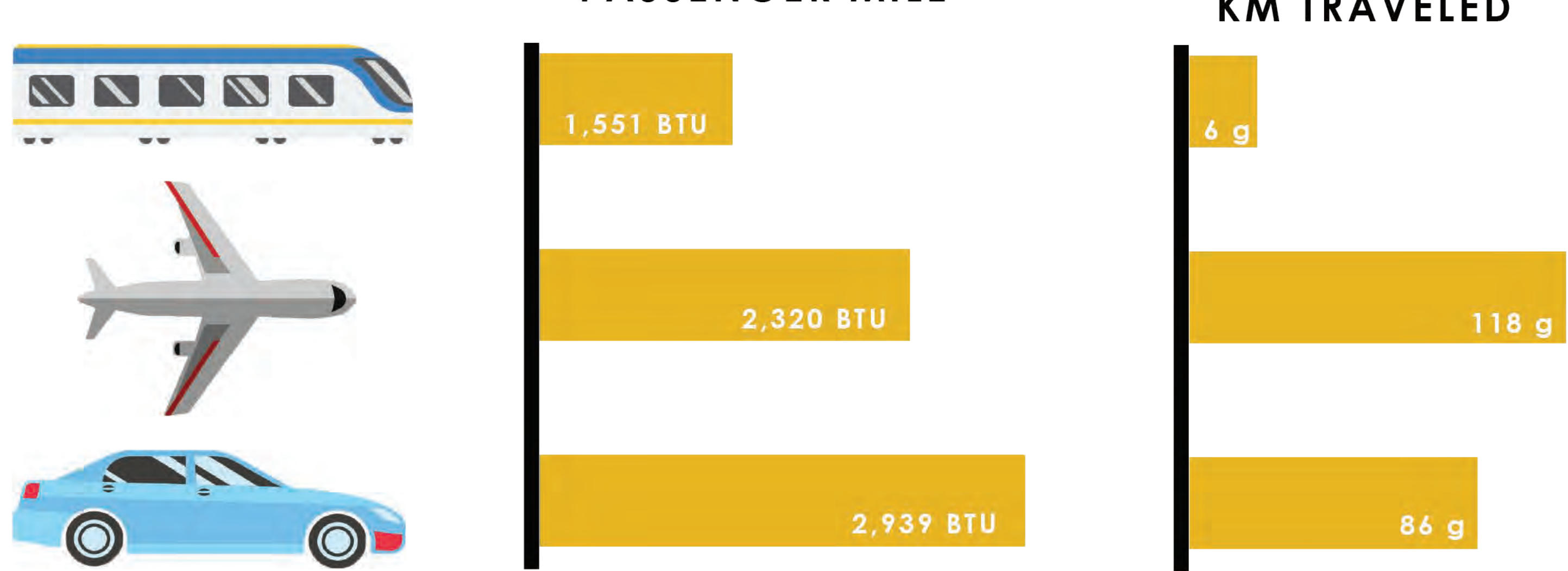# connecting US

Stations
are much more
than just places people
depart from and arrive at. It is a place
for adventure, learning, relaxation, public
gathering, shopping, dining, working, and so much more.
The station has a chance to be a city within a city, to bring in more
tourists, and to create a large economic opportunity for the city. The location of
the station is just as important. If there are no other options of transportation to or from the
area, no one will enjoy the process of trying to come or leave. There must be ample parking
available nearby, bike and pedestrian routes, rental cars or ride-share areas, bus routes, and, ideally in large
cities, a subway or light-rail stop to connect the station to further parts of the city. Traveling should not be a burden,
it should be something to look forward to, and the system must be on time, fast, and convenient enough for people
to choose rail travel. Whether it be for work trips or for fun, the station and trains need to cater to the needs of the
users. Now more than ever, we need to be thinking about the planet and each other. The answer should not be to
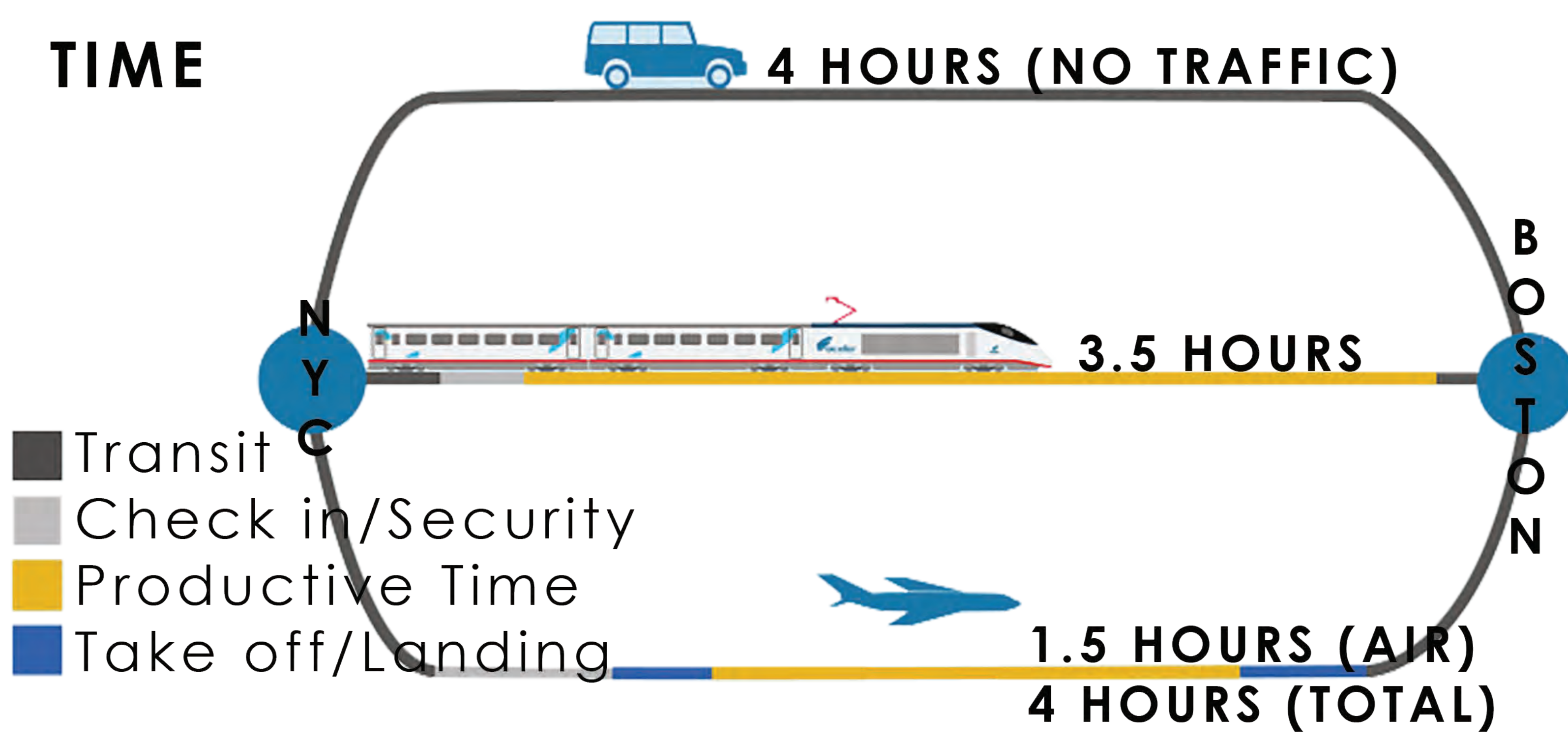travel less, but to find a solution to travel better.
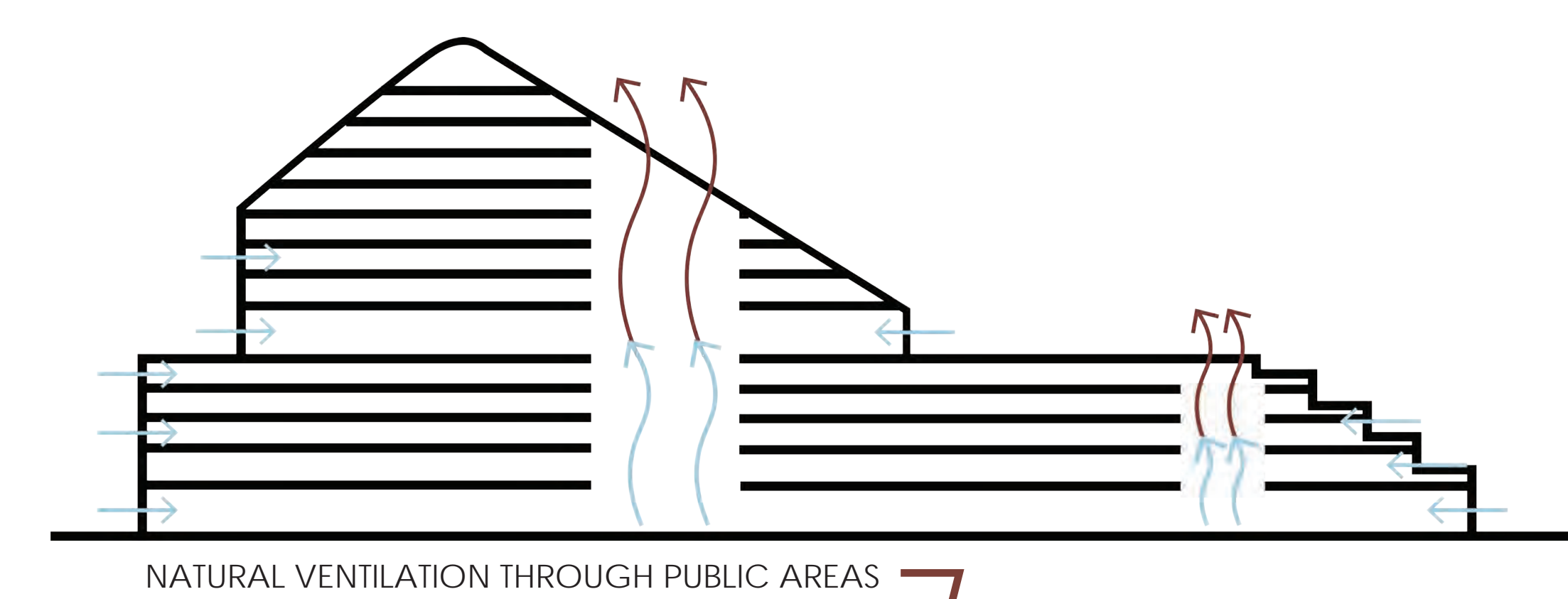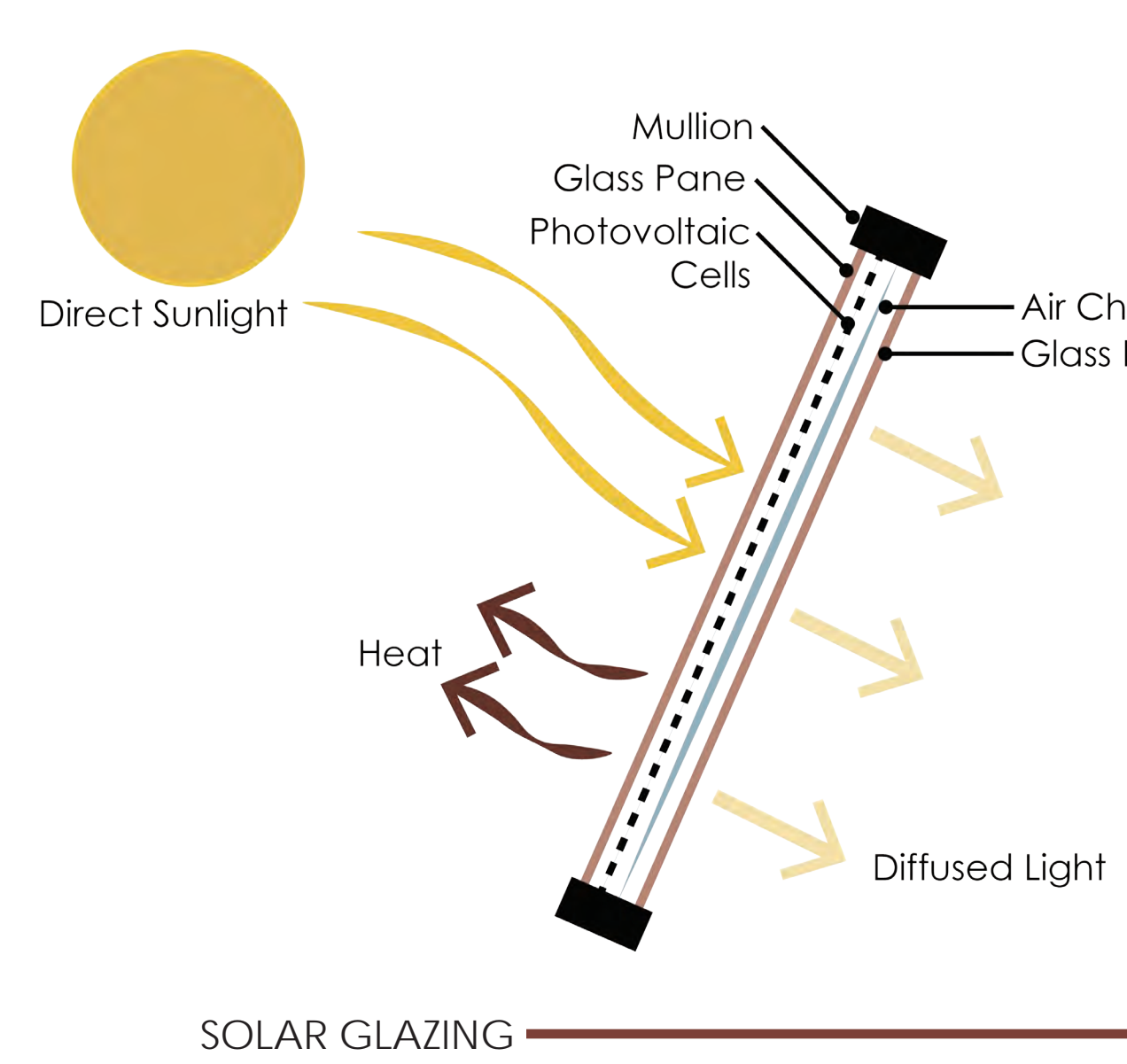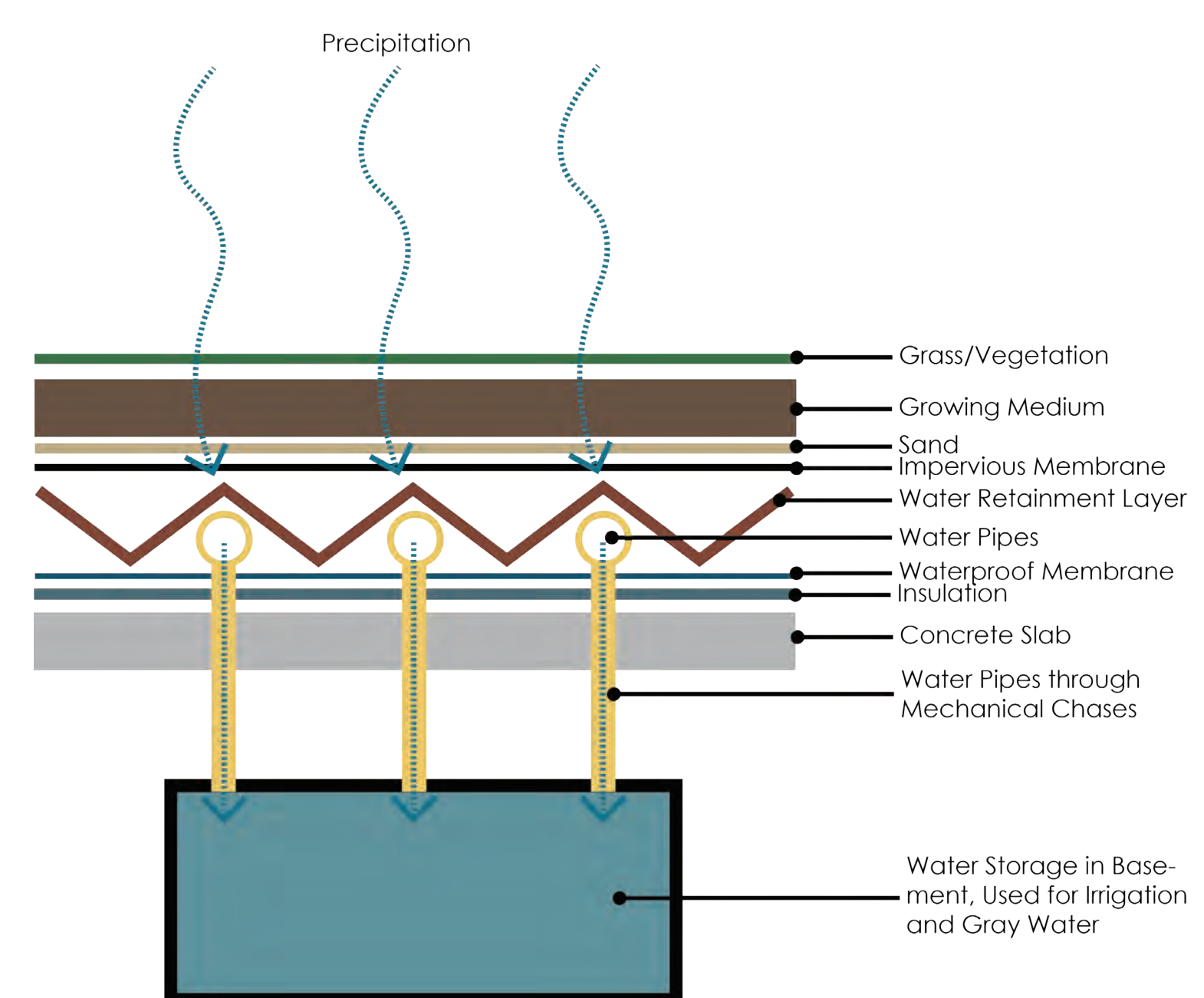
HIGH SPEED RAIL

AMENITIES

WIFI | Bigger Seats | Power Outlets | Less Security Hassle | Tables | Frequent Departures | Dining Services | No Traffic

ENVIRONMENT

	ENERGY PER PASSENGER MILE	CO2 EMISSIONS PER PASSENGER KM TRAVELED
Train	1,551 BTU	6 g
Plane	2,320 BTU	118 g
Car	2,939 BTU	86 g

TIME

4 HOURS (NO TRAFFIC)

NYC — 3.5 HOURS — BOSTON

- Transit
- Check in/Security
- Productive Time
- Take off/Landing

1.5 HOURS (AIR)
4 HOURS (TOTAL)

THE STRUCTURE

- Photovoltaic Glazing
- Louvered Glazing
- Concrete Form
- Louvered Glazing

Building Skin

- Precast Concrete Slabs
- Structural Steel Columns

Building Structure

- A-Frame Steel
- Steel Wrapped in Concrete

Building Superstructure

VIDEO

Precipitation

- Grass/Vegetation
- Growing Medium
- Sand
- Impervious Membrane
- Water Retainment Layer
- Water Pipes
- Waterproof Membrane Insulation
- Concrete Slab
- Water Pipes through Mechanical Chases
- Water Storage in Basement, Used for Irrigation and Gray Water

GREEN ROOF WITH WATER RECYCLING

Direct Sunlight
Mullion
Glass Pane
Photovoltaic Cells
Air Channel
Glass Pane
Heat
Diffused Light

SOLAR GLAZING

NATURAL VENTILATION THROUGH PUBLIC AREAS

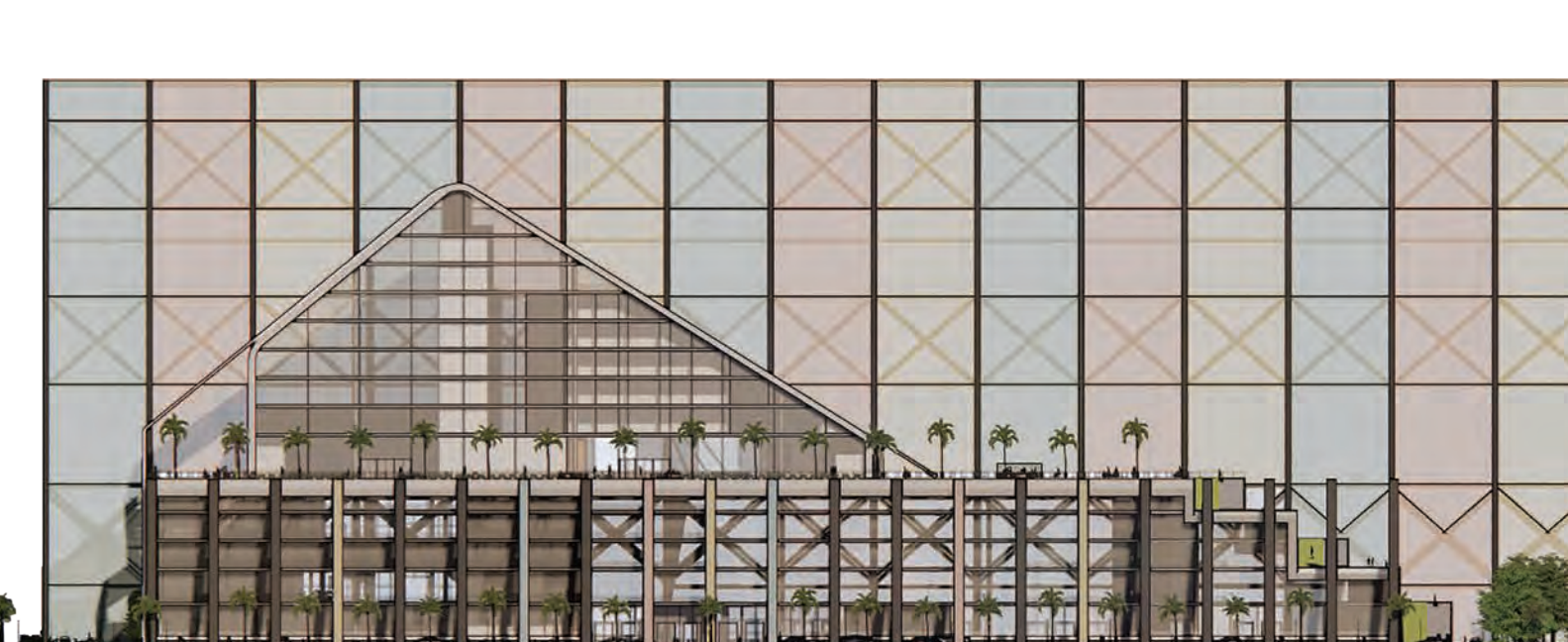## Section Cut
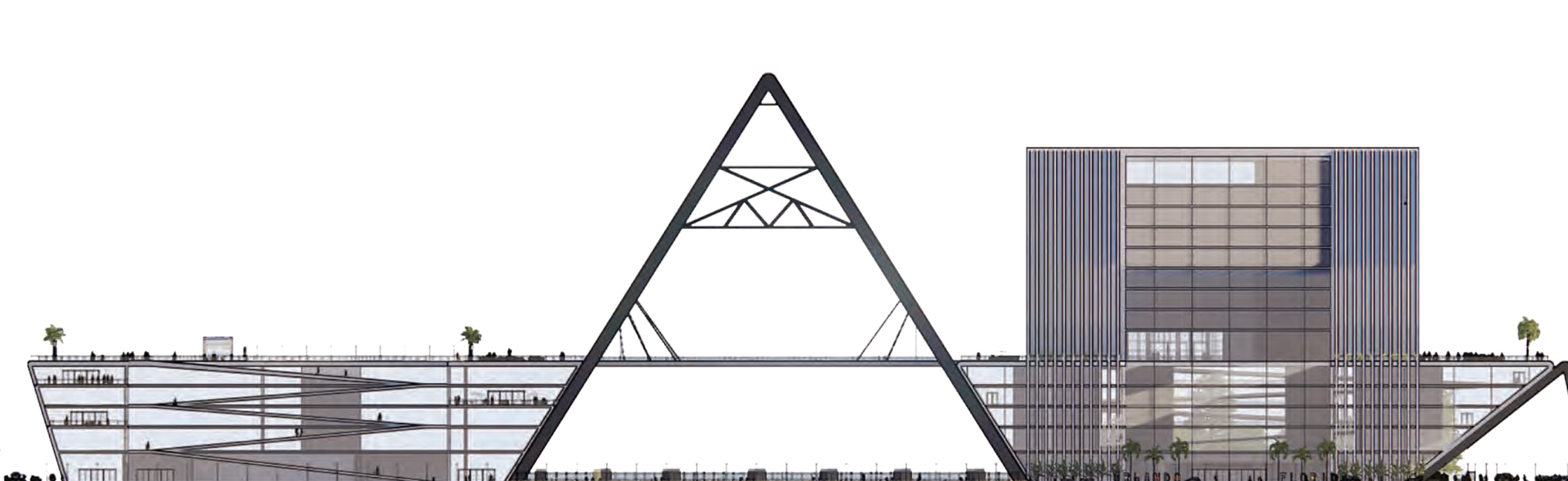
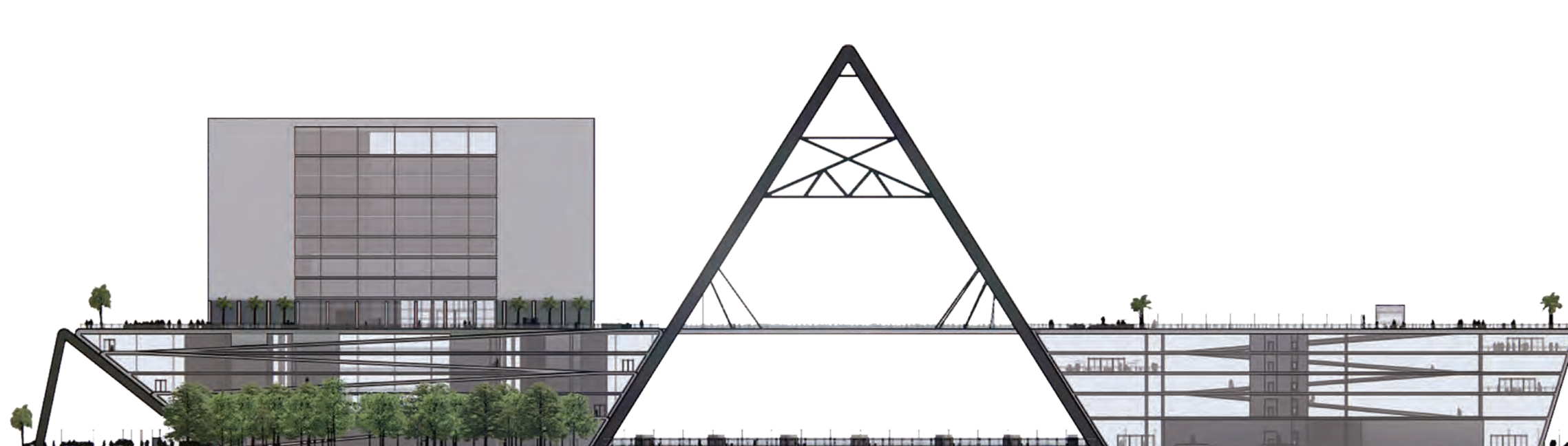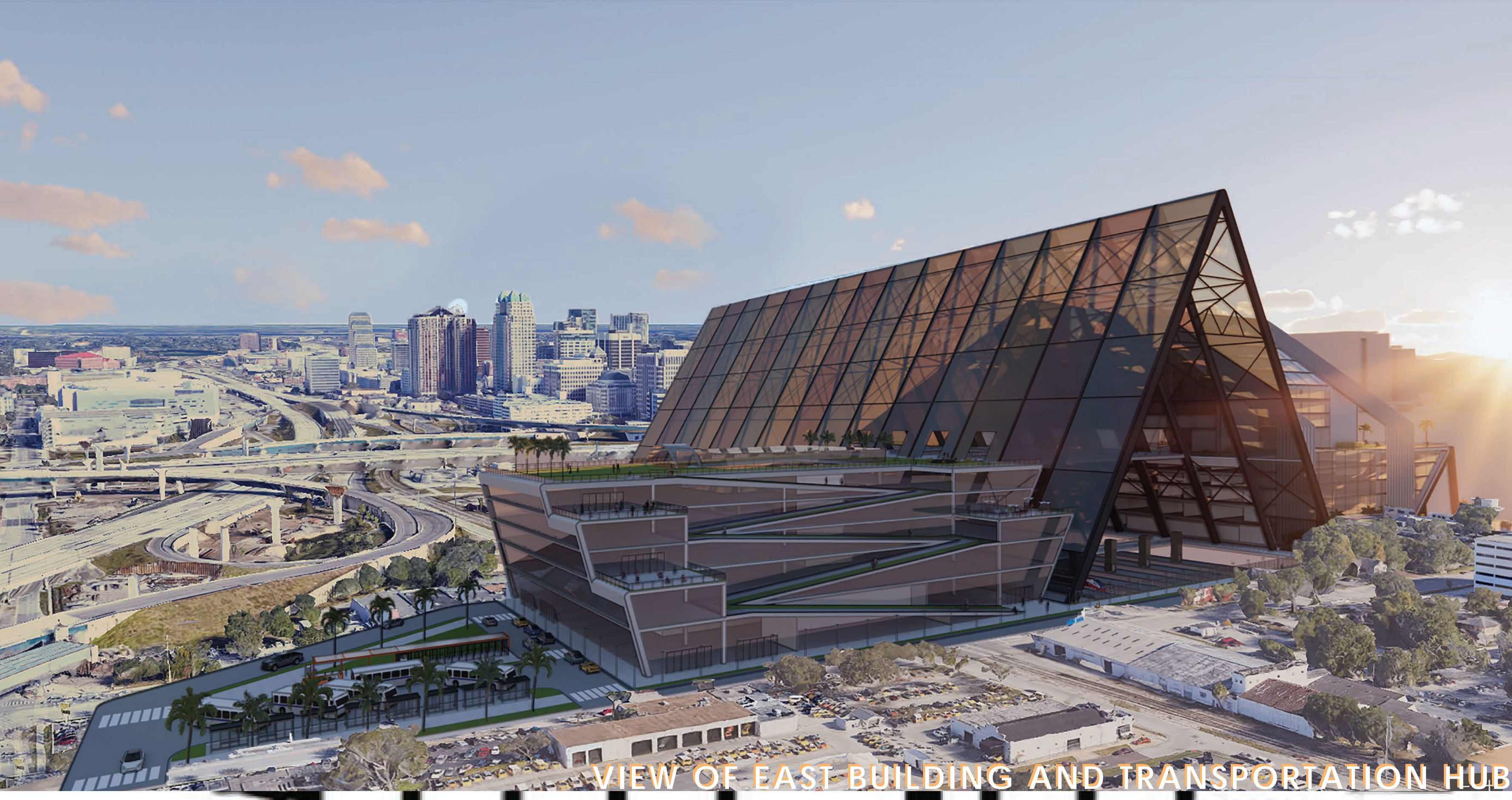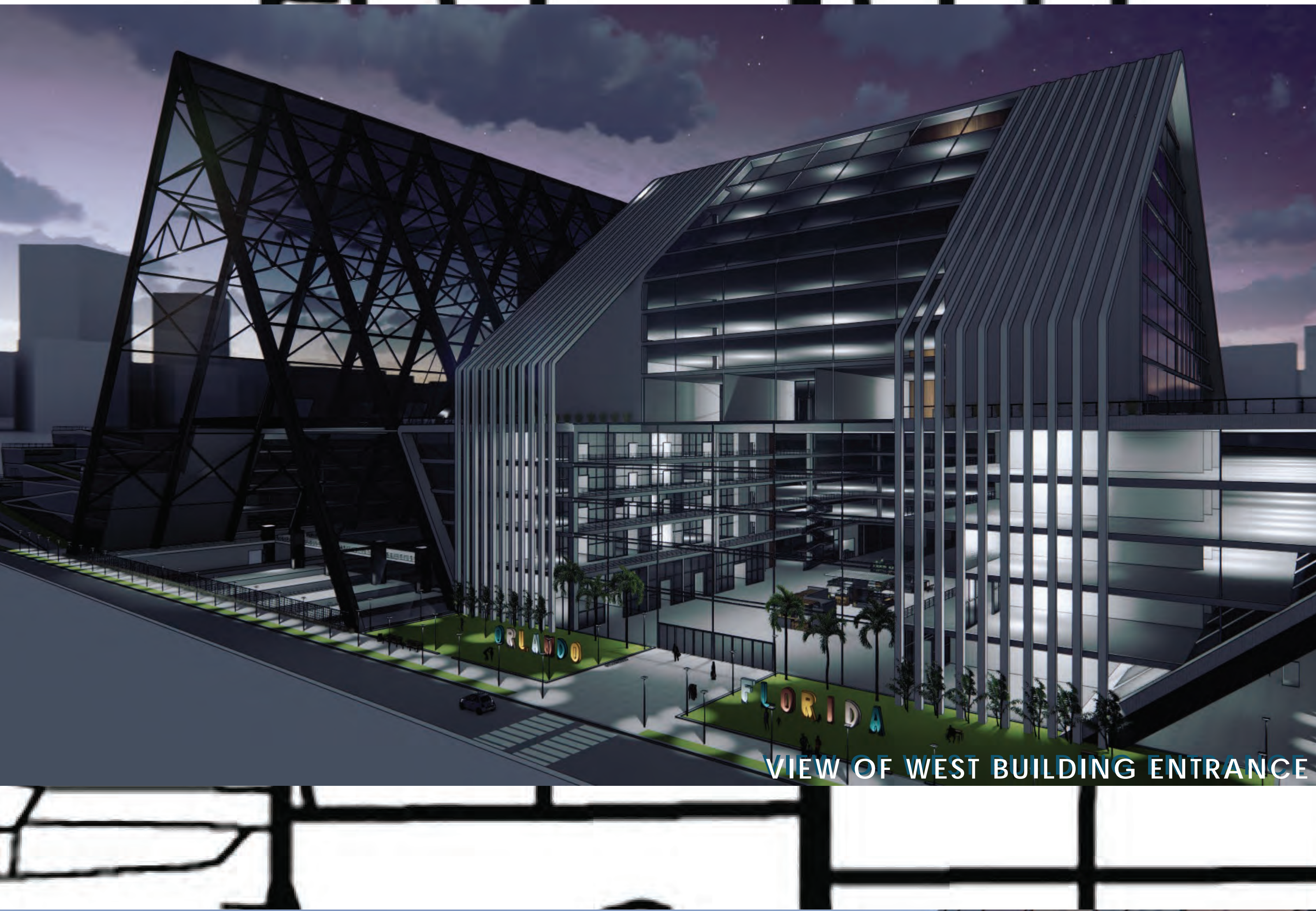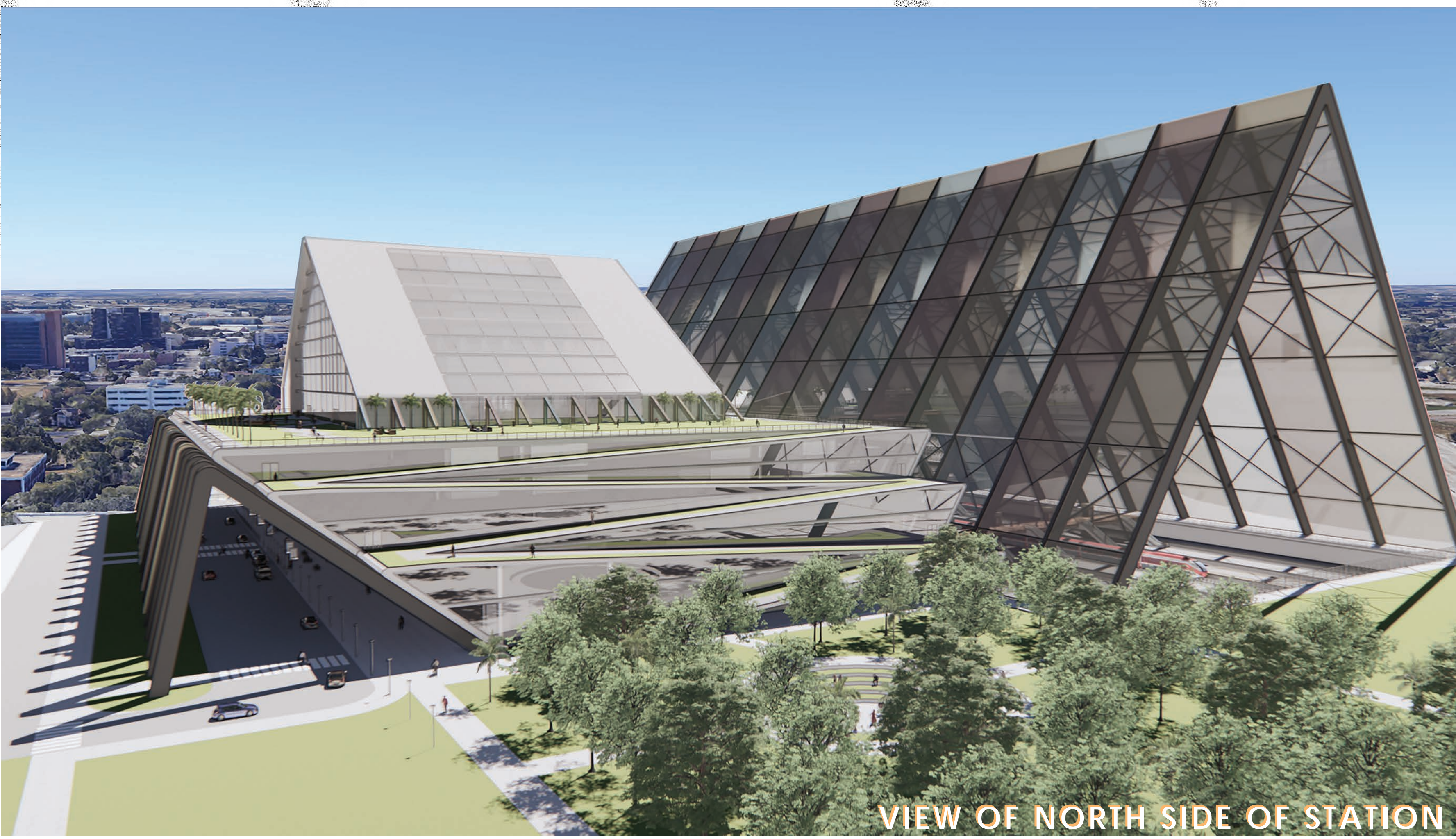East Elevation | South Elevation | West Elevation | North Elevation

VIEW OF EAST BUILDING AND TRANSPORTATION HUB

VIEW OF WEST BUILDING ENTRANCE

VIEW OF BACK OUTDOOR AMPHITHEATER

VIEW OF NORTH SIDE OF STATION


VIEW OF INTERIOR ATRIUM

VIEW FROM PLATFORMS

NORTH

Exploria Stadium
Historical Parramore Neighborhood
Amway Stadium
Griffin Park Housing Project
Downtown

Medical Park

THE SITE

The main site of the designed project will be an urban neighborhood and the station will serve as a hub in the heart of the city. Urban areas provide a lot of opportunity for many different uses and can majorly impact an area's economic activity. With a decent sized population of 285,705 people, Orlando is an up and coming city with almost a 2% growth rate from year to year and has a central location between many large cities.
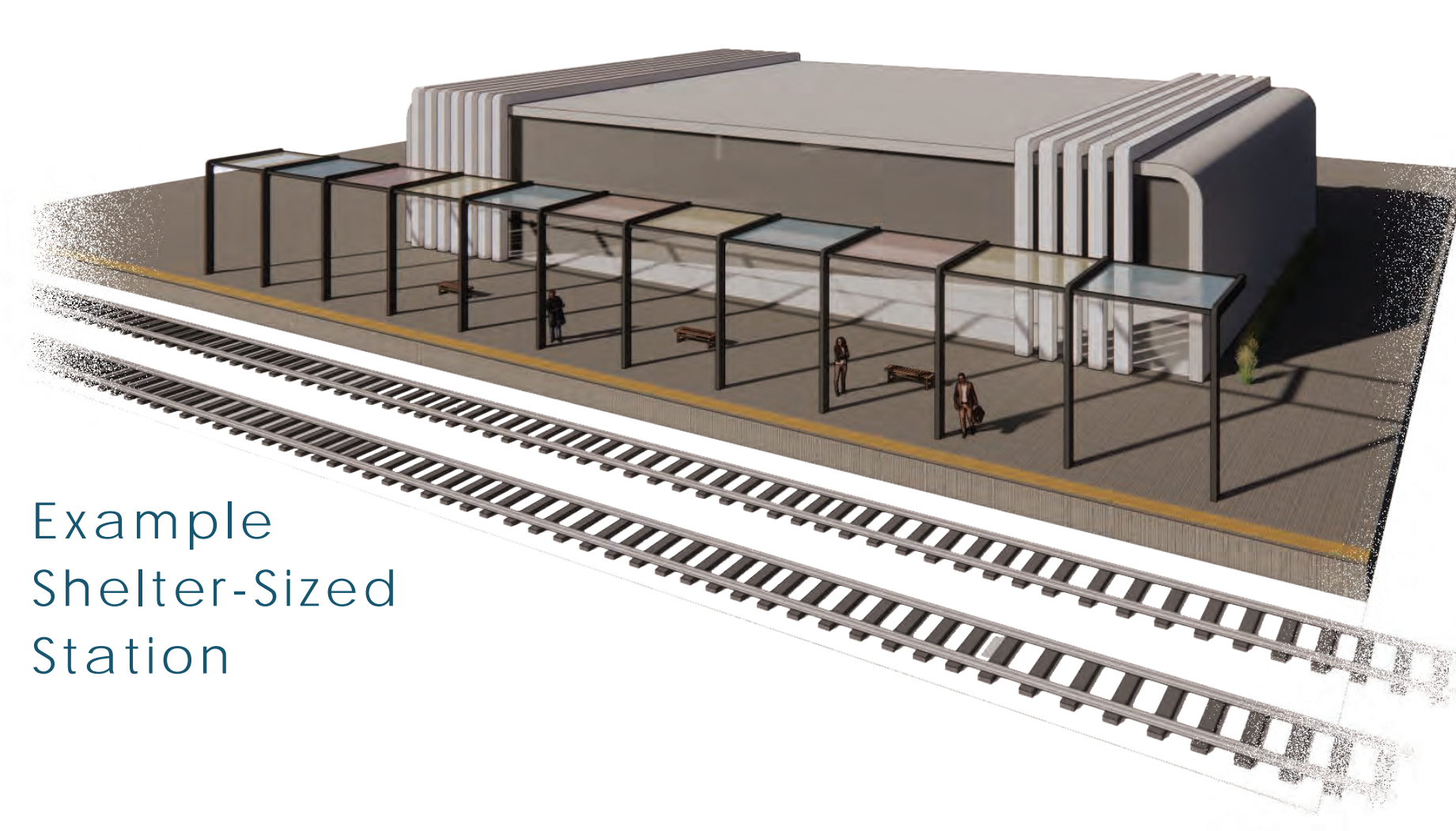
Design Development
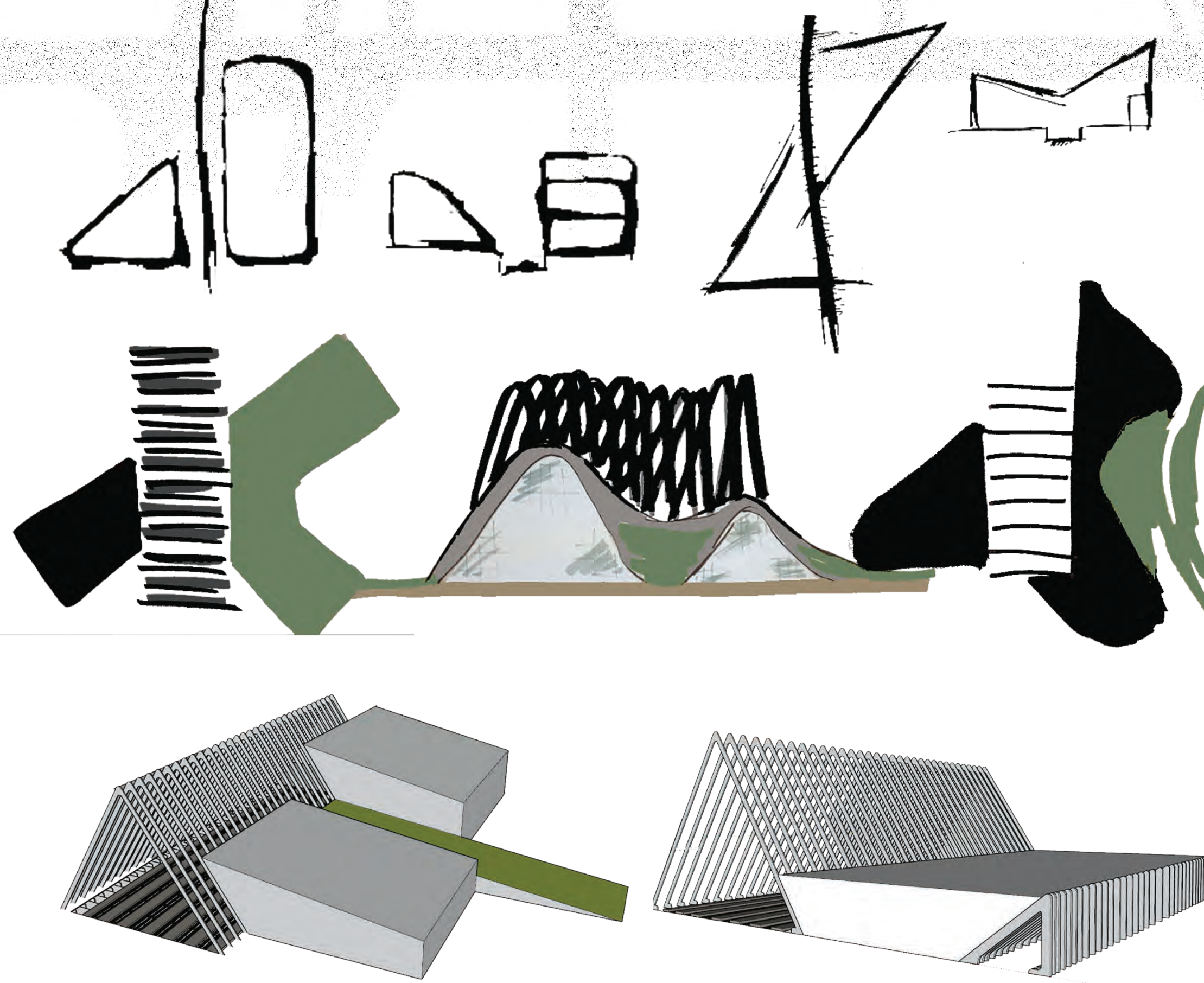
From the beginning, I knew the station would be developing around the train tracks rather than just attaching to the edge of it. Also early on, I decided on the A-frame structure to provide protection from the elements on the platforms, but also became the iconic skyline of the building.

Modular Design

In order for the entire high-speed rail network to be efficient, there must be stations around the entire nation. Not just in the larger cities that can afford it, but smaller areas need connections to the bigger stations. Below is a table that describes the sizes of typical stations relating to which amenities they would offer, and based of these the program of the Orlando station could be scaled up or down to accommodate different areas.
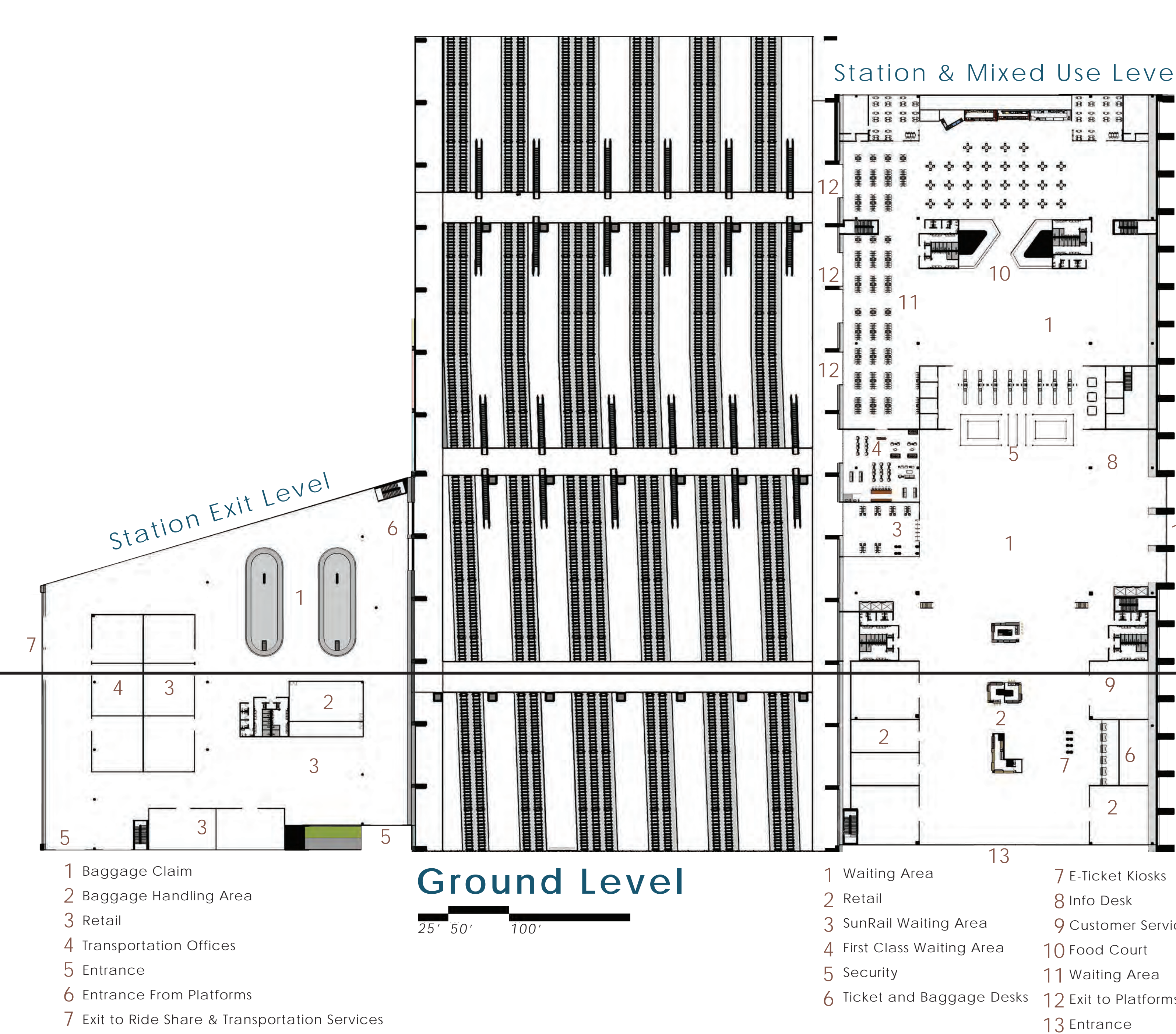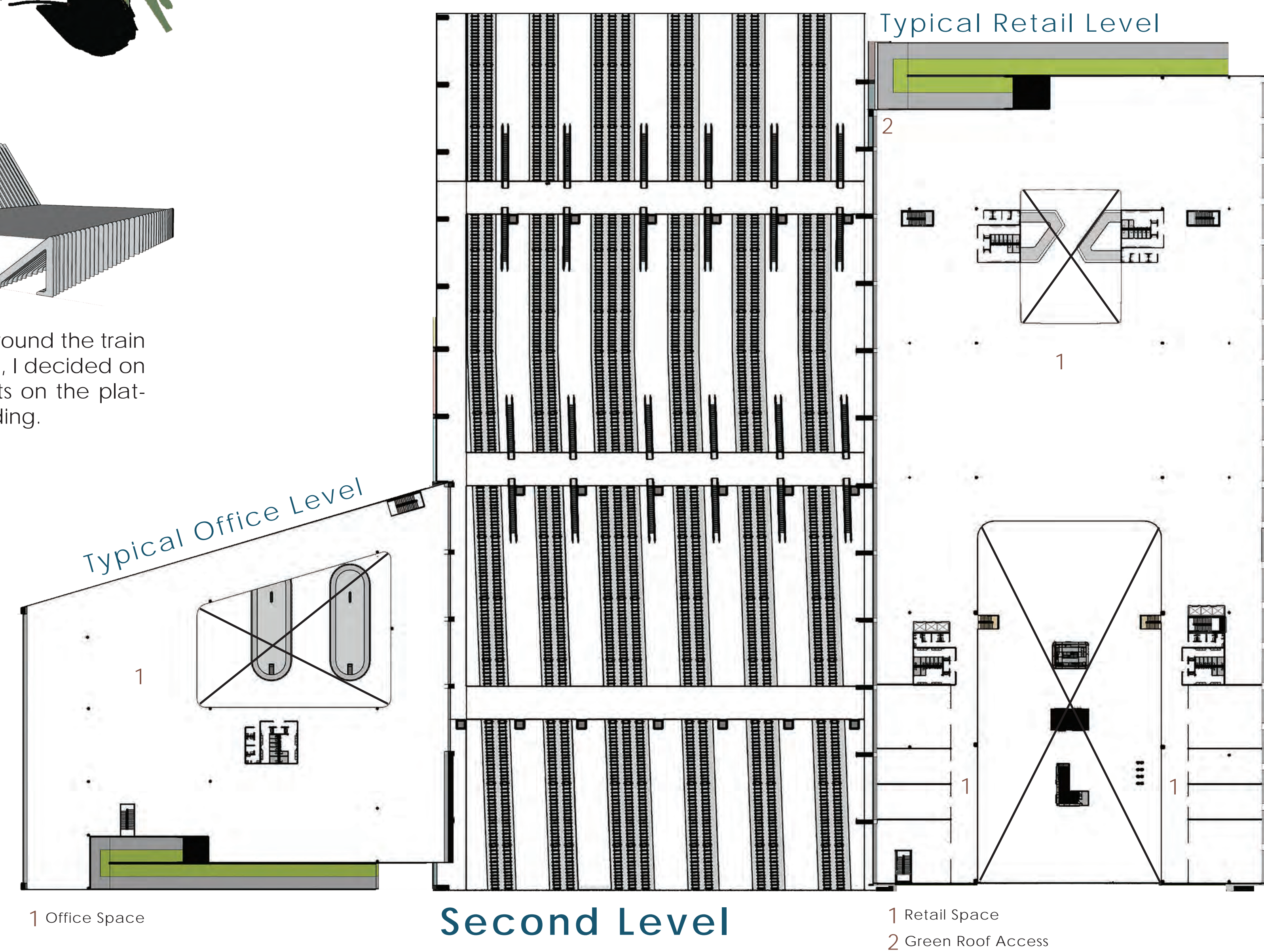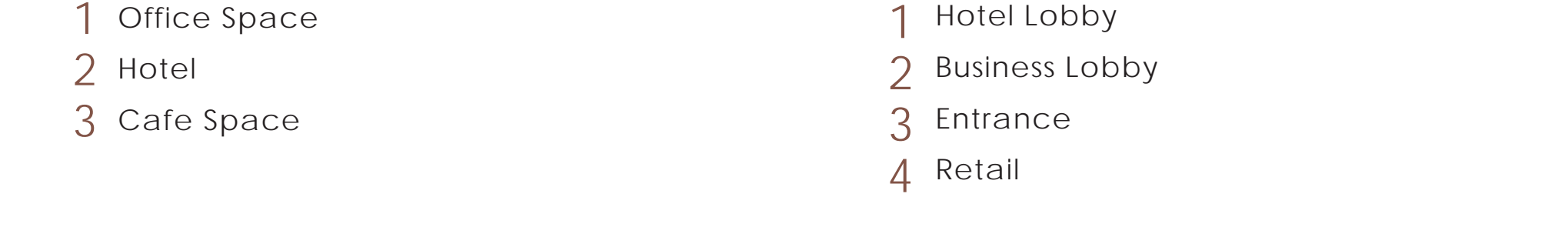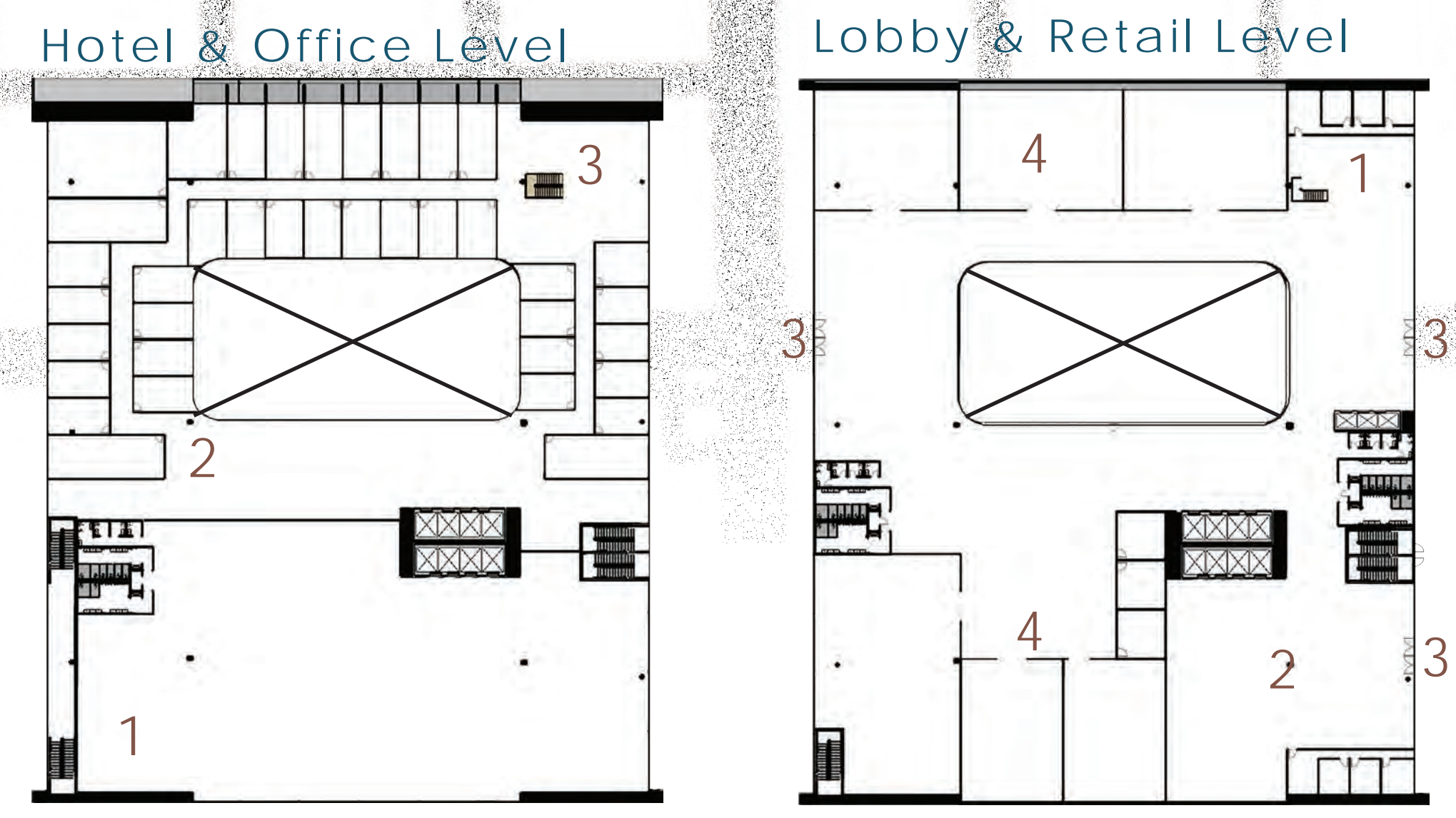
	Large	Medium	Caretaker	Shelter
Projected Annual Ridership	Greater than 400,000	100,000 to 400,000	20,000 to 100,000	Less than 20,000
Route Service Type				
High Speed Rail				
Corridor Service				
Long Distance Service				
Station Location Environment				
High Density				
Medium Density				
Low Density				
Multi-Modal Services				
Full Range (Metro/Light Rail)				
Basic (Bus)				
Minimal (Taxi/car)				
Customer Service Staffing Level				
Fully Staffed, Management Present				
Basic Staff for Ticketing, Baggage, Operations				
Caretaker, No Passenger Assistance				
Unstaffed				
Baggage Services				
Checked Baggage/Red Cap/ Package Express				
Checked Baggage/Agent Assistance				
None				
Station Configuration				
Side Platforms				
Vertical Circulation Platforms				
Terminal Services				

Typical Characteristics
Service Possible

Example Shelter-Sized Station

FLOOR PLANS

Hotel & Office Level
1 Office Space
2 Hotel
3 Cafe Space

Lobby & Retail Level
1 Hotel Lobby
2 Business Lobby
3 Entrance
4 Retail

Typical Retail Level
1 Retail Space
2 Green Roof Access

Typical Office Level
1 Office Space

Second Level

Station & Mixed Use Level

Station Exit Level
1 Baggage Claim
2 Baggage Handling Area
3 Retail
4 Transportation Offices
5 Entrance
6 Entrance From Platforms
7 Exit to Ride Share & Transportation Services

Ground Level
1 Waiting Area
2 Retail
3 SunRail Waiting Area
4 First Class Waiting Area
5 Security
6 Ticket and Baggage Desks
7 E-Ticket Kiosks
8 Info Desk
9 Customer Service
10 Food Court
11 Waiting Area
12 Exit to Platforms
13 Entrance