The Revitalization of the St. Louis Union Station's Powerhouse

St. Louis, Missouri

A study into the degrees of contextualism.

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Preface

In the last couple of years, preservationists have come to accept one truth in particular: Change is inevitable. They know, for example, that there will be new construction in older neighborhoods and historical districts, that new buildings will be built next to old ones, that old structures need to be modified from time to time. How to assure that change is orderly and how to define what relationship new architecture should bear to the old are some of the more complex and controversial issues confronting design professionals and preservationists. The problem recently has become increasingly apparent, with the growing public awareness of preservation, the creation of more than 600 local commissions to monitor historic district concerns, and the establishment of numerous design review boards in nonhistorical areas.

Preservationists, as well as design professionals, know that new and rehabilitated structures, if not designed sensitively to be compatible with their surroundings, can damage and ultimately destroy the ambience of historic buildings and areas. This is an economic threat as well as an aesthetic one, for its consequence will include diminished support from residents, businesses and visitors. What we have saved from the wrecking ball we do not want to lose to a more subtle degradation of our architectural heritage—a process that might be call “architectural strangulation.” As difficult as it is to spare the major landmarks and districts from such encroachment, it is all the more difficult to protect vernacular sites and background buildings.

Recognizing that change is inevitable, we as design professionals should be concerned with the concept of change management. Change should be orderly, deliberate and related to existing structures. Change management attempts to control and measure the rational modification, and occasionally even the removal, of the old and the introduction of the new. In advocating the management of inevitable change, one should not assume that replication is style or background is strategy.

Many preservationists admire modern and contemporary architecture as much as, if not more than, most people. We know that new architecture can highlight or add excitement to an older area. We know that a good new building can become the landmark to be protected and preserved some time into the future.

Preservationists, in summary, consider the built environment as a continuum. Far from insisting that the past be isolated from the movement of history, they urge that past, present and future architecture relate and interact harmoniously. They hope that the term “architectural heritage” will be understood universally to mean a progressive and dynamic force in the design of our physical environment.
INTRODUCTION

The main concern of my thesis was to deal with the rehabilitation of an existing industrial building, within an urban context.

The building I selected was a powerhouse, once used by the St. Louis Union Station and other surrounding buildings. Its particular location within the urban fabric has great potential for future development.

To the north of the Powerhouse is the newly revitalized St. Louis Union Station, the largest commercial rehabilitation project ever completed. To the east of the Powerhouse is a partially abandoned warehouse / railroad depot district, which has the potential of becoming a residential district. Because of the Powerhouse's location between these two zones, one commercial / entertainment the other residential, the Powerhouse has the ability to take on a new identity as a point of transition. The reason I refer to it as a point of transition is simply because one would circulate around the base of the smoke stack - located to the south of the Powerhouse - which in itself is a point on the urban plan. This transitional point could be further developed into a collection area were daily public activities could occur, giving the Powerhouse a sense of "place".

Up to this point a logical sequence of urban and site evaluations has been made, yet the real evaluation and exploration will occur on the interior of the Powerhouse itself, where the design will confront such issues as a building within a building, space within a space.

The final architectural solution is the result of one quarter's worth of urban analysis and community development, followed by two quarters of architectural design, focusing in on the design of the site and the interior Powerhouse.
Abstract

I approached the design of my thesis project in three different degrees of contextualism:

The first degree of contextualism deals with the analysis and community development of the urban context.

The second section addresses the site context and how to strengthen its identity as a "place".

The final section is an exploration into spatial and metaphorical readings of a contained context within a building.
"It is true that small scale things, even important ones, can be done by a single generation. It is all the true, however, that a piece of work cast on a heroic scale needs the labor of generations. ... Each generation, by the terms of the partnership, still has the right to express what is unique in itself. Each still has the right to meet its own needs in its own style. But each builds best in its own day when it pays a decent respect to the past and the future, and frames its own work to fit in between the growing ends of both."

Urban Context

There is a growing understanding that a successful community is not an instant achievement. A dozen new, tall buildings may make a marvelous exhibit and display, but they do not make a great city. A successful community depends on the work of many people adding new to old, over a period of time. As city planner Edmund Bacon says, "It is the second man who determines whether the creation of the first will be carried forth or be destroyed." The growth of a community should be a natural process, reflecting new requirements and evolving from one stage to another, rather than a series of radical confrontations. A community is the work of many architects and also planning commission developers, owners and private citizens- a whole series of composers, conductors, performers and audiences- over a generation of more of time. It is public art of the highest order and the highest potential.

In order to make design decisions about a building within an urban context, one must first evaluate the context in which it exists.
Urban Context
an urban analysis focusing on community development

Design Intentions:
to analyze the surrounding urban environment in the hopes of finding some condition that might allow the Powerhouse to serve as a more integrated part of the whole.
Development Plan:

There are several industrial structures within the immediate vicinity of the St. Louis Union Station Complex, all of which have been evaluated according to these 6 principles:

1. Potential for Adaptation
2. Stability of Present Use
3. Value to Concept / Context
4. Architectural Merit
5. Physical Condition
6. Historical Merit
1. **Potential for Adaptation:**
   considers the size of the building, its column spacing
column spacing, ceiling heights, and interior spaces,
and judges the ease or difficulty with which other
uses may be incorporated into the existing structure.
Buildings with dark tones are not suitable for
rehabilitation while those with no shading are
excellent candidates. The varying tones from light to
dark represent degrees of suitability for
rehabilitation.
2. **Stability of Present Use:**

   considers the existing use of the building and its recent history of ownership and evaluates the continued use of that building. Dark tones indicate buildings that are highly used. Unshaded buildings are vacant and available immediately. The varying tones from light to dark show degrees of under-utilization.
3. **Value to Concept / Context:**

considers the building as a single part of a rehabilitation plan for the entire area. The evaluation judges whether a building can accommodate one or more of the proposed new uses for the community. Darkly shaded buildings cannot fit within the concept. Unshaded ones are well suited. The tones in between show weak and moderate potential for needed uses.
4. **Architectural Merit:**

   considers the design quality of each building -its proportion, size, detailing, and quality (of both design and construction), as well as its relationship to adjacent structures. Buildings with dark tones were determined to have less architectural significance than those with no tone.
5. **Physical Condition:**

considers both the external and internal structural condition of each building, in terms of its suitability for rehabilitation. Unshaded buildings are in excellent condition and will stand without substantial renovation for many more years.
6. **Historical Merit:**

   considers the history of each building and judges its contribution to the history of the urban fabric. Darkly shaded buildings do not contribute to the historic significance of the district. Unshaded buildings were determined to be historically significant.
Comprehensive Evaluation

The six evaluation charts were used to separate and analyze information essential for determining which buildings should be retained and which might be demolished. The charts were then combined in a comprehensive evaluation so that plans for preservation and rehabilitation could be developed.

The chart on Comprehensive Evaluation presents the combined charts one through six and shows an analysis of each building in terms of the six characteristics. Darkly shaded buildings are weak on all six points and may be considered to have little value in a scheme for the development of the area. Unshaded buildings are strong on all six points and should form the nucleus of the plan to develop this historic industrial area as a new thriving community.
Final Evaluation

Through this evaluation one can clearly see the potential for future development east of the Powerhouse. For the purpose of this thesis, and the well-being of the St. Louis Union Station Complex, let us assume that this area is zoned for residential use only, keeping in mind that it is essential for the success of commercial and entertainment centers that they be used by as many people as many hours a day as possible. Therefore, introducing a nearby community, with people within walking distance all the time, would greatly aid in the stability of such complexes.

The REA Railroad Depot, located immediately east of the Powerhouse, has the greatest potential for future residential development, not only because of its high chart rating, but also because of its location. Pedestrians, approaching from the east on axis with the Powerhouse’s stack, avoid contact with vehicular traffic. Pedestrians simply pass under 19th Street, which eventually bridges existing railroad tracks to the south.

The stack, a very powerful element within the urban landscape, gives the Powerhouse its identity. Without the stack, the Powerhouse would have little meaning or worth.

Yet, the function of the stack goes beyond defining the location of the Powerhouse. It serves as a marker to draw people out of Union Station and to its collective base. It serves as a point of transition between the residential area to the east and the commercial/entertainment area to the north. It effects not only pedestrians but also motorists who experience its upperward thrust from 12 feet away, 40 feet above the ground, and at great speeds. It is a powerful element; without it there would be no project.
shown: proposed REA Railroad Depot Community and pedestrian link to the Powerhouse.
Site Context

We all know that old architecture can rarely be preserved in a static form. There is a limit to how many buildings can be treated as museums or how much of a city can be preserved as historic precincts that completely resist change.

We also know that new architecture must gradually become obsolete—a process that begins the day a building is completed. A typical building performs satisfactorily for only a limited number of years: 40 years for a very good building, but usually only 10 to 20 years. It is difficult for most contemporary architects to accept the fact that their creations will some day require alterations or even replacement.

The need for change is the result of change—its requirements for building functions and conditions is community life. That change is continuous.

The health of a structure—whether a room, a community or an entire region—depends on how successfully new requirements are recognized and satisfied. If the new requirements are properly introduced, the fabric of the structure is strengthened and enriched, and its life expectancy is increased. If not, the fabric may be torn and weakened to the point that it has to be abandoned. The critical point is where old and new meet, this is where the new cells are added and the growth and chemistry take place; it is where the fabric is either reinforced or begins to break apart.
Site Context
  strengthening the identity of "place"

Design Intention:
  to analyze all site limitations, and work within those limitations in creating a stronger sense of "place".

  to make the site as accessible as possible.
The design solution is made up of three elements: the introduction of new structures, landscaping and circulation patterns.
Built Environment

Urban Screen:
provides a visual terminus that strengthens the idea of "place" or point of arrival. Movie theaters are tucked behind the urban screen and under Interstate 70.

Lower Plaza:
provides a place for social interaction, with shops and food vendors located immediately adjacent.

Upper Plaza:
provides pedestrian circulation between the lower plaza, powerhouse, movie theaters, and REA Depot Community.
Landscaping

Landscaping Grid:
relates directly to the structural grid below, by placing trees above column lines.

Tree Buffer Zone:
is used to screen out unwanted noise generated by passing automobiles.

Overall Concept:
was to strengthen the Powerhouse's identity as a "place", while indicating entry for pedestrians approaching from the parking lot.
Pedestrian Circulation

Pedestrian Ramp:

Is held together by a series of 24 foot square plazas, which create a rhythm of spaces leading down to the underground passage. This passage is directly linked with the Powerhouse Plaza.

Sidewalk:

Is tree lined and an upper plaza on the south-west corner of the site has been created to provide for pedestrian flow between plaza and parking lot.

Trolley:

Allows for more freedom of movement throughout the complex.
shown: proposed Powerhouse and Plaza