

Brightline

CONNECTING SOUTH FLORIDA WITH
PASSENGER RAIL & TRANSIT ORIENTED
DEVELOPMENT

2020 AIA | DC



Connecting South Florida

A Bold Provocation

More than one million people live between Miami and Orlando. Together with an estimated 100 million annual visitors to the region, drivers make over 110 million car trips each year between these cities. Not surprisingly, Florida has had some of the most congested roadways in the U.S., particularly along Interstate 95 on the East Coast, where congestion costs the state an estimated \$3.7 billion and produces nearly one million tons of CO² emissions annually. For decades, there were virtually no other reasonable transportation choices. Brightline changed that.

Since Jan. 2018, Brightline has operated passenger trains on the Florida East Coast Railway between Miami and West Palm Beach, with an intermediate stop at Fort Lauderdale. It is the only privately owned and operated intercity passenger railroad in the U.S., and construction is underway on a track extension from Cocoa to Orlando, with service planned to commence in 2022. Plans are also in development to extend the line from Orlando to Walt Disney World and Tampa. The “Brightline” brand name will officially become Virgin Trains USA in mid-2020.

Making use of 195 miles of tracks built 100 years ago and a 40-mile stretch of new railroad right-of-way,

this project leverages existing infrastructure and smart investments to strengthen regional competitiveness and reinvigorate downtown Miami, Fort Lauderdale, and West Palm Beach collectively with billions of dollars in walkable, mixed-use TOD. The submitting firm, in collaboration with a local architect, planned the entire project and designed each station—including the structure of MiamiCentral, an 11-acre multimodal hub that connects to Tri-Rail, Metromover, and Metrorail.

The three stations are unified by a common material palette and design aesthetic in alignment with the visual identity of Brightline’s passenger experience ethos: hospitable, intuitive, inviting, optimistic, and evocative. Far different than 19th and 20th-century train stations, Brightline facilities present a new kind of architectural language for the American railroad station. Inspired by their urban settings, cultures, and climates, the stations express a new, tropical modernism with a contemporary elegance and commitment to climate action. They represent the complex synthesis of architecture and infrastructure. And—especially at MiamiCentral—they integrate mixed-use retail, residential, and workplace development to establish the transportation facilities as civic places that transform their communities.



1 Infrastructure as Architecture

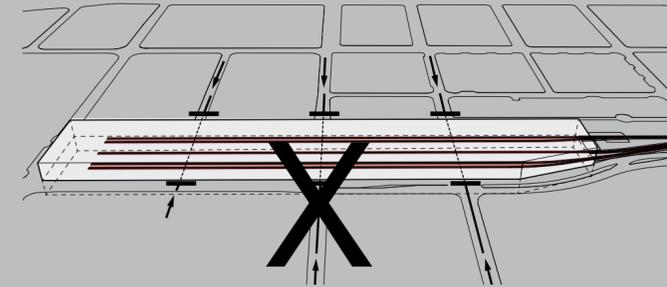
Infrastructural scaled projects have been a fixture in the city since the birth of the city itself. The Romans famously deployed a series of aqueducts tasked with transporting fresh water into their homes while still allowing the city to build up and flow around them. Millenia later, Paul Rudolph's "Lower Manhattan Expressway" project suggested that infrastructure and the city could become one in the same—a symbiotic relationship that could change the way cities operate and grow. The hovering, three-million-square-foot MiamiCentral terminal oscillates between the two, allowing for the city to continue uninterrupted below while posing a new type of urban form—one that continually oscillates between the scale of infrastructure and architecture.



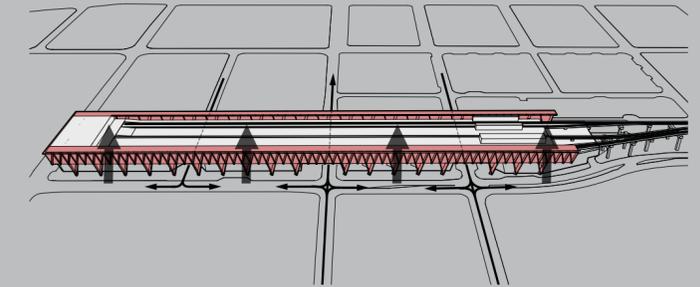
Paul Rudolph's Lower Manhattan Express Way



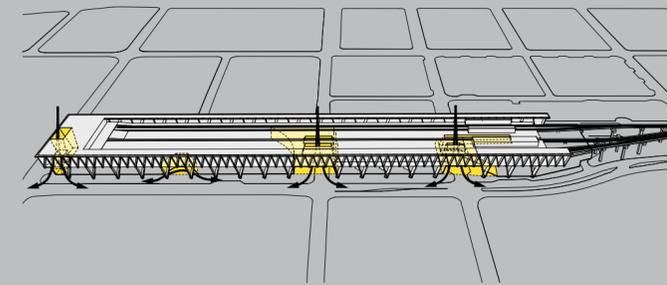
Roman Aqueduct in Segovia, Spain



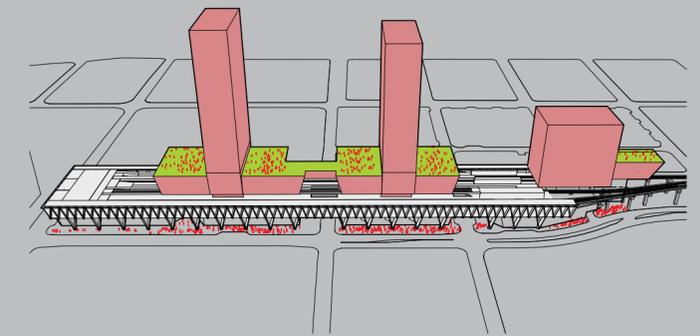
1 Constructing the rails at-grade is a non-starter: this radically disrupts the existing street network. Building the rails below grade, as well, proves unviable: with the high water table in Miami this option is financially unachievable.



2 Lifting the rails up and externalizing the structural system creates a five block long civic framework, anchoring the district and allowing the streets to flow through uninterrupted.



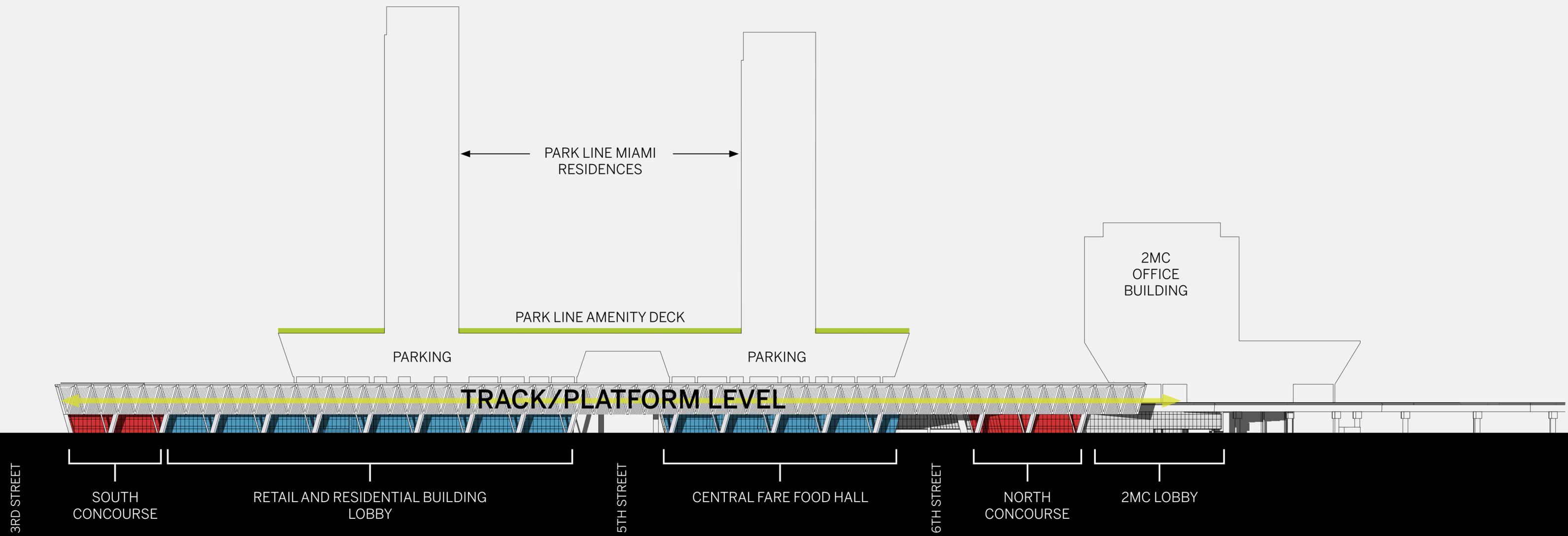
3 Large voids carved through the project 'viaduct' open up the section, bringing natural light down to the street level, and interconnecting the various levels of the project.



4 Three overbuild towers are added, threading cores down through the platform and creating a critical mass of activity from a diverse set of users (work/live).



Site Panoramic



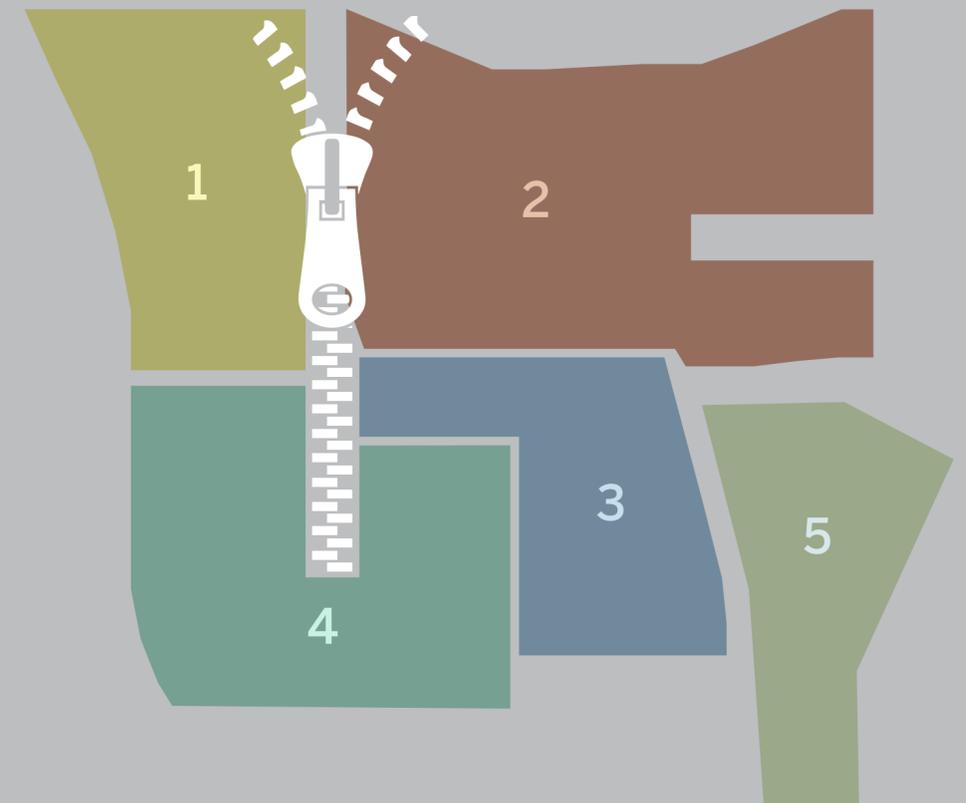


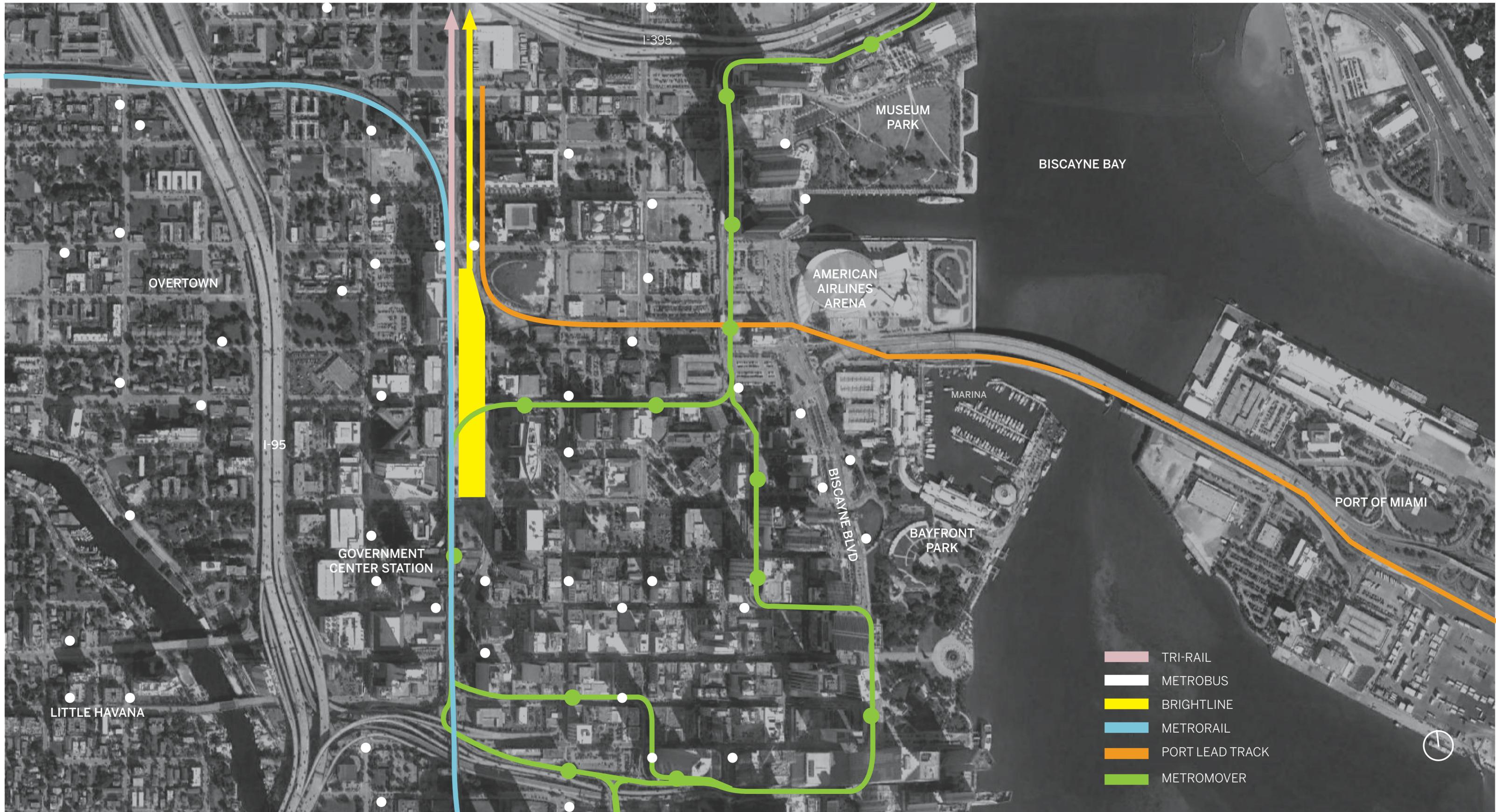
MiamiCentral | Northwest 6th Street Portal

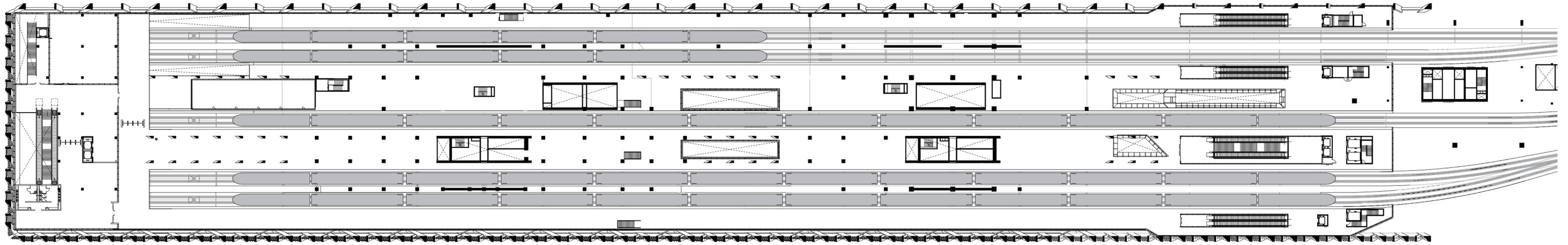
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Transit Hub as Civic Center

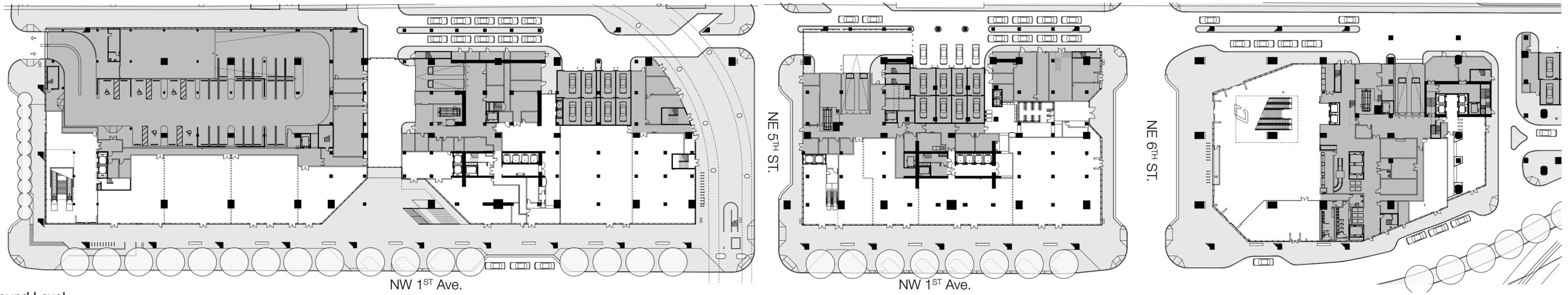
For decades, the majority of the MiamiCentral site was used either as a train yard or parking lot, and a vast portion was not used at all. The five-block-long stretch divided Miami's downtown neighborhoods, and within the site's most immediate vicinity, activity was minimal by the evening. Brightline created the chance to knit the entirety of downtown Miami together and serve as a centerpiece for Miami's larger public transportation network.



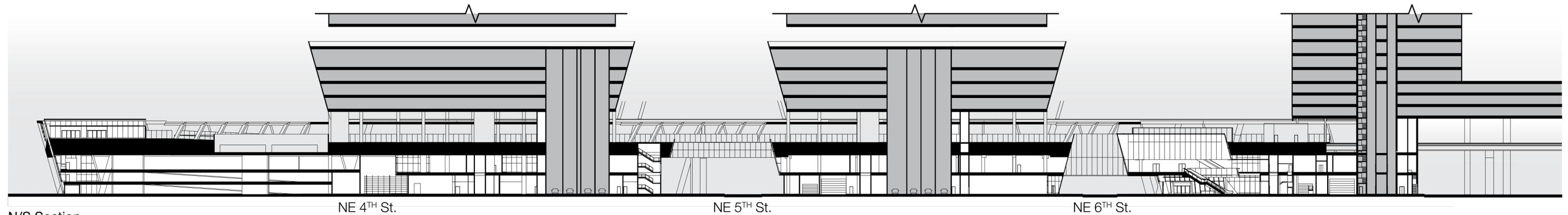




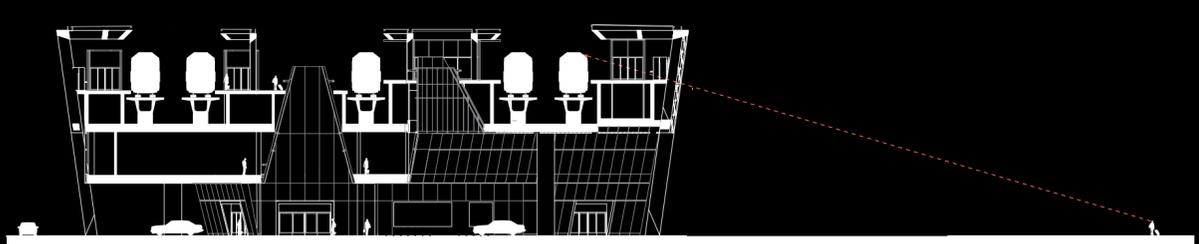
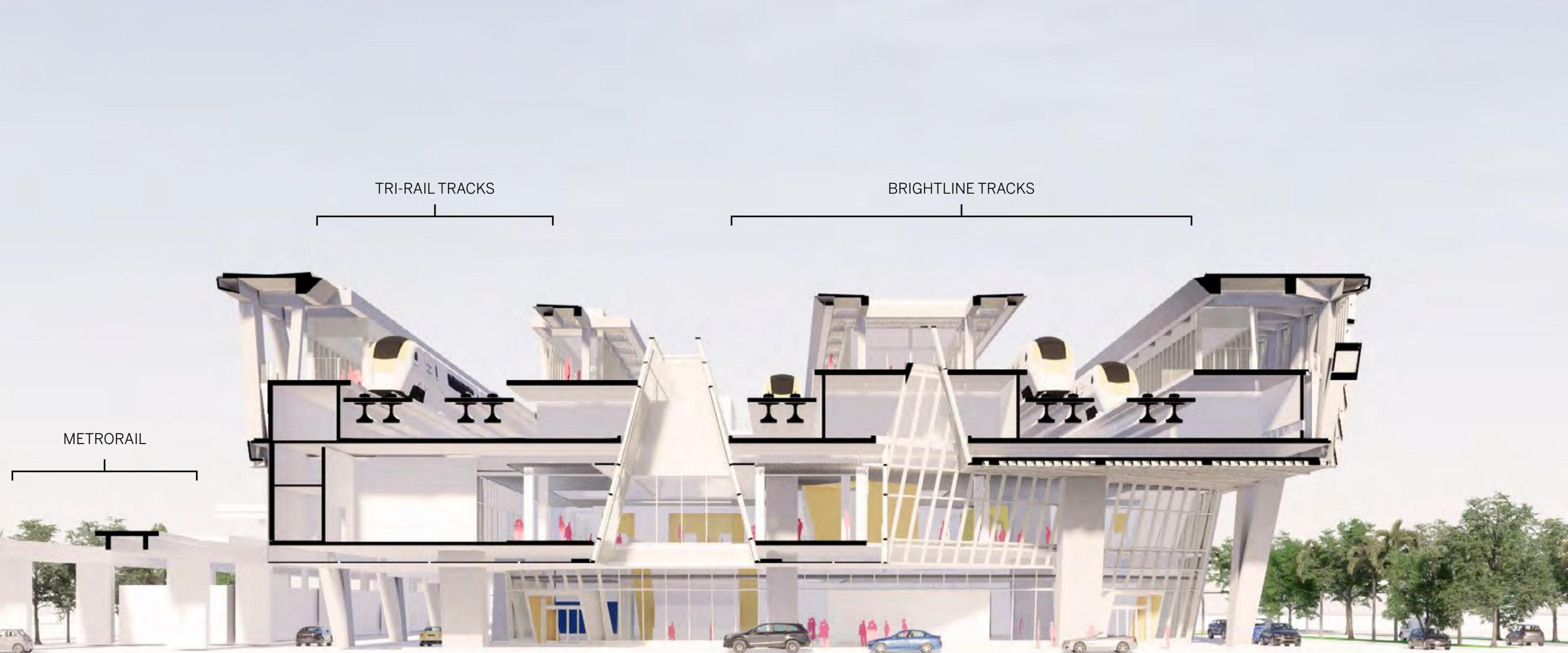
Platform Level



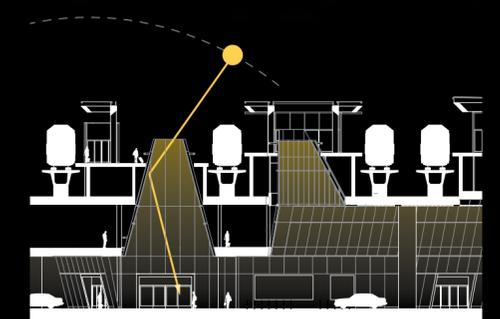
Ground Level



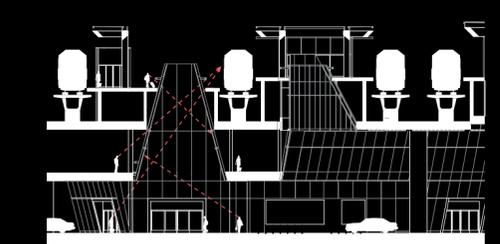
N/S Section



Trains Arriving in the City



Sunlight



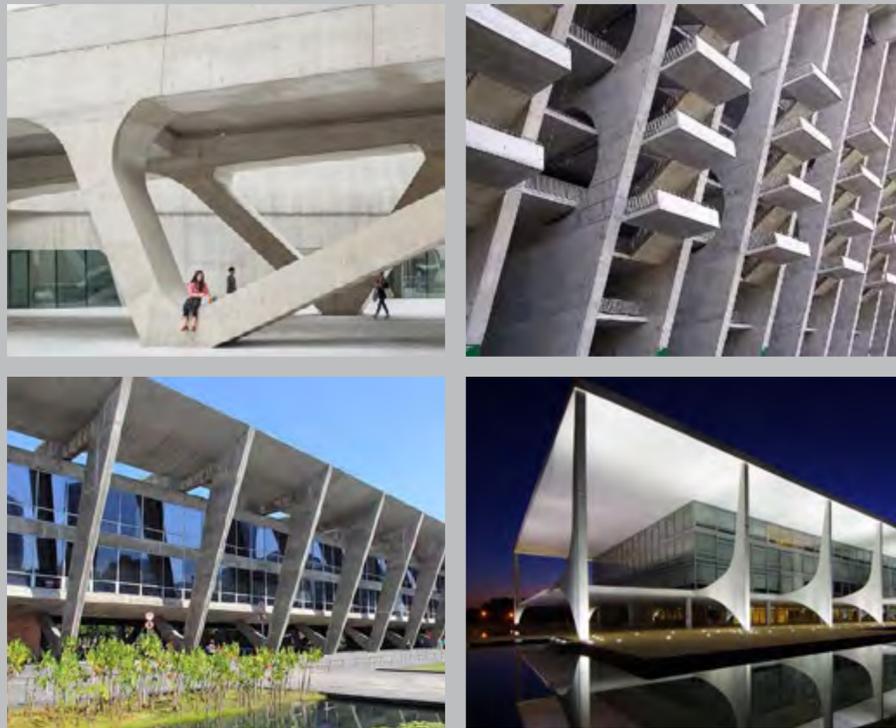
Views



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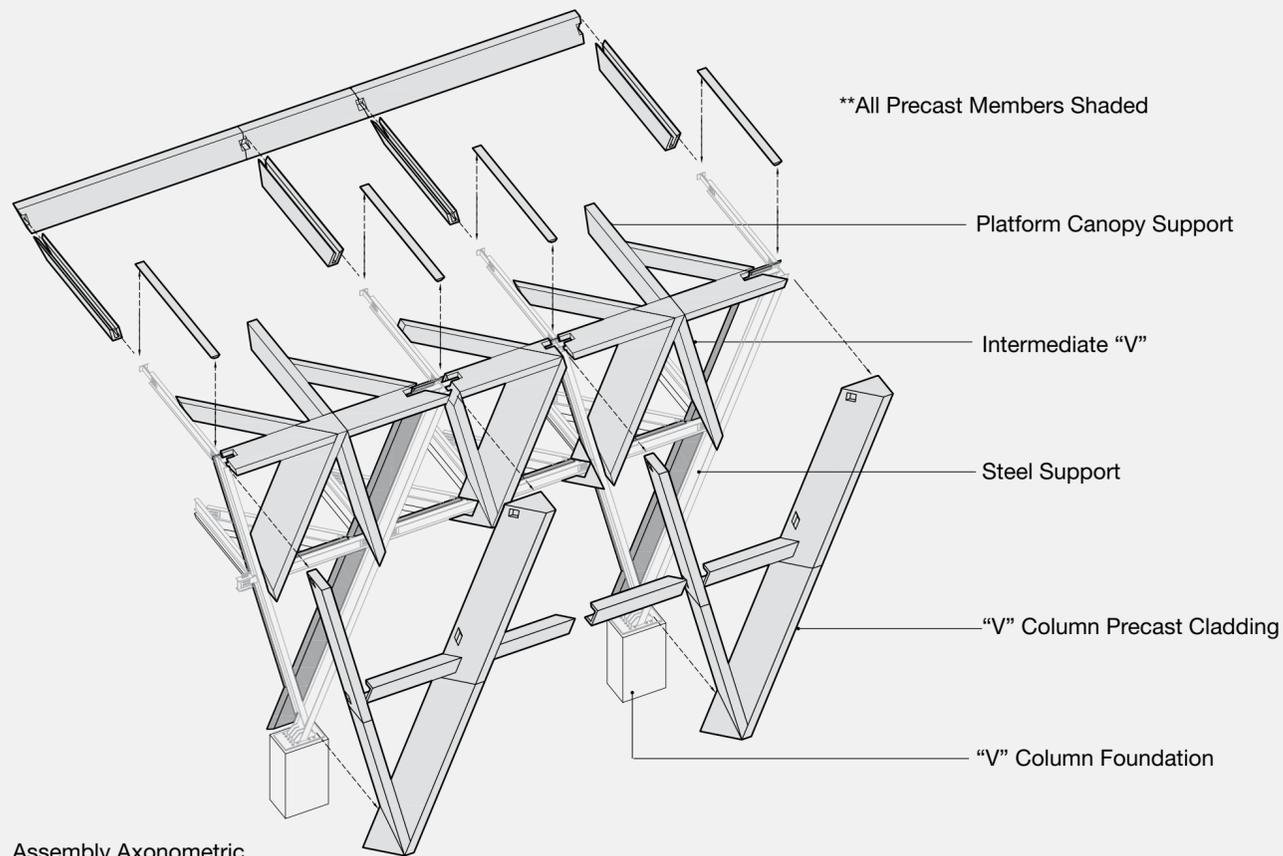
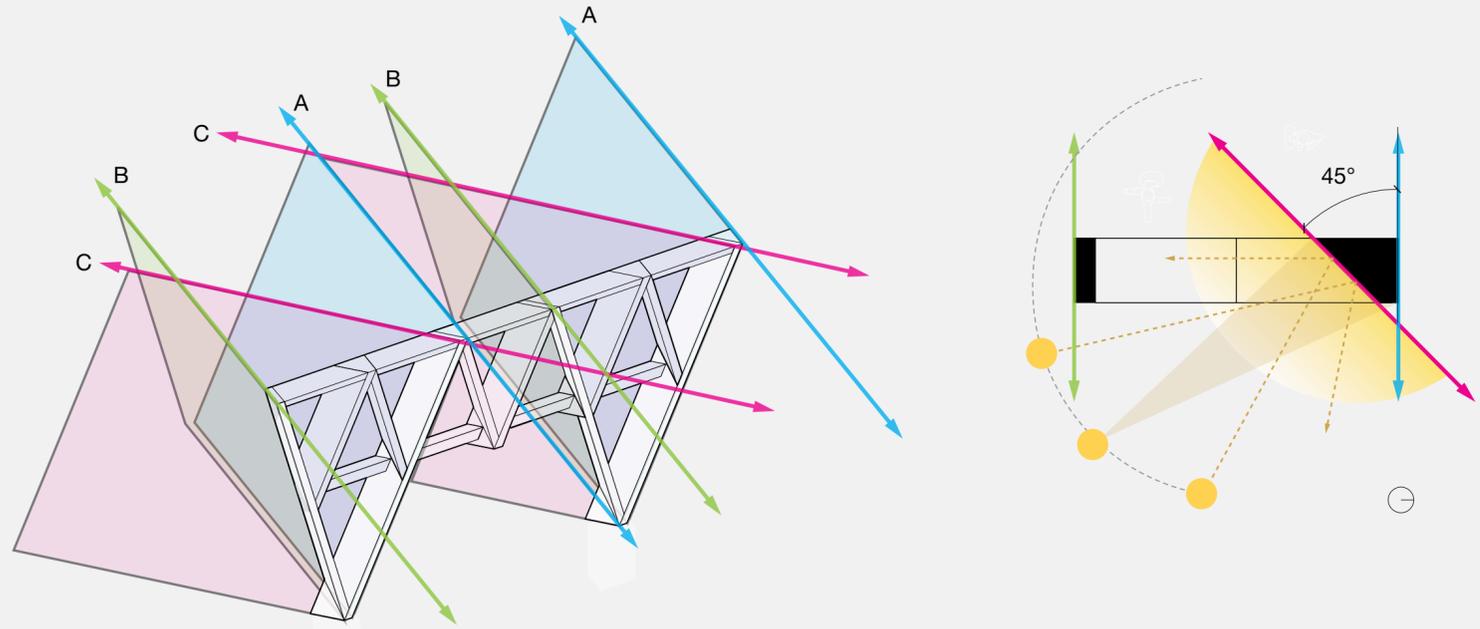
Tropical Design for the 21st Century

Miami has a rich history of a unique interpretation of tropical modernism; a blend of Art Deco details, smooth plaster facades coupled with sculptural, porous building facades which respond to the hot and humid climate. Miami Central continues this rich architectural lineage but operates at a far larger infrastructural scale. Seventy foot tall sculptural concrete piers march down consistently for 5 city blocks; performing as a brise-soleil for passengers on the platform while projecting a monumental bold civic identity to downtown Miami

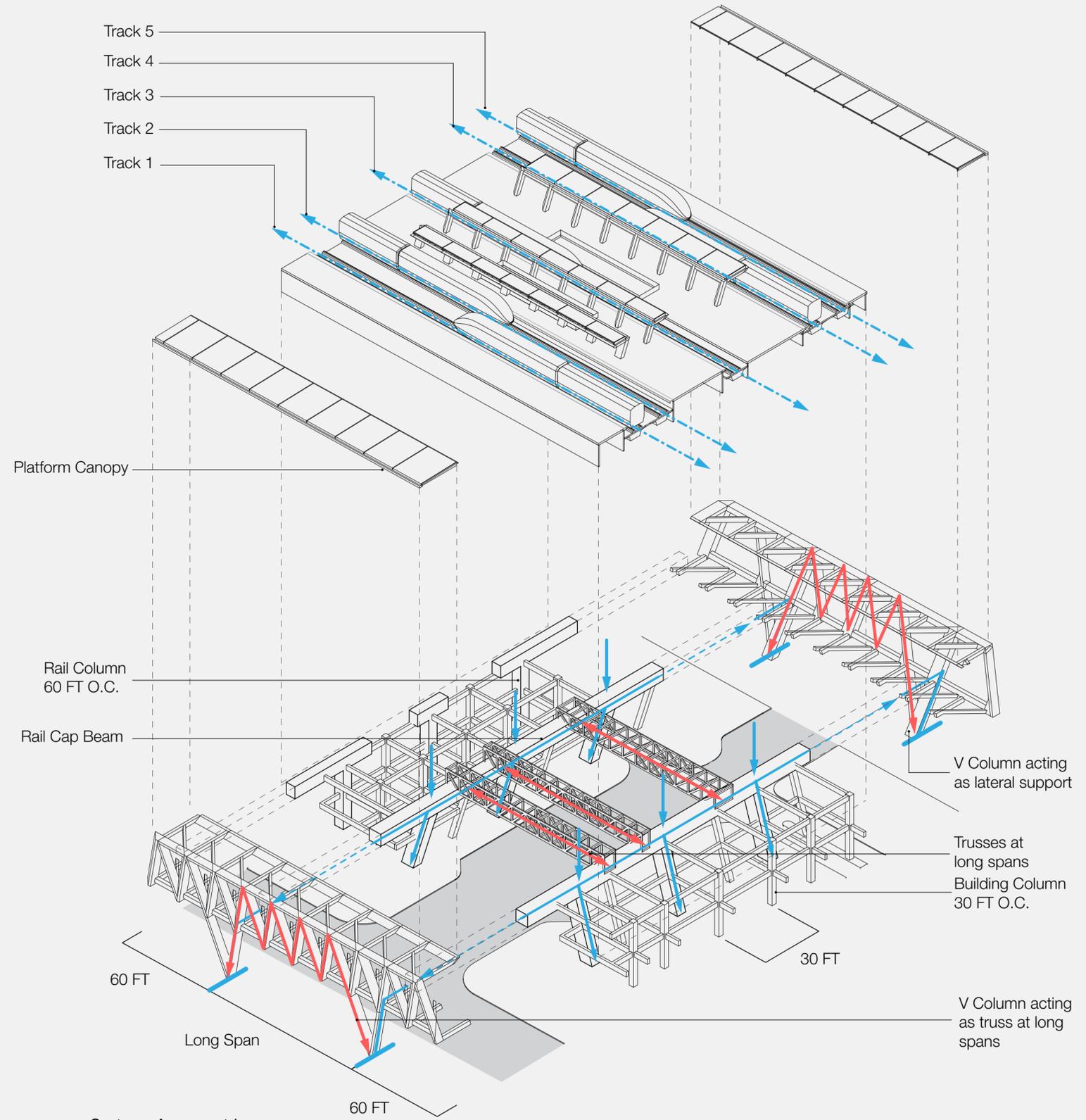


Tropical Modernism





Assembly Axonometric



Systems Axonometric



MiamiCentral | View Facing Southwest



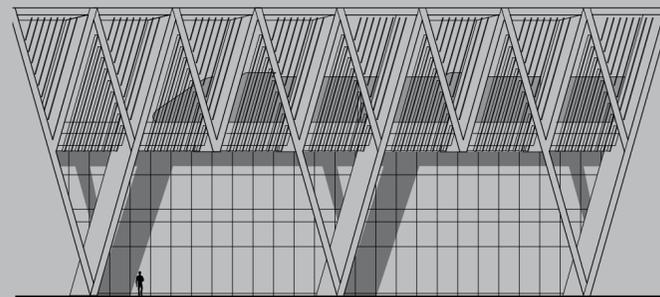
MiamiCentral | View From Northwest First Avenue



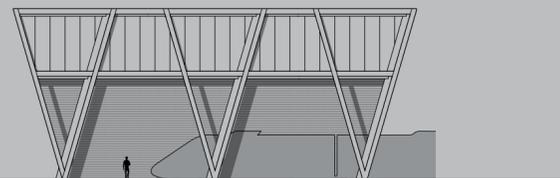
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Creating a Systemwide Design Identity

To experience a seamless journey and passenger experience from one station to another, we wanted to communicate the ethos of elevated hospitality in the architecture of the Fort Lauderdale and West Palm Beach stations. Each facility is approximately 60,000 ft² in floor area, including the canopied boarding platform. All three Brightline stations, while not identical, share a common design DNA by interpreting the structural act of “lifting” as a common thread. Miami’s “V” truss-like structure supports this elevation, and in the two line stations, the passenger concourse is lifted over the tracks and held up by a similar, but scaled down V-truss vocabulary.



MiamiCentral



West Palm Beach/Fort Lauderdale



Top: West Palm Beach
Bottom: Fort Lauderdale

