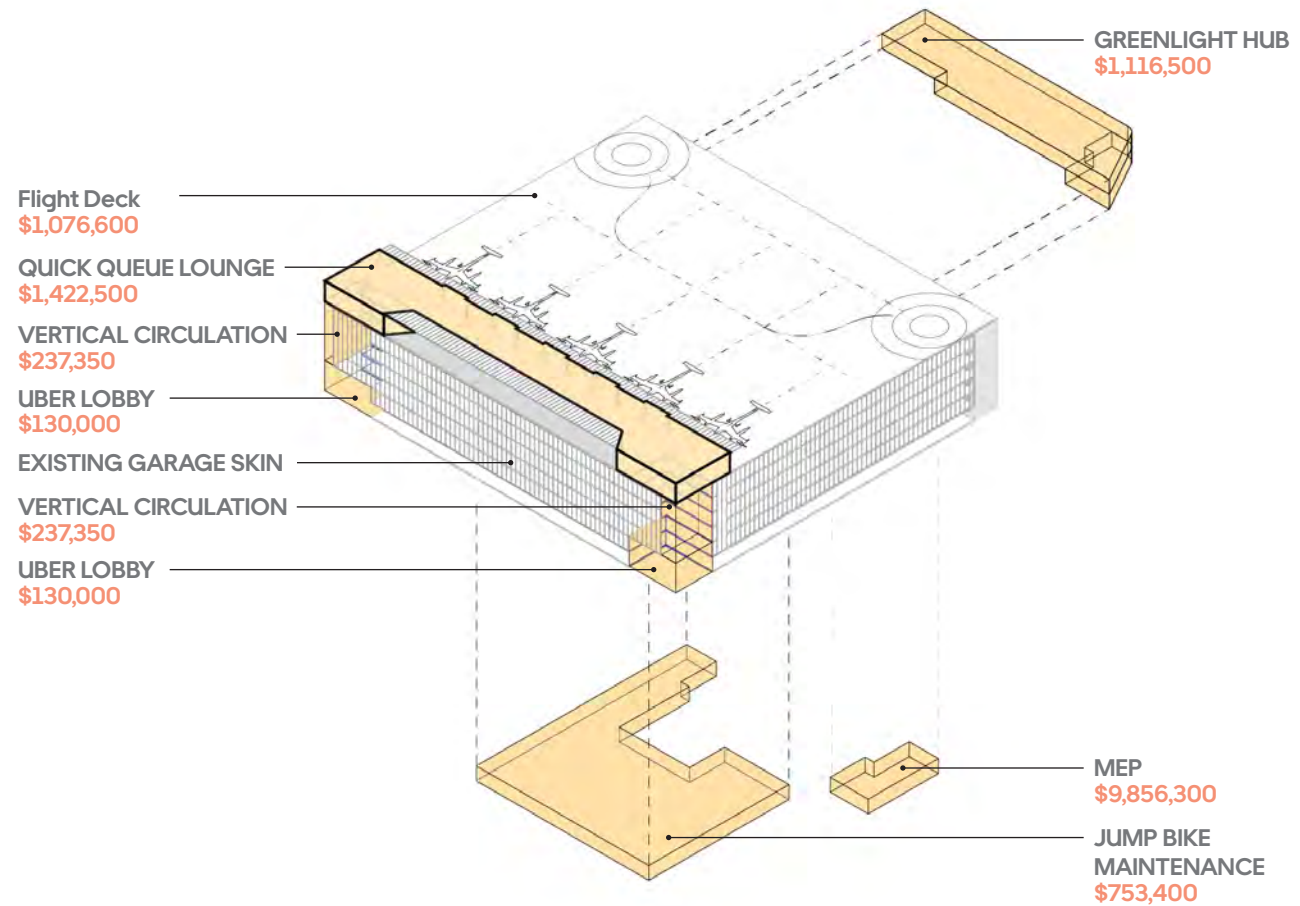
The Retrofit Cost Analysis*

Unlike the Greenfield concept, the Retrofit will be constrained by the structural parameters of the facility it is adapting into a Skyport. The Retrofit includes the Uber essential components, denoted in yellow, required for Skyport operations on an existing parking garage. These essential components have been kept as minimal as possible to increase the speed to market and minimize overall project costs. Similar to the Greenfield, the Retrofit also has the potential to change how communities incorporate transportation into their

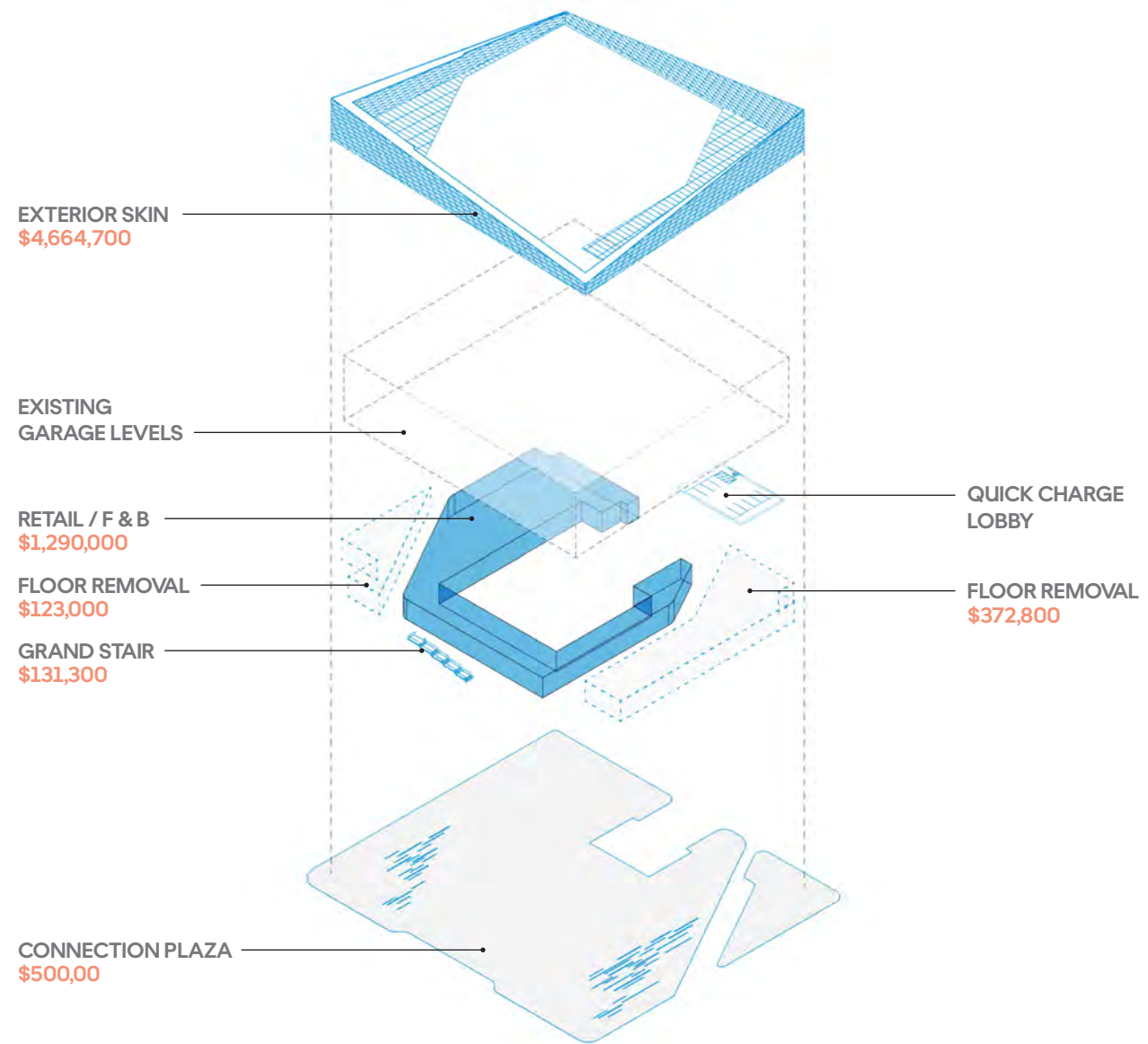
lifestyle choices. For the Retrofit to realize the full social and community benefits and to create the additional revenue generating spaces shown in the design, enhanced programmatic components, denoted in blue, have been developed and priced. These enhanced components help to position the Retrofit Skyport as a community partner and include mixed use spaces, a larger connection plaza, more public and community amenities, and additional structural/volumetric improvements to enhance user experience.



*Refer the appendix for full pricing break down including contingency and contractor mark ups.



UBER ESSENTIAL COMPONENTS - DIRECT COSTS
\$14,960,000



UBER ENHANCED COMPONENTS - DIRECT COSTS

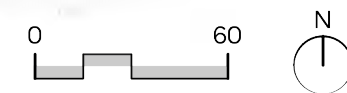
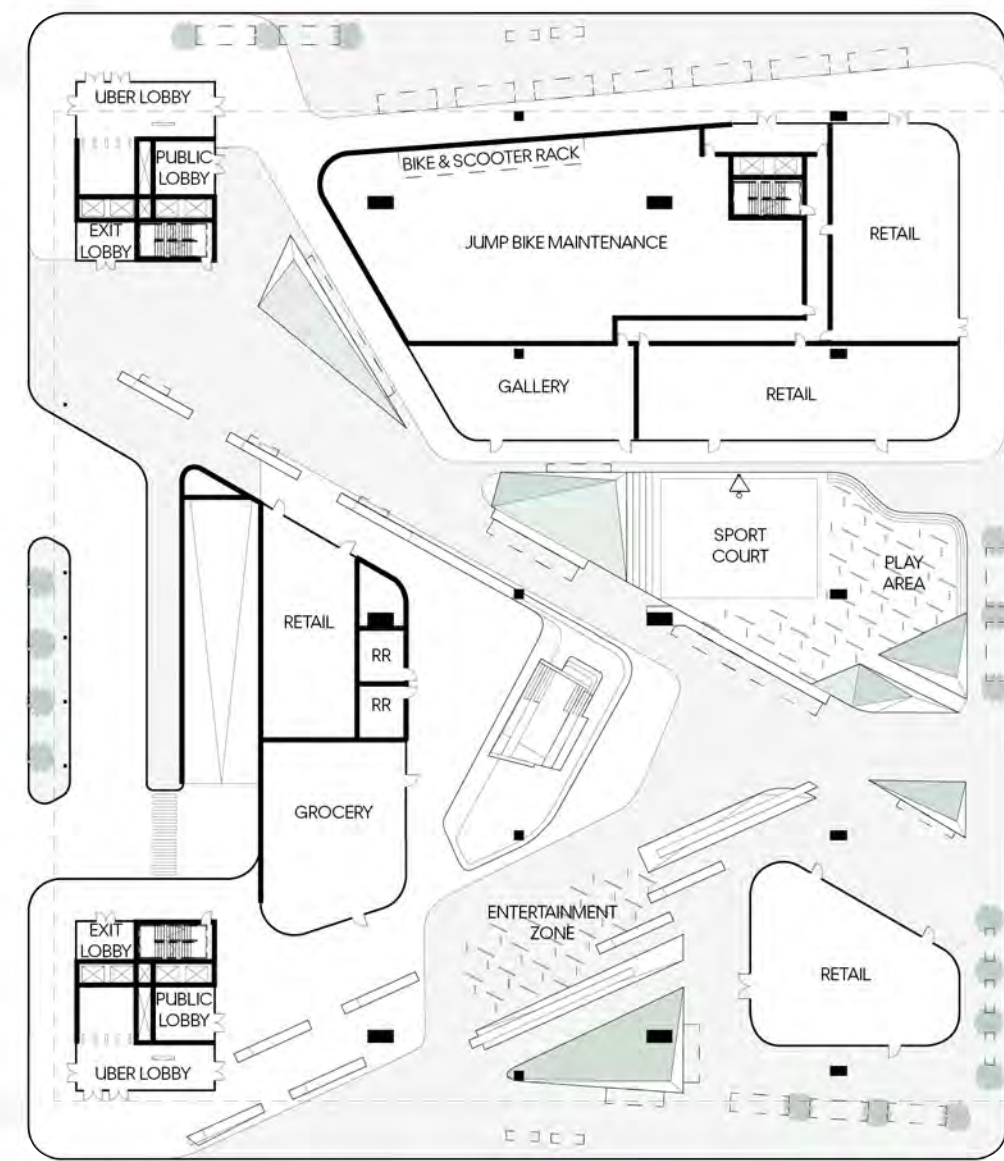
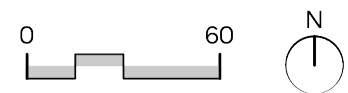
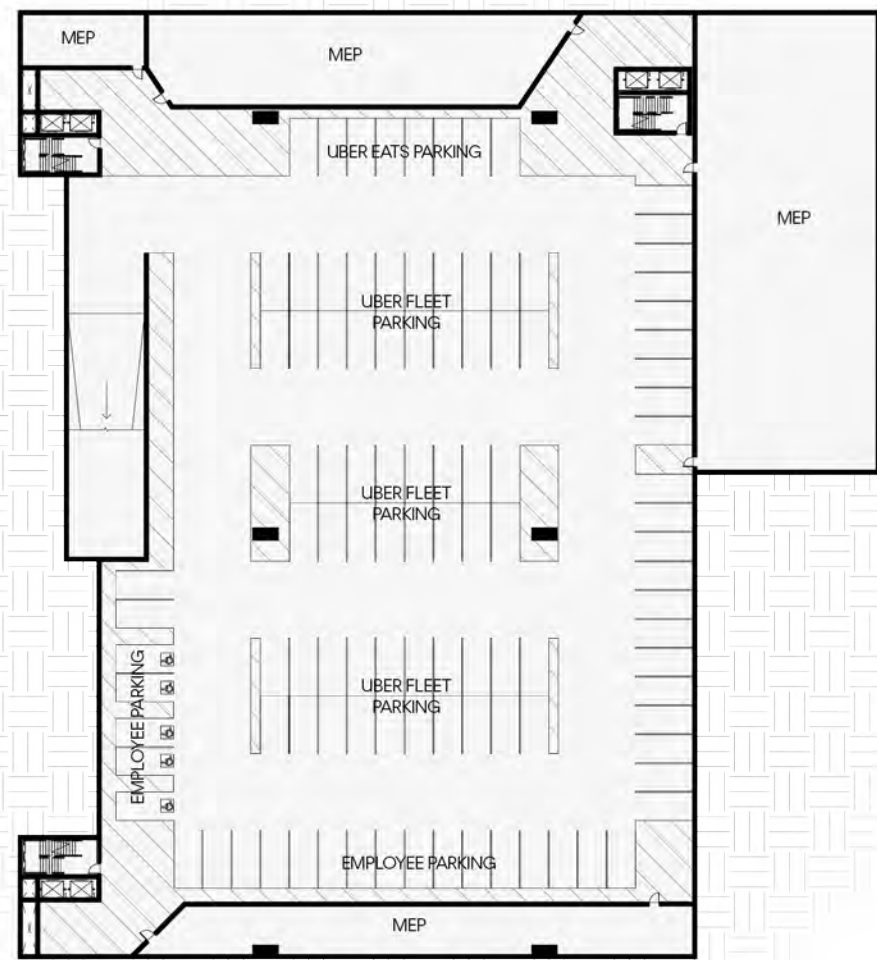
The Uber Skyport Mobility Hub:

Technical Drawings

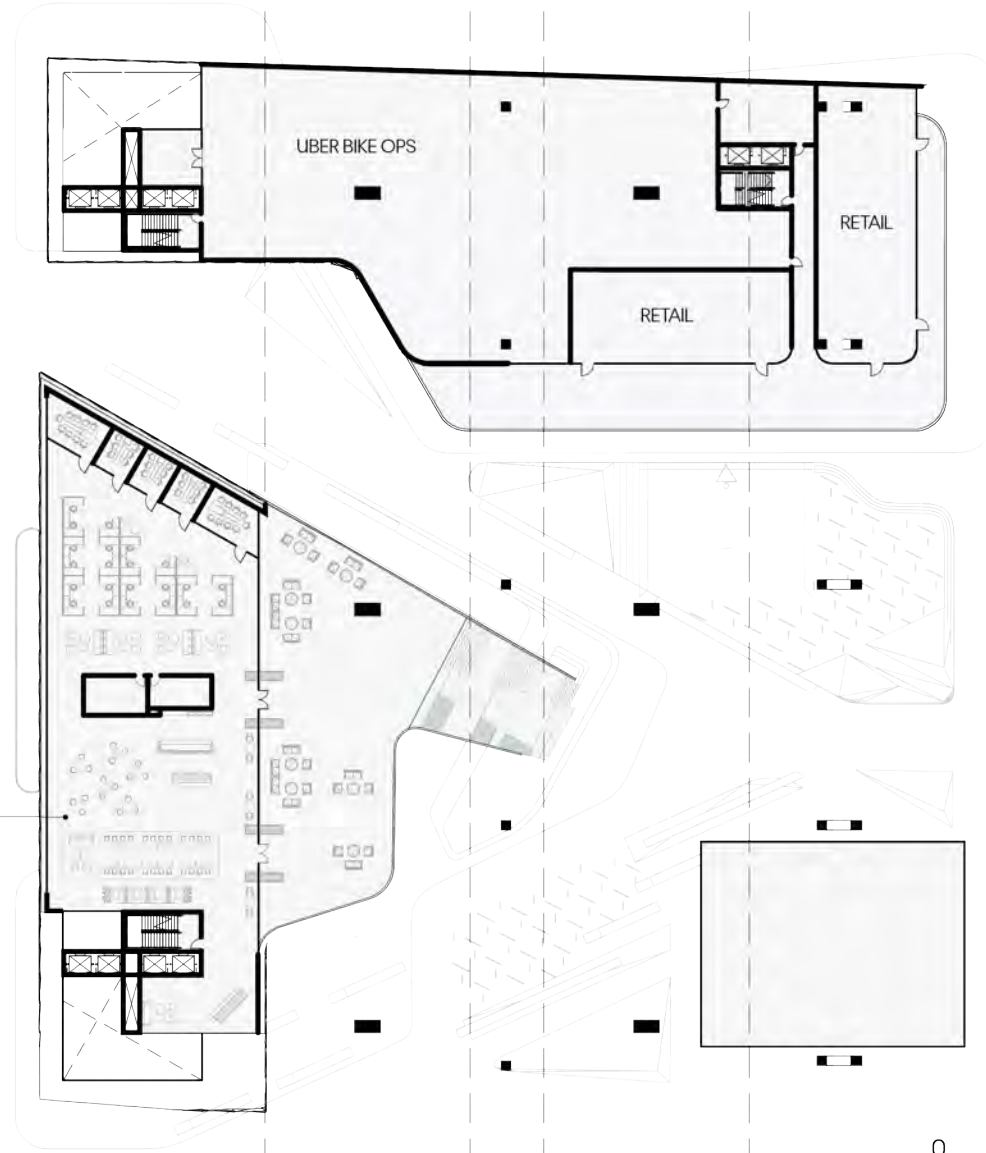
The Skyport Mobility Hub designs for both the Greenfield and the Retrofit solutions are further described in detail through a series of technical drawings.



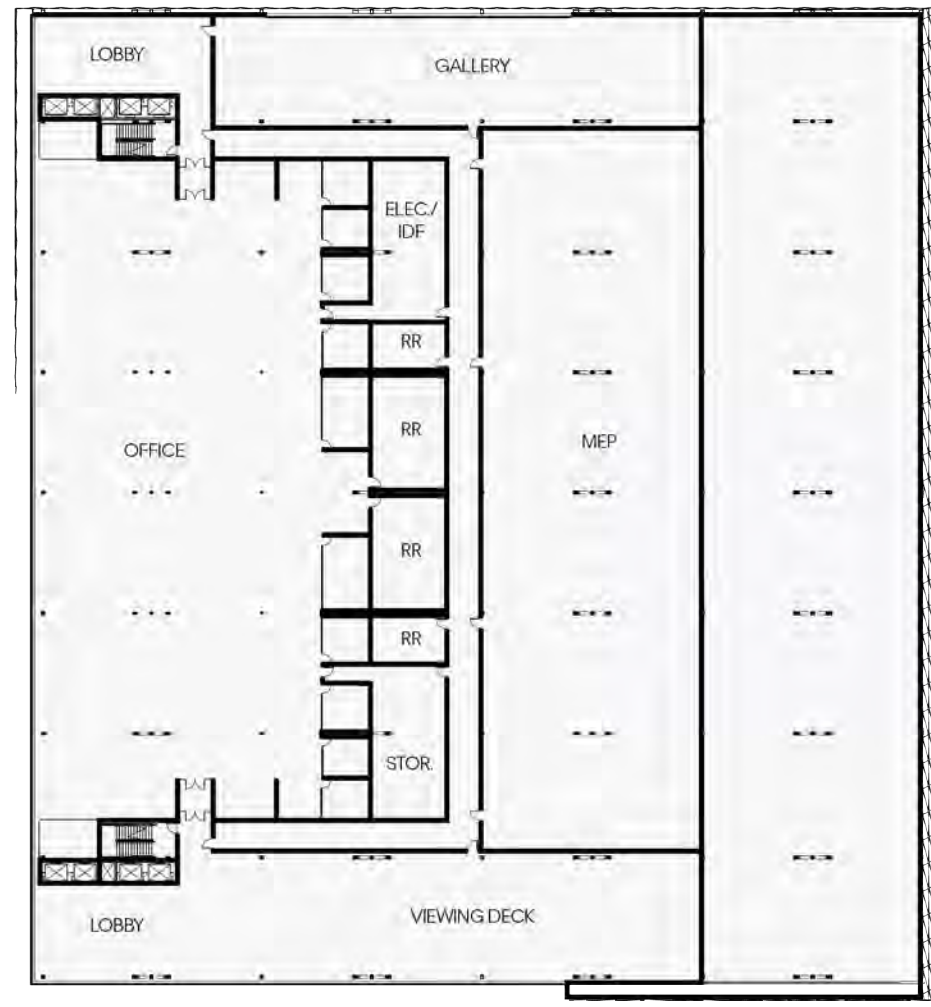
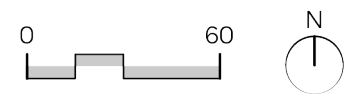
Dallas Greenfield Plans



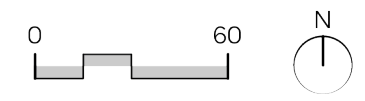
UBER GREENLIGHT HUB

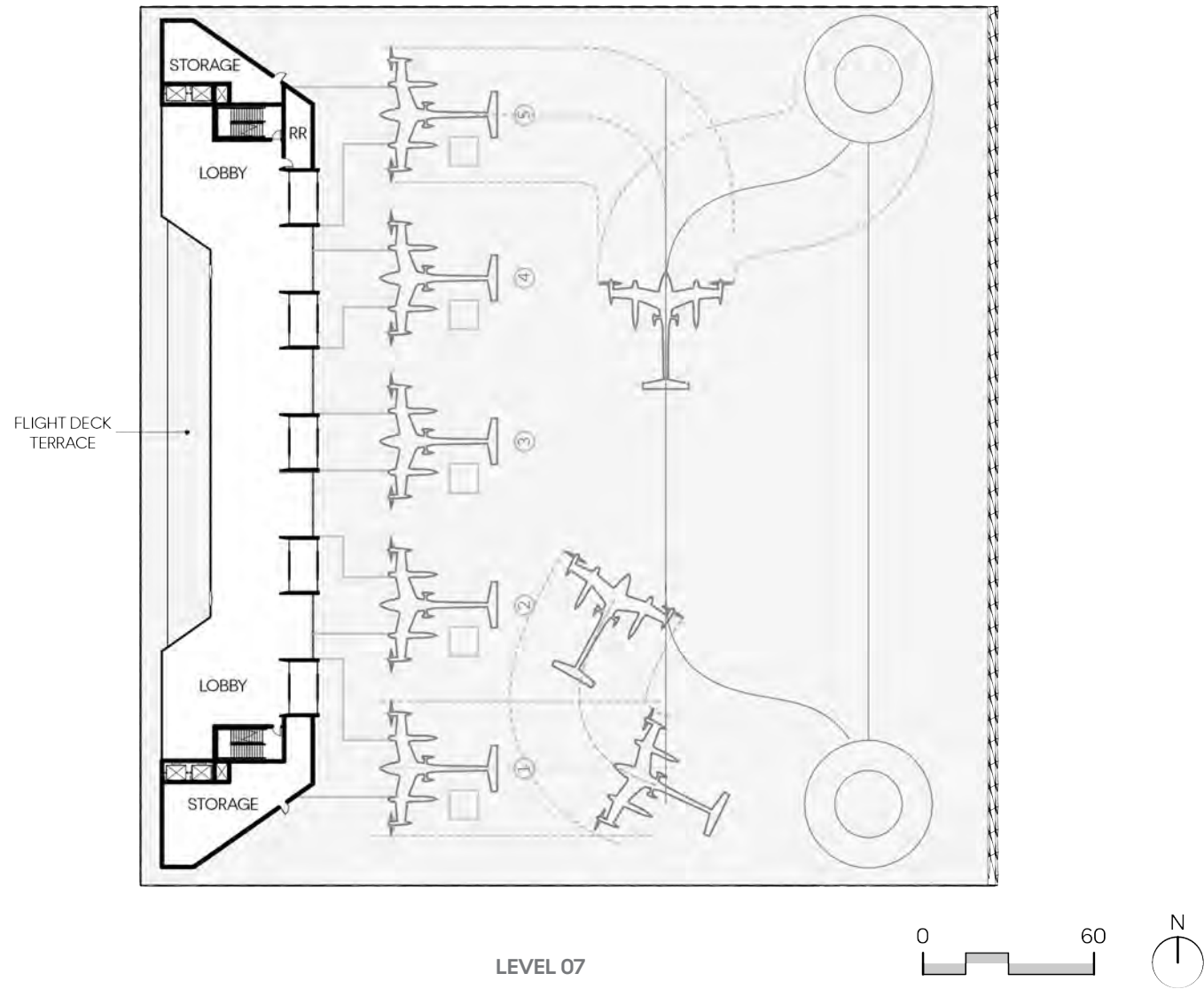


LEVEL 02

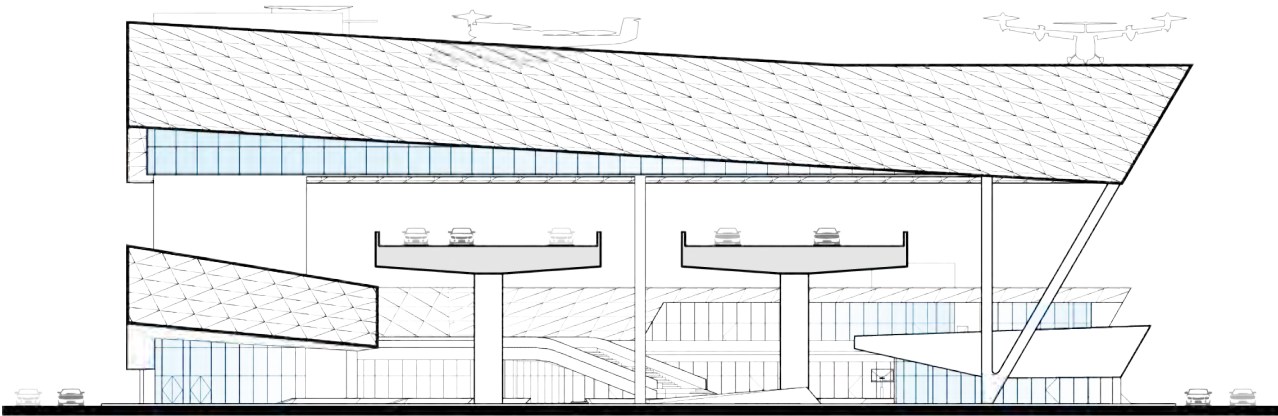
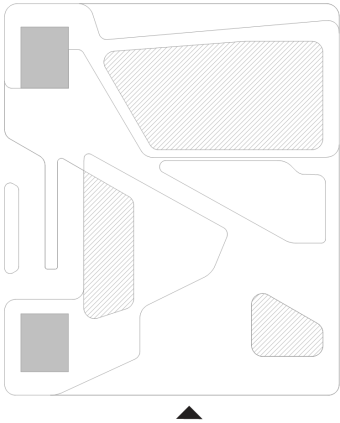


LEVEL 05

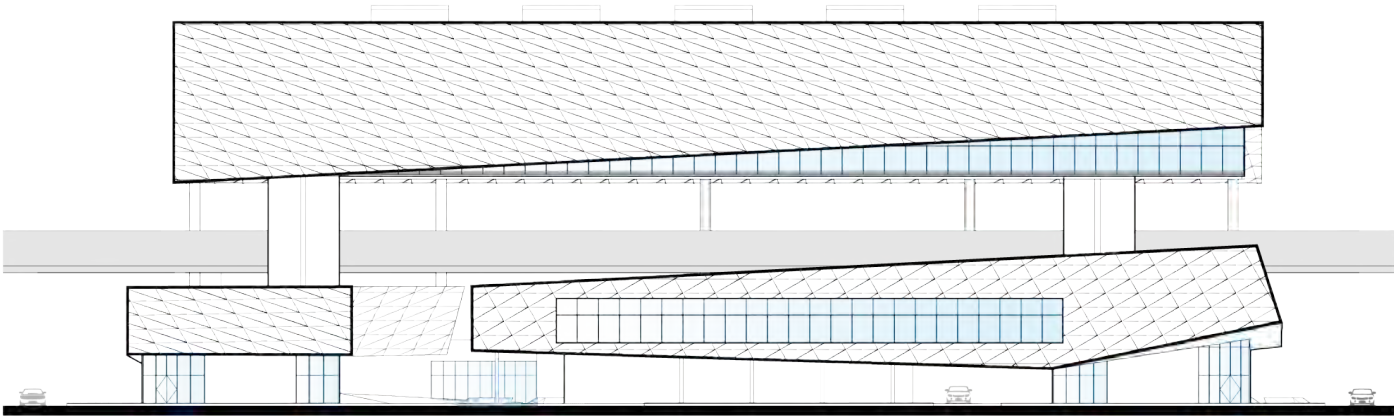
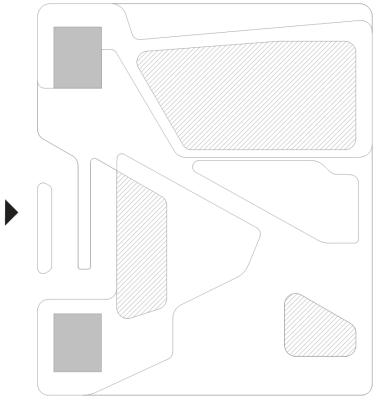
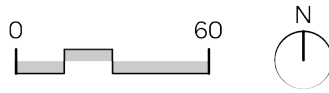




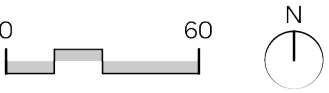
Dallas Greenfield Elevations



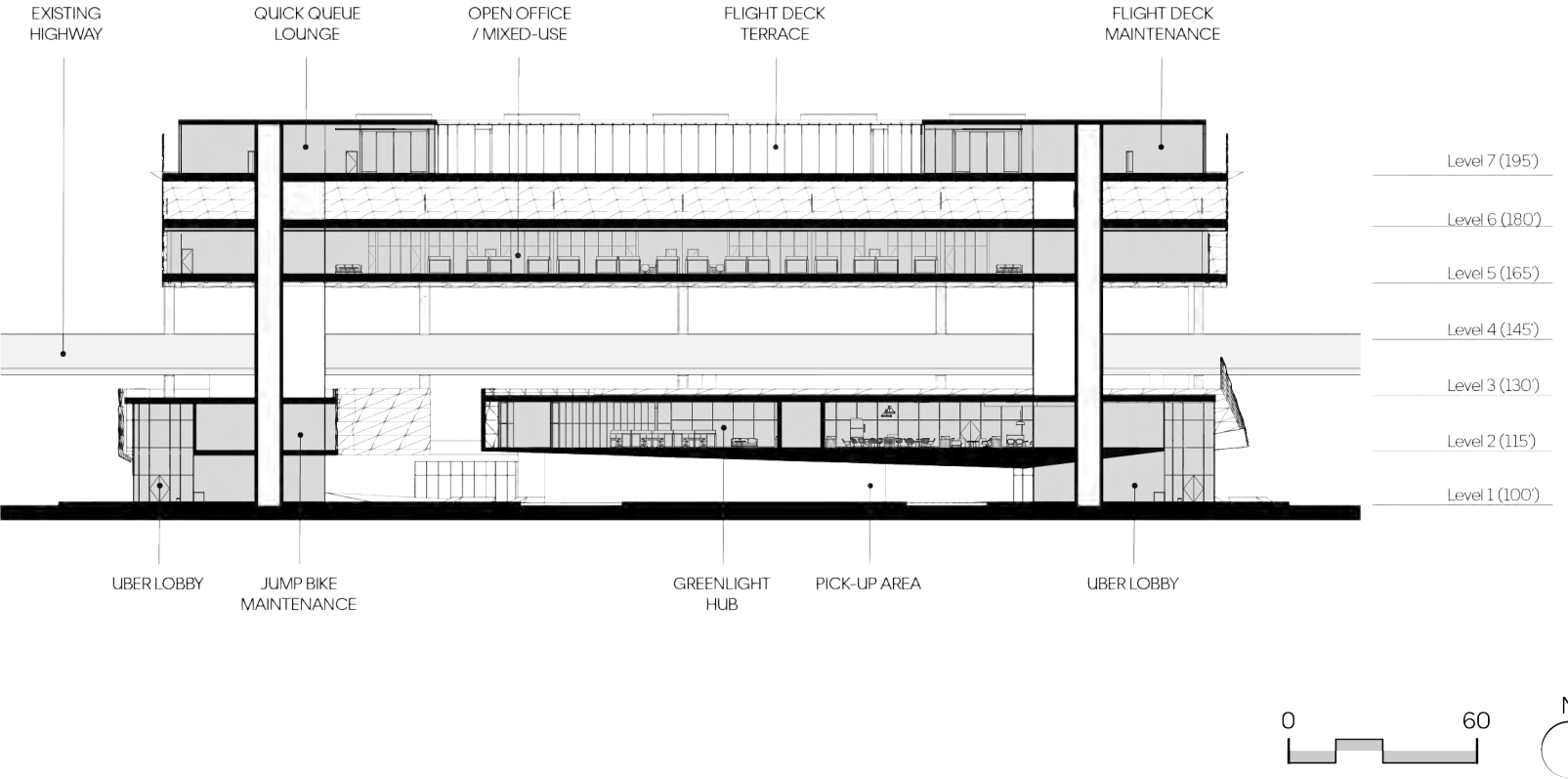
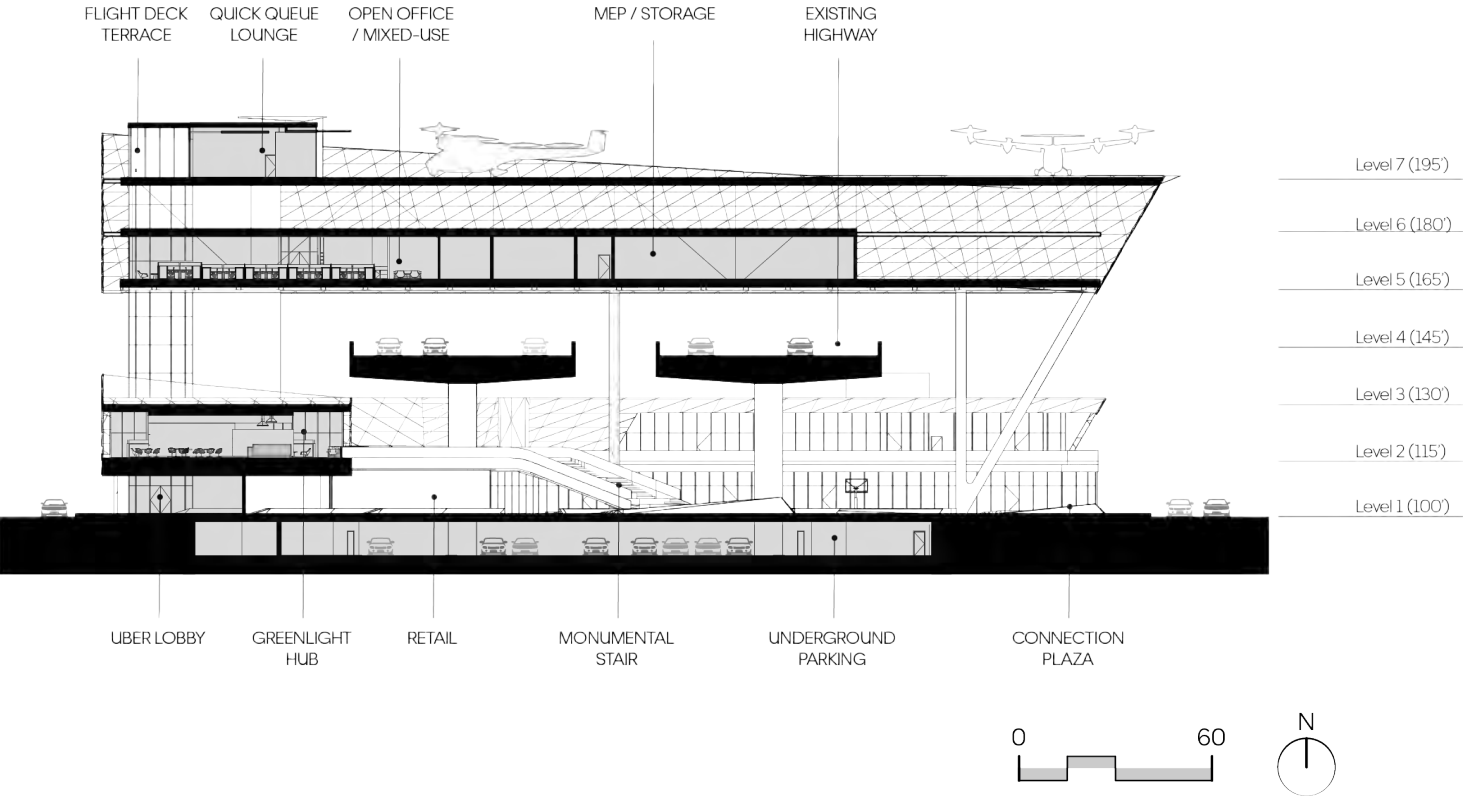
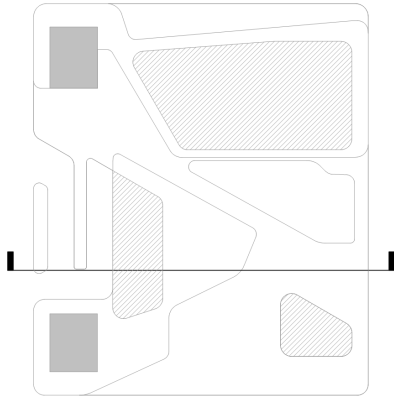
- Level 7 (195')
- Level 6 (180')
- Level 5 (165')
- Level 4 (145')
- Level 3 (130')
- Level 2 (115')
- Level 1 (100')



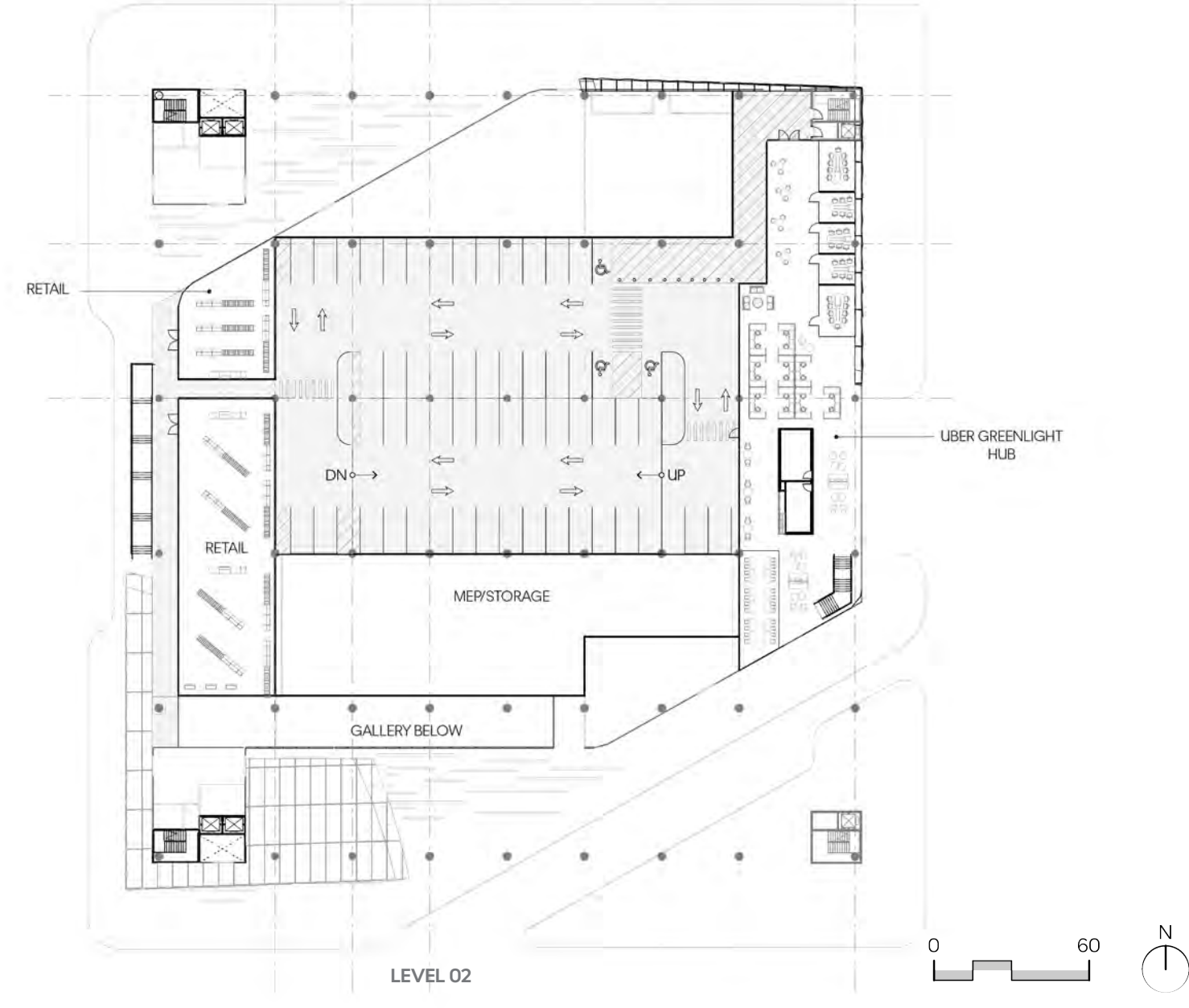
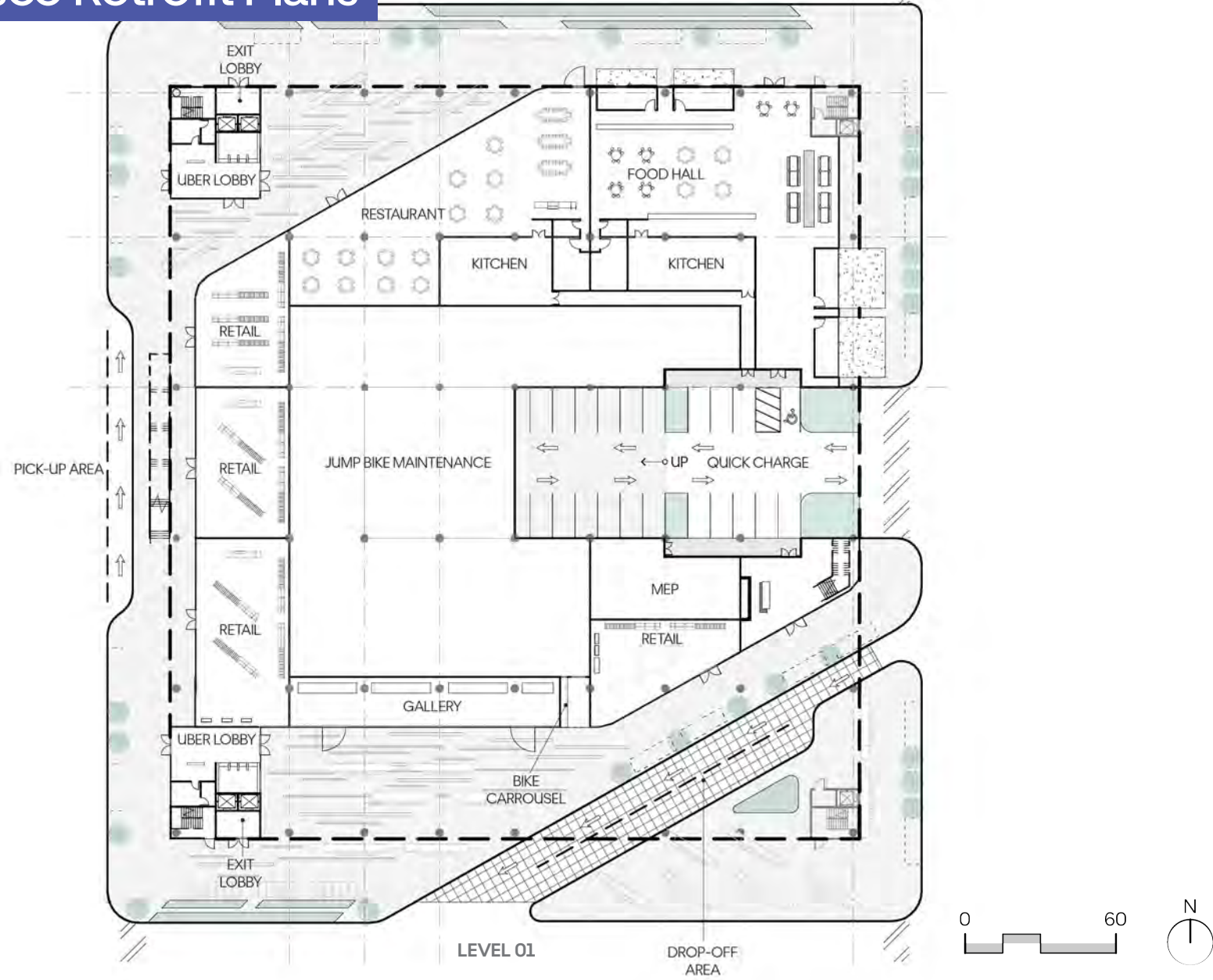
- Level 7 (195')
- Level 6 (180')
- Level 5 (165')
- Level 4 (145')
- Level 3 (130')
- Level 2 (115')
- Level 1 (100')

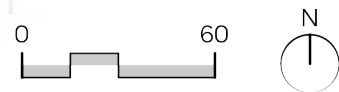
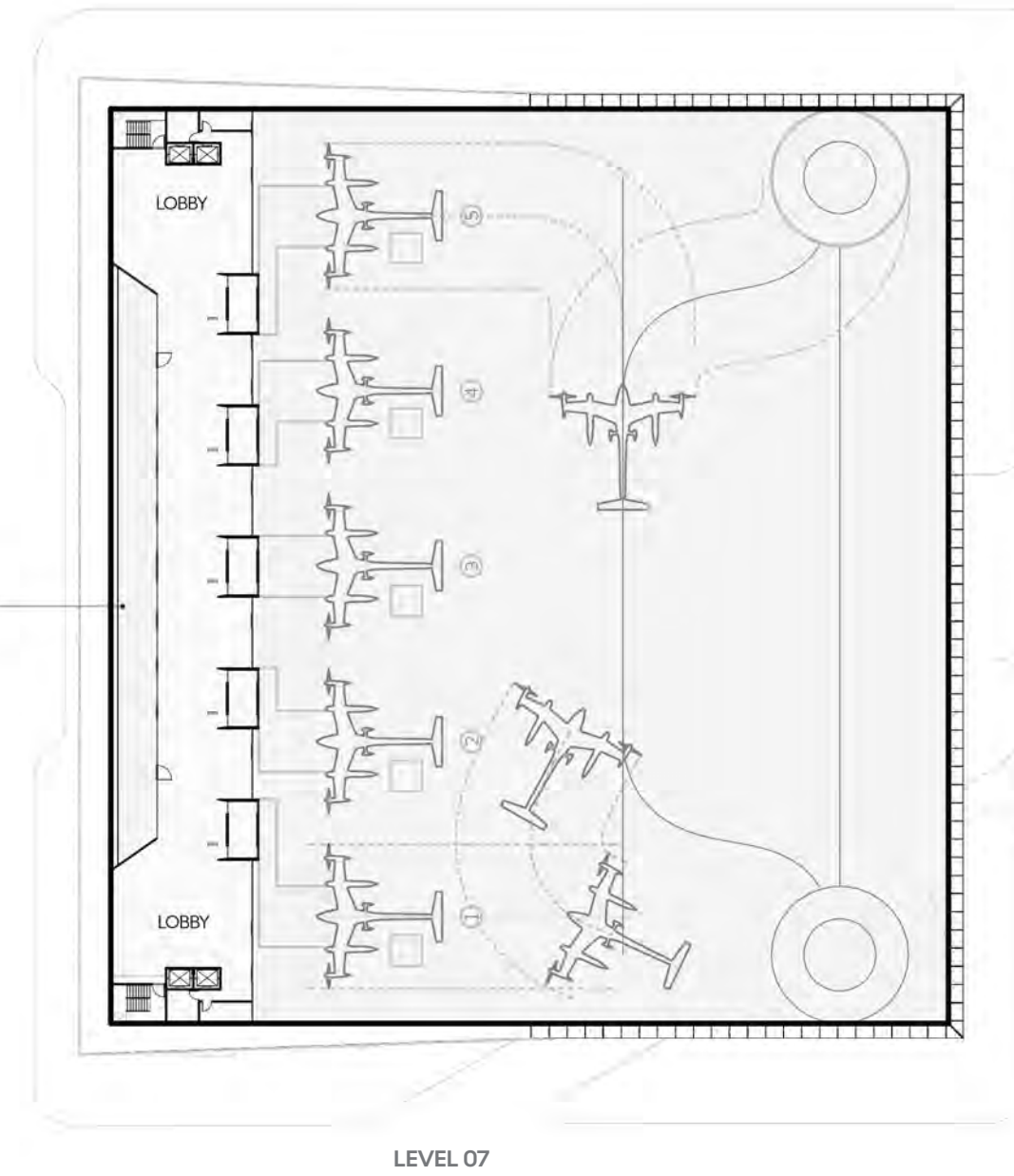
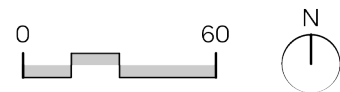
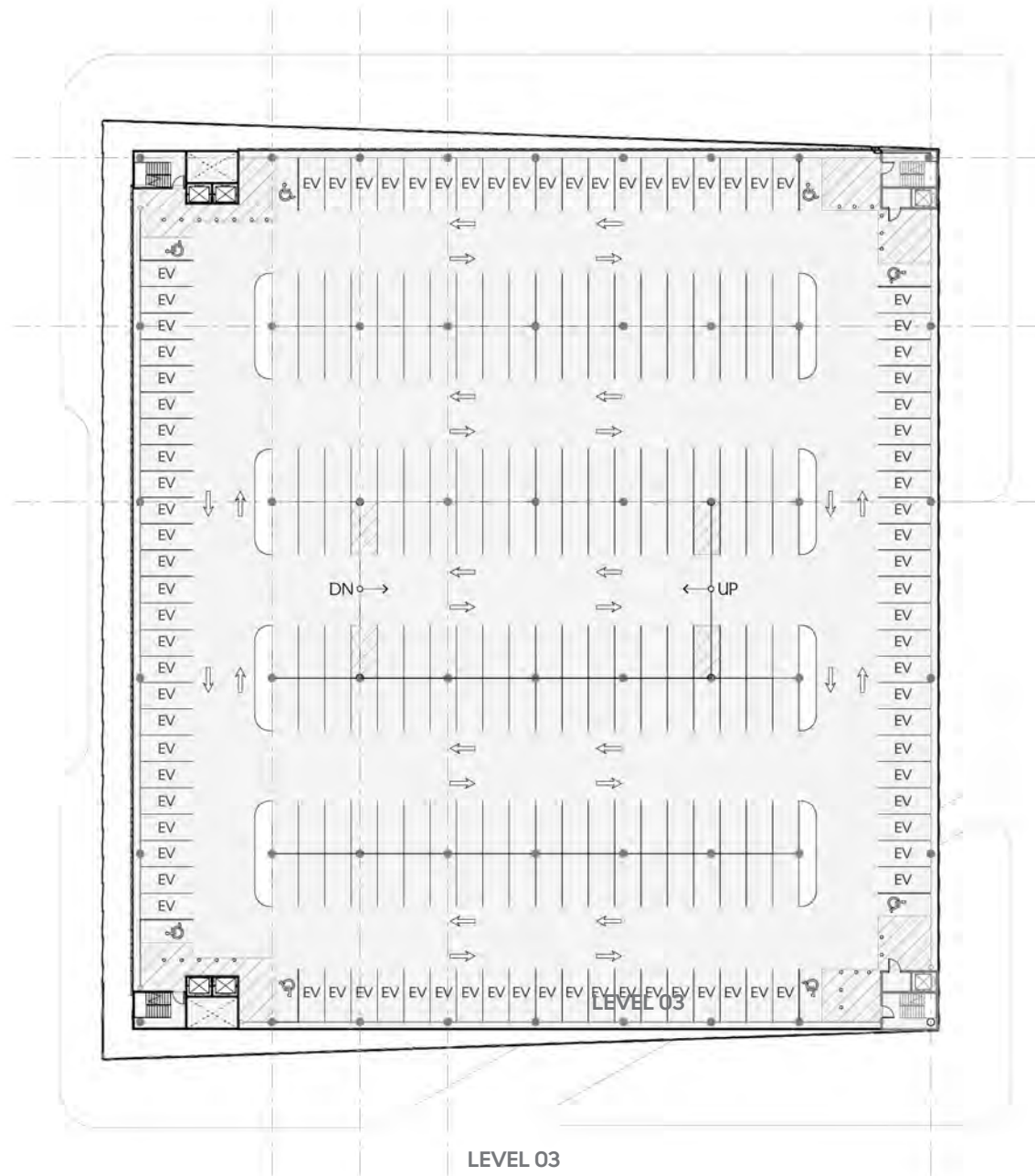


Dallas Greenfield Sections

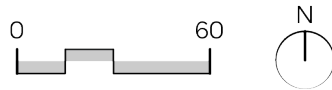
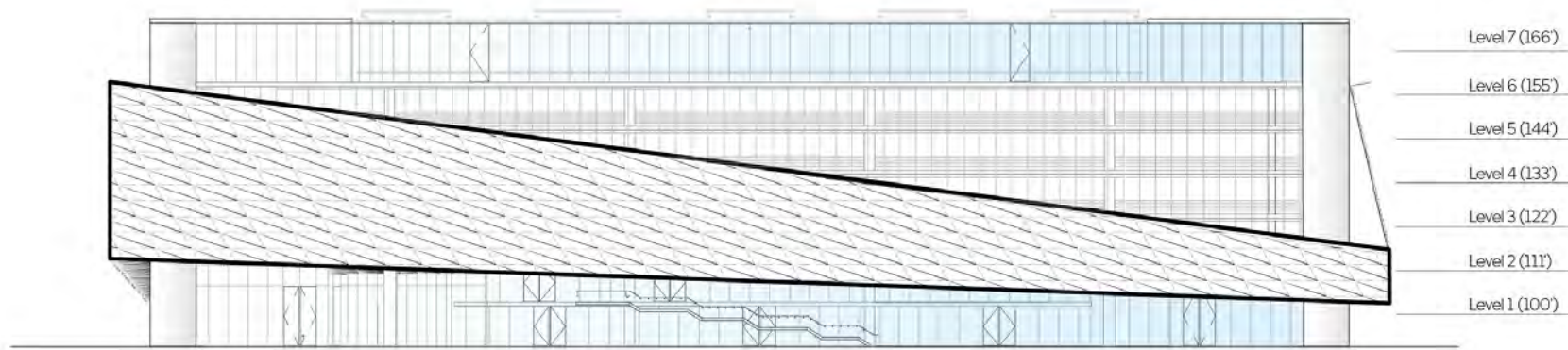
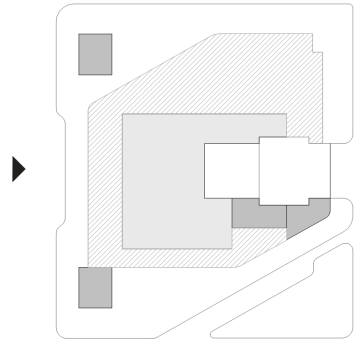
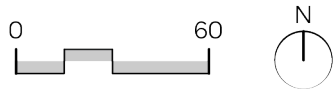
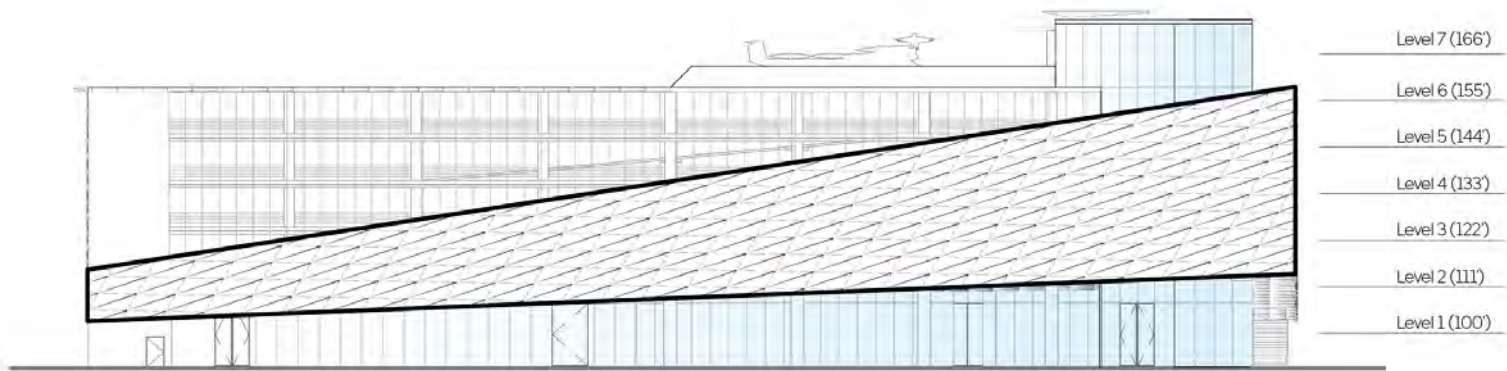
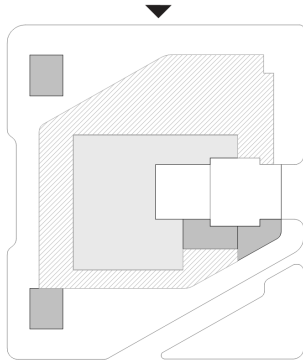


Frisco Retrofit Plans

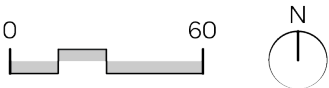
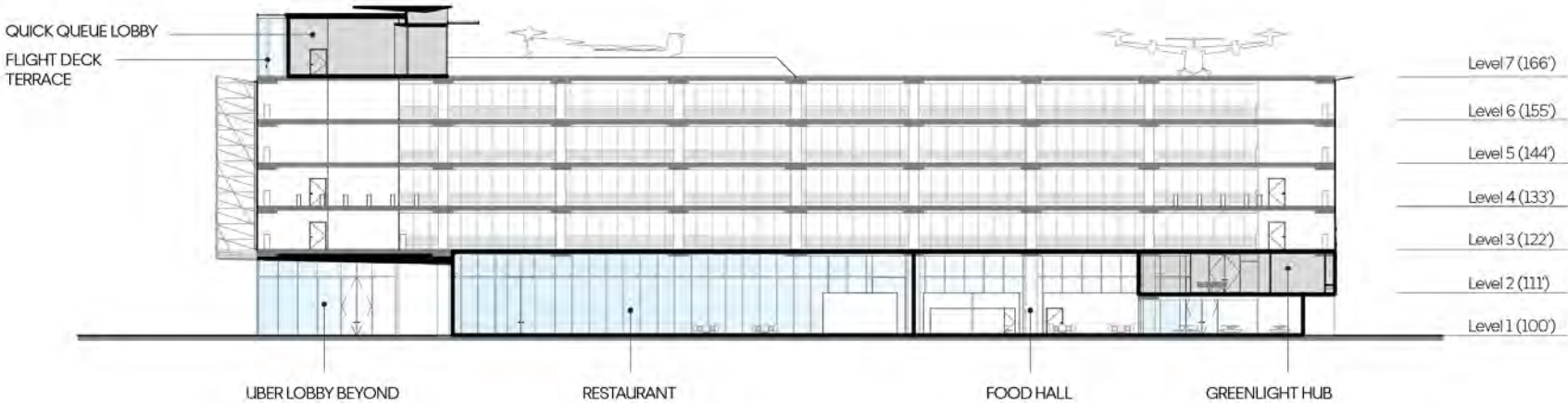
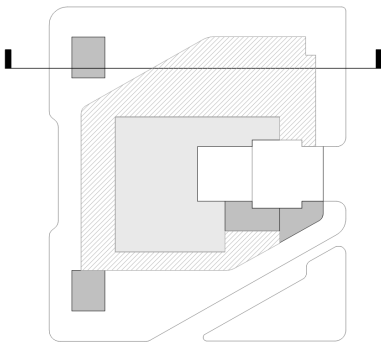
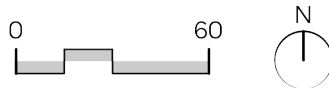
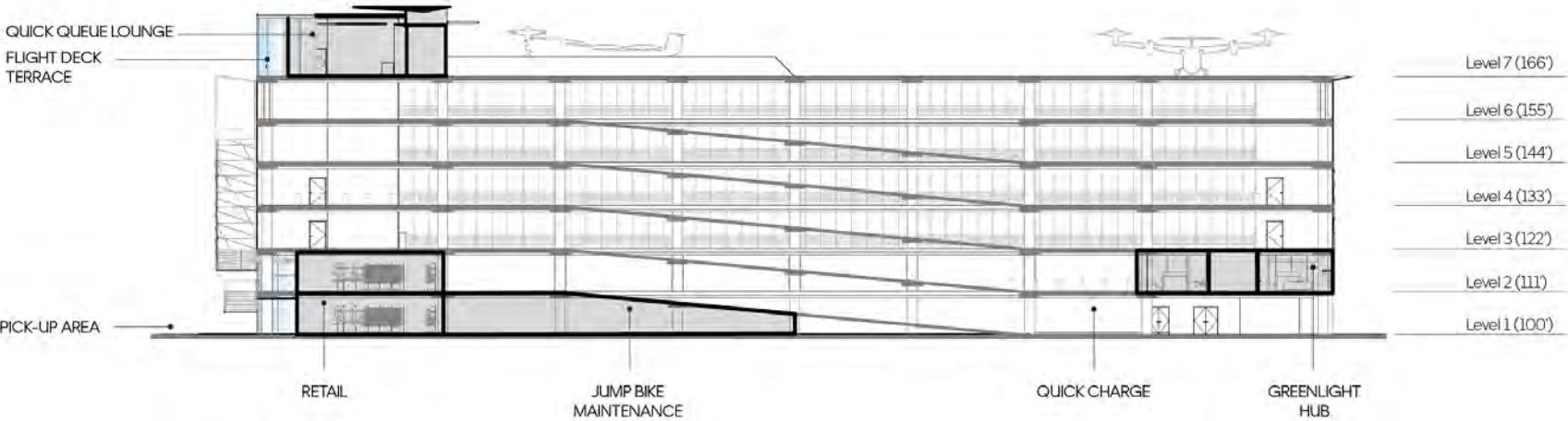
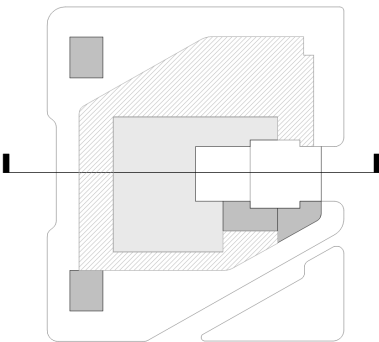


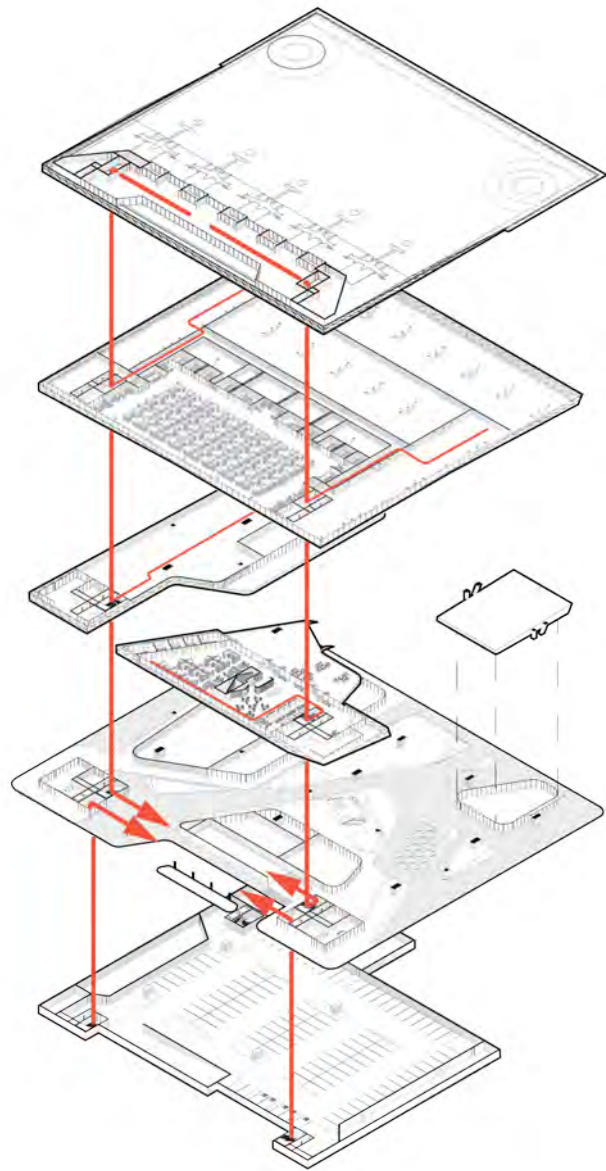


Frisco Retrofit Elevations

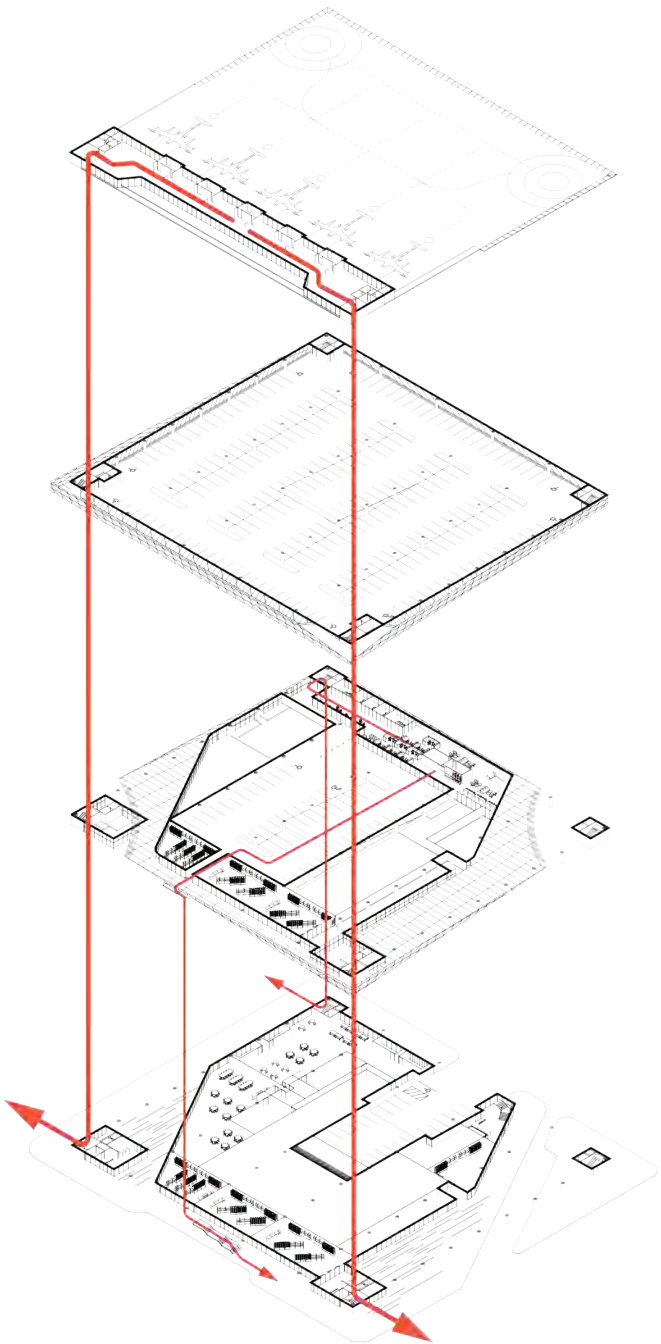


Frisco Retrofit Sections





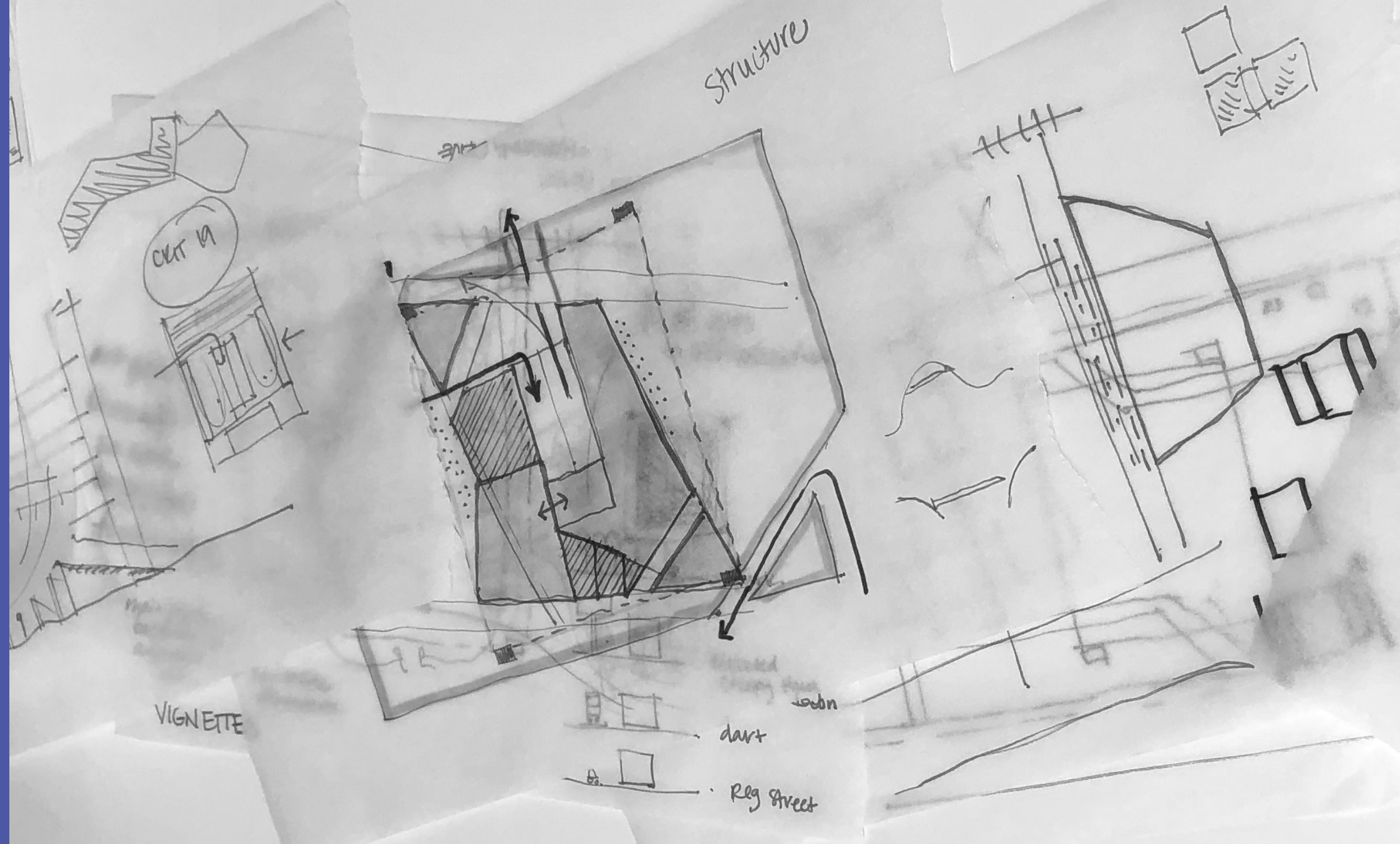
DALLAS GREENFIELD EGRESS PATHS



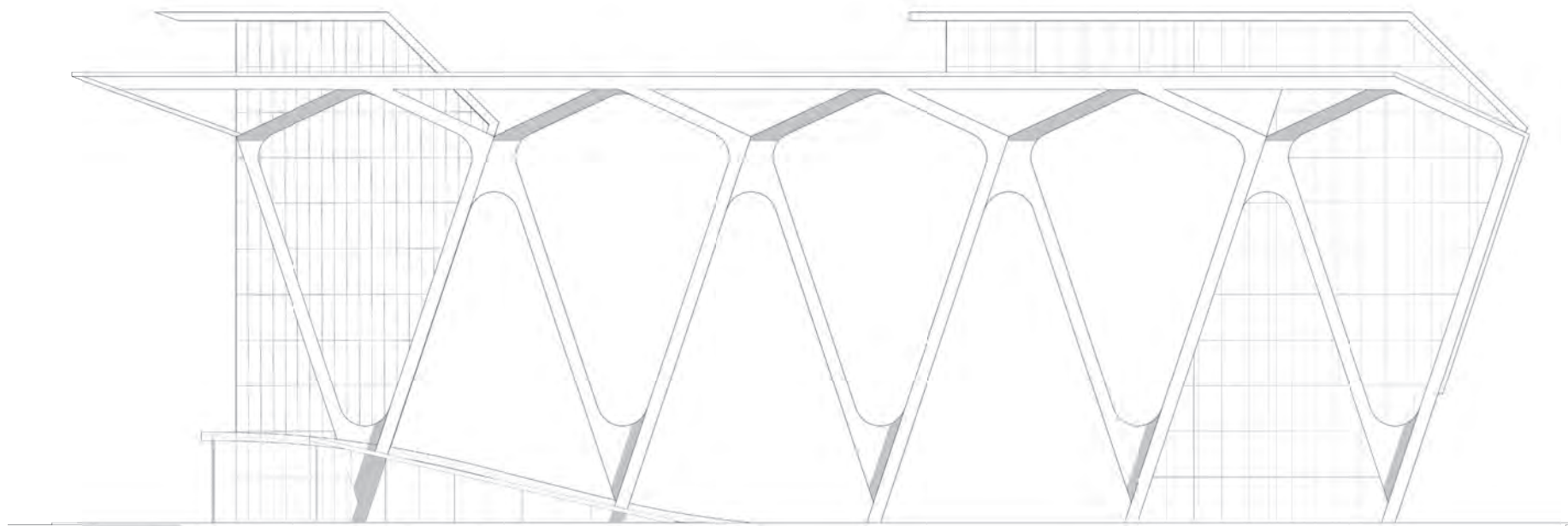
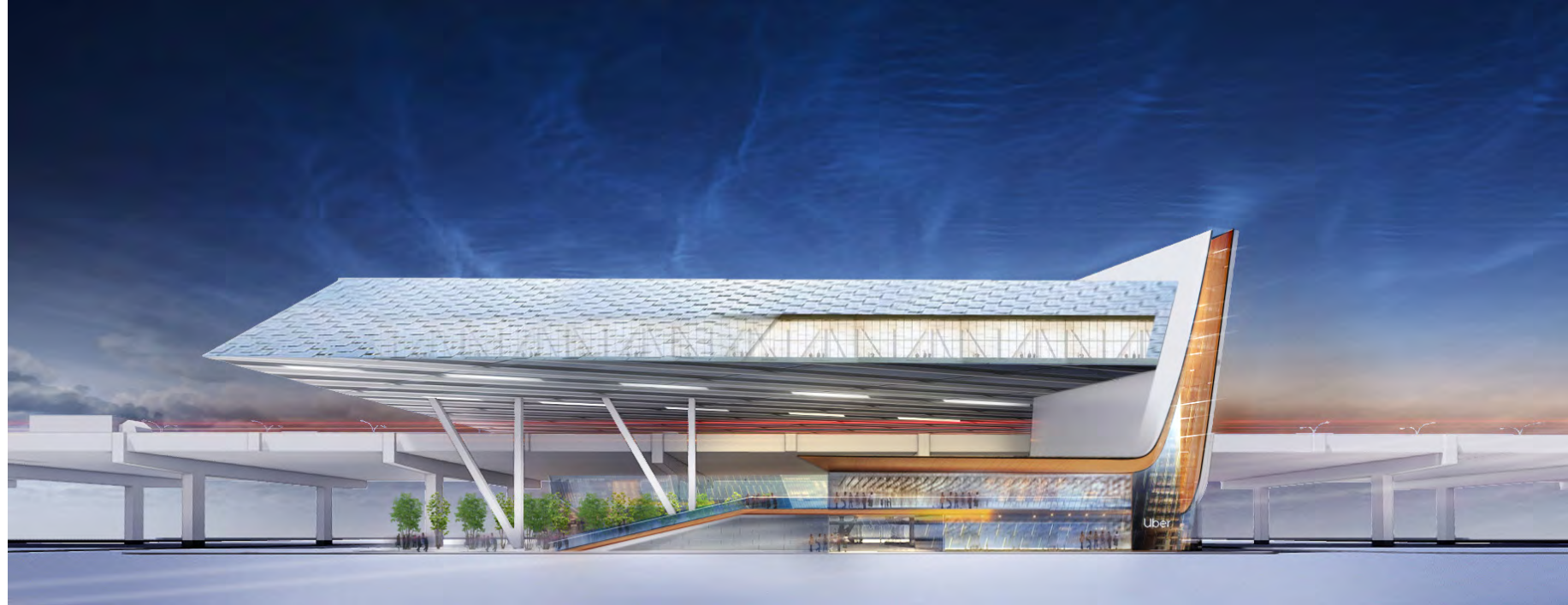
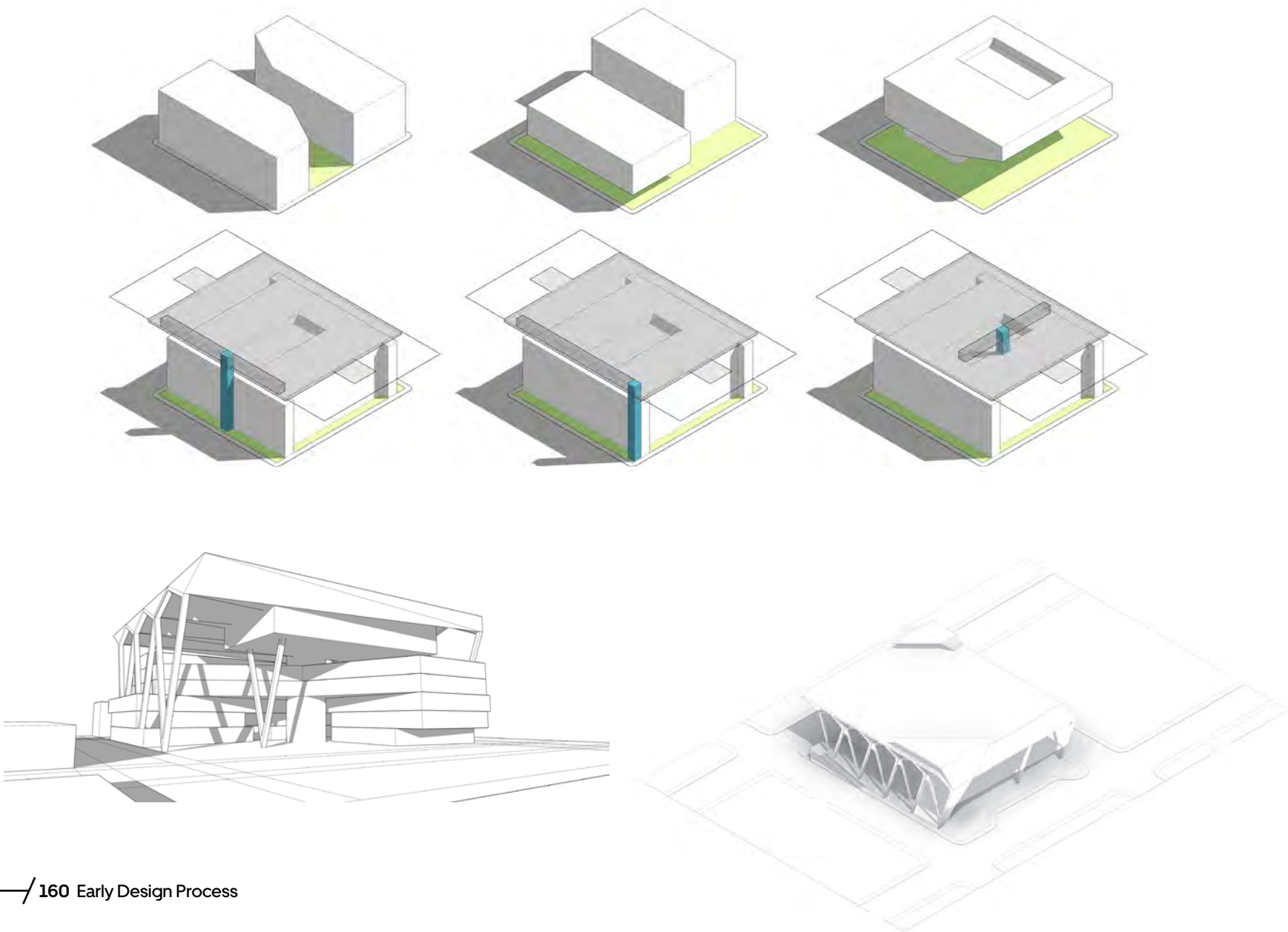
FRISCO RETROFIT EGRESS PATHS

The Early Design Process

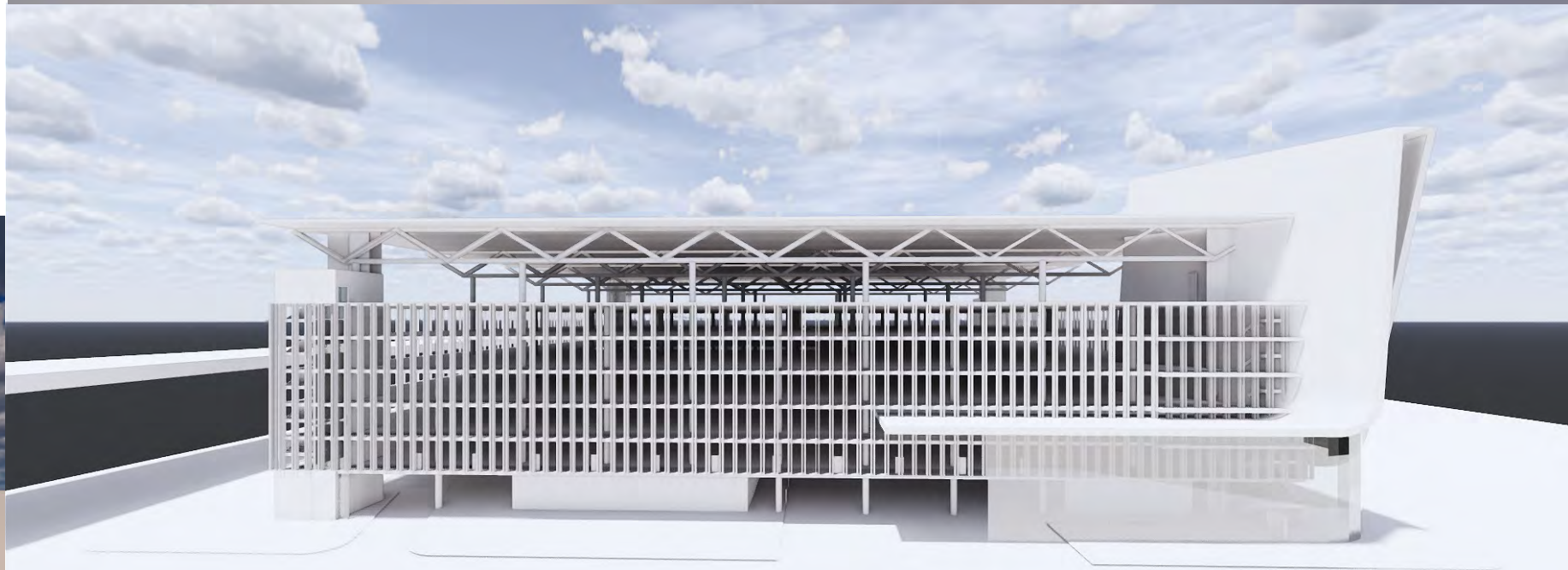
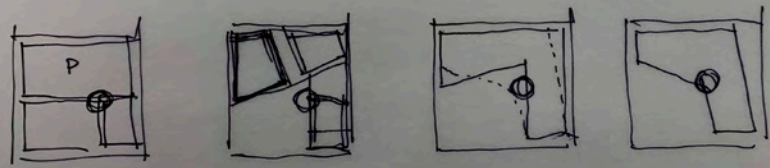
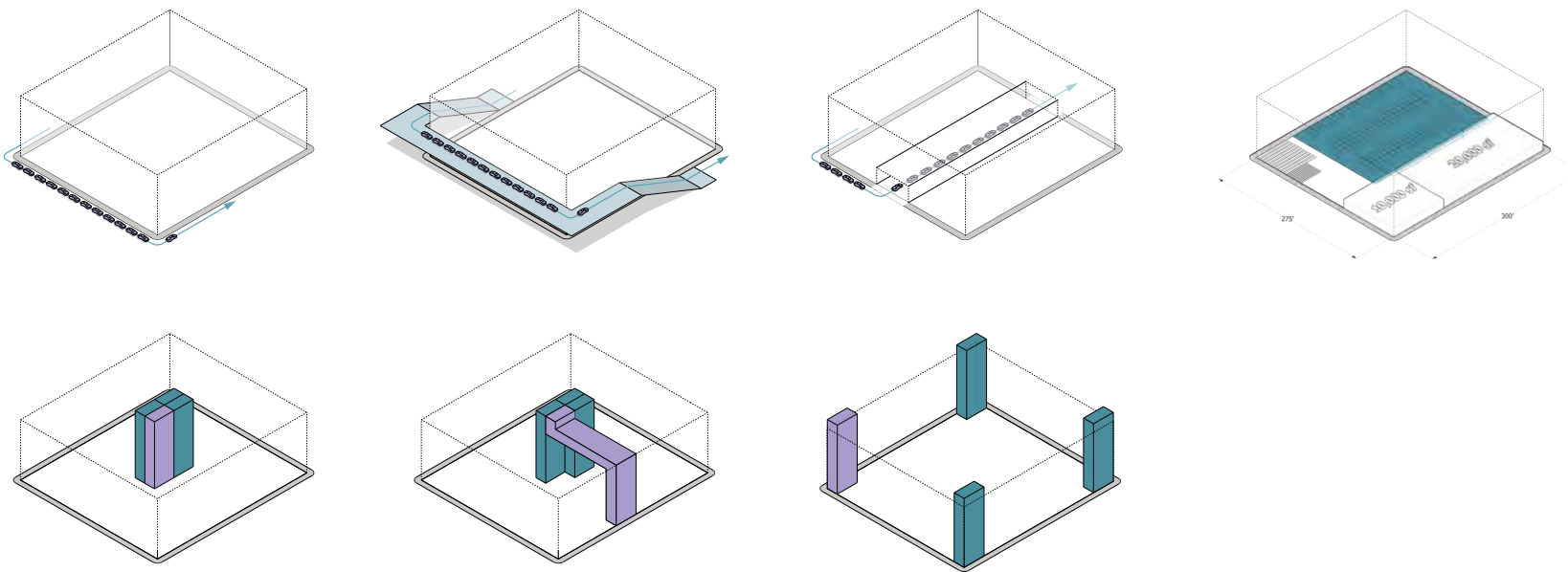
158 Early Design Process



Dallas Greenfield



Frisco Retrofit



More About:

The Skypoint Team

The success of urban air mobility does not rest with a single entity, but instead is reliant on a network of stakeholders, regulators, and designers from a variety of backgrounds. Likewise, the design process for the Skypoint Mobility Hub requires a dedicated effort from a team of individuals and companies willing to share and collaborate within diverse areas of expertise.



Building upon the success of the 2018 Uber Mega Skyport submission “Connect”, Corgan assembled a team of industry partners to further develop the concept into a well-connected intermodal solution for the Skyport Mobility Hub. Leading the creative vision, Corgan is consistently ranked as one of the top architectural design firms in the United States and brings over 85 years of expertise in aviation and commercial planning and architecture to this innovative design solution. While we design many different types of spaces, our approach remains the same – we create unique environments where our clients thrive, connect and grow.

Insatiably curious and wholly embracing a process of continuous refinement, we interrogate situations, discover opportunities, and deliver inventive and innovative design solutions that help clients across several economies forecast and prepare for their futures. Over the past 10 years, clients such as Toyota, Charles Schwab, Blue Cross Blue Shield, State Farm, and Fossil have leaned on our technical and proven experience, purposeful experimentation with emerging technologies, and data-driven research to design more than 9 million square feet of built-to-suit projects and mixed-use developments.

Corgan’s Aviation studio has built lasting relationships with aviation clients at more than 150 airports across the globe, and we have served airport authorities, airlines, aviation corporations, and governmental entities with aviation needs for more than 65 years. The result is a thorough understanding of the functional, operational, programmatic and commercial revenue generation issues inherent in aviation projects. We have been named a Top 5 Airport Terminal Architectural Firm by Building Design + Construction for five consecutive years.

More than 600 employees across the globe allow Corgan to initiate and implement truly innovative design solutions at any scale, from building additions and renovations to new, large-scale terminal programs. Corgan’s expertise is second to none, and with our global presence, we are able to quickly and efficiently service aviation clients coast to coast and internationally from any of our offices. We are committed to understanding each client’s goals and expectations, providing excellent value and individualized design solutions.

CORGAN



LAGUARDIA AIRPORT



DALLAS LOVE FIELD AIRPORT

ORD 21 DESIGN COMPETITION



Austin Commercial

Austin Commercial (Austin) is assisting the Skyport Mobility Hub submission by providing construction management guidance, leading the project team through high-level cost estimating, construction scheduling, and constructability reviews and recommendations to support the speed-to-market criteria as established in the RFP. Their experience and success at both international and regional airports across the U.S. provide their clients with unparalleled expertise in aviation design and construction, resulting in on-time and within-budget aviation programs.

Austin provides construction management, general contracting and design-build services across the United States. They have been an industry leader in the evolution of aviation environments since the 1970s, and their total aviation-related program experience is estimated to be nearly \$9 billion in total, with \$6 billion of aviation project completed within the past ten years. Austin has been providing construction services for aviation-related clients across the United States for over 40 years.

Austin and Corgan have worked together on nearly 200 projects totaling nearly 40 million square feet at key airport hubs across the country, including Sacramento International Airport, Dallas/Fort Worth International Airport and Phoenix Sky Harbor. (Many of these projects have also included Skyport partner Kimley-Horn.) Corgan and Austin have also collaborated on various other commercial projects, including the Toyota North American Headquarters and a new State Farm regional hub office center.

Austin Commercial is a subsidiary of Austin Industries, which is a 100% employee-owned company with an annual revenue of nearly \$3 billion. Austin is comprised of 6,000 employee-owners in three operating companies: Austin Commercial, Austin Bridge & Road, and Austin Industrial.



DALLAS-FORT WORTH INTERNATIONAL AIRPORT



SACRAMENTO INTERNATIONAL AIRPORT



SKY HARBOR INTERNATIONAL AIRPORT

Kimley Horn and Associates, Inc. (Kimley-Horn) is providing various civil engineering scopes of work to the Skyport Mobility Hub submission including parking, transportation, landscaping, airspace and noise mitigation. They have provided transportation analysis for ground-based vehicles as well as guidance on airspace management.

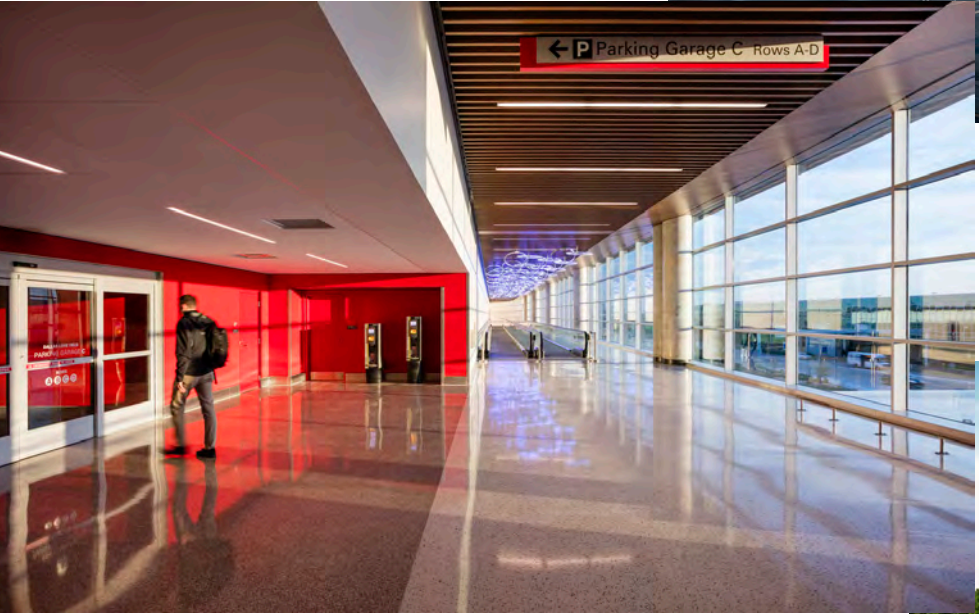
Kimley-Horn is a full-service engineering, planning and environmental consulting firm with over 3,600 employees located in 90+ offices nationwide. Kimley-Horn provides a wide range of aviation design and engineering services, including landside and airside design, parking/revenue control, environmental planning, pavement management, master planning, systems planning, and other consulting services.

As one of the country’s premier planning and design consulting firms, Kimley-Horn has many disciplines but only one expertise – making their clients successful. They excel in the delivery of long-range program strategies, complex planning, design and project management, and construction management projects.

Kimley-Horn’s aviation practice has provided airside and landside improvements at hub airports since the 1960s. The depth and breadth of Kimley-Horn resources allows them the ability to assign highly experienced staff to projects firmwide. Kimley-Horn employs more than 150 dedicated aviation specialists including project managers, engineers, designers, electrical designers, airport planners, pavement specialists, drainage engineers, environmental scientists, noise specialists, and construction administrators and inspectors.

Overall, Kimley-Horn has experience at over 485 airports, totaling 1200 aviation sector projects delivered for a value exceeding \$2.1 billion. Whether it’s runways, roadways, or parking, landside access or environmental studies, operations or technology, the firm’s experienced professionals can develop innovative solutions you can rely on.

DALLAS LOVE FIELD PARKING GARAGE C



LAX MIDFIELD SATELLITE CONCOURSE

DFW AIRPORT SIGNAGE STUDY



Kimley»Horn

For the Uber Skyport Mobility Hub, WSP is lending visioning expertise to the areas of structures, battery charging infrastructure, MEP engineering and sustainability strategies to create a technically defensible design for cost-effective commercial development. WSP and Corgan have previously collaborated on numerous aviation, mission critical, and healthcare projects including the ongoing 45,000 square foot Methodist Midlothian Hospital campus in Midlothian, TX.

As one of the world's leading engineering and professional services consulting firms, WSP offers a global scale of multidisciplinary services combined with local knowledge of the communities in which we live and work. They provide the specialized expertise and responsiveness of a local firm, but with the breadth and depth to successfully deliver complex projects of all sizes.

WSP's expertise ranges from environmental remediation to urban planning, from engineering iconic buildings to designing sustainable transport networks, and from developing energy sources of the future to enabling new ways of extracting essential resources.

Air transport is essential to the everyday lifestyles of millions of people around the world. WSP's aviation experts provide integrated professional design services to create world-class airports. Whether their involvement is focused on a new build or the modernization of existing facility, they work closely with their clients to develop flexible transportation environments adapted to our increasing thirst for knowledge and the rapidly evolving needs of the 21st century.

Above all, WSP is committed to providing sustainable solutions. They provide a full range of project management and design services at every stage of an aviation project from strategic planning and analysis through engineering and construction to maintenance and operations.



SALESFORCE TRANSIT CENTER

Appendix

Cost of Construction

The Cost Analysis for each concept is presented in two formats. The Essential Components, highlighted in yellow, provides the total costs for all required programmatic elements essential to the Skyport operations. The Enhanced Components, highlighted in blue, includes incremental and additional costs associated with enhanced programmatic elements recommended to enable the Skyport to realize the full social and community benefits potential. Both pricing scenarios present the total direct cost and cost with contingency and contractor mark ups.

GREENFIELD ESSENTIAL COMPONENTS

ITEM NO.	CONSTRUCTION ESTIMATE			TOTAL
	DESCRIPTION OF WORK ITEMS	QUANTITY	UNIT	AMOUNT
1				\$0
2	Structure			\$0
3	Hoisting / General Requirements	165,000.00	SF	\$1,031,250
4	Foundations	82,500.00	SF	\$495,000
5	Pits for New Elevators	2.00	EA	\$43,200
6	Level 0 Garage (below ground)	82,500.00	EXCL	\$0
7	Level 1/Level 2 Structural Deck SOG	67,000.00	SF	\$737,000
8	Level 1/Level 2 Steel/Structures for misc areas (~29,000SF)	117.87	TONS	\$648,305
9	Structural Flight Deck (60#/SF @ 91,058SF x 2)	5,463.48	TONS	\$30,049,140
10	Stairs	154	RSRS	\$154,374
11	Plaza Stair	1,600.00	EXCL	\$0
12				\$0
13	Skin			\$0
14	Uber Panels - ACM	62,730.00	SF	\$2,195,550
15	Other Curtainwall/Glass Skin	9,935.75	SF	\$645,824
16	Other Core/Shaft Skin & Backup	21,600.00	SF	\$432,000
17	Soffits	78,032.00	EXCL	\$0
18	Metal Panels (L1 fascia, roof , etc)	12,549.00	EXCL	\$0
19	Glass Doors	9.00	EA	\$67,500
20	Other Doors	8.00	EA	\$12,000
21	Roof System	20,000.00	SF	\$240,000
22	Upper Deck - barrier cables	800.00	LF	\$20,000
23	Deck Coating	82,500.00	EXCL	\$0
24	Deck - Striping	1.00	ALLO	\$15,000
25				\$0
26	Finishes (MEP below)			\$0
27	Level 1 Lobbies/Cores	4,700.00	SF	\$305,500
28	Level 1 Retail	15,500.00	EXCL	\$0
29	Level 1 Maintenance (Bike Ops)	20,000.00	EXCL	\$0
30	Level 2 Lobbies/Cores	2,000.00	EXCL	\$0
31	Level 2 Retail	4,600.00	EXCL	\$0
32	Level 2 Greenlight Hub	11,000.00	SF	\$770,000
33	Level 5 Lobbies/Cores	2,600.00	EXCL	\$0
34	Level 5 Office/Gallery/MEP/TBD	56,000.00	EXCL	\$0
35	Level 7 Lobbies/Cores	1,500.00	SF	\$97,500
36	Level 7 Sky Terminal	8,000.00	SF	\$560,000
37	Level 7 Maintenance Space	1,000.00	SF	\$20,000
38				\$0
39	Conveyance			\$0
40	Elevators w/ Finishes	2.00	EA	\$370,000
41				\$0
42	MEP & Low Voltage			\$0
43	Fire Protection	45,000.00	SF	\$112,500
44	Fire Protection Standpipe	1.00	EA	\$25,000
45	PHVAC	45,000.00	SF	\$1,800,000
46	Electrical	4.00	MW	\$8,000,000
47	Battery Req			
48	Photovoltaic		EXCL	\$0
49	Low Voltage / Security Allowance	1.00	EA	\$125,000
50				\$0
51	Site			\$0
52	Site Utilities	1.00	ALLO	\$175,000
53	Site Earthwork (additional to garage excavation)	1.00	ALLO	\$125,000
54	Site Improvements	1.00	ALLO	\$375,000
55				\$0
	SUB-TOTAL OR BALANCE FORWARD			\$49,646,642
	GENERAL CONDITIONS			\$2,978,799
	CONTINGENCY			\$2,578,647
	INSURANCE			\$2,765,954
	FEE			\$2,028,951
	TOTAL			\$ 59,998,993



GREENFIELD ENHANCED

ITEM NO.	CONSTRUCTION ESTIMATE			TOTAL
	DESCRIPTION OF WORK ITEMS	QUANTITY	UNIT	AMOUNT
1				\$0
2	Structure			\$0
3	Hoisting / General Requirements	165,000.00	SF	\$1,031,250
4	Foundations	82,500.00	SF	\$495,000
5	Pits for New Elevators	3.00	EA	\$64,800
6	Level 0 Garage (below ground)	67,000.00	SF	\$3,685,000
7	Level 1/Level 2 Structural Deck (garage roof)	67,000.00	SF	\$1,608,000
8	Level 1/Level 2 SOG balance	9,500.00	SF	\$104,500
9	Level 1/Level 2 Steel/Structures for misc areas (56,670SF)	226.68	TONS	\$1,246,740
10	Structural Flight Deck (60#/SF @ 91,058SF x 2)	5,463.48	TONS	\$30,049,140
11	Stairs	232	RSRS	\$231,561
12	Plaza Stair	1,600.00	SF	\$200,000
13				\$0
14	Skin			\$0
15	Uber Panels	62,730.00	SF	\$9,409,500
16	Other Curtainwall/Glass Skin	39,743.00	SF	\$2,583,295
17	Other Core/Shaft Skin & Backup	21,600.00	SF	\$432,000
18	Soffits	78,032.00	SF	\$3,511,440
19	Metal Panels (L1 fascia, roof , etc)	12,549.00	SF	\$501,960
20	Doors	30.00	EA	\$225,000
21	Roof System	82,500.00	SF	\$990,000
22	Upper Deck - barrier cables	800.00	LF	\$20,000
23	Deck Coating	82,500.00	EXCL	\$0
24	Deck - Striping	1.00	ALLO	\$15,000
25				\$0
26	Finishes (MEP below)			\$0
27	Level 1 Lobbies/Cores	4,700.00	SF	\$305,500
28	Level 1 Retail (Partitions only)	15,500.00	SF	\$124,000
29	Level 1 Maintenance (Bike Ops)	20,000.00	SF	\$600,000
30	Level 2 Lobbies/Cores	2,000.00	SF	\$130,000
31	Level 2 Retail (Partitions only)	4,600.00	SF	\$36,800
32	Level 2 Greenlight Hub	11,000.00	SF	\$770,000
33	Level 5 Lobbies/Cores	2,600.00	SF	\$169,000
34	Level 5 Office/Gallery/MEP/TBD (Partitions only)	56,000.00	SF	\$448,000
35	Level 7 Lobbies/Cores	1,500.00	SF	\$97,500
36	Level 7 Sky Terminal	8,000.00	SF	\$560,000
37	Level 7 Maintenance Space	2,000.00	SF	\$40,000
38				\$0
39	Conveyance			\$0
40	Elevators w/ Finishes	3.00	EA	\$555,000
41				\$0
42	MEP & Low Voltage			\$0
43	Fire Protection	127,900.00	SF	\$319,750
44	PHVAC	127,900.00	SF	\$5,116,000
45	Electrical	4.00	MW	\$8,000,000
46	Battery Req	1.00	EA	\$2,310,000
47	Photovoltaic		EXCL	\$0
48	Low Voltage / Security Allowance	1.00	EA	\$250,000
49				\$0
50	Site			\$0
51	Site Utilities	1.00	ALLO	\$175,000
52	Site Earthwork (additional to garage excavation)	1.00	ALLO	\$150,000
53	Site Improvements	1.00	ALLO	\$500,000
54				\$0
	SUB-TOTAL OR BALANCE FORWARD			\$77,060,736
	GENERAL CONDITIONS			\$4,623,644
	CONTINGENCY			\$4,084,219
	INSURANCE			\$4,297,362
	FEE			\$3,152,309
	TOTAL			\$ 93,218,270



RETROFIT ESSENTIAL COMPONENTS

ITEM NO.	CONSTRUCTION ESTIMATE		UNIT	TOTAL
	DESCRIPTION OF WORK ITEMS	QUANTITY		AMOUNT
1				\$0
2	Structure			\$0
3	Removal of Existing Level 2	82,500.00	EXCL	\$0
4	Carbon Fiber Wrap Columns	24.00	EXCL	\$0
5	Strengthen Flight Deck	73,400.00	SF	\$293,600
6	Infill Ramp and Cap (2) East Stair Cores	8,000.00	SQFT	\$320,000
7	Hoisting / General Requirements	81,600.00	SF	\$408,000
8	Existing Garage - Structural Modifications	10,000.00	SF	\$45,000
9	Vertical Stair Structures to Upper Level (2 EA)	154	RSR	\$154,374
10	Plaza/Main Stair	1,050.00	EXCL	\$0
11	Elevated Pits for New Elevators	2.00	EA	\$43,200
12	Steel Structure for Sky Terminal (15#/SF)	82.50	TN	\$515,625
13				\$0
14	Skin			\$0
15	Uber Panels	31,098.00	EXCL	\$0
16	Other Curtainwall/Glass Skin	11,000.00	SF	\$605,000
17	Other Core/Shaft Skin & Backup	2,500.00	SF	\$50,000
18	Soffits (wood?)	24,436.00	EXCL	\$0
19	Glass Doors	5.00	EA	\$37,500
20	Other Doors	4.00	EA	\$6,000
21	Roof/Waterproof System	10,000.00	SF	\$150,000
22	Upper Deck - barrier cables	800.00	LF	\$20,000
23	Deck Coating	82,500.00	EXCL	\$0
24	Deck - Striping	1.00	ALLO	\$15,000
25				\$0
26	Finishes (MEP below)			\$0
27	Level 1 Lobbies/Cores	3,000.00	SF	\$195,000
28	Level 1 Retail (Partitions only)	30,000.00	EXCL	\$0
29	Level 1 Maintenance (Bike Ops)	20,000.00	EXCL	\$0
30	Level 1 MEP	2,000.00	SF	\$50,000
31	Level 2 Greenlight Hub	11,000.00	SF	\$770,000
32	Level 7 Lobbies/Cores	1,500.00	SF	\$97,500
33	Level 7 Sky Terminal	11,000.00	SF	\$770,000
34				\$0
35	Conveyance			\$0
36	Elevators w/ Finishes (2-Stop)	2.00	EA	\$230,000
37	Modifications to Existing Vertical Transportation	6.00	EXCL	\$0
38				\$0
39	MEP & Low Voltage			\$0
40	Fire Protection	48,500.00	SF	\$121,250
41	Fire Protection Standpipe	1.00	EA	\$25,000.00
42	PHVAC	38,500.00	SF	\$1,540,000
43	Electrical	4.00	MW	\$8,000,000
44	Battery Req	1.00	EXCL	
45	MEP Modifications - Existing Garage	1.00	ALLO	\$150,000
46	Photovoltaic		EXCL	\$0
47	Low Voltage / Security Allowance	1.00	EA	\$125,000
48				\$0
49	Site			\$0
50	Site Utilities	1.00	ALLO	\$125,000
51	Site Improvements	1.00	ALLO	\$100,000
52				\$0
53				\$0
	SUB-TOTAL OR BALANCE FORWARD			\$14,962,049
	GENERAL CONDITIONS			\$897,723
	CONTINGENCY			\$792,989
	INSURANCE			\$834,372
	FEE			\$612,050
	TOTAL			\$ 18,099,182

RETROFIT ENHANCED

ITEM NO.	CONSTRUCTION ESTIMATE		UNIT	TOTAL
	DESCRIPTION OF WORK ITEMS	QUANTITY		AMOUNT
1				\$0
2	Structure			\$0
3	Removal of Existing Level 2	82,500.00	SF	\$247,500
4	Carbon Fiber Wrap Columns	24.00	EA	\$120,000
5	Strengthen Flight Deck	73,400.00	SF	\$293,600
6	New Structural Deck	8,000.00	SF	\$320,000
7	Hoisting / General Requirements	82,500.00	SF	\$536,250
8	Existing Garage - Structural Modifications	20,000.00	SF	\$90,000
9	Vertical Stair Structures to Upper Level (2 EA)	154	RSR	\$154,374
10	Plaza/Main Stair	1,050.00	sqft	\$131,250
11	Elevated Pits for New Elevators	2.00	EA	\$43,200
12	Steel Structure for Sky Terminal (15#/SF)	82.50	TN	\$536,250
13				\$0
14	Skin			\$0
15	Uber Panels	31,098.00	SF	\$4,664,700
16	Other Curtainwall/Glass Skin	42,226.00	SF	\$2,744,690
17	Other Core/Shaft Skin & Backup	21,600.00	SF	\$432,000
18	Soffits (wood?)	24,436.00	SF	\$1,343,980
19	Doors	25.00	EA	\$187,500
20	Roof/Waterproof System	39,250.00	SF	\$588,750
21	Upper Deck - barrier cables	800.00	LF	\$20,000
22	Deck Coating	82,500.00	EXCL	\$0
23	Deck - Striping	1.00	ALLO	\$15,000
24				\$0
25	Finishes (MEP below)			\$0
26	Level 1 Lobbies/Cores	3,000.00	SF	\$195,000
27	Level 1 Retail (Partitions only)	30,000.00	SF	\$240,000
28	Level 1 Maintenance (Bike Ops)	20,000.00	SF	\$600,000
29	Level 1 MEP	2,000.00	SF	\$50,000
30	Level 2 Greenlight Hub	11,000.00	SF	\$770,000
31	Level 7 Lobbies/Cores	1,500.00	SF	\$97,500
32	Level 7 Sky Terminal	11,000.00	SF	\$770,000
33				\$0
34	Conveyance			\$0
35	Elevators w/ Finishes (2-Stop)	2.00	EA	\$230,000
36	Modifications to Existing Vertical Transportation	6.00	EXCL	\$0
37				\$0
38	MEP & Low Voltage			\$0
39	Fire Protection	78,500.00	SF	\$196,250
40	Fire Protection Standpipe	2.00	EA	\$50,000
41	PHVAC	78,500.00	SF	\$3,140,000
42	Electrical	4.00	MW	\$8,000,000
43	Battery Req	1.00	EA	\$2,310,000
44	MEP Modifications - Existing Garage	1.00	ALLO	\$150,000
45	Photovoltaic		EXCL	\$0
46	Low Voltage / Security Allowance	1.00	EA	\$250,000
47				\$0
48	Site			\$0
49	Site Utilities	1.00	ALLO	\$125,000
50	Site Improvements	1.00	ALLO	\$500,000
51				\$0
52				\$0
53				\$0
	SUB-TOTAL OR BALANCE FORWARD			\$30,142,794
	GENERAL CONDITIONS			\$1,808,568
	CONTINGENCY			\$1,597,568
	INSURANCE			\$1,680,940
	FEE			\$1,233,045
	TOTAL			\$ 36,462,915

Data Citations

1.

Bizjournals.com, www.bizjournals.com/dallas/news/2018/07/26/cross-county-commutes-worsening-traffic-congestion.html.
2.

“Ambitious Thinking: Smart Cities.” Where the Workers Are, 29 June 2018, www.usjll.com/en/trends-and-insights/research/educated-talent-clusters.
3.

Beyer, Scott. “What Is The Best City In Texas?” Forbes, Forbes Magazine, 21 Jan. 2019, www.forbes.com/sites/scottbeyer/2016/10/21/what-is-the-best-city-in-texas/#4fee6f8654b9.
4.

“Dallas, Texas.” Dallas, Texas (TX) Profile: Population, Maps, Real Estate, Averages, Homes, Statistics, Relocation, Travel, Jobs, Hospitals, Schools, Crime, Moving, Houses, News, Sex Offenders, www.city-data.com/city/Dallas-Texas.html.
5.

“Downtown Dallas Demographics.” Downtown Dallas Demographics & Statistics - Employment, Education, Income Averages in Downtown Dallas, www.point2homes.com/US/Neighborhood/TX/Downtown-Dallas-Demographics.html.
6.

“Downtown Dallas Inc., Perception Survey.” Downtown Dallas Inc., 2016, downtowndallas.com/about/the-360-plan/.
7.

“Frisco Demographics.” Frisco Demographics & Statistics - Employment, Education, Income Averages in Frisco, www.point2homes.com/US/Neighborhood/TX/Frisco.
8.

“Frisco, Texas.” Frisco, Texas (TX) Profile: Population, Maps, Real Estate, Averages, Homes, Statistics, Relocation, Travel, Jobs, Hospitals, Schools, Crime, Moving, Houses, News, Sex Offenders, www.city-data.com/city/Frisco-Texas.html.
9.

“Frisco, Texas Population 2019.” Frisco, Texas Population 2019 (Demographics, Maps, Graphs), worldpopulationreview.com/us-cities/frisco-tx-population/.
10.

“Frisco, TX.” Data USA, Deloitte , datausa.io/profile/geo/frisco-tx#category_occupations.
11.

Luna, Nicole. “Tourism District Could Bring More Visitors into the City.” Community Impact Newspaper, 5 Dec. 2018, communityimpact.com/dallas-fort-worth/frisco/business/2018/12/07/tourism-district-could-bring-more-visitors-into-the-city/.
12.

O'Donnell , Paul, and Laurie Joseph. “Dallas Closes Books on a Record-Setting Year

- for Visitors, Hotel Bookings and Tourism Spending.” Dallas News, 15 Nov. 2018, www.dallasnews.com/business/economic-snapshot/2018/11/14/dallas-closes-books-record-setting-year-visitors-hotel-bookings-tourism-spending.
13. “The Frisco Texas CVB. Explore Frisco, TX By The Numbers.” The Frisco Texas CVB. Explore Frisco, TX By The Numbers., www.visitfrisco.com/media/press-kit/frisco-by-the-numbers/.
 14. “U.S. Census Bureau QuickFacts: Frisco City, Texas; Dallas City, Texas.” Census Bureau QuickFacts, www.census.gov/quickfacts/fact/table/friscocitytexas,dallascitytexas/PST045218.
 - <https://www.skender.com/project/sprout-social/>
 4. Olea All Suite Hotel by BLOCK722 architects+ <https://www.archdaily.com.br/br/908178/olea-all-suite-hotel-block722-architects-plus>
 5. Steelcase Last Minute by Coalesse Used Leather Stool, White <https://nationalofficeinteriors.com/product/steelcase-last-minute-by-coalesse-used-leather-stool-white/>
 6. NERA Office BY LINE architects <https://www.behance.net/gallery/10751787/NERA-office-showroom>
 7. Saatchi & Saatchi Offices by M Moser Associates <https://officesnapshots.com/2017/02/27/saatchi-saatchi-offices-new-york-city/>

Image Citations

1. The Maersk Tower In Copenhagen Awarded by C.F. Møller <https://www.cfmoller.com/g/The-Maersk-Tower-in-Copenhagen-awarded-i17817.html>
2. Corona LED Pendant Light <https://www.lighting.com/corona-led-pendant-light-by-sonneman-lighting-uu511213.html>
3. Sprout Social by Skender