research
Cities consist of two interrelated components: they are buildings and streets. The buildings represent points-of-destinations and include all urban places such as parks, plazas, and stadiums as well as buildings. The streets provide access to these points-of-destinations. One is inconceivable without the other: travel without a destination is pointless; a destination requires accessibility. As elementary as this argument appears, it has not been accepted by "traffic specialists" until very recently, and, unfortunately, until too late.

After World War II, a direction was taken in this country to solve the problem of traffic congestion in cities. Rather than updating the existing national mass transit network, it was considered more expedient to initiate a national auto expressway system connecting the large urban centers across the country. At each city the expressway was looped around its outskirts or cut thorough its core. The goal was to facilitate through traffic. The results were to strangle intown traffic and to destroy the urban environment.

The automobile became the form generator for cities. Dense urban areas originally designed with a minimum amount of space to spare were forced to accommodate the influx of automobiles. Streets were widened, whole blocks were leveled for parking lots,
urban growth sprawled into the countryside. While accessibility was constantly being improved, the quality of the urban environment was neglected. Cities had become accessible without points-of-destination to access.

Accessibility can be categorized in two ways. Vehicular accessibility is from point to point across town. Pedestrian accessibility is from vehicular destination to door. Vehicular accessibility in cities is greatly inhibited by the inherent gridiron street system. The start and stopping of crisscrossing traffic is inefficient and dangerous. Buildings along the streets do not, in most cases, have direct automobile access. Usually they have a front door off of the sidewalk. Pedestrian access becomes the link between a parking place several blocks away and the building's front door. The resultant environment is appropriate for neither vehicle nor pedestrian. For the driver it is confusing and frustrating. The caverns of buildings and streets are unreadable and disorienting. Creeping along in traffic, his actual destination appears inaccessible. For the pedestrian, it is at best unhealthy and unnerving. Jostled about, he is subjected to fumes, noise and a dirty environment. At worst, it is deadly when vehicle and pedestrian collide.
The urban form of a city can be analyzed by a graphical representation of the characteristics of its streets and buildings. This is a quantitative analysis of vehicular and pedestrian densities. Not in this analysis, but which could be quantitatively represented, are environmental characteristics such as air quality, noise level and light level. The first component to be studied is vehicular traffic. From traffic counts, the number of vehicles, and their direction, can be plotted for each street at each block. Vehicular points-of-destination, parking lots and garages are located and their capacities noted. The next component is pedestrian traffic. The number of pedestrians on a sidewalk, and their direction, are plotted on the site map. Pedestrian places such as plazas, parks and building arcades, must be located and their people-densities noted. The final consideration is the buildings themselves. A three-dimensional graph of people densities in each building can be constructed to overlay the site maps. The completed maps and cardboard graphs represent the city’s access and destination characteristics.

When all of this information is overlaid, a concise picture of a city’s urban form emerges. The conflicts between vehicular and pedestrian traffic are immediately apparent. Not only do pedestrian and
vehicle paths collide at each cross street, but the pedestrian is constantly subjected to the fumes, noise and confusion of the parallel vehicular traffic in the street. Where vehicular destinations are separated from pedestrian destinations, the high densities of vehicular and pedestrian traffic and buildings conflict. This does not occur where buildings accommodate car parking. In this case, although vehicular density is high and the building capacity large, pedestrians milling about along the street are few. A different situation occurs at city plazas that serve as mass transit centers. The pedestrian density and the surrounding building capacities are high, but the vehicular volume is decreased. In each case access is accomplished and yet the quality of the urban environment is maintained for the pedestrian.
VEHICULAR DENSITIES & DESTINATIONS
Cincinnati, Ohio, Downtown area
Note: Dark areas represent parking garages; striped areas represent surface parking.
PEDESTRIAN DENSITIES AND DESTINATIONS
Cincinnati, Ohio, Downtown area
Note: Dark areas represent on-grade pedestrian areas;
Striped areas represent "sky-walk" pedestrian areas.
VEHICULAR DENSITIES & DESTINATIONS
Cincinnati, Ohio, Existing site area
Note: Dark areas represent parking garages;
Striped areas represent surface parking.
There are two basic theories of urban organization which attempt to resolve the conflict between urban accessibility and urban environment. One calls the urban form an "accessittee"; the other calls it "pedestrian nodes." Both theories deal with separating out vehicular access from the pedestrian realms. Of the two theories, the "access tree" is more viable because it relates to the vertical nature of cities while the pedestrian node theory is basically a conceptual site plan organization.

The "access tree" model defines urban centers as single "mega-buildings." These mega-buildings have three components: the substructure, which are analogous to a tree's roots, include all the necessary urban services such as communication lines, water and sewer lines and paramountly, the transportation network. This networks various components (different modes of mass transit) converge at the heart of the urban center. A large, open pedestrian concourse would be the link between the transportation substructure and the buildings that are the components of the superstructure, the tree's branches. The form of the superstructure would relate to the substructure in that those buildings clustered around the center would be taller than those surrounding the periphery. A working example of this was built
nearly 100 years ago: Grand Central Station in Manhattan. When the terminal was built, the 20-block area was an open grid of elevated streets over rail loops and subway lines. Buildings quickly filled in all the "holes." Even then the superstructure continued to expand. In the early 1960's, the Pan Am building was erected over the pedestrian concourse itself. Now a skyscraper is proposed to be built over the waiting area of the terminal. Although stretched to its capacity, Grand Central Station still handles the millions of persons who travel through it each day.

The "Pedestrian node" is based on concentric circles much like a medieval fortification. It assumes an automobile-dominated city. As a commuter would approach the city, he would be given opportunities to park his car and transfer to mass transit or he could continue on closer to the city center. The closer he got, the more "pedestrian" the city would be, and the more difficult it would be for the vehicular travel. Like the fortification within fortifications of medieval cities, the innermost area of the city center would be a strictly pedestrian realm ringed only by the necessary service road. The drawback of the model is that it requires a large amount of land, as does our existing expressway system and car-dominated urban sprawls. Its advantage
is that, unlike the "access tree" model which would require completely redoing the urban form, existing cities could accommodate a pedestrian model adaptation of their grid iron plan.

Another advantage of the "access tree" model, which is based on a mass transit network, is that it will improve opportunities for those people particularly dependent on mass transportation: the handicapped and the poor. Mass transit in this country has never offered a viable alternative to the optional user, the car driving commuter. And therefore has never been able to reach economic efficiency. A mass transit system supported by commuters would afford those truly dependent on the system the necessary accessibility to better education and work opportunities. The result is an urban environment where people are primary and accessibility is afforded to everyone.
The city of Cincinnati has initiated a comprehensive building plan for the Central Business District that outlines proposed development through the year 2000. The first half of the proposal deals with socio-economic trends and the projected needs for office and retail space, hotel rooms, and downtown housing. The second half deals exclusively with transportation issues. Included in this is an analysis of existing transportation facilities: the expressway loop through the downtown area (Fort Washington Way), vehicular capacities of the local street grid, parking capabilities and the extent of the Metro bus system.

Proposals are made for each area of the Central Business District, including the site of the Transportation Center, which occupies about one-tenth of an area called Riverfront West. These long-range proposals include the following:

1. Riverfront West shall be developed for mixed uses which include:
   a. 1000-2000 dwelling units.
   b. 400-600 hotel rooms.
   c. 500,000 to 1,500,000 square feet of office space.
   d. 100,000 to 150,000 square feet of retail space.
   e. 3,000 automobile parking spaces.
2. Race and Vine Streets shall be extended over Fort Washington Parkway to provide a link between downtown and the site.

3. A Light Rail Transit, running along Vine Street, shall cross the eastern edge of the site to connect with Suspension Bridge and will continue on to the Cincinnati Airport in northern Kentucky.

4. The southern part of the site, between Mehring Way and the river shall be developed into a park and marina. The park shall include active and passive recreational facilities. The marina shall include a new landing for the Delta Queen and other river boats.

5. Buildings in this area shall be between 15 and 25 stories tall so as to maintain the city's skyline which peaks at Fountain Square and to maintain views to the river.
Following the study of urban form and the theories concerning urban accessibility versus urban environment, several design goals have been formulated. When combined with the proposals of the Cincinnati 2000 Plan and the special constraints of the site, these design goals become the basis of the building program.

The thesis governing these goals is this: at the place where various modes of transportation converge and interchange occurs, the basis of an urban center is created. The transportation modes become the "critical components" that provide the necessary people densities required to create an urban center. An example is the creation of a metropolitan airport. Usually built in "the middle of nowhere," the critical components--runways for plane traffic and access highways for car traffic--become the impetus for an urban center that not only is an airport but includes restaurants and shops within the terminal with office buildings and hotels surrounding it.

Most of our cities were located because there was access to transportation, whether river or bay or rail. And yet, until recently, the impact of transportation systems on the urban environment was not considered. Urban accessibility was given precedence over the urban environment. The dependent
design goals formulated are based on the mutual relationship between access and environment.

The design goals are as follows:

1. The interchange shall primarily be serviced by mass transit systems.

2. The approaches for the various modes of transportation to the interchange shall not conflict with each other or conflict with the existing transportation network.

3. In proximity to the interchange shall be workplaces and housing appropriate to the functions of the interchange.

4. The function and form of buildings developed and adjacent to the interchange shall be directly by the people densities within the interchange.

5. The center of the interchange shall be a large public concourse which shall provide pedestrian access between different modes of transport.

6. Pedestrians shall be safely separated from the paths of the transit vehicles.

7. Pedestrian areas shall be protected from inclement weather and yet allow access to nature, particularly the riverfront.

8. Pedestrian connections from the site to downtown, the riverfront, Riverfront Stadium, and Second Street shall be thoroughly designed.
9. The interchange shall be an openended design to allow for expansion of both the interchange and the adjoining buildings.
site analysis
Traffic Circulation and Parking

Legend

- One-Way Traffic
- Two-Way Traffic
- One-Way Regional Access
- Two-Way Regional Access

Central Area Streets
- Regional Expressways
- Surface Parking
- Parking Structure
program
<table>
<thead>
<tr>
<th>USER</th>
<th>USER CHARACTERISTICS</th>
<th>USER GOALS</th>
<th>SEQUENCE OF USE</th>
</tr>
</thead>
</table>
| Regional bus passenger | One of the following:  
First-time visitor to Cincinnati.  
Returning home to Cincinnati.  
Leaving Cincinnati.  
Layover in Cincinnati.  
Requires ticketing and baggage handling. | One of the following:  
Make connection to local destination.  
Await pickup/visit.  
Make connection to regional destination.  
Spending time during layover. | From bus berth:  
Passenger proceeded to concourse area from bus saving.  
Proceeds to baggage claim area.  
Gets information/meets pick-up.  
Proceeds to local destination.  
From "front door":  
Passenger proceeds to information/ticketing/baggage check area.  
Proceeds to waiting area.  
Proceeds to concourse and bus siding.  
From ticket counter:  
Passenger is given information and/or sold ticket.  
Baggage is checked and conveyed to baggage check-in room.  
Baggage is palleted and carted to outgoing buses.  
Baggage is carted from incoming buses to baggage check-out room.  
Baggage is conveyed to baggage claim area for passenger pick-up. |
| Regional bus staff | Handles operations of bus terminals. | Processes passenger and baggage. |
Regional bus station

"Gateway to Cincinnati"
Visitor's first impression.
Easy orientation.
Handles throngs of passengers during peak period.
Is safe and lively during night hours.

Waiting area/Lounge

Combined with other activities: shops, restaurants, outdoor terraces to attract other persons who are not there just to wait.

Ticket Area

Interface between Waiting Area and station offices.

Office Area

Includes offices for terminal manager; passenger agent; (2) assistant managers; and business office with switchboard.
Staff restrooms and kitchenette are also included.

Baggage Area

Handles both incoming and outgoing baggage.
Baggage from ticket area is conveyed to baggage room to be palleted and carted to bus sidings.
Must have separate access to bus concourse.

Large enough to handle 1/3 total capacity of buses.
1/3 x 20 buses x 50/bus = 333 persons waiting @ 25 sf/person = 8,325 sf

One station for each 30 persons in waiting area.
330/30 = 11 stations @ 4'/station = 44 lf of counterspace.
Allow 20' in front of counter for passenger lines and 10 feet behind for work space:
44' x 30' = 1320 sf

800 sf

Allow 50 sf per bus berth.
50 sf x 20 berths = 1000 sf
<table>
<thead>
<tr>
<th>PROJECT COMPONENT</th>
<th>DESIGN CRITERIA</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baggage Claim Area</td>
<td>Baggage conveyed from baggage check-out area to allow passenger pick-up of luggage.</td>
<td>Allow 10 sf/person in waiting area. 10 sf x 333 = 3,330 sf</td>
</tr>
<tr>
<td>Public Restrooms</td>
<td>Flexible space that can accommodate multiple uses.</td>
<td>15' x 30' each = 900 sf</td>
</tr>
<tr>
<td>Rental Space</td>
<td></td>
<td>10,000 sf</td>
</tr>
<tr>
<td>Concourse</td>
<td>Staddlesbus sidings, enclosed area.</td>
<td>Allow 35 sf/passenger of 1/4 total capacity. 35 sf x 1000/4 = 8750 sf</td>
</tr>
<tr>
<td>Bus sidings</td>
<td>Stepped Parallel design with bus bypass. Buses travel clockwise to accommodate passenger access.</td>
<td>Each berth is 65' long and 30' wide. Platform is at least 12' wide. 15 buses x 2730 sf/bus = 40,950 sf + 30% circulation = 53,235 sf</td>
</tr>
<tr>
<td>Dispatcher's Office</td>
<td>Locate with view of bus sidings.</td>
<td>200 sf</td>
</tr>
</tbody>
</table>
PROJECT COMPONENT

REGIONAL BUS STATION

WAITING/LOUNGE AREA

CONCOURSE

SPATIAL FORM

ENVIRONMENTAL QUALITIES

SPATIAL RELATIONSHIPS

Station

Bus Access

Pedestrian Access

Natural light into space

Lower ceilings in waiting areas

Passenger safety: bus paths & pedestrian paths must not intersect

BUS ACCESS FROM REGIONAL ROUTES;
PASSENGER ACCESS FROM LOCAL ROUTES.

Restaurant, concourse

Shop, Waiting

Tickets, Games
**Bus Sidings**

- Well lit
- Constant air changes required
- Covered, but not enclosed

**Design Data**

**Parallel Single Lane Island**

**Future Develop.**

**GMC Intercity Coach**

**Bus Bypass**
<table>
<thead>
<tr>
<th>USER</th>
<th>USER CHARACTERISTICS</th>
<th>USER GOALS</th>
<th>SEQUENCE OF USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional bus drivers</td>
<td>Temporarily in station during layover.</td>
<td>Check in to office. Eat, lounge or shower.</td>
<td>From bus berth: Driver proceeds to concourse area from bus siding. Proceeds to office area, gets information. Proceeds to driver's lounge area.</td>
</tr>
<tr>
<td>Regional rail passenger.</td>
<td>One of the following: First time visitor to Cincinnati. Returning home to Cincinnati. Leaving Cincinnati. Layover in Cincinnati. Requires ticketing and baggage handling.</td>
<td>One of the following: Make connection to local destination. Await pickup/visit. Make connection to regional destination. Spend time.</td>
<td>From rail siding: Passenger proceeds to concourse area and proceeds to baggage claim area. Gets information/meets pickup. Proceeds to local destination.</td>
</tr>
<tr>
<td>Regional rail staff.</td>
<td>Handles operation of rail terminal.</td>
<td>Processes passenger and baggage.</td>
<td>From &quot;front door&quot;: Passenger proceeds to information/ticketing/baggage check area. Proceeds to waiting area. Proceeds to concourse and to train siding. From rail siding: Passenger proceeds to concourse area. Proceeds to main waiting area to shop, eat, rest, get information before returning to train. From ticket counter: Passenger is given information and/or sold ticket. Baggage is checked and conveyed to baggage check-in room. Baggage is palleted and carted to outgoing trains.</td>
</tr>
</tbody>
</table>
Service personnel at terminal. 
One of the following: 
Operate shop or restaurant. 
Cleans or otherwise services station.

Carrying out their duties requires accessibility to move things in and out of terminal without calling public attention and interrupting public services.

SEQUENCE OF USE
Baggage is carted from incoming trains to baggage check-out room.
Baggage is conveyed to baggage claim area for passenger pick-up.

From delivery truck:
Proceeds to service drive and delivery area.
Material is carted and held at service lobby or taken to service elevators to upper floors where it is held at service lobby.
Materials are carted to destination.
<table>
<thead>
<tr>
<th>Project Components</th>
<th>Design Criteria</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Rail Station</td>
<td>Duplicates regional bus facilities</td>
<td></td>
</tr>
<tr>
<td>Rail Concourse</td>
<td>Straddles sidings.</td>
<td>Allow 35 sf/passenger for 1/2 total capacity.</td>
</tr>
<tr>
<td></td>
<td>Enclosed area.</td>
<td>35 sf x 1600 passengers x 1/2 = 14,000 sf</td>
</tr>
<tr>
<td>Rail Sidings</td>
<td>Eight sidings; covered but not enclosed.</td>
<td>Each siding shall be 700' long (approx).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Width shall allow 10' for rail and 15' for platform.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 x 700' x 25' = 140,000 sf</td>
</tr>
<tr>
<td>USER CHARACTERISTICS</td>
<td>USER GOALS</td>
<td>SEQUENCE OF USE</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Local bus (Metro) passenger.</td>
<td>Along with 10,000 other commuters, during peak period, the commuter makes connection to downtown destination.</td>
<td>From bus berth: Passenger proceeds to concourse and one of the following:</td>
</tr>
<tr>
<td>Car commuter</td>
<td>Shopper must make connection to downtown area stores.</td>
<td>Obtains further information to complete bus destination and returns to appropriate bus siding; Takes pedestrian link to downtown;</td>
</tr>
<tr>
<td></td>
<td>Passenger makes connection with local bus to further destination.</td>
<td>Obtains information and proceeds to monorail siding; Takes pedestrian link to Stadium or Arena.</td>
</tr>
<tr>
<td></td>
<td>Passenger makes connection to Stadium/Arena.</td>
<td>Proceeds to parking, recreational or educational area office on site.</td>
</tr>
<tr>
<td></td>
<td>Passenger makes on site connection to recreational facilities.</td>
<td>From parking area: Proceed to parking garage lobby to one of the following:</td>
</tr>
<tr>
<td></td>
<td>One of the following: Make pedestrian connection to destination.</td>
<td>Recreational/educational facilities or To Metro concourse to one of the following:</td>
</tr>
<tr>
<td></td>
<td>Transfer to local bus or monorail.</td>
<td>Obtain information and proceed to bus sidings or monorail siding, or</td>
</tr>
<tr>
<td></td>
<td>Transfer to regional transit. Check-in to hotel.</td>
<td>Take pedestrian sky-walk link to downtown or Stadium or</td>
</tr>
<tr>
<td></td>
<td>One of the following: Short term parking for shopping, stadium use, pick-up.</td>
<td>Proceed to office. Proceed to hotel lobby. Proceed to regional transit area for information and tickets.</td>
</tr>
</tbody>
</table>
PROJECT COMPONENTS

Metro Bus Station
Instills civic pride in daily user.
Easy orientation.
Handles throngs of people: 10,000 people
during rush hour.
Will operate 24 hours per day: safe and
lively at night.
Combine with other activities: shops, restaur-
ants, bars, work places, etc. to become a
real urban center.

Concourse
Straddles bus sidings.
Enclosed area.

Waiting Area
Adjoining concourse.

Ticket Areas
Automatic ticketing korsks at perimeter
of concourse.

Retail Space
Convenience shop, restaurants, bars.

Public Restrooms

Metro Bus Sidings
Parallel design with bus bypass.
Buses travel clockwise to accomodate
passenger access.
Covered but not enclosed.
60 berths.

DESIGN CRITERIA

SIZE

Handle 1 of peak capacity.
1/8 x 10,000 x 35 sf =
43,750 sf

Handle 1/10 total peak capacity.
1000 x 25 sf = 25,000 sf

10,000 sf

15' s 30' each
900 sf

Each berth is 50' long and 30' wide.
Platform is 12' wide.
60 buses x 2100 sf/bus = 126,000 sf
x 30% circulation = 163,800 sf
**METRO-BUS STATION**

**CONCOURSE**

- Open to sunlight
- Protects from inclement weather
Parking Garage

500 cars.
Passenger safety crucial:
Minimize pedestrian travel from car to lobby area.
Well lit.
Easy orientation to building entrances.

500 cars x 270 sf/car = 135,000 sf
CAR PARKING

'Shielded parking'
A Pattern Language

Note! Car Ramps must have ability to bypass certain floors, and must not interfere with other transportation modes.
"Helical Ramps are preferred.

DESIGN DATA

| TABLE 1: Helical Ramps - Minimum Dimensions for Two Lanes Side by Side, feet |
|---------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Refers to inside face of inside curb of outer lane | 46              |
| Refers to inside face of inside curb of outer lane | 32              |
| Width of inside lane between curbs | 12              |
| Width of outside lane between curbs | 11              |
| Width of border curb (curb height 6 in.) | 1               |
| Width of median curb (curb height 6 in.) | 2               |
| Maximum super-elevation on ramp turns | 0.1 ft per ft of width |

| TABLE 2: Parking lot dimensions |
|---------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Angle of parking | Stall length | Stall width | Stall depth | Minimum lot width | Lot width | Lot width |
| 0° | 9 | 32 | 13 | 21 | 24 | 24 | 12 |
| 10° | 10 | 32 | 10 | 19 | 23 | 23 | 12 |
| 15° | 10 | 32 | 15 | 24 | 28 | 28 | 12 |
| 20° | 9 | 32 | 17 | 26 | 30 | 30 | 12 |
| 25° | 9 | 32 | 17 | 30 | 34 | 34 | 12 |
| 30° | 9 | 32 | 17 | 34 | 38 | 38 | 12 |
| 35° | 9 | 32 | 17 | 38 | 42 | 42 | 12 |
| 40° | 9 | 32 | 17 | 42 | 46 | 46 | 12 |
| 45° | 9 | 32 | 17 | 46 | 50 | 50 | 12 |
| 50° | 9 | 32 | 17 | 50 | 54 | 54 | 12 |

Refer to Fig. 2.
USER
Pedestrian

USER CHARACTERISTICS
One of the following:
Within interchange.
Those going downtown.
Those going to the Stadium.
Those walking along Second Street.
Those walking to the river.

USER GOALS
Safely reach destination in timely fashion.

SEQUENCE OF USE
Pedestrian Design
Special consideration must be given to pedestrian links between each transit mode and with destinations inside of the transportation center and elsewhere, whether downtown, the Stadium, the riverfront.

Escalators
32" w handles, 84 persons per minute.
48" w handles, 133 persons per minute.
Slope is always 30°.
A 3'-6" landing is required at top and bottom.
For 15' floor-to-floor heights:
   1.73 x 15' = 26' + 7".
   33 if for escalator run.
To determine number of escalators required:
   total passengers accessed \( \div \) number of minutes transit is in station. Divide this number by escalator capacity per minute.

Corridors
Accommodate 3 persons walking abreast in both directions.

15' wide minimum.

Elevators
Accommodate building's capacity.
Office building:
   130 sf floor area/person.
   15% of total persons to be carried in 5 minutes.
   16 persons per elevator car.
Hotel:
   1.9 persons per room.
   12% of total persons carried in 5 minutes.
   13 persons per elevator car.
<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Monorail Commuter</td>
<td>One of the following: Commuter who is making a transfer to a local destination. Commuter who is making a transfer to the airport. Shoppers and visitors coming into the downtown area.</td>
<td>Make connection to local destination. Make connection to airport. Spending time at interchange.</td>
<td>From monorail siding: Proceed to Metro Concourse and one of the following: Obtains information and proceeds to local bus area. Obtains Information and proceeds to regional transit area. Proceeds to hotel lobby or office, recreational, or educational facilities.</td>
</tr>
<tr>
<td>Convention hotel guest.</td>
<td>One of the following: Visitor to Cincinnati. Attending meetings. Attending social functions. Evening out.</td>
<td>One of the following: Check into hotel. Attend meetings. Attend events. Have fun.</td>
<td>Enter Lobby area. One of the following: Proceed to the dining room or Obtain information. One of the following: Proceed to meeting/social event area, or Check into room and proceed to room.</td>
</tr>
<tr>
<td>PROJECT COMPONENT</td>
<td>DESIGN CRITERIA</td>
<td>SIZE</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------</td>
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<td></td>
</tr>
<tr>
<td>Monorail Siding</td>
<td>Monorail would be a highly visible symbol for Transportation Center. Track would be elevated 50' approximately above grade. Shall accomodate a 4 car train, approximately 260' long. Passenger doors are along its entire length. 250 passengers per train every 20 minutes.</td>
<td>250 per x 35 sf/per = 8750 sf</td>
<td></td>
</tr>
<tr>
<td>Skywalks</td>
<td>Enclosed elevated walkways connecting the Metro Bus Concourse to downtown and Riverfront Stadium. Downtown Skywalk: Elevated approximately 50' above grade, it shall cross Second Street, the Forth Washington Expressway, and Third Street. The Connection with existing skywalk would be through the Central Trust Tower and into McAlpine's Department Store. Stadium Skywalk: Elevated approximately 50', it shall cross the access ramp to Suspension Bridge and connect to the Plaza Level of the Stadium.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convention Hotel</td>
<td>A 400-room hotel is proposed to provide significant incentives and support to encourage the expansion of the City's convention facilities. The visitors to Cincinnati—whether they be convention attendees, business people, tourists or generally visitors—will create a demand for new retail space, including restaurants, entertainment facilities, and specialty stores.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobby Area</td>
<td>Impressively grand concourse. Centrally located in hotel facilities.</td>
<td>4,000 sf</td>
<td></td>
</tr>
<tr>
<td>Project Components</td>
<td>Design Criteria</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td>Includes offices for hotel manager; (2) assistant managers; business office with switchboard; reception desk.</td>
<td>1,000 sf</td>
<td></td>
</tr>
<tr>
<td>Main Restaurant</td>
<td>Seats 200. Elegant, visible location.</td>
<td>200 persons at 15 sf/person = 3,000 sf</td>
<td></td>
</tr>
<tr>
<td>Coffee Shop</td>
<td>Seats 100. Informal, visible location. Open 24 hours a day.</td>
<td>100 persons at 10 sf/person = 10,000 sf</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td>Adjacent to both Main Dining Room and Coffee Shop. Includes Kitchen area; dishwashing; food storage; garbage area.</td>
<td>Kitchen: 200 meals/hr x 5 sf = 1,000 sf Dishwashing: 250 sf Food Storage: 400 sf Garbage Area: 100 sf</td>
<td></td>
</tr>
<tr>
<td>Retail Space</td>
<td>Flexible space that can accommodate multiple uses.</td>
<td>2,000 sf</td>
<td></td>
</tr>
<tr>
<td>Lounge/Bar</td>
<td>Large, similar to a beer hall. Accommodates 150 people arranged in small groups.</td>
<td>150 x 15 sf/person = 2,250 sf</td>
<td></td>
</tr>
<tr>
<td>Conference Room</td>
<td>Open space, flexible space. Seats 300 @ tables.</td>
<td>300 x 10 sf = 3,000 sf + 30% staging area = 3,900 sf</td>
<td></td>
</tr>
<tr>
<td>Ball Room</td>
<td>Open space, grand space. Stage at one end.</td>
<td>10,000 sf</td>
<td></td>
</tr>
<tr>
<td>(2) Meeting Rooms</td>
<td>Open space, flexible space. Accommodate 200 @ tables.</td>
<td>7,200 sf total</td>
<td></td>
</tr>
<tr>
<td>(2) Party Rooms</td>
<td>Adjoining. Accommodate 100 persons each.</td>
<td>2,000 sf total</td>
<td></td>
</tr>
<tr>
<td>PROJECT COMPONENTS</td>
<td>DESIGN CRITERIA</td>
<td>SIZE</td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Convention Rooms' Kitchen</td>
<td>Duplicates Main Dining Kitchen. Must have direct access to Ballroom and</td>
<td>1,800 sf</td>
<td></td>
</tr>
<tr>
<td>Facilities</td>
<td>accessible to other meeting rooms.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housekeeping</td>
<td>Storeroom for hotel's supplies. Maintenance area.</td>
<td>5,000 sf</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Laundry.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference Booking</td>
<td>Includes offices for director; (2) assistants; business office; staff restrooms;</td>
<td>7,000 sf</td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td>kitchenette.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Restrooms</td>
<td>One pair on every public level.</td>
<td>15' x 20' each 599 sf/level.</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>USER CHARACTERISTICS</td>
<td>USER GOALS</td>
<td>SEQUENCE OF USES</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------------------------</td>
<td>--------------------------------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Office workers</td>
<td>One of the following:</td>
<td>One of the following:</td>
<td>From office tower lobby:</td>
</tr>
<tr>
<td>and visitors</td>
<td>Office worker.</td>
<td>Accomplish work tasks.</td>
<td>One of the following:</td>
</tr>
<tr>
<td></td>
<td>Visiting representative.</td>
<td>Visit client.</td>
<td>Proceed to work area, or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Proceed to office suite and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>office waiting area.</td>
</tr>
<tr>
<td>PROJECT COMPONENTS</td>
<td>DESIGN CRITERIA</td>
<td>SIZE</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Office Tower</td>
<td>Flexible space.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Importance of natural lighting: the furthest point from a window shall not exceed 30'.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>250,000 sf total rentable space.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>250,000 sf x 1.25 = 312,500 sf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USER CHARACTERISTICS</td>
<td>USER GOALS</td>
<td>SEQUENCE OF USES</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Recreational/Educational</td>
<td>One of the following: Preschool child. Office workers on break. Hotel guests. Members.</td>
<td>Day care center. Work out. Play games. Watch exhibition games. Career education.</td>
<td>Enter lobby area: Check in. One of the following: Proceed to classroom area, or Proceed to lockerooms to gym, pool, handball courts, or exercise rooms, or Proceed to game room or bowling lanes, or Proceed to gymnasium bleachers.</td>
</tr>
<tr>
<td>PROJECT COMPONENTS</td>
<td>DESIGN CRITERIA</td>
<td>SIZE</td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>Educational Facilities</td>
<td>Dayschool for children with working parents.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Senior citizens' workshops.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Career advancement workshops.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Space</td>
<td>To accommodate 300 persons.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multipurpose Rooms</td>
<td>Large flexible spaces for meeting, lunch rooms, etc.</td>
<td>40' x 60' = 2,400 sf</td>
<td></td>
</tr>
<tr>
<td>Storage Rooms</td>
<td>Storage space for supplies, extra furnishings, etc.</td>
<td>400 sf</td>
<td></td>
</tr>
<tr>
<td>Outdoor Recreation Space</td>
<td>Allow supervised play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers' Lounge</td>
<td>Lounge with restrooms and kitchenette.</td>
<td>400 sf</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td>Service kitchen for lunches and group meals.</td>
<td>600 sf</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 classrooms at 20 persons each will accommodate 300.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 x 600 sf each = 9,000 sf</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Recreational Facilities
Include all the components of a large YMCA plus games area and bowling lanes.

Gymnasium
Basketball court with bleachers.
Access to locker area as well as public access.

Indoor Swimming Pool
6 lane, 25 M pool.
Access to locker rooms, public visibility.

Handball Courts
(4) courts.
Access from locker area.

Volleyball Court/ Exercise Room
Access to locker area.

Exercise Room/ Weight Room
Access to locker area.

Locker Rooms
(3) sets of locker rooms: Men, women, and separate Athletic Club.

Offices
Includes offices for Facility Director, Program Director, Athletic Director, General Office, Receptionist.

Laundry/Issue Desk
Immediately in locker area.

Lobby Area
Adjoining elevators and reception desk.

Lounge
Furnished with lounge furnishings, tables, and chairs.
Vending machines.

Game Room
Includes video games, pool tables, ping pong tables, issue desk.

SIZE

80' x 100' x 24' high
8,000 sf

80' x 100' x 24' high
7,000 sf

30' x 60' x 24' high each
4 x 1800 sf = 7,200 sf

40' x 70' x 24' high
2,800 sf

20' x 40'
800 sf

45' x 40' each
5,400 sf total

700 sf

30' x 15' =
450 sf

400 sf

600 sf

1,000 sf
**PROJECT COMPONENT**

**SPATIAL FORM**

**ENVIRONMENTAL QUALITIES**

**SPATIAL RELATIONSHIPS**

---

**RECREATIONAL SPACE**

- Multiple height spaces!!

---

**GYMNASIUM**

- Natural lighting
- Air exchanges
- Sound absorbent surfaces

---

**INDOOR SWIMMING**

- Natural lighting
- Surfaces must accommodate high moisture levels

---

Downtown Workers

Recreational Space

Hotel

Guests

Daycare

Lockers

Gym

Lobby

Lobby

Pool

Lockers

Lobby
PROJECT COMPONENTS

Bowling Lanes

14 lanes.
Includes Promenade area, bowlers' seating, restrooms, storage area.

Public Restrooms

SIZE

80' x 120' =
9,600 sf

450 sf each
900 sf
design
FIRST FLOOR PLAN
BUILDING PROGRAM
FOR A
TRANSPORTATION CENTER
FOR
CINCINNATI, OHIO

Richard A. Dexter
Programming 496
Professor Mendelsohn
BUILDING TYPE STUDY
Central Area Plan for Cincinnati, Ohio
Proposed Redevelopment of Downtown Cincinnati
Proposed Redevelopment of Downtown Cincinnati Section
Scheme for Rochester, New York
South Boston Terminal
South Boston Terminal: Building Section
Traffic Circulation and Parking

Legend

- One-Way Traffic
- Two-Way Traffic
- One-Way Regional Access
- Two-Way Regional Access

Central Area Streets

Regional Expressways

Surface Parking

Parking Structure
**VEHICULAR DENSITIES & DESTINATIONS**

Cincinnati, Ohio, Existing site area

Note: Dark areas represent parking garages;
Striped areas represent surface parking.
USER

Regional bus passenger

USER CHARACTERISTICS
One of the following:
First-time visitor to Cincinnati.
Returning home to Cincinnati.
Leaving Cincinnati.
Layover in Cincinnati.
Requires ticketing and baggage handling.

USER GOALS
One of the following:
Make connection to local destination.
Await pickup/visit.
Make connection to regional destination.
Spending time during layover.

SEQUENCE OF USE
From bus berth:
Passenger proceeded to concourse area from bus siding.
Proceeds to baggage claim area.
Gets information/meets pick-up.
Proceeds to local destination.

From "front door":
Passenger proceeds to information/ticketing/baggage check area.
Proceeds to waiting area.
Proceeds to concourse and bus siding.

From ticket counter:
Passenger is given information and/or sold ticket.
Baggage is checked and conveyed to baggage check-in room.
Baggage is palleted and carted to outgoing buses.
Baggage is carted from incoming buses to baggage check-out room.
Baggage is conveyed to baggage claim area for passenger pick-up.

Regional bus staff

Handles operations of bus terminals.

Processes passenger and baggage.
<table>
<thead>
<tr>
<th>PROJECT COMPONENT</th>
<th>DESIGN CRITERIA</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baggage Claim Area</td>
<td>Baggage conveyed from baggage check-out area to allow passenger pick-up of luggage.</td>
<td>Allow 10 sf/person in waiting area. 10 sf x 333 = 3,330 sf</td>
</tr>
<tr>
<td>Public Restrooms</td>
<td></td>
<td>15' x 30' each = 900 sf</td>
</tr>
<tr>
<td>Rental Space</td>
<td>Flexible space that can accommodate multiple uses.</td>
<td>10,000 sf</td>
</tr>
<tr>
<td>Concourse</td>
<td>Staddlesbus sidings, enclosed area.</td>
<td>Allow 35 sf/passenger of ( \frac{1}{4} ) total capacity. 35 sf x 1000/4 = 8750 sf</td>
</tr>
<tr>
<td>Bus sidings</td>
<td>Stepped Parallel design with bus bypass. Buses travel clockwise to accommodate passenger access.</td>
<td>Each berth is 65' long and 30' wide. Platform is at least 12' wide. 15 buses x 2730 sf/bus = 40,950 sf + 30% circulation = 53,235 sf</td>
</tr>
<tr>
<td>Dispatcher's Office</td>
<td>Locate with view of bus sidings.</td>
<td>200 sf</td>
</tr>
</tbody>
</table>
**PROJECT COMPONENT**

**REGIONAL BUS STATION**
- Station
- Bus Access
- Pedestrian Access

**WAITING / LOUNGE AREA**
- Section
- Natural light into space
- Lower ceilings in waiting areas

**CONCOURSE**
- Section
- Passenger safety: bus paths & pedestrian paths must not intersect

**ENVIRONMENTAL QUALITIES**

**SPATIAL RELATIONSHIPS**

**BUS ACCESS FROM REGIONAL ROUTES; PASSENGER ACCESS FROM LOCAL ROUTES**

- Restaurant
- Concourse
- Shops
- Waiting
- Gates
- Tickets
**BUS SIDINGS**

- Well lit
- Constant air changes required
- Covered, but not enclosed

**DESIGN DATA**

- **TYP. 40' BUS**
  - Front set back.last
  - 50' min.
  - RAIL

**PARALLEL SINGLE LANE ISLAND**

- **GMC INTERCITY COACH**
  - 
  - **FUTURE DEVELOP.**

- **CURB**
  - **BUS BYPASS**
  - **PLAT. 0' MIN**
  - **40' 15' 10'**
<table>
<thead>
<tr>
<th>USER</th>
<th>USER CHARACTERISTICS</th>
<th>USER GOALS</th>
<th>SEQUENCE OF USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional bus drivers</td>
<td>Temporarily in station during layover.</td>
<td>Check in to office. Eat, lounge or shower.</td>
<td>From bus berth: Driver proceeds to concourse area from bus siding. Proceeds to office area, gets information. Proceeds to driver's lounge area.</td>
</tr>
<tr>
<td>Regional rail passenger.</td>
<td>One of the following: First time visitor to Cincinnati. Returning home to Cincinnati. Leaving Cincinnati. layover in Cincinnati. Requires ticketing and baggage handling.</td>
<td>One of the following: Make connection to local destination. Await pickup/visit. Make connection to regional destination. Spend time.</td>
<td>From rail siding: Passenger proceeds to concourse area and proceeds to baggage claim area. Gets information/meets pickup. Proceeds to local destination. From &quot;front door&quot;: Passenger proceeds to information/ticketing/baggage check area. Proceeds to waiting area. Proceeds to concourse and to train siding. From rail siding: Passenger proceeds to concourse area. Proceeds to main waiting area to shop, eat, rest, get information before returning to train.</td>
</tr>
<tr>
<td>Regional rail staff.</td>
<td>Handles operation of rail terminal.</td>
<td>Processes passenger and baggage.</td>
<td>From ticket counter: Passenger is given information and/or sold ticket. Baggage is checked and conveyed to baggage check-in room. Baggage is palleted and carted to outgoing trains.</td>
</tr>
</tbody>
</table>
Service personnel at terminal.

One of the following:
Operate shop or restaurant.
Cleans or otherwise services station.

Carrying out their duties requires accessibility to move things in and out of terminal without calling public attention and interrupting public services.

SEQUENCE OF USE
Baggage is carted from incoming trains to baggage check-out room.
Baggage is conveyed to baggage claim area for passenger pick-up.

From delivery truck:
Proceeds to service drive and delivery area.
Material is carted and held at service lobby or taken to service elevators to upper floors where it is held at service lobby.
Materials are carted to destination.
<table>
<thead>
<tr>
<th>PROJECT COMPONENTS</th>
<th>DESIGN CRITERIA</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Rail Station</td>
<td>Duplicates regional bus facilities</td>
<td>Allow 35 sf/passenger for 1/4 total capacity. 35 sf x 1600 passengers x 1/4 = 14,000 sf</td>
</tr>
<tr>
<td>Rail Concourse</td>
<td>Straddles sidings. Enclosed area.</td>
<td>Each siding shall be 700' long (approx). Width shall allow 10' for rail and 15' for platform. 8 x 700' x 25' = 140,000 sf</td>
</tr>
<tr>
<td>Rail Sidings</td>
<td>Eight sidings; covered but not enclosed.</td>
<td></td>
</tr>
</tbody>
</table>
**PROJECT COMPONENTS**

**DESIGN CRITERIA**

**SIZE**

**Metro Bus Station**
- Instills civic pride in daily user.
- Easy orientation.
- Handles throngs of people: 10,000 people during rush hour.
- Will operate 24 hours per day: safe and lively at night.
- Combine with other activities: shops, restaurants, bars, work places, etc. to become a real urban center.

**Concourse**
- Straddles bus sidings.
- Enclosed area.

**Waiting Area**
- Adjoining concourse.

**Ticket Areas**
- Automatic ticketing kiosks at perimeter of concourse.

**Retail Space**
- Convenience shop, restaurants, bars.

**Public Restrooms**
- 10,000 sf
- 15' s 30' each
- 900 sf

**Metro Bus Sidings**
- Parallel design with bus bypass.
- Buses travel clockwise to accommodate passenger access.
- Covered but not enclosed.
- 60 berths.

**Handle 1/2 of peak capacity.**
- \( \frac{1}{8} \times 10,000 \times 35 \text{ sf} = \frac{43,750}{43,750} \text{ sf} \)

**Handle 1/10 total peak capacity.**
- \( 1000 \times 25 \text{ sf} = 25,000 \text{ sf} \)

**Each berth is 50' long and 30' wide.**
- Platform is 12' wide.
- 60 buses x 2100 sf/bus = 126,000 sf
- \( x 30\% \) circulation = \( 163,800 \text{ sf} \)
METRO-BUS STATION

CONCOURSE

- Open to sunlight
- Protects from inclement weather
<table>
<thead>
<tr>
<th>PROJECT COMPONENTS</th>
<th>DESIGN CRITERIA</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Garage</td>
<td>500 cars. Passenger safety crucial: Minimize pedestrian travel from car to lobby area. Well lit. Easy orientation to building entrances.</td>
<td>500 cars x 270 sf/car = 135,000 sf</td>
</tr>
</tbody>
</table>
CAR PARKING

"Shielded parking"
A Pattern Language

- Constant air exchange
- Well lit

DESIGN DATA
Note! Car Ramps must have ability to by-pass certain floors and must not interfere with other transportation modes.
Helical Ramps are preferred.

Table 1: Helical Ramps - Minimum Dimensions for Two Lanes Side by Side, feet

<table>
<thead>
<tr>
<th>Angle of Ramps</th>
<th>Curb Height</th>
<th>Inside</th>
<th>Minimum</th>
<th>Curb Height</th>
<th>Inside</th>
<th>Minimum</th>
<th>Curb Height</th>
<th>Inside</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>20°</td>
<td>12°F</td>
<td>18°F</td>
<td>12°</td>
<td>31°F</td>
<td>17°F</td>
<td>12°</td>
<td>31°F</td>
<td>17°F</td>
<td>12°</td>
</tr>
<tr>
<td>45°</td>
<td>12°F</td>
<td>18°F</td>
<td>12°</td>
<td>31°F</td>
<td>17°F</td>
<td>12°</td>
<td>31°F</td>
<td>17°F</td>
<td>12°</td>
</tr>
<tr>
<td>60°</td>
<td>12°F</td>
<td>18°F</td>
<td>12°</td>
<td>31°F</td>
<td>17°F</td>
<td>12°</td>
<td>31°F</td>
<td>17°F</td>
<td>12°</td>
</tr>
<tr>
<td>90°</td>
<td>12°F</td>
<td>18°F</td>
<td>12°</td>
<td>31°F</td>
<td>17°F</td>
<td>12°</td>
<td>31°F</td>
<td>17°F</td>
<td>12°</td>
</tr>
</tbody>
</table>

Table 2: Parking lot dimensions

Refer to Fig. 7.
<table>
<thead>
<tr>
<th>USER</th>
<th>USER CHARACTERISTICS</th>
<th>USER GOALS</th>
<th>SEQUENCE OF USE</th>
</tr>
</thead>
</table>
| Pedestrian | One of the following:  
Within interchange.  
Those going downtown.  
Those going to the Stadium.  
Those walking along Second  
  Street.  
Those walking to the river. | Safely reach destination  
in timely fashion. |                 |
<table>
<thead>
<tr>
<th>PROJECT COMPONENTS</th>
<th>DESIGN CRITERIA</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian Design</td>
<td>Special consideration must be given to pedestrian links between each transit mode and with destinations inside of the transportation center and elsewhere, whether downtown, the Stadium, the riverfront.</td>
<td></td>
</tr>
<tr>
<td>Escalators</td>
<td>32&quot; w handles, 84 persons per minute. 48&quot; w handles, 133 persons per minute. Slope is always 30°. A 3'-6&quot; landing is required at top and bottom. For 15' floor-to-floor heights: 1.73 x 15' = 26' + 7&quot;. 33 lf for escalator run. To determine number of escalators required: total passengers accessed ÷ number of minutes transit is in station. Divide this number by escalator capacity per minute.</td>
<td></td>
</tr>
<tr>
<td>Corridors</td>
<td>Accomodate 3 persons walking abreast in both directions.</td>
<td>15' wide minimum.</td>
</tr>
<tr>
<td>Elevators</td>
<td>Accomodate building's capacity. Office building: 130 sf floor area/person. 15% of total persons to be carried in 5 minutes. 16 persons per elevator car. Hotel: 1.9 persons per room. 12% of total persons carried in 5 minutes. 13 persons per elevator car.</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>USER CHARACTERISTICS</td>
<td>USER GOALS</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Monorail Commuter</td>
<td>One of the following:</td>
<td>Make connection to local destination.</td>
</tr>
<tr>
<td></td>
<td>Commuter who is making a transfer to a local destination.</td>
<td>Make connection to airport.</td>
</tr>
<tr>
<td></td>
<td>Commuter who is making a transfer to the airport.</td>
<td>Spending time at interchange.</td>
</tr>
<tr>
<td></td>
<td>Shoppers and visitors coming into the downtown area.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convention hotel</td>
<td>One of the following:</td>
<td>One of the following:</td>
</tr>
<tr>
<td>guest.</td>
<td>Visitor to Cincinnati.</td>
<td>Check into hotel.</td>
</tr>
<tr>
<td></td>
<td>Attending meetings.</td>
<td>Attent meetings.</td>
</tr>
<tr>
<td></td>
<td>Attending social functions.</td>
<td>Attend events.</td>
</tr>
<tr>
<td></td>
<td>Evening out.</td>
<td>Have fun.</td>
</tr>
</tbody>
</table>
Monorail Siding

Monorail would be a highly visible symbol for Transportation Center.
Track would be elevated 50' approximately above grade.
Shall accommodate a 4 car train, approximately 260' long.
Passenger doors are along its entire length.
250 passengers per train every 20 minutes.

Skywalks

Enclosed elevated walkways connecting the Metro Bus Concourse to downtown and Riverfront Stadium.
Downtown Skywalk:
Elevated approximately 50' above grade, it shall cross Second Street, the Forth Washington Expressway, and Third Street. The connection with existing skywalk would be through the Central Trust Tower and into McAlpine's Department Store.
Stadium Skywalk:
Elevated approximately 50', it shall cross the access ramp to Suspension Bridge and connect to the Plaza Level of the Stadium.

Convention Hotel

A 400-room hotel is proposed to provide significant incentives and support to encourage the expansion of the City's convention facilities.
The visitors to Cincinnati—whether they be convention attendees, business people, tourists or generally visitors—will create a demand for new retail space, including restaurants, entertainment facilities, and specialty stores.

Lobby Area

Impressively grand concourse.
Centrally located in hotel facilities.
<table>
<thead>
<tr>
<th>PROJECT COMPONENTS</th>
<th>DESIGN CRITERIA</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offices</td>
<td>Includes offices for hotel manager; (2) assistant managers; business office with switchboard; reception desk.</td>
<td>1,000 sf</td>
</tr>
<tr>
<td>Main Restaurant</td>
<td>Seats 200. Elegant, visible location.</td>
<td>200 persons at 15 sf/person = 3,000 sf</td>
</tr>
<tr>
<td>Coffee Shop</td>
<td>Seats 100. Informal, visible location. Open 24 hours a day.</td>
<td>100 persons at 10 sf/person = 10,000 sf</td>
</tr>
<tr>
<td>Kitchen</td>
<td>Adjacent to both Main Dining Room and Coffee Shop. Includes Kitchen area; dishwashing; food storage; garbage area.</td>
<td>Kitchen: 200 meals/hr x 5 sf = 1,000 sf</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dishwashing: 250 sf</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food Storage: 400 sf</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Garbage Area: 100 sf</td>
</tr>
<tr>
<td>Retail Space</td>
<td>Flexible space that can accommodate multiple uses.</td>
<td>2,000 sf</td>
</tr>
<tr>
<td>Lounge/Bar</td>
<td>Large, similar to a beer hall. Accommodates 150 people arranged in small groups.</td>
<td>150 x 15 sf/person = 2,250 sf</td>
</tr>
<tr>
<td>Conference Room</td>
<td>Open space, flexible space. Seats 300 @ tables.</td>
<td>300 x 10 sf = 3000 sf + 30% staging area = 3,900 sf</td>
</tr>
<tr>
<td>Ball Room</td>
<td>Open space, grand space. Stage at one end.</td>
<td>10,000 sf</td>
</tr>
<tr>
<td>(2) Meeting Rooms</td>
<td>Open Space, flexible space. Accommodate 200 @ tables.</td>
<td>7,200 sf total</td>
</tr>
<tr>
<td>(2) Party Rooms</td>
<td>Adjoining. Accommodate 100 persons each.</td>
<td>2,000 sf total</td>
</tr>
<tr>
<td>PROJECT COMPONENTS</td>
<td>DESIGN CRITERIA</td>
<td>SIZE</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Convention Rooms' Kitchen</td>
<td>Duplicates Main Dining Kitchen. Must have direct access to Ballroom and</td>
<td>1,800 sf</td>
</tr>
<tr>
<td>Facilities</td>
<td>accessible to other meeting rooms.</td>
<td></td>
</tr>
<tr>
<td>Housekeeping</td>
<td>Storeroom for hotel's supplies. Maintenance area.</td>
<td>5,000 sf</td>
</tr>
<tr>
<td>Conference Booking</td>
<td>Includes offices for director; (2) assistants; business office; staff restrooms;</td>
<td>7,000 sf</td>
</tr>
<tr>
<td>Offices</td>
<td>kitchenette.</td>
<td></td>
</tr>
<tr>
<td>Public Restrooms</td>
<td>One pair on every public level.</td>
<td>15' x 20' each</td>
</tr>
<tr>
<td></td>
<td></td>
<td>599 sf/level.</td>
</tr>
<tr>
<td>USER CHARACTERISTICS</td>
<td>USER GOALS</td>
<td>SEQUENCE OF USES</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Office workers and visitors.</td>
<td>One of the following:</td>
<td>From office tower lobby:</td>
</tr>
<tr>
<td></td>
<td>Office worker.</td>
<td>One of the following:</td>
</tr>
<tr>
<td></td>
<td>Visiting representative.</td>
<td>Proceed to work area, or</td>
</tr>
<tr>
<td></td>
<td>Visiting client.</td>
<td>Obtain information.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proceed to office suite</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and office waiting area.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>PROJECT COMPONENTS</th>
<th>DESIGN CRITERIA</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Tower</td>
<td>Flexible space.</td>
<td>350,000 sf total rentable space.</td>
</tr>
<tr>
<td></td>
<td>Importance of natural lighting: the furthest point from a window shall not exceed 30'.</td>
<td>250,000 sf x 1.25 = 312,500 sf</td>
</tr>
<tr>
<td>USER</td>
<td>USER CHARACTERISTICS</td>
<td>USER GOALS</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Recreational/Educational</td>
<td>One of the following: Preschool child. Office workers on break. Hotel guests. Members.</td>
<td>Day care center. Work out. Play games. Watch exhibition games. Career education.</td>
</tr>
<tr>
<td>PROJECT COMPONENTS</td>
<td>DESIGN CRITERIA</td>
<td>SIZE</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------------------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Educational Facilities</td>
<td>Dayschool for children with working parents.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Senior citizens' workshops.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Career advancement workshops.</td>
<td></td>
</tr>
<tr>
<td>Classroom Space</td>
<td>To accommodate 300 persons.</td>
<td>15 classrooms at 20 persons each will accommodate 300.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 x 600 sf each = 9,000 sf</td>
</tr>
<tr>
<td>Multipurpose Rooms</td>
<td>Large flexible spaces for meeting, lunch rooms, etc.</td>
<td>40' x 60' = 2,400 sf</td>
</tr>
<tr>
<td>Storage Rooms</td>
<td>Storage space for supplies, extra furnishings, etc.</td>
<td>400 sf</td>
</tr>
<tr>
<td>Outdoor Recreation Space</td>
<td>Allow supervised play</td>
<td></td>
</tr>
<tr>
<td>Teachers' Lounge</td>
<td>Lounge with restrooms and kitchenette.</td>
<td>400 sf</td>
</tr>
<tr>
<td>Kitchen</td>
<td>Service kitchen for lunches and group meals.</td>
<td>600 sf</td>
</tr>
<tr>
<td><strong>PROJECT COMPONENTS</strong></td>
<td><strong>DESIGN CRITERIA</strong></td>
<td><strong>SIZE</strong></td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Recreational Facilities</td>
<td>Include all the components of a large YMCA plus games area and bowling lanes.</td>
<td>80' x 100' x 24' high 8,000 sf</td>
</tr>
<tr>
<td>Gymnasium</td>
<td>Bunkelbull court with bleachers. Access to locker area as well as public access.</td>
<td>80' x 100' x 24' high 7,000 sf</td>
</tr>
<tr>
<td>Indoor Swimming Pool</td>
<td>6 lane, 25 M pool. Access to locker rooms, public visibility.</td>
<td>30' x 60' x 24' high each 4 x 1800 sf = 7,200 sf</td>
</tr>
<tr>
<td>Handball Courts</td>
<td>(4) courts. Access to locker area.</td>
<td>40' x 70' x 24' high 2,800 sf</td>
</tr>
<tr>
<td>Volleyball Court/Exercise Room</td>
<td>Access to locker area.</td>
<td>20' x 40' 800 sf</td>
</tr>
<tr>
<td>Exercise Room/Weight Room</td>
<td>Access to locker area.</td>
<td></td>
</tr>
<tr>
<td>Locker Rooms</td>
<td>(3) sets of locker rooms: Men, women, and separate Athletic Club.</td>
<td>45' x 40' each 5,400 sf total</td>
</tr>
<tr>
<td>Offices</td>
<td>Includes offices for Facility Director, Program Director, Athletic Director, General Office, Receptionist.</td>
<td>700 sf</td>
</tr>
<tr>
<td>Laundry/Issue Desk</td>
<td>Immediately in locker area.</td>
<td>30' x 15' = 450 sf</td>
</tr>
<tr>
<td>Lobby Area</td>
<td>Adjoining elevators and reception desk.</td>
<td>400 sf</td>
</tr>
<tr>
<td>Lounge</td>
<td>Furnished with lounge furnishings, tables, and chairs. Vending machines.</td>
<td>600 sf</td>
</tr>
<tr>
<td>Game Room</td>
<td>Includes video games, pool tables, ping pong tables, issue desk.</td>
<td>1,000 sf</td>
</tr>
</tbody>
</table>
PROJECT COMPONENT | SPATIAL FORM | ENVIRONMENTAL QUALITIES | SPATIAL RELATIONSHIPS
---|---|---|---
RECREATIONAL SPACE

Multiple bright spaces!!

GYMNASIUM

24'

INDOOR SWIMMING

24'

* Natural lighting
* Air exchanges
* Sound absorbent surfaces

* Natural lighting
* Surfaces must accommodate high moisture levels

Downtown Workers
Recreational Space
Hotel Guests
Day Care

Lockers

Gym

Lobby

Lockers

Pool

Lobby
<table>
<thead>
<tr>
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<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowling Lanes</td>
<td>14 lanes.</td>
<td>80' x 120' = 9,600 sf</td>
</tr>
<tr>
<td></td>
<td>Includes Promenade area, bowlers' seating, restrooms, storage area.</td>
<td></td>
</tr>
<tr>
<td>Public Restrooms</td>
<td></td>
<td>450 sf each 900 sf</td>
</tr>
</tbody>
</table>