IPED Annual Historic Tax Credit Summit 2018

CINCINNATI UNION TERMINAL

GBBN

TODAY

Context and Historical Significance of the Building

Existing Conditions Assessment

Documentation

Scope

DESIGN & CONSTRUCTION TEAM

Union Terminal Corporation (UTC, LLC)
Ownership Structure for Historic Tax Credits

GBBN Architects
Design and Executive Architect

John G. Waite Associates, Architects
Preservation Architect

Silman Associates
Structural Preservation

ARUP with Heapy Engineering
Mechanical / Electrical / Plumbing /
Fire Protection

THP Limited
Structural Engineering

Kleingers Group / TruScan
Civil and Landscape / 3D Scanning

Turner Construction Co.
Construction Manager

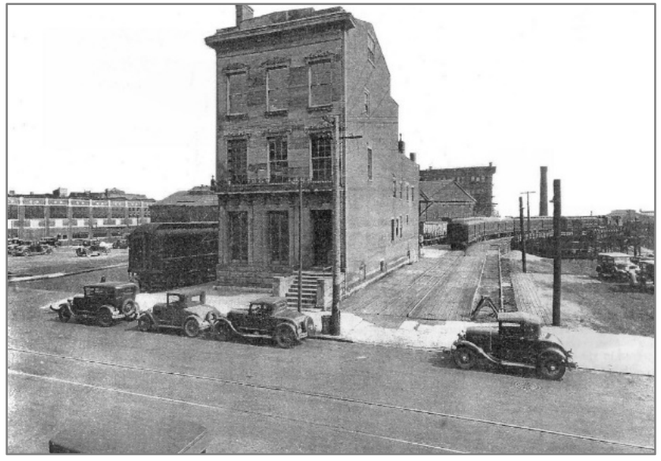
Facilities Management and Planning Services
Owner's Representative

Ellington Management Services
Inclusion Consultants

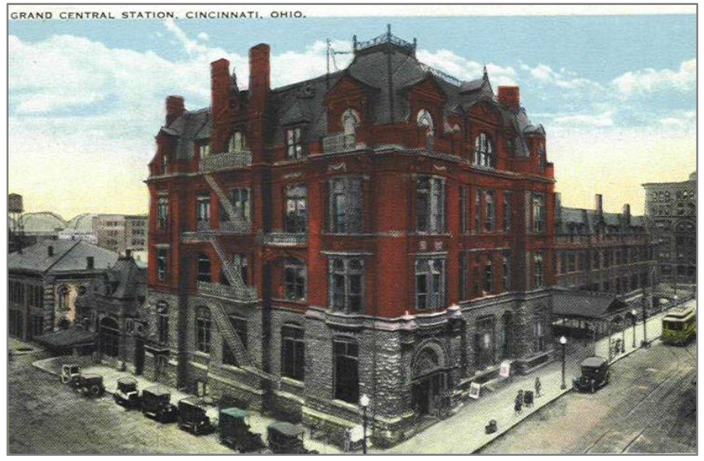
CONTEXT

BEFORE UNION TERMINAL MANY STATIONS

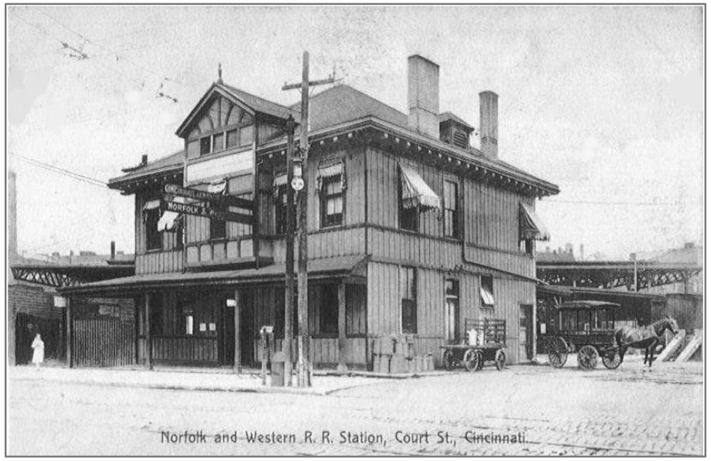
C&O Fourth Street Station



Central Union Depot, 1884



Court Street Station

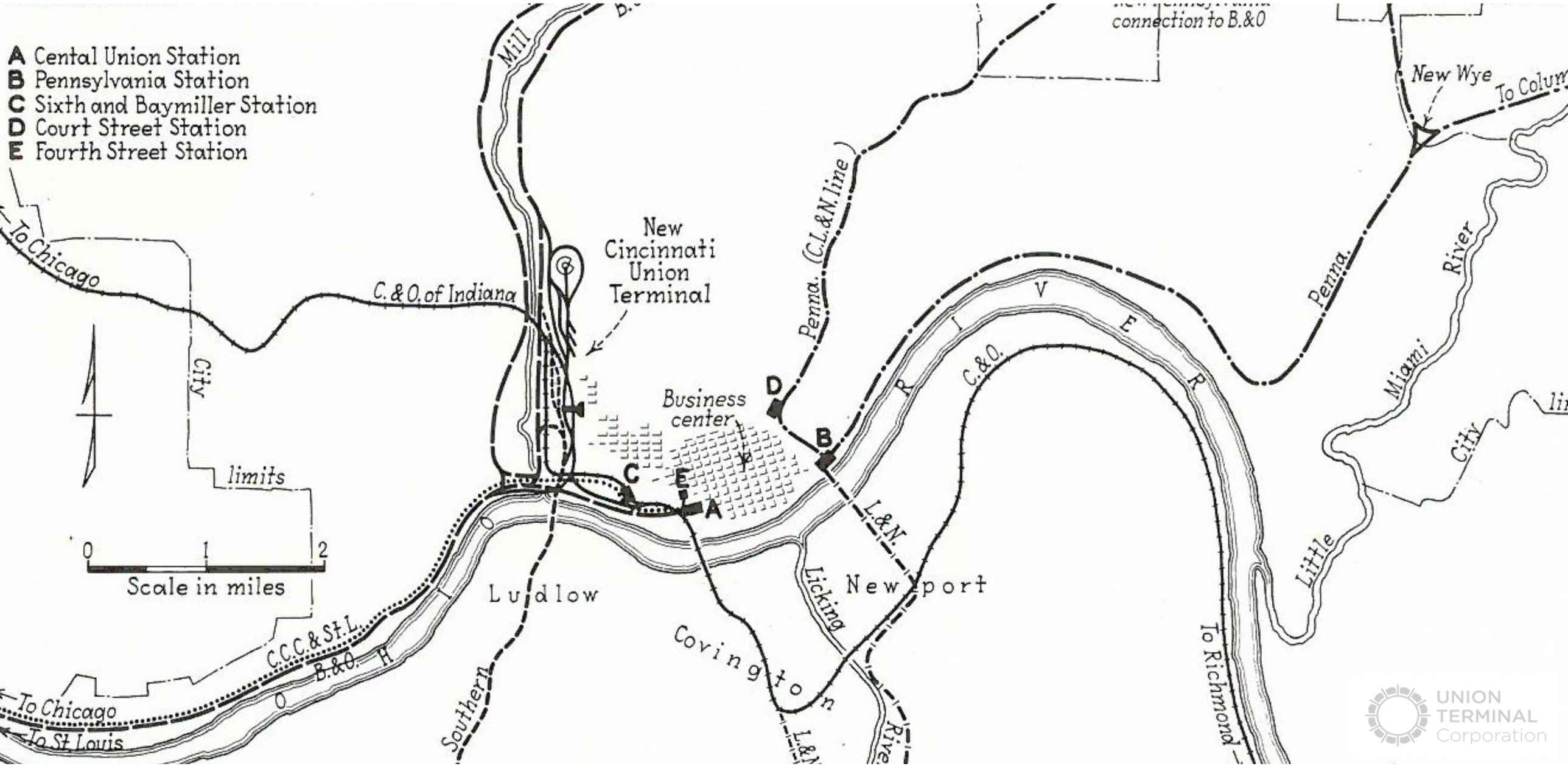


C.H. & D Depot, 1859

Pennsylvania Station, 1880

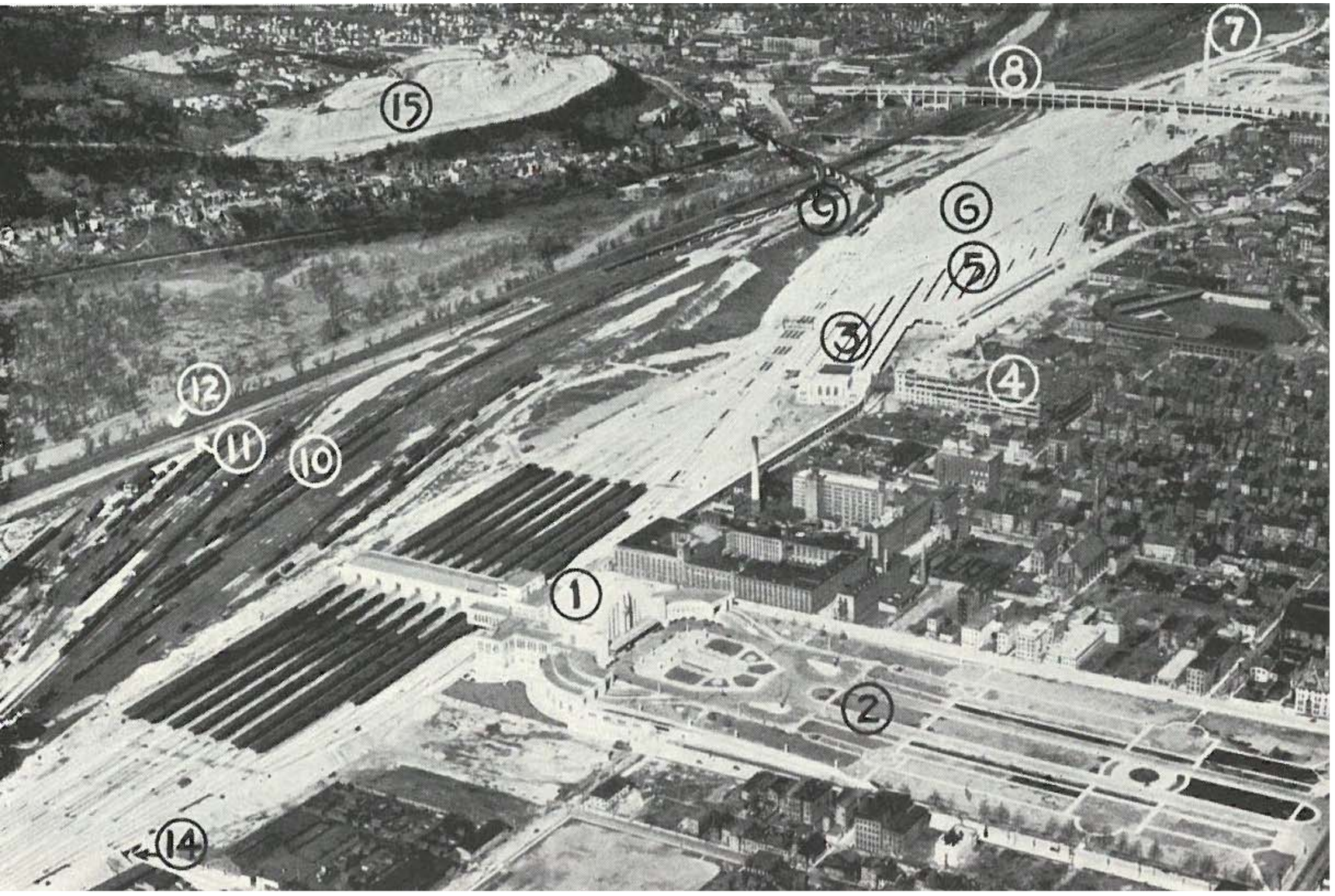
UNION TERMINAL Corporation

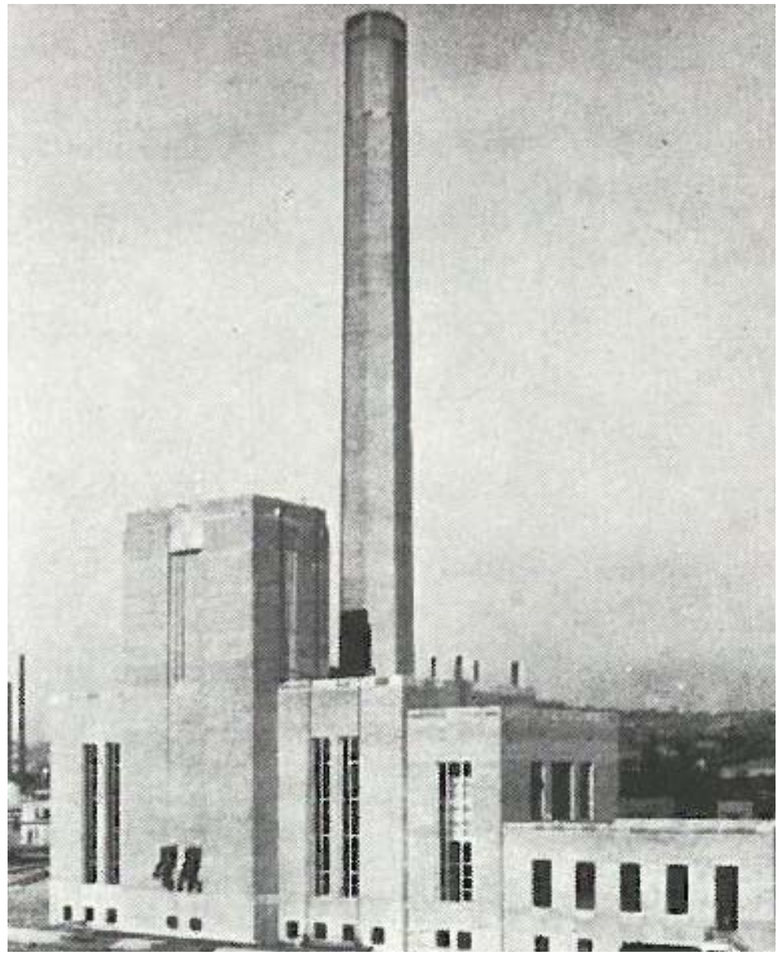
BEFORE UNION TERMINAL MAP OF STATIONS

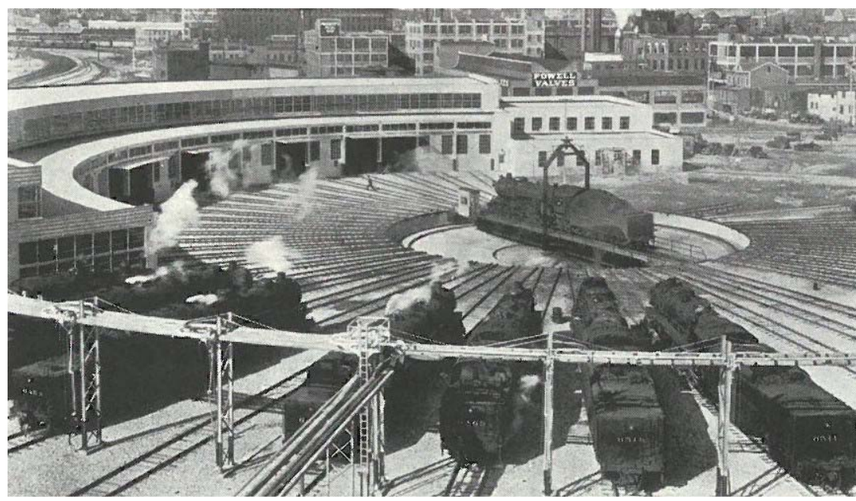


THE UNION TERMINAL COMPLEX

22 BUILDINGS, $41,000,000







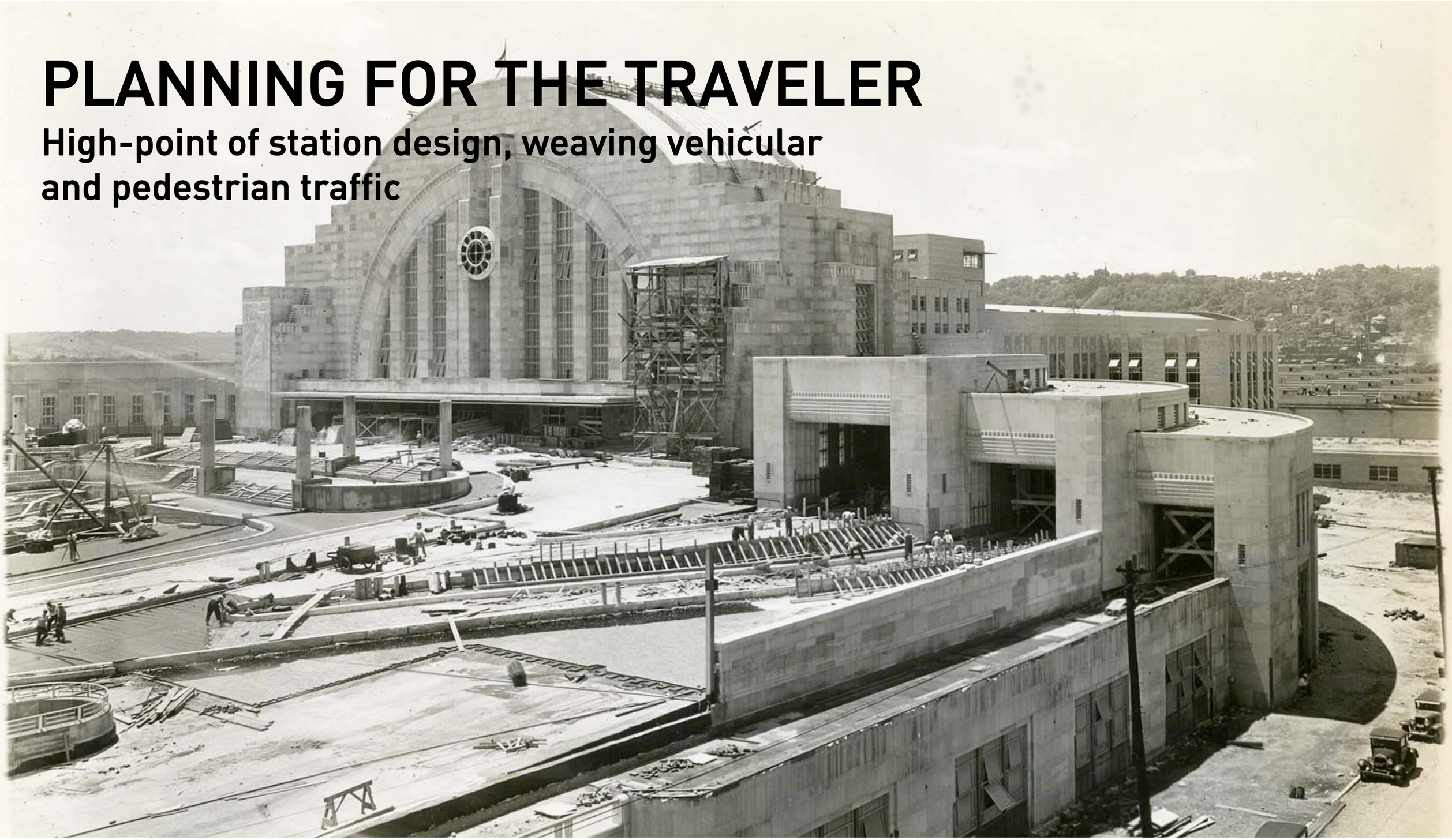
HISTORICAL SIGNIFICANCE

PLANNING FOR THE TRAVELER

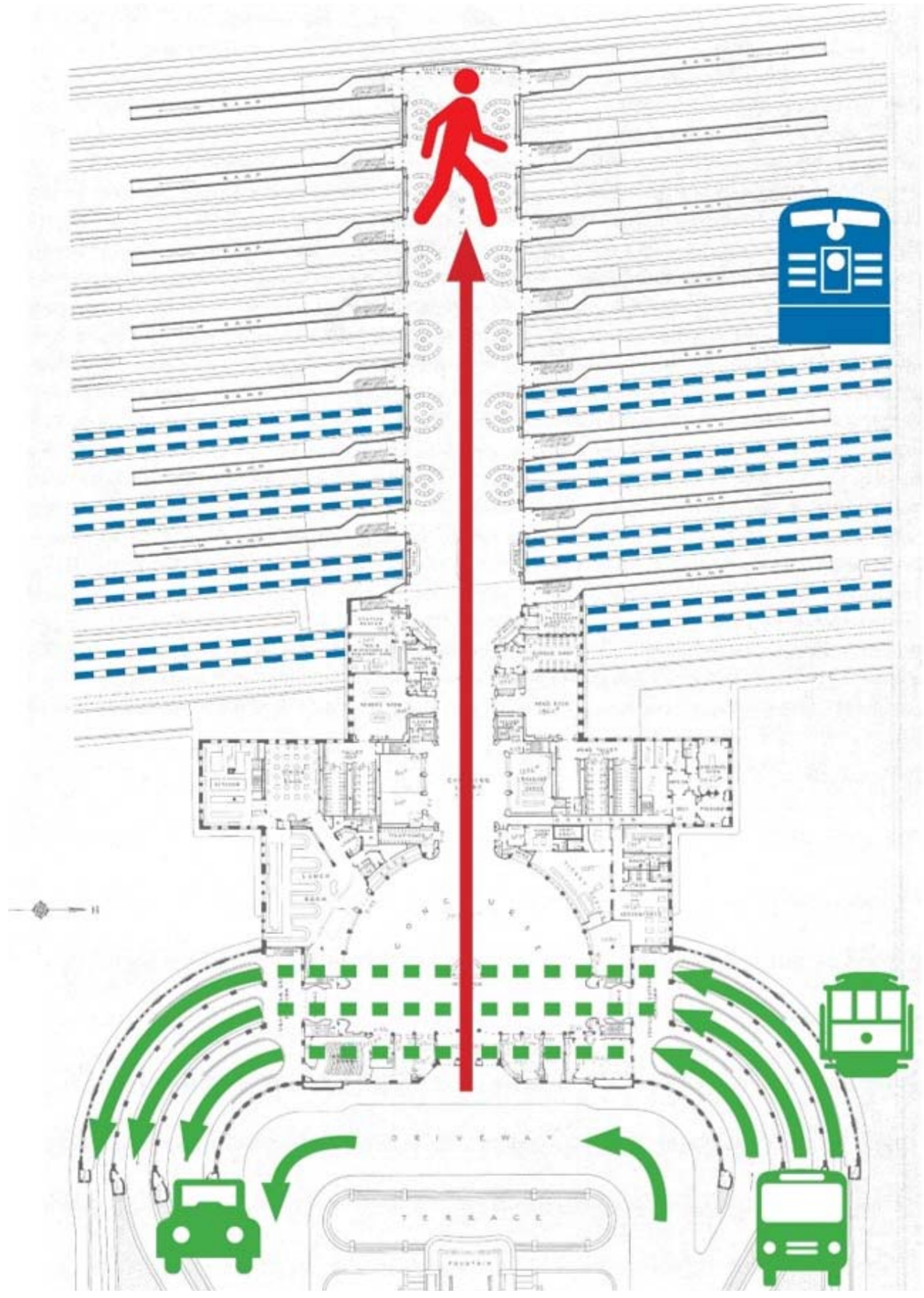
High-point of station design, weaving vehicular and pedestrian traffic

PLANNING FOR THE TRAVELER

High-point of station design, weaving vehicular and pedestrian traffic



VEHICULAR APPROACH



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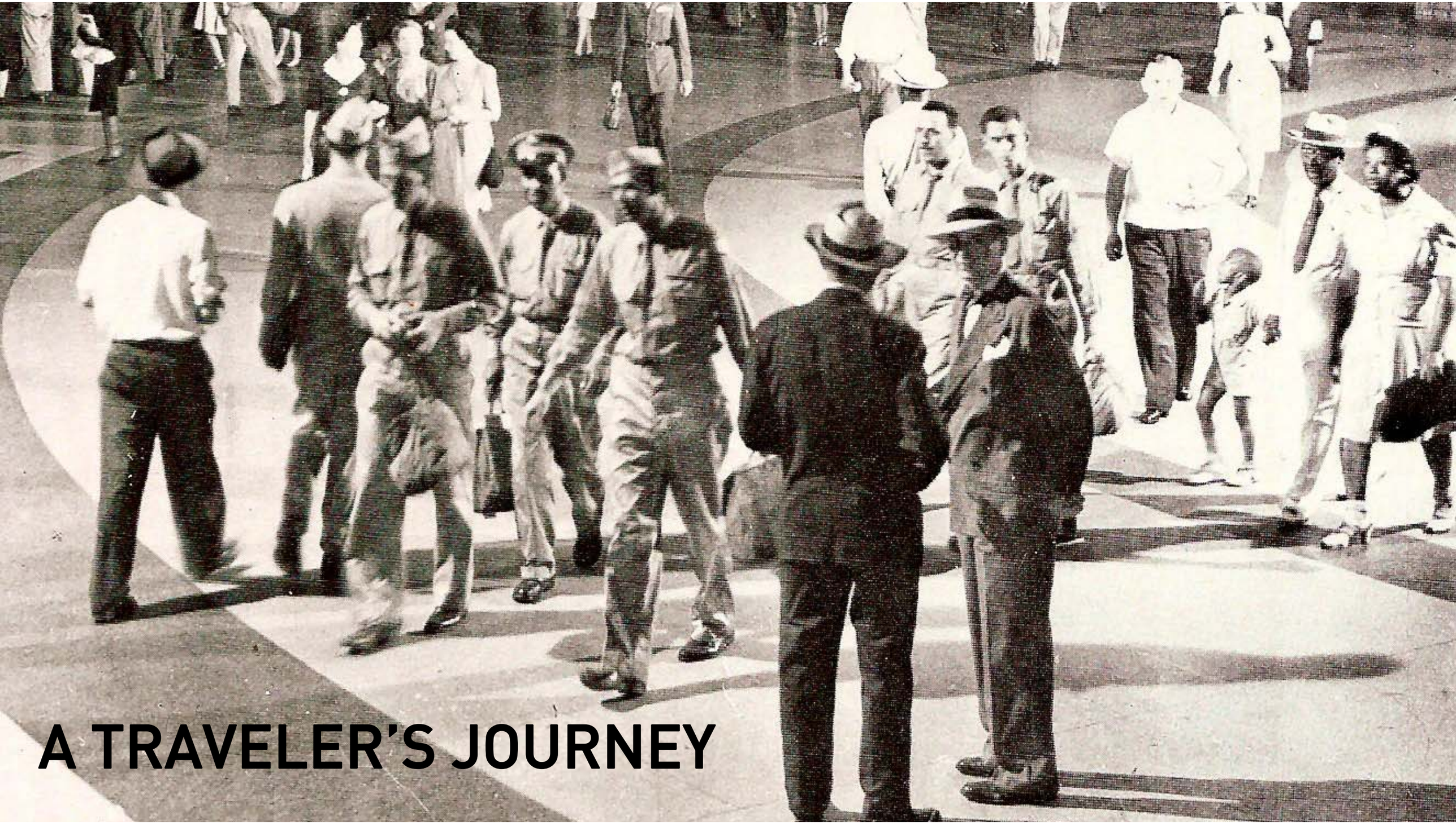
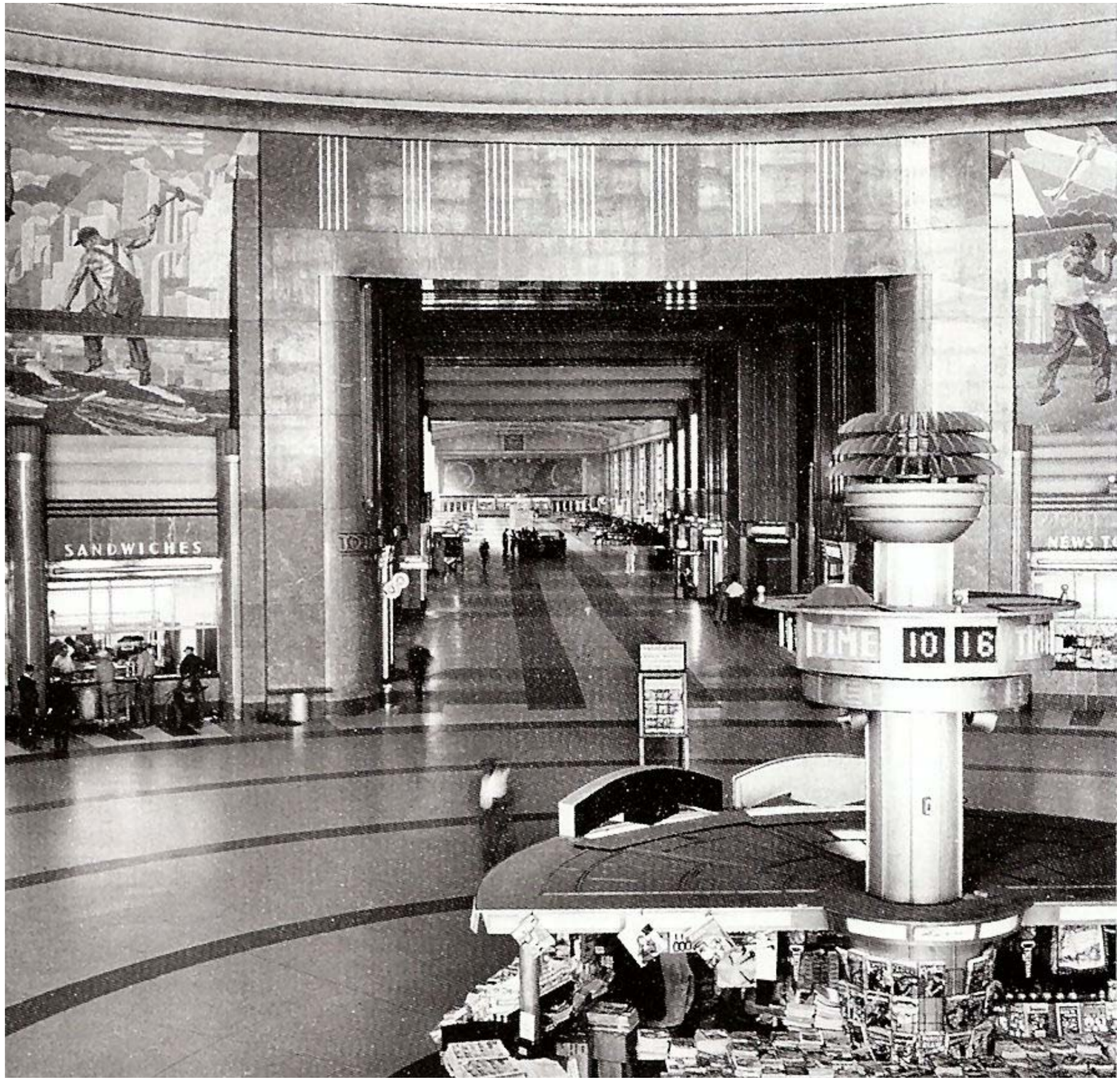


A TRAVELER'S JOURNEY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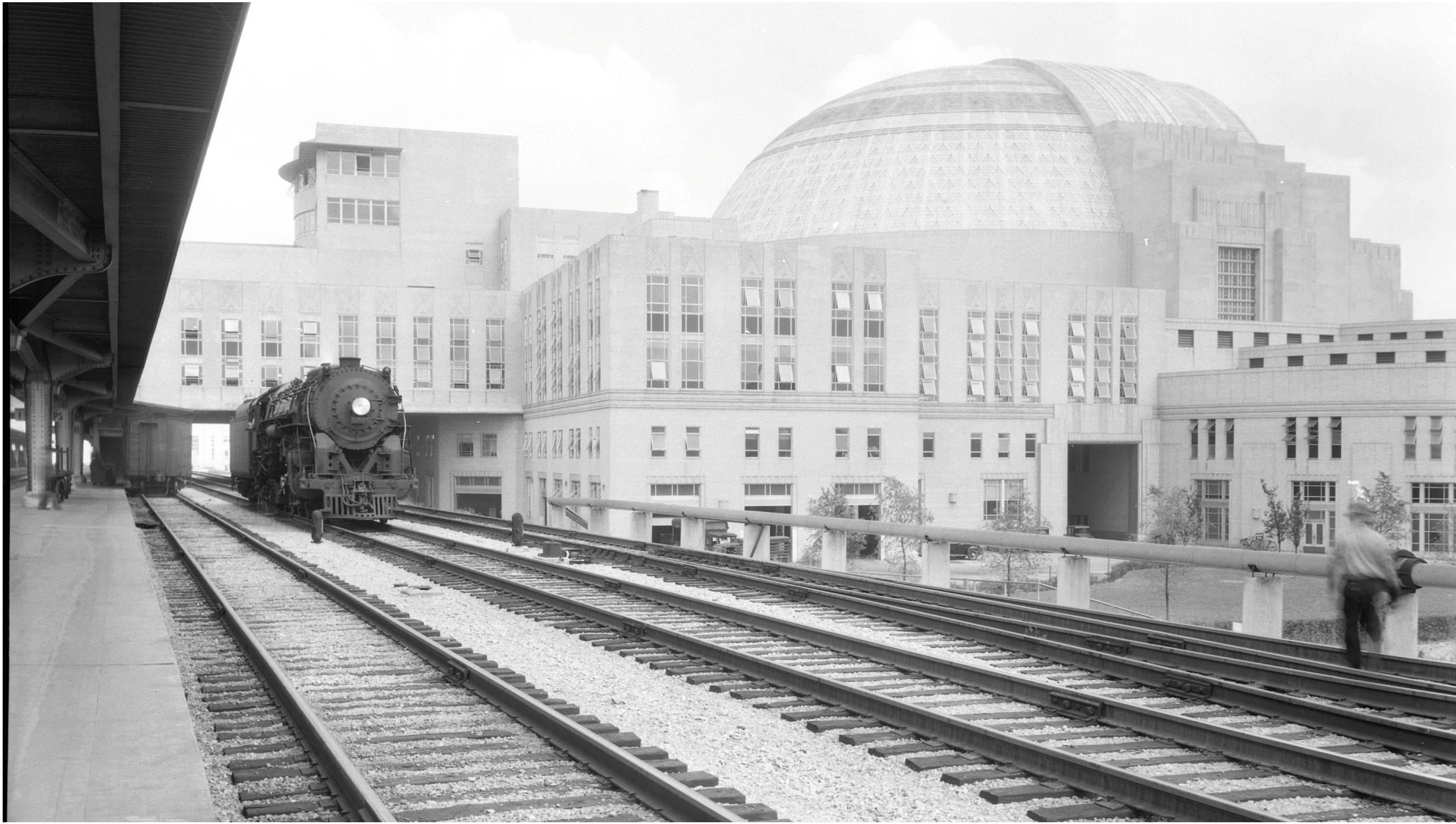
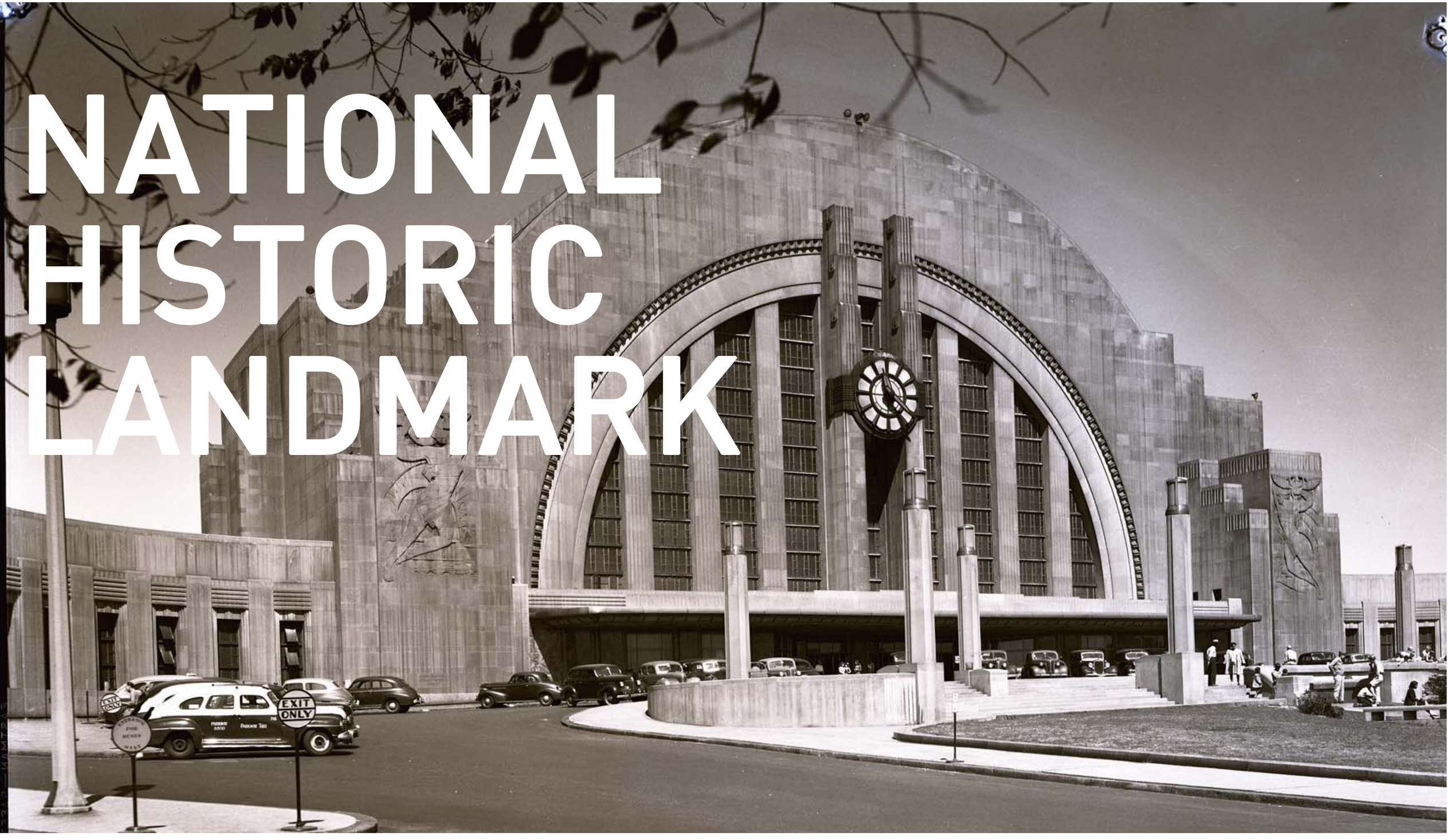


Welcome to Cincinnati!

NATIONAL HISTORIC LANDMARK

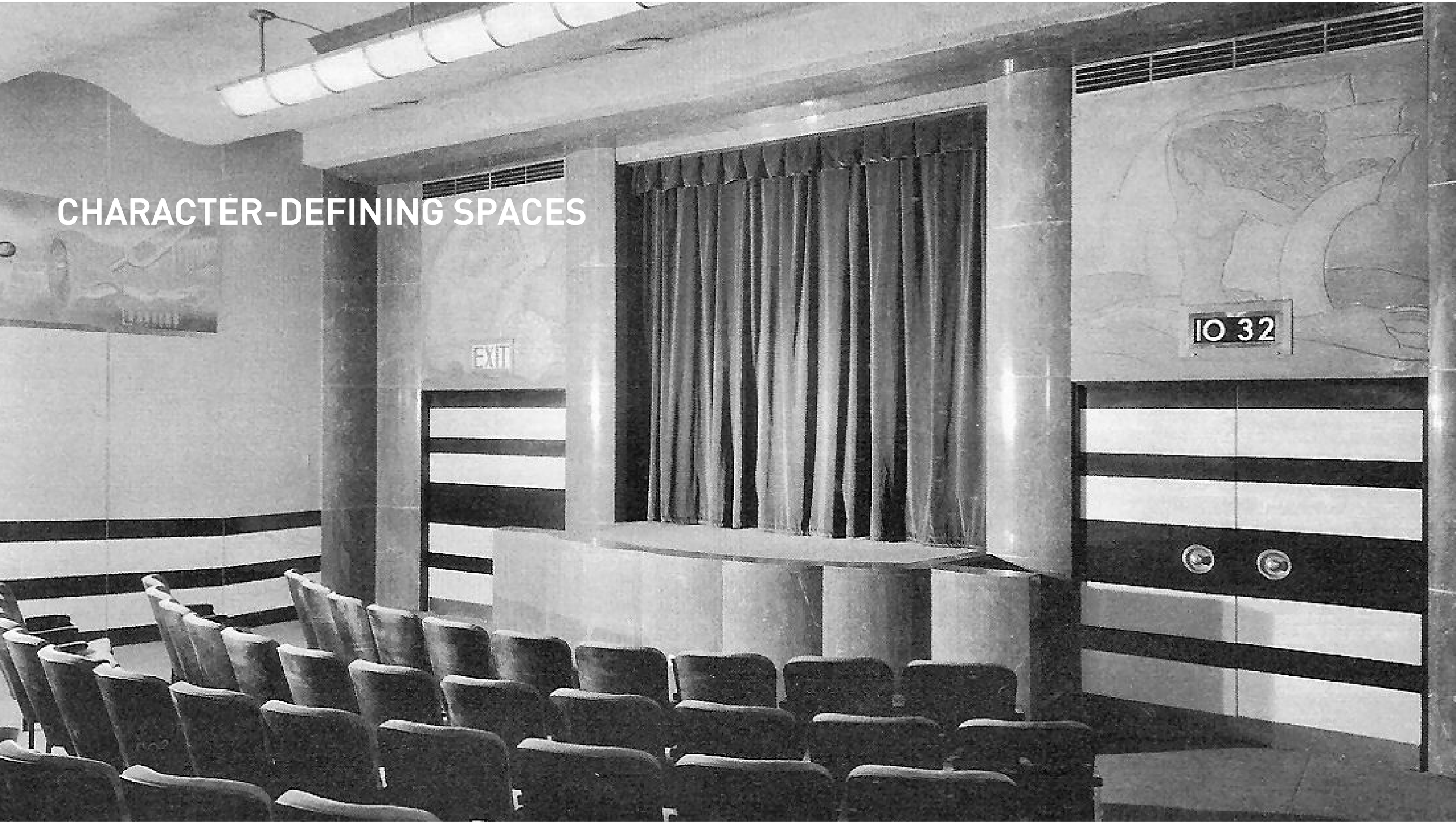


HISTORICAL RESEARCH
TECHNOLOGIES

UNION TERMINAL Corporation

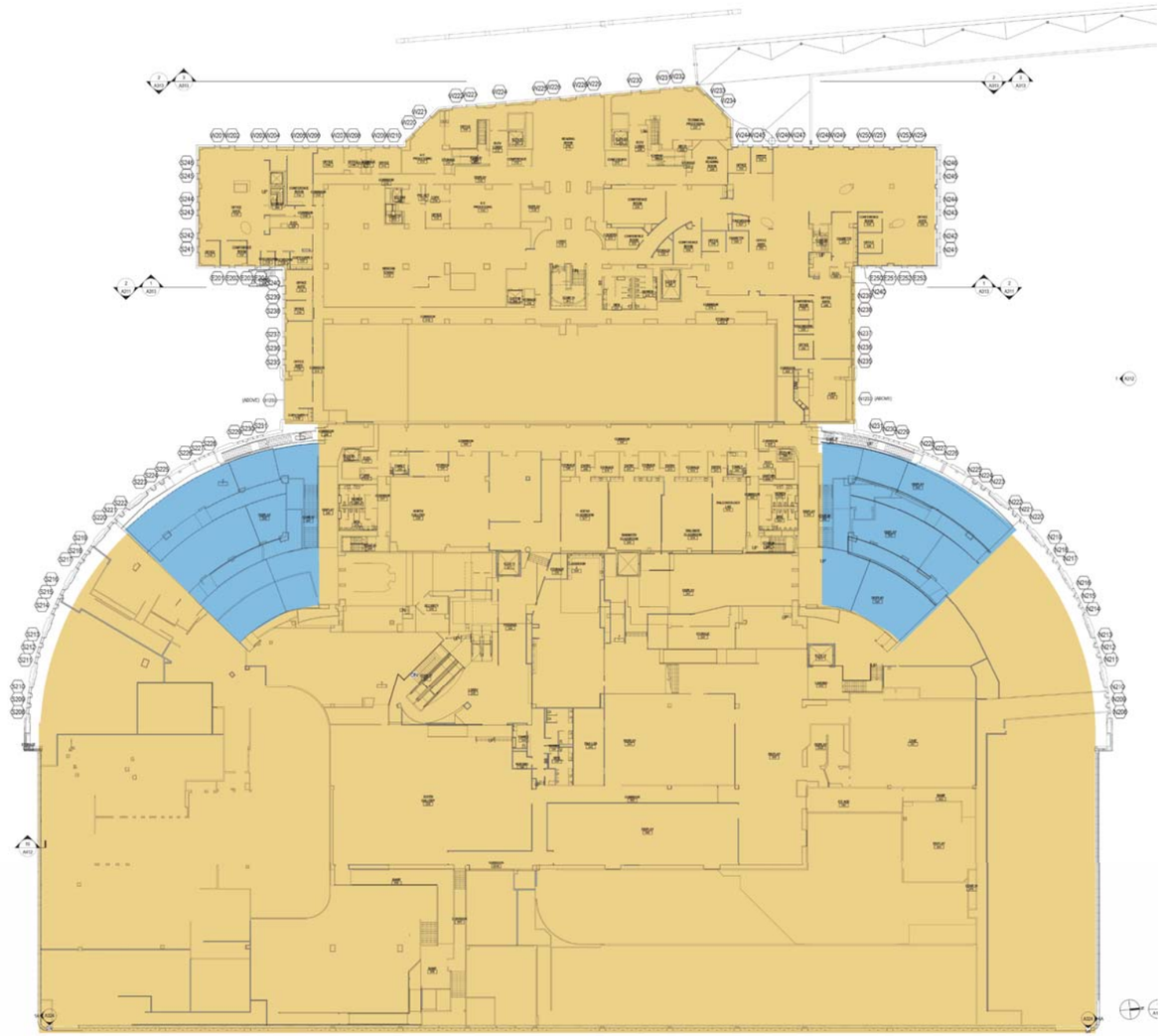
HISTORICAL RESEARCH
CHARACTER-DEFINING SPACES

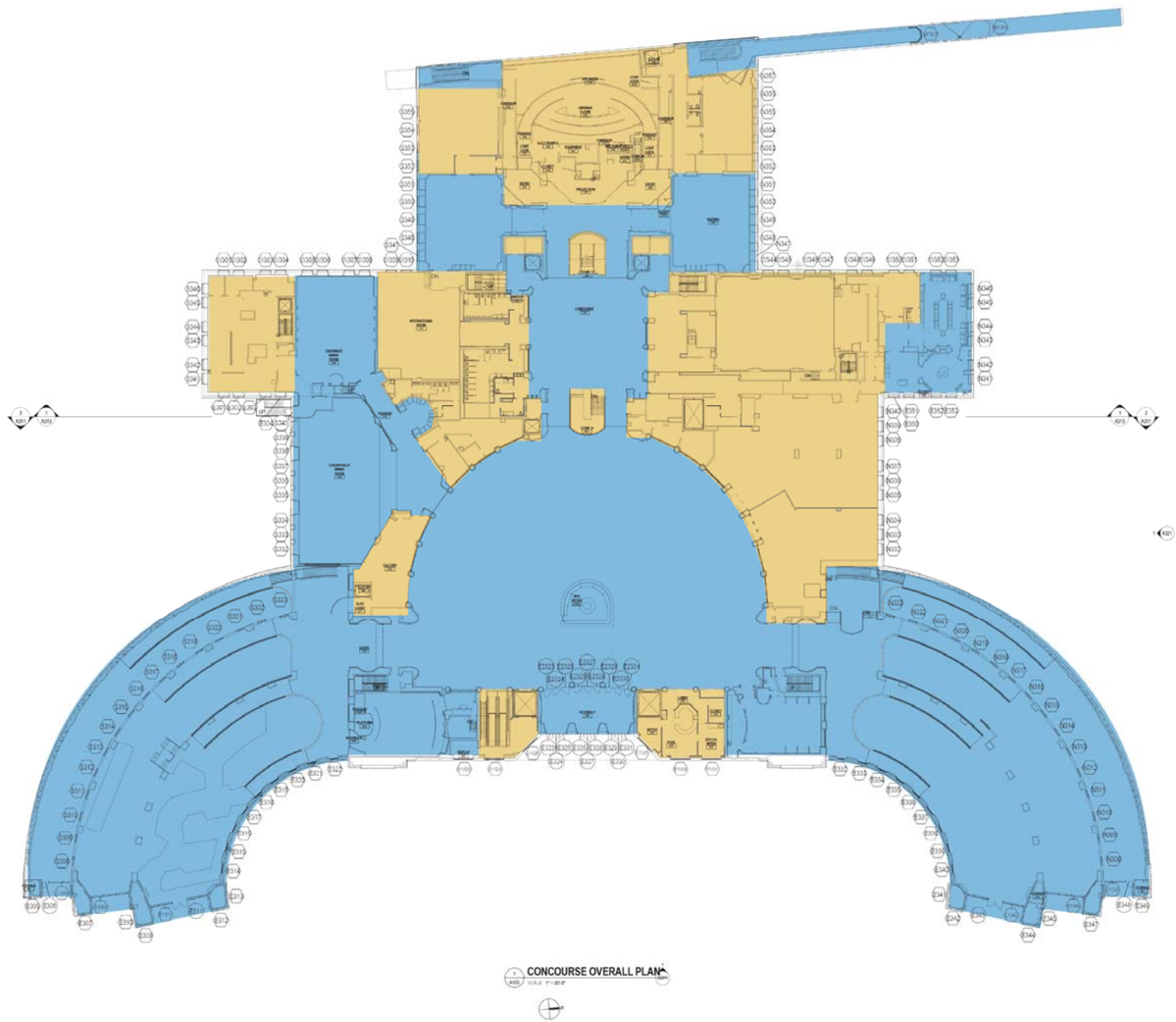
CHARACTER-DEFINING SPACES



CHARACTER-DEFINING SPACES

PRESERVATION AND REHABILITATION ZONES





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Probe: A-11/S-11 Project 1 Parapet

Purpose: Remove portion of brick wall to verify construction of parapet and determine cause of excessive lime leaching.

Findings: Diagonal brick and headers were used to tie the masonry wythes of the parapet together. Existing mortar is mealy in texture. Fabric membrane at roof slab level is deteriorated.

Conclusion: Project One parapets to be partially rebuilt. Remaining brick masonry to receive spot repointing.

Probe: A-12 Upper Office Parapet

Purpose: Remove portion of brick wall to verify construction of parapet to expose structural steel beyond. Determine cause of cracking and brick displacement above upper windows.

Findings: Existing steel framing at the roof level has deteriorated and is displacing masonry. Over 1/2-inch of pack rust was observed on the spandrel beam and the backup brick was displaced outward up to 1 inch.

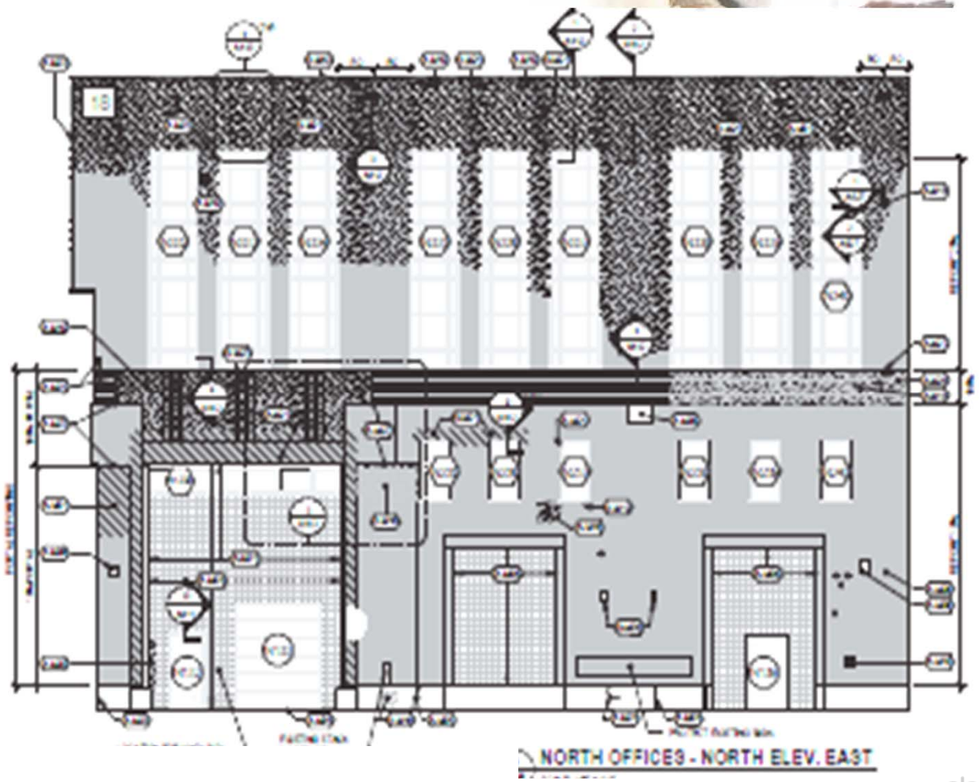
Conclusion: Parapets need to be rebuilt and surface brick properly tied to steel structure and backup masonry. Steel should be exposed, prepared, and painted at parapet locations. Steel should be reinforced at areas of substantial section loss. New waterproofing and backup masonry should be installed.

Probe: A-12a Upper Office Wall

Purpose: Remove portion of brick wall to expose and verify condition of structural steel beyond.

Findings: Existing steel is in good condition, with minor surface rust.

Conclusion: While steel structure at many building corners and parapets exhibit significant rusting, steel structure between these areas does not exhibit the same level of deterioration.



BUILDING DOCUMENTATION

- **REVIT input of 1930's documents**
- **Point-Cloud laser scans of entire building**

3D LASER SCANNING

4.3+ BILLION DATA POINTS

H 1/16" ACCURACY

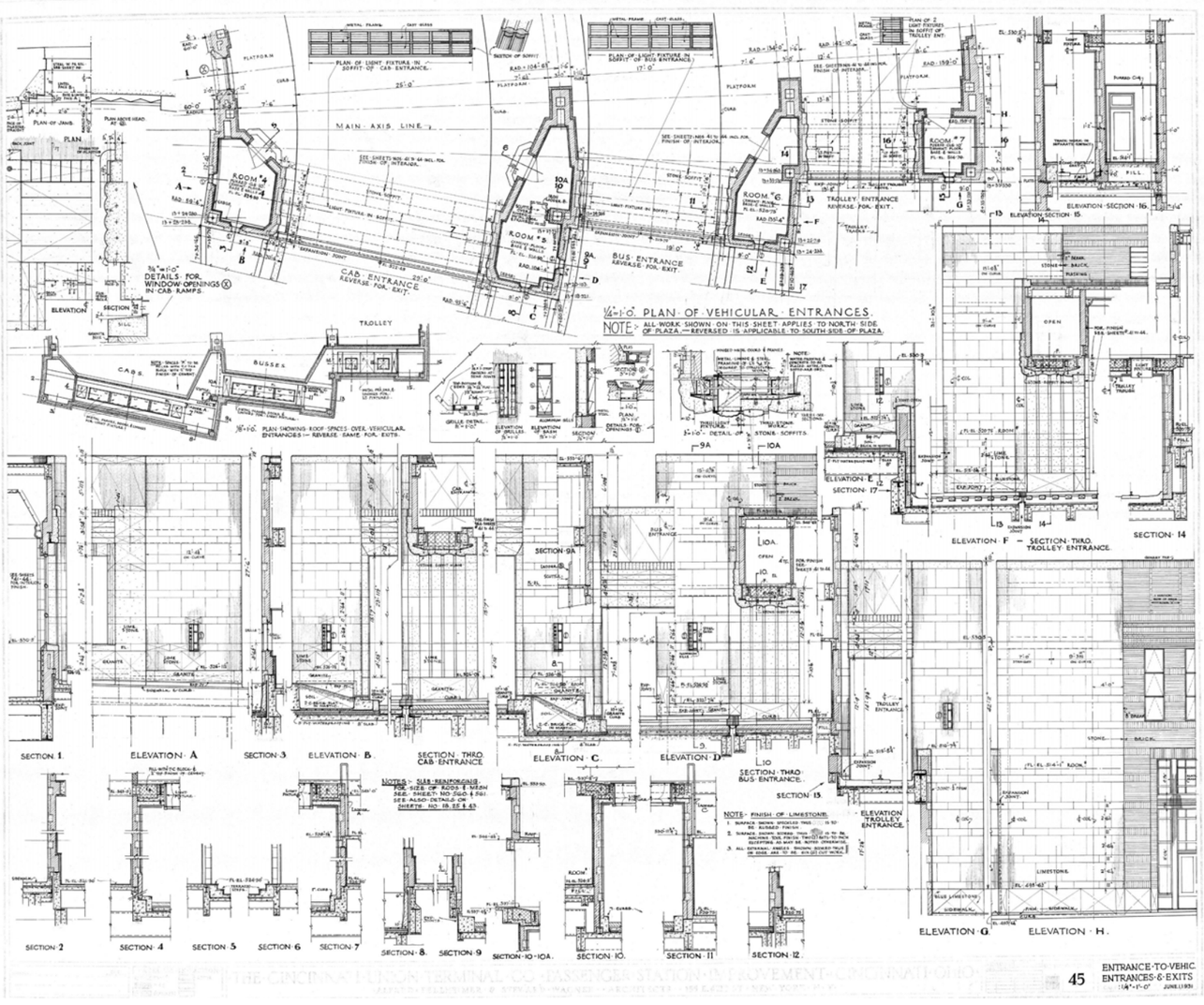
DRONE IMAGERY

2+ TERABYTES DATA IN POINT CLOUD

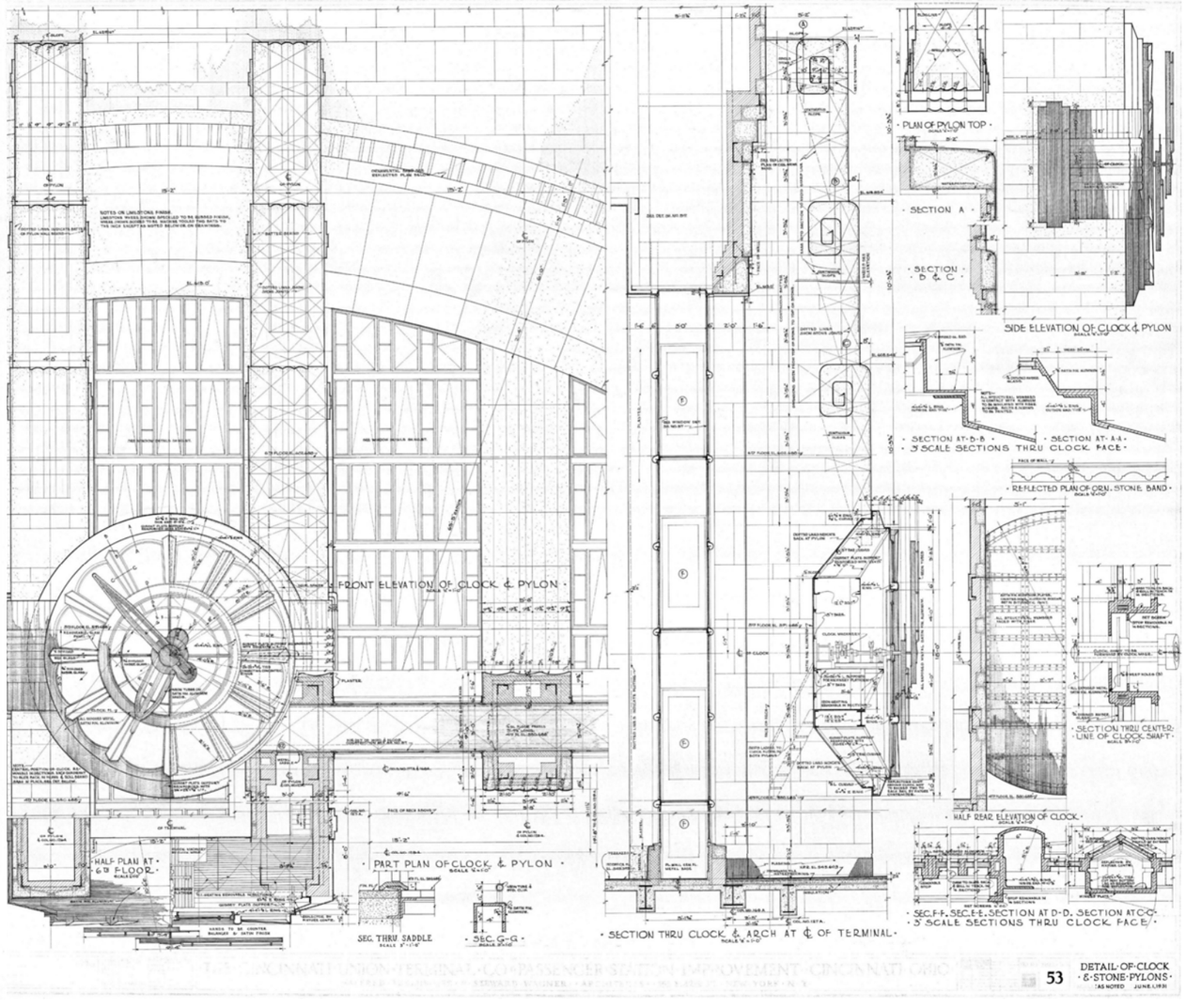
2,300+ SCANNING STATIONS

UNION TERMINAL Corporation

1931 CONSTRUCTION DOCUMENTS



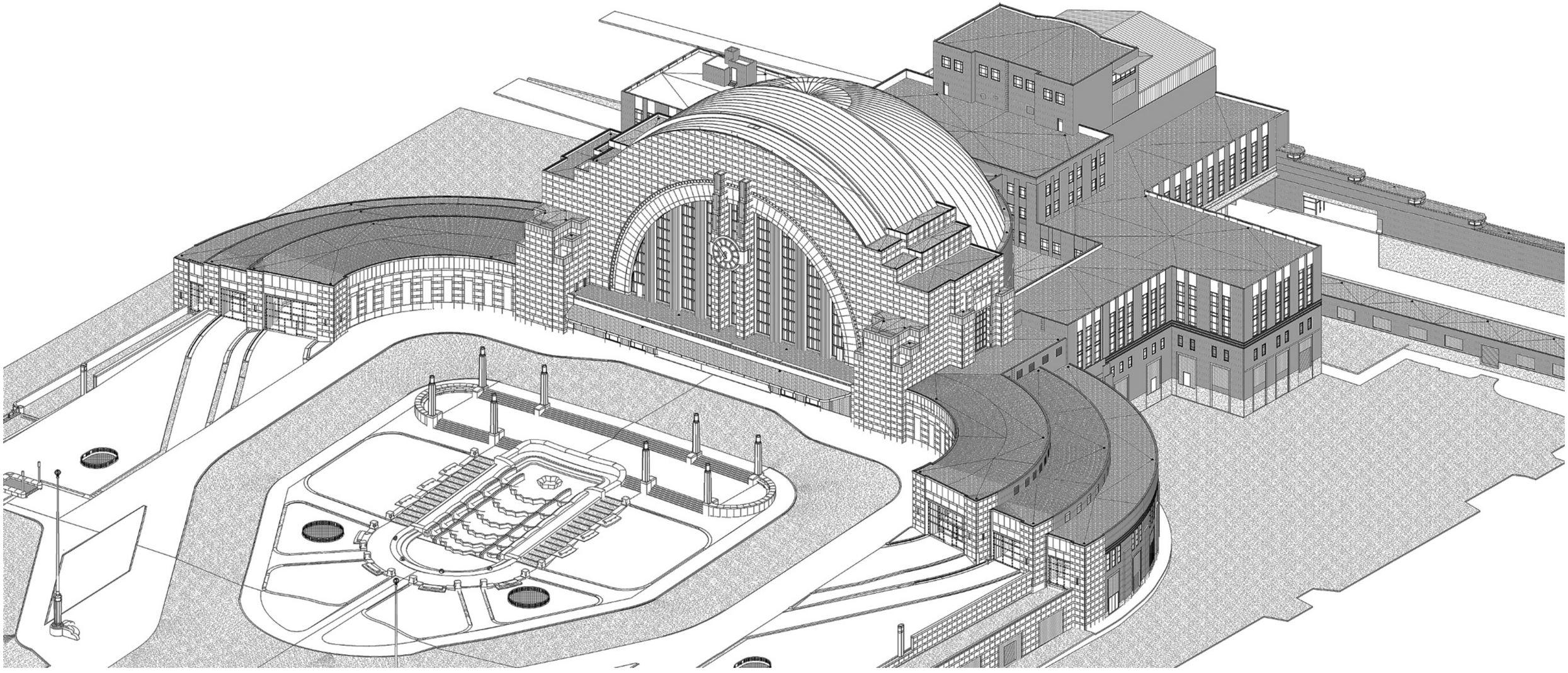
45 ENTRANCE-TO-VEHIC ENTRANCES-&-EXITS 1/4"-1'-0" JUNE 1931



53 DETAIL-OF-CLOCK & STONE-PYLONS AS NOTED JUNE 1931


truescan3D

EARLY EXTERIOR REVIT MODEL



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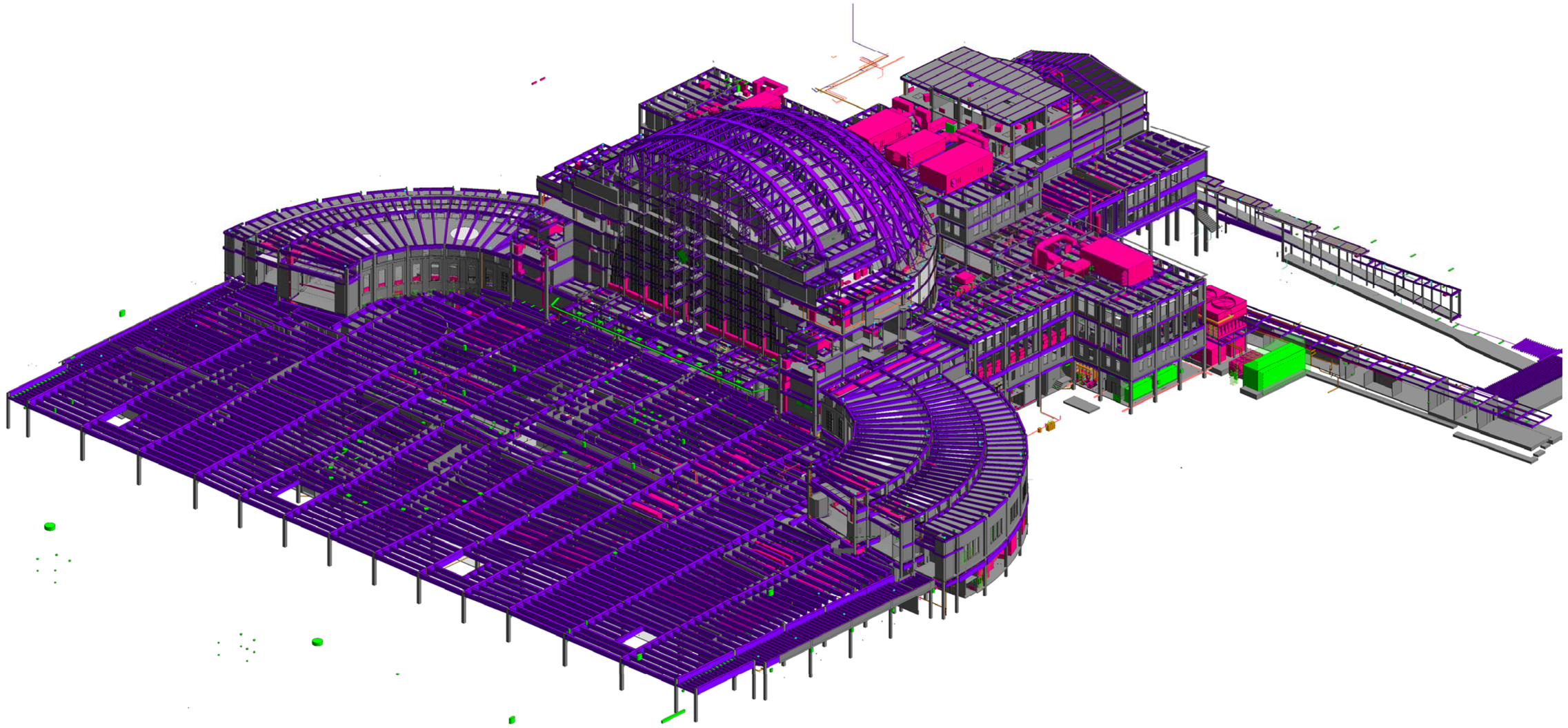
COMBINED MODELS



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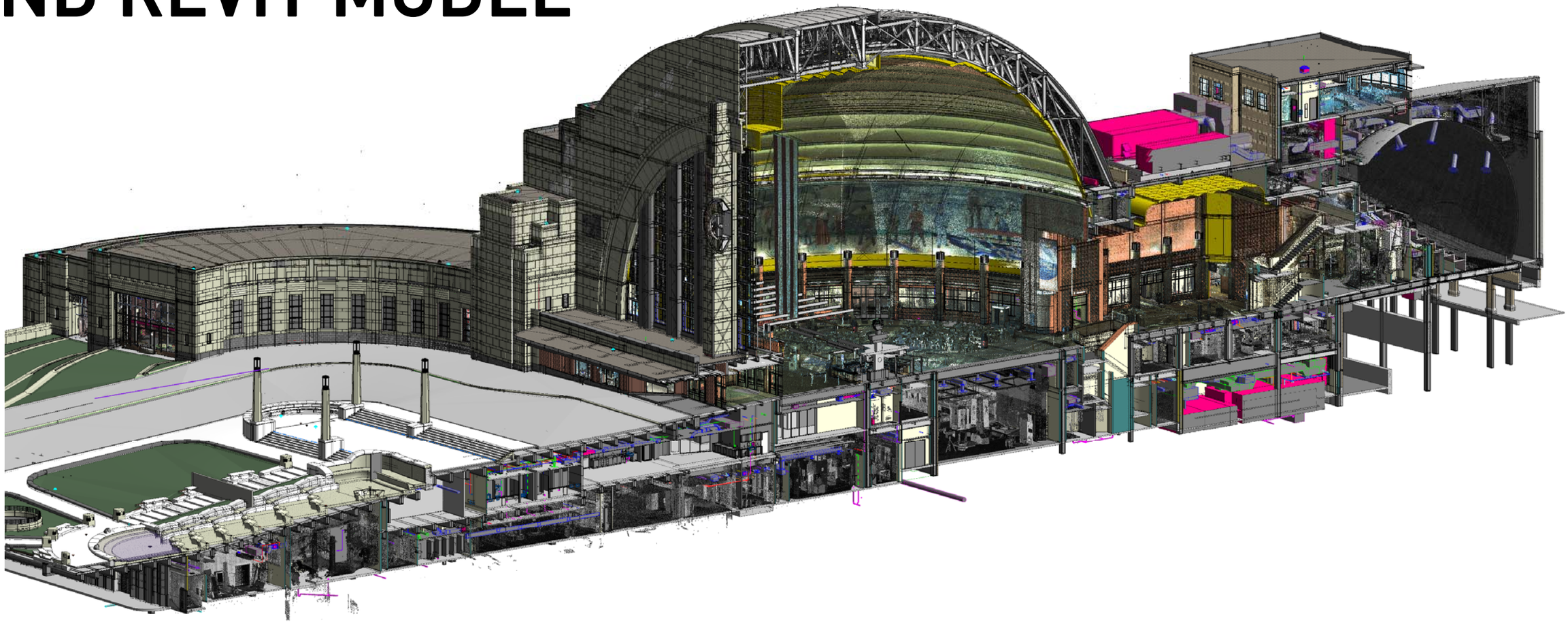
INTEGRATED POINT-CLOUD AND REVIT MODEL



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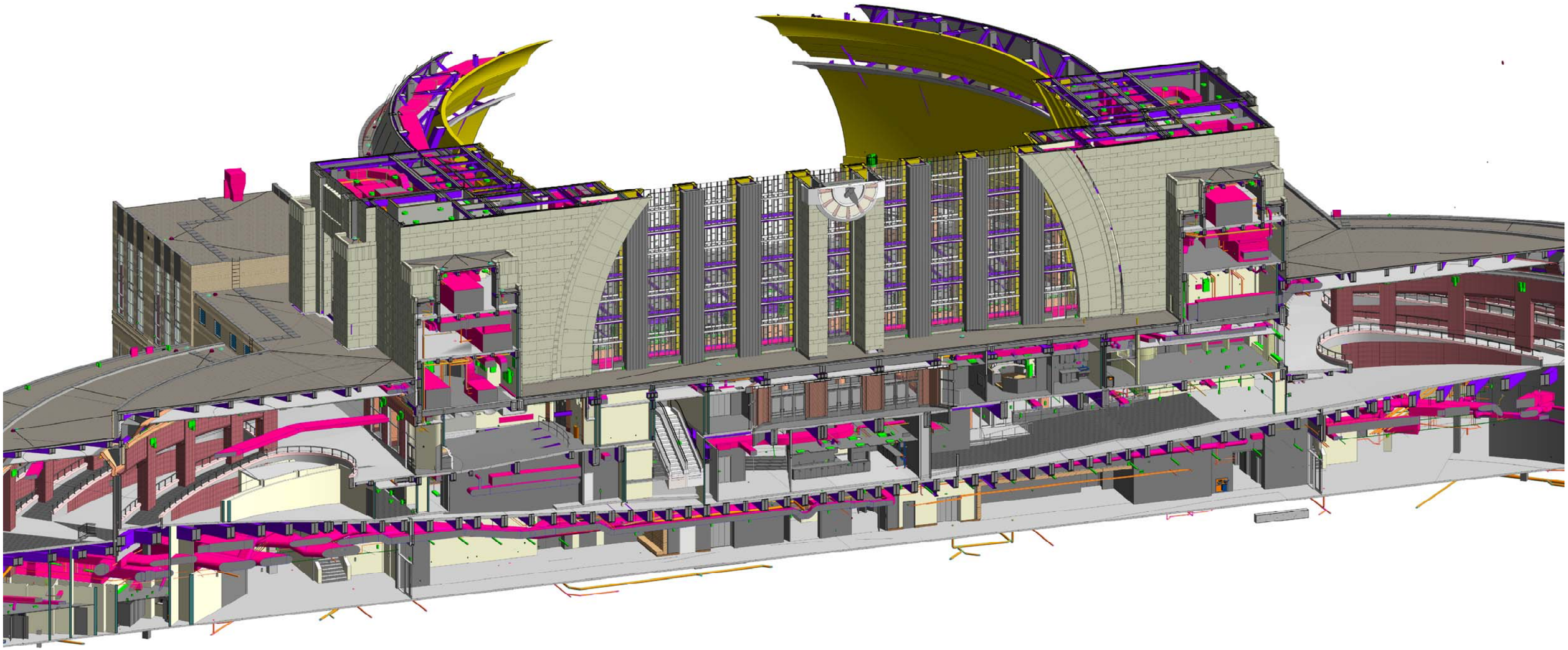
MODEL DETAIL VIEW



UNION TERMINAL Corporation

PROJECT GOALS
VISION AND STEWARDSHIP

1. Preserve the Cincinnati Union Terminal building.
2. Maintain the building's landmark status & maximize historic tax credit resources.
3. Enhance the CMC guest experience.
4. Increase operational efficiency of building systems and CMC staff.
5. Stabilize and increase CMC revenue.
6. Provide for long-term flexibility.
7. Communicate with and engage the regional community.
8. Provide for long-term protection of artifacts and collections.
9. Maintain safety and security during construction.
10. Enhance CMC's standing as an internationally-renowned institution.
11. Provide maximum value within the limits of a fixed budget.

EXTERIOR

Make the building water-tight.

WALLS

WINDOWS

ROOFS

PLAZA
RECONSTRUCTION

BUILDING SYSTEMS

Modernize for efficiencies.

MECHANICAL

ELECTRICAL

PLUMBING

FIRE PROTECTIONS

A/V, IT, SECURITY

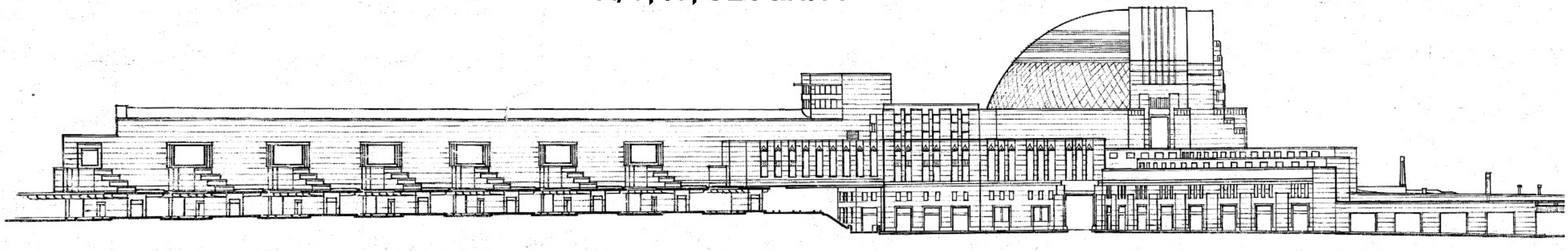
INTERIORS

Improve visitor experience.

HISTORIC PRESERVATION

MUSEUM RECONFIGURATION

AMENITIES



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PLAZA RECONSTRUCTION

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PLAZA RECONSTRUCTION

Decorative Concrete

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EXTERIOR RESTORATION

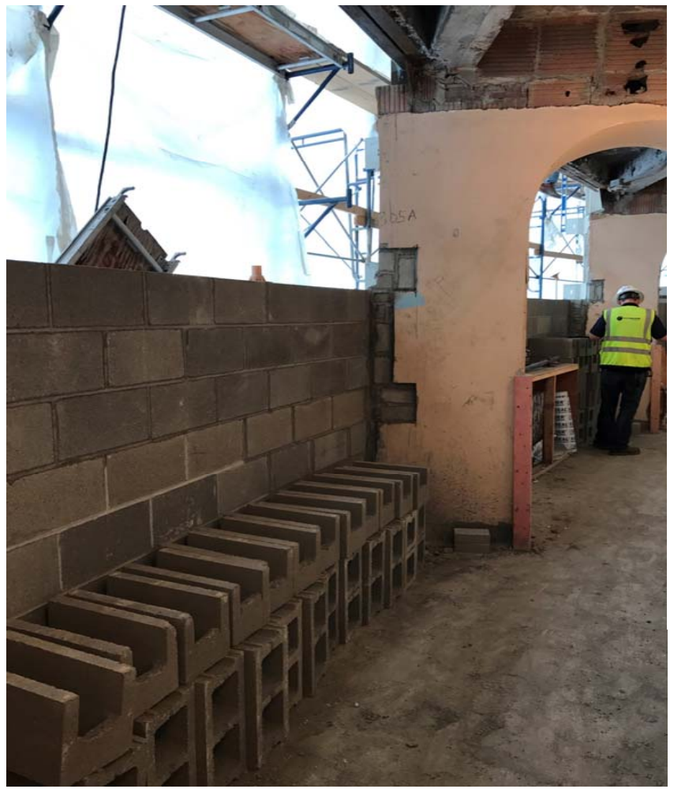
MASONRY CONDITIONS

DRUM WALLS

UNION TERMINAL Corporation

MASONRY RESTORATION

DRUM WALLS



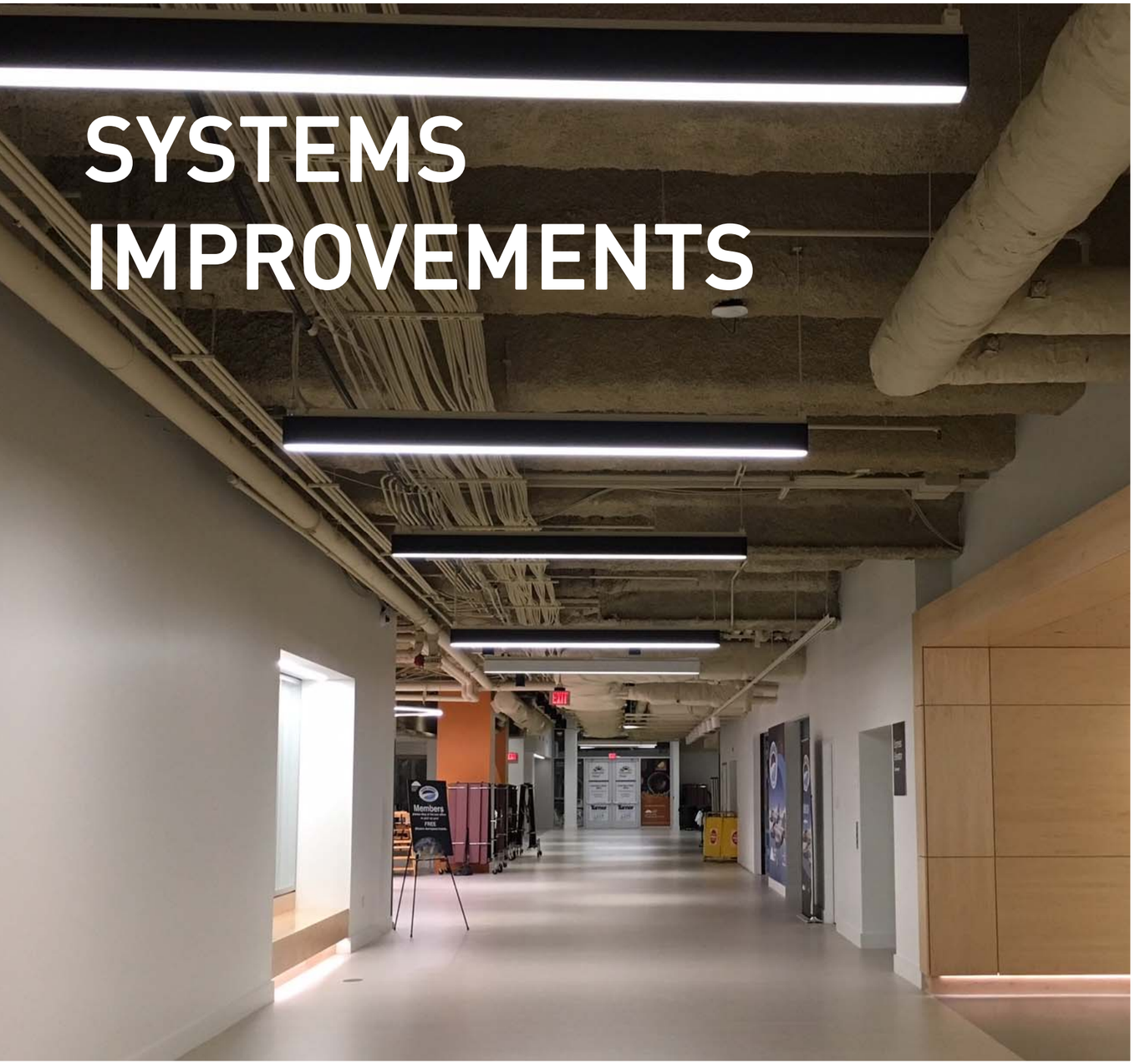
MASONRY AND WINDOWS

UNION TERMINAL Corporation

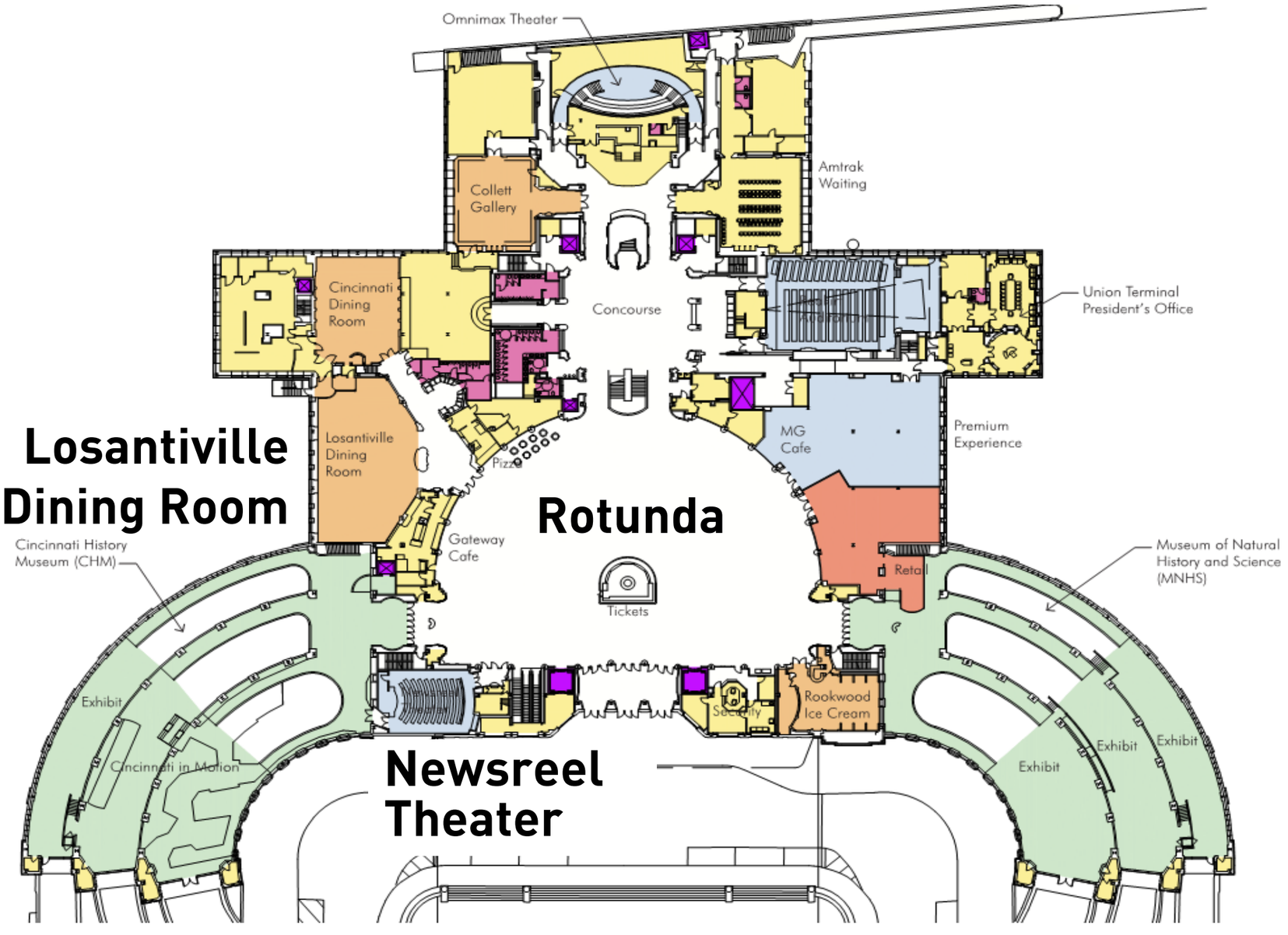
SYSTEMS IMPROVEMENTS

UNION TERMINAL Corporation

SYSTEMS IMPROVEMENTS



RESTORATION



ROTUNDA

UNION TERMINAL Corporation

LOSANTIVILLE DINING ROOM

NEWSREEL THEATER

NEW LOBBY SPACES

NEW GALLERIES

DINOSAURS

THANK YOU