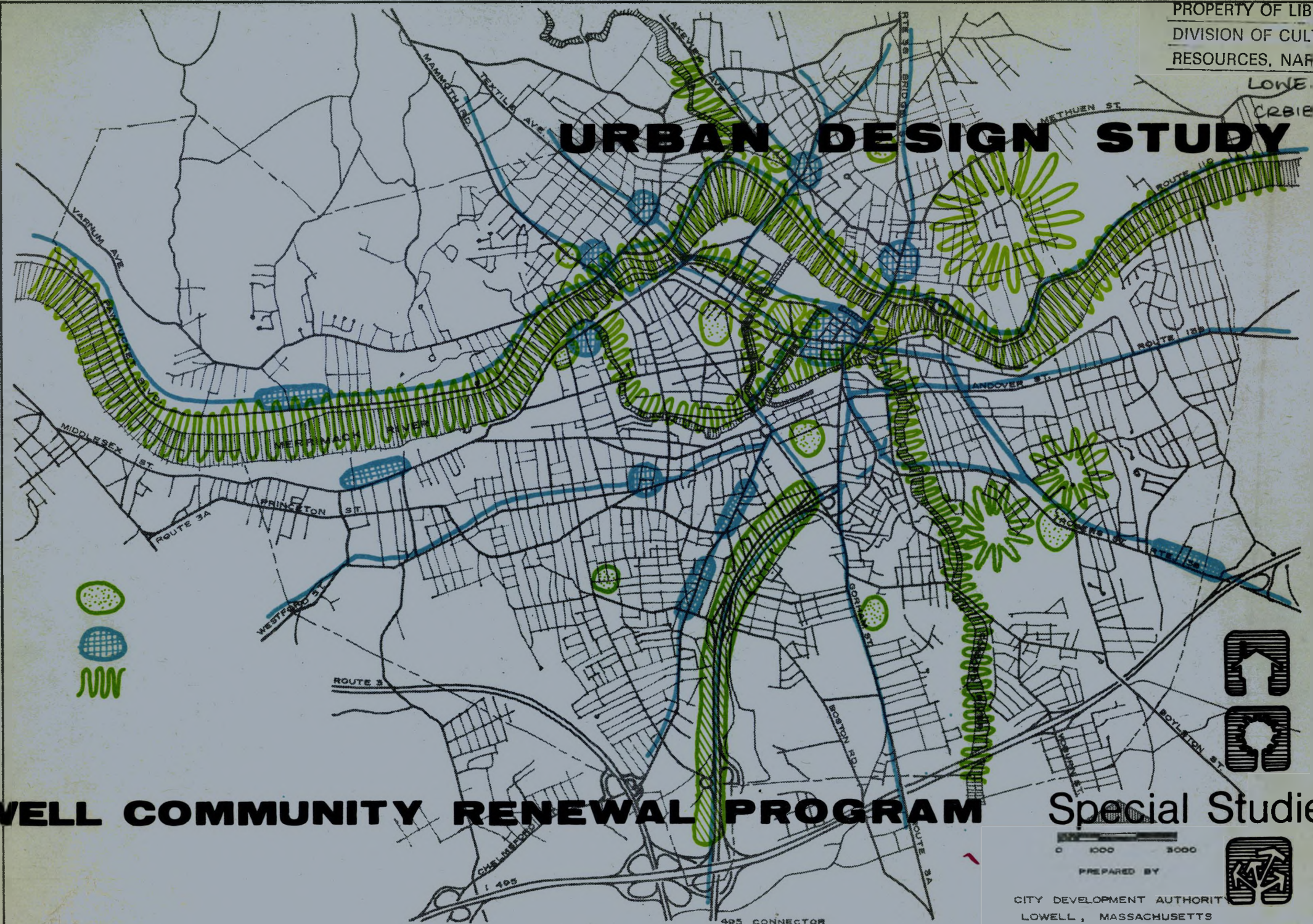


LOWE 023
CRBIE # 401278
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URBAN DESIGN STUDY



LOWELL COMMUNITY RENEWAL PROGRAM

Special Studies

0 1000 3000

PREPARED BY

CITY DEVELOPMENT AUTHORITY
LOWELL, MASSACHUSETTS



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THE CITY DEVELOPMENT AUTHORITY · CITY HALL, LOWELL, MASSACHUSETTS

OCTOBER 1970

"Urban design is the form given to the solution of the city's problems. It is the professional process that finds practical answers to those problems. The answers take physical shape; the shape of the city itself. The best solutions are creative, combining delight and use, evolving beauty from function. Urban design is neither esoteric nor purely esthetic."

"Checklist for Cities", Committee on Urban Design, American Institute of Architects.

CONTENTS

COMPENDIUM	i.
VISUAL ANALYSIS	
Introduction	1.
The Survey	2.
Attitudinal Survey	24.
Summary Analysis	27.
HISTORICAL SURVEY	
Introduction	29.
The Survey	31.
Recommendations	46.
Implementation	51.
PLANS AND POLICIES	
Area Design Plans and Policies	53.
Pawtucketville	53.
Centralville	59.
The Acre	64.
The Highlands	69.
The Flats and Lower Belvidere	74.
Ayer City	79.
Belvidere	81.
South Lowell - Swede Village	83.
City-Wide Design Proposals	87.
Implementation	89.

COMPENDIUM

This report is written about Lowell's physical form. It is only one part of the total Community Renewal Program, but it provides a general physical inventory for the entire program, and has gone a long way toward the formulation of a comprehensive physical development plan for Lowell.

Because of a renewed growth, Lowell is beginning a new phase in its development which involves considerable change. In spite of what may be commonly believed, the city still has tremendous potential for growth and change, which makes this a critical point in time to assure that development is balanced. Adequate land must be provided for the necessary diversity of activities, and each activity must be located properly in relation to the others. Furthermore, the healthy development of a specific section of the city and the quality of life there depends on the presence of open space and other amenities, and on the sections visual quality. This means that aesthetic considerations are no longer luxuries but necessities.

The following design policies have been developed in order to formulate a meaningful urban design plan for the city. These policies are directed toward the optimization of Lowell's potential to improve its general appearance, and are meant to redirect development efforts away from a "non-design" ethic and toward a basic awareness of aesthetic considerations. This should not, however, be equated with decoration, ornamentation, style or fads, or any other self-conscious architectural applique or gimmick. The objective is for simple, competent and straight-forward architectural features, and a general improvement of our relationship with nature, i. e. minimizing visual and physical barriers and distractions between man and the sun, sky, trees, grass and water. It means further an opportunity to appreciate what we already have in Lowell by providing ways and places to stand, sit, walk, cycle or drive which will give us a chance to enjoy our environment.

Circulation

Of primary concern is the movement of people, automobiles, and goods in Lowell. It is apparent from the Visual Analysis and the Atti-

tudinal Survey that, although Lowell has some very attractive visual assets, it is very difficult for them to be appreciated because of the attention required to navigate the City's streets. People must be able to move easily and efficiently in order to have the composure required to appreciate some of the finer and more subtle things in their environment.

This can be done for the motorist by improving the street system through the redesign of intersections and traffic flow patterns, the widening of some streets and the narrowing of others, construction of new streets, and landscaping and tree planting.

It can be done for the pedestrian by providing adequate space for him, space in which he can maintain his dignity and be relatively safe. And, when he is required to cross a stream of traffic, provisions must be made for him to do so without risking his life, and yet not delay the motorist unnecessarily. This implies facilitation of law observance and improvement of law enforcement, in addition to the actual construction of improved spaces for pedestrian use.

The objective is to improve circulation for every type of movement, considering the segregation of pedestrians, automobiles and service traffic, and to develop a landscaped street system designed for the aesthetic enjoyment of those who use it. To do this, the following policies must be adopted and implemented by the city:

1. Establish a continuing traffic planning and street design process.
2. Establish a continuing aesthetic improvement program for the street environment.
3. Implement the specific results of the above, including a general tree planting and street landscaping program.

Open Space

Although Lowell's physical development is relatively dense, there is still a considerable amount of open space in certain areas. Most of this is located as part of the system of rivers and waterways. Fortunately, these spaces are tied together somewhat, and, with a little

effort, they could become a continuous pattern interwoven with the city's urban fabric.

In addition, a great deal of work needs to be done to preserve and enhance the existing parks for aesthetic and recreational purposes. This should include the development of old cemeteries and scattered vacant parcels. It should consider the construction of a network of bike and hiking trails.

The objective is to develop a system of open spaces using Lowell's waterways as the point of departure, in anticipation of the time when the water will be clean. This open space system is to flow into the downtown area as well as other residential and commercial areas, providing a pervasive natural element in the city's urban environment. To do this, the following policies must be adopted.

1. Establish a staged, long-range planning and development program, including advance land acquisition.
2. Institute a continuous and effective program for park and open space maintenance.

II Residential Areas

Urban psychologists have related mental attitudes and health to the quality of the residential environment, among other things. Great densities of humanity can be tolerated if there is an established hierarchy of spaces to help maintain individual identity and human dignity, i.e. a differentiation between private, semi-private and public spaces.

The requirements for a private outdoor space might be met by providing only a balcony or a small patio that is screened visually. It is a space for the exclusive use of one or two families.

The semi-private space might involve six to 12 families, and could be related to the character of some residential streets.

A public space on a residential scale might include an entire neighborhood or city section, and probably would involve commercial uses and possibly a church, school, park or neighborhood center.

A system of spaces of this kind may already be provided in some form in a few sections of the city; however, in most areas, those kinds of spaces are non-existent or completely negative in character.

The objective is to improve the residential environment through a differentiation between residential spacial quality in Lowell. This can be done by adopting the following policies:

1. Modify city ordinances to facilitate a differentiation of private residential spaces and to improve their quality.
2. Initiate planning studies and development programs to improve residential street character expanding on what was proposed in the Model Cities program.
3. Encourage the establishment of viable and "designed" sectional commercial centers and public spaces.

Architecture

The objective is to preserve and enhance the many structures in Lowell that have architectural or historical significance. The following policies should be considered:

1. Establish a design control district to preserve significant historic and contemporary buildings and develop techniques for improving a specific environment. This can be done downtown, in a residential section or in a special purpose area.
2. Encourage good architectural design and imaginative land utilization by providing incentives and awards.

Industry

The objective is to upgrade the visual appearance and compatibility of the industrial buildings scattered throughout the city. The following policies must be adopted and implemented:

1. Require industrial building maintenance, landscaping and the screening of open storage and junk.
2. Direct industrial growth away from the rivers and waterways.
3. Provide buffer open spaces, not necessarily as part of each industry's site, but between industrial areas.
4. Establish firm pollution control ordinances on the city level.

VISUAL ANALYSIS

INTRODUCTION

A city is much more than just an agglomeration of buildings, streets and people. It involves complex physical, spatial and social relationships which can be experienced in an infinite number of ways. Weather, lighting, sequences of events, the memory of past occurrences, and any number of other external factors can temper considerably the experience that a city provides. A city presents more than the eye can see or the ear can hear at any one time.

The city is not just seen and experienced, but it also is being constantly modified by many builders. It may be stable in its general form for some time, but it is changing in detail, and only partial control can be exercised over its growth and form. There is no final product or end result as such. At best, there is only a succession of phases. For this reason, the art of shaping cities for aesthetic meaning and enjoyment is an art quite separate from any other.

Although many have pleasant features and sections, there are probably no cities in the United States and few in the world which are of consistently fine character throughout. Therefore, it is not surprising that most Americans have little idea of what it can mean to live in a beautiful and pleasant urban environment. We seem to have become accustomed to the ugliness and dirt, the noise and congestion, the garishness and blatant bad taste. We may object on occasion, but essentially it is ignored, the current environmental concern notwithstanding. As a result, there is little appreciation of what effect a pleasant urban setting can have on our patterns of living, and on our social and cultural institutions, and what it can mean in terms of just plain increasing our enjoyment of life.

This survey considers the visual quality of Lowell, analyzes it, and implies what this means in terms of the quality of our everyday lives as residents of Lowell. The report begins by considering the major approaches to the downtown area and discussing them in terms of simple visual impact as observed from a moving automobile. The analysis also considers major streets, other visual elements and special areas. The resultant evaluation is utilized to conceive

policies, plans and programs which optimize Lowell's potential and minimize negative elements. In order to be effective the results must be translated into laws and ordinances, public policies, and public and private initiative.

Scope and Methodology

Because our society is automobile oriented, most of the analyses are considered from the viewpoint of the motorist. An analysis of things as seen by the pedestrian would be quite different. The entire city is considered in this report, exclusive of the downtown area, which will be treated in a subsequent study.

Visual surveys, because of their subjective nature, do not follow a strictly scientific procedure. A certain amount of subjective comment and experimentation with new approaches is common. Many different ways are used to analyze the problem, ranging from the realistic, using sketches and photographs, to the abstract, using very sophisticated symbol systems. The following sources will provide the interested reader with additional information on civic design and the visual analysis of cities.

Blake, Peter, God's Own Junkyard

Cullen, Gordon, Townscape

Dober, Richard, Environmental Design

Eckbo, Garrett, Urban Landscape Design

Gruen, Victor, The Heart of our Cities

Halprin, Lawrence, Cities

Lynch, Kevin, The Image of the City, and View From the Road

Regional Plan Association, Urban Design Manhattan

Ritter and Thompson, Planning for Man and Motor

Sitte, Camillo, The Art of Building Cities

Tunnard, Christopher and Boris Pushkarev, Man-Made America

Whyte, William Cluster Development

Objectives

Specific design policies and objectives will be developed in a later portion of the urban design study based on the visual survey. Included will be both immediate and long-range objectives from which recommendations will be made for the establishment of principals, policies and functions directed toward the ultimate goal of creating a city in which it is aesthetically enjoyable to live, work and play.

Contemporary cities include what might be termed "ugly design" This is more the result of "non-design" rather than any conscious effort; a situation which stems from ignorance and is tolerable only through what psychologists call "perceptual filtration". (Perceptual filtration refers to the conscious or unconscious human process of seeing only those things one wants to see). The first and foremost aim of this study, therefore, is to contribute to the elimination of the non-design ethic by facilitating the incorporation of design as an integral part of the city-building process.

The ideal is that a design process be established which creates a coherence and unity within the physical environment while providing for variety and flexibility suited to individual needs. Thus, the implied objective in establishing an urban design influence in Lowell is to produce urban forms and spacial systems that are rational and responsive to the life styles and aspirations of those who use them.

In the 1967 publication "Checklist for Cities" the American Institute of Architects recommends a continuous inventory of historic physical features, including groups of structures, neighborhoods with a specific environmental and architectural character, and spaces, sites or buildings where historic events occurred. Not only should this "historical" inventory include architectural styles of the past, but also contemporary design which may become historic treasures, or which contribute to the enjoyment and uniqueness of the environment. The establishment of such an inventory is submitted as a second objective of this study.

In this report Lowell is viewed as a whole in as much detail as required to establish an acceptable basic design concept. It is intended that this concept be simply and strongly expressed in order

to provide, through its implementation, easily discernable organization and points of reference within the city. → Where possible design themes will be established derived from Lowell's history, emphasizing appropriate focal points, component areas, visual linkages and approaches to the city.

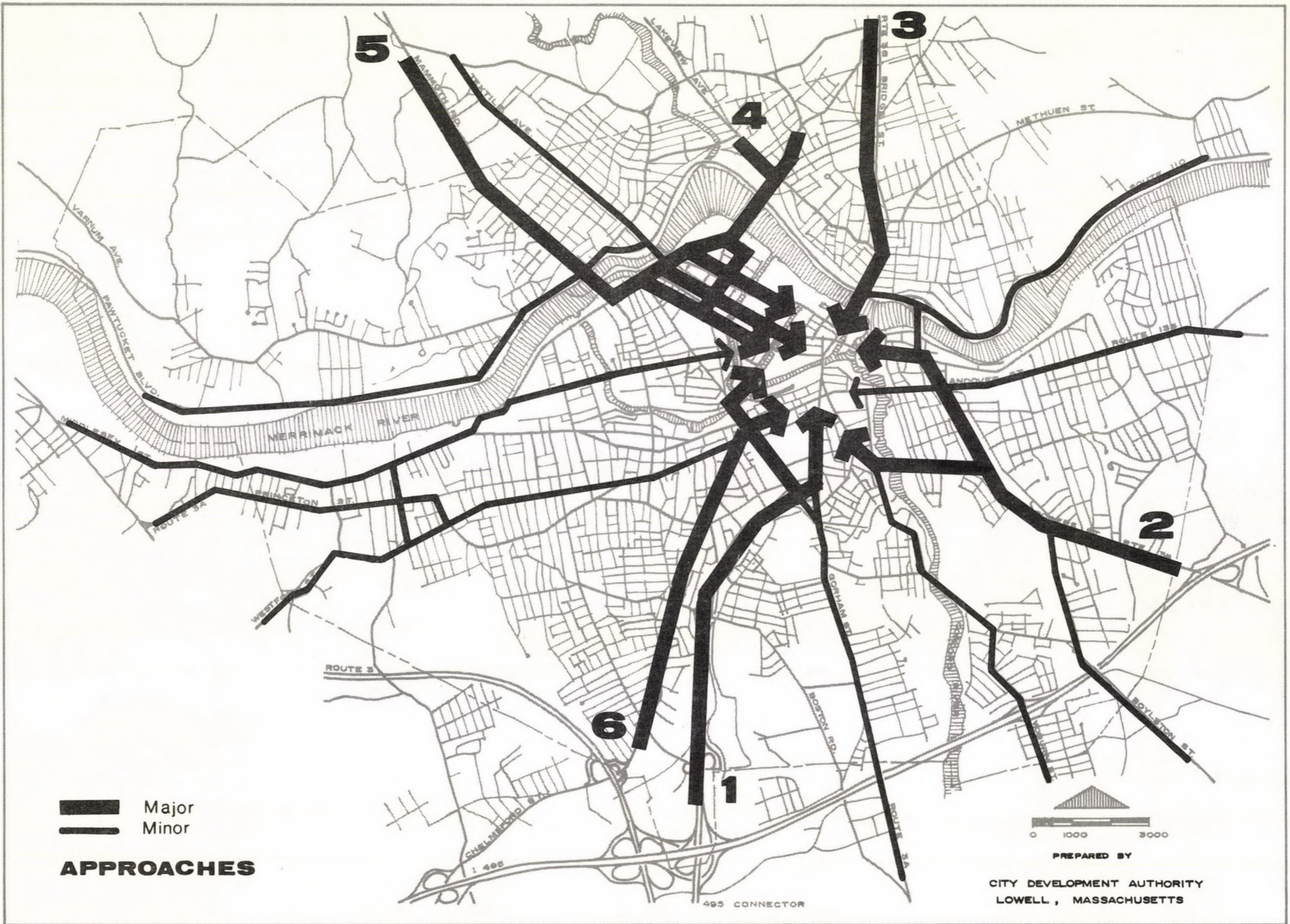
THE SURVEY

The visual survey is an inventory of what the physical circumstances of Lowell were in the winter and early spring of 1970 when it was taken. The inventory is selective since it examines only certain elements: those which were judged to be of most significance in meeting the objectives of the study. The elements of the visual survey are categorized as follows: (1) Major Approaches, (2) Selected Major Streets, (3) Physical Form, (4) Sections, Centers and Nodes, (5) Visual Opportunities and (6) Special Studies.

Major Approaches

The accompanying map, "Approaches" shows the major and minor routes to Lowell's downtown area, which were determined on the basis of traffic volumes and directness. The major routes were examined individually, resulting in the following sequence of diagrams and written analyses.

The LOWELL CONNECTOR, I-495 BUSINESS connects with Interstate-495 and Route 3, and serves as the major entryway into the City of Lowell. DIAGRAM (1) illustrates the quality of the visual information experienced as one drives toward downtown. It is obvious that the overall impression received by people using this road is negative. There are cluttered and unsightly industrial areas, large sections of junk car storage, deteriorated industrial buildings, a shopping center with a large, barren parking area, and the deteriorated housing and burned out buildings of the Hale-Howard Renewal Area. There are several high points along the Connector which provide a view of portions of the town; however, in most places the view is as often bad as it is good.



After leaving the Connector either at Thorndike or Gorham Street, traffic conditions become harrowing. Nevertheless, because of topography and existing focal points, this approach has great potential for visual improvement.

The ROGERS AND NESMITH STREETS approach, DIAGRAM (2) doesn't have the extreme visual problems of the Connector, but many problems are very apparent. This route to downtown Lowell connects with I-495 and Tewksbury. Traffic is much too heavy at certain times for safe and convenient travel in the I-495 area, and entering and exiting the roadway is hazardous. The visual impact of the strip commercial development within a fourth of a mile of the Interstate is not good.

The Rogers-Nesmith Streets approach has some visually pleasing stretches. There are pleasant housing areas and many large trees and open spaces which greatly enhance this area. The greatest exception is around the Concord River and Central Street. Here buildings are deteriorating, streets are too narrow, and traffic flow is hazardous especially at intersections. The trip from Nesmith Street down East Merrimack is not pleasant either, although there are several pleasant areas and focal points along the way. (For example, the Immaculate Conception Church and grounds, the old Post Office grounds and the tall buildings downtown). The street is also too narrow to accommodate the traffic and parking load.

The BRIDGE STREET approach, DIAGRAM (3), has potential because of the gradual descent to the Merrimack River and downtown. However, thoughtless commercial development, which is deteriorating in certain areas, makes the approach less than pleasant. Bridge Street connects Centralville and Dracut with the central city area. Traffic is heavy on it and at times backs up in some areas.

There is a potentially good sequence of views with occasional focal points as one travels down the street from Dracut. St. Michael's Church, the Robinson School, the massing of the mill buildings, and the Sun Building, in the distance, provide landmarks. Because of the mill buildings, a very strong sense of arrival is experienced after crossing the bridge and entering downtown Lowell.

AIKEN STREET, DIAGRAM (4), connects part of Dracut and Centralville to the downtown area. Although the approach has some potential, the "non-design" type of development along the way, which is delapidated or deteriorating, plus the confusing and dangerous intersections make this one of the most negative entryways to the downtown. The only positive feature about Aiken Street on the Centralville side of the river is that as one emerges from that area of confusion there is an impressive view of the Merrimack River and the mills on the opposite bank.

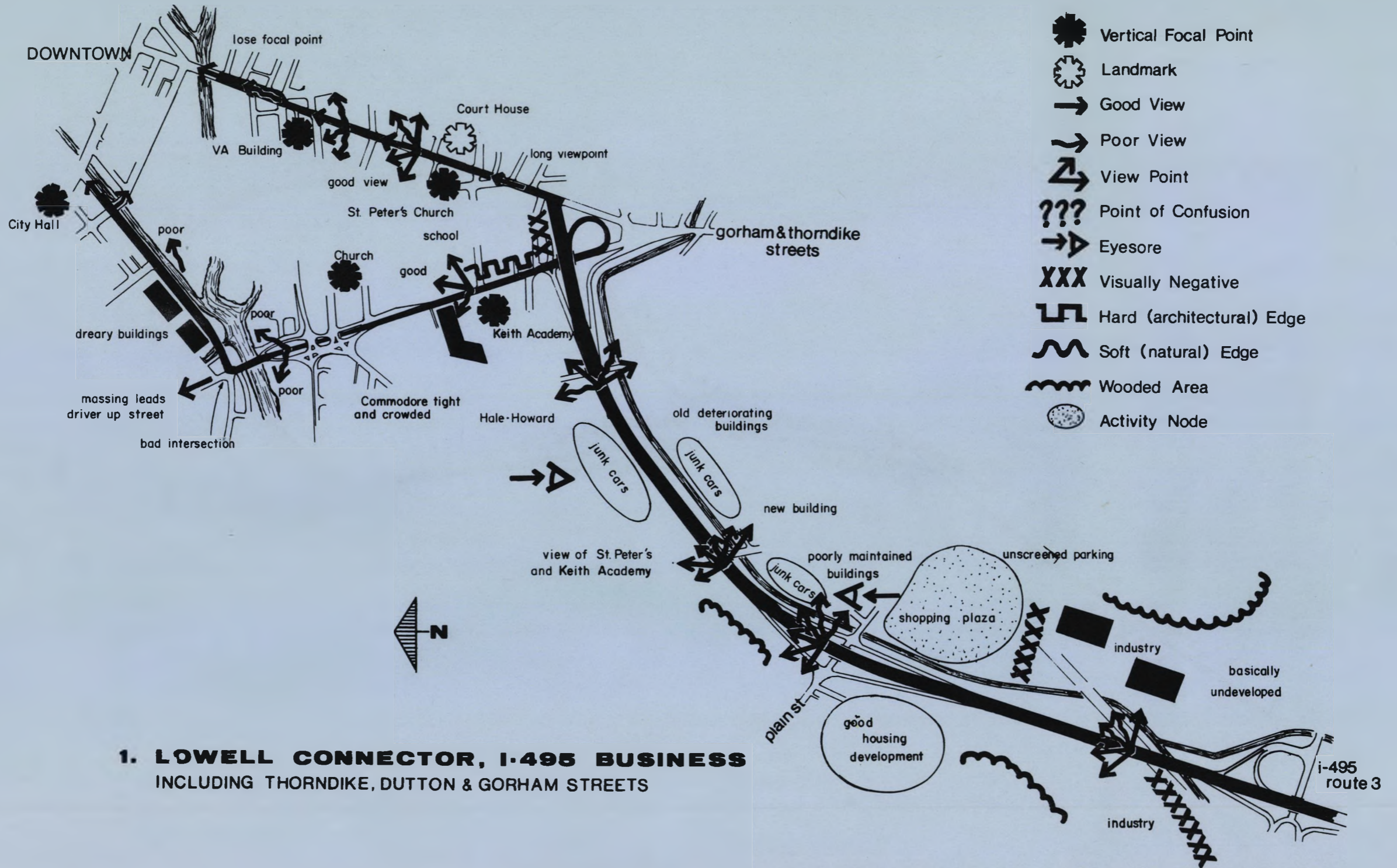
The land between the river and the Northern Canal appears underdeveloped, but there are generally some nice views of the river, of buildings along Merrimack Street, and of the Lowell Tech campus.

Views and spaces down Merrimack Street are interesting, but the deteriorated condition of most of the buildings detracts greatly. City Hall and St. Jean de Baptiste Church are strong focal points. As a route to the downtown, however, it is quite awkward and indirect.











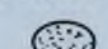

The MAMMOTH ROAD approach illustrated on DIAGRAM (5) connects Tyngsboro, Dracut and Pawtucketville to the downtown. There are points of traffic congestion in the commercial node on Mammoth Road near Pawtucket Boulevard, and extreme traffic congestion on Pawtucket Street at the School, Fletcher, Salem and Merrimack Streets intersections and at Textile Bridge. The setting and views along Pawtucket Street are quite nice, but the motorist has little chance to appreciate them.

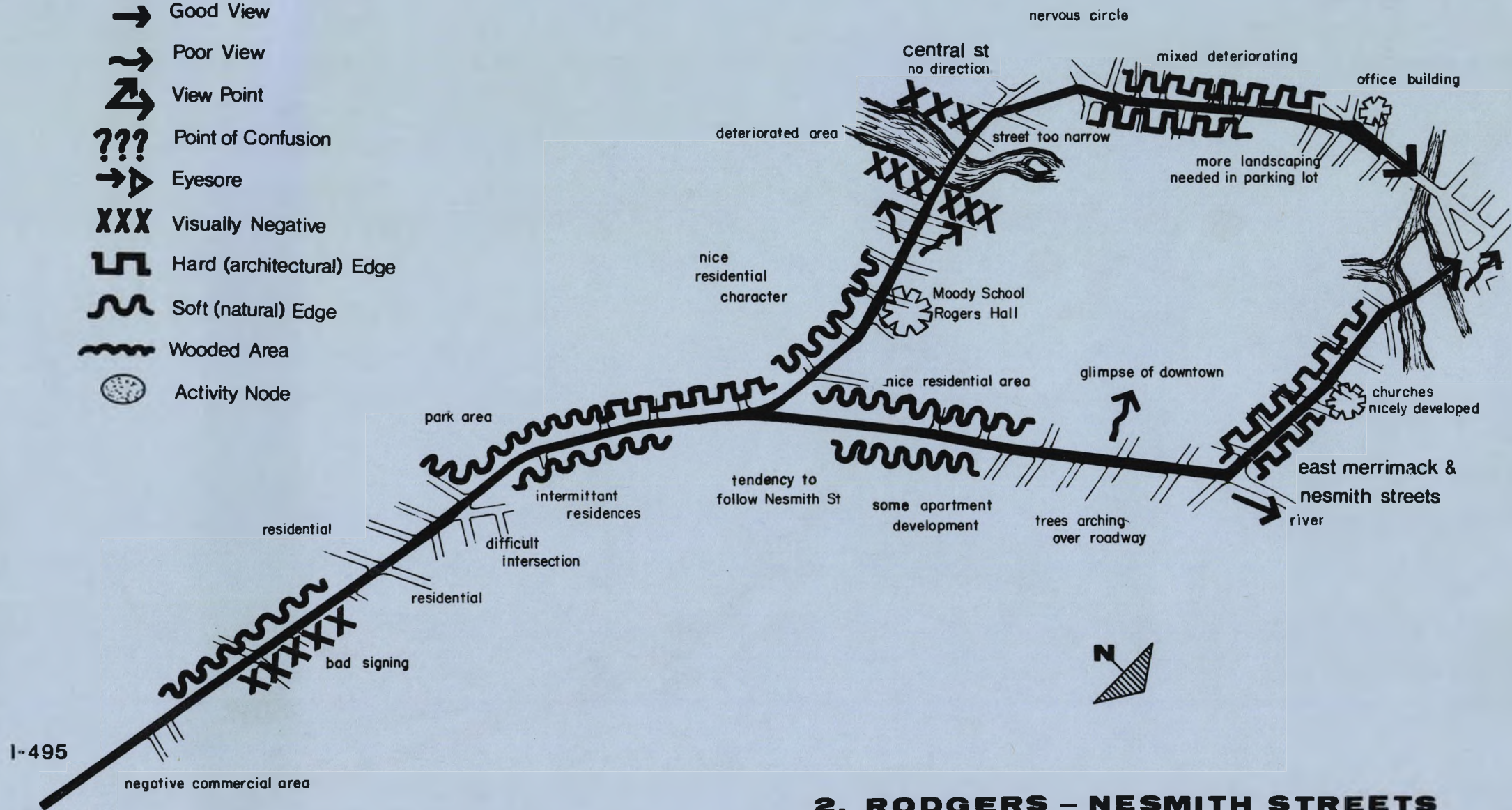
Salem and Market Streets are extremely narrow and adjacent buildings are crowded and deteriorating. The French Street approach on the other hand, is very pleasant and provides an interesting sequence of views. The Northern Canal Housing lends continuity and architectural rhythm which greatly enhances this approach visually. This feeling of unity is reinforced by the massing of the mills and the ribbon of water provided by the Northern Canal.

The Mammoth Road - French Street approach has a tremendous amount of potential. The Merrimack River and its waterfall, the canal gate house and other historic buildings, the Northern Canal, the picturesque views and natural and man-made features along the way provide a great deal of interest. Unfortunately, traffic volumes and



1. LOWELL CONNECTOR, I-495 BUSINESS
 INCLUDING THORNDIKE, DUTTON & GORHAM STREETS

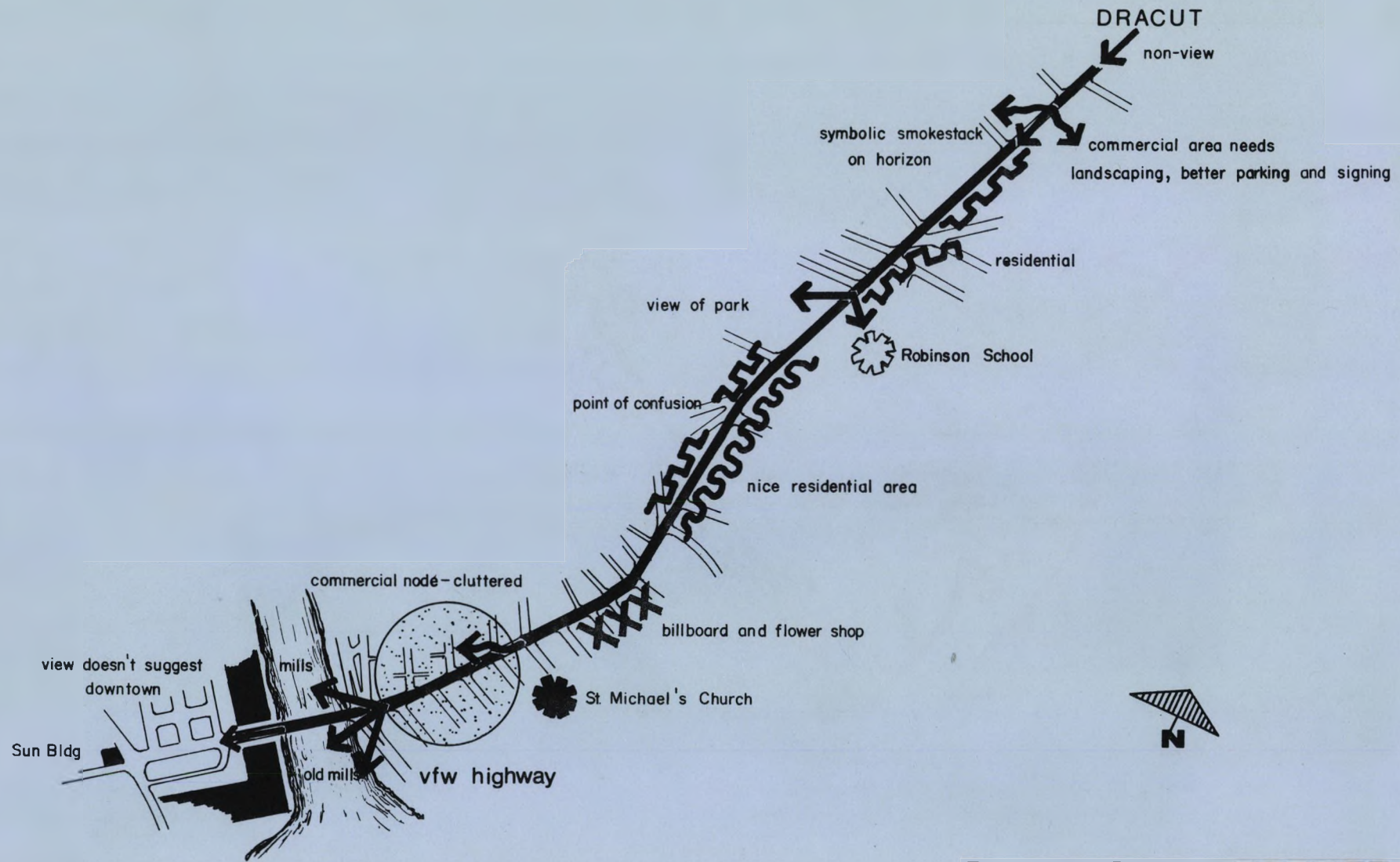
-  Vertical Focal Point
-  Landmark
-  Good View
-  Poor View
-  View Point
-  Point of Confusion
-  Eyesore
-  Visually Negative
-  Hard (architectural) Edge
-  Soft (natural) Edge
-  Wooded Area
-  Activity Node



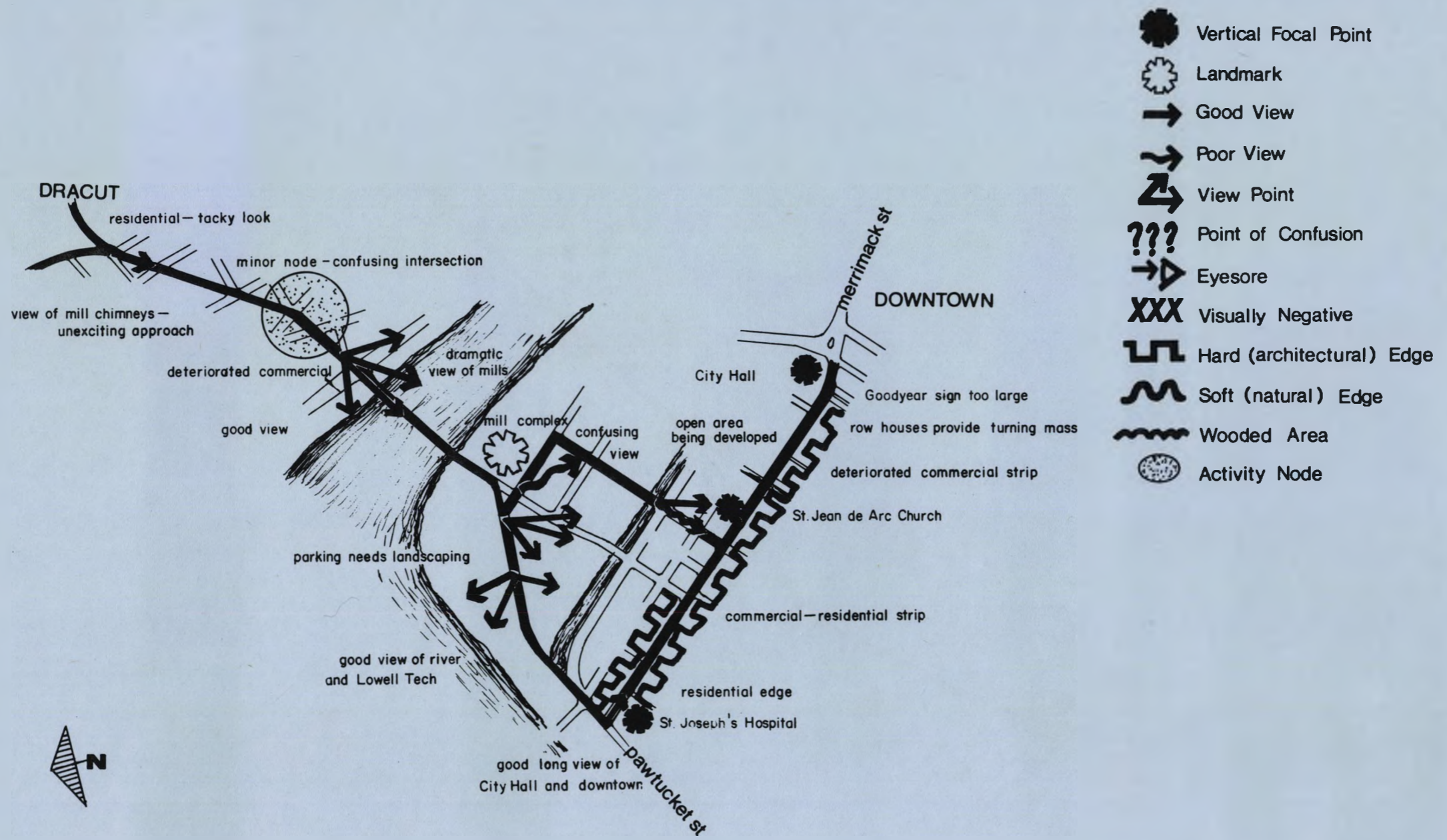
6

2. RODGERS - NESMITH STREETS
 INCLUDING CENTRAL & EAST MERRIMACK STREETS

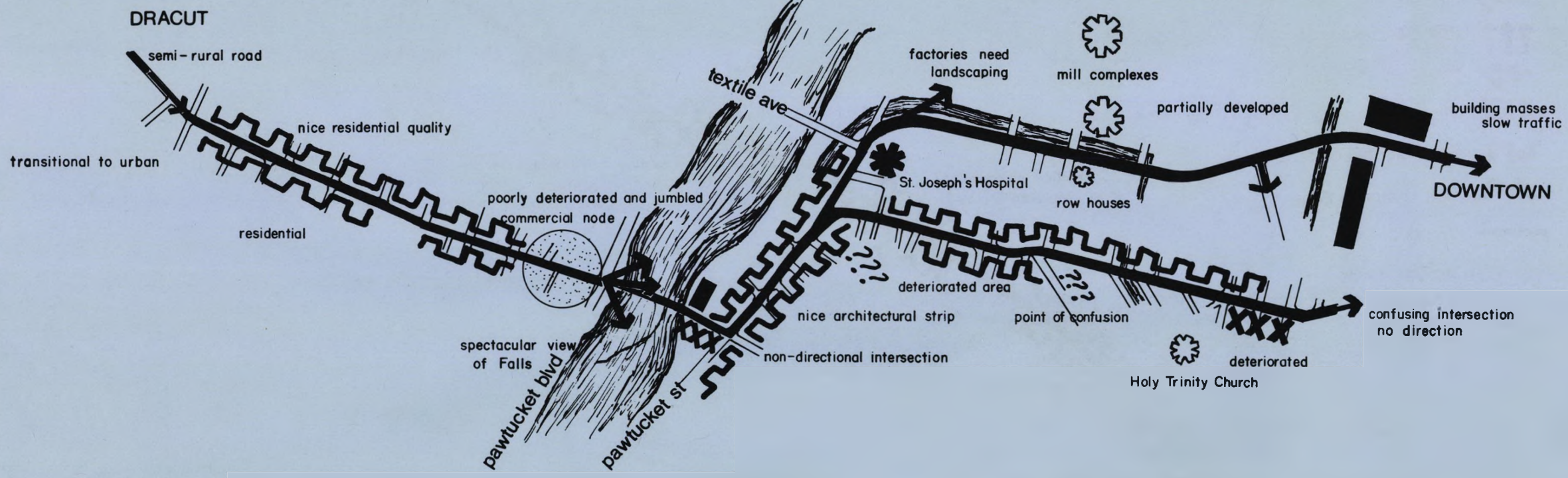
DOWNTOWN















3. BRIDGE STREET



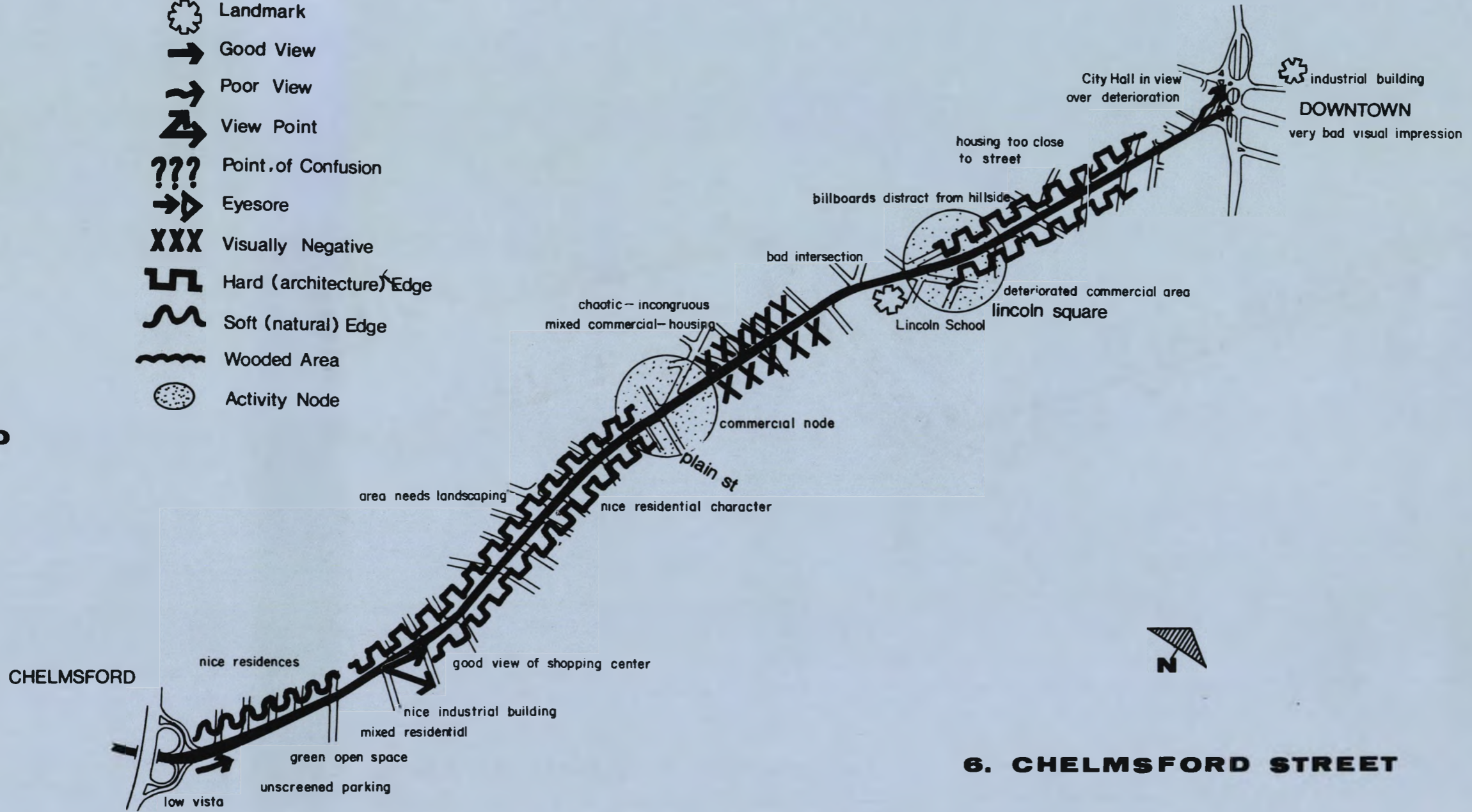
4. AIKEN STREET



5. MAMMOTH ROAD-FRENCH STREET
 INCLUDING PAWTUCKET, SALEM & MARKET STREETS

-  Vertical Focal Point
-  Landmark
-  Good View
-  Poor View
-  View Point
-  Point of Confusion
-  Eyesore
-  Visually Negative
-  Hard (architecture) Edge
-  Soft (natural) Edge
-  Wooded Area
-  Activity Node

10



6. CHELMSFORD STREET

building locations and setbacks presently destroy much of this visual advantage.

CHELMSFORD STREET provides a major local entryway from Chelmsford through a reasonably pleasant industrial and housing area. The visual and physical deterioration begins at the Plain Street intersection and increases rapidly as one progresses toward the center of the city. There are no major positive landmarks along this entryway. The main element of orientation to the visitor is the degree of deterioration. The general visual impact is acceptable for the first half of this approach and unacceptable and congested for the remaining portion. DIAGRAM (6) illustrates Chelmsford Street's visual problems.

Major Streets

Before the construction of Interstate-495 and the Connector, GORHAM STREET was the major access to Lowell from the Boston area. A mixture of residential, commercial and open spaces makes this approach to the city quite stimulating to the eye. There is a sequence of houses and commercial structures along its length, most of which are in need of maintenance. A major open space is provided by the long edge of the St. Patrick and Edson Cemeteries and the O'Donnell playground across the street, which tend to subdue the noise level and use intensity of the street. The strip of roadway from the playground to the end of the I-495 Connector is an example of "non-design chaos". Each structure visually rejects the other in the street scape. Only two points of visual relief are offered on this strip: a brook, and the landscape work resulting from the construction of the I-495 Connector.

WESTFORD STREET connects downtown Lowell with Chelmsford and Route 3. The outer extremities of Westford Street suggest a rural setting with thick woodland and open spaces, but this illusion is destroyed by the vast naked open space of the municipal incinerator site. A rural setting, natural landscape and woodlands, the Princeton Village townhouses subdue the negative elements. As one proceeds toward the Pine Street intersection, pleasant residential

development increases. However, between Pine Street and Cupples Square, the motorist has a poor view of his destination. The once pleasing residences nearer Cupples Square are showing their age, which is more apparent because of the lack of landscaping and maintenance. Cupples Square itself is deteriorating and visually chaotic, but has the potential of being developed into a harmonic and useful neighborhood center.

A long view from Cupples Square down the street focuses on the spire of the Eliot Church. The residences in this area beyond the square are too close to the roadway, too densely developed, and in need of repair and landscaping. The final view as the roadway ends on Chelmsford Street is of nondescript commercial buildings and deteriorated housing with no visual order or focal point.

PAWTUCKET BOULEVARD is probably the most scenic approach to Lowell. This roadway has the capability to maintain its character due to its location next to the Merrimack River as it flows through Lowell. The roadway connects Tyngsboro, Methuen and Lawrence with downtown Lowell.

At the Tyngsboro end the roadway is very scenic; a rural pathway through woodlands with picturesque glimpses of the river. (SKETCH #1). Further on, incongruous commercial development breaks up the landscape to the left of the road. The right hand side is a fairly continuous natural edge. The commercial development is done in the typical "non-design" idiom without regard to the natural potential of the area. The riverfront, long used as a "lover's lane" because of its romantic setting, is dusty, devoid of vegetation and undeveloped. (SKETCH #2). This area has tremendous potential for passive recreation.

As one approaches the intersection of Mammoth Road and the Boulevard there is an initial sense of arrival, with a choice to be made between alternative routes downtown. The roadway continues through a semi-urban setting on one side, and the constant natural feature of the river on the other. (SKETCH #3). The sequence passes from residential to institutional back to residential and then to commercial development. After passing the intersection of Aiken Street the true sense of arrival is present with the massive skyline of mill architecture framing the vista of the river. (SKETCH #4).



1.



2.



3.



4.

Pawtucket Boulevard



1.



2.

Andover Street

In this portion, as one travels the roadway, attention is focused on the river side. Glimpses of downtown are flashed in frames through the wooded growth along the river and the sense of arrival and of place is very strong.

ANDOVER STREET is historically well known as "the" place to reside in Lowell. Even today the street is in an area of middle and upper class residences. It still serves as a connecting artery with Tewksbury.

This approach to Lowell's downtown is probably the only one that is completely residential in character. (SKETCH #1). With its wide street and tree-lined sidewalks, the experience of travelling this route is very pleasant. The only negative elements to be encountered are the utility poles cluttering the view, the constant noise of the concrete roadway as one travels over the expansion seams, and the speed of travel which is not compatible with a residential district. (SKETCH #2).

As the last crest in the roadway is passed before descending to downtown, a chaotic urban panorama is fully visible to the motorist. The change is abrupt; a complete visual shock; which is perhaps followed by a state of disbelief for someone experiencing it for the first time.

Physical Form

The city is physically influenced by the juncture of the Concord and Merrimack Rivers and their adjacent lowlands which have played a determining role in its history. There are several hills in Lowell, the largest of which is Christian Hill in the Centralville section, which is about 300 feet above mean sea level. Fort Hill and a hill in the Belvidere section are 270 and 260 feet high respectively. Most of the city is 100 to 150 feet above sea level.

Many residential areas have generally good vegetation, although the number of trees in certain sections has been declining. The downtown, local business areas, higher density residential sections, and most industrial areas have little or no vegetation.

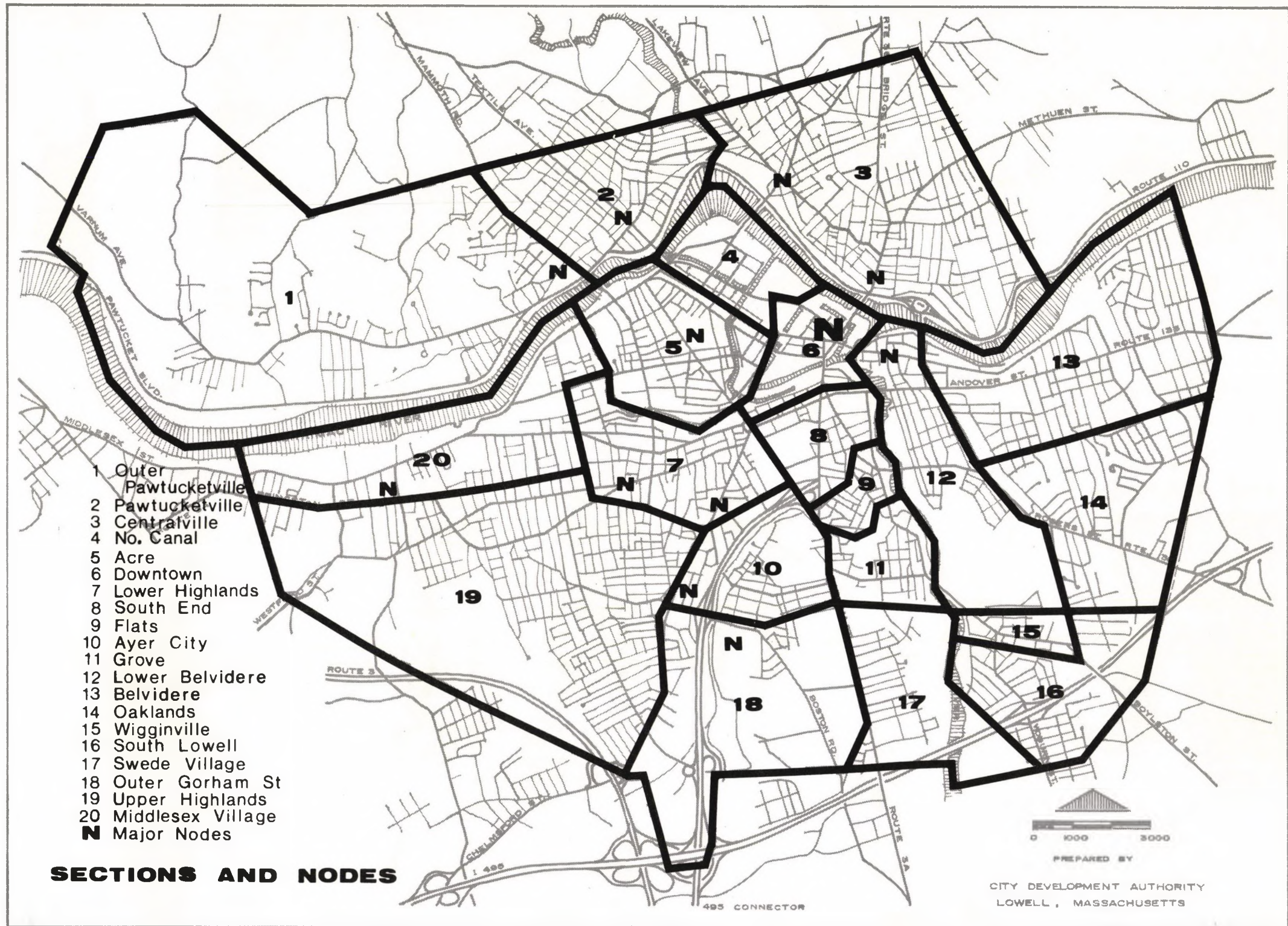
The map entitled "Structural Patterns" illustrates the varying building densities within the central portions of the city, and their



STRUCTURAL PATTERN



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LOWELL, MASSACHUSETTS



relationship to hills, centers of activity and main roads. The contrast in order and density is most marked between the Flats which is at the center, and Belvidere which is at the right of the map. Areas of confused development patterns and inefficient land usage, can be seen as well as sections of monotonous tract development. It becomes apparent that these patterns are very complex and provide a rich but sometimes confusing texture.

Sections, Centers and Nodes

Within the identifying characteristics of a city there are certain areas that have a unique identity of their own. The character of a area or section is often derived from its social meaning, its history, its topography, or its function. The sections of Lowell are relatively large and have no real legal boundaries, but are well defined and discernable by identifying characteristics. This creates a feeling of belonging to a part of the city that has personal significance to its residents.

The map on the facing page shows the approximate boundaries of the major city sections. Although some of their names are slowly being buried with the generations who used them, many are still used with surprising frequency by the majority of Lowell's residents. Centralville, Belvidere, the Highlands, the Acre, Pawtucketville, and South Lowell are the most used names, with sections like the Flats, the Grove, Ayer City, Swede Village, Wigginville, and Middlesex Village slowly becoming undefined units.

Within each section of the city there usually are concentrated neighborhood centers or nodes of activity. They may be just a complex of commercial structures built at a street intersection, or perhaps something more elaborate. The major centers of activity or nodes are located on the map entitled "Sections and Nodes". The two major nodal areas other than the downtown are on Bridge Street, and at Cupples Square on Westford Street.

The BRIDGE STREET node is the largest commercial area outside of downtown Lowell. The only thing that separates it from the central business district is the natural boundary of the Merrimack River. Within this strip has developed a variety of commercial

structures. Yet it is still a cohesive unit that could be called a neighborhood center. Mainly designed for pedestrian convenience, the area has decayed with the increased use of the automobile. Parking compounds the problem by adding to the congestion on the street.

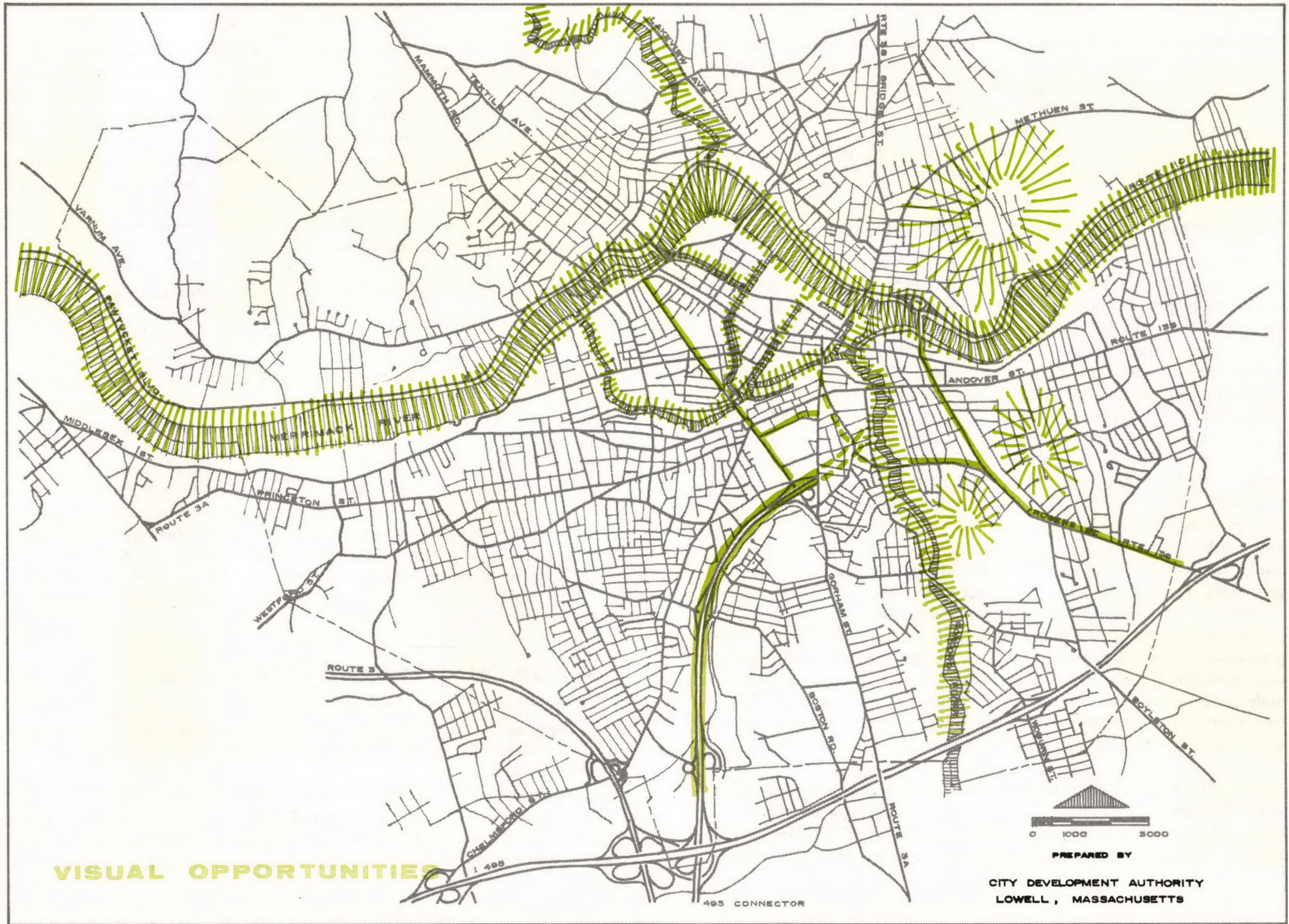
With the construction of the shopping plaza on the Dracut end of Bridge Street, this commercial area serves basically for quick stop shopping. Architecturally, the area could be made more appealing to the shopper, but with the fast pace and congestion, the shopper would probably never notice any aesthetic improvement without a complete redesign of the spaces involved.

CUPPLES SQUARE is located at the eastern end of Westford Street at the intersection of Pine Street. This area is not as large as the Bridge Street area, but is a relatively intense commercial node. It too is a quick stop convenience shopping area, but it has more of the qualities of a neighborhood center than does Bridge Street. It is characterized with a "Y" street intersection and a consistent lineal visual monotony. The triangular building between the streets is a strong visual element as viewed from the single leg of the "Y" and acts as a frame for the sequence of views as one approaches the area from either wing of the "Y". The traffic problem is bad with many people double and triple parking to do their business, even though a parking area is located behind the business strip. There is one parking lot, however, which was part of a First National Store complex now vacant, that is used extensively by the public. Cupples square has a quality and character once common to Lowell.

Major Visual Opportunities

There are several natural and man-made features which provide a unique character to the city and deserve preservation and enhancement. The following map illustrates where these areas are of special opportunity are.

The most important and potentially scenic areas in the city are those adjacent to the Concord and Merrimack Rivers, and the canals. The banks of these waterways are for the most part not only undeveloped but unsightly; however, if the banks of Lowell's waterways



VISUAL OPPORTUNITIES

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were improved, ribbons of open space could be provided with a minimum of effort. The psychological and aesthetic effect on the community would be more significant, and have a greater impact than any other single project that could be undertaken.

In addition to the waterways there are three major and several minor hills within the city's boundaries. One, Fort Hill, is preserved as undeveloped (and unmaintained) open space. The others, even though privately developed, should be preserved for their natural beauty as well. They provide another very visible element with great aesthetic influence.

The third element with potential is roadways such as parts of Rogers, Nesmith, Andover, Pawtucket, Fletcher and Summer Streets. The visual beauty of these streets has been encroached upon just since the commencement of this study. The I-495 Connector should be added to this list as a potentially attractive roadway in spite of its present horrendous aesthetic condition. It has tremendous potential because of the viewpoints along its route and the sense of orientation and approach it provides for the motorist coming to Lowell.

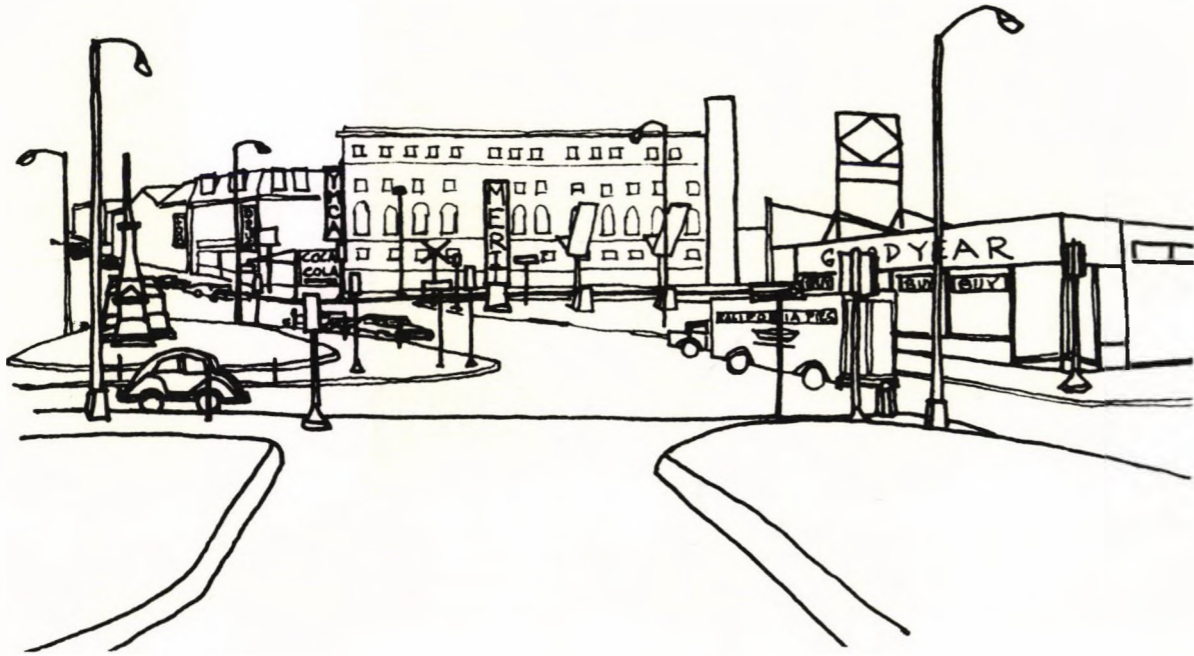
Special Studies

The following areas were selected for special consideration because they represent typical problems in the city which will be treated in more detail in ensuing portions of the Urban Design Study.

CITY HALL is the most outstanding civic monument in Lowell. Its height, size and distinctive architectural character make it one of the city's best known landmarks. As the seat of city government and the location of its various offices, the building receives a large number of visitors each day who conduct official business there. It is an impressive structure that was designed in 1890 as the result of a very colorful architectural competition.

The scale of the nearby buildings is appropriate in relation to City Hall because most of them, except the Memorial Library and the Smith Baker Community Center, are three or four stories. Against this low surrounding profile, the City Hall is outstanding and its grey granite contrasts favorably with these adjacent red





2. View From City Hall Main Entrance



3. Cardinal O'Connell Parkway



4. Merrimack St.

brick structures.

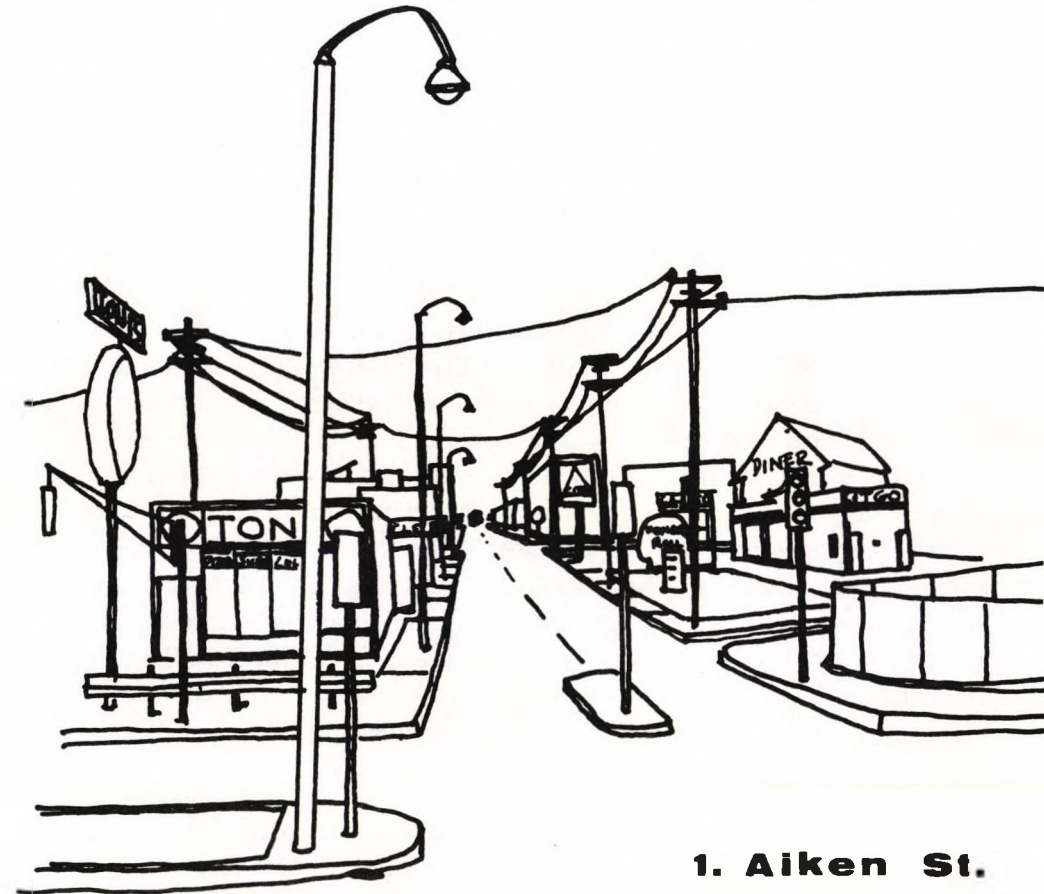
However, there is a negative relationship which exists between City Hall and the visual quality of the buildings and spaces that surround it. City Hall is a late Victorian monument, and in spite of elaborate stone work and rustication, appears as a strong visual element. Set back from the sidewalk and traffic, it stands in calm dignity, but the approach to the main entrance, however, is littered with modern tacky tack (SKETCH #2). Through the jumble of traffic signals and directions, billboards, posters, railroad tracks and traffic, the setting of City Hall is cheapened. The approach through the Cardinal O'Connell Parkway (SKETCH #3) is just as disappointing. Parking has usurped the use of this area as an open space and traffic around the island is distracting. This would be a fine place from which to view City Hall, but pedestrian use is not encouraged.

The block of stores on Merrimack Street at Worthen (SKETCH #4) is typical of the commercial facilities that surround City Hall. Although the buildings are architecturally attractive, most of the uses are unrelated to the needs of city employees and the public that patronizes the municipal offices. These buildings should contain such facilities as, law offices, public accountants, a notary public, restaurants and other convenience establishments.

Most of the buildings located in the area possess a positive character, but their condition upsets the dignity of City Hall. Some, like the block at Merrimack and Worthen Streets, have been defaced by commercial alterations and advertisements. The south side of Market Street at Cardinal O'Connell Parkway has deteriorated into shab-

business, and the bare backside of the Masonic Temple fronts on the new civic center. Nevertheless, no building inhibits the visual dominance of City Hall. The visual problems of confusion and dignity of approach are correctable, and unification and appropriateness of facilities may result from centralization of city services and new construction in the Northern Canal area. Hopefully, the completion of the new John F. Kennedy Civic Center will encourage the improvement of this district.

The second area selected for special study is the commercial node around the intersection of AIKEN ST. AND LAKEVIEW AVE. This area was selected because it has many visual problems typical in Lowell. The first problem encountered in this district is the



1. Aiken St.

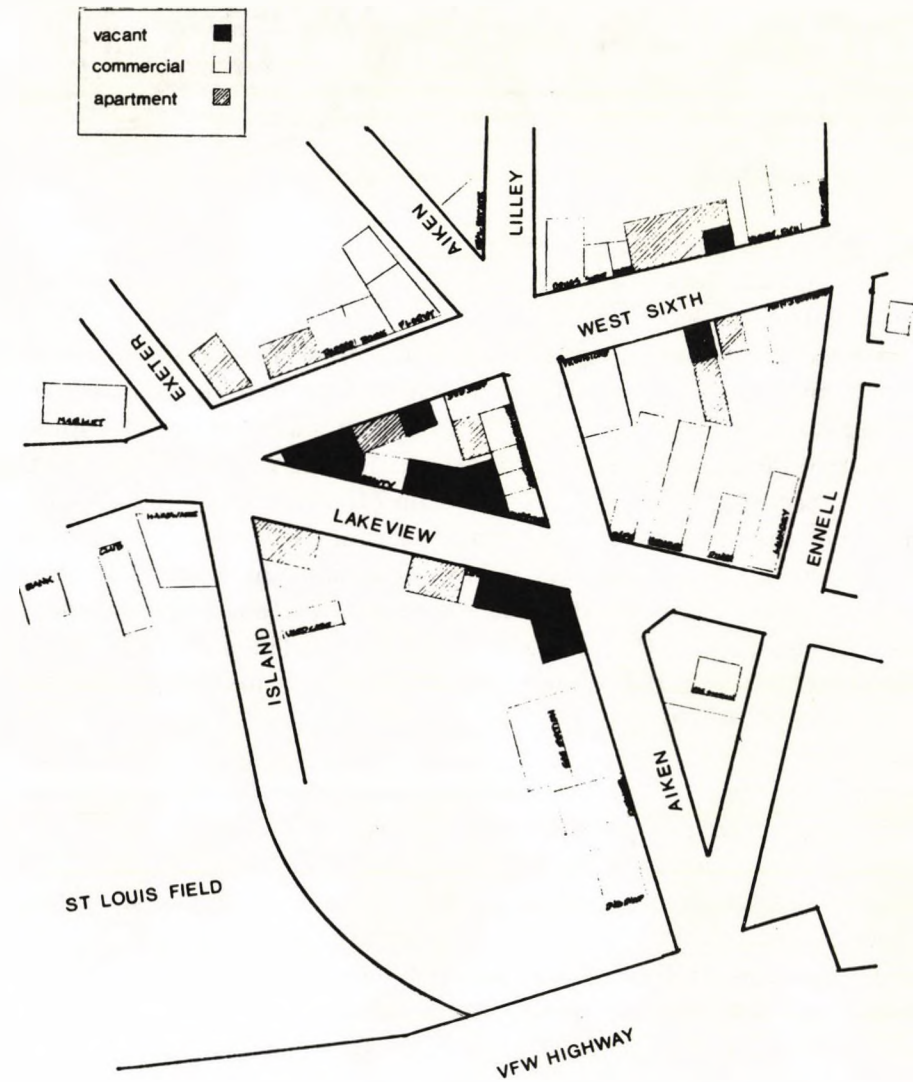


2. Lakeview St.

approach from the Aiken Street Bridge (SKETCH #1). The corridor down Aiken Street is a jumble of unattractive advertisements, lamp-posts, telephone wires, and rundown buildings. Heavy traffic makes this street unattractive and dangerous for pedestrian travel. The open space at the junction of Aiken and Ennell Streets is underdeveloped except for a small memorial which is in disrepair and is itself an eyesore. There is no relief for the eye in this chaotic landscape.

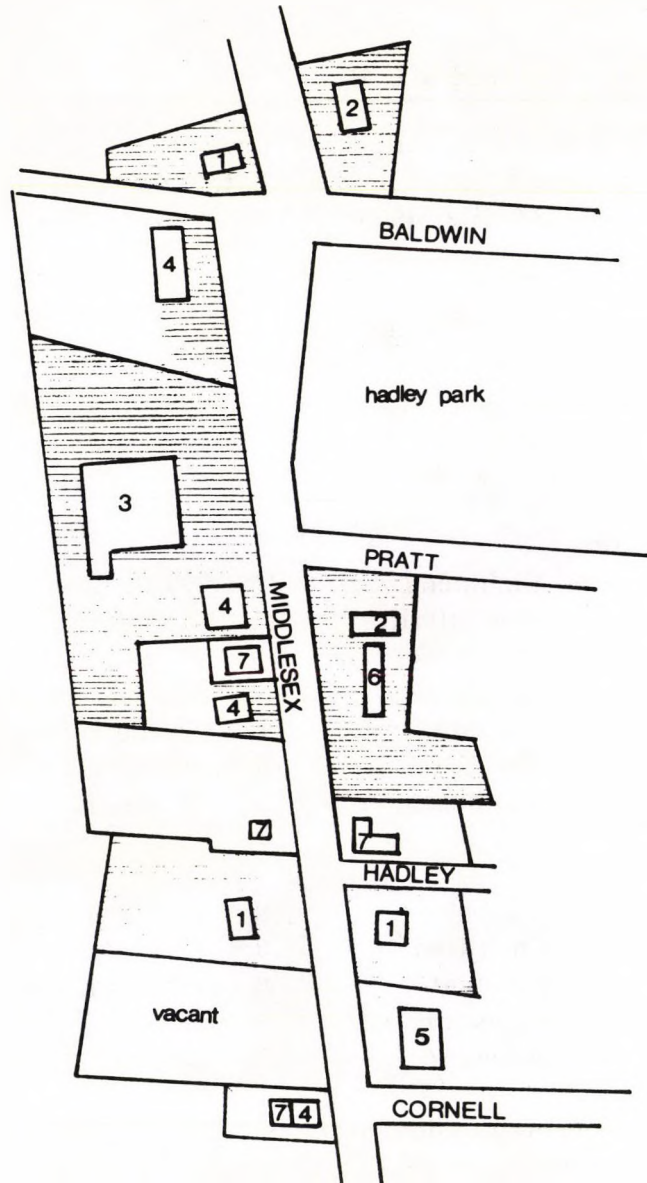
The main commercial district located at the Aiken, Lakeview and West 6th Streets intersection is well defined and compact in size. (See map, Aiken-Lakeview Land Use). The scale is appropriate for pedestrian use; however, the triangular building that results from the intersection of these streets blocks visual contact between all parts of the district and upsets its cohesiveness. This peculiar alignment of streets adds to the traffic problem in the area.

Although some of the buildings (i. e. the clothing store at West 6th and Ennell) have been renovated, most have deteriorated considerably and are quite run down (SKETCH #2). Almost 25 percent of the stores are vacant, and the used car lot and general litter of the streets presents a general shabby appearance.



Aiken-Lakeview Land Use

- parking
- 1 eating facilities
- 2 gas stations
- 3 market
- 4 commercial
- 5 school
- 6 car wash
- 7 residential



Middlesex Street Land Use

Even though this commercial district is adjacent to the Merrimack River and the St. Louis Field, it is isolated from these two features. Pedestrian passage to the river is unattractive and the view from the center of the commercial area is obstructed. The St. Louis Field is concealed behind the rows of stores and parking areas near the Union National Bank, and its condition is poor and neglected.

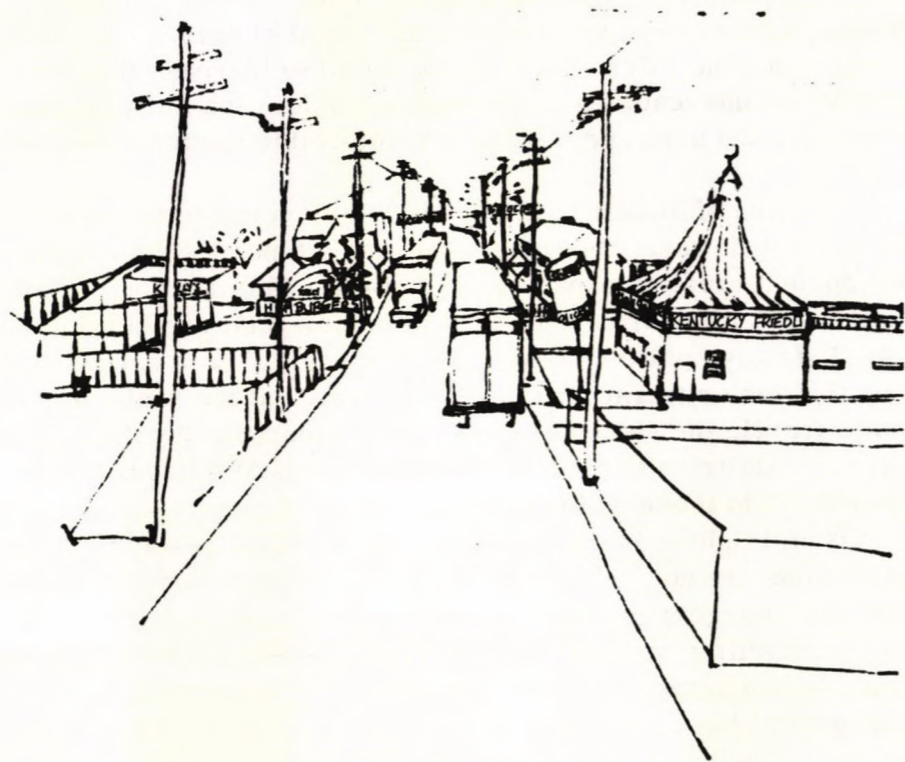
This commercial node has considerable potential as a neighborhood shopping area. Much renovation is needed to clean up the existing facilities and to eliminate the visual clutter. The proximity of recreation facilities should be exploited to increase the level of activity and interest here. Primary consideration must be given to compacting the area and making it comfortable for the pedestrian.

A portion of MIDDLESEX STREET was selected as the third area for special study because it typifies a type of strip commercial development which is expanding in Lowell. This section of Middlesex Street is a linear development of commercial and service facilities. Extensive parking areas are provided for each establishment along this major traffic artery. Constructed at the scale of automobile travel, the stores are too widely separated (by their parking lots) for pedestrian use. Heavy traffic makes Middlesex Street inhospitable to those on foot.

Visual blight is considerable. The drive-in restaurants and gas stations are not well designed, but are planned only to command attention. Large signs and billboards are needed to attract customers travelling at 40 M.P.H. Wires criss-cross overhead and all natural landscape has been removed from the roadside. In spite of the gaudy plastic splashes of Kelly's Comet and Colonel Sander's Bucket the environment is gray and lifeless.

Much land has been wasted by duplication of parking facilities. (see map, Middlesex Street Land Use). These extensive paved lots crowd out other facilities and make the district undesirable for other uses, and their monotony contributes to the paucity of visual excitement along Middlesex Street.

The existing conditions of this area result from haphazard development and the non-design ethic, but this visual blight may be corrected by the redesigning of garish advertisements, billboards



Middlesex Street

and stands that litter the roadside. Restoration of roadside vegetation may soften the harshness of such an area; however, the basic problem of wasted space and the resultant diffusion of facilities is intrinsic to this type of development.

ATTITUDINAL SURVEY

This analysis is based on an attitudinal survey that was conducted in Lowell during the hours of 9:00 A.M. to 5:00 P.M. on March 26, 27, 30, 31 and April 2, 1970. Seventy citizens were interviewed.

Distribution of Sample

Age Distribution 18 and under: 28 (40%) over 18: 42 (60%)

Sex Distribution Male: 38 (54%) Female: 32 (46%)

Geographic Distribution:

Highlands	15	South Lowell	3
Centralville	11	Ayer City	2
Belvidere	9	Downtown	2
The Acre	6	The Grove	2
Pawtucketville	6	Swede Village	1
The Flats	6	Wigginville	1
Middlesex Village	5	Oaklands	1

Occupational Distribution:

Student	28	Housewife	4
Unskilled	9	City Employee	4
Clerical	6	Sales Person	4
Educator	6	Nurse	2
Manager	5	Retired	2

The survey was conducted to determine the areas or parts of the city about which residents are most concerned, and to ascertain how aware people are of their environment and what they consider important in it. In doing this the objective was to establish the

areas that Lowellians wanted to change and how willing they would be to participate in those changes. The highlights of the results are summarized below.

1. Fifty of the 70 people interviewed (70%) were satisfied with working where they do.
2. When asked if they would rather spend their spare time elsewhere, a majority (56%) replied they would. Thirty-one people (44%) would leave Lowell for entertainment if they could. A typical comment was, "Why there's nothing to do here. Why stay?"
3. Most residents (60 of 70) were satisfied living in their section of the city, and many (63%) had most of their friends there.
4. Replies to the question "If public money were available for improvements, where would you like it spent?", indicate that half of those surveyed felt city funds should be spent where needed throughout the city.
5. Nearly everyone questioned (61 of 70) noticed a change in the appearance of Lowell. For most the change was negative; the city seemed "shabbier" and "somehow worse."
6. Eighty-six percent of the people interviewed were aware of pollution in Lowell. Many complained of "foul air", "stinking water" and noise and filth in the streets. Pollution is the negative feature people would most like to remove from the City.
7. Twenty-five of those questioned thought that the downtown shopping district and the banks of the Merrimack River were worth developing and maintaining.
8. About 50 of the 70 people interviewed (70%) were willing to work to improve Lowell by donating materials for local projects, maintaining neighborhood parks or helping in any other way they effectively could.

The survey seems to indicate that most people questioned were satisfied living and working where they do in Lowell; however, they would rather spend their spare time elsewhere. Most of those who expressed this opinion were younger people. The survey results indicate that the city offers nothing to persuade its youth to remain in Lowell, and by harassment encourages them to leave as soon as possible. One young person interviewed said, "There's no place to hang out and the cops always hassle us. Why should I stay?" Any city needs the vitality and intelligence of its young people to grow in the future and must attract them in some way. In addition, to establish Lowell as a regional center the city must offer more than a downtown collection of shops. Even most of the Lowellians interviewed wouldn't spend more time there because there is just nothing to do.

Even though the physical boundaries of certain sections are quite visible, 57 percent of those contacted considered themselves "at home" from a trip when they reached the city limits. This response seems to indicate that the public is concerned with the city as a whole and recognizes that the problems of other sections are their affair and responsibility also. The scale of the city is small enough so that everyone is aware of both the fine houses in Belvidere and the tenements of Hale-Howard.

When asked about changes in the city, most people cited negative things; the filth in the streets, the areas of vacant lots and a general shabbiness that is widespread. Most people had no problem finding items to remove from Lowell to make it better; however, amid this general deterioration, people have begun to notice new buildings and talk about cleanups, malls and general improvements.

Many of the interviewees were hard pressed to find things worth saving or developing. The downtown shopping district was mentioned often, but only if there were something to do in addition to shopping. "What we need is some entertainment in this city" one elderly lady commented. Many people cited the banks of the Merrimack as being the ideal place for a park. "If only we could swim there like we did thirty-five years ago." One fellow wondered why the old mills couldn't be used for a textile industry museum; "after all, that's what made Lowell famous", and many others agreed

with him.

To test the visual awareness of the interviewees, they were asked to sketch their route to work or downtown. Fifty-four of the 70 agreed to do this and they did so in a legible and accurate manner. Most of them, however, could not recall many details along the route. Most features were dismissed by a vague "Oh, all I pass are some houses and a row of shops here and there." or "I'm not sure if there are trees. I never look." Those with the greatest recall were pedestrians and bus riders. Drivers tended to remember road hazards and traffic signal locations. (Part of the explanation may be that some people were reluctant to sketch the maps. How could anyone miss the "Howdy" drive-in for example?) The survey seemed to indicate that the city's landmarks are overwhelmed by the driving process. Great concentration is necessary to navigate on the city's streets.

Of those who recognized Lowell's deterioration, about 50 said they would help to reverse the trend, but most of those who would donate time, materials and effort felt the city government should also help. However, many were skeptical about this help coming. It seems they were disillusioned by the "politicking" at City Hall and felt this would impede Lowell's improvement. This general feeling of hopelessness was also evident in people's description of the physical condition of the city. "How will the river ever get clean" or "I don't think we'll see a street cleaner around here in my lifetime". were typical comments.

The major problems facing the city seem to be disillusionment and unawareness. The young people are the most disgusted and put off by the quality of life in Lowell. The city is losing much of its youth to larger cities, like Boston. Some older people saw hope for improvement reflected in new construction, new industry and new roads. But this promise was often overwhelmed by the general decay and deterioration of the city.

Lack of awareness of the visual environment can be ameliorated by leaving the automobile behind, but ignorance to the needs of the younger generation is more pervasive. These needs must be met to encourage those who must inherit Lowell's problems and potentialities if the city is to prosper or even exist in the future.

SUMMARY ANALYSIS

Lowell's land use pattern is a mixture of a variety of uses. Industrial uses are distributed generally throughout the central sections of the city with a liberal sprinkling of small commercial uses. Large portions of the south bank of the Merrimack and the banks of the Concord Rivers are taken up in industry, most of which is housed in mill buildings in need of maintenance.

Residential areas in the central sections of the city are dense and dreary for the most part. There are a great number of houses with distinctive architectural character which are difficult to appreciate because of street widening, small lot sizes and lack of maintenance. The residential sections toward the periphery and in the higher elevations of the city are somewhat better environmentally because they are less dense. Most of the newer subdivisions are laid out using outdated land planning principles of the thirties. Architecturally there are some very fine older houses, some may be even unique and outstanding. However, there are very few residential buildings in the city of any architectural integrity built after World War II, and probably not many more that were built after the turn of the century.

Generally speaking, land usage is poor and inefficient. Most sections of the city have a crowded and depressed look with an apparent lack of environmental quality and even simple maintenance. In spite of this, Lowell does have some positive characteristics: The city is a definable physical entity (as opposed to being just a legal entity as many suburban communities are) with a unique character. It is a relatively dense city with definable sections. The rivers, canals, mill buildings and the tenement housing of the early working class people are at the same time, the things that give Lowell its extremely negative physical attributes, and yet they provide the potential for tremendous visual cohesiveness, a potential that many other cities would like to have.

There is a lack of environmental choice in Lowell. There are almost no town houses, true garden apartments, or planned housing clusters with car-free spaces. In recent years, many poorly designed and environmentally deficient apartment buildings have been constructed that promise to be in the future not much better than the

tenements of the last century.

Many neighborhoods have large amounts of deteriorating or dilapidated housing. Some residential streets are seriously impaired by nearby industrial and commercial uses. Most of the commercial and industrial environment is visually declining, derelict, or obsolete.

Many sections of town are lacking in open space, or the quality of the open space available is so low that its net impact may be closer to negative than positive. Parks are poorly developed and maintained, and provide places for bottles, cans and bored teenagers, and yet, here too Lowell has some unique opportunities for exciting neighborhood play spaces, riverside recreation areas and more urbanely developed canalside promenades and seating areas.

Some of the major approaches to downtown Lowell are quite attractive and provide a pleasing gateway to the city; however, the most used approaches are appalling. Roadsides are jammed with junk and clutter, deteriorated buildings and tasteless advertising. The visitor as well as the resident cannot help but get a dismal impression. Streets and intersections are dangerously narrow and confusing and lack adequate traffic control. Parking and traffic violations seem to be an accepted practice, and driving in the city is not recommended for the timid.

The major approaches and major streets are the most used and provide the basis for one's impressions of the city. These roadways have potential for visual improvement, but it will require an intensive and concerted effort.

The attitudinal survey that was taken as part of this study showed that most people identified with Lowell and were relatively satisfied with where they are living. However, most of the respondents indicated that the city provided nothing in terms of things to do. People were aware of filth in the streets, areas of vacant lots and buildings, and general shabbiness. Many interviewees were hard pressed to find things worth saving. Reference was usually made to developing the Merrimack River banks, utilizing the mills, and providing entertainment, recreation and culture.

The attitudinal survey indicated in general that the major problems facing Lowell seem to be disillusionment and unawareness. Young people are the most disgusted and put off by the quality of life in the

city, and many of them are leaving for larger cities. Some of the older people interviewed saw hope for improvement reflected in new construction, new industry and new roads; however, this promise was often overwhelmed by the general decay and deterioration of the city.

In conclusion it can be said that five major factors contribute most significantly to Lowell's overall form:

1. Residential environment and residential land use patterns
2. Industrial patterns
3. Open space and waterways
4. The major circulation system
5. Architectural quality

The present state of all five of these factors is negative, but the aesthetic potential is great. It is the development of this potential which must become the goal of Lowell's future design policy.

HISTORICAL SURVEY

INTRODUCTION

Although the history of the United States has been relatively short, there are many significant buildings, monuments and sites in this country that are aesthetically pleasing and culturally meaningful. Their existence reminds us of our history and enhances our environment.

Interest in the preservation of these buildings and sites started shortly after the American Revolution. The first efforts were directed toward homes of heroes of the Revolution and the sites of battles, and were purely private projects. The federal government showed no concern for historic preservation until the Twentieth Century. The movement to preserve landmarks was perpetrated chiefly through historical societies and related groups which are responsible for the preservation and upkeep of many significant structures and sites. Mount Vernon, for example, was preserved by a private organization which still operates it.

It wasn't until after World War II that the impetus and guidelines for historic preservation were provided by the National Trust for Historic Preservation and the National Park Service.¹

Fear sometimes is expressed that historical preservation can go to the extreme, shackling development and preserving useless structures. But in this country, and certainly in Lowell, there is a long way to go before that point is reached. In fact it is becoming more apparent that if present trends continue the nation will have only a very few of its significant historical features left. These will be located in special places and will not be an integral part of the urban fabric of our cities. The following paragraph describes the urgency of the problem:

In New York City, the Municipal Art Society devoted six years to an architectural survey of the city. Some 300 buildings in five boroughs were designated as worthy of preservation as the finest examples of particular styles and period from 1661 to 1950. By the time the survey was completed in 1957, more than 20 percent of these buildings had already been destroyed, and the others have been lost since that date. The Historic American Buildings

Survey, inaugurated in the 1930's, has recorded more than 10,000 buildings. It was estimated in 1963 that 30 to 50 percent of these buildings, significant in America's history and culture, had already been destroyed.²

Most cities, including Lowell, have suffered great losses of historic and architecturally significant buildings. They have been torn down indiscriminately with the mediocre and the bad. Few people realize that architecture is art that cannot be collected in a museum, but must live on in the building itself, preserved as a part of the city.

In the contemporary city's struggle to survive and renew itself, to provide adequate housing, public facilities, highways and commercial space, it is becoming more apparent that decisions must include cultural and aesthetic considerations; i.e. those things which may not have immediate or apparent economic return. We have destroyed many of our finest structures to satisfy immediate and projected needs of transportation and housing only to find later that their replacements are, in many instances, shabby in construction, design and usefulness.

It is said that we face the prospect of historical and "architectural sterility". It is not sterility alone, however, but the plague of an ugly and inarticulate environment. Our environment is becoming a constant assault on our aesthetic sensibilities (not to mention our other senses), which is so persistent and increasing that aesthetic unconsciousness is our only escape. Unless a means can be found to retain those buildings and spaces that have visual appeal and meaning to our society, we may never be able to make significant progress in improving our visual environment.

Legislative safeguards must be written into existing state laws, city zoning ordinances, building codes and other ordinances, and all segments of society must be made aware of the long term cultural and economic benefits of preserving our history. Then we can begin to give aesthetic guidance to our future development.

Does the historic building have a useful place in the future of the City of Lowell? Can such buildings contribute significantly to the aesthetics of the city, or are they more likely to hinder development?

If a building is a significant part of Lowell's history, how can it be preserved, and what use can be made of it in our modern society? These are just a few of the questions which must be considered in recommending a historical preservation plan which is related to the overall development of the city.

The purpose of this study is to survey significant architectural and historical buildings and sites in Lowell, to classify them, and to make recommendations for their future preservation. Because of the nature of the program and other limitations, this study as presented here cannot be considered complete. It is hoped, however, that it will provide a strong beginning point which can be expanded and which will be instrumental in the preservation of the physical manifestation of Lowell's unique heritage.

Definition and Criteria

Historic preservation in its most comprehensive form has been defined as the scientific research and study, protection, restoration, maintenance and the interpretation of sites, buildings and objects of significance in U.S. history and culture. The significance of such features may be on a national, state, regional, or local level.

The following criteria are suggested in evaluating the significance of a structure or area.

1. Structures or sites in which the cultural, political, economic, or social history is best exemplified.
2. Structures or areas that are identified with the lives of historic personages or with important events in the main currents of history.
3. Structures or areas that embody the characteristics of an architectural type of style, or a notable work of a master builder, designer, or architect who influenced his age. "Mere antiquity is not sufficient basis for selection of a structure for permanent preservation, but can be a factor if other more significant examples have disappeared, or if the building forms part of an especially characteristic

section of a given community."³

4. Structures or sites of archaeological interest.

Preference should be given to structures or sites that have their original material or other physical remains, original workmanship or original location. "Repair or restoration of original elements or reconstruction of a building long destroyed demand high professional standards of historical and scientific techniques. Generally speaking, it is better to preserve than repair, better to repair than restore, better to restore than reconstruct."⁴

Obviously, all historic structures which may be desirable to preserve will not be able to support themselves as museums. Adaptation to other possible and appropriate uses should be considered.

Scope and Methodology

The historical survey, as part of the community renewal program, is a beginning point only. The most obvious examples of historically and aesthetically significant buildings, sites and monuments have been selected in the hope of concentrating efforts. The list is intended to be expandable.

Selections were based on extensive research into the history of Lowell. Information was gleaned from histories, newspaper articles and books which were supplemented by discussions with representatives of the community having a special knowledge of Lowell's history. The criteria used to make the final list and establish priorities have been outlined above.

Each feature was classified and rated in one of the following categories:

- (I). WORTHY OF PRESERVATION - Structures or sites in this category are recommended to be preserved at all cost, even outright subsidy, if necessary. These are considered irreplaceable elements of Lowell's past form which the individual may grasp in three-dimensional form an important part of his heritage.

- (II). **PRESERVATION RECOMMENDED** - This category includes structures or sites which should be preserved if an appropriate contemporary use can be found. These are elements which have significance in Lowell's history, but may not be a vital part of it nor can they be considered items to be saved "at all cost." Preservation is recommended and should be strongly considered.
- (III). **WORTHY OF MENTION** - This category is merely a mentioning of appealing or unusual elements which add something to the environment and make our surroundings more pleasant. These elements may be structures, parts of structures, areas, or sites of historical or architectural interest.
- (IV). **WORTHY OF RECONSTRUCTION** - Obviously it is better to preserve, repair or even restore an existing building than to reconstruct a building that has been torn down. Because of the extensive amount of research, skilled labor and tedious construction procedures often involved, it usually becomes a lengthy and expensive process to reconstruct a historical structure. However, should the opportunity arise, there are certain structures and sites in Lowell's past which would be worthy of reconstruction. These are included in this category.

The primary purpose in preserving a structure or site is for public use and enjoyment. Each project should be coordinated with national, state or local programs for preservation, and should consider similar projects in its vicinity to increase its scope and usefulness as an educational element.

THE SURVEY

The original list of buildings and sites included over one hundred items. The charts on the following pages represent those items considered most significant. They are divided into two categories: Historic Buildings and Structures, and Historic Monuments and Sites, and are grouped by their rating.

Historic Buildings I - Worthy of Preservation

Name	Location	Date	Use	Condition	Comments
1. Benjamin Butler House	333 Andover Street	1843	Residence	Excellent	The home of a prominent figure in national, state and local history of the Nineteenth Century.
2. Boott Mill	Foot-of-John Street	1835	Cotton Manufacturing	Fair	The Boott Mills offer the most interesting surviving example in Lowell of what the early mill buildings were like.
3. Bowers House	150 Wood Street	before 1671	Residence	Good	The first house to be constructed in East Chelmsford. Cited by the Mass. Historical Society. Served as a meeting place for the early settlers and as a rendezvous in times of danger.
4. Francis Gate Complex	North of Broadway St. on the Pawtucket Canal	1832	Flood Gate	Poor	Francis Gate saved the city from severe damage during the floods of 1852 and 1936. The sluice gates were reconstructed in 1870.
5. Lowell City Hall	375 Merrimack Street	1893	Seat of City Government	Good	City Hall has served as the seat of government since 1893, and architecturally offers a uniqueness of style. A major landmark.
6. Lowell Day Nursery	119 Hall Street	1823	Mill-Agents Residence	Good	Built by the Merrimack Manufacturing Co., the first textile enterprise to be established in Lowell, for the use of the company's resident agents. Now used as a day nursery.
7. Memorial Library	401 Merrimack Street	1893	Library	Good	Served as Lowell's public library since 1893. Built at the same time as the city hall and architecturally related to it.
8. Merrimack Street Gate House	Corner of Merrimack and Dutton Streets	1848	Gate House	Fair	Served as a cog in Lowell's intricate Canal system. Gates control three tunnels running from the Western Canal under Moody Street. The gates are closed and no longer operable.
9. Northern and Western Canal Gate House	Off Suffolk Street north of French St.	cir. 1847	Gate House	Fair	Part of the canal system located at the confluence of the Northern and Western Canals.
10. Northern Canal Gate House	Mammoth Road O'Donnell Bridge	1847	Gate House	Fair	Served to direct the flow of the Merrimack River into the Northern Canal to provide waterpower for the cotton mills. Still in use.
11. Old City Hall Building	228-236 Merrimack Street	1830	Town Hall	Good	Marked the seat of town and city government for the Lowell community from 1830 to 1893. Now used for retail commercial and professional offices. The building has been considerably altered from its original appearance.
12. Parker House	137 Pine Street	before 1700	Residence	Good	The second oldest house in Lowell and the birthplace of the first white child. The addition of a porch and other later elements have altered the original appearance.
13. St. Anne's Church	237 Merrimack Street	1825	Church	Excellent	First church to be constructed in the town of Lowell.

14. Spalding House	383 Pawtucket Street	1761	Residence and Inn	Good	An early residence in Lowell. Owned at one time by Dr. Spalding. A stopover for runaway slaves going to Canada. It is presently used as the meeting place of the Daughters of the American Revolution and as a museum. Recently the building exterior was covered with aluminum siding.
15. Varnum House	55 Varnum Terrace	cir. 1702	Residence	Good	Samuel S. Varnum was a leading citizen of Dracut during the mid 1700's, active in politics and the development of the area. The Varnum House is probably the second or third oldest house in Lowell.
16. Whistler House	243 Worthen Street	1825	Residence	Good	Commemorates the birth place of James M. Whistler, an artist of international renown. Presently used as a museum and art gallery.

Historic Buildings II - Preservation Recommended

Name	Location	Date	Use	Condition	Comments
1. Ayer House	Corner of Pawtucket and School Streets	mid. 1800's	Residence	Excellent	A fine example of an architectural style of the last century. Now used as a school.
2. Clark House	61 Clark Road	1700's	Residence	Good	The home of Major Thomas Clark who won fame for his exploits during the Revolutionary War.
3. Fiske Building	223 Central Street	N.A.	Commercial-Office	Good	An architecturally handsome structure.
4. Old Glass House	39-43 Baldwin Street	1802	Residence	Fair	The Old Glass House was used by the Chelmsford Glass Company to house its employees. An example of living quarters before the mills.
5. Old Worthen Tavern	141-147 Worthen Street	1841	Tavern & Inn	Deteriorated	An example of construction in the core area of Lowell in the Mid-Nineteenth Century. Now used as a tavern and gathering place.
6. St. Patrick's Church	282 Suffolk Street	1854	Church	Excellent	A Gothic revival structure built on the site of the first Catholic Church in the community.
7. Stone House	267 Pawtucket Street	1825	Tavern & Hotel	Excellent	The first hotel to be constructed in the town of Lowell. Originally known as Coburn's Tavern. Now used as a convent and called Bachand Hall.
8. The Manse	282 Andover Street	1845	Residence	Good	A good example of residential architecture during the early 1800's. This structure was the home of Reverend Edson, first pastor of St. Anne's Church.
9. Hadley House	1709 Middlesex Street	early 1800's	Residence	Good	Residence of Judge Hadley, prominent Lowellian whose father was the lock tender for the Middlesex Canal.

The BENJAMIN BUTLER HOUSE is presently owned by J. W. Gavin. It was constructed around 1843 and has the traditional porticos of many of the homes built in the Belvidere section. The house is an imposing structure with great ornamentation and detail work; however, it is more significant for the man who lived there than for its style. Ben Butler was a lawyer, statesman and soldier who befriended the Negroes and millworkers. He led a one-man crusade against the mill corporations in the 1840's, and won infamy in the South for his brutal tactics against the populace and the Confederate Army during the Civil War. Butler later served as Governor of Massachusetts, and later as U.S. Senator. He is reputed to have been one of the leaders of the impeachment movement against Andrew Johnson. He is buried in the Hildreth family cemetery.



Bowers House



Boott Mills

The BOOTT MILLS were incorporated in 1835 under the supervision of Kirk Boott, one of the leading citizens of Lowell. The mills were a vital part of the manufacturing community throughout the Nineteenth Century. Since the decline of the mills the buildings have become the home of several manufacturing enterprises. They are the best existing example of the early mills in Lowell and the courtyard still has the basic character of the Nineteenth Century.



City Hall

When it became known that a new CITY HALL and MEMORIAL LIBRARY were to be erected, 67 architects applied for information and a competition was held for the final design. Twenty-three architects from all over the U. S. and Canada submitted sketches, which were made in every conceivable architectural style of the time. Five finalists were selected and three prizes awarded. They included one Boston and two Lowell architects. Prizes of \$1,200, \$800 and \$500 were awarded respectively. After some delay the city then requested two architects, one of whom had not won a prize, to revise their designs. Several other revisions were submitted, and after forty-seven ballots and seven meetings, the city hall design was

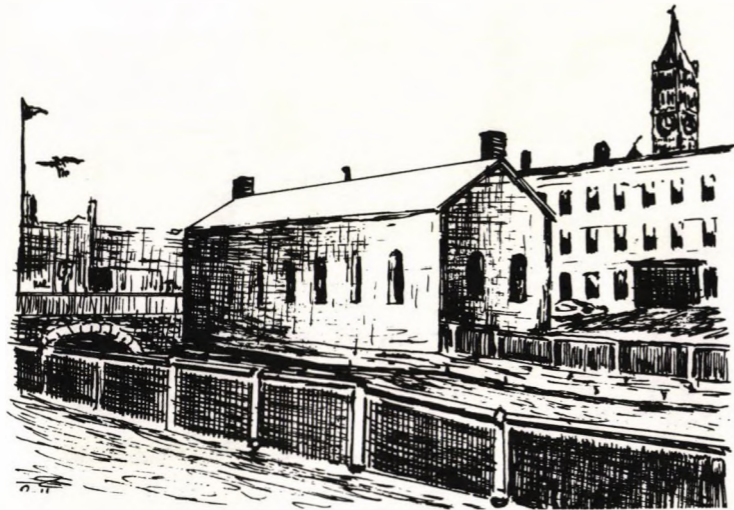
awarded to the third prize winner and the library to the first prize winner. The building was finally constructed and completed in 1893, not without further delay and controversy. The dedication of the new City Hall was on October 14, 1893.



Lowell Day Nursery

The building presently owned by the LOWELL DAY NURSERY was constructed about 1823 by the Merrimack Manufacturing Company for the mill agent, and is an excellent example of the architectural style used by the first generation of mill owners. The structure continued to be used by various mill agents for the Merrimack Manufacturing Company throughout the 19th and early 20th Centuries. In 1946 the building was sold to the Lowell Day Nursery Association and converted for use as a day care center. Although additions were made to the structure, the building has retained its distinctive 19th Century style.

THE MANSE located on Andover Street in the Belvidere section of the city was built in 1845 and is in good condition. The structure has been cited by John Coolidge for its Gothic design. Built by a Protestant Minister, Reverend Edson, the house served from time to time as the residence of various mill agents. Unfortunately, the front entrance to the home has been remodeled and some of the charm lost due to the installation of modern combination windows. The home represents one of the few remaining examples of this type of residential architecture in the community.



Merrimack St. Gate House

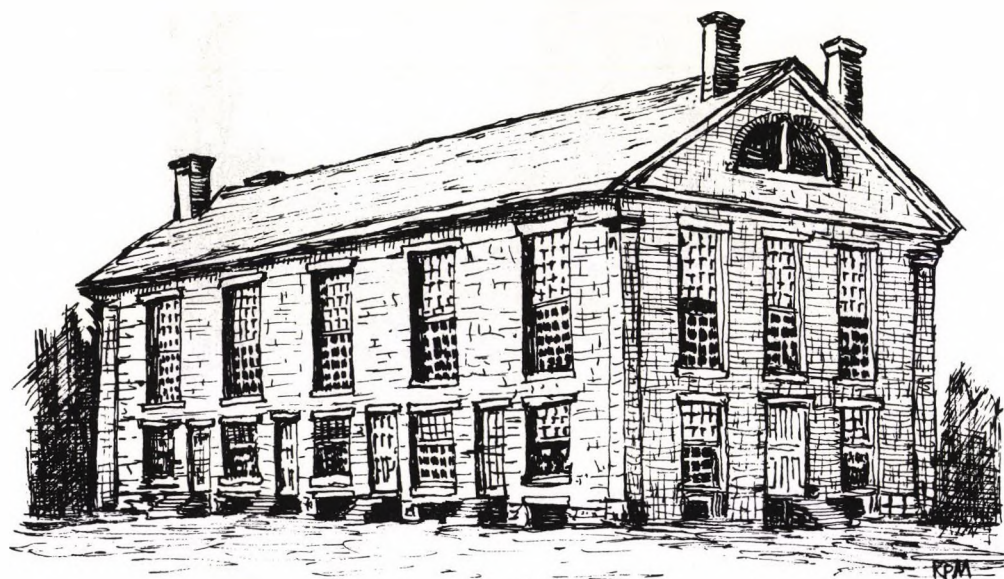
The MERRIMACK STREET GATE HOUSE is presently owned by the Locks and Canals Company, but is no longer a functioning part of the canal system. Similar to the Gate House for the Northern Canal, this structure has a unique place in the history of the community. Built of red brick in 1848, the structure has a series of palladian windows on all sides of the building. The gable, walls and windows all have fine trimming in brick, making it an excellent example of the brickwork and simple, straight forward design achieved in the last century. The Gate House served to control the flow of water through three tunnels which run from the Western Canal under Moody Street to the Merrimack Canal, providing an alternate route for supplying water to the mill complexes along French Street.

The NORTHERN CANAL GATE HOUSE, built in 1847 is presently owned by the Locks and Canals Company, and still is use as part of the canal system. It is near the origin of the Pawtucket Canal built around the Pawtucket Falls. The Pawtucket Canal was constructed from 1793 to 1796 and was designed for floating logs down the Merrimack River to the Newburyport shipyards. The Northern Canal was constructed to reduce the strong currents in the canal system and to provide more waterpower for the mills.



Old Worthen

The present owner of the OLD WORTHEN TAVERN is Old Worthen Inc. A place for social gatherings since its construction in 1841, the Old Worthen at one time offered rooms to visitors. The building has no particular historical significance other than the fact that it represents a type of structure and use from an earlier period which is fast vanishing. Today, although it is in a deteriorated condition, the Old Worthen is still a favored gathering place for many people. The building would require extensive repair and rehabilitation to restore it to its original form and to a sound structural condition.



Old Town and City Hall

The OLD CITY HALL was vacated in 1893 at the dedication of the present city hall. The building committee for the Old Town Hall selected the lot opposite St. Anne's church as the most central site suited to the purpose. Total cost of construction in 1830 was about \$18,900.

The whole lower floor and the cellar was designed to be rented out for commercial uses, as well as the meeting hall on the second floor, which was rented to local religious, musical, political, military and public groups.

In 1844 one of the stores was eliminated from the first floor and made into the City School Library. In 1852, further remodeling lowered the first floor by two feet and raised the ceiling of the meeting hall on the second floor. Later, alterations added another story, more windows and a gable in the front of the building. As a result, the present appearance is considerably different from that of 1830 when the town hall was first built.

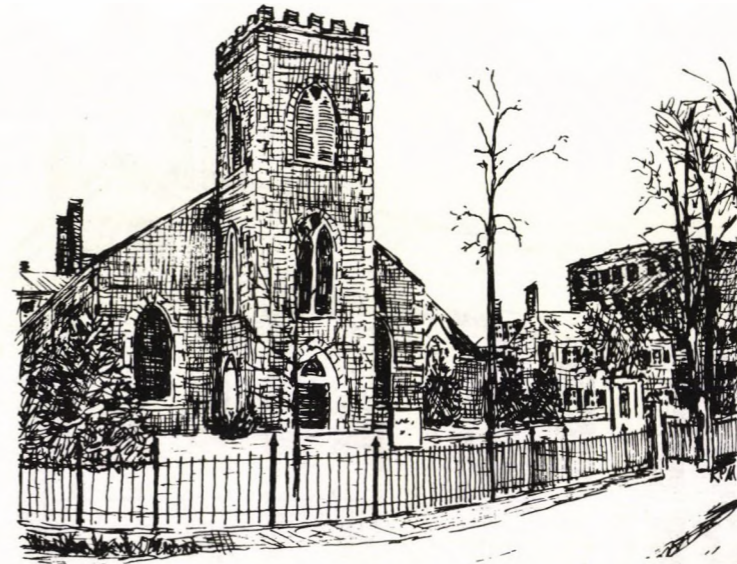


Old City Hall - Present Appearance



Spalding House

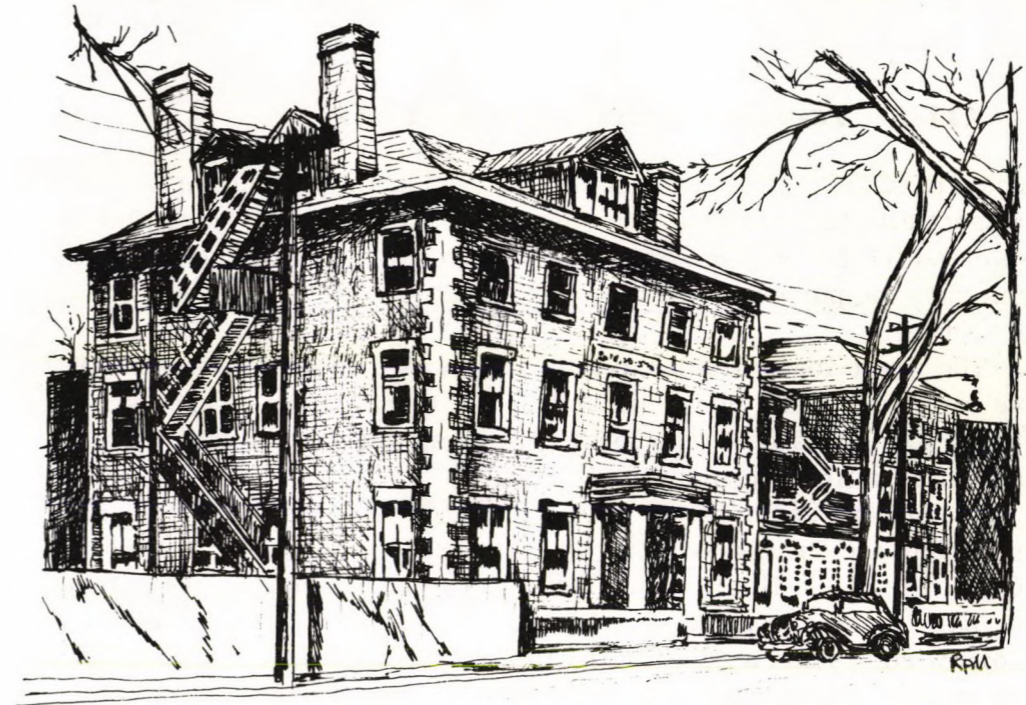
Although there were meeting houses and places of worship in existence previous to 1826, ST. ANNE'S EPISCOPAL CHURCH has the distinction of being the city's first church as such. Kirk Boott, as the agent for the Merrimack Manufacturing Company, realized the necessity of providing for the spiritual needs of his workers. The church was started by Kirk Boott and P. T. Jackson on May 20, 1824, and was dedicated on March 16, 1825. Boott made church attendance compulsory for his workers and a pew tax of 38½ cents a month was imposed. In 1827 the church was leased to the Merrimack Religious Society and became their property in 1831. An addition was made to the structure in 1845. Reverend Theodore Edson was Pastor of the church for sixty years from 1831 to 1891. He was a dominant figure in the social and political life, and took a special interest in the educational needs of the community.



St. Anne's Church

ST. PATRICK'S CHURCH, built in 1854, is presently owned by the Archbishop of Boston and is closely identified with the development of the Irish community in Lowell. When the Irish first came to Lowell in 1822, they settled in the "Acre" section of the city. In 1833 they built their first church, St. Patrick's; however, it was burned down. In 1854 the present structure was erected. Many of the local Irish residents helped with its construction and later found comfort there in the community which chose to segregate them.

The SARAH LIVERMORE HOUSE, built before 1825, was purchased by St. John's Hospital and razed in September 1969 to provide for a parking lot and eventual hospital expansion. The Sarah Livermore House, part of the Judge Livermore Estate, is reported to have been one of the first houses built in the Belvidere section of Lowell. The "Yellow House" was built in 1750 by Judge Livermore, of the same estate. The Livermore house was part of the underground railroad during the Civil War.



Stone House

The STONE HOUSE is presently owned by St. Joseph's Hospital, and is known today as Bachand Hall. It was called the Ayer Home and the Stone House during various earlier periods, but its original name was Coburn's Tavern. In 1826 at a town meeting in this building, the inhabitants of Lowell accepted the act of the legislature incorporating Lowell as a town. Built in 1825, the Stone House was designated as a family hotel and was the first hotel built in Lowell. Due to its convenient location it was always crowded, competing with Frye's Tavern in popularity. Its guests included the visiting stockholders for the mills. Formerly there were long balconies facing the river from which visitors could enjoy the view of the rapids. Though not an appealing architectural structure, the Stone House is a quaint bit of local history.

The TYLER MANSION is currently owned by Louis Kraff, Jr. Built about 1840, it was one of the most distinguished buildings of the Highlands during the Mid-nineteenth Century. Tyler, a prominent man in the textile industry, built his mansion in the Greek Revival style popular in Lowell during this period. The facade is still the original, with Palladian windows and balcony. The first and third floors have double sash windows, and there is a series of columns along the face of the structure. Unfortunately, the sides and rear of the building have been remodeled and are now clapboard.

The WHISTLER HOUSE is presently owned by the Lowell Historical Society. Built in 1825 by Paul Moody, one of the founders of Lowell, the house became the home of the Whistler family in the 1840's. Here James McNeil Whistler spent the first years of his life. The Lowell Art Association purchased the building and remodeled it and built an art gallery behind the home. Unfortunately, structures in the vicinity detract from it greatly. In fact, the addition of the art gallery behind the Whistler House itself destroys some of the historical impact of the house.



Varnum House



Ayer House

Lowell has literally thousands of residences which could be considered in category III: Worthy of Mention. There are many authentic period houses both large and small, which add greatly to the homogeneity of the city environment. These buildings are well designed and constructed; however, many are in disrepair or are being encroached upon by street widening and commercial or industrial



Light on Andover St.



Detail, Chapel Hill

development. It is obviously impossible for this study to list all of them or even a significant number. Nevertheless, the loss of large numbers of these houses would deal a final death blow to the aesthetics of Lowell. The following table includes some of the buildings in this category.

Historic Buildings III • Worthy of Mention

Name	Location	Date	Use	Condition	Comments
1. Battles House	236 Fairmount Street	N.A.	Residence	Excellent	An example of Romanesque revival in the Nineteenth Century.
2. Blake House	508 Westford Street	mid 1800's	Residence	Excellent	An example of an aesthetically pleasing and well maintained house, representing a style and character that is common in certain sections of the city.
3. Boarding House	222-224 Worthen Street	N.A.	Boarding House	Fair	A type of building common in old Lowell.
4. Boy Scout Headquarters	49 Kirk Street	N.A.	Residence	Fair	An example of an architectural style associated with the mills.
5. Brick House	284 Worthen Street	N.A.	Residence	Fair	An example of an early architectural style.
6. Chachus House	57 Varney Street	1853	Residence	Fair	An example of an architectural style prominent in Lowell in the mid 1800's.
7. Commercial Building	258 Merrimack Street	N.A.	Commercial & Residential	Fair	An example of an early commercial building with apartments above.
8. Commercial Building	370 Merrimack Street	N.A.	Commercial	Fair	An early building.
9. Immaculate Conception Church	140 East Merrimack Street	1868	Church	Excellent	A Gothic revival structure built by the Catholics of lower Belvidere.
10. Gemos House	120 Mt. Vernon Street	N.A.	Residence	Good	A Victorian structure characteristic of the period.
11. John Nesmith House	216 Nesmith Street	1841	Residence	Excellent	An example of the traditional English manor type of architecture.
12. Lowell Institute for Savings	18 Shattuck Street	N.A.	Commercial	Excellent	An example of a commercial building with interesting construction and detailing.
13. Middlesex County Court House (back portion)	Gorham Street	1850	Court House	Good	A public building with an interesting architectural character. The rear portion of the court house is the older of the two sections. It was moved to its present site in 1895 and renovated in 1902.
14. Office Building	22 Shattuck Street	N.A.	Office	Good	Another good example of an early commercial structure.
15. Pierce House	585 Chelmsford Street	1750	Residence	Altered	The home of Benjamin Pierce, Revolutionary War Veteran, twice Governor of New Hampshire, and father of President Franklin Pierce.

16.	Public Housing	76-98 Homestead Road	before 1918	Residences	Good	The first public housing project in Massachusetts and one of the earliest in the country. Now in private ownership.
17.	Putnam House	1210 Middlesex Street	N. A.	Residence	Fair	A prime example of Gothic revival architecture.
18.	Residence	86 Belmont Avenue	N. A.	Residence	Excellent	An architecturally interesting structure.
19.	Residence	519 Central Street	N. A.	Residence	Good	A fine example of the colonial style of architecture.
20.	Residence	442 E. Merrimack St.	N. A.	Residence	Good	An example of Gothic revival architecture
21.	Residence	235 Stackpole Street	N. A.	Residence	Good	An example of an architectural style common in certain sections of Lowell which adds considerably to the character of the area.
22.	Residence	291 Wilder Street	N. A.	Residence	Good	This building represents an architectural character and style that is common in certain sections of the city.
23.	Round House	58 Wannalancit Street	N. A.	Residence	Fair	A unique structure in the city. Built sometime in the Mid-nineteenth Century.
24.	St. Jean the Baptist Church	725 Merrimack Street	1895	Church	Excellent	An architecturally interesting church. The Church burned in 1913. was reconstructed and opened for use in 1915.
25.	Tyler Mansion	16 Tyler Parkway	N. A.	Residence	Good	A Greek revival house that has preserved most of the exquisite detail work of its period and style.
26.	Wannalancit Mills	526 Suffolk Street	N. A.	Industrial	Fair	An early mill complex.
27.	Yorick Club	91 Dutton Street	N. A.	Residence	Good	A mill overseer's home.

Historic Monuments and Sites

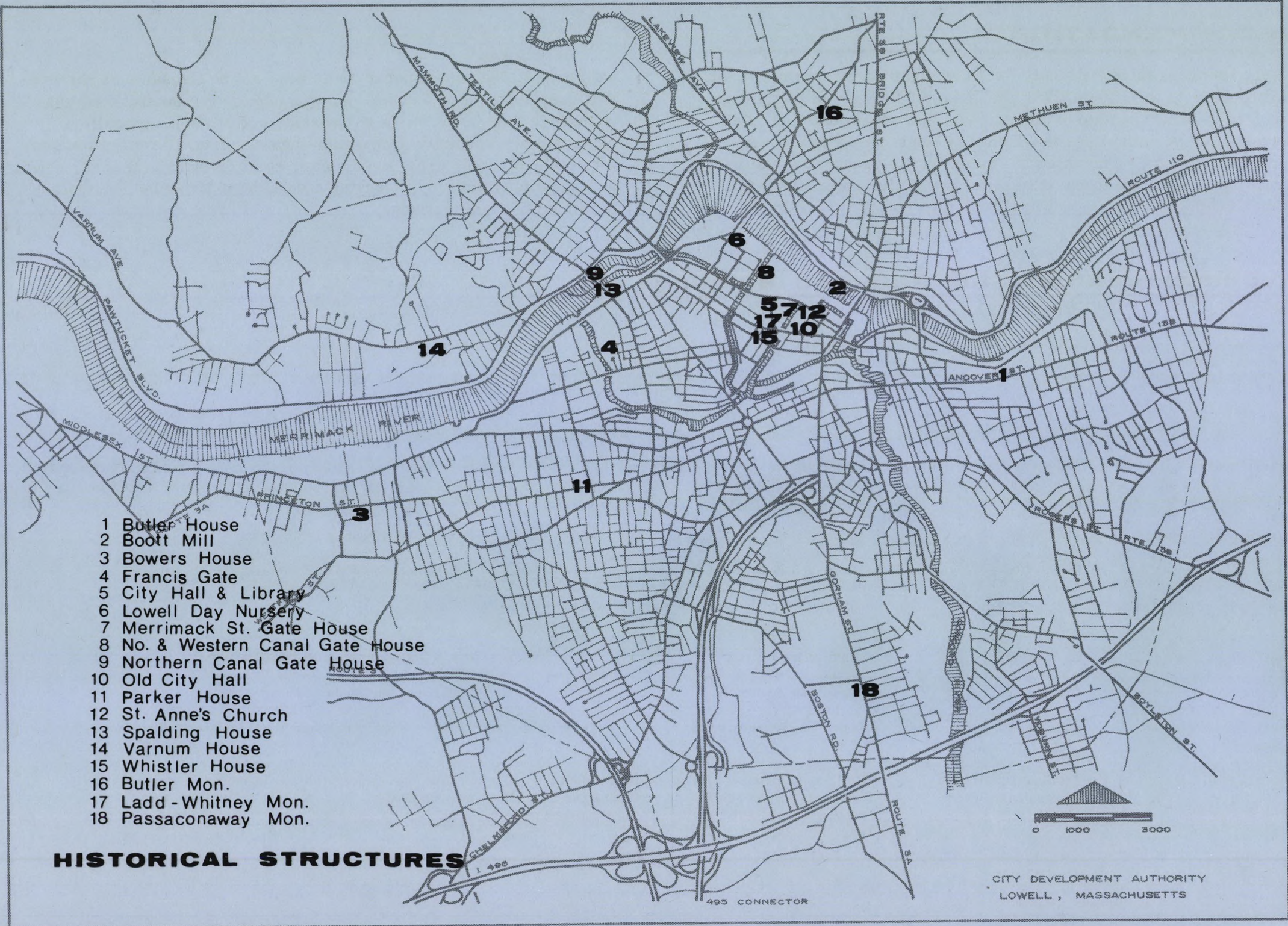
Name	Location	Date	Type	Condition	Comments	Rating
Benjamin Butler	Hildreth St. Cemetery	1893	Headstone	Excellent	The monument marks the resting place of a controversial Mid-nineteenth Century figure of both national, state and local prominence.	I
Father Garin	725 Merrimack Street	1896	Statue	Good	An interesting and well located statue sculpted by Louis Phillip Herbert.	II
Ladd-Whitney	Corner of Merrimack St. & Arcand Drive	1865	Monument	Excellent	The monument commemorates the death of two Lowell soldiers who were among the first to give their lives in the Civil War.	I
Passaconaway	Edson Cemetery, Corner Oberlin & Second Avenues	1899	Monument	Good	The monument commemorates the last great chief of the Penacooks the tribe that inhabited this area before the coming of the white settlers.	I
Mammoth Road Cemetery	Mammoth Road	N. A.	Cemetery	Fair	One of the oldest cemeteries in Lowell.	II
Meetinghouse Hill	Summer Street	1930	Marker & Site		Meetinghouse Hill Marker marks the site of the chapel erected in 1653 for John Eliot and the place he preached to the Indians, converting many.	II
Middlesex Canal Site	Middlesex Street	1803	Canal	Filled	Canal used to carry freight and passengers to Boston.	I
Pow-Wow Tree	Clark Road	cir. 1700	Marker & Tree	Tree Rotted	Under this oak the Wamesit Indians met for their peace conferences and councils of war. Tradition claims the tree was standing as early as 1700.	II
Page's Clock	16 Merrimack Street	1914	Clock	Not in working order	A meeting place and landmark.	II
School Street Cemetery	Corner of School & Branch Streets	1810	Cemetery	Deteriorated	One of the oldest cemeteries in Lowell.	II
Winged Victory	Corner of Merrimack Street & Arcand Drive	1867	Monument	Good	A replica of the original monument given to the city by James Ayer to commemorate the Union victory in the Civil War.	II

The LADD-WHITNEY MONUMENT presently is owned by the City of Lowell. It was dedicated on April 19, 1865 to commemorate the death of Ladd and Whitney in Baltimore, Maryland. These two men were among the first soldiers to be killed in the Civil War. Though the monument does lack artistic quality, it should be preserved to remind the citizens of Lowell that some wars are justified and that death in service to the country is honorable and praise worthy.

The PASSACONAWAY MONUMENT is presently owned by the Order of Red Men of Massachusetts. The monument of Passaconaway, also known as Aspinquid, last great chief of the Pawtucket Indian Nation, is a fitting memorial to a man who served his people with great leadership. Recognizing the drastic changes that his people would encounter with the coming of the white man, he befriended them instead of resisting. Passaconaway is reputed as having been a great warrior and, at the time of the first English settlements in the region, he controlled most of New England. The monument is located in the Edson Cemetery, and was constructed in 1899.



Passaconaway Monument



- 1 Butler House
- 2 Boott Mill
- 3 Bowers House
- 4 Francis Gate
- 5 City Hall & Library
- 6 Lowell Day Nursery
- 7 Merrimack St. Gate House
- 8 No. & Western Canal Gate House
- 9 Northern Canal Gate House
- 10 Old City Hall
- 11 Parker House
- 12 St. Anne's Church
- 13 Spalding House
- 14 Varnum House
- 15 Whistler House
- 16 Butler Mon.
- 17 Ladd - Whitney Mon.
- 18 Passaconaway Mon.

HISTORICAL STRUCTURES

CITY DEVELOPMENT AUTHORITY
LOWELL, MASSACHUSETTS

RECOMMENDATIONS

The following table lists only the most significant structures, sites and monuments in Lowell, their present use, the type of treatment required to bring them up to an acceptable physical condition, and suggested or potential uses to which they might be put in our contemporary society. The objective is not just to preserve a historical structure or site, but to put it in some productive role, which will bring enough economic or cultural return to justify its continued

existence. The contemporary role need not be the same as its original use, nor need it be used as a museum or for institutional purposes. If done properly, a restaurant, coffee shop, art gallery, dance studio, specialty shop, mini-theater, drop-in recreation center, club, or other uses, even commercial or industrial uses, can be a good medium for preserving a building if it can be done with a minimum of modifications.

Recommendations for Selected Buildings

Name	Present Use	Treatment	Potential Use	Rating
Ayer House	School & Orphanage	Maintenance	Institutional	II
Benjamin Butler House	Residence	N. A.	Residential or Institutional	I
Boott Mill	Factory	Maintenance and Restoration	Manufacturing, Institutional and/or Museum for the preservation of mill equipment and mill environment.	I
Bowers House	Residence	Maintenance	Residence	I
Clark House	Residence	Maintenance	Residence	II
Francis Gate Complex	Flood Gate	Maintenance	Flood Gate, Monument, Museum.	I
Lowell City Hall	Seat of City Government	Repair and Restore - exterior and interior cleaning, painting and maintenance is required. Interior spaces need remodeling and updating within the context of the building's original architectural character.	Governmental, Office or Museum.	I
Lowell Day Nursery	Day Nursery	Maintenance	Day Nursery or Other Institutional.	I
Northern Canal Gate House	Gate House	Repair and Restoration	Gate House or Canal Museum.	I
Merrimack Street Gate House	Gate House	Repair and Restoration	Canal Museum, Art Studio or Gallery, or Coffee Shop	I
Old City Hall	Retail Commercial & Professional Offices	Restore - Extensive renovation and considerable creativity will be required to accomplish an authentic restoration and still provide for contemporary commercial uses.	Professional Offices, Retail Commercial, Institutional, Drop-in Center, Dance Studio, or Mini-theater.	I

Old Glass House	Residential	Repair and Restoration	Residential	II
Old Worthen Tavern	Tavern	Restore and Reconstruct - Extensive restoration and reconstruction will be necessary to bring this building to an acceptable condition.	Tavern, Restaurant, Club or Drop-in Center.	II
Parker House	Residence	Restoration and Maintenance - The porch and several wings were added later and the house has been divided into apartments. It will require some work to return the house to its original form.	Residence	I
St. Anne's Church	Church	Maintenance	Church	I
St. Patrick's Church	Church	Maintenance	Church	II
School Street Cemetery	Cemetery	Extensive Maintenance, Repair and Restoration.	Cemetery and Open Space for passive recreational use.	I
Spalding House	Meeting house & Museum	Restoration and Maintenance - The footings are settling, resulting in a considerable lean toward the back right corner. Aluminum siding has been used on the exterior and certain original interior spaces have been sealed off.	Meeting House & Museum.	I
Stone House	Convent	Maintenance	Convent, Hotel or Rooming House.	II
The Manse	Residence	Maintenance and Restoration	Residence	II
Varnum House	Residence	Maintenance	Residence	I
Whistler House	Museum & Art Gallery	Maintenance and Restoration - The character of the art gallery detracts greatly from the Whistler House, as do many of the buildings in its vicinity. The art gallery should be replaced with a structure that is architecturally compatible.	Museum and Art Gallery.	I

In addition to the previously listed structures, there are several buildings which have played a significant role in the history of Lowell which are no longer in existence. Some of these are included in the following list:

Durkee House
Garrison House
Grist Mill
Kirk Boott House
Livermore Mansion
Merrimack Manufacturing Company Row Houses
Old Town Hall

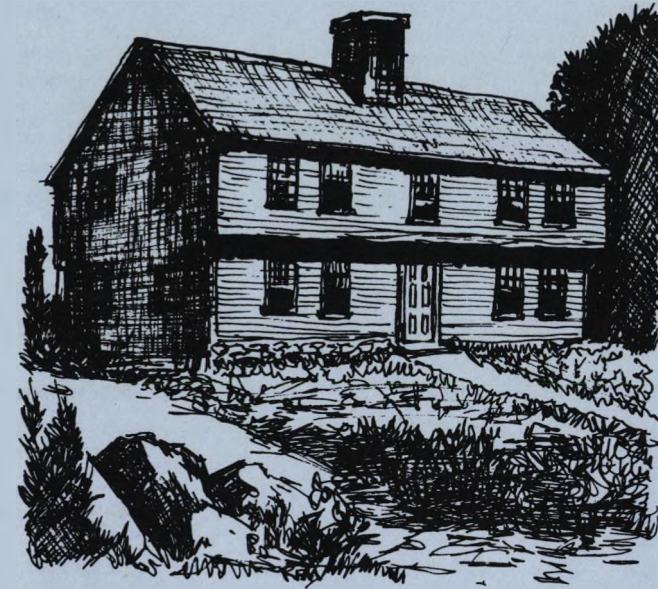
Of this list, two buildings might be considered most significant for reconstruction. The first is the Garrison House, which was located in what now is Pawtucketville. It was a two-story pitched roof house situated on the westerly side of the road leading from the Old Pawtucket Bridge to the Navy Yard. The house was 45 by 22 feet and was built by the early settlers of Dracut in 1647 as a place of rendezvous and protection in case of Indian attack. "The roof was about 1/3 pitched and persons could stand under the ridge-pole of the attic. The flooring framing timbers were sixteen inches square, and are all hewn instead of being sawed The second story projected over the first nearly a foot, in order to afford an opportunity to shoot through loopholes downward upon any foe. . . . A portion of the basement was partitioned off from the rest by a heavy stone wall. This enclosure is supposed to have been made for better safety and security of the women and children who sought refuge from time to time in the basement."⁵

(It should be noted that there were actually two Garrison Houses in the area. The second built in 1675, was at the foot of Wood Street not too far from the Bowers House).

The second building that would be worthy to reconstruct is the Old Town Hall, which has been described previously.

It is to be noted here that the original facade of the Kirk Boott house has been preserved and could be used in a restoration of that building.

Many areas in this country and abroad designate a certain locale



Garrison House

in which to restore buildings. Other buildings of historic value are then moved to the same place and a historical village is established. These villages, if ambitiously carried out, become a focal point for visitors of all ages and backgrounds. Such a project, if conceived for Lowell, would certainly not lack for local buildings to go in it; however, it would require considerable financial commitment.

An alternative to the above approach, although less effective, it also is considerably less costly, would be to construct authentically detailed scale models of important buildings in the early history of Lowell. This could be done by constructing models of the entire city as it looked at various critical points in history. In addition, models of individual buildings of significance might be constructed at a larger scale. With the application of some planning and effort, a very impressive and educational display could be developed.

Further efforts might be made to find an existing row house worthy of restoration. There are still some old row houses located on

Appleton and on Cabot Streets, although the best example was the Merrimack Manufacturing Company's row houses on Dutton Street which were torn down as part of the Northern Canal Urban Renewal Project. (The same renewal project assisted in preserving the row houses on Cabot Street and the mill-agents residence, which is now the Lowell Day Nursery, on Hall Street). This type of housing was a fundamental element in the functioning of the paternalistic social system of the early mill society.

Related to this, and probably one of the most feasible projects, would be the preservation of a mill yard, the best existing example of which is at the Boott Mill complex. In addition, a portion of one floor of the building could be preserved and furnished with the equipment used by the mill workers of the 1820's and 1830's. Such a project would be of national significance and would have the potential of attracting a great number of visitors, and, in addition, would not cost a great deal to accomplish.

A fourth approach which can be taken is to designate an architectural preservation area. Such an area would serve as a place to relocate or reconstruct significant buildings; however, it must have historical significance as an area in the outset. A considerable number of historic structures or sites should already be located there.

Summary

It is proposed that the most desirable course of action for the City of Lowell and interested citizens and organizations, in order to preserve the unique heritage of the area, should be to implement the following:

1. Designate all structures, monuments and sites rated as I in the preceding tables to be preserved by law in their original state.
2. Include items rated as II in the preceding tables in the list of designated historical structures, monuments and sites in those cases where it is necessary and feasible.
3. Establish a mill museum located preferably in a mill build-

ing, or elsewhere, which will preserve and display for public viewing artifacts and equipment from the mill era and from the early history of Lowell and the surrounding region. (It seems very logical that Lowell, as the forerunner of the industrial towns in North America should be the principal site for the preservation of this important segment of history).

4. Designate a historic district in Lowell, the boundaries of which are to be coordinated with the goals and findings of the Community Renewal Program study and the Model Cities program. The area to be considered most strongly is in the vicinity of the Lowell City Hall. There are over twenty elements in the area which are of some historical, cultural, or architectural value. These include the following:

Boarding house, 222-224 Worthen Street
Boy Scout Headquarters, 49 Kirk Street
Brick house, 284 Worthen Street
City Hall and new J. F. K. Civic Center
Commercial buildings, 350-370 Merrimack Street
Commercial building, 258 Merrimack Street
Health Department Building, 63 Kirk Street
Ladd and Whitney Monument
Lowell Institute for Savings, 18 Shattuck Street
Lucy Larcom Park
Memorial Library, 401 Merrimack Street
Merrimack Street Gate House, corner of Dutton and Merrimack Streets
Office building, 22 Shattuck Street
Old City Hall, 228 Merrimack Street
Old Worthen, 147 Worthen Street
St. Anne's Church, rectory, and adjacent buildings, 197 Merrimack Street
Winged Victory Monument
Yorick Club, 91 Dutton Street

Only a detailed survey of the area in question can determine whether some or all of these buildings, and perhaps others, should be included in the district. It should be pointed out that the definition of boundaries, because of the very restric-

tive nature of this kind of district, should be determined with great care and foresight. Significant structures should be preserved, but in conformance with the objectives of total, coordinated development in the area. Other areas also should be investigated to see if the criteria for a historical or architectural control district is met elsewhere in the city.

IMPLEMENTATION

Presently Lowell has no historic preservation ordinance, although state enabling legislation was passed in 1955. Chapter 40, Section 8D of the Massachusetts General Laws permits the designation of historic districts and the formation of historic commissions. There are 47 cities and towns in the state which have formed commissions and/or established districts.

The purpose of this legislation is the preservation and protection of buildings, sites and districts of historic interest, through the maintenance of landmarks in the history of architecture, of the Commonwealth and of the nation, and through the development of appropriate settings for such buildings, places and districts.

A city may establish a historic district by a two thirds vote of the city council. Prior to such establishment, however, a historic district study committee shall make an investigation and report on the historic significance of the buildings, structures, features, sites or surroundings included in any proposed district. A public hearing must then be held and a final report submitted to the city council.

The historic district study committee consists of three to seven members appointed by the mayor subject to the confirmation of the City Council. One member is to be nominated from each of the following organizations: The Massachusetts State Chapter of the American Institute of Architects, the Boston Society of Landscape Architects, and the board of realtors covering the area. All members serve without compensation.

No building or structure may be erected, reconstructed, altered, restored, moved or demolished within a historic district, and no appurtenances may be erected or displayed within the district unless an application for a certificate of appropriateness is approved by the historic district commission. No building or other permit may be granted until a certificate of appropriateness is issued.

There are other controls and ordinances which can be used to implement historic preservation. If a historic preservation district is established in Lowell, for example, the zoning ordinance should be reviewed and amended to encourage and compliment the established

objectives. Zoning ordinances have not been used in Massachusetts for historical preservation as far as can be determined; however, this method is used in other states successfully, but only in compliance with existing state enabling legislation.

Urban renewal also can be a useful tool. The Society Hill Project in Philadelphia restored more than 600 old houses and was handled in the following manner:

The Redevelopment Authority employed a consulting architect to prepare individual specifications for the facades of each of the properties to be restored.

In Unit 1 the northern half of Society Hill, the Redevelopment Authority acquired all properties in the area and the ones to be restored were (a) resold to the former owner with a rehabilitation contract, or (b) consigned to the Old Philadelphia Development Corporation, a private non-profit organization, for sale to an owner who would restore the buildings.

About half the owners chose to stay and rehabilitate. The rest of the buildings acquired by the Redevelopment Authority, were assigned to the Old Philadelphia Development Corporation, which was named redeveloper with the responsibility of finding new owners who would agree to restore in conformity with the approved plan.

In Unit 2, the Redevelopment Authority did not acquire all the properties. Instead, it obtained agreements from owners who would bring their house facades up to urban renewal plans and authority standards. Other owners undertook restoration voluntarily with no control except the urban renewal plan. The properties that the authority acquired were for resale to restorers through the Old Philadelphia Development Corporation.

The Redevelopment Authority had originally planned to buy most of the 702 structures in the area, including about 440 in need of rehabilitation. So great was the public enthusiasm for the restored area, however, that rehabilitation went forward voluntarily, for several years before a formal renewal plan could be put into operation by the authority.

There is direct aid available from the Federal Government for

Boston Hill
Local Historic District

Urban renewal
Philadelphia

sell back
Lease back

Private developer!!

agreements

with owners

voluntary action

public enthusiasm

Zoning ordinance

historic preservation. Any state or local public body authorized to acquire, improve, and restore property for preservation purposes and to contract for federal funds is eligible to apply for assistance. Although private organizations and individuals are not eligible to apply, they may provide part or all of the funds necessary for the local share of project costs. They also may assist an applicant public body in planning a project. Leaseback of sites and structures to non-public bodies and individuals also is permitted under circumstances approved by the Secretary of the Department of Housing and Urban Development.

- Leaseback of sites

HUD


Matching grants may cover up to 50 percent of the cost of acquisition, restoration, and improvement of sites, structures, or areas of historic or architectural significance in urban areas. The federal grant for any project cannot exceed \$100,000 in any one fiscal year. The federal grant for moving a structure cannot exceed \$25,000.

Other HUD programs providing assistance for historic preservation are: Open Space Land, Urban Renewal, Urban Renewal Demonstration, Urban Planning Assistance, and Urban Beautification and Improvement. HUD Regional Offices will assist in determining which program is most suitable.

In general, HUD will consider the following factors in selecting projects for grant assistance: historic or architectural significance of the site, structure, or area; evidence of need for federal assistance, imminence of loss through anticipated construction; use change, deterioration, or other factors; priority assigned by state of areawide historic preservation plans; and potential contribution to the community or area through uses planned for the property.

Specifically, the "Criteria of Evaluation" of the National Register must be met in order for a project to be accepted.

X

PLANS AND POLICIES

AREA DESIGN PLANS AND POLICIES

Lowell has been defined to consist of nine planning areas based on groupings of city sections, in order to develop design policies and proposals which apply more directly to the problems and potentialities of a specific area. The map on the following page defines the areas to be considered.

The general character and problems of each area are described in the text. The analysis considers the emerging land use patterns; industrial, retail and commercial development; and, open space, residential character, traffic circulation and access. Problems and opportunities are described in each of these categories and objectives and policies defined. These are then applied and illustrated in the form of specific plans and proposals.

Pawtucketville

The Pawtucketville area is located north of the Merrimack River and includes Outer Pawtucketville. The topography is relatively flat, rising moderately toward the north from the flood plain along the river. It is a large area with many trees, encompassing most of Lowell's undeveloped land.

Development in the area is residential with no industry. In Pawtucketville there are two large, expanding institutions, Lowell General Hospital and Lowell Technological Institute, and a number of relatively large nursing homes.

Lowell Tech. is engaged in an expansion program which will make it an even more prominent feature on the north side of the river. Although the expansion of the Tech. campus faces many built-in problems, it appears that more emphasis must be given by the city and the school to natural amenity, vehicular circulation and existing residential patterns in expansion proposals.

Lowell General Hospital is beautifully situated on a wooded hill above Varnum Avenue which forms a prominent, natural edge to the more densely developed portions of Pawtucketville to the east. Future expansion of the hospital should consider as paramount the preservation of the existing natural character of

the hospital land. There is some question, however, whether this has been the case with recent expansion.

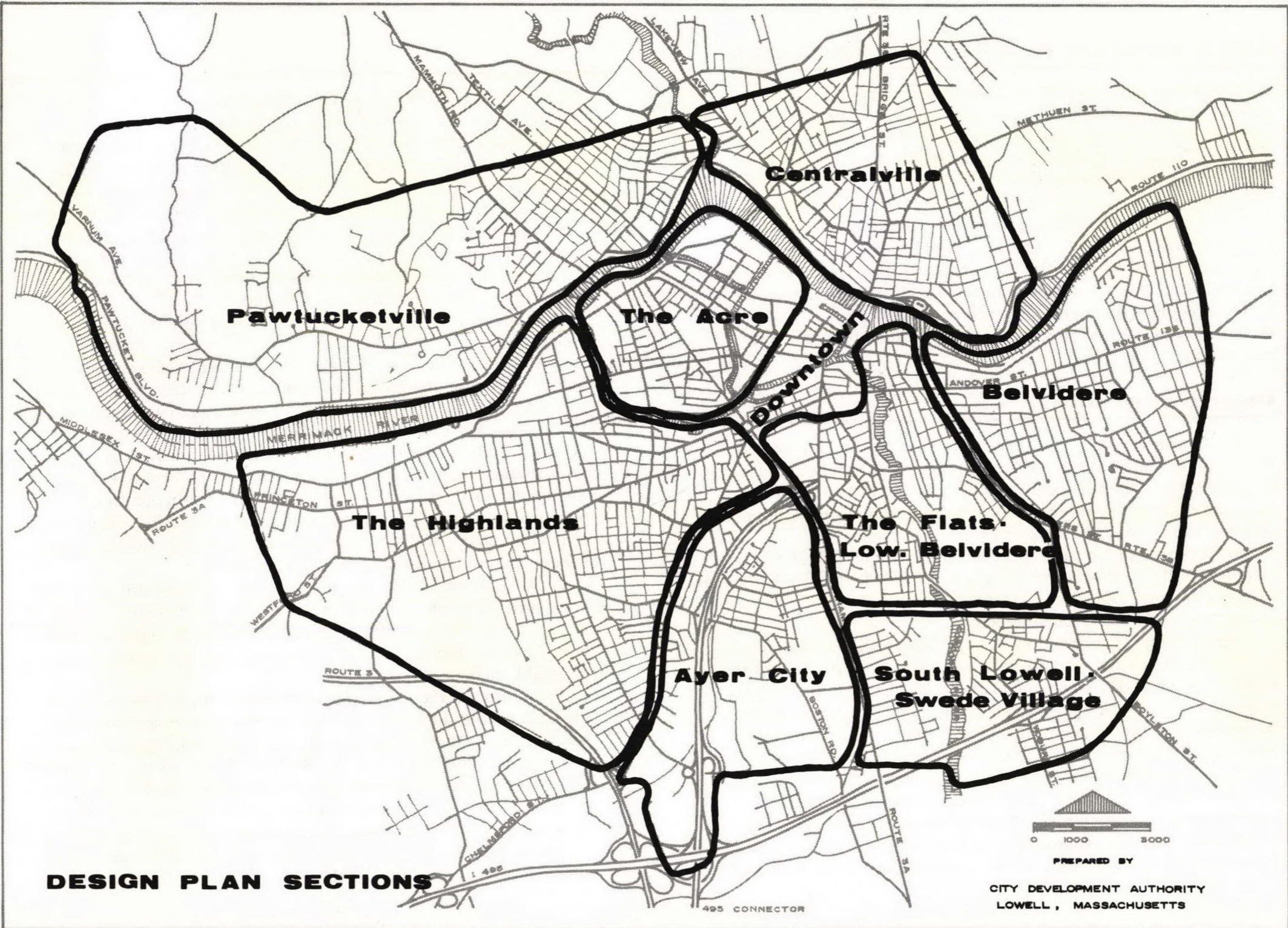
The older portion of Pawtucketville, which lies between the General Hospital and Lowell Tech., consists of dense, multi-family residential development in the area nearest the river. The remainder is developed in relatively dense, single-family housing. Although some industrial development is planned in Outer Pawtucketville, the emerging land use pattern is an expansion of what exists now: single and multi-family residential, institutional, and neighborhood and strip commercial.

RETAIL COMMERCIAL - Commercial activity and traffic congestion along Textile Avenue is expanding with the growth of Lowell Tech. These stores and shops provide convenience goods and services for the college community, and they also are important to the most densely developed portion of Pawtucketville. Therefore, their growth should be facilitated in a manner that will be compatible to adjacent development, while providing relatively efficient neighborhood shopping. The commercial area on Mammoth Road, although smaller, is similar in character, purpose and problems. Both areas have chronic traffic congestion at certain hours of the day, inadequate pedestrian and parking space, and a visually negative appearance.

A third, very small, convenience type commercial area has been built on Varnum Avenue near the intersection of Totman Road. It has the potential to expand as the residential development in Outer Pawtucketville increases, but has been prematurely established.

In addition to the above there are some other scattered commercial establishments, and a potentially major strip development along Pawtucket Boulevard. As residential growth continues and the utilization of the Boulevard increases, the number and size of signs and barren parking areas will increase to a point much like the present development of portions of Chelmsford and Middlesex Streets. (See Special Studies, page 19.)

These commercial areas are important to Pawtucketville's residential environment and they are necessary for the conven-



DESIGN PLAN SECTIONS

CITY DEVELOPMENT AUTHORITY
LOWELL, MASSACHUSETTS

ience of the people who live there. They should be encouraged to grow to the degree that is healthy and appropriate to the area. However, if that growth is not channeled toward concentration and efficiency, then monetary, convenience and aesthetic costs will accrue to the city, the neighborhood and individuals.

OPEN SPACE - Pawtucketville is the only section of town with a considerable amount of undeveloped open space. The Lowell-Dracut State Forest will preserve at least a portion of it in woodland, but there are other areas that should be preserved as well. This can be accomplished by cluster land development, improvements along the banks of the Merrimack River, controlling commercial development, and the preservation of a relationship with nature as part of the expansion programs of the institutions and public buildings in Pawtucketville. The improvement of the utilization of cemeteries for passive recreation or meditation should be encouraged. Pawtucketville would probably be the most likely area in which to initiate the development of an open space system, including cycling, hiking and bridle paths.

The quality of the existing park space in Pawtucketville is poor. There are no real community spaces. School related play spaces and play facilities also are deficient.

TRAFFIC CIRCULATION - Except for a few areas of congestion, traffic flow in Pawtucketville seems to be quite good. This is greatly enhanced by the Pawtucket Boulevard, the relatively low traffic volumes on Textile Avenue and Mammoth Road and the rectilinear street pattern, which eliminates that type of multi-intersection and odd street angles that plague the rest of Lowell.

Access to Pawtucketville from the remainder of the city is restricted to two bridges. The access is relatively good to the most densely developed parts, but outer Pawtucketville is less accessible which has contributed to its undeveloped state. Access from Pawtucketville to Route 3 and I-495 is not good. The most direct route takes the motorist through residential neighborhoods and hazardous intersections in the Acre or the Lower Highlands.

Policies

Pawtucketville has the basic advantage of having large areas preserved as public open space, including the Merrimack River and Pawtucket Falls as natural features, and additional undeveloped areas of private land which are unequalled in any other section of Lowell. It has two relatively large institutions which have the potential of preserving large areas of developed open space while providing handsome landmarks and a vitality to the area. The street layout is generally good, although in some critical, densely developed areas street widths are too narrow. And yet Pawtucketville has some unusually wide streets.

There is traffic congestion at the Textile and O'Donnell Bridges and their near-by activity areas on Mammoth Road and Textile Avenue, although remoteness and lower traffic volumes have generally postponed serious traffic problems in this section. Accessibility to I-495 and Route 3 is poor; however, the plans for a new, interstate type connecting road from Route 3 across the Merrimack to Dracut will provide Pawtucketville with as good accessibility as anywhere in the city.

The basic objectives, then, are to preserve and develop the natural environment of Pawtucketville, direct institutional development in a compatible manner, improve and control commercial development, and increase the quality of existing and future residential development by encouraging more efficient land utilization and other residential assets.

Referring to the areas of concern listed in the preceding Summary Analysis for the city-wide Visual Survey, the following policies must be adopted and implemented in order to avoid costly future problems:

1. The redesign of the commercial areas on Mammoth Road to provide:
 - a. Convenient and appropriately screened off-street parking.

- b. Wider sidewalks with space for trees and benches to facilitate pedestrian flow and to provide a small neighborhood public space.
- c. Provision of access to the rear of stores for service and delivery, and the adequate screening of these areas.
- d. Facilitation of necessary commercial expansion, while maintaining a concentrated commercial node.

- 2. The redirection of the strip commercial area along Pawtucket Boulevard to include more concentrated overall development, the landscaping of parking areas, and the control of architectural character and signs to be more appropriate to the natural environment of the banks of the Merrimack River.
- 3. The perpetuation of the open and natural character of Pawtucketville by preserving additional undeveloped land in its natural state, and directing institutional expansion toward greater natural amenity.
- 4. The development of the cemeteries in Pawtucketville as quiet places for sitting, conversation and meditation, which is becoming an increasing need for our society, rather than letting them decay in disuse.
- 5. The improvement, expansion and maintenance of existing park facilities to provide a greater opportunity for diverse recreation. Of high priority is the development of the banks of the Merrimack River for city-wide recreational usage in anticipation of the hopefully not too distant time when the water will be clean.
- 6. The requirement to provide private or semi-private open spaces in the most densely developed existing residential areas as well as in new development by using clustering techniques and other intelligent land planning methods, and by encouraging landscaping and screening.

Plans and Approaches

THE REDESIGN OF COMMERCIAL AREAS ON MAMMOTH ROAD AND TEXTILE AVENUE - These areas, like many others throughout the city, serve the convenience shopping needs of the surrounding neighborhoods, and, therefore, their growth must be directed to encourage the pedestrian as well as the motorist. The zoning ordinance, which now overlooks this need, must be amended to accommodate the neighborhood retail center and to create incentives for providing landscaped open space for public use.

The neighborhood shopping area offers primarily convenience goods and services which might include a food store, cleaners, drug store, barber shop, beauty shop, a place to eat, a gas station and perhaps some small offices. It might also have other uses required in a specific neighborhood such as a book store, hardware store, antique shop, art galleries, restaurant, or specialty shops.

In form, existing areas can be expanded or buildings remodeled to conform to an overall cohesive development concept. Each of the two areas in question should have some form of plaza or usable open space and adequate off-street parking and service areas. Setbacks on new buildings should allow for wider sidewalks and tree planting, and in developed areas sidewalks might be expanded into street parking areas to allow for plantings and safer street crossings. Screened off-street parking should be located at the rear of a store, or in a place that will not disrupt important shopping frontages. Intelligent sign control can increase the effectiveness of advertising and still be in character with a residential or college environment.

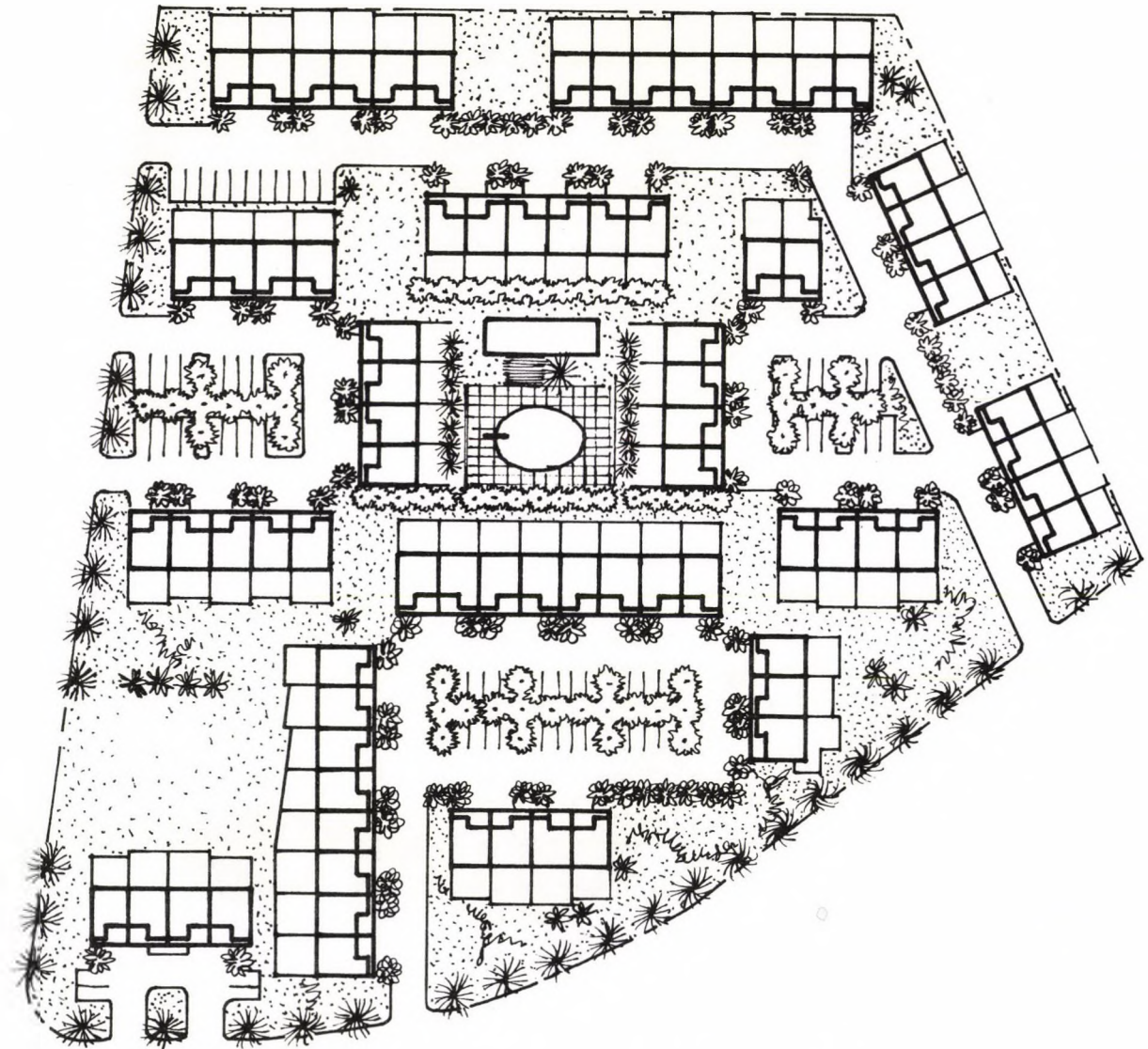
These shopping areas in Pawtucketville must be designed individually as a total concept to be accessible, usable and desirable places to do business, to chat and to sit. There is a tremendous unfilled need for this as can be readily observed from the existing situation. (See "THE HIGHLANDS, Plans and Approaches" for a specific application of this concept.)

THE REDIRECTION OF THE STRIP COMMERCIAL AREA ALONG PAWTUCKET BOULEVARD - This type of commercial area is orientated almost exclusively toward the automobile. This does not mean, however, that trees and screened parking areas, tastefully done signs and efficient parking layouts are not compatible. Because of the natural setting and the adjoining residential areas, special care should be taken in controlling commercial development along Pawtucket Boulevard. The strip commercial section should not be allowed to expand endlessly, and gas stations and drive-ins must be landscaped and their signs must be in character with the natural setting. (See sketches on page 58.)

THE DEVELOPMENT OF CEMETERIES IN PAWTUCKET-VILLE - There are several small cemeteries in Pawtucketville, some of which are overgrown and inaccessible. All of these cemeteries suffer from neglect and are in need of maintenance. The cemetery on Mammoth Road is one of the oldest in the city and it is located in a neighborhood commercial area. Although very small, it provides an unexpected open space and could be improved to include seating areas, at least near the sidewalk. The Varnum Cemetery on West Meadow Road is a beautiful spot which could easily become a place for meditation with very little effort.

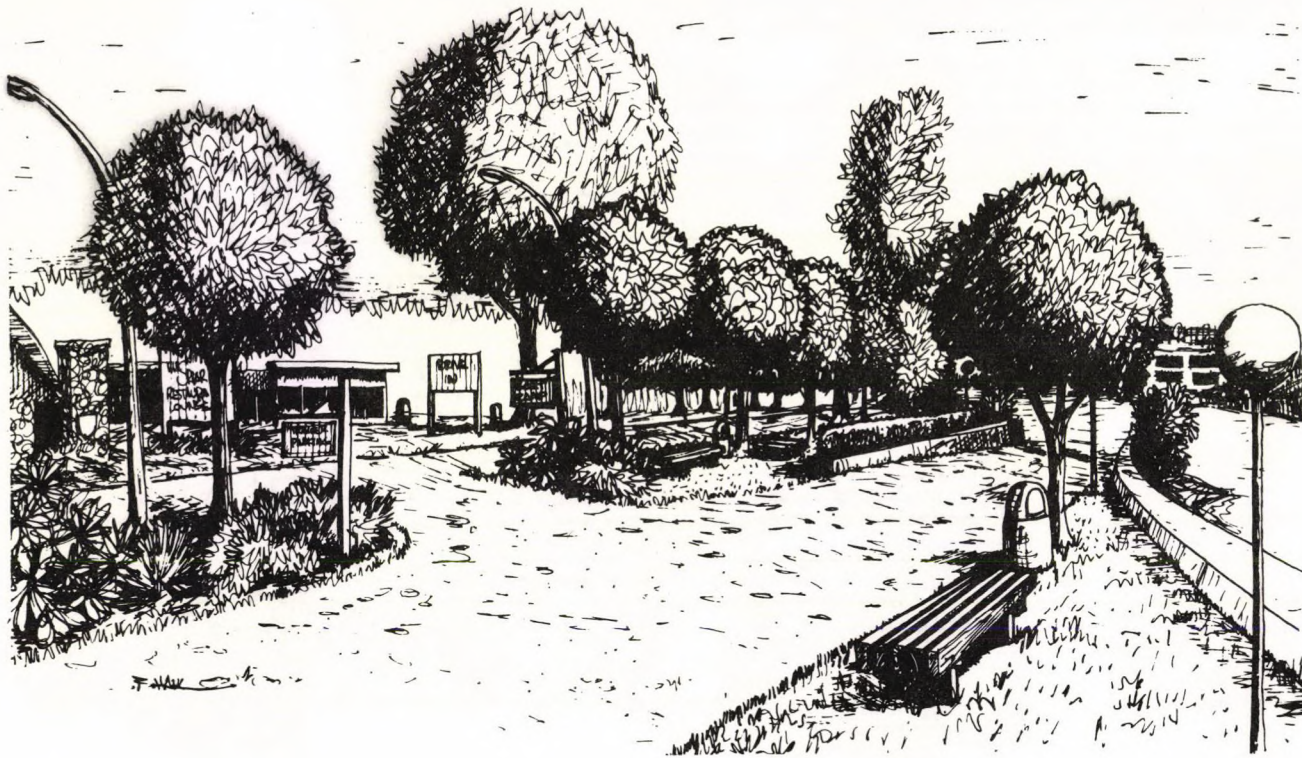
THE REQUIREMENT TO PROVIDE PRIVATE OR SEMI-PRIVATE OPEN SPACES IN NEW DEVELOPMENT - There are techniques of grouping housing, even at higher densities, through which the amenities of single family living can be preserved. The accompanying example illustrates a medium density cluster development with a hierarchy of outdoor spaces. Although yard spaces are small, they provide private outdoor areas for gardening, sunbathing or what-have-you. The individual yards open into common spaces used by a small group of families, which in turn flow into larger community spaces.

This hierarchy of spaces represents an ordering of the way people function and relate to each other socially. Private spaces provide for family functions, semi-private for interaction between small groups of families and community spaces for activities on a neighborhood level. A level of social interaction



Clustered Townhouses

pomeroy green by eichler, santa clara, calif.



After



Before

is restricted if one category of space is eliminated.

This type of development can provide a higher quality and richer environment for the resident, and it can save the developer and the city money by reducing street and utility lengths and by eliminating the need for neighborhood parks and tot lots. Cluster development can be encouraged by density incentives in the zoning ordinance and provisions for open space maintenance to be handled by individuals or a homeowners organization. The success of cluster development has been proven time and again in many communities throughout Massachusetts and the nation.

THE DEVELOPMENT OF A SECTION MASTER PLAN -
Because Pawtucketville is Lowell's last frontier, it is important that it receive special attention in terms of advance planning. Future municipal expenditures for corrective action can be saved and more efficient land use realized by implementing a comprehensive approach to development. This approach should include special and detailed consideration of the future expansion plans for Lowell Tech. and other institutions in the section.

Centralville

Centralville is a section of great visual contrasts. Near the river, especially adjacent to the Bridge Street and the Aiken Street commercial centers, development is quite intense, attracting heavy traffic and congestion. The northern edges of Centralville along the Dracut line have been developed more recently, and are mainly residential in character. This part of the section shows little of the age and decay prevalent in the part near the river. Topographically the land changes from a low flood plain in the southwest to the highest point in the city, Christian Hill, in the southeast.

The northern fringe of Centralville has a pleasant physical environment with generous playing fields, parks and tree-lined streets devoted solely to residential uses. The homes here are well kept and are almost entirely single family units on comfortable lots. Traffic circulation away from Aiken, Beacon, and Bridge Streets is local, and traffic on these through streets is not as intense as in their lower portions. Commercial services are centralized in a shopping center on Bridge Street at the Dracut line complete with supermarket and an unshielded parking lot.

Conditions in the southern tier near the river are quite different. The expansiveness of the Merrimack River is isolated from the area by the VFW Highway. High residential densities and mixed commercial use are most intense here. Usable open space near lower Bridge Street, the densest neighborhood, is non-existent. Most multi-family structures provide no private open space. St. Louis Field is adjacent to the Aiken Street commercial center, but it is in bad condition. Although some of the wooden buildings are potentially attractive, the conditions of this housing (near both the Bridge Street and Aiken Street centers) is rundown and obsolete. The open spaces the streets provide do not relieve this negative effect because most are treeless and bare. The two commercial centers compound traffic congestion problems because Aiken and Bridge Streets also serve as major approaches to the downtown. This congestion spreads to the adjacent residential streets and interferes

with their proper use. Additional circulation problems include: streets too narrow for present traffic such as Aiken Street: non-signalized intersections where five or six streets converge; and many blind corners.

The following list of problem areas forms the basis of determining objectives, policies, and plans for neighborhood renewal.

1. Lack of open space in the area of most intensive development.
2. Congestion on Bridge and Aiken Streets.
3. Through traffic encroaching on residential streets.
4. Street patterns that are unworkable.
5. Deteriorated and inefficient commercial districts.
6. Rundown residential areas.
7. Natural features and neighborhood character that are unrecognized, unapproachable or unaccentuated.

Policies

Centralville has a limited amount of open space, especially the densest areas, and much of the open area it has is not fully utilized. The Merrimack River and its banks offer an opportunity if access can be provided, and there are scattered, city-owned parcels of land which could be developed, although most are not in the densest areas. The ground surrounding the Low Service Reservoir also provides an opportunity for greater utilization. Christian Hill is the highest point in the city and some part of it might be developed to provide a scenic view of the entire area.

Commercial districts in Centralville are fairly well-defined and compact which makes rehabilitation a possibility, provided problems of parking and traffic can be alleviated.

Wooden structures in certain parts of Centralville have interesting character, which suggests the renovation of some older, more dense neighborhoods, including their segregation from commercial development and the elimination of through traffic.

Proximity of these areas to the downtown should make such efforts especially appealing and profitable.

The objectives, then, are to increase the amount, quality and accessibility of open space and recreational areas, to upgrade and preserve rundown residential areas, to improve traffic flow and to accentuate the natural features and identity of the area.

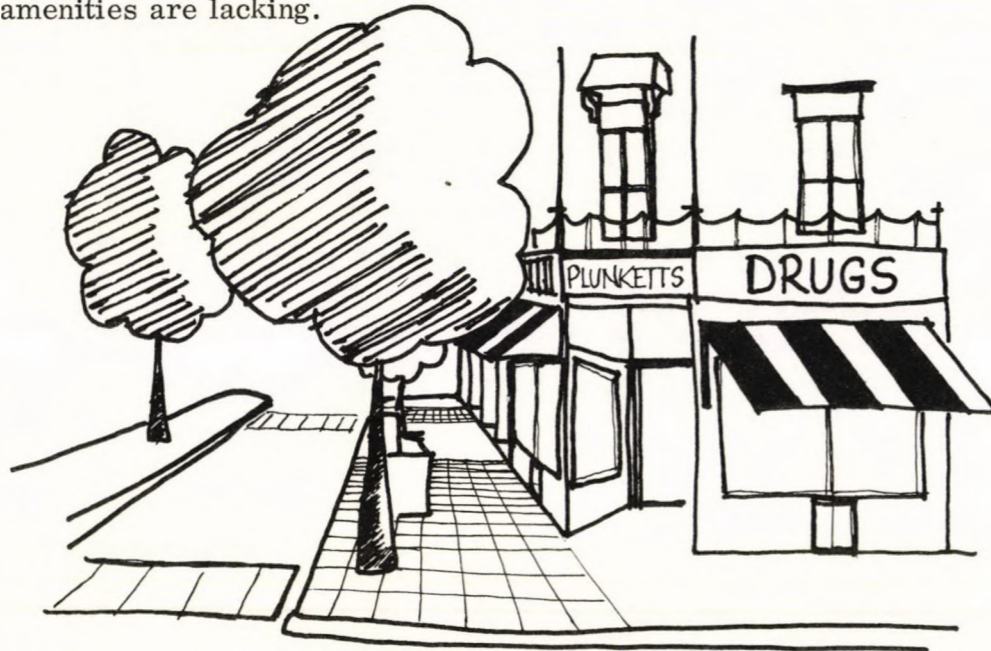
The following policies were formulated in response to the aforementioned problems and objectives. They provide the framework into which the specific plans and approaches will fit.

1. The planned renovation of residential areas to include adequate private, semi-public and public open space isolated from traffic and designed to meet the recreational needs of all segments of the population. The use of residential streets can be encouraged as viable open space.
2. The linking of open spaces where possible to form a continuous system which will increase the accessibility to recreational areas.
3. The development of a plan and program for the systematic improvement of the street system in Centralville based on street usage with emphasis on traffic separation, signalization and signing, and street improvements.
4. The design and redevelopment of commercial districts oriented to include the following:
 - a. The provision of convenience goods and services needed in the immediate neighborhood.
 - b. Adequate access and screened off-street parking.
 - c. The provision of mini activity centers reinforcing commercial use by providing landscaped open space for social interaction.

- d. An overall designed appearance to provide an attractive place to do business and to congregate.
- 5. The systematic rehabilitation of residential districts with an emphasis on maintaining and reinforcing existing neighborhood character and cohesiveness. Areas should be restricted to residential use with allowances for open space and good pedestrian circulation.
- 6. The accentuation of positive natural features.

Plans and Approaches

REDESIGN OF BRIDGE STREET COMMERCIAL DISTRICT - The commercial district on Bridge Street from 1st to 6th Streets has the potential to become a workable neighborhood center. The necessary variety of convenience goods (drug store, package store, grocery, dry goods and hardware) and services, (bank, cleaner, gas station, laundry, beauty parlor, and barber) are available. However, traffic congestion is bad and pedestrian amenities are lacking.



To ease congestion on Bridge Street it would be necessary to remove parking from the curb and provide convenient, well-designed parking areas off-street, as indicated on the map on page 63. The construction of delivery alleys behind stores would also help free Bridge Street for through traffic.

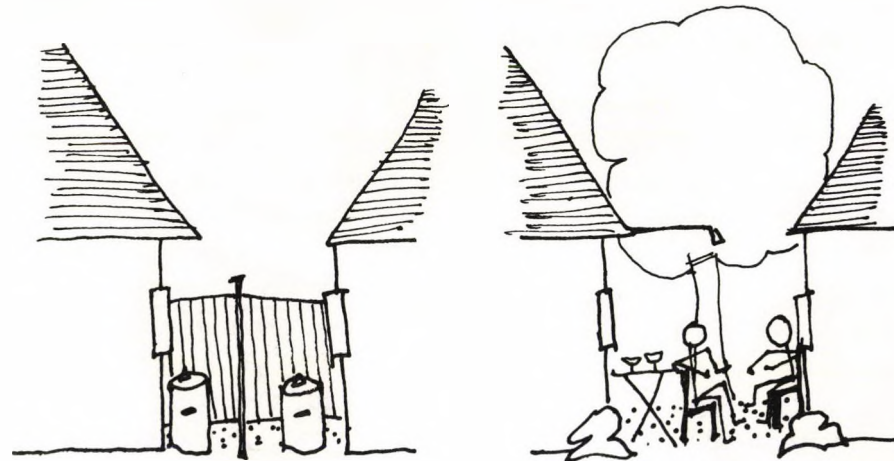
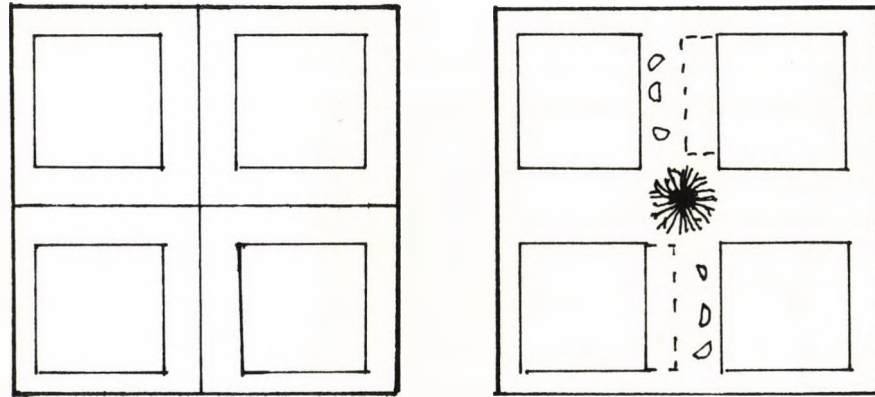
To permit comfortable pedestrian movement it will be necessary to install well-marked and signalized pedestrian cross walks. The improvement of the sidewalks with attractive paving, landscaping, resting areas and awnings would make them more attractive to shoppers. The visual appearance of the street could also be improved by a system of well-designed signs, and a general rehabilitation of building facades. The removal of one or two deteriorated buildings could create an open space that would serve as an informal gathering and resting place for shoppers using the district.

IMPROVEMENT OF DETERIORATED RESIDENTIAL DISTRICTS - The residential district located behind Bridge Street to Jewett Street, bounded by Lakeview Avenue and West 6th Street contains most of the problems typical to the residential areas that surround the Lower Bridge and Aiken Streets commercial centers. Many buildings have deteriorated. Streets, which are treeless and littered, carry too much traffic. Open space is lacking, especially for the very young and old, while empty lots fill up with debris and parked cars. However, this district adjacent to the Lower Bridge Street commercial center and within easy walking distance of the downtown, could become an attractive place to live.

Deteriorated housing must be reconditioned or removed. Removal would leave lots available for infill housing or open space development. Many of these old wooden structures are quite attractive and would be improved by a good coat of paint.

A street landscaping program must be undertaken. Tree-lined streets can serve as an attractive pedestrian linkage between proposed open spaces. West 3rd and West 4th must be closed to heavy through traffic so that they may better serve local residents, (see map on page 63) and a selective one-way street system should be considered.

The private space needs of residents are partially met on



existing building lots. Some of the single family homes have small rear yards; however the duplexes and tri-plexes often lack this amenity. Existing yard space often is used for automobile and junk storage. The removal of this type of storage and the planned development of the resultant open area will yield usable private outdoor spaces. The pooling of space surrounding some structures also can serve this need. The removal of incompatible land uses and spot removal of some deteriorated houses also could provide private space adjacent to

the densest development.

Albion and West 5th Streets, with low traffic levels can serve as casual semi-public spaces and recreation streets.

Existing vacant land now littered with garbage and parked cars, can be used to expand this system of neighborhood spaces. (see adjacent map). These will serve more public uses such as recreation for the very young and old, and neighborhood gathering points. The development of these areas can also include small spaces like the Victory Gardens in the Fens for those families without private outdoor spaces. Small alleys, Johnson's Place for example, could be developed as pedestrian access ways to create internal passages to link the open spaces and the entire neighborhood. Visually attractive approaches will provide safe paths for young children.

Hopefully such improvements will generate the necessary neighborhood pride to maintain them.

-  Private and Semi-Private Open Space
-  Delivery Access
-  Developed Walkway
-  Plaza
-  Open Space
-  Residential
-  Commercial
-  New Housing

LOWER BRIDGE STREET



The Acre

The Acre, a section of Lowell with great diversity, local color and foreign flavor, has been one of the most neglected parts of the city. The physical condition of housing, streets and total environment is poor. Intensive mixed uses, especially below Broadway, makes this section unattractive for residential development. Streets are undersized, indirect and over-utilized. Shabbiness and dirt are prevalent in much of the district and buildings with interesting architectural character have been allowed to deteriorate beyond the point of reclamation. However, as a Model Cities neighborhood, this section now has the potential to serve as a redevelopment prototype for the rest of Lowell.

Open space is limited at present to the North Common and the Bartlett School Field. The canal system which surrounds the Acre is undeveloped. Great concentrations of multi-family dwellings have no private open space and most of the streets are treeless and barren.

Circulation throughout the section is poor. Commercial, residential and industrial traffic share the same movement system. Through traffic congests Broadway, School, Fletcher, Market and Merrimack Streets and spills over to residential streets because these main arteries are inadequate. Narrow and oblique intersections (Adams, Rock, Cushing, Suffolk and Fletcher Streets) inhibit movement, and commercial districts located on Broadway, Merrimack and Market Streets also contribute to congestion. Only the new French Street Connector is really adequate, and that has problems with signalization.

Related to this problem is the high incidence of mixed use. Incompatible residential, industrial and commercial uses coincide south of Broadway, and heavy trucks use streets that must serve as play areas for small children. Factories are often visually unattractive and industrial and commercial uses take up land near residences that might better be used for open space.

Nevertheless, this mixed use provides the very richness of the section. The intenseness of development should be maintained and the identity of the Acre stressed. The different kinds of people, old, young, foreign and native, add to this diversity.

Policies

The acre has many things that are in its favor. Intensiveness of development and a diversity of buildings, people and uses with a unique character are essential elements for a truly urban environment. The riverside and the canal system provide the potential for useful open space. There also are many buildings of local color and historical significance plus many fine examples of architectural styles of the past. In addition, the Acre has the Model Cities program which promises to develop some of this potential.

The following are a list of problems, the solution of which will become the basis for formulating goals and policies.

1. General deterioration of the area.
2. Poor and dangerous traffic and pedestrian circulation patterns.
3. Incompatible mixed land uses.
4. Lack of developed open space, both private and public, and the deteriorated condition of existing open space.
5. Congested and unusable commercial centers.
6. The need for neighborhood identity and unity.

Adherence to the following policies will reverse the trend of decline and decay.

1. The general clean up, maintenance and restoration of existing structures, including landscaping and screening by commercial and industrial establishments as well as residential units.
2. The initiation of a comprehensive circulation study for the Acre to develop a program for the systematic improvement of the street system, covering the following items, among other things.
 - a. Separation of pedestrian and vehicular traffic.

- b. Differentiation between residential, commercial and through streets.
 - c. Redesign of intersections and improvement of traffic safety.
3. The control of problems resulting for incompatible mixed uses.
 4. The provision of a greenway system that will serve all residents of the Acre, allowing for private, semi-private and public spaces.
 5. The redevelopment of commercial districts to provide the necessary convenience goods and services, to improve pedestrian and vehicular access, and to facilitate screened off-street parking.
 6. The accentuation of the cultural heritage and diversity of the area.

Plans and Approaches

The following plans for the Acre were taken from the "Urban Design Five Year Forecast" of the "Lowell Model Cities Plan." While programs will be enacted throughout the neighborhood, each part of the section also has special problems that must be corrected. Neighborhood plans include:

1. THE TRANSFORMATION OF THE NORTH COMMON INTO THE COMMUNITY FOCAL POINT. This will be accomplished by developing facilities for a mixture of active and passive recreation. Provisions will be made for year round community events such as plays, concerts, and meetings. Eventually a greenway system (including the banks of the canals) will link all parts of the section to the North Common which will have some form of landmark (tower) to identify it as the neighborhood center.

2. A STREET BEAUTIFICATION CAMPAIGN that will include planting, street lighting, new street signs, special pavements to continue pedestrian ways and entrances to residential streets to discourage through traffic.
3. A CONTINUOUS PLAN FOR RESTRUCTURING AND REHABILITATING LAND USES. This will include a special program for the southern industrialized section and relocation of the DPW facilities.
4. A CONTINUOUS CLEANUP AND FIXUP PROGRAM. This will maintain the emerging quality of this section. It will include the cleanup and removal of derelict structures in the section making lots available for infill housing, vest-pocket parks and other uses.
5. A WORKABLE CIRCULATION SYSTEM. A perimeter roadway system for through traffic (School, Dutton, and French Streets and Western Avenue) will be developed. This will include the widening of School Street; new traffic signals for Dutton Street at Fletcher and Market Streets; restriction of through traffic on Fletcher Street; and the reworking of the intersections of Dutton Street at Merrimack and Market Streets. A system for more efficient commercial and industrial servicing will also be developed. Capacity of existing streets and intersections will be improved. The residential street treatment will restrict through traffic.

In addition the following should be included:

6. THE ESTABLISHMENT OF A CITY HALL ARCHITECTURAL CONTROL DISTRICT. The section of the Acre surrounding City Hall includes many buildings and spaces of important historical, architectural and cultural value. Preservation of this district will perpetrate its distinctive character and the physical and cultural appearance of Lowell. The good architectural quality of these spaces will serve as a model for future construction, while their cultural and historical im-



Buildings of Historic Importance or Architectural Character

- 1. City Hall
- 2. Library
- 3. The Green School
- 4. Smith Baker Community Center
- 5. Commercial Block
- 6. The Old Worthen
- 7. Yorick Club
- 8. Merrimack Street Gate House
- 9. St. Anne's Episcopal Church
- 10. St. Anne's Rectory
- 11. John F. Kennedy Civic Center
- 12. Northern Canal Apartments



Developed Walkway



Plaza



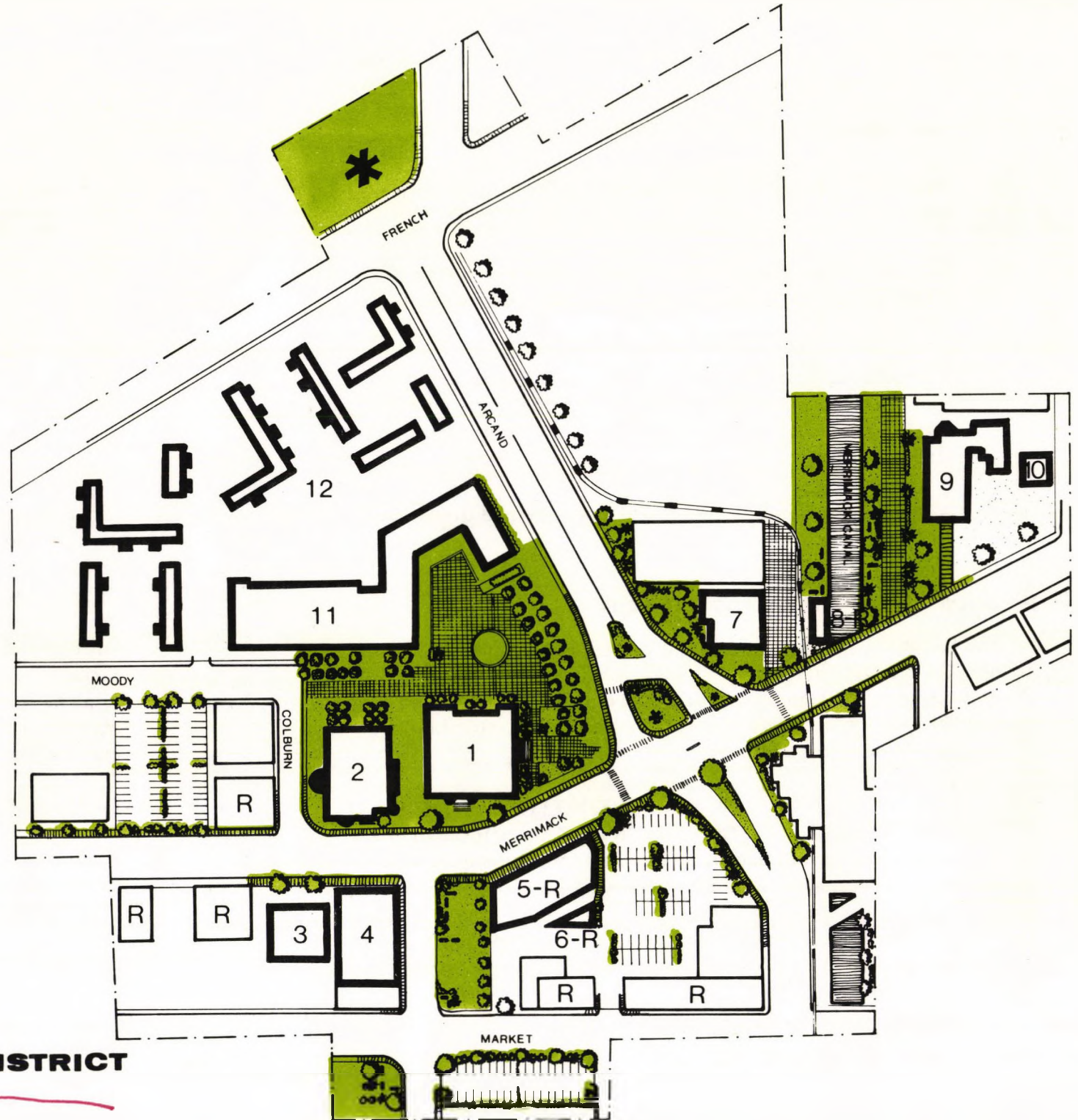
Open Space

R

To Be Renovated



Vertical Focal Point



ARCHITECTURAL CONTROL DISTRICT

plications can become part of the educational resources of the city.

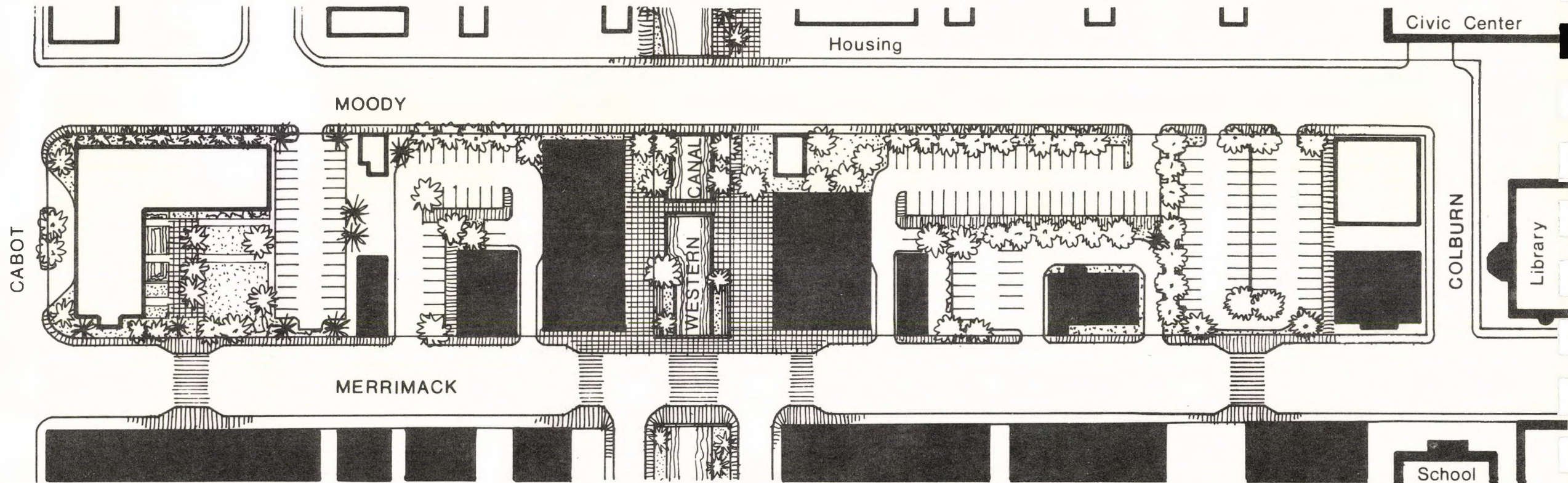
Included in the proposed district are:

The City Hall (1893)
Library and Memorial Hall (1893)
The New Civic Center
The Old Worthen Tavern (1841)
Merrimack Street Gatehouse (1848)
Ladd and Whitney Mounment (1865)
Winged Victory (1867)
The Green School (1869)
The Yorick Club
Lucy Larcom Park
and other interesting structures and spaces.

The Plan would include the preservation and renovation of all the above structures, and other buildings as shown in the map would be renovated and reassigned uses appropriate to this district. A system of controls would be established by the city so that any additions or new construction in the district would enhance the character of the existing buildings.

Creation of divided traffic flow and realignment of Dutton Street is recommended to connect traffic between Arcand Drive and Dutton Streets and to provide better access to the district. Expansion of the island at Cardinal O'Connell Parkway is desirable to solve movement problems at its intersection with Market Street. Additional off-street parking is necessary to alleviate a serious shortage for the users of these buildings. Lastly, an area-wide landscape plan including pedestrian ways would be necessary to provide a comfortable setting for the buildings which will comprise the district.

There will be several vest-pocket parks established in the Acre and Varney, Bowers, and Butterfield Streets between Fletcher and School Streets, and Oliver Street between School and Clark Streets will receive residential street treatment designed to discourage through traffic and provide pedestrian links between the North Com-



NEIGHBORHOOD SHOPPING PLAZA

mon and Bartlett Field. The Spalding House and the Francis Gate will become historical monuments that the community may enjoy.

The expansion of St. Joseph's Hospital will be a major factor in the renovation of the northeastern sector of the Acre. A vest-pocket park will be established on Whiting Street and residential street beautification will link this area to major public spaces.

Adjacent to this is the Northern Canal Urban Renewal Area. Already constructed are an attractive new apartment complex and several modern manufacturing establishments. Future projects will include the new J. F. K. Civic Center, housing for the elderly, general housing, a new commercial center at the Western Canal (see plan, Neighborhood Shopping Plaza) and a park system which will provide recreational open space and will link many of the new

projects. Conformance to the Urban Renewal Plan will allow rational growth and make this sector an attractive place to live and work.

A vest-pocket park at Cross and Marion Streets will be developed in the southeastern sector of the Acre. Another linkage will be a pedestrian parkway along the Western Canal. The North Common Village Apartments adjacent to the canal will be renovated. Eventually the DPW will be removed from their facilities south of the North Common and this land will become available for educational and community facilities.

Conflicting land use south of Broadway will be reconsidered, and the residential section bounded by Willie, Fletcher and Dutton Streets will be buffered if it is to remain.

The Highlands

The Highlands includes the Lower Highlands, the Upper Highlands and Middlesex Village. The topography slopes gently up from the Merrimack River and the Pawtucket Canal. There are no prominent topographical features.

The Highlands are mostly built up and include mixed and some relatively dense development in the Lower Highlands. The Upper Highlands includes medium priced housing and also some larger more expensive homes. There are considerable areas of commercial and industrial development along Middlesex Street, on the banks of the Merrimack River and along the Pawtucket Canal, and large areas of undeveloped land between Princeton Boulevard and Route 3 along the Lowell-Chelmsford line.

The major development in the area is residential including some of the city's nicer housing. Included also is Lowell State Teachers College which has a pleasant, small, but expanding campus nicely situated on a hill overlooking the Merrimack River.

The emerging land use pattern is an increase in apartment house developments, an expansion of the upper middle priced housing, expansion of Lowell State's campus and probably some industrial expansion. Strip commercial development along Middlesex Street also is expanding.

RETAIL COMMERCIAL - Commercial activity occurs along Chelmsford, Westford and Middlesex Streets with associated heavy traffic. The major neighborhood-serving commercial areas are on Middlesex Street between Baldwin and Wood Streets on Westford Street, at Cupples Square and Stevens Street and on Chelmsford Street in the Hale Street area. Although the Upper Highlands does not seem to be adequately served by convenience retail outlets within the section, and the centers that do exist are becoming somewhat dispersed, it appears that the shopping centers in Chelmsford are providing the necessary convenience outlets. The expanding student body at Lowell State also has specialized convenience shopping needs which are not being met within walking distance of student residential areas.

Two of the several developing strip commercial areas in Lowell are found in the Highlands on Chelmsford and Middlesex Streets. In

these areas the number and size of signs and litter covered parking areas are expanding to the point of having an increasingly negative effect on the surrounding development.

OPEN SPACE - The Highlands has an insufficient amount of developed open space. There are several small parks but these are located at some distance from the densest residential areas. There is some undeveloped land located along the Merrimack River, in the vicinity of the city incinerator, and along Route 3 which has potential for park development. Existing school yards generally do not provide sufficient space to help solve this problem.

An increasing portion of the land along the Merrimack River is being used for industrial development. This seems to be poorly located in light of the need for meaningful open space.

TRAFFIC CIRCULATION - Traffic flow from the Highlands to downtown is carried by Pawtucket, Middlesex, Westford and Chelmsford Streets. Traffic in the north-south direction is carried mainly by Wilder, Stevens and School Streets. These roadways are hazardous and perform inadequately. Street rights-of-way are too narrow and intersections are confusing and dangerous.

Policies

The Highlands has the basic advantage of having several pleasant and substantial residential areas and some undeveloped land. Lowell State College is located in this area and has the potential to develop aesthetically desirable, institutional-related open spaces. In addition, a new roadway is planned as a connection from Route 3, across the Merrimack River to Dracut which will improve the Highland's accessibility and, to some extent, relieve local streets of through traffic.

The dense development in the Lower Highlands is accentuated by narrow streets and complex, odd-angled intersections. Mixed uses are common, and strip commercial development is expanding to the detriment of the area.

The objectives for future development in the Highlands, then, is

to preserve and expand the existing good quality residential character and environment, develop the recreational and aesthetic potential of the banks of the Merrimack River, and, where feasible, the Pawtucket Canal, emphasize the natural environment in planning for the expansion of Lowell State, and control and direct growth to better serve the needs of the area.

The following policies and programs must be adopted and implemented in order to optimize the potential of the Highlands.

1. The improvement of neighborhood shopping districts to provide:
 - a. Convenient and screened off-street parking.
 - b. A small neighborhood public open space with seating and landscaping.
 - c. Provision of access to the rear of stores for service and delivery, and the adequate screening of these areas.
2. The redirection of strip commercial areas along Chelmsford and Middlesex Streets to include more concentrated overall development, the landscaping of parking areas and appropriate control of signs. Further study should be made to determine the adequacy of existing commercial facilities and the convenience of their locations, including an investigation of the convenience shopping needs of Lowell State College.
3. The establishment of an open space system to include development of the Merrimack River and to encourage industrial development in other areas, and the inclusion of the Pawtucket Canal. Additional neighborhood parks and tot-lots should be added to the system especially in the densely settled areas of the Lower Highlands. Cemeteries should be improved and maintained for usage as passive open spaces.
4. The development of a program for improving traffic circulation and safety in the Highlands.
5. The requirement to provide private or semi-private open

spaces in the most densely developed existing residential areas, as well as in new development, by using clustering techniques and other intelligent planning methods.

Plans and Approaches

THE IMPROVEMENT OF NEIGHBORHOOD SHOPPING DISTRICTS - There are several neighborhood shopping areas of varying sizes in the Highlands. Cupples Square is probably the largest and most concentrated of these, and it is certainly an area in need of upgrading. As the visual survey indicated, structures in Cupples Square are in need of maintenance and repair. There are possibly two or three structures that are beyond economical repair and that should be torn down.



The accompanying plan illustrates what might be done to implement policy number one. Parking lots and gas stations should be landscaped and large signs and billboards removed. There are several buildings that possibly could be removed, if justified by their condition, and a neighborhood open space provided. Adjoining shops could very well open onto this space and the addition of a coffee and donut bar and outdoor eating facilities would add greatly to the area.

Parking on the street should be discontinued except perhaps for some five minute quick stop zones. This, however, requires strict enforcement by an on-duty policeman at critical hours. The sidewalks then could be widened for better pedestrian circulation and some trees added. Telephone and power lines should be removed and placed underground or relocated to the rear of the stores.

One building on the north side of the block has been eliminated on the diagram because of its deteriorated condition. Part of this area can then be used to provide direct access to the square from the parking lot. Stores also must be reoriented to provide direct rear access. This will require the general cleaning up of back yards and the screening of service entrances and garbage cans.

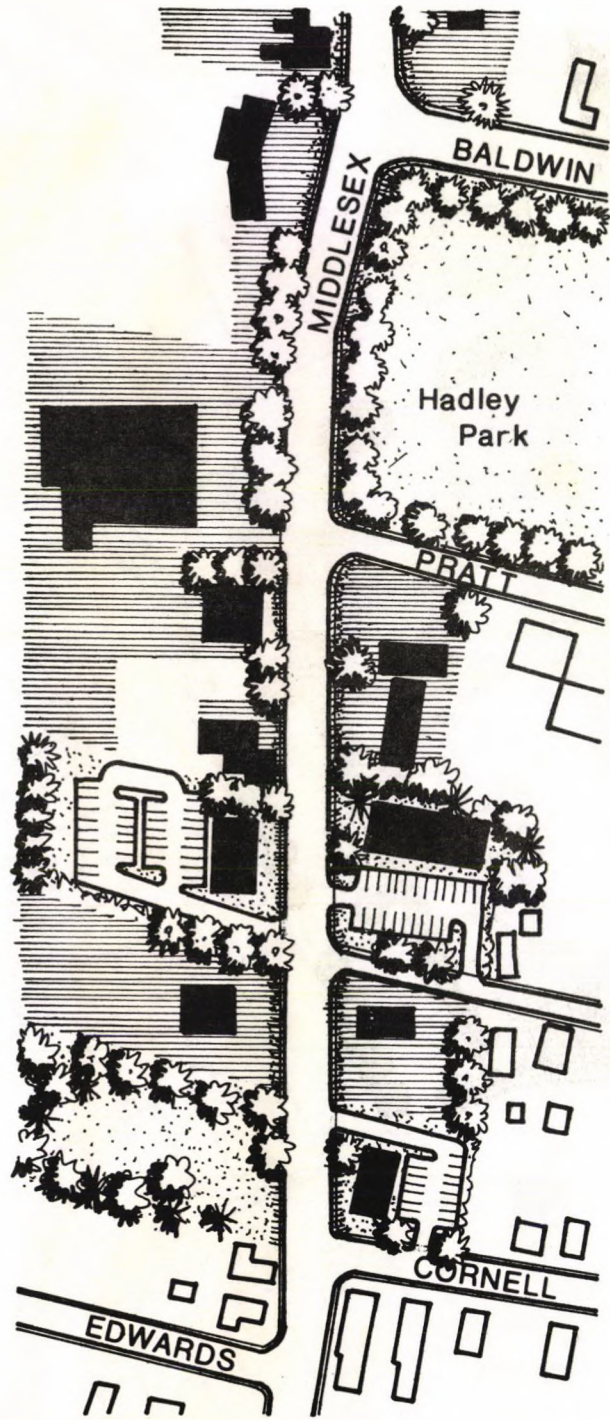
All buildings seem to require face lifting or sign modifications which should be done in a coordinated manner to unify the character of the square. Standard awnings or marquees would add to this unity and provide some protection from bad weather. Trees should be added wherever possible.

The plan elements as suggested will improve the aesthetic appear-

-  Developed Walkway
-  Plaza
-  Open Space
-  Residential
-  Commercial

CUPPLES SQUARE







-  Existing Paving
-  Developed Walkway
-  Open Space
-  Residential
-  Commercial

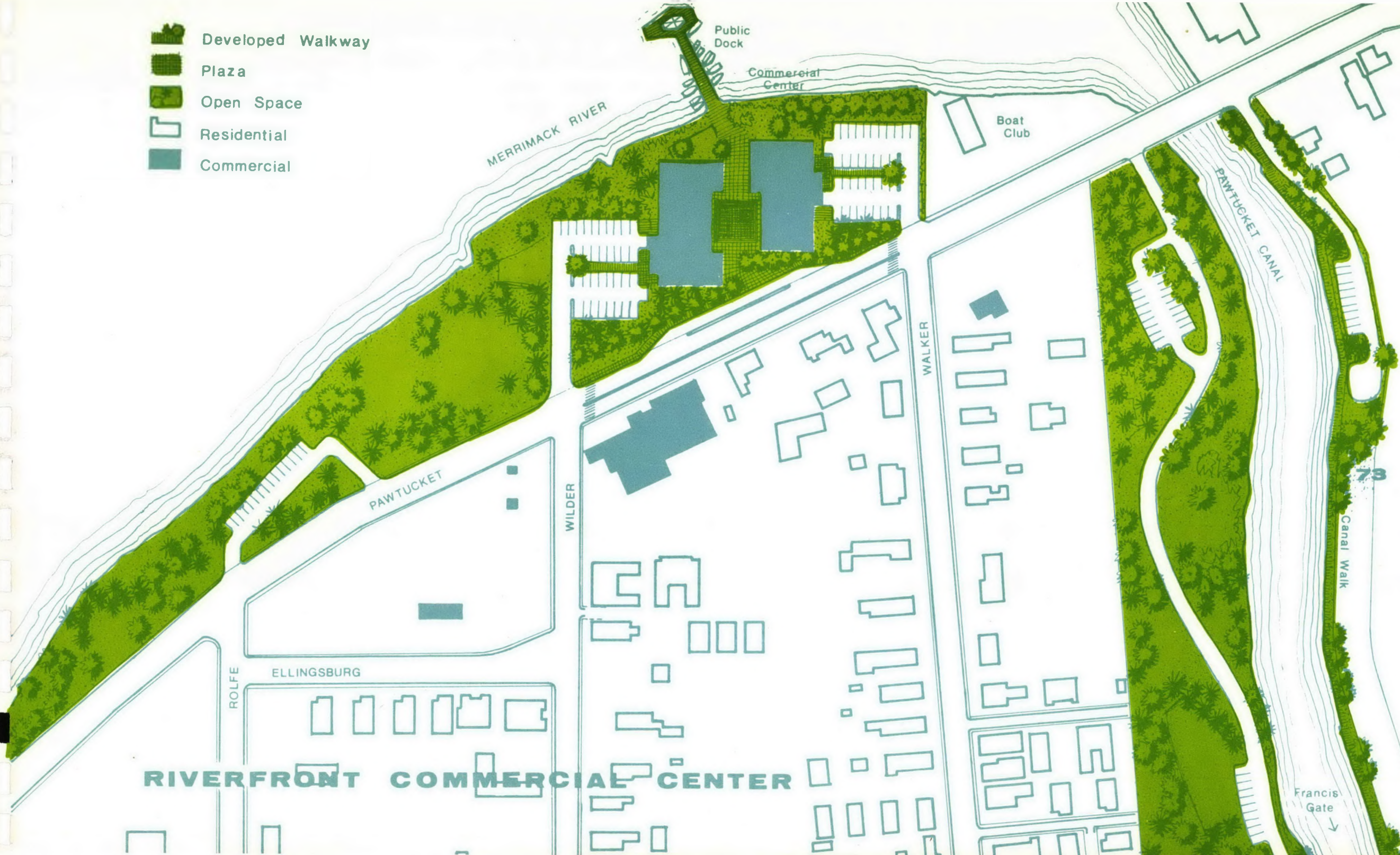
ance of Cupples Square and also its ability to function as a modern neighborhood shopping center.

THE REDIRECTION OF STRIP COMMERCIAL AREAS - The strip commercial development should be controlled and improved in the manner indicated on the illustration on this page.

One possible solution to the growing commercial and recreational needs of Lowell State College for the City is to provide on a leased basis for the construction of a carefully planned riverfront commercial center. This should include such things as a cleaner and laundrette, a place to eat, a small grocery store, a clothing shop, book store, beauty shop, barber shop, donut shop, drug store and perhaps some professional offices on the upper level. College housing should be developed on the land across Pawtucket Street.

The following map illustrates one way this might be done. It includes the widening and improvement of Pawtucket Street with adequate and screened off-street parking. A special service lane is provided for deliveries and a drop-off zone for quick customer stops. The commercial buildings are oriented around an open plaza with a fountain or sculpture as a focal point. A public boat dock is provided for temporary mooring and perhaps boat rentals, which of course also provides a pleasant place for fishing or just sitting.

-  Developed Walkway
-  Plaza
-  Open Space
-  Residential
-  Commercial



RIVERFRONT COMMERCIAL CENTER

73

✓

THE ESTABLISHMENT OF AN OPEN SPACE SYSTEM TO INCLUDE THE MERRIMACK RIVER AND PORTIONS OF THE PAWTUCKET CANAL - The above mentioned commercial center could easily become the focal point of activity in a park system running along the south side of the river and continuing along the Pawtucket Canal. There are large amounts of open space available in this area.

It is proposed that the Francis Gate be restored and improved to function as a Locks and Canals Museum or an art gallery, and that the areas along the canal be developed as maintained open space for cycling, horseback riding and walking with occasional seating and play areas. Canal fencing could be moved to the edge of the waterway for easier maintenance and a better view of the canal. Such a development could become part of a network of open spaces which can add a great deal to the liveability of Lowell.

There are, in addition, several smaller cemeteries in Lowell which are completely neglected. If maintained and planted with trees the School Street Cemetery, for instance, could become a visual asset to a densely developed area which is almost completely devoid of open space or greenery. The addition of a few benches would allow the cemetery to be used for the elderly or any age group, as a place for conversation and meditation.

The Flats and Lower Belvidere

The designation of "The Flats" as used in this study is a combination of the South End, which is Chapel Hill and Back Central Street, The Flats, The Grove and Lower Belvidere. These four areas are grouped together because of their similar character and land development patterns. The land use is primarily a highly dense type of residential development heavily mixed with commercial and industrial uses.

The area to the east of the Concord River, Lower Belvidere, which extends from East Merrimack to Rogers Streets is the most blighted pocket in the whole section, especially the portion bounded by the Concord River and High Street, and East Merrimack and Sherman Streets. The housing to the east and south of this deteriorated area, however, is quite nice and well-maintained, and includes the largest and best developed open spaces in the city: Fort Hill Park, Shedd Park, and a large cemetery. The northern tip is bounded by the Merrimack River and is the potential future site for expansion of St. John's Hospital.

Only two commercial pockets exist in Lower Belvidere, one at the intersection of Andover and High Streets and another along the south side of East Merrimack Street.

Industry is concentrated along the banks of the Concord River from Fort Hill Park to Andover Street. Housing ranges from five family dwellings and larger, to single family units. Traffic is handled well by the existing street patterns with Andover, East Merrimack, Nesmith, High, and Rogers Streets serving as collectors.

West of the Concord on the southern fringe of the central business district is the second part of The Flats. This area is known as the South End and has a relatively high density of land use. It is the area with the lowest family income and the poorest traffic pattern in the city. The majority of the housing, although old, is in good condition with usually two or more families per building. A blighted area exists along Lawrence Street and there is no open space in the area with the exception of the South Common.

Commercial pockets are located along Appleton, Gorham and Central Streets, and in the shopping center on Church Street. Traffic flow is poor with streets intersecting at acute angles. Gorham,

Central and Thorndike Streets absorb the heavy traffic.

The last part of the area is made up of The Flats and The Grove sections of the city. Like the area to the north of Central Street, this section consists of medium to high density residential development with the majority being single family and two family dwellings. The physical upkeep of these dwellings was rated as good in a 1966 survey, with only five percent in need of repair or demolition.

An industrial belt runs along River Meadow Brook from Newhall and Carter Streets to the Concord River and along both sides of the Concord River. There are three major commercial areas: at the intersection of Moore and Gorham Streets, at the intersection of Andrews, Agawam and Lawrence Streets, and along Lawrence Street from Watson to Wamesit Street.

Lawrence, Moore, Central and Gorham Streets collect the major traffic from the local streets. Streets in the southern end of The Flats are more geometric and more efficient than the acute, chaotic streets in the Back Central Street area, which is probably the densest residential area in the city. Open space is at a premium in Back Central Street with only a few small playgrounds to absorb the demand for recreation, and little or no vacant land for future development.

Opportunities

Probably the greatest potential in this area, as well as throughout the entire City of Lowell, is the development of the waterways that run through it. The Concord River and River Meadow Brook should be used to their capacity as visual oases for open space design as part of the overall plan for Lowell. These waterways could be connected by open spaces with future "greenway" development linking them in a pleasant natural way to provide a unique experience for the city dweller.

The vast open space of Fort Hill and Shedd Park should be preserved in their semi-natural state with the future development of the land kept at a basic minimum.

The homogeneous neighborhood character of the major area of this section should be accentuated in future preservation and urban

renewal proposals. With the possible and probable extension of the I-495 Connector through the heart of the residential concentration of Back Central and Chapel Hill, considerations should be made for maintaining the structural character of each neighborhood with a conscious effort to prevent any isolation of small areas.

Imaginative planning is required to change the disadvantages of mixed uses into an asset that provides for compatible diversity, character and interest in this section.

Policies

Due to the density of The Flats and Lower Belvidere, it is a prime target for future Urban Renewal projects. A perceptive study of the intricate quality of the area must be done in order not to destroy its character. With the River as a potential for open space development a cohesive network of greenways could be constructed as links from public open space to each neighborhood enhancing the character of the residential areas throughout the section.

With this as a basis, the following policies should be adopted:

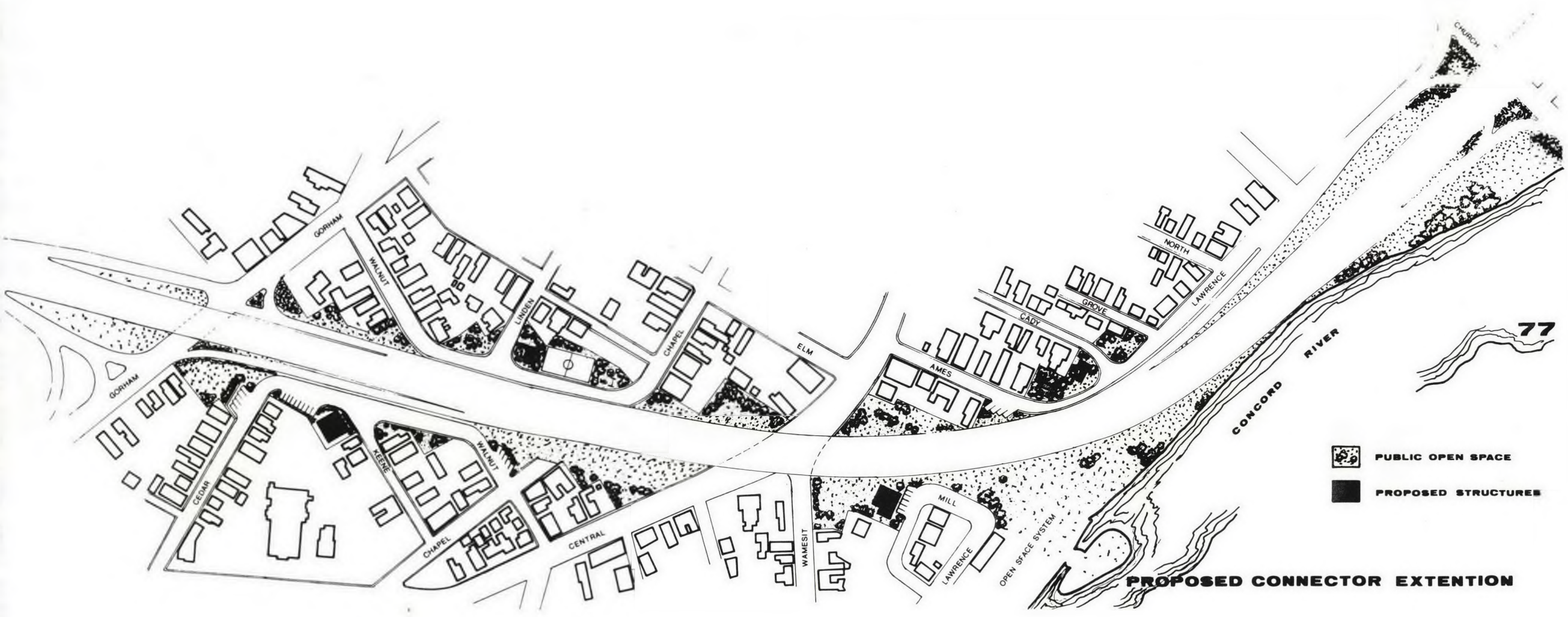
1. The development of the river frontage of the Concord River as public open space for future use.
2. The screening and redesign of industrial areas to relate to the natural areas along the waterways and to be compatible with adjacent residential development.
3. The redesign of commercial areas to provide:
 - a. Off-street parking which is screened and convenient to the public.
 - b. More natural design to create a pleasing shopping environment.
 - c. Overall design and control in order to preserve and enhance the adjoining neighborhoods.
 - d. The restriction of signing to a type which is pleasing to the eye and complementary to the character of the neigh-

borhood.

4. The establishment of a vacant land acquisition program for recreational and aesthetic reasons in addition to a program to implement public school grounds expansion as part of the public open space system.
5. The renovation and revitalization of the recreational facilities in the area, including the Concord River as the highest priority in open space development.
6. The provision of private and semi-private open space development incentives for the densely developed residential areas, with adequate measures to propose such a hierarchy of open spaces as a requirement in all future urban renewal areas.
7. The establishment of a prototype project to emphasize the practicality of mixed use structures under controlled conditions in densely developed areas to make room for future open space design proposals.
8. The preservation of the positive characteristics of The Flats and Lower Belvidere as a prime consideration in planning the future extension of the I-495 Connector.
9. The initiation of a comprehensive traffic study to devise ways to alleviate the traffic problems in the area and to propose future roadways or reconditioning of present roadway systems.

Plans and Approaches

THE PRESERVATION OF NEIGHBORHOOD CHARACTER IN PLANNING FOR THE CONNECTOR EXTENSION - A potentially vital segment of the design concept for the Flats is the future expansion of I-495 Connector from Gorham Street to Church Street. Although presently dormant, it is important because its proposed route cuts through one of the most dense residential areas of the city. It is essential to note that the Chapel Hill area plays a significant role



-  PUBLIC OPEN SPACE
-  PROPOSED STRUCTURES

PROPOSED CONNECTOR EXTENTION

in our city's history due to its architectural cohesiveness. Extreme care should be taken in the specific highway location and design not to destroy this area by isolating it or by dividing it into segments that will lose their original character and be destined for deterioration.

DEVELOPMENT OF THE CONCORD RIVER FRONTAGE - The banks of the Concord River should be investigated and all vacant usable land secured by the city for public recreational purposes. All developable land should be used as active or passive recreational areas, while undevelopable land might be best conserved as natural open space.

Some water oriented recreational facilities should be developed using these riverfront properties to the best ultimate purpose. Passive natural walkways and bicycle pathways can be constructed using the "greenway" river concept as proposed in the city-wide objectives and policies.

THE SCREENING AND REDESIGN OF INDUSTRIAL AREAS - Industrial areas along the Concord Riverfront can be encouraged to develop their riverfront properties to coincide with the overall river-oriented open space proposal. The screening of negative elements and landscape treatment can make industry at least visually more acceptable to adjacent development.

THE PROVISION OF OPEN SPACE FOR DENSE RESIDENTIAL AREAS - In The Flats the density of residential structures is quite high. Street patterns are very tight and chaotic, demonstrating the piece-meal development of early Lowell. In future renewal projects adequate open space facilities should be developed within the urban design concept. Existing structures which are deficient in private and semi-private open space should be considered as part of a system of planned public open space.

The illustration shows a plan of existing conditions within a given area, and a plan for proposed open space which could be provided. The concept is to gain usable space by consolidating yards or acquiring land to provide the needed area, and then developing it in a meaningful way with access to all abutters.



Residential Open Space

Ayer City

This section includes Ayer City and the outer Gorham Street area. It is bounded on the northwest by the Connector, on the east by Gorham Street, on the south by the Town of Chelmsford, and on the southwest by Chelmsford Street north to Plain Street. With the construction of the I-495 Connector a major amount of the land in this area was reclaimed by filling and it is now in industrial use.

The residential areas are divided into two parts and are isolated from each other by railroad property and industry. The western part has access to Plain Street and the Connector, and the eastern part to Gorham Street.

The western part is unique in that the majority of its land is used for industry and not housing. The industry is segregated into groups with the scrap steel and salvage operations along the edge of the Connector in plain view of those using the major entryway to Lowell. Other areas have been developed as industrial parks at the south end of the western part of Ayer City on both sides of the highway. The industrial pocket in the northern tip is isolated from the others by a large 34 acre triangular railroad yard.

A large amount of the southeast corner of Ayer City is used as cemetery land, and a fair amount of the land in the southern half of the area is still undeveloped industrial land. The only residential area in the southern part of Ayer City borders on Chelmsford and Plain Streets. Here over three-fourths of the residential units are single family with the majority of structures in good condition.

The bulk of all commercial development is along Gorham Street near Moore Street with no appreciative development in any area except the Lowell Plaza Shopping Center on Plain Street. The traffic pattern is adequate with Gorham, Plain and Chelmsford Streets and the Connector acting as traffic collectors; however, the exit from the shopping center is often congested.

Policies

There is limited potential for growth in the area other than industrial expansion. The River Meadow Brook might become a visual amenity if the land uses to the east can be redeveloped or screened from view. The undeveloped industrial land has good access from

I-495 and Route 3 and is being developed slowly. Housing can be conserved and renovated to accommodate the future needs of the area. There is no recreational space but the requirement is low and there is enough open land to be developed for this purpose.

The main objective for Ayer City is to improve the relationship between industrial and residential land uses, to develop properly the vacant industrial land and to clean up the area and make it aesthetically pleasing and functional. To do this the following policies should be adopted:

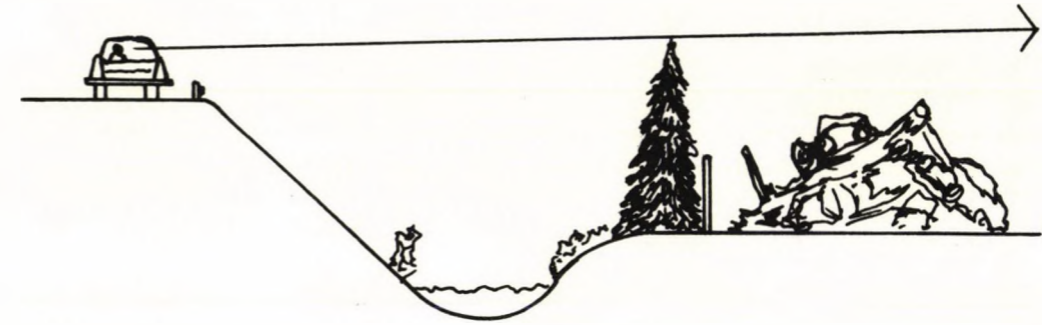
1. The requirement of adequate site planning and efficient land utilization with proper landscaping and parking lot screening for all industrial development. Efforts should be made to provide incentives to upgrade the appearances of the existing industries by screening and landscaping, grounds improvements, and building maintenance and renovation.
2. The screening or removal of all open junk storage and other outdoor storage areas along the I-495 Connector and local streets.
3. The provision of adequate open space for the present and future recreational needs of the area.
4. The development of River Meadow Brook and other natural features as aesthetic elements.
5. The implementation of a redevelopment site plan to break up the vast parking area of the Lowell Plaza shopping center.
6. The initiation of street improvements based on an analysis of traffic patterns.
7. The investigation of the feasibility of procuring future abandoned railroad properties as potential development areas.

Plans and Approaches

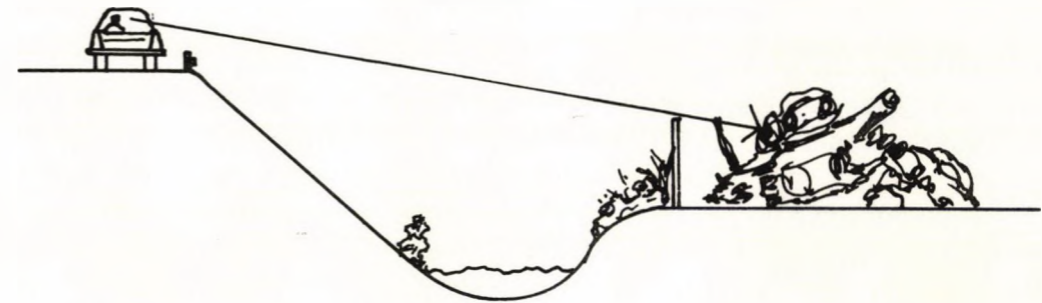
THE SCREENING OF OUTDOOR STORAGE AREAS - All open junk storage and other outdoor storage facilities must be screened from view along the I-495 Connector and local streets. According to the city's zoning ordinance, all open lot storage shall not exceed 12 feet in height surrounded by a tight fence or wall not less than 12 feet high. All new proposed open storage lots are only allowed in IB zones which are heavy industrial zones, and this can only be done by issuance of a special permit. Storage in these lots in IB zones cannot be more than 20 feet in height.

While this is fine for new development, existing open storage lots are still a visual eyesore within the city. The most vivid example of this is along the Connector where the junk auto lots and scrap metal yards are in plain view of the motorist. The junk 20 feet in height could be screened from street level by a wall or fence, but the Connector is about 30 feet above the lots. This means the motorist is looking down on the lots which compounds the problem. The use of natural evergreen vegetation is probably the only alternative. Some 50 foot high spruce, pine, or fir trees planted closely together could solve the problem and also provide a visual improvement for the existing landscape, which a wall could not do.

THE LOWELL PLAZA PARKING LOT IMPROVEMENT - One of the more successful economic ventures in Ayer City is the Lowell Plaza. The architecture, location and diversity of shopping goods provided are adequate and the plaza is an apparent commercial success. The parking lot, however, does not lend to the overall appeal of the complex. Adequate space for parking is a necessity, but a few parking stalls can be sacrificed for planting to break up the vast monotony of the lot and also to cool off the hot oven effect that is so common to large open parking areas. The lot does not provide for safe and efficient traffic flow and access to Plain Street is bad.



Good



Poor

Screening Outdoor Storage

Belvidere

Belvidere is the best preserved section of Lowell. Residential homes, which account for 99.8 percent of all buildings, are of high quality. The older structures are quite substantial in size and character and serve as a reminder of the former prosperity of a Lowell that was Queen of the Milltowns. Although most of the newer homes are in unplanned, landwasting developments, they too are well kept. The only visual blight in the district is the strip commercial development, serving some of the convenience shopping needs of the section, located near the Tewksbury line on Rogers Street.

While open public space within the district is not extensive, Belvidere does face Shedd Playground and Rogers-Fort Hill Park. These parks, large residential lots and pleasant tree lined streets provide ample open space for the southern portion of the district. The northern side, above Andover Street, which includes most of the new residential developments, is lacking in usable passive and active recreation space.

Through traffic in the section is mainly accommodated on Andover, Rogers and Nesmith Streets. Although Andover Street is residential in use, it is wide enough (with adequate building setbacks) to serve as a major approach to the city without upsetting that residential character. Rogers-Nesmith Street, another major approach does not adequately handle its traffic. It is too narrow, with unsafe intersections, on-street parking and strip commercial developments to impede circulation. Wentworth Avenue and Douglas Road serve effectively as feeders for local traffic.

The land rises from the Merrimack River in the north to the second highest point in the city, Fort Hill, from which one has an impressive view of the downtown. The banks of the river at the end of Stackpole Street are still wooded; however, the hills which rise up from the eastern end of the river have been ravaged by developers.

Policies

The main objectives are to preserve Belvidere as a fine residential district, to preserve its architectural heritage and to maintain

it as a model of pleasant residential character for the rest of the city.

The following policies should be adopted:

1. The control and screening of strip commercial development along Rogers Street and the carefully planned future development.
2. The improvement of through circulation on Rogers Street and Nesmith Street.
3. The establishment of a special large lot zone to control the subdivision of existing lots and to encourage higher standards for future developments.
4. The establishment of public open space systems to meet the needs of the newer subdivisions and the development of the banks of the Merrimack River into more useful open space.

Plans and Approaches

THE CONTROL OF SUBDIVISIONS - The subdivisions located between the east end of Andover Street and the Merrimack River are lacking in many physical and visual amenities. Houses, sited in straight rows, provide little privacy for individual outdoor spaces. Rear yards abut each other separated only by fences. Linear siting also yields unnecessary segments of paved streets.

The use of cluster development can correct these faults. Cluster development is the grouping of the same number of units that a site would yield from conventional subdivision. A reduction of individual lots sizes provides open space which can be held in some form of community ownership and in a natural state for neighborhood or public use.

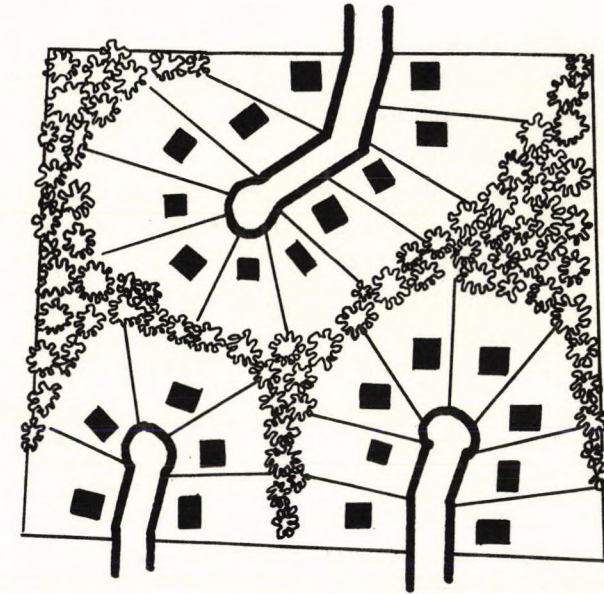
The obvious advantages of this form of development are: (1.) decreased costs to the city because street lengths and utility runs are reduced, (2.) greater privacy and an area of undeveloped community space, and (3.) less through streets which are dangerous for young children.

The accompanying illustration shows how cluster development could have benefited a portion of an existing subdivision in Belvidere. The cluster plan for an equal number of units will require 42 percent less paved street area and will yield approximately 40,000 square feet of shared open space. The smallest lot is 1,500 square feet larger than the smallest existing lot. In some instances street frontage is less than the 75 feet required by the zoning ordinance. However, Massachusetts towns allowing cluster development have reduced the required frontage by 20 to 33 percent or have simply set a minimum frontage in all districts just wide enough for a private drive.

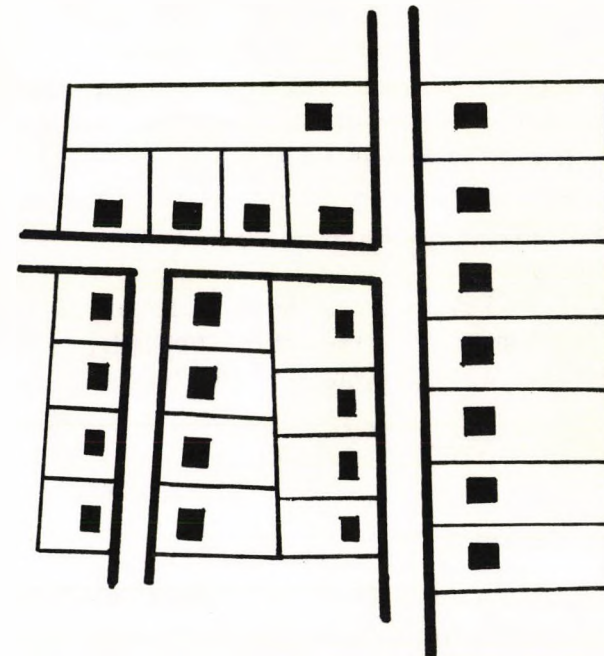
THE CONTROL AND SCREENING OF STRIP COMMERCIAL DEVELOPMENT ALONG ROGERS STREET - The strip commercial district along Rogers Street suffers from three major visual problems: parking and automobile storage is unscreened, there is no landscaping to break up the vast repetitive parking areas, and garish signs offend the eye and distract drivers.

All parking should be screened from the roadway by wooden fences or landscaping, and planting should be dense enough to effectively conceal the paved areas. Contiguous lots should be separated by tree screens to provide visual breaks. The use of well designed signs will convey necessary information and not offend the eye.

The expansion of this district, if necessary, should be conducted perpendicular to Rogers Street behind existing facilities to retard the linear spread of the strip. Signalized access at strategic points will ease traffic problems caused by the existing continuous access to Rogers Street.



24 lots
27000 sq ft streets
37000 sq ft open space



24 lots
48000 sq ft streets

South Lowell - Swede Village

This section is bounded on the north by the Boston & Maine railroad tracks, on the south and east by Tewksbury and on the west by Gorham Street. Interstate 495 runs through the eastern half of the section and acts as a physical barrier, separating the older housing in the north from the newer development in the south. The Concord River bisects South Lowell with the eastern portion containing little or no industrial development. A survey conducted in 1966 showed that 82 percent of the dwellings in this part were single family units.

On the western side of the Concord River the land uses include industrial, commercial and residential. Industry is confined to the northern part of the area along the Boston & Maine railroad tracks. The remainder of the developed land is residential with over 70 percent of the structures in single family use as recorded in 1966.

South Lowell has a vast amount of vacant, open land along the Concord River, but it is low and marshy and not economically suited for development. Other open land is abundant, but there are four parks in the entire area: O'Donnell, Stratham, Veteran Housing and Commonwealth Avenue Playgrounds and only one of these, the O'Donnell Park, is functional. Stratham Park and Commonwealth Avenue Playground are poorly equipped and in need of development.

Traffic patterns on the whole are good but the conditions of roadway surfaces are poor. The total area has good access to I-495, except for the western edge which must use Gorham Street as its main collector of traffic. The only detriment to the traffic system is the overuse of residential streets like Meadowcroft and Lundberg Streets by heavy trucking from the industrial area. Groham Street is the only major collector in the area.

Policies

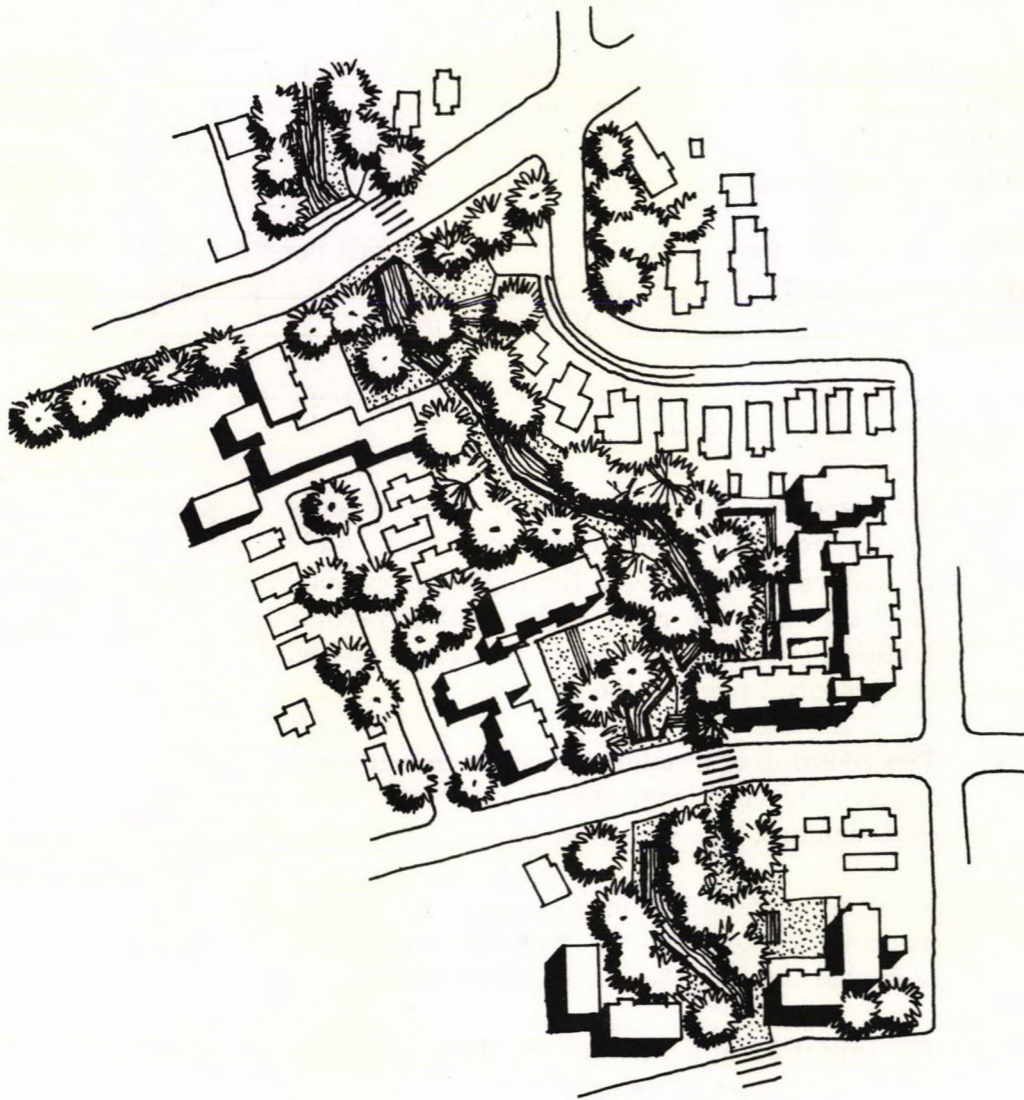
The Concord River has potential for development as an open space corridor linked to the existing park facilities. Other vacant land in South Lowell also should be used wisely to enhance the area. Thought should be given, for example, to the role of railroad land which may become available in the future.

Since South Lowell is relatively old, much must be done to preserve the residential character of the section. A complete program of rehabilitation is necessary in order that the total environment can be improved. Natural features and the potential of the Concord River could be incorporated into a city-wide open space system and connected with the neighborhood recreational open spaces of South Lowell.

The objective, then, is to improve the overall condition and character of South Lowell, to optimize the utilization of its open space, and to solve some of the problems discussed above.

To secure the implementation of these objectives, the following policies should be adopted.

1. The development of a greenway-open space system to include the Concord River as the central trunk, and branching out with corridors of open space linking neighborhood recreational facilities with the river and a total city-wide system. In addition public parks should be evaluated and developed to the potential need of the public.
2. The adoption of a neighborhood clean-up and maintenance program to encourage the rehabilitation of the residential environment.
3. An attempt should be made to take the Veteran Housing Project and create a new image by destroying the "barracks" type character of the development plan.
4. The initiation of a vacant land study to determine its full economic potential as open space.
5. The encouragement of commercial development on a planned neighborhood level to provide adequate and convenient commercial services and public gathering places.



6. The initiation of a traffic study establishing a trucking route in order to eliminate heavy vehicles from using residential streets. Also a comprehensive streets-improvement program should be set up with priority implementation.

Plans and Approaches

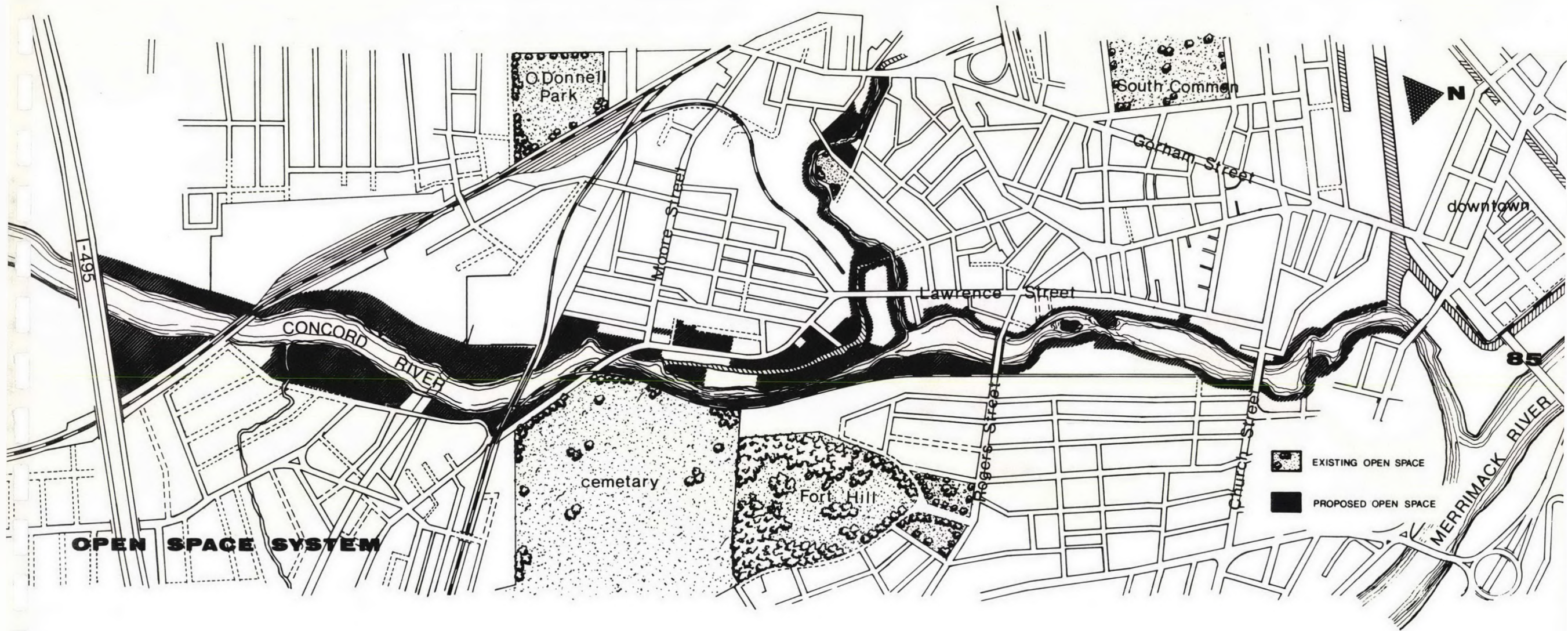
THE DEVELOPMENT OF A GREEN-WAY OPEN SPACE SYSTEM - The tremendous potential of the Concord River and its tributaries as a green-way open space system should not be ignored as part of the overall open space plan for the city. Using the Concord River itself as the central trunk with green-ways branching out to link neighborhood recreational facilities, an overall open space system could be created using natural features to accentuate the passive environs of the river. A series of sitting areas, bridal paths, bike trails and viewpoints could be developed. A future green belt street system could link various public recreational and open space systems with the waterway system.

The accompanying maps shows the proposed areas of development along the waterways and the sections on the following page show the proposed walkway and bike route designs.

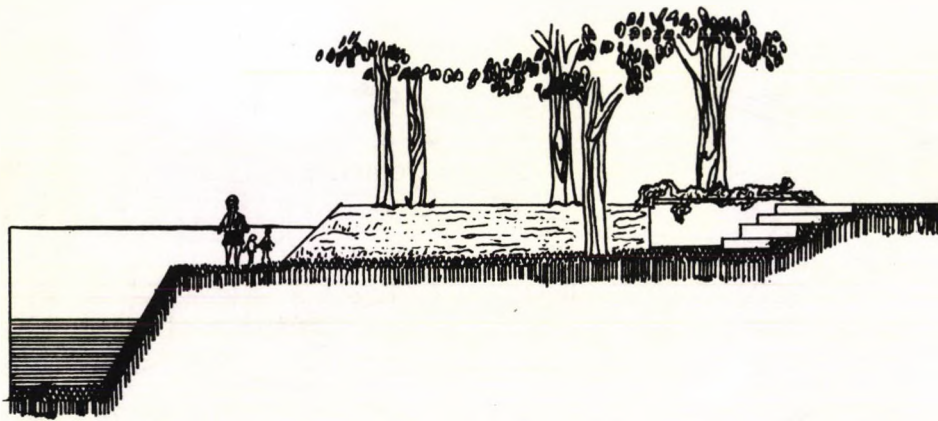
In addition, public parks in the area should be evaluated and developed to the potential needs of the public.

THE ADOPTION OF A NEIGHBORHOOD CLEAN-UP PROGRAM - A neighborhood clean-up and maintenance program should be adopted to encourage the rehabilitation of the residential environment. Tax incentives and possibly materials subsidies could be used as means to create an initiative drive for the primary program. Professional assistance could be donated to secure advice for possible renovation and rehabilitation moves, and community-minded banks might be of assistance. This could be done independently but it might be more successful through an official urban renewal code enforcement program.

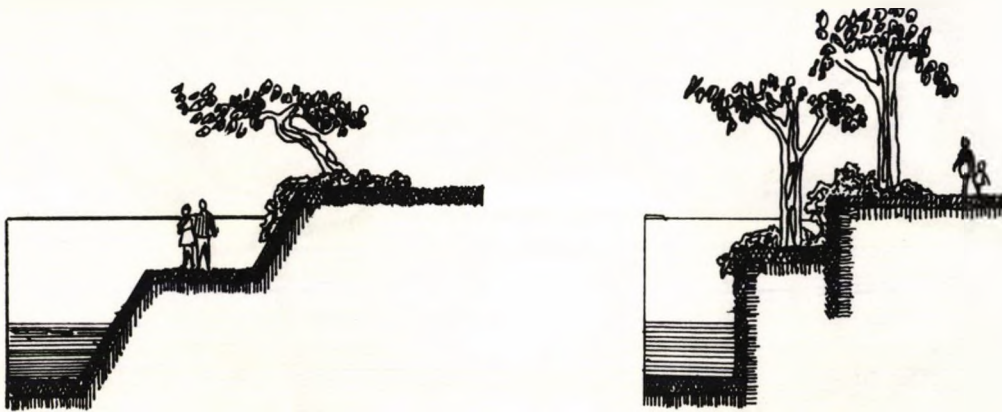
VETERAN HOUSING PROJECT - The Veteran Housing Project is in dire need of a new image. The old barracks type architectural design may have been economical and functional when it was done,



but it has created a negative environment for the inhabitants. An in-depth study should be carried out to try and change the exterior facades of the housing units in such a way as to break up the monotony that exists now. A diversity of architectural treatment could be integrated into an overall concept, maintaining a cohesiveness, but offering a variety in the appearance of individual units.



86



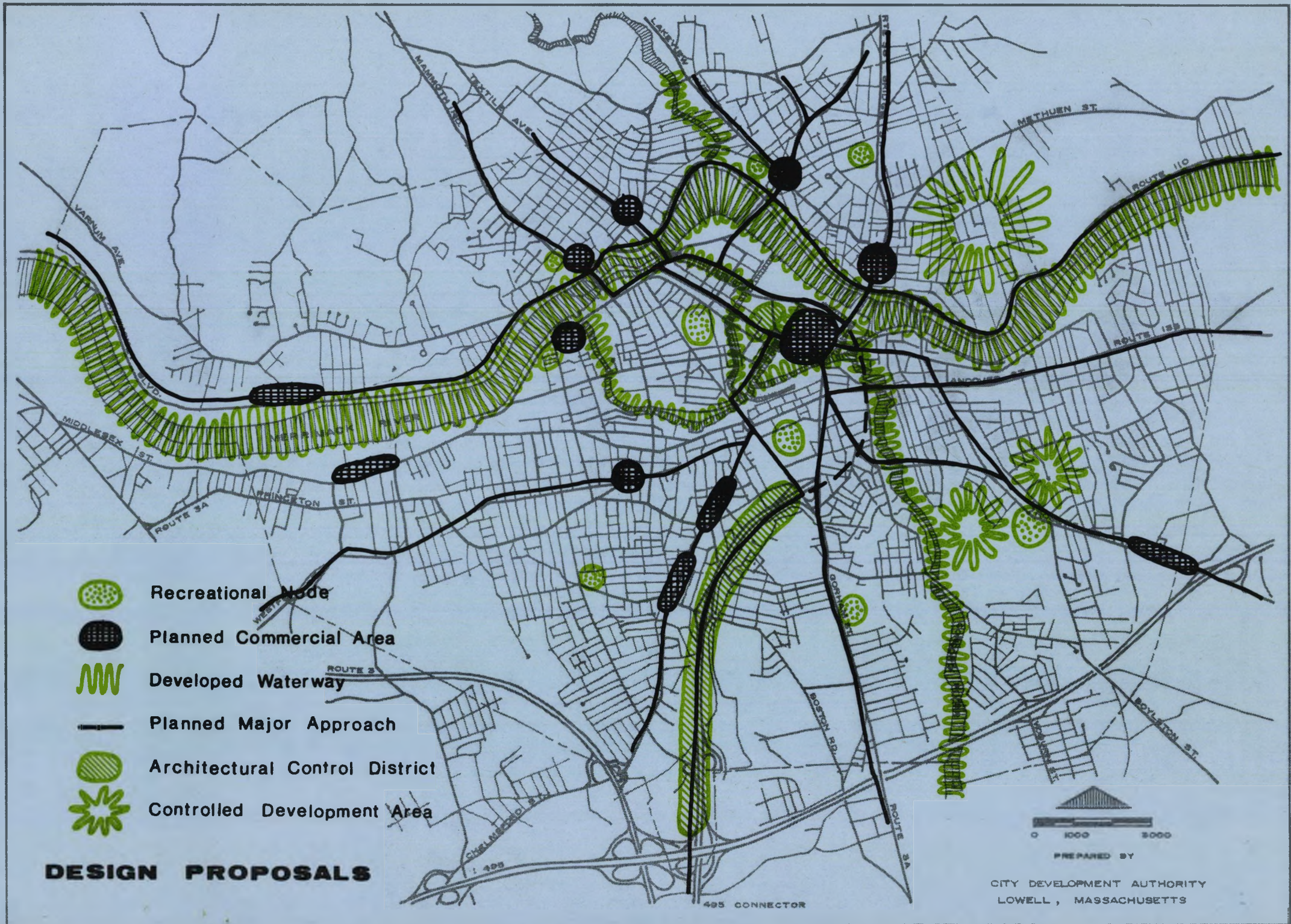
River Bank Development







CITY-WIDE DESIGN PROPOSALS

The area design policies and plans can be condensed into the following city-wide proposals:

1. The official designation of local historical structures to be preserved by law as recommended in the Historical Survey, and to encourage the improvement of their immediate environs.
2. The establishment of a defined hierarchy of commercial district types, service areas and locations as part of the comprehensive plan for Lowell to better serve existing and projected population distributions.
3. The encouragement of better designed commercial areas through planned unit concepts including screening of parking, developed pedestrian ways and adequate service facilities.
4. The development of a city-wide open space system using Lowell's waterways as the linking element incorporating where possible additional linkages to existing and proposed parks and playgrounds, cemeteries, commercial areas and highway rights-of-way. Positive natural features should be preserved and emphasized as part of this system.
5. The encouragement of cluster residential development and the requirement to provide private or semi-private developed and usable open spaces in all new projects, including landscaping and fencing.
6. The planned and systematic renovation of deteriorating residential areas to include adequate open space, traffic flow and pedestrian circulation to be implemented by using the most successful Model City techniques. Emphasis should be placed on maintaining and reinforcing existing neighborhood character and cohesiveness.
7. The initiation of a comprehensive circulation study to develop a program for the systematic improvement of Lowell's streets.
8. The establishment of a vacant land acquisition program for educational, recreational and aesthetic purposes.
9. The requirement of adequate site planning and screening on industrial development with effective pollution and nuisance control measure built in.
10. The establishment of prototype projects to develop techniques for implementing the above policies on a city-wide scale.

The accompanying map is a summary of proposal areas for Lowell's visual improvement.



-  Recreational Node
-  Planned Commercial Area
-  Developed Waterway
-  Planned Major Approach
-  Architectural Control District
-  Controlled Development Area

DESIGN PROPOSALS



PREPARED BY
 CITY DEVELOPMENT AUTHORITY
 LOWELL, MASSACHUSETTS

IMPLEMENTATION

The implementation of the Community Renewal Program is the transformation of the previous described plans into reality; how to make an environment in which it is pleasant to live, work and play from the physical chaos that the Visual Survey describes.

The major problems to be solved are: (1) the regulation of the unpleasant aspects of the environment with which we must live (2) the acquisition of space in which new and needed services, activities and programs may occur (3) the procurement of the interest, involvement and imagination of all the citizens of Lowell to correct deficiencies and encourage improvements; and (4) the enactment of a master or comprehensive plan for the future expansion and improvement of Lowell.

At present the main tool for the regulation of the offending and inharmonious aspects of Lowell's physical environment is the zoning ordinance. Therefore, a partial cure for existing problems and tool for implementation of new programs is the modification and strict enforcement of the zoning ordinance. This ordinance should be applied in strict conformance with a comprehensive plan which permits variances only in cases of extreme hardship.

Variances should be decided ideally by a court of law as are other conflicts in our society (with an opinion from the zoning administrator and the agency responsible for the interpretation of the comprehensive plan), thus eliminating the need for a Board of Appeals. It would be desirable to provide legal and financial assistance to aid individuals to appeal decisions in cases of hardship. Many of the variances presently granted by the Board of Zoning Appeals appear to be zone changes rather than just variances, and it is questioned whether they are merely self-serving decisions or really justified and in the interest of the people of Lowell in general.

New regulations need be incorporated into city ordinances to correct an increasing number of problems which include sign control, screened parking, workable setbacks, adequate sidewalk widths, open space requirements, landscaping, control of incompatible uses and subdivision regulation. Intelligent tax incentives can be used in conjunction with penalties to encourage the removal of offensive

situations such as pollution and unpleasant physical features. This program also could be employed to encourage certain improvements such as tree planting, the creation of pedestrian plazas and sidewalk beautification in commercial districts.

The acquisition of land for public or private open spaces, new commercial and residential facilities and automobile storage needs must begin immediately. The city has no advance land acquisition program. Its only tools are condemnation, eminent domain and urban renewal projects. The legality and procedures of advance land acquisition, a land bank system and land budgeting for the city must be investigated to help provide resources for increasing spatial needs.

However, these plans and programs, and the entire Community Renewal Program will be in vain if the spirit of community involvement cannot be incorporated into its framework. Provision must be made for widespread, committed citizen participation in program design, public works projects, competitions and community education. An intra-city communication center must be organized to discuss and promote plans, provide information, take ideas, and channel complaints and problems to the proper offices. Public information programs have been very successful in many cities throughout the world.

All of the above must be assimilated into a master plan for the growth and rejuvenation of Lowell. The validity of these projects without a long range master plan is tenuous. This plan is a policy guide for future physical growth based on background information and the realistic needs of all Lowell's citizens. The plan must represent the courage to realistically face the problems and limitations of the city. It must possess the strength to enforce a responsive program of continuous planning and decision making without the necessity for extensive post-facto appeals and variances.

The major categories of plans discussed in the various sections of this report are land acquisition and open space needs, open space development and maintenance, the redesign of commercial districts and control of strip commercial areas. Implementation tools for

each category are cited below.

Land Acquisition

1. DONATION - Land has usually been donated from the private sector such as Rogers-Fort Hill Park and might often contain restrictions on future use. Corporate donations of supplies and resources is becoming more popular and might be exploited for open space needs especially near riverside industrial facilities.
2. FEDERAL PROGRAMS
 - a. Advance Land Acquisition: Housing and Urban Development Act of 1965.
 - b. Open Space Land: Housing Act of 1961.
 - c. Outdoor Recreation Assistance: Land and Water Conservation Fund Act of 1965.
3. ADVANCE LAND ACQUISITION - At present future acquisition for recognizable needs is limited to lands gained from non payment of taxes. Legal barriers must be removed before the city can invest in land for future needs. Many cities have found ways to employ this system successfully.
4. LAND BANK - Much acreage of the National Forest System was obtained through land exchanges. This system could be employed by the city to obtain necessary plots by trading land of potential developmental value and other city owned tracts.
5. LAND BUDGET - The spatial needs of both the private and public sectors are charted against available resources. In illustrating the increasing number of demands made against a fixed land quality it is hoped that the most necessary projects will reach fruition.
6. CANALWAYS - The city must take the necessary legal action against the Locks and Canals Company to establish its rights in the use and maintenance of this resource. The courts must clarify the responsibilities and limitations of each party.
7. OPEN SPACE FOR SUBDIVISIONS - The acceptance of cluster plans will allow the creation of semi-private open space for these developments.
8. CEMETARIES - The development of this space for passive rec-

reation would require the submission of a detailed plan and program to the directors of the cemeteries.

9. STREETS - The use of certain residential streets for playstreets would necessitate the restriction of through traffic. This would be established best by ordinance.

Open Space Development

RESOURCES FOR MATERIALS:

1. Banks and other local corporations.
2. Private citizens who may dedicate trees, land and supplies as memorials.
3. Federal and state-programs, for example, the donation of Federal Surplus Property: Federal Property and Administrative Services Act of 1949.
4. State Forests and Wildlife services.
5. Urban Beautification Program for the development of new parks, open space, public space and rehabilitation of existing parks and historical structures.

DEVELOPMENT AND MAINTENANCE:

1. The establishment of a City Conservation Corps composed mainly of high school students to be paid for development projects.
2. The formation of an environmental management course as part of the high school curriculum, programs in the city would be projects for the class.
3. Clean-up contests and plant-ins would be sponsored to foster community involvement.
4. Neighborhood coalitions would be established to police conditions of open spaces. They would make complaints to the proper office and organize programs in these spaces.
5. The creation of Victory Gardens (rationing of public space for temporary private gardens) in excess open space would maintain those areas.
6. The creation of homeowners associations. While each cluster development has specific problems in the management of open space the most effective program seems to be the

creation of homeowners associations. Each member of the development must join and pay the annual maintenance assessment. Failure to pay will result in a lien against the individual's property.

Commercial Districts

DEVELOPMENT:

1. The location of commercial districts would be established by the master plan.
2. Pedestrian plaza space, awnings, tree planting, street benches and rear store access could be fostered by Merchant Associations established for each district. Tax incentives and the promise of a pleasant shopping environment would encourage such action.
3. Acquisition of space for off-street parking and relocation of tenants in the neighborhood would be accomplished by land trade.
4. Removal of on-street parking especially for the Bridge Street and Cupples Square proposals would require new regulations and strict initial police enforcement.

CONTROL OF STANDARDS:

Setbacks for wider sidewalks, sign control, tree planting and screened parking lots would be regulated by the expansion of the Zoning Ordinance and the establishment of an official street map. The design of sign control standards might become a city wide design contest. Planned unit design where possible through zoning.

Strip Commercial

DEVELOPMENT:

1. The limitations of present development and the control of future projects could be accomplished through a tough master plan that recognizes the wastefulness of present developments on limited land assets.
2. A detailed master plan would indicate total parking needs for

a district and restrict wasted repetitive parking. Existing unused lot space could be landscaped (however, post-facto enforcement would be difficult without some form of inducement such as tax incentives).

Institutional

Plans for each of the major institutions in Lowell, Lowell Tech, Lowell State and the three hospitals, should be coordinated and evaluated for their impact on traffic circulation, open space and residential environment.

The above discussion can serve as a guideline for the implementation of the design programs proposed. Detailed methods and operating procedures based on the above principles and tools will help to realize each design proposal. Adequate, professional and consistent administration must be guaranteed for each program. However, it is necessary to frame these proposals and methods in a long range master plan that can capture the trust, cooperation and imagination of the public to guarantee the success of the Community Renewal Plan.

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