Rediscovering the River: INFILL AND ADAPTIVE REUSE IN BRATTLEBORO, VERMONT

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B.A., Antioch College, 1973

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Rediscovering the River: 
Infill and Adaptive Reuse in Brattleboro, Vermont

by Phillip A. Bannister

Submitted to the Department of Architecture 
on February 14, 1984, in partial fulfillment 
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ABSTRACT

This thesis develops several ideas 
voiced by the citizens of Brattleboro. 
The first, the River Walk, is a pedes-
trian path at the rear of the downtown commercial area of town. Projections are made about the possible route and form of this path, which would overlook the Connecticut River.

A connection between the Main Street of town and the River Walk is suggested, as are pedestrian bridges between the River Walk and the shore of the river.

A mixed use building on Main Street is proposed. The design is intended to repair an existing break in the fabric of Main Street, and to herald the connection between the River Walk and the river shore beyond.

In the final part of the thesis, an unused warehouse is adapted to serve as a community Performing Arts Center.

Thesis Supervisor: Richard D. Tremaglio 
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For Philsey, who was never really sure a picture was worth a thousand words.
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INTRODUCTION

The town of Brattleboro, Vermont is built along the Western shore of the Connecticut River. The river and its tributaries played an essential role in the development of the town. River transportation was once a major connection between Brattleboro and more populated areas to the South. The Whetstone Brook, one of the tributaries, was a primary source of power, and spurred the industrial development of the town.

This close association between the town and the river lasted for almost a century. The river's role in providing transportation and power remained unchanged until the railroad came to Brattleboro. The railway was built along the river's edge, and by 1860 had effectively shut off the downtown area from the Connecticut River. The development of alternatives to water power allowed the mills to move to cheaper, flatter land away from the downtown area. The physical separation by the railway, and the lack of any functional need for a direct river connection, has created the present situation today: the riverfront is difficult to get to, littered, and very overgrown by bushes and trees.
The railway area is not as hectic or active as it was in the past. The increase in truck transport, and the gradual movement of industry away from the downtown area has brought the rail activity down to an occasional freight train, and the late night passage of the Metroliner on its way between Montreal and New York.

The lessening of noisy and dirty activity along the railway is probably one of the reasons why, in the last 10 years, townspeople have shown renewed interest in the Connecticut River and the Whetstone Brook. The river is less polluted than ever before. A few Atlantic salmon came up the river for the first time in 75 years in 1981, and every year their numbers increase. A multi-million dollar project of building fish ladders to enable the salmon to bypass dams is nearly completed.

The town developed because river transport and water power was available. That explicit relationship between the town and the river is gone, as is most of the manufacturing and transport that formerly occurred along the river. A new relationship is beginning to form; a connection between the town and the river that reflects a way of being in the world that has meaning for the current residents.
The townspeople have many values common to those who choose a small town or exurban lifestyle. One of these seems to be an understanding of the importance of the coexistence of the man-made and the natural world.

Kevin Lynch describes the "significance" of a place in terms of its ability to make a person aware of "her community, her past, her culture, the web of life, and the universe of time and space in which these are contained." ¹

The townspeople are rediscovering the natural beauty and recreational assets of their river. I think they are also rediscovering its deep and powerful "significance."

Opposite the town, the unbuilt Eastern shore rises steeply from the river. The river flows between this unbuilt, natural landscape and the built, man-made landscape on the opposite shore. The river is a part of both worlds and brings them together.
THE PIECES

The Brattleboro Urban Design Project, a citizen's group interested in projections about Brattleboro's future, mention a "River Walk" in their project summary from 1982. The idea has been around since the mid-1970's and was described by the Project members as "a walkway behind Main Street, where one could walk and enjoy the panoramic view of the river and the mountain." The problem of access to the rears of the Main Street buildings was mentioned, but the group still felt the River Walk was a "wonderful" idea that "sparked interest and enthusiasm."

The citizen's group also expressed interest in exploring options for existing underutilized buildings in the town, and voiced the desire to have a space for performing arts in the town.

Another group, the Committee for the Performing Arts Space, was organized. They developed a list of space needs for the performing arts in the community. This included a large and small theater, lobby area, dressing rooms, and other associated ancillary spaces. Several locations were suggested, and the Committee concluded by saying, "...other (location) options may be viable, especially if they fall into the desired area for community development. They all should be explored and evaluated."
This thesis is a design exploration that combines the River Walk idea and concerns about underutilization of the existing building stock, with the Performing Arts Committee's space needs program. I explore the development of a Performing Arts Center in a large, vacant warehouse behind Main Street. The problematic connection between the River Walk and Main Street was made easier by the hypothetical removal of two existing buildings on Main Street. This gave me the opportunity to explore the design of a new building on Main Street that related to both the downtown fabric, and the river.

This design exploration consists of three interconnected elements:

a) an infill building on Main Street;
b) access to the River Walk and the Connecticut River;
c) the adaptation of an unused warehouse to serve as a performing arts center.

The design work on the three elements occurred together. For example, the responses to context and topography informed decisions about access and structure. This synergistic working method occurs quite naturally, but is difficult to write about. What follows is more a catalog of my observations, ideas, and design responses, than a written analog of my design process.
THE TOWN

Brattleboro's natural setting [Mark Jacobucci]
Brattleboro is a town of about 12,000 people in Southern Vermont. It serves as the "big city"; an economic and cultural center for about 40,000 people living in neighboring rural towns. These include towns in nearby New Hampshire and Massachusetts.

Brattleboro is located above the Connecticut River, and is built on a series of terraces rising parallel to the river. The settlement pattern of manufacturing and rail development along the river's edge, commercial growth along the first terrace, and residential development filling the terraces beyond is quite visible today.

The steeply sloping natural divisions between terraces are largely unbuilt, and often mark the boundaries between the different uses. In those places where the slopes have been developed, a building may rise a few stories on one side, while the other side of the building extends over the terrace and continues for several more stories down the slope.
The study area is the urban center of Brattleboro. Main Street runs roughly North-South, parallel to the river and the railway. The Eastern side of the street is a continuous row of 19th Century "commercial blocks." Most of these brick structures rise three or four stories above Main Street, and some open out at the rear for several stories, descending the steep slope below the Main Street level. These "commercial blocks" form a long, unbroken street wall along the Eastern side of Main Street with a uniform sense of scale (probably from the consistency of ornament, floor heights, and window sizes).

Two alleys penetrate this long block and a service road (Arch Street) links the Southern end of Main Street (which is lower than the Northern end) with the railroad tracks, and provides access to the foot of the Main Street terrace.
The brick "commercial blocks" that make up the length of the Eastern street wall are far from unique. I find the essence of small town America is evoked by images of these buildings, whether they are from the south, Corning, New York, or Brattleboro, Vermont.
J.B. Jackson claims the prototype was developed in New England. Brattleboro has had them since 1830. The "block" is usually a multi-bayed building, from three to six stories tall. The glazed street facade accommodates retail display, often for several stores. A doorway in one of the bays leads to stairs which access the upper floors.

These walk-up floors traditionally contained the offices of professionals (doctors, lawyers, etc.) and non-retail businesses. The top floor was usually residential. This is still the pattern in Brattleboro, though the second floors now also house small retail shops (used clothing, galleries, books, etc.).
There are fewer professional offices than in the past. Zoning changes in some of the residential areas adjacent to downtown has let the professionals leave the less than desirable walk-up arrangement, for residential areas that offer more convenient access and parking. There is still, however, a significant professional presence on Main Street.

The varied tenants of the upper floor apartments, and a number of artists and craftspeople who find the loft space of the commercial blocks suitable for studio space, add to the diversity of activity along Main Street. Hillary Ann Brown, a former intern with the County planning agency, described the Brattleboro commercial blocks as "older buildings...that shelter the specialty shop (normal to larger downtowns). A leather goods and services shop, custom photography and gallery,...a natural foods restaurant, a boutique. It is the multi-faceted commercial make-up. The diversity of purposes and offerings downtown on which the preservation of Main Street vitality depends."
The Western side of Main Street is more mixed in age, and the intersection of several streets creates blocks of a more conventional size, unlike the continuous Eastern street wall. The block dimension and the views down the side streets give the Western side of Main Street a typical small town feel.

The Eastern side of Main Street.
The fabric of continuous, multi-storied commercial blocks on the East side of Main Street is abruptly stopped by a recent one-story commercial building. This building, now the home of a Rite Aid drugstore, was built in 1981 after a fire destroyed the building previously on the site.
The Rite Aid building can be criticized for its lack of sensitivity to the prevailing scale of Main Street. It is not the "right" size. It also ignores the shared pattern of large display windows. It has small windows raised from Main Street eye level.

There are other criticisms, but they are all secondary to the major criticism; this is a building so singular in its intent to sell drugs that it ignores its context, and adds nothing to the diversity or vitality of life on Main Street.
The mountain, on the other side of the river, is visible behind the Main Street buildings when they are viewed from a distance. As one approaches, the buildings gradually obscure this view. I find this break in the sequence of visual landscape connection allows one to forget the presence of the river, and Brattleboro's physical location in the landscape.

The one-story height of the Rite Aid building allows a slight view of the mountain behind, and suggests that if a view to the opposite shore was opened, one's visual and experiential progression could be extended beyond the street wall, to the river valley.
BEGINNINGS

An opening for the view seems most appropriate near the Main and High Street intersection. There it would allow not only the Main Street travelers the view, but provide the travelers down High Street a sense of the natural termination of their progress, as their view extends towards the river.

In my design, this visual access was gained by removing the building next to the Rite Aid building; this narrow (25 feet wide) building is occupied by a brokerage house. An adjacent alley was also included in the opening to provide a sufficient dimension for the connection between High Street, Main Street, and the river.

here and there
Man-made enclosure, if only of the simplest kind, divides the environment into HERE and THERE. On this side of the arch, in Ludlow, we are in the present, uncomplicated and direct world, our world. The other side is different, having in some small way a life of its own (a withholding).

(from Townscape by Gordon Cullen)
A new building, having more than the total combined square footage of the brokerage house and the Rite Aid building, was designed for the Rite Aid site. (I felt it necessary to replace the square footage lost by willing the brokerage house and the Rite Aid buildings away.)

High Street is a widened, paved, and sidewalked version of the original path down the terrace towards Main Street. This path followed the natural slope of the terrace, and rather than meeting Main Street perpendicularly, their intersection is about 20° from the orthogonal.
The direction established by High Street was carried into the site in the opening made to the river. This direction, perpendicular to the slope of the terrace down High Street, is also perpendicular to the slope of the terrace behind Main Street going down to the river, and is roughly perpendicular to the railroad tracks and the river bank.

I felt recognizing and strongly establishing this landscape direction in my design was more than an architectural "conceit". My early design explorations suggested descending the slope behind Main Street, as well as crossing the railroad tracks to the river. Both of these could be done best by stairs, ramps, and bridges built following the High Street/landscape direction.
This direction became a major element in the whole design, even to influencing the elevation of the new Main Street building. While I was interested in exploring the architectural problem posed by this overlap of direction, it wasn't simply a formal exercise. The interaction of this landscape associated direction with the direction established by Main Street and its buildings, seems a part of the reciprocal relationship between the man-made and the natural worlds. A renewed awareness of this relationship is, I feel, the basis for the townspeople's emerging interest in their river, and for my design.
The existing Rite Aid building has very little contextual association. It chooses to ignore the patterns of use and form that make the Main Street fabric. The building could as easily be in a shopping mall as on Main Street. In my design, I have tried to recognize these patterns and respond with a building that would support the vitality and diversity of life on Main Street. I did not want it to be a historicist reproduction of the existing commercial blocks, however.

The Rite Aid building is at the intersection of High and Main Streets. High Street is the termination of the major highway across Southern Vermont. The view down High Street towards Main is the first view many people have of the center of Brattleboro.

In one of his essays, J.B. Jackson has called a predictable entry route for new arrivals the "Stranger's Path". The Rite Aid building seems to fail in its responsibility as a gateway on the Stranger's Path. It heralds nothing about the richness of life, or uniqueness of place that is Brattleboro.

There have been many social and technological changes since the form of the existing commercial blocks was developed. These blocks are good examples of 19th Century "commercial" vernacular. J.B. Jackson says they were "built as a speculation with no particular occupants in mind." The arrangement of stores on the ground floor, offices on the second, residences in the uppermost stories, "represented less a traditional social order than degrees of accessibility: two flights of stairs were enough for the average citizen to climb; three flights were for the poor."
A technological development, like the elevator, can have a profound architectural influence. Buildings can become vertically homogeneous, with the distance from the ground having little consequence on use. A traditional pattern, like the upper floors being the home to only the poor, can be changed, and result in the luxury penthouse.

I have tried to take advantage of the benefits 20th Century "progress" has had on the form and structure of building design, but not let it destroy the patterns of use (many of which developed in 19th Century buildings) that are found in Brattleboro.

The new building recognizes the vertical distinctions evident on Main Street. It reproduces the pattern of stores on the ground floor offices above, and residences on top. An elevator, however, allows the top floor to be easily accessed. This could result in the top floor becoming exclusive apartments, but it could also open that floor up to the elderly, or the handicapped.
Brattleboro has a very tight housing market, with less than a 2% vacancy rate, indicating a limited housing supply. About 20% of the population of Brattleboro earns less than $4000 per year. Many of these poor live in, or near, the downtown area. Providing inexpensive housing for the poor would be of great service to Brattleboro, but the time constraints of this thesis prevented this economic aspect from becoming a major part of the design work.

A new pattern of second floor retail stores is emerging on Main Street. The existing commercial blocks aren't particularly well suited for this. In addition to the absence of second floor display windows, the stair connection between the street and the shop is often not obvious.

Main Street store with a shop above.

In this design, the second floor of the Main Street building is commercial. The glazing would be similar to that of the ground floor, and the stairs, very visible on the Main Street elevation, would make the connection between the street and the upper floors very visible.
Brattleboro has had its share of strip development. Shopping centers, discount stores, fast food joints, and all their attendant parking lots have been built on the roads into town, often over farm land. The downtown has still remained active through this change. Though some larger retail concerns have moved to the strip, the retailers who remain seem to do well. I think an increase in second floor shops could only strengthen the downtown area, and help it remain a rich environment.

The third floor provides open office space, and is accessible via the stairs visible on the street, or by the elevator. The stairs terminate on the fourth floor, which is residential. The "open plan" aspect of the residential design may be unwanted or inappropriate for some residents. It is the result of working without a client. I designed the apartments as though I would live there, and they reflect my tastes and values. The design isn't intended to present the only solution. Housing is the most personal form of architecture, and should be able to respond to the unique wants and needs of different people.
PLAN MAIN STREET BUILDING

exist. theater

exist. comm.
MAIN STREET ELEVATION
FLOOR 2  ELEV. 299

FLOOR 3  ELEV. 311
FLOOR 4 ELEV. 321
STUDIES: MAIN ST. CONNECTION
The elevations reflect the visual consequences of a mix of intentions. I wanted the functional distinctions of the different floors to be obvious, and expressed. The stair-street connection should be visible and accessible.

The street wall created by the existing commercial blocks is very flat. The facades of these buildings are quite two-dimensional; at most, a cornice may project out a foot or two. I wanted to continue the overall sense of this flat street wall, while also providing overhangs, for shade and weather protection at entrances, and outside decks.

The resulting elevation uses masonry walls, and the concrete frame, placed in the plane of the other Main Street buildings, to continue the street wall. The exterior walls of the two lower floors are pulled in from this plane. These walls and the glazing of the stairs are oriented to the non-orthogonal landscape direction. This shift provides sheltered entries, and announces the continuation of the High Street direction into the site. The outside decks of the upper floors are contained within the volume of the frame on the Main Street (West) elevation. They slightly overhang on the South elevation to shade the windows of the floor below.
The structure, a precast concrete frame, was chosen because it offers great flexibility. The size and location of decks, walls, doors, and windows are all variable, and independent of the structure.
All the illustrations are of the work of Otto Steidle and Partners (Patrick Deby, Gerhard Niese, Roland Sommerer). The buildings utilize a prefabricated, "Elementar 72", structural system.
This allows for a multitude of possible plan configurations, and varied elevations. Through a series of elevation sketches, I explored various infill options of the frame.
The context provided clues as to massing, window sizes, floor arrangement, and the building's mixed use. But there were no contextual answers about the visual arrangement of the building's components, their "composition". This led to consideration about the basis for a conscious compositional ordering of the facade. The use of a skeletal structure, with variable options for enclosure is suggestive of a building method in which the users could make individual decisions about the enclosure materials, and their placement and finish. In such a building method, the architect might provide a framework, in this case the concrete structural system.
The architect could offer suggestions about materials and their uses, or even devise a set of standardized options for users to select from.

Inherent in this process is the assumption that the resulting building will evidence the many individual choices that produced it. The aesthetic control and elaboration of the architect may be limited to the choice and elaboration of the structure, or perhaps extended to the design of standardized options. But the architect's traditional control over the total compositional arrangement would be relinquished. The building would be the built image of the process of its making. The basis for aesthetic decisions would be in the appreciation of the freedom and possibility expressed by such a building's variability.

In developing these elevations there were no user decisions to incorporate. This is, unfortunately, a clientless design exploration. Even if this were a real project, it might well be built as speculation, like the 19th Century commercial blocks. Choices about options and variables were given to me, and not to the users. The result is surely limited by this, but I think compositional decisions can still be grounded in a desire to express possibility, variability, and a freedom from traditional ordering systems, even if that freedom is exercised by only one person.
These ideas are discussed in the following conversation, with writer Alain Robbe-Grillet. The text was transcribed and translated by Bruce Morrissette. (From Alph, Trans, Chung by D'Agostino)

The question of order and disorder in the narrative has been bothering me for some time. More and more I see its importance in my works, in the works of the contemporary world—even outside of literature, in cinema, in painting, in music—but at the same time what also concerns me is the ambiguity, that is, the changing aspect, the shifting side of this question. And since I have not myself up to now tried to give form to a theoretical exercise on this question—that is, I have not written a critical essay on the problem—it is possible that I may lose my way along the path. But that is not important. I would even say that it would be better, since it would be in the very image of the project of the discourse in question.

You have no doubt noticed that, beginning with my first novels and in all the novels that have followed, there are characters who are interested in creating order. They are often secondary characters, and their activity might seem to be somewhat humorous (but one must be aware of humor since it is often what is most serious). In my first novel, Les Gommes, there is a character called Garinath who arranges objects on the mantelpiece. He moves them about to try to find the best order, and it is this kind of activity which continues from novel to novel with an astonishing persistence. Another character in La Maison de rendez-vous, one of my latest novels, engages in a similar activity, all of a sudden, somewhere along a page. I notice at the same time that this problem has bothered other authors of the Nouveau Roman. There is a novel by Claude Ollier called Le Maintien de l'ordre; the American edition is called Law and Order. And there is a novel by Claude Simon which begins with this quotation taken from Paul Valery: "Two dangers threaten the world: order and disorder"—an extremely interesting sentence, because it shows me that these two dangers do not threaten only the novel or the narrative, but threaten the world as a whole...
Causality and chronology are really the same thing in a traditional narrative. The succession of facts, the narrative concatenation, as is said today, is based entirely on a system of causalities; what follows phenomenon A is a phenomenon B, the consequence of the first; thus, the chain of events in the novel. The very order of traditional narration will be causality and temporality as causality. Now if one takes a Nouveau Roman, or New Novel—let us choose a text like La Jalousie—what happens is entirely different. Instead of having to deal with a series of scenes which are connected by causal links, one has the impression that the same scene is constantly repeating itself, but with variations; that is, scene A is not followed by scene B but by scene A', a possible variation of scene A. Nevertheless, these scenes follow each other in an order which should be that of temporality and causality.

Using the terms of Jakobson, a modern critic has said that the contemporary novel, and I think he was talking about La Jalousie, arranges metaphors in the order of metonymy—that is, arranges elements which should be causal. I understand that the critic would be surprised by that order, but I do not understand why he should complain that it cannot be natural; it is not natural, but it is not unnatural either; it is no more or less natural than traditional order. But this new order has the great advantage of calling attention to its own artificiality, of pointing to its mask with its finger, instead of hiding behind the appearance of something natural, in essence, an ideological trap. It is the artifice itself which appears on the scene in the novel. And the great advantage, in my opinion, even the great didactic advantage, of this operation is to place the reader opposite, so to speak, his own liberty. He is not told that the world has been constructed once and for all and that his only duty is to reproduce this world one more time according to the already created forms borrowed from tradition; he is not told, then, that man will never change because he is an eternal and natural animal.
The new narrative mode will place the reader before a kind of emptiness or vacuum, facing the possibility of creating his own order, his own organization, and consequently, facing the possibility of changing the world, only not once and for all. This is something which obviously is rather difficult to explain to the reader who seeks what he regards as "the truth." The concept of truth in fact disappears in this new operation, for that order, as I've said, is a created order. It is not a reproduction of an order which already exists but an order created by the narrative itself. And the order is even, to some extent, created for no reason; once the book is completed one must not think that that particular order will remain as some fine statue of truth which could thereafter be recuperated by disciples who would undertake to create little Jalousies in all the centuries which will follow. Absolutely not. On the contrary, once the book is finished, the order which was created by the book, revealing its own artificiality, has disintegrated at the same time, and once the book is finished, the only thing new that remains is each reader's freedom to create for himself a new order, a new order of narration and a new order for the world.

EDITORS' NOTE.—He spoke without notes, and in translating and editing his talk, we have tried to retain the colloquial force of the original.
The elevations are the result of one pass through this process. They don't contain every option available, or every possible arrangement of components. They do, I think, show that the doors, windows, and walls of the other Main Street buildings can be assembled in a variety of ways. Grillet says that "placing the reader opposite his own liberty" makes him question if his "only duty is to reproduce the world one more time according to the already created forms borrowed from tradition." He is faced with the "possibility of creating his own order,...and the possibility of changing the world."

Peter Pragnell, in an article published in *Space and Society*, describes the curious, off-center placement of a stove, in an otherwise perfectly symmetrical Shaker meeting room. This one exception to the Shaker's strongly ordered, geometric building system seems to be outside their rules. He writes, "...it is not part of their geometrical pattern. Perhaps, to be more inclusive, the patterns of our relationships have to be more complex than the simple Euclidian geometry of the Center Family Dwelling. Unfortunately, as it is hard for us to admit beauty in chaos, the patterns will seem 'disordered.' But such patterns may have in them the beauty I once saw in Shaker design. We have to risk a free-for-all."

(The "beauty I once saw" refers to the directness, simplicity, and non-decorative functionalism of most Shaker design, which was much appreciated by Gropius and other early Modernists.)
Many of us carry an intuitive sense of proportion and arrangement; even of complex systems or patterns. Whether this sense is just a learned response, or a revelation of deeper design "truths" to be found in nature, mathematics, or physics, seems irrelevant. I think that the complex results of creating one's own "order", whether in a building design or in human relationships, can reflect an intuitive sense of proportion, or scale, without that meaning the results are compromised.

The risks in a "free-for-all", or in the recognition of one's liberty that Grillet discusses, aren't necessarily the risks and fears of total anarchistic chaos. They are simply the risks of releasing a hold on "truths", and beginning the search for new orders in the world. I think our intuitive senses will make those new orders intelligible, even if they are complex.

This isn't a manifesto. My design work should not be considered an exemplar of a "new order". But the risks of the present order are many; ranging from the endless creation of stifling environments, to the nuclear destruction of all environments. Any work, even if an artifice, that makes one confront his liberty, and consider anew the construction of his world, seems valid, and less risky. This building design may not have reached that point yet but the process of designing it has been successful in making me consider my own sense of order, and liberty.
THE RIVER WALK

The citizen's group which proposed the River Walk described it as a walkway, from which one could enjoy the panoramic view. Such a pedestrian path, built along the backs of the Main Street buildings, could introduce a new means of access to these buildings. Some of these buildings have additions built on the rears. These additions may have several stories, and drop down the terrace below the Main Street level. Most of these were constructed when Brattleboro's downtown was the center of all local commercial activity. A three story extension once housed a large department store, and a large, six-story addition was used as a warehouse for a local shoe manufacturer. This brick warehouse drops four floors below Main Street, to an old siding by the railroad tracks.

My early thinking about the River Walk suggested that it could become more than a promenade. The creation of a path might allow new uses for the backs and extensions of the Main Street buildings. The two additions already mentioned, as well as other smaller ones, are either vacant, or underutilized.
A change from the active mix of businesses, office, and residential uses downtown, which serves both the marginal and established communities, would hurt Brattleboro. This interest in diversity resulted in the mixed-use program I used for the design of the Main Street building. The River Walk, if considered primarily a tourist and commercial attraction, could adversely affect the existing mix of uses. A close look at the backs of the Main Street buildings shows a range of activities. Some have vacant spaces. Some have outside areas connected via alleys to Main Street which are actively used for loading and unloading goods. The third and fourth floors of some are offices and residences. There are outside porches and decks, with the same panoramic view the River Walk might have.
The downtown retail stores are smaller now, and don't need such large sales, or storage areas. Businesses with major warehousing and shipping needs don't locate downtown any more. The favored sites are now on the roads into town, where cheaper land and easier truck access is available.

Most possibilities of use along the walk are full of both potential and problems. The Brattleboro downtown has a wide range of commercial activity, from hardware and drug stores to craft outlets and a comic book shop. There is a trend, however, toward specialization in leisure and tourism that is emerging; and I find it problematic.

The number of restaurants and their average cost per meal is on the rise. Boutiques, antique, and gift shops are opening up. Brattleboro is not free from the problems associated by this change in economic focus. The quality and care for the physical stuff of the town may increase, but the variety and richness of experience to be found there, and the heterogeneity of the population, might decrease.
The users of the Main Street rears all share the understanding that this is the "back" of Main Street. Deliveries, garbage pickup, or private outside porches all reflect that unspoken agreement. John Habraken notes that mutually shared concepts, like "street", or "city block", allow a "multitude of small territorial powers to exercise their right to build." A design that isn't based on such shared understandings might not work.

Habraken continues, "Thus the sweeping gesture is not the result of money and power alone. It also builds on the slow growth of a spatial order understood by all. One developed by an age-old accumulation of human experience into clean, sophisticated images. Without this gradual collectivity the design will not succeed, no matter what organizational genius is applied."
I am interested in confronting, and questioning our concepts of order and organization. I am also interested in those aspects of Brattleboro that seem necessary for its vitality. Because of this, a project like the River Walk, which is not based on the accepted understanding of the front and back organization of Main Street, becomes problematic. If the result of such a "sweeping gesture" is destructive to Main Street, it is questionable.

The impact of a River Walk would be better understood if the existing use patterns were carefully examined. The Walk's effect on a use pattern might result in a loss of vitality for Main Street, so modification would be necessary. This study, which could be a long process, would have to directly involve the townspeople. The design projections I made could be used as a starting point for such discussions, but anything more concrete is beyond the scope of this thesis.
The River Walk, as sketched, does contain some elements I think are important, though their size, location, and use would have to be agreed upon.

The structure of the Main Street building, a precast concrete frame, could be continuous throughout the Walk. This repetition of a structural system may offer some advantages.

Habraken describes the porticoed city of Bologna as the transformation of an element, the portico, or covered walkway, from a single building element to an infrastructure. By its consistency, it allows, and even fosters, variations within it. "By the rigorous acceptance of the same element in almost all individual buildings, each individual interpretation contributes to the larger whole."
A mile long portico which extends from the gates of Florence to the Church of Saint Ursula, was built as a free-standing element. Later on, buildings were added behind and over the walkway. Habraken comments that this is a demonstration that the "infrastructure invites the proliferation of lower level systems."9

A structural system like the concrete frame might have a similar result. One of the many ways of using it is demonstrated by the design of the Main Street building. The bridges, ramps, and stairs of the Walk could serve as further examples. Such an infrastructure would be capable of supporting a variety of future interventions and developments along, over, and under it. Such an infrastructure could strengthen the vitality of Brattleboro, while remaining open to new orderings, both spatial and social.

The portico becomes an autonomous element on the urban scale with buildings built over it later.
The bridges over the tracks would make a strong physical connection between Main Street and the river. The sketch suggests two bridges, which would create a zone between them. This area is the most suitable, in terms of existing access, terrain, and density, for future development.

A riverside walk, along the shoreline could be developed. This path could be extended North and South as a biking or running trail. The many existing trees, and the slope of the land would provide separation between path and railroad tracks.
The tracks are still active, and future development will have to contend with this. The trackside area seems best suited to light manufacturing, or small industry. Auto repair shops, or perhaps studios for craftspeople or artists, could operate easily near the railroad. There is also the possibility that the old, industrial atmosphere could be capitalized on for retail, restaurant, or other commercial use. This could be easily accommodated in the floors above the tracks. My concern about the dominance of leisure and tourist activities in Brattleboro, makes me feel that manufacturing, auto garages, or even artist's studios, would be better uses for the ground floor. The diversity of downtown could then be maintained.
The axonometric sketch of the River Walk shows it going from the new Main Street opening, to an existing alley, farther South along the street. On the way, the path goes through two buildings; a large warehouse, and a smaller Main Street addition.

Main Street slopes to the south. From the new opening to the existing alley, the elevation of the street drops about 12 feet. A level connection, from the alley to the new opening, goes through the buildings one floor below the Main Street level. In these buildings, and the others that could be accessed from the walk, this floor is largely unused. These floors would benefit more from the new pedestrian connection than those floors on the Main Street level, some of which are already in use. A wide range of commercial, service, and other activities could be accessed from the Walk. Further development over the Walk, like the portico near Florence, or below it, down to the railway, could add a new dimension of use to the downtown.
In addition to the Main Street connection provided by the existing alley, and the new opening, the Walk could be accessed from Main Street by paths through the Main Street Buildings. These optional connections could allow existing merchants to expand into the floors below the Main Street level, or allow creation of several small shops, perpendicular to the new path. The opportunities and options along the Walk are many, and in this limited design exploration, I concentrated on the Northern section of the River Walk; the new Main Street connection, and the adaptation of the large warehouse into a center for the performing arts.

Early study of River Walk connection through building, and external stairs to second floor shops.
The new opening from Main Street is sized to provide vehicle access for deliveries, and refuse removal. Paving, set in the direction of High Street, would announce the path and differentiate it from Main Street.

As one travels East, towards the river, the glass display windows of the new Main Street building lead to masonry wall, which soon ends. Here, oriented in the direction of the path, is an extension to the Main Street building. It's upper floors house offices which are connected via bridges to the front building, making them accessible from both the path and Main Street.
The shift in directions creates a small court between the buildings. This court would allow light into the rear of the front portion of the Main Street building, and be an accessible service yard for the restaurant.

At the path level is the entrance to the offices, and another entrance, to a two-story restaurant which descends the slope. The offices and the restaurant are designed to take advantage of the Southern exposure and the panoramic view to the West.
The upper office floors overhang each other, and provide shading for the outside terrace, on the lower level of the restaurant. A large deck, on the third floor, is accessible to all the building's users from the public circulation path. It is located to allow an unobstructed view of the river from the offices, in the front portion of the Main Street Building.
On the other side of the plan, starting at Main Street, is a glass covered arcade. Doubled metal supports come down to masonry blocks, designed with seating and night lighting for the arcade. Granite curbstones, set flush with the paving, and an upright bollard of granite define a territory within each bay of the arcade.
The metal arcade supports, the masonry bench, and the upright bollard might "populate" the space, adding to the invitation to linger already presented by the seat. All these elements, with the paving, could be used in a variety of ways. The bays of the arcade could be used as stalls for farmer's markets or craft fairs. Outdoor theater or dance events could use the arcade as a stage. Banners or announcements could be hung from its structure.

The arcade leads to entrances that have been added to the large warehouse extension that descends the slope to the railway. This six-story building, designed for shoe storage, has been adapted to house a performing arts center. The entrances are in the same geometry as the path. This shift makes the entrances more visible from Main Street.

The entrance addition uses the same column and beam structural system as the lower two commercial floors of the new Main Street building. The thickened dimension of the beam allows for signage and, perhaps, the inclusion of decorative tiles or mosaics. This structural element reoccurs in the design, and is found at major entrances. The Main Street elevation shows this thickened beam and round column extending from the Performing Arts Center entrances, to create a "gate" to the River Walk and bridge.
The Performing Arts Center was designed using a space needs inventory compiled by the Citizen's Committee for the Performing Arts Space. Their 1982 report includes this composite of the needs of area performing arts groups:

1. A large auditorium for about 400 seats, acoustically suited for music performance, but with flexibility to make it a multipurpose community facility;
2. A more intimate space of about 150 seats flexibly designed for theater;
3. Stage and sight lights suitable for dance performances;
4. A lobby for exhibits/shops/gatherings;
5. Dressing rooms;
6. Shop space;
7. Storage space;
8. A green room;
9. Rehearsal space;
10. Classroom and office space.
The 8 foot by 12 foot, wooden, post and beam structure of the warehouse was much too dense to allow adequate theater sight lines. Large sections of it were removed to create the two theater spaces. Long span steel joists, extending the 70 feet between the brick bearing walls support the roof, and create the large theater space. Similar steel joists, spanning 45 feet replace the wooden supports below part of the large theater, and create the smaller theater space.

The high vertical dimension required by the large theater was achieved by placing the theater on the fourth floor of the warehouse, and opening up the two floors above it. The entrances to the theater are on this fourth floor, a level below the Main Street level. From this floor the River Walk extends, remaining level as it reaches the alley at the lower, Southern end of Main Street.
This allows easy access for both regular and handicapped pedestrians. An elevator provides handicapped access between the fourth floor (River Walk level/ elev. 275') and the fifth floor (Main Street level/elev. 287') of the Performing Arts Center.

The concrete frame of the River Walk is used to create a vertical elevator and stair tower. This element extends from the structure of the bridge over the tracks. It is partially inside the existing warehouse, and its concrete structure is placed so its columns occur in a line with the remaining wooden columns. The river view would be visible from the stairs, and the windows of the elevator.
The plan of the Performing Arts Center's sixth floor (elev. 299') shows a rehearsal space for theater or dance, and a private office space, with overlooks to the theater and lobby, two floors below. Two skylight shafts descend through this floor, to light the theater entrances on the fourth floor.
On the Main Street level the glass arcade shifts from the Main Street direction to the path direction as it nears the Performing Arts Center entrances. A set of less prominent doors, to the side, open to stairs up and down; the connections to the rehearsal space above and to the theater support area one floor down. The main doors lead past the curved rear wall of the balcony and the skylight openings for the entrances below, to the elevator and stair tower. Public exhibit and gathering space could be provided for on this floor. A private office, with views into the theater and lower lobby level, is located on this floor.
The large theater is on the fourth floor, elev. +275'. The path from Main Street has descended a large flight of exterior stairs to the terrace of the restaurant's lower floor. It then descends a few more steps to the head of the bridge over the tracks, and forms an entry "porch" for the fourth floor.

Through the fourth floor doors, the path leads under the thickened concrete beams, and round columns that mark the main entrance to the theater, past a smaller theater entrance, and out. Though still within the walls of the old warehouse, this part of the building is unheated, and open to the weather. This creates a transition zone between inside and outside, and by pulling the path into, and through, the building, reinforces the public nature of the Performing Arts Center.

The Walk continues, passing the circular walls of the outdoor amphitheater, and the ascending stairs that lead to Main Street. From here, the Walk would continue, out of my study area, to meet Main Street farther South.

The shops, dressing rooms, storage and other support facilities for the Performing Arts Center would be on this fourth floor, using part of the basement of the commercial block on Main Street.
The plan of the third floor, level +263' shows the balcony of the small theater, and to the South the upper loft of a large studio area. Exterior stairs descend the slope on both the North and South sides of the building.
PLAN ELEV. 263
The small theater, an open space, with adaptable stage and seating areas, is on the second floor, elev. +251'.
The lower floor of the large studio space can be accessed from this level, as can the exterior steps descending the slope.

The ground floor of the Performing Arts space is left undrawn. A large area would probably contain mechanical systems for the building, and storage. Time did not permit any more design work about the life along the tracks than the projections about use already mentioned.
REFERENCES

THEATER DEVELOPMENT
Studies for a theater in Amsterdam. 
Johannes Duiker, 1930-1934.
The work of Lucien Kroll at the Belgian University of Louvain, where a variable panel infill system offered students a choice of exterior panels for their dormitory rooms. The results, like much of the other work at the University, reveal the blend of a participatory planning and design process, and Lucien Kroll's own aesthetics.

I find these buildings are a powerful example of a search for an architectural process that supports individuals in the creation of their own order. The illustration on the right shows the contrast between Kroll's housing and the modern medium-rise building next to it. I think it reveals the success of Kroll's work in finding a "new order".
Duiker's Handelsblad Cinema, 1934.

PLAN CABINE
A building that maintains the street wall, and turns the corner with its lower floors (Main Street building reference).

The Rite Aid site on Main Street in 1917. A building that is closer to the "right size" than existing Rite Aid building.
Like many students before me, I too feel the design projections I've made are just a beginning. I would like to continue exploring ideas about the River Walk development, further develop the riverside elevation of the Performing Arts Center to better express its new function, and explore the possible uses of the River Walk structure, especially at the trackside area.

The work I have done, however, has helped me develop my design skills, so that I can begin to see the results of aesthetic and philosophic ideas merging.

I look forward to further development as these new skills are used in "real work", with "real people", in the years to come.
Footnotes


4. J. B. Jackson, p. 69.


Bibliography


ELEVATIONS & PLAN

PLAN · MAIN ST.  ELEV. 287

WEST ELEVATION · MAIN ST. BUILDING

SOUTH ELEVATION · MAIN ST. BUILDING

NORTH ELEVATION · PERFORMING ARTS CENTER

SOUTH ELEVATION · PERFORMING ARTS CENTER

EAST ELEVATION · PERFORMING ARTS CENTER