

### HISTORIC BUILDING

An “envelope of transparency” should be created around the historic building that is in proportion with the scale of the historic structure.

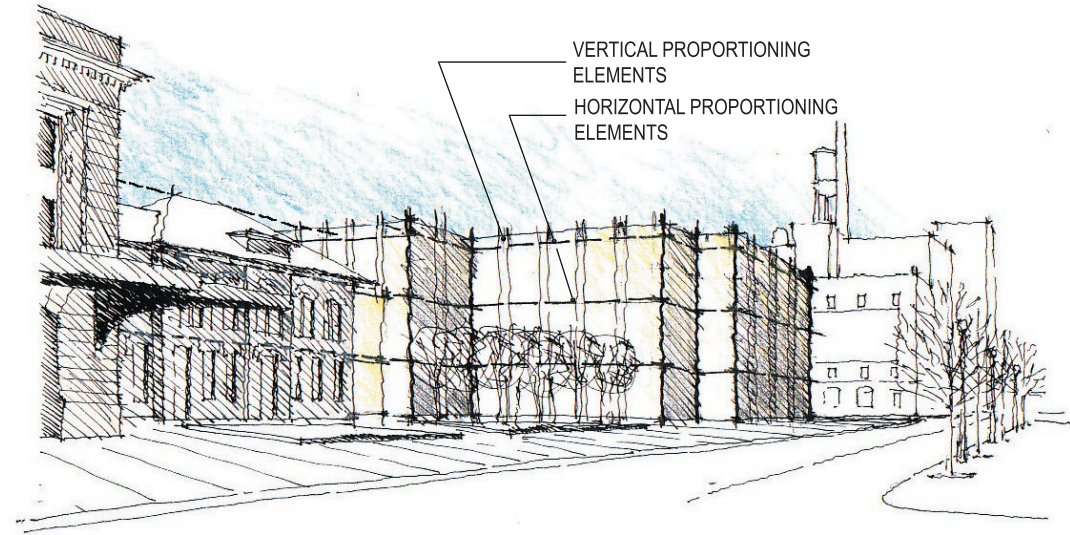
Favorable views of the historic Train Room should be maintained from the Wynkoop Street frontage between 16th and 18th Streets.

Structures within the 17th Street public space between Wewatta Street and Denver Union Station should not be taller than the sill of the Train Room windows, unless a substantially unimpeded view of the Train Room can be maintained.

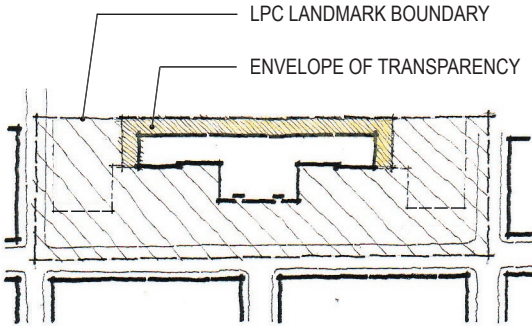
New development directly to the west of the wings of the historic building should not be visible from the east edge of the Wynkoop Street right-of-way.

Attachments to the historic building shall not block historic detail. All modifications and connections will be subject to Landmark criteria, review, and approval.

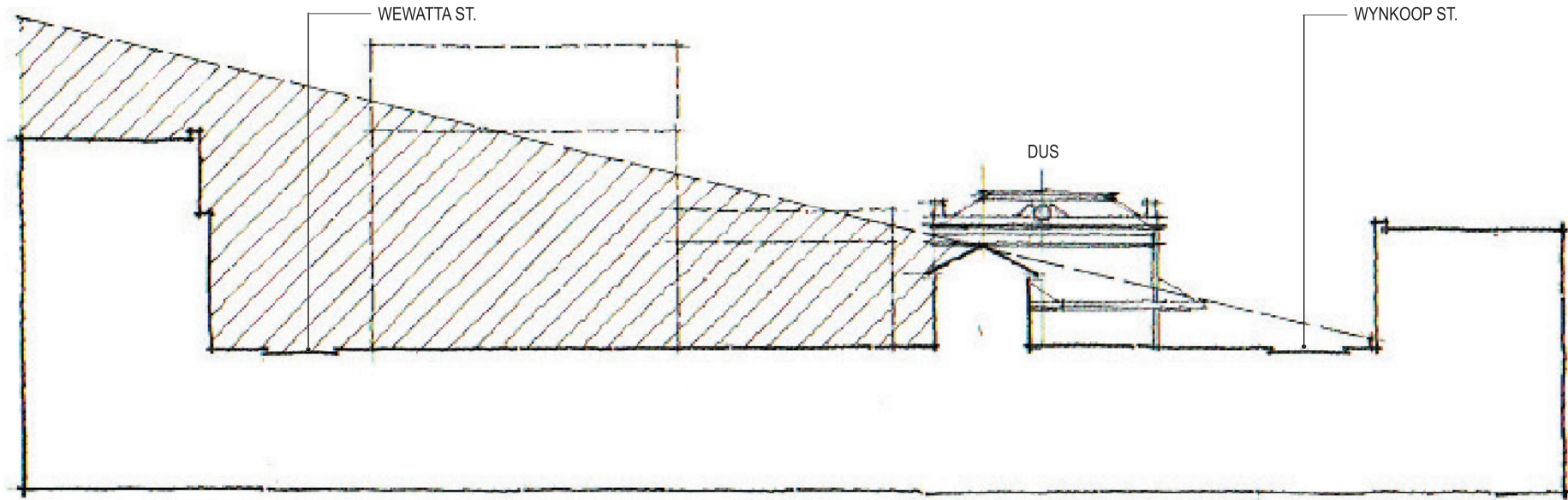
New buildings that are immediately adjacent should complement the historic structure and reflect their own time.



*New buildings that are immediately adjacent should complement the historic structure and reflect their own time.*



*An “envelope of transparency” should be created around the historic building that is in proportion with the scale of the historic structure.*



*New development directly behind the wings of the historic station should not be visible from the east edge of the Wynkoop Street right-of-way.*

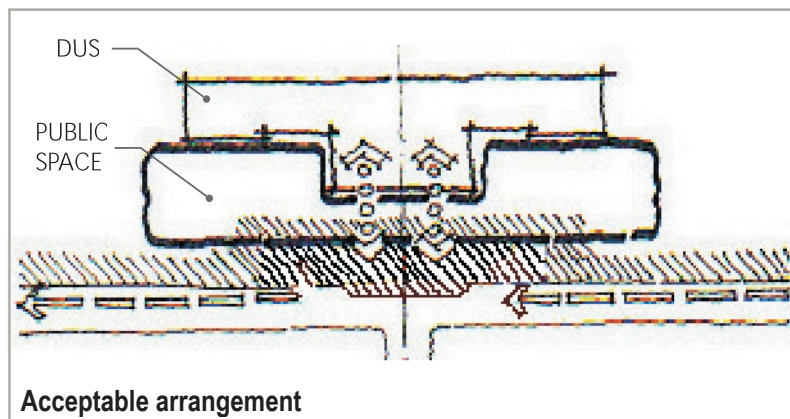




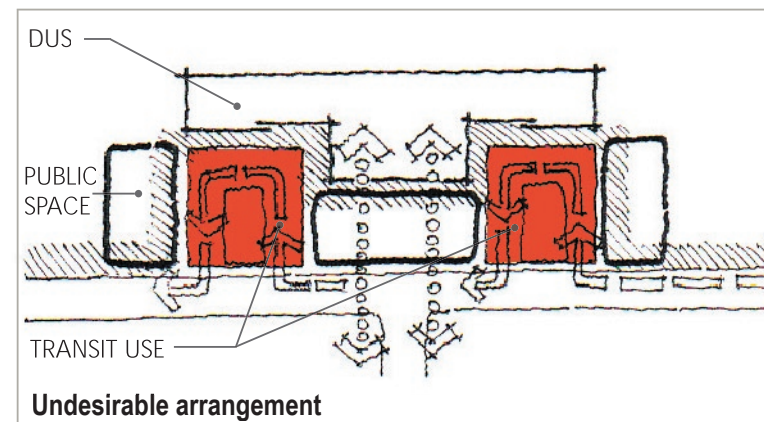
*Opportunities for private development along public street and open space frontage, as well as adjoining internal circulation, should be maximized to facilitate pedestrian-oriented activity and amenities.*



*Private and public access and circulation should be integrated throughout the site to facilitate mixed-use opportunities.*



*The open space in front of the building wings should be preserved for pedestrian activity and circulation, with major transportation activity occurring within the site on the Wewatta Street side of the station and in designated areas on the periphery of the site.*



## HISTORIC BUILDING

Active uses at ground level, particularly at edges of public open space and major circulation spaces, should encourage pedestrian circulation into and through the site.

Opportunities for private development along public street and open space frontage, as well as adjoining internal circulation, should be maximized to facilitate pedestrian-oriented activities and amenities.

Private and public access and circulation should be integrated throughout the site to facilitate mixed-use opportunities.

The open space on the Wynkoop Street side of the building wings should be preserved for pedestrian activity and circulation, with major transportation activity occurring within the site on the Wewatta Street side of the station and in designated areas on the periphery of the site.



**Transit Facilities**

Provide spacious, exciting, and welcoming areas between transportation riders and transportation vehicles.



*The design of transportation-related spaces should convey the excitement of travel, speed, and vehicle technology.*



*Waiting and boarding areas should be well-lighted, well-organized, and generously sized.*



*Entries and circulation routes should be logical, well-marked, and direct.*



*Design spaces and passageways to feel safe, provide informal and formal surveillance, and be easily secured.*



*Design public spaces, connections, and transportation/rider interfaces to minimize or control noise and exhaust fumes.*



*Design transportation circulation spaces with the passenger experience in mind, using high-quality materials and elements.*

*Design forms, surfaces, and materials to be easily cleaned and maintained.*



## New Architecture

The architecture of the new development, while respectful of Denver Union Station, should offer a quiet contrast, allowing the new to be true to its era, function, and culture while complementing the old and its era.

*New architecture should be true to our place and time by expressing contemporary functions, aesthetics, technologies, and regional characteristics.*



*New architecture, particularly adjacent to Denver Union Station, should respect the architectural characteristics of the historic building, such as its scale, proportions, massing, facade divisions, window patterns, and materials.*

## Wayfinding

Provide an effective system for wayfinding to and around all of Denver Union Station's transportation facilities and uses.

*Provide directional signs at the appropriate expressway interchanges to guide vehicle traffic to Denver Union Station.*



*Place directional signs at key locations on major downtown arterials to focus vehicle traffic onto the appropriate streets serving Denver Union Station.*

*Provide a sign system at Denver Union Station to guide vehicle traffic to appropriate parking facilities.*



*Provide a comprehensive wayfinding system to guide pedestrians to all transportation modes and uses as they enter the site on foot from the 16th Street Mall Shuttle, other bus or shuttle stops and drop-off areas, the surrounding pedestrian and bicycle networks, and on or off-site parking facilities.*



*Provide a wayfinding sign system to direct transportation riders between transportation modes.*

*Create an information system to guide visitors arriving at Denver Union Station to metropolitan and Downtown entertainment and shopping areas, cultural institutions, hotels, and other points of interest.*

Sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

- *The Brundtland Report, 1987*

### Defining Sustainability

The concept of sustainability enjoys growing acceptance in planning efforts in the Denver area and nationwide. DRCOG’s *Metro Vision 2020 Vision Statement* includes sustainability as a touchstone: “Effective and efficient cooperative use of limited resources, whether financial, societal, or natural, is essential to achieve the goals of the plan and progress toward a sustainable future.”

The term sustainability usually refers to efforts to conserve and restore the environment and natural resources. In recent years, the concept has been broadened to include economic and social sustainability. An economically sustainable development nurtures its community by providing jobs, revenues, and a healthy tax base. A socially sustainable development creates the framework for strong social ties and institutions that provide community support for generations.

This expanded definition is reflected in the *2020 Statewide Transportation Plan*, adopted by the Colorado Transportation Commission. The *Statewide Transportation Policies* state: “We will incorporate social, economic, and environmental concerns into the planning, design, construction, maintenance, and operations of the state’s existing and future transportation system.”

Denver Union Station redevelopment must conserve energy and other resources, be well-designed to support positive social interactions, and provide long-term economic benefits to the neighborhood, city, and region. Sustainable “success” must be balanced in these three areas.

### Trade-offs

The Denver Union Station redevelopment should create economic, environmental, and social benefits, including more transportation services, greater energy efficiency, improved mobility and connections between metro-area communities, and walkable, mixed-use economic development.

Potential negative effects from redevelopment, particularly in the Denver Union Station area, include more pollution from increased transportation activity, more street congestion, and more noise.

These potential adverse effects need to be identified on local and regional levels, and mitigated through design measures.

Other trade-offs may include higher construction costs and energy requirements for placing transportation underground. (Underground transportation, on the other hand, creates a safer, more attractive pedestrian environment at street level, and provides more flexibility for transportation operations and future expansion.) Enclosed station platforms may be more comfortable on hot or cold days, but will raise energy costs for heating, cooling, and ventilating.

The following is a summary of environmental benefits and possible mitigation measures for redevelopment of the Denver Union Station site.

### Climate-sensitive Building Design

Design that is sensitive to the local climate reduces energy required for heating and cooling. Examples may include:

- passive solar heating of transportation buildings and residences;
- facade design that reduces solar gain (overheating from the summer sun) in office and commercial spaces;
- natural ventilation for cooling residential and lightly loaded commercial space; and
- building design that maximizes “daylighting,” sizing and positioning windows and skylights so natural light supplements or replaces electric lights.

### Climate-sensitive Open-space Design

Through windbreaks, solar orientation, and shading devices, building design also can create more comfortable outdoor spaces. This can make spaces more usable, improving social interactions and the economic viability of the neighborhood.

Well-designed public spaces contribute to the perception of civility, collective safety, and overall social health. In Denver, these spaces can be indoors or outdoors, because the climate is temperate for much of the year. Designs should enhance outdoor microclimates and provide comfortable, attractive spaces for spontaneous and planned meetings.

### Renewable Energy

Energy-conservation measures also indirectly improve air quality. Denver Union Station redevelopment should consider alternative sources of energy, such as buying power from a local or regional wind-power-generation company. Xcel Energy uses wind power to supplement Colorado’s power grid.

### Mixed-Use Development and Urban Regeneration

The Denver Union Station site forms a barrier between Lower Downtown and the Commons Neighborhood. Redevelopment can tie these elements together to nurture economic growth and weave together the city’s social fabric. Redevelopment also uses land and existing infrastructure efficiently.

### Intensity of Use

Buildings used intensely around the clock are more resource-efficient than those left vacant for long periods. Intensely occupied buildings benefit more from energy-saving strategies than those that are used lightly over shorter periods. Such buildings also can reap the social benefits of increased pedestrian traffic and transportation use extending over the day.

***Maintenance and Operation***

Sustainability is heavily influenced by design for maintenance and operations. For example, operating buildings over a 30-year life cycle uses about four times more energy than the amount required to construct them.

The following strategies help minimize resource consumption over time:

- Select durable building materials and surfaces.
- Employ low-energy, nonpolluting (such as non-CFC) heating, ventilation, and cooling (HVAC) technologies.
- Create flexible spaces and systems that can be renovated or reconfigured with minimal effort and materials as their use changes over time.

***Re-use of the Historic Building***

Re-use of the historic Denver Union Station building is a key factor for sustainability. The re-use refurbishes it and thus recycles a valuable asset.

***Regional and Statewide Sustainability***

The Metropolitan region and the state will benefit from sustainability efforts at Denver Union Station through:

- economic development resulting from the strong connection between Denver and other cities, including the development of other multimodal centers;
- positive environmental effects provided by alternative transportation, less reliance on auto travel, preserving air quality and reducing demand for gas and oil, roads, and parking; and
- providing a model for dense, mixed-use development as an alternative to urban sprawl.

**Sustainability at DUS**

There are many ways to incorporate sustainability practices into the new multimodal facility at DUS. The primary sustainability components include:

- Reuse of the historic Denver Union Station building as the centerpiece of site orientation, circulation and connection to Denver's past.
- Creation of a multimodal transportation hub serving Denver, the metro region, and the state with public and private transportation modes connected in one location.

**Other Sustainability Goals**

Site redevelopment should strive to incorporate other sustainable objectives such as:

- Simplicity in its design, layout, and construction.
- Recycled materials in construction for new buildings, structural components, materials and finishes.
- Energy-efficient glazing for windows.
- Passive and active solar energy.
- High-quality pedestrian connections throughout the site to encourage walking.
- A 'car sharing' cooperative and facilities to recharge electric vehicles.
- Increased bicycle use through elements like the Bike Station and accommodating bicycles on transit vehicles.
- On-site recycling facilities.
- Sustainability in the design standards and guidelines for the site.
- Leadership in Energy and Environmental Design (LEED) facility certification and incorporation of LEED standards.

New technologies to improve sustainable design are rapidly evolving. The predominant model in the U.S. today is the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system, which is becoming a widely accepted set of standards.



