Present layout is a lack of natural ventilation.

Mechanical system is the primary source of heating and cooling.

Little logic to where one museum stops and another begins.

Nearly all the historical building spaces are on the concourse level.

No recognizable landmarks on lower floor and maze-like spaces.
Establishing an Identity for the Cincinnati Museum Center

THE NEEDS FOR ESTABLISHING

Material Language
In order to create clarity in circulation and program, a clear and consistent materials palette should be implemented.

Rearrange Program
The Louvre is an example of the clarity and identity gained through creating a central lobby and circulation spine.

Vertical Circulation
In order to create clear relationships between the rotunda and the lower levels it is essential to establish a visual connection. A central circulation element serves as a linkage between two different spaces and programs.

Circulation
Circulation at present works fairly well on the rotunda floor but becomes maze like on the lower levels.

Rearrange Program
To help solve this problem it makes sense to consolidate and better zone the museums to make them more legible.

Circulation
A new lobby would clarify circulation. Also placing this control point below the rotunda is essential if the CMC is to expand north and south, because there are many historic rooms on the first floor.

A NEW CONCOURSE
The power of the design lies in the representation of where the concourse used to be. The steel structure serves as a framework for the modular platforms, but it also physically represents the location of the old concourse. In creating this framework an understanding is created. In creating a structural framework it is possible to phase in the platforms of the concourse through the modular insertion of pieces.

BOLD GESTURE TO ESTABLISH NEW IDENTITY
Any analysis of the building will yield that the lower levels are confusing, poorly lit and poorly ventilated. Establishing a new museum lobby below the rotunda helps to clarify the circulation of the museums while working to create an identity of their own. Creating a new identity for the museums in the lobby below the rotunda is an essential step in returning the historic identity of the terminal to transit.
Re-Envisioning
Museum Connections

Trevor Jordan

PROCESS

EXISTING
Diagram indicates Rotunda as main node with limited visual and physical connections to other museum spaces.

NEW PROGRAM
This diagram illustrates the chain reaction caused by inserting a new program node at the rear of the building. Connections to spaces become more fluid and vertical spatial connections are emphasized.

PROGRAM
The Omnimax is located on the uppermost floor of the addition. A new Children’s Museum connects to the added Science Museum. Spaces share a dialogue with the historical railyard with a pedestrian bridge spanning the length, connecting to the MillCreek Project.

MUSEUM ADDITION
CINCINNATI MUSEUM CENTER

Union Terminal Museum Center | Pavlo Kryvozub

- Wind turbines (sustainable energy)
- Skylights (natural daylight)
- Wall structure (galleries)
- Vegetated wall and roof (concours)
- Glass passages (circulation)
- Omnimax
- PV array (sustainable energy)
- Canopy

Side facade

Main facade

Back facade
Connecting the Community  Luke Laverty

GOALS

Major
* Connection to community
* Activate streets (Kenner, Hopkins, and Dalton)
* Focus on museum transit: schematic

Minor
* Zero energy
* On-site storage and parking
* Open east facade to Lincoln Park

Connectivity diagram
To fully activate Lincoln Park, it must be accessible from all directions, both visually and physically. Yerba Buena Gardens is a successful example of making a 1960s public space on a plinth accessible vertically, horizontally, from surrounding streets, and neighboring buildings.

Circulation (distance traveled) diagram
Existing circulation in the Cincinnati Museum Center twists and turns through the basement; this proposal aims to simplify circulation with two linear arms and then crosses Lincoln Park.
The City of Cincinnati receives over 6.7 million tourists seeking ‘active’ vacations

DCI ’09

61% of Cincinnatians are either overweight or obese

3CDC

100 bicycles can be produced for the energy and materials it takes to build a medium-sized car

Associated Press

Nearly 50% of all trips are within 2 miles of the home

Nationwide Personal Transportation Survey

294 miles of signed bike lanes are planned for 2025

City of Cincinnati Transportation

In order to successfully establish itself as a bicycle friendly place, Union Terminal must provide basic amenities and information for its visitors.

The image stresses for the application of simple bicycle racks in front of the building. This simple step can be a starting point that can draw attention to Union Terminal’s dedication to a better, healthier city of Cincinnati through cycling.

The benefits of cycling are endless, but none of those benefits can occur if there is not a committed and self-sustaining entity present.

The city of Cincinnati has the advantage of having 11 National Historic Landmarks, 7 of those within 2 miles of Union Terminal. In order to become sustainable, there must be a unified network between these, and other attractions within the downtown area. By establishing a strong connection with these places, as well as the University of Cincinnati in Uptown, a system of safe, enjoyable, and appealing destinations will be able to attract more visitors while simultaneously strengthening the bond with native Cincinnatians.

Union Terminal can benefit greatly from recognizing and establishing itself as a member of a larger community that is dedicated to the overall advancement of the city of Cincinnati.

As a final ideal vision, Phase 3 establishes within Union Terminal a bicycle center that serves and promotes the envisioned cycling community of Cincinnati. Equipped with all the amenities an avid, recreational, or amateur rider may need, the Union Terminal Bike Station is essentially a One-Stop shop for cyclists.

Located on the Mezzanine Level, riders enter through a renovated tunnel that allows direct access into the heart of the building.

From there, riders can store their bikes in a expansive, yet secure storage facility, rent, buy, or repair their bike in the Bicycle Shop. They can also tour the bicycle museum or gallery cafe housing local artists work.

The final component is the learning center that has large conference and classrooms inside along with an outdoor training area so visitors can become educated through academic and real-world experience.

The Union Terminal Bike Station is a vision for the future that places cycling at the heart of the city.
Creating a Sectional Experience

Using the Fountain and the Spiral Stair to create a connection from the Lower Level to the exterior.

Revealing the Bike Ramp in order to create understanding and orientation in the building.

Using all three of the new architectural elements to enhance daylighting and air circulation in the building.
INTRO
CINCINNATI MUSEUM CENTER

OUR VISION + GOALS

1 CULTIVATE SUSTAINABLE LIVING  2 PROMOTE ECONOMIC MOMENTUM  3 IMPROVE ENVIRONMENTAL HEALTH
4 SUPPORT EDUCATION, ARTS + CULTURE  5 ESTABLISH INTER CONNECTIVITY  6 ENHANCE URBAN SAFETY + IDENTITY

PROJECT DYNAMICS

PRECEDENT EXAMPLES

Seattle Sculpture Park  Stairspace: Urban Theatre Concept  Sustainable Highway Design

SUSTAINABLE MEASURES

18 Broadway: Modular Agriculture + Overall Sustainable Vision

ECO BOULEVARD

Chicago Urbanlab: Green Infrastructure that Engages people
**WHY OUR WATER MATTERS**

*If all the Earth’s water fit into a gallon jug, the fresh water available for the world would equal only about a teaspoon.*  
*Environmental Protection Agency*

*Two out of every three people in the world will be facing water shortage by 2025 … global conflict will inevitable result.*  
*United Nations*

*Over 9,000,000,000 gallons of polluted water is dumped into the Mill Creek annually.*  
*Streams in the watershed don’t meet bacteria standards during dry or wet weather.*  
*Metropolitan Sewer District*

**EZZARD CHARLES: UPDATED SECTION + PLAN**

- **Infill**
- **Median Bioswale**
- **Storm Water Infiltration Planters**
- **Added Street Trees**

---

**59 COMBINED SEWER OVERFLOW’S**

- 7 BILLION GALLONS / YEAR

**URBAN STORM WATER RUNOFF**

- 2 BILLION GALLONS / YEAR

**SANITARY SEWER OVERFLOW’S**

- 10 MILLION GALLONS / YEAR

---

**WHY OUR WATER MATTERS**

If all the Earth’s water fit into a gallon jug, the fresh water available for the world would equal only about a teaspoon. *Environmental Protection Agency*

Two out of every three people in the world will be facing water shortage by 2025 … global conflict will inevitable result. *United Nations*

Over 9,000,000,000 gallons of polluted water is dumped into the Mill Creek annually. *Streams in the watershed don’t meet bacteria standards during dry or wet weather.* *Metropolitan Sewer District*

---

**EZZARD CHARLES: UPDATED SECTION + PLAN**

- **Infill**
- **Median Bioswale**
- **Storm Water Infiltration Planters**
- **Added Street Trees**

---

**WHY OUR WATER MATTERS**

If all the Earth’s water fit into a gallon jug, the fresh water available for the world would equal only about a teaspoon. *Environmental Protection Agency*

Two out of every three people in the world will be facing water shortage by 2025 … global conflict will inevitable result. *United Nations*

Over 9,000,000,000 gallons of polluted water is dumped into the Mill Creek annually. *Streams in the watershed don’t meet bacteria standards during dry or wet weather.* *Metropolitan Sewer District*
CONCEPT PLAN

BIRDS EYE
Site Bridges | John Peet

PLAN VIEW

existing railing

new rail storage and loading area

pedestrian walkway to mill creek

exhibit and recreation space

passenger rail buffer zone

CMC

PRECEDENTS

landscaped overpass proposal

highway median turbines

outdoor art exhibit space

simulation of highway wind turbines
District Corridor | Vandewalle Jurgen

LINCOLN PARK

LAUREL GARDEN

MODEL LINCOLN PARK
Lincoln Park was designed as a cricket and baseball park in 1856. Surrounded by a dense residential environment, the park quickly became a haven for city dwellers. The park prominently featured a pond where urbanites came to bask in the summer sun and skate on an ice pond in the heart of winter.

The park was entirely altered after the construction of Union Terminal in 1933. Lincoln Park was regraded for construction purposes to alleviate the risk of flood. The grading done at the time of construction is the same grading that can be seen today. With the regrading came a change in the layout of Lincoln Park. An axial road was added as a grand entrance to the terminal, a major change from the large body of water.

Interstate 75 allowed for increased accessibility to the site, creating the need for more parking. Lincoln Park is now covered with a large parking lot that accommodates up to 1,000 cars for the Museum Center, which moved into the Terminal in 1990. The park is no longer pedestrian friendly nor is there a public space for people to gather as they once did.

Shifting densities, cultural values, and paces of life have created the need to rethink the land use of what used to be Lincoln Park. We seek to restore the values instilled by this park in ways that are relevant to today’s needs. This includes being sustainably-oriented, in terms of human use and environmental impact. In doing so, we have addressed the following priorities: education, parking, public space, pedestrian-oriented, productive green space, zero energy, zero waste, and zero water.
**GENERATIVE LANDSCAPE**

**LIVING MACHINE**
+ electrogenic bioreactor
+ constructed wetland

Old Trail School, 2009
Bath, Northern Ohio
5,000 gallons treated daily
(livingmachines.com)

**BIKE SHARE**
+ lockers & showers

McDonald’s Cycle Center
Millenium Park, Chicago, IL
(ickr)

**AMPHITHEATER**
+ stage

View from Liberty Memorial
Kansas City, MO
(thekansascitystar.com)

**MIXED USE**

Newbury Street, Commercial with Residential Above
Boston, MA
(mspa nasp 2009)
RESTORATIVE LANDSCAPE

A landscape that either returns the site to its natural setting, heals the landscape, or a landscape that teaches about natural processes. But why just stop at one? Why can't a landscape achieve all three? This plan takes its inspiration from the natural course of the Mill Creek to bring a unique feature to Union Terminal: capture and retention of runoff, filtered naturally through a constructed wetland. That way, the landscape produces clean water, teaches about natural water filtration, produces food (through nine greenhouses), and returns the leftover clean water to the Mill Creek—a solution where everyone benefits.
**URBAN EDUCATION**

An educational landscape can celebrate the terminal’s location within the city. The museum center can be used to its advantage for educating the public about the environment, within the environmental setting, concerning interaction and balance within the urban context.

**SITE PLAN**
INTRO
CINCINNATI
MUSEUM
CENTER

ECO DISTRICT

GOALS

1. Improve ENVIRONMENTAL QUALITY through the cooperation of local companies and the community to promote resource management, pollution prevention, and ecologically restorative practices via the efficient use of shared resources.

2. Foster ECONOMIC PROSPERITY through the networking of existing companies in order to facilitate the greatest collective gain by way of collaborative symbiotic strategies, stimulating job creation, community redevelopment, and cultural tourism.

3. Advance SOCIAL EQUITY by improving quality of life, advancing opportunities for education, supporting community, and generating equal opportunity.

4. To promote CULTURAL DIVERSITY through the preservation of distinctive heritage in the Queensgate community and through the strengthening of identity by virtue of intellectual, emotional, moral, and spiritual means.

MASTER PLAN VISION

Queensgate EcoDistrict

Why?

Global challenges such as climate change, resource scarcity and escalating population growth threaten the stability of life. For the rst time in history, a majority of the world’s population lives in cities. This concentration of people and resources means that cities are increasingly relevant in addressing the challenge of sustainability. Cities also contain the fundamental ingredients to enable innovation: talent, capital, technologies, networks, and infrastructure.

Sustainable economic development will increase economic prosperity and quality of life without compromising the natural environment. In Queensgate, this can be accomplished through the retention and expansion of existing businesses as well as the attraction of new businesses. A Queensgate ecodistrict will apply this strategy and support the Cincinnati Museum Center by strengthening the surrounding area with an infusion of innovation and experimentation that incorporates the sustainable triple bottom line of social, economic and environmental benefits.

Sustainable Development
Meets the needs of the present without compromising the ability of future generations to meet their own needs.

EcoDistrict
An integrated and resilient district that is resource ecient; captures, manages, and reuses a majority of energy, water, and waste on site; is home to a range of transportation options; provides a rich diversity of habitat and open space; and enhances community engagement and well being.

EcoIndustrial Park (EIP)
A community of companies seeking the greatest collective gain in which waste and production streams are synergistic elements of sustainable design from building through infrastructure scale are incorporated and decision making is based on several conceptual frameworks such as industrial ecology, pollution prevention, and new economic development models.
Cincinnati’s Lower Mill Creek Valley Corridor  |  Brockfield, McEwan, Major, Warren, Williams

**NATURAL RESOURCES**

- Ecologically Important areas
- Nature Refuges
- Parks
- Forests

Data source: Mill Creek Restoration Project

**CINCINNATI’S ECO-CORRIDOR**

1. Proposed Western Hills Viaduct
2. Gore St. Eco-Boulevard
3. Proposed Walnut Viaduct
4. Rail-to-Trail Opportunities
5. Proposed Confluence Park
6. Proposed Lower Mill Creek Greenway
7. Proposed Western Hills Refuge
8. Proposed Confluence Park
9. Future Greenway Park
10. Proposed School of Environmental and Historic Restoration

**MILL CREEK URBAN ECO-LEARNING LABS**

- Lick Run Rain Gardens
- Bio-retention
- Wildlife, Habitat and Bird-watching Station
- MSD Alternative Energy
- Union Terminal Green Roof Demonstration
- Mt. Echo Park Native Plants Nursery

Greenwich Rooftop Eco-lab
(Renderings courtesy of Mark Vetter)
**METROPOLITAN SEWER DISTRICT**

**TRIPLE RECYCLE**

![Diagram of waste recycling process]

**MSD PROCESS**

- **Collection**
- **Treatment**
- **Purify**
- **Restore Mill Creek**

- **Biogas** → **Power plant**
- **Biosolids** → **Compost**
- **Human waste** → **Local food**
- **Urban agriculture**

**MSD PERSPECTIVE**

- **Campus greenway**
- **Engineering offices**
- **Treatment facilities**
- **Waste to energy plant**
- **Urban agriculture**

**ECO DISTRICT**

Green Waste Works | Mark McEwan
The district surrounding the Cincinnati Museum Center at Union Terminal is heavily shaped by industrial rail lines and rail distribution centers. These places provide jobs to the residents of Cincinnati and a vital service to local and regional businesses. The district contains a number of important educational facilities such as job corps, and the museum center. These assets make the district very suitable for a rail educational facility, which should be located between Gest street and West 8th street. This facility would provide local residents with valuable job training skills and opportunities for future employment.
ANCHOR TENANTS

01 QUEENS GATE GREEN-TECH MAGNET SCHOOL
A secondary educational institution that prepares students for jobs in the green sector. Employment in the nearby EcoIndustrial Park is the goal of this program.

02 GREEN-TECH JOB CORPS
A post-secondary institution that prepares post-high school employees for jobs in the green sector. All ages are welcome for retraining and focus is on employment in the nearby EIP (EcoIndustrial Park.)

03 ECO-CHAMBER of COMMERCE
A catalyst development and educational entity that supports the creation of a vibrant EIP (EcoIndustrial Park) within the Queensgate EcoDistrict. Operates and makes decisions according to the tenets of Industrial Symbiosis and promotes a net-positive approach to waste, energy and water.

04 PNC Bank Headquarters

PRECEDENT

OUR VISION
A sustainable region that ensures equitable human and ecological health, broad-based prosperity, mainstreamed sustainable business practices and a new generation of jobs in sustainability.

OUR MISSION
To inspire and incubate partnerships that make the Portland region a thriving metropolitan model for smart sustainability practices. We catalyze new ideas, expand resourced, and take action by bringing together nontraditional partners who value sustainability as a powerful engine for a strong regional economy and quality of life.

CLIMATE PROSPERITY
Rethink financing
Increase efficiency
Commercialize
Clean tech
Develop green talent
Work together
Interstate 75 required demolition of dozens of city blocks, and permanently altered the character of downtown and the West End. 4,888 families (15,000-20,000 people) and 551 businesses were displaced. Interstate 75 created a physical barrier between the Cincinnati Museum Center and the city. In addition, the Interstate broke up the strong neighborhood grid pattern. Creating a physical connection over I-75 is the goal for (Re)Connecting what is now divided.

1. District Connection to the Mill Creek
2. Access to Rail Transportation for Eco-Industry
3. Connection over I-75, between the CMC and the West End
4. Commercial area in residential West End
5. Music Hall and Arts District
The goal was to position the CMC at the center of a vibrant education district with a large Regional Park at the center. This district would be a magnet which would draw from the larger Tri-State region.

The goal in this plan was to surround the CMC with a vibrant district of residences and shopping options. The educational campus located on the east side of Interstate 75 aims to distribute educational uses more equally through the whole district. Thus, creating a more balanced design.
The residential mode for the area is structured by a green space system. This system is connected by green belts and boulevards. The human scale is respected and the institutional buildings are spread in the area symmetrically along Ezzard Charles Drive. The current parking lot of the CMC would be occupied by new museums, a planetarium and the linear green park.

In the Educational plan, the institutional buildings appear alternating on Ezzard Charles Drive. The CMC has a huge green Park that serves the new educational campus (in the North) and the new museums and planetarium (in the South). The residential area supports the educational hub with dorms for the students and staff.

In the Educational plan, the institutional buildings appear alternating on Ezzard Charles Drive. The CMC has a huge green Park that serves the new educational campus (in the North) and the new museums and planetarium (in the South). The residential area supports the educational hub with dorms for the students and staff.