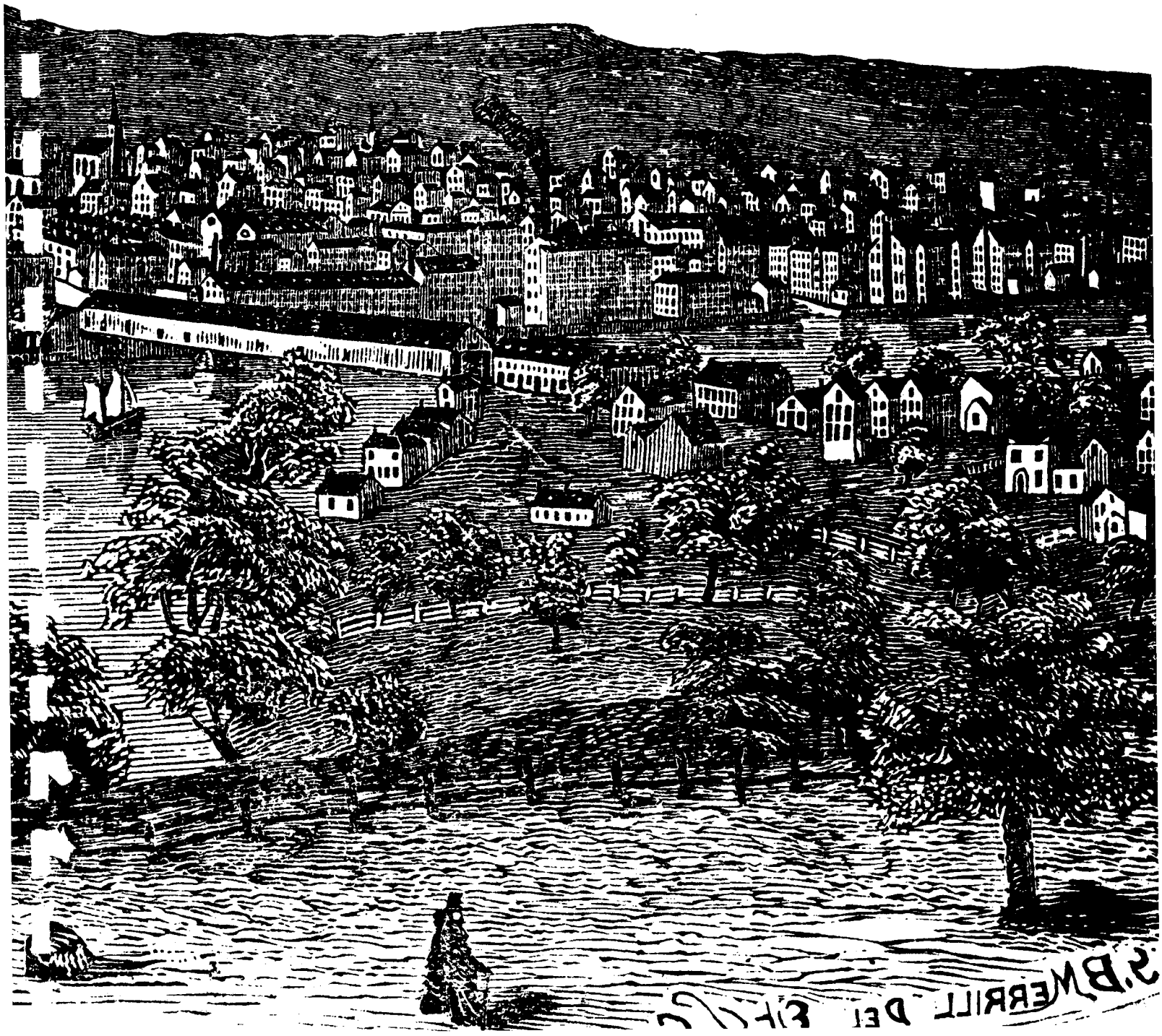
A proposal to prepare

The Lowell National Urban Cultural Park Comprehensive Plan

Submitted to
The Lowell Historic Canal District Commission
by Skidmore, Owings & Merrill
Anderson Notter Associates Inc.
Economics Research Associates

15 October 1975



Skidmore, Owings & Merrill URBAN DESIGNERS / PLANNERS / ARCHITECTS / ENGINEERS

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October 15, 1975

Lowell Historic Canal District Commission
c/o Lowell City Development Authority
J.F.K. Civic Center
Lowell, MA 01852

Dear Commission Members:

Skidmore, Owings & Merrill (SOM), and Anderson Notter Associates Inc. (ANA) are pleased to submit a proposal for preparation of a Comprehensive Plan for the preservation and interpretation of Lowell's historic and cultural role in the industrialization of America. For preparation of this plan, SOM and ANA have gathered an interdisciplinary team including Economics Research Associates (ERA) as a primary subconsultant and four special consultants who would make a unique contribution to a Lowell National Urban Cultural Park: Dr. Patrick M. Malone, the Society for the Preservation of New England Antiquities, R. Randolph Langenbach, and Alan M. Voorhees and Associates.

In response to the performance areas outlined by the Commission, our integrated team of specialists will cover the full range of activities and programs envisioned for the creation of a National Urban Cultural Park. Political expertise would include legal, legislative and institutional procedures for development control, land use and preservation planning. Architecture and Urban Design efforts would also involve site planning, landscape architecture, adaptive reuse and historic preservation, engineering, cost estimating and graphic design. The full range of cultural, historical and educational program development and activity programming would be a part of Culture and Education, and Management and Administration would include the design of funding, implementation and operations/management structures.

In addition, market analysis, economic feasibility, impact evaluation and detailed budgetary planning would be provided through Cost and Impact Analysis. The performance areas of Transportation and Regional Linkages would include highway, rail, pedestrian, bicycle and waterways circulation networks, both internal and external to the Park. And in an area such as Lowell where extensive efforts have already been committed to planning for a Park, Community Involvement will require a continuing dialogue between the project team and the Commission, the citizens and the officials and agencies of the Lowell region. Consequently, our project team includes architects and landscape architects; historic preservationists; urban designers; economic, marketing and financial analysts; organization and management analysts; graphic and exhibition designers; community and transportation planners; an attorney; an educator; and social and architectural

historians - a combination of talents equal to the broad goals of the Lowell Historic Canal District Commission.

We propose to develop the Comprehensive Plan through a series of work phases or tasks, which would take maximum advantage of the work already accomplished and of the interrelationships between performance areas. Staging of these tasks will allow work to be completed in eight months, including an immediate action component which would provide support to continuing preservation and programming efforts.

Task 1 work will concentrate on the identification of constraints and opportunities, and possible short- and long-range strategies, for the implementation and development of the Park. During Task 2, strategies will be evaluated so that the Commission, with the participation of Lowell citizens, will be able to choose an implementation plan for the Park. Elements of the Comprehensive Plan will include: a Physical Facilities Plan, Activities Plan, Management/Control Structure and Action Program. Task 3 work involves the refinement of elements of the Comprehensive Plan, and development of a strategy for the presentation of the Lowell National Urban Cultural Park Comprehensive Plan and related recommendations to Congress. Task 4 is primarily a production task under which a phased Immediate Action Program, a final Comprehensive Plan report and recommendations, and materials for presentation of the Comprehensive Plan to Congress are produced.

The products of such a multidisciplinary effort would be an overall plan for physical facilities including landscape, restoration, design and circulation elements, a program for cultural and recreational activities which would use those facilities, a realistic and workable management/control structure and an action program including funding procedures aimed at immediate, short-range and long-range implementation strategies.

The firms which have joined together on this proposal have had international experience in urban planning, architecture and historic restoration, urban design, management and economic analysis, tourism and recreation planning, and planning law. At the same time they have been deeply interested in Lowell and the Boston Metropolitan Region. Examples of recently completed or ongoing projects include the adaptive reuse of the Tannery in Peabody, the Chart House, Old Boston City Hall and the Newburyport historic renewal project by Anderson Notter and Associates; the Bicentennial Tourist Transportation Plan, New England Tourist Information System and the Rome, New York historic economic development plan by Economics Research Associates; and the Lowell Transportation Planning Study and Transportation Terminal, Salem Waterfront Feasibility Study and Washington Mall Master Plan by Skidmore, Owings & Merrill.

In addition to their Boston offices, both SOM and ERA operate offices in the Washington, D.C. area and could provide assistance through these offices in presentations to Congress. Each of the firms on the team has had extensive experience as well with private developers and investors interested in redevelopment and new development activity. During development of the Comprehensive Plan our team would plan to establish a site office in Lowell to maximize contact with local agencies and generate community involvement. One potential site has been identified in the offices of Mr. Mel Lezberg of the Locks and Canals.

Four special consultants will bring additional expertise to the team: Dr. Patrick M. Malone, educator and historian; the Society for the Preservation of New England Antiquities; Randolph Langenbach, architectural historian and photographer; and Alan M. Voorhees, Inc., transportation engineers. Letters from these special consultants indicating their experience and interests are included in the proposal.

We represent a group of firms and individuals, experienced in Lowell, and enthusiastic about combining our varied talents to assist in the preservation of Lowell's historic and cultural heritage. We look forward to the opportunity to work with the Commission in the development of a Comprehensive Plan.

Very truly yours,

SKIDMORE, OWINGS & MERRILL

Peter Hopkinson
Associate Partner

ANDERSON NOTTER ASSOCIATES INC.

J. Timothy Anderson
President

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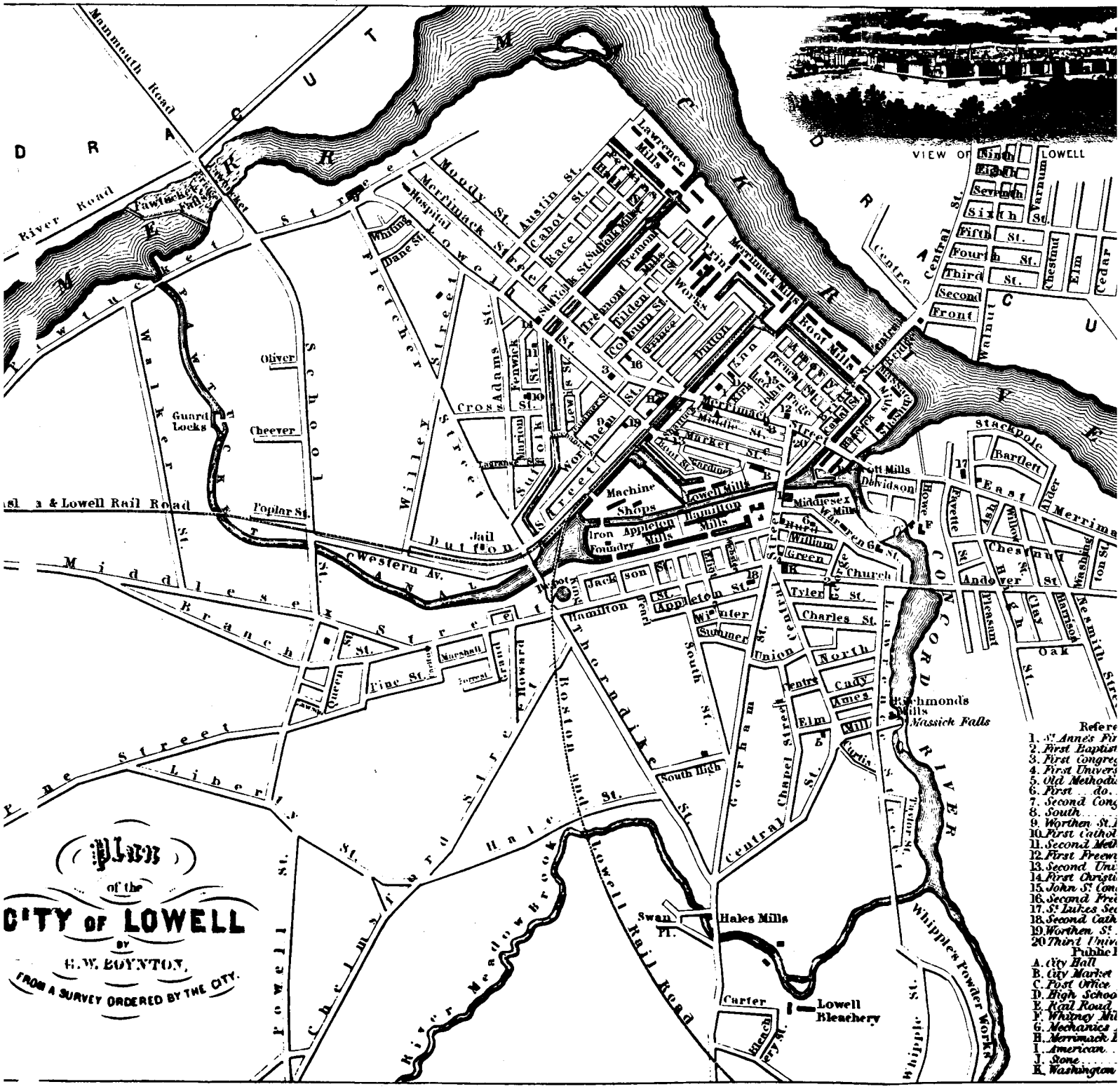
with Dr. Patrick M. Malone, Director Slater Mill Historic Site
Society for the Preservation of New England Antiquities
Alan M. Voorhees & Associates, Inc.
R. Randolph Langenbach

15 October 1975

PROPOSAL CONTENTS

The Lowell National Urban Cultural Park Comprehensive Plan

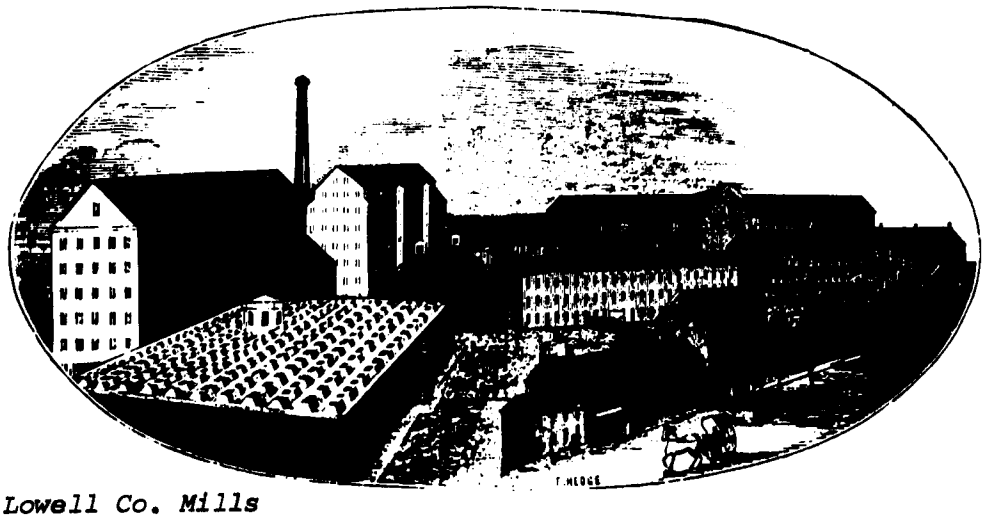
I. Overview of the Lowell National Urban Cultural Park



Initiative for the revitalization of Lowell is visible throughout the city. There are plans for mills as museums, mills as visitor centers and mills restored for manufacturing or residential uses. There are private efforts to renovate old structures for restaurants or office buildings. There are public funds to preserve and restore building facades, to construct heritage trails along the canals and to rebuild an essential transportation-circulation system. And, there are the people of Lowell, with their varied backgrounds, festivals, foods, languages, and their sense of Lowell as it once was.

These signs and the initiative and energy behind them are increasingly apparent in the efforts of the Human Services Corporation, City Development Authority, City officials, Chamber of Commerce and many other public and private groups. What is needed now is to focus the separate components of this energy into a public/private/participatory system which will recreate the vital urban atmosphere of Lowell. Such a system must support the kind of urban cultural activity which will enrich the lives of local residents and visitors and be a catalyst to complementary economic development. The Lowell National Urban Cultural Park has been conceived to provide this support.

Behind the present plan proposal and the extensive effort that has already been made, is the recognition of a unique opportunity - the opportunity for the nation to preserve and enhance the cultural resources of the leading city in America's industrial revolution.



Lowell Co. Mills

The goal of this plan must be to build upon the history of Lowell and the extensive planning already accomplished, to take the next essential step, and establish a National Urban Cultural Park. Since the historic issues are broad and the desired programs are varied - mill restoration, museums, public education, oral history, cultural festivals, and economic development - what must be provided is an implementation and development strategy. An Immediate Action Program would take advantage of immediate opportunities and maintain or accelerate the present momentum; while a short-and long-range implementation and development strategy would channel these varied efforts into a plan network and identify a specific focus for public and private investment.

Such a strategy for the National Urban Cultural Park would take advantage of all potential markets. There is a residential market for imaginative re-use of older structures both for commuters to the Boston employment region, and for Lowell residents and employees. Commercial and industrial markets must be stabilized to support existing industry and attract new firms. And, a well-structured, interesting and entertaining tourist experience can be developed and advertised to attract that new market. The strategy proposed here would provide specific site designs, marketing and management data, where it would be most effective, and would develop funding proposals, institutional structures, and legal procedures to insure that any public or private investment would have the greatest positive impact for Lowell.

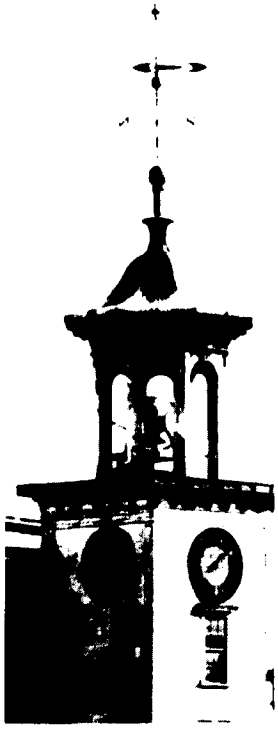
A National Urban Cultural Park in Lowell, building on the rich and unique history of the city, as well as the energies and interests of today, and applying timely use of public and private funds, offers a unique opportunity to share the vital lessons of industrialization, urbanization and immigration. The idea for such a Park has been in the minds and plans of Lowell citizens for many years. Trails have been laid out, historic districts created, museum exhibitions designed, a new citywide transportation network adopted, and the first phase of the Heritage State Park funded. The goal of this current study would be to provide plans, design guidelines, a management/control structure, capital and operating budgets and programs which the Lowell Historic Canal District Commission needs to make the National Urban Cultural Park a reality.

A glimpse of what the components of a National Urban Cultural Park might be can be seen from a look at the past and the present. A sampling of the historic themes in Lowell, the physical structures which represent them and the technical, educational or cultural innovations they provided can be tied directly to many of the revitalization efforts of today. It is these ties between past and present which establish the basic network on which the Park will be developed.

THEMES FOR PARTICIPATION IN THE URBAN CULTURAL HISTORY OF LOWELL

Themes based on the history and heritage of Lowell may be expressed in a variety of ways including physical restoration and the adaptive reuse of historic structures, recreational trails, participatory exhibits, educational programs, museum displays, energy research or new manufacturing enterprise. Among the broad and varied theme areas possible in Lowell, several basic ones stand out: Innovations in Industry, Innovations in Financial Management, People and the Multi-Cultural Heritage of Lowell, and the contributions of Planned Urbanization. In each of these areas local citizens, city agencies, and regional or state officials have already initiated planning or programming that will allow the Urban Cultural Park to begin from a firm base to pull these various elements together. Other themes are of course present, and will be explored in developing the Comprehensive Plan.

INNOVATIONS IN INDUSTRY



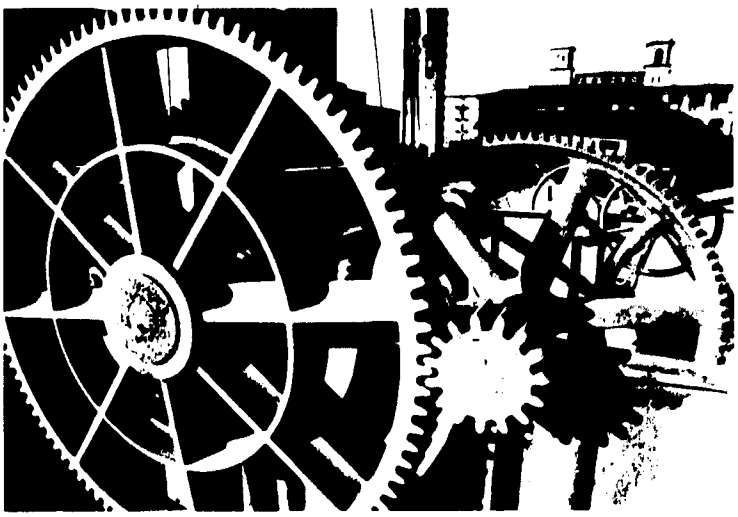
Boott Mills

When the Merrimack and Hamilton Mills were constructed in 1822 with Appleton, Lowell, Boott and many others soon to follow, they set a standard for innovation in industry. The standard was initiated in other states and nations for a century to follow, and still offers valuable lessons to the industrialists of today. Combining the work on the canals and locks that began in the late 18th century, with inventive schemes for machinery and management in the production of textiles, the founders of the Town (1826) and City (1836) of Lowell recognized the natural and human resources surrounding them and channeled them into production.

Efforts are already in progress to make the record of this process more visible and instructive. The newly formed Lowell Museum Commission had previously worked as an ad hoc task force to develop exhibits which explain the evolution and significance of the nation's first planned industrial city. At locations such as the Wannalancit Mill, the latest 20th century developments in textile technology are in current use. Along the canals and locks a daily lesson in resource use and water power is waiting for the interested observer.

All of these can become components in a National Urban Cultural Park. Innovations in Industry can be demonstrated by museum exhibits or working mills themselves, by restoration of some of the remaining mills and by imaginative reuse of others. Exhibits such as the State plans for the Francis Gate Lock is just a starting point along the trails of locks and canals which will stretch from the Northern Canal walk, to the Whipple Powder Mill. To make such a network real and effective, it must be combined with both educational programs for

visitors and citizens of Lowell and a renewed policy of support of innovations in industry through institutions such as the Lowell University or direct support for individual inventive efforts.



Water flow control gears

INNOVATIONS IN FINANCIAL MANAGEMENT

Along with the combination of new machinery for resource use and textile productions, came the financial institutions essential to provide the support for planned industrial growth. The growth of such institutions and their willingness to experiment paralleled the growth in the industrial sector. The Lowell Bank established in 1828 began with assets of $100,000. By the time the Railroad Bank was established in 1831, it was working with $800,000. Institutions such as these set a standard for new financing methods (selling of shares,

establishment of corporations and adoption of tariffs to support new industrial schemes) at that period in history. These same institutions could set the pace for new investment approaches to revitalize Lowell of the 1970's.

Many of the structures that represent financial institutions still exist in Lowell, and interest has been demonstrated in their restoration. The Downtown Revitalization Committee has worked with city agencies to begin restoration of building facades and to spur economic growth through adaptive reuse of existing downtown buildings. The products of such local interest are visible in restoration such as the

Shattuck Law Offices and the Lowell Institute for Savings. The Lowell Center City Committee continues their work from a local base to stimulate economic development and the Governor of Massachusetts, recognizing the need and potential for economic development, chose Lowell to initiate his "boost economy" campaign.

All of these efforts will provide a supportive structure for the National Urban Cultural Park. Current financial institutions may choose to participate both through restoration efforts of their own, through educational programs of their own, and through development of a citywide economic development package. Cities in other parts of the United States (Savannah, New Orleans, Boston) have demonstrated that "preservation pays" in the creation of jobs, of usable commercial, office or residential space, in the use of tax revenues and in the increased attraction to tourist use. Potential results of this type make both public and private investment in a Lowell National Urban Cultural Park attractive.

PEOPLE AND THE MULTI-CULTURAL HERITAGE OF LOWELL

The multi-cultural heritage of Lowell, like its industrial and financial institutions, was also historically visible in physical structures - churches, street names, neighborhoods, such as the French Canadians in "Little Canada" and the West Centralville area, the Greek community near the North Common and in the "Acre" and the Polish community in Centralville. However, the varied and fascinating heritage of the many nationalities that settled in Lowell from the 1820's to 1910 was better represented in the human activities that surrounded these neighborhoods - the ways of life of the "mill girls", religious celebrations, national festivals, foreign language newspapers, and specialty foods or shops.

Many of these activities continue today since the settlements and national identities still run strong. Festivals such as the annual Regatta are a familiar interruption to everyday life in Lowell, ethnic foods and languages are maintained and the maintenance of a great number of ethnic churches attest to the continued vitality of these communities. The Human Services Corporation of Lowell has long recognized the valuable heritage of the people of Lowell and has initiated programs to make this heritage more visible. Cultural education programs and the development of an oral history record are underway. The continued vitality of these communities is to be a major objective and component of the National Urban Cultural Park.

Activities, scheduling, advertising and cultural education programs can make a cultural festival a regional event, tied to the programs and facilities of an Urban Park. Foreign language publications and the integration of community facilities such as schools, churches and public libraries with the displays, research and educational programs of the Park tie the arts, music, and heritage of the neighborhoods to the rest of Lowell, and make their lessons accessible to school children and visitors as well.

THE CONTRIBUTIONS OF PLANNED URBANIZATION

Builders of the great textile mills of Lowell were interested not only in canals, locks, and looms but in the living conditions of the workers as well. John Warner Barber wrote in 1848 of a typical mill construction plan, which included eight blocks of boarding houses to be completed concurrently with the mill. This was one component of an overall plan for the central area of Lowell which took into account the production, employment, investment, education, recreation, and living needs of a rapidly growing population. By 1832 the Merrimack Hotel was providing for the needs of visitors and by 1835 the Boston & Lowell railroad, which manufactured its own locomotives, tied Lowell to a regional transportation network. Investment in public facilities and services continued with library reading rooms in 1832 and the purchase of open space lands, the North and South Commons in 1846. In 1842 Charles Dickens wrote of his amazement at the public lending library and the frequency with which the workers at all levels used its facilities.

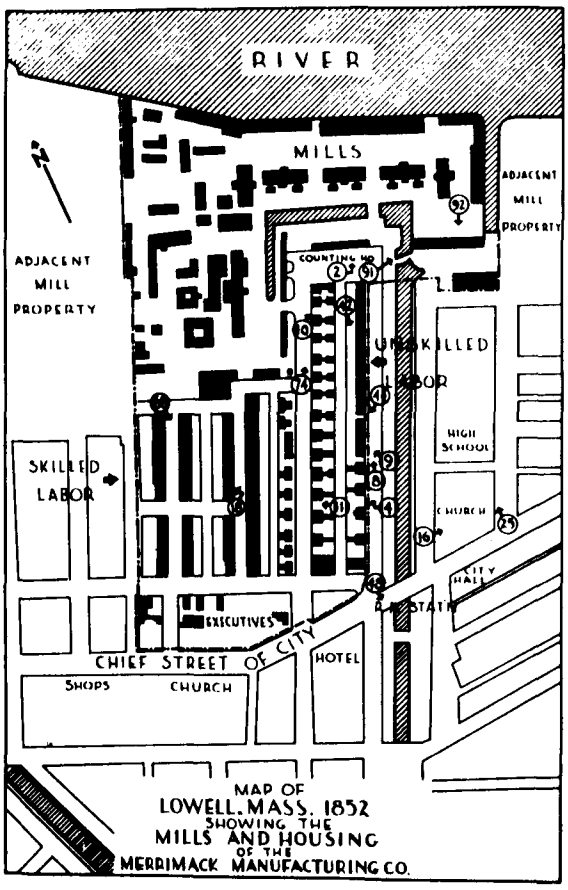
This began a tradition and example of comprehensive planning which has recently been given new life by the efforts of the City Development Authority, and other city and regional agencies in Lowell today.

Lowell Public Library

And, public structures and facilities, such as the Old Town Hall, City Hall, Library, the North and South Commons, Fire House and Old Police Station, are still standing and available to become active components in the National Urban Cultural Park.

On a local basis, the former Model Cities agency, and the Human Services Corporation have been working for many years with other city groups to recognize the historic planning tradition of Lowell and make it visible, attractive and educational through the establishment of a National Urban Cultural Park. One example of these efforts, already visible, is the Western Canal beautification and Ecumenical Plaza project. At the same time, Lowell has maintained its ties to a regional network through natural features such as the Concord and Merrimack Rivers themselves, and through regional agencies such as the Northern Middlesex Area Commission. Lowell/Dracut State

Forest and Manning State Park serve as regional facilities as will the Lowell Heritage State Park as it is completed. The Massachusetts Department of Environmental Management (formerly DNR) has worked over many years to develop the concept of a Heritage State Park in Lowell and the State Department of Public Works along with the Federal Highway Administration have contributed funds toward planning for an improved local and regional transportation network.

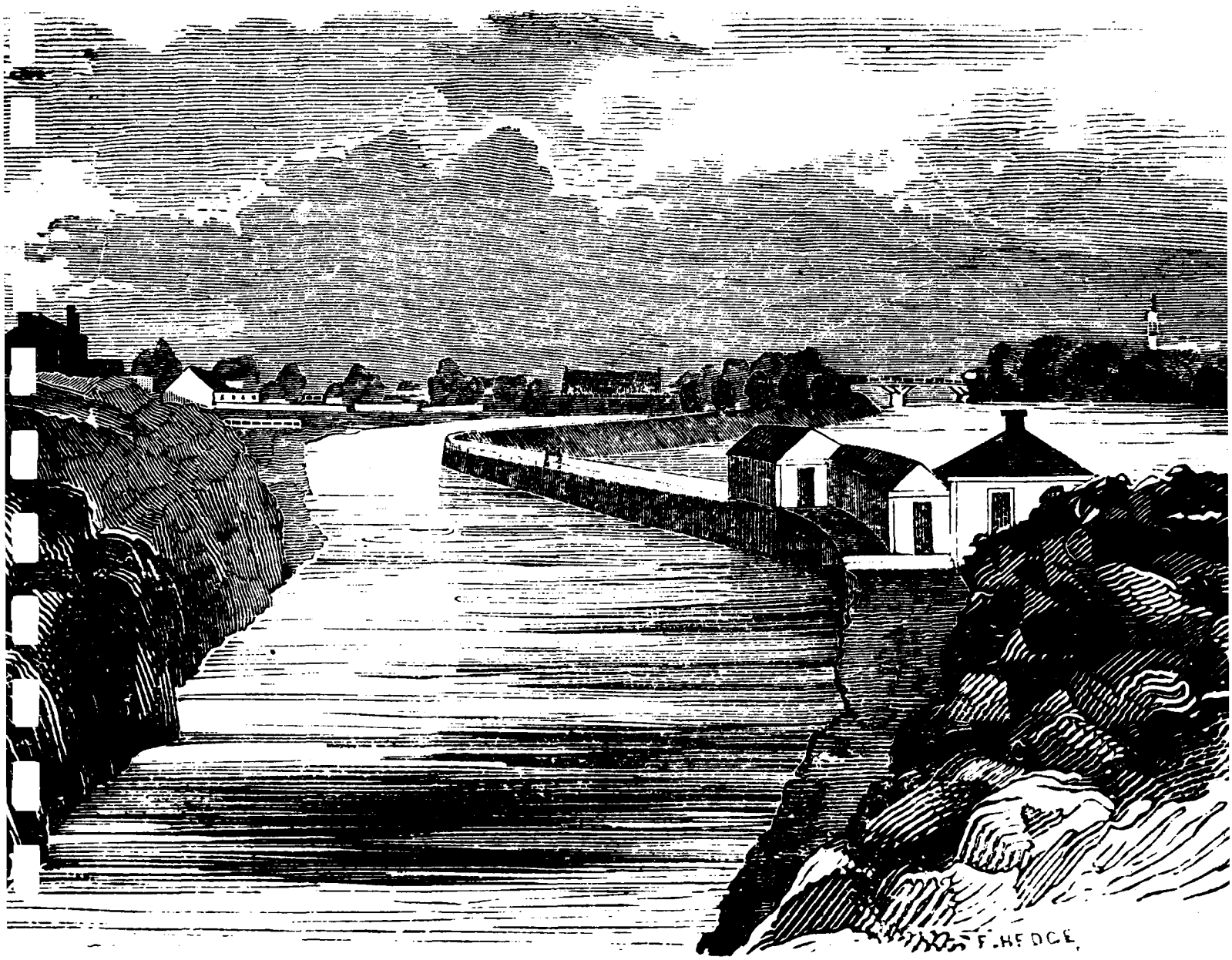


Lowell City Hall

The framework is in place to make Lowell itself the National Urban Cultural Park. The historic city center, the many remaining mill structures, residential neighborhoods, the locks and canals themselves, a newly designed circulation network and transportation terminal and the State Park system will form the structural components of the Park. To this must be added, as it was in the 1830's, intelligent coordinated public and private investment, a management program, and a willingness to take the initiative for the creative use of human resources.

The citizens of Lowell and the State of Massachusetts have begun to invest their time and money toward the success of such a project. The participation of federal agencies as well could provide the key to bring these varied efforts together and make Lowell a vital urban center and national cultural model of Industrialization, Immigration, and Urbanization.

II. Work Program/Task Description



The major elements of our proposed approach consist of various disciplines or performance areas required for the completion of the Comprehensive Plan and a series of work tasks which define the work program.

Because of the interrelationship of the work to be completed by the contractor under the different performance areas outlined in the Request for Proposal, and because of the necessity to stage the work in such a manner as to take maximum advantage of the extensive amount of work done to date related to the Urban Cultural Park, it is proposed that the Comprehensive Plan be developed through a series of work phases or tasks. These tasks are staged to allow the completion of the work within eight months, as well as to enable timely decisions to be made concerning immediate action components that could be implemented or initiated prior to the completion of the Comprehensive Plan. This immediate action component would assist continuing local preservation and development efforts and multiply the impact of ongoing activities relating to the Park.

In summary, our basic approach to the development of the Lowell National Urban Cultural Park Comprehensive Plan will consist of the following process:

- Building on work already completed by city, regional and state agencies involved with the development of the Urban Cultural Park concept, and the revitalization of Lowell, as well as the extensive data base already compiled by this consultant team, Task 1 work will concentrate on the identification of constraints and opportunities, and the range of possible short-and long-range strategies, for the implementation and development of the Park. Immediate actions that could be taken prior to the completion of the Comprehensive Plan would also be identified during Task 1, as well as during subsequent tasks.

- Task 2 work will begin with the identification of appropriate alternative short-and long-range strategies, and the identification of program requirements. During Task 2, elements of the Comprehensive Plan - Physical Facilities Plan, Activities Plan, Management/Control Structure and Action Program - will be developed and investigated for each alternative strategy, and a comparative evaluation performed. Based upon a review of the findings of this Task, the Commission and participating local agencies would be able to determine the particular strategy best suited for the implementation and development of the Park.

- Task 3 work involves the refinement of elements of the Comprehensive Plan - based on selection of the most appropriate strategy under Task 2 - and the development of the draft Comprehensive Plan report. Task 3 work would also involve the development of a strategy for the presentation of the Lowell National Urban Cultural Park Comprehensive Plan and related recommendations to Congress.

- Task 4 is primarily a production task under which a phased Immediate Action Program, a final Comprehensive Plan report and recommendations, and materials for presentation of the Comprehensive Plan to Congress are produced.

- Additional assistance will be provided by the inter-disciplinary team to the City of Lowell on a negotiated contract basis for work tasks relating to the establishment and/or operation of the Lowell National Urban Cultural Park. Assistance will be provided in preparing grant applications for funding identified during the planning process, in preparing support work during the legislative process and in preparing materials aimed at attracting private sector investment in or relating to the Park.

Figure 1 is a Summary Work Program Chart that illustrates the relationship between performance areas and work tasks, the sequencing of work tasks that will be accomplished and the products produced by our inter-disciplinary team.

The first column on the Summary Chart indicates the proposed work tasks that would be performed during the development of the Comprehensive Plan; work tasks indicated on the Summary Chart are described in detail on the pages following the chart. Decision points within the process and major interim and final products are indicated in the second and third columns on the chart.

The relationships between proposed work tasks and the various performance areas outlined in the Request for Proposal are indicated on the Summary Chart in columns 4 through 11. Discipline or performance areas which comprise our approach are:

- Political, including legal, legislative, and institutional procedures involved in development control, and land use and preservation planning.

- Architecture and Urban Design, including master planning, landscape architecture, adaptive reuse and historic preservation, engineering, cost estimating, and exhibit and graphic design.

- Culture and Education, including architectural, technological and cultural history, educational program development and activity planning.

- Management and Administration, including organizational planning and planning and design of funding, implementation,

and operations management structures.

- Cost and Impact Analysis, including market research, economic feasibility and impact analysis, and budgetary planning.

- Transportation, including local and regional network planning and design.

- Regional Linkages, including recreation planning and tourism development.

- Community Involvement, including public presentation and community liaison.

Because of the need for careful coordination of the work with the Commission, the Massachusetts Department of Environmental Management, the City Development Authority and the Human Services Corporation, as well as with the numerous other public and private agencies and organizations that will be vital to the implementation and operation of the Lowell National Urban Cultural Park, the completion of each major work task is envisioned as a major review and decision point in the process. In addition, a series of working meetings and public information meetings designed to assure that all interests and concerns are reflected in the planning process is envisioned throughout the development of the Comprehensive Plan. Working meetings, public information meetings and Commission/agency reviews are indicated on the Summary Chart under the staging and time schedule.

Summary Work Program

WORK TASKS	DECISION POINTS	MAJOR INTERIM & FINAL PRODUCTS	POLITICAL	ARCHITECTURE & URBAN DESIGN	CULTURAL & EDUCATION	MANAGEMENT & ADMINISTRATION	COST & IMPACT ANALYSIS	TRANSPORTATION	REGIONAL LINKAGES	COMMUNITY INVOLVEMENT
TASK 1 IDENTIFY CONSTRAINTS, OPPORTUNITIES & POSSIBLE STRATEGIES FOR DEVELOPMENT OF THE PARK										
A. 1. Identify, Review & Develop Themes For Park	■			●	●				●	●
2. Identify & Review Activities, Celebrations, Festivals & Events	■				●				●	●
3. Identify & Review Theme Centers/Park Nodes & Links	■			●	○		○	○	○	●
4. Survey Nodes & Links; Develop Ranking System				●	○		○	○	○	●
5. Identify Learning Interactors	■			○	●				○	●
6. Identify Transportation Requirements	■							●		●
7. Review Existing Management/Control Structures	■		○			○				
8. Identify Potential Funding Sources & Programs	■		○	○	○	○	●	○	○	○
B. 1. Identify Constraints & Opportunities	■		○	○	○	○	○	○	○	
2. Establish Plan Objectives	■		○	○	○	○	○	○	○	●
C. 1. Identify Immediate Action Components	■		○	○	○	○	○	○	○	●
D. 1. Identify Range of Possible Strategies			○	○	○	○	○	○	○	
E. 1. Prepare Technical Documentation		*	○	○	○	○	○	○	○	
2. Review With Commission, CDA, HSC	■		○	○	○	○	○	○	○	●
TASK 2 INVESTIGATE STRATEGIES & PREPARE COMPARATIVE EVALUATION										
A. 1. Identify Strategies For Investigation	■		●	○	○	○	○	○	○	●
2. Determine Programmatic Requirements				○	●		○	○	○	●
B. 1. Prepare Schematic Drawings & Related Information				●	○		○			
2. Develop Alternative Transportation Systems				○				●		
3. Develop Regional Linkages				○	○		○	○		●
4. Develop Alternative Management/Control Structures			○			●	○		○	
5. Identify & Investigate Participation Requirements			○	○		○	○		●	●
6. Develop Alternative Funding/Implementation Mechanisms			○			○	●			○
7. Develop Outline Action Programs			○	○	○	○	○	○	○	○
8. Analyze Economic Impacts							●			●
9. Develop Outline Capital & Operating Budgets						○	●			
10. Outline Legislative Requirements			○			○				
C. 1. Prepare Comparative Analysis			○	○	○	○	○	○	○	
D. 1. Prepare Technical Documentation		*	○	○	○	○	○	○	○	○
2. Review With Commission, CDA, HSC, ET.AL.	■		○	○	○	○	○	○	○	●
TASK 3 PREPARE DETAILED COMPREHENSIVE PLAN FOR THE PARK										
A. 1. Refine Physical Facilities Plan	■			●			○	●	○	
2. Develop & Design Signing System				●				○		
3. Develop Design/Development/Land Use Guidelines	■		○	●		○	○	○		●
B. 1. Refine Activities Plan	■				●	○	○	○	●	●
2. Develop Program of Revolving Exhibits				●	●					●
C. 1. Prepare Cost Analysis				●			●			
D. 1. Refine Management/Control Structure	■		○			●	○			
E. 1. Refine Funding/Implementation Mechanisms & Prepare Action Program	■			○	○	○	●	○	○	○
2. Develop Detailed Capital/Operating Budgets						○	●			
3. Prepare Recommendations for New Legislation	■		○							
F. 1. Develop Strategy For Presentation Of Plan To Congress	■		○	○		○				
G. 1. Prepare Draft Comprehensive Plan For Park		*	○	○	○	○	○	○	○	
2. Review With Commission, CDA, HSC	■		○	○	○	○	○	○	○	●
TASK 4 PREPARE FINAL REPORT/RECOMMENDATIONS & PRESENTATION TO CONGRESS										
A. 1. Prepare Immediate Action Program		*	○	○						●
B. 1. Design & Prepare Final Comprehensive Plan Report		*	●	○						
2. Design & Prepare Materials For Presentation Of Comprehensive Plan To Congress		*	●	○						

PERFORMANCE AREAS

STAGING AND TIMING BY MONTH

0 1 2 3 4 5 6 7 8

■ Minor Decision Point (by Commission Members, City Development Authority, Human Services Corporation, Community Organizations or other public or private groups)
■ Major Decision Point (by Commission)
✱ Major Interim and Final Products
● Work Task Indicated in Request for Proposal
○ Work Task Implied in Request for Proposal

▬ Period of Concentrated Effort on Work Task
▪▪▪▪ Period of Interim Development of Work Task

● Indicates direct relationship
▼ Agency/Community Working Meetings
✪ Public Information Meetings
▼ Major Commission Review

TASK 1: IDENTIFY CONSTRAINTS, OPPORTUNITIES AND POSSIBLE STRATEGIES FOR DEVELOPMENT OF THE PARK

During Task 1 - building on the information base and analysis already completed by city, regional and state agencies, as well as on the extensive information related to the implementation and development of the Lowell National Urban Cultural Park already compiled by members of this multi-disciplinary team - Park themes will be developed and the architectural, historical, cultural and recreational attributes of Lowell will be identified and reviewed. Potential funding sources and programs will be identified during the initial phase of Task 1, and existing management/control structures will be identified and analyzed to determine approaches to a management/control structure for the Lowell National Urban Cultural Park.

As a result of the review and analysis work completed during the initial phase of Task 1, constraints and opportunities for the implementation and development of the Park will be identified. Working with the Commission, objectives for the development of the Comprehensive Plan for the Park will be identified, as well as Park components that could be implemented immediately. Immediate action components would be included in the first phase of the Immediate Action Program prepared under Task 4 so that those components could be implemented or initiated prior to the completion of the Comprehensive Plan.

In addition, as a result of work completed under Task 1, the range of strategies for the implementation and development of the Lowell National Urban Cultural Park will be identified. Strategies could involve, among other elements, alternative physical facilities and historic preservation plans, alternative transportation plans (both internal to the Park and related to external networks), as well as alternative management/control structures and funding approaches.

During Task 1 the project team will begin immediately to meet with citizens, officials and agencies in the process of identifying components of the plan to preserve and interpret the historic and cultural role of Lowell - to identify themes, activities, nodes, linkages and relevant organizational and funding structures.

A public information meeting will be held during Task 1 in order to solicit community ideas and assess public attitudes toward the development of the Park. The information meeting would be held under the sponsorship of the Commission and local staff.

The products of this Task, at the end of two months, will be a technical document identifying Task 1 findings and recommendations. Task 1 will be concluded by a major review session with the Commission and participating agencies.

SUBTASK A: IDENTIFY, REVIEW AND ANALYZE PARK COMPONENTS

A.1 Identify, review and develop a series of themes for the Lowell National Urban Cultural Park based on the national significance of Lowell as the nation's first planned industrial city and its unique role in the American Industrial Revolution. Major themes would relate to the origins, processes, and consequences of industrialization, and the contributions to American heritage, growth and richness made by diverse ethnic and cultural groups participating in the industrialization process in Lowell. Themes would also be reviewed in light of the 1972 National Park Service Plan which identified certain thematic gaps in their system. Several themes have already been identified as being directly relevant to Lowell; these themes and others would be explored.

Themes might include: innovations in industry, the search for new energy sources, the fusing of natural energy, mechanization and human resources, the way of life of the Lowell "mill girls", the heritage of the immigrant workers, the planned industrial city, transportation by water, and many others.

A.2 Identify and review activities, celebrations, festivals, and other special events, such as the annual Lowell Regatta, that could be included into an overall schedule of events for the Park. Activities would be identified through contacts with the city, neighborhood groups and ethnic organizations in Lowell. Current or planned activities and events would be categorized along the following lines:

- events that could take place at the different theme centers
- events that relate directly to a particular community and should remain community-based
- events where participation by "outsiders" is not desirable
- events where participation by "outsiders" should be encouraged

Linking neighborhood activities to the Park will also strengthen community involvement in the Park and help create the "city as a park" atmosphere.

A.3 Identify and review theme centers, activity nodes and linkages for the Lowell National Urban Cultural Park with the City Development Authority, Human Services Corporation, and the Massachusetts Department of Environmental Management (MDEM). Under the Lowell Heritage State Park Plan five activity nodes have been identified:

- Pawtucket Boulevard Park
- Northern Canal Walk
- Francis Gate Park
- Tremont Yard Park
- Rex Lot Park

The Heritage State Park plans also call for pedestrian and bike paths, a barge network and private boat linkages along the canals. The Transportation Terminal, under development by Skidmore, Owings and

Merrill, and the use of the banks of the Concord River are additional elements recommended for inclusion in the State Park Plan. The Governor of Massachusetts has committed $4.0 million for the first phase development of the Park.

The City Development Authority has outlined eight additional nodes for potential development under the Urban Cultural Park Comprehensive Plan. These nodes are:

- the old Locks and Canals office located off Broadway Street, and currently under private ownership.
- the City Stables, currently threatened by shopping center development plans.
- the Fairgrieve Building and old Rifle Range building located near the Concord River Bridge at Church Street and currently under private ownership.
- the Wamesit Canal, from Meadow Brook to Moore Street.
- the eastern bank of the Concord River from Wamesit Canal to Andover Street, a segment of which is currently subject to development conflict with the Massachusetts Electric Company.
- Wannalancit Mills, currently proposed as the site of the Lowell Museum.
- the Jackson/Appleton Mill Complex
- the Lowell University property along the Merrimack River at Beaver Brook, currently proposed as a parking area for the school.

Other potential theme centers or park nodes would be identified and reviewed as well under this work task.

A.4 Survey nodes and linkages and develop a ranking system based on:

- aesthetic, architectural and/or historic significances
- cultural significance and recreational potential
- structural and other physical condition characteristics
- compatibility with Lowell Heritage State Park and other Lowell environmental improvement and historic preservation activities
- ownership and land use characteristics
- possible themes and/or adaptive reuses
- assessment of community interest in improvement of nodes

A considerable amount of survey work has already been completed by members of this multi-disciplinary team. Dr. Patrick Malone, for example, has spent several years in Lowell surveying and preparing detailed drawings of the Locks and Canals.

A.5 Identify learning interactors, based on the themes and nodes developed above, for each park node or theme center, and develop a program for use of the Park's learning opportunities by interested groups. Emphasis of the learning interactors will be on the natural and/or man-made attributes of each park node or theme center; additional information can be provided through the use of displays, exhibits, working models.

One example of developing a learning interactor within the Park is the recent filming by New York City's educational television station of the story of Lowell mill girl and poet Lucy Larcom's life as a part of a series on this country's industrial revolution.

Another example might be a focus on the use of the natural energy of water flowing through the canal system to run the mill machinery, including:

- actual mechanisms to be observed such as the gates and locks or the Francis water turbine
- large scale working models of the system to be self-operated
- slide shows/movies/interpretive lectures
- displays showing scientific principles involved and how they are applied in the actual working situation

Many examples have already been recommended by the Human Services Corporation, such as:

- Restoration of a section of an existing mill for an interpretative exhibition on the "Evolution of Lowell, the Urban Industrial Community", as a museum and community educational facility;
- Special exhibits on industrial factory processes and innovations of the Lowell Machine Shop;
- Preservation of one of the few remaining corporation boarding houses and an exhibition interpreting the life-style of the early women mill workers;
- A cultural heritage institute associated with Lowell University to provide historic research and documentation capabilities and support for educational curriculum development in ethnic studies;

Local and regional sources, including educational and cultural groups, would be surveyed to identify sponsors for these learning centers. Such a survey might range from the local school system, and the Merrimack Valley Textile Museum in North Andover, to the U.S. Corps of Engineers.

A.6 Identify transportation requirements for both internal and external circulation systems based on transportation planning data from ongoing studies, and on attendance forecasts for the nodes and network of the Lowell National Urban Cultural Park.

Current data is available from the Lowell Transportation Planning Study, NMAC Comprehensive Transportation Plan, Scenic Roads Study, and Bikeway Study. Any proposed internal park transportation such as minibuses, bikeways or barges and external access routes will be coordinated with LRTA, NMAC and CDA.

Attendance forecasts will be based, in part, on attendance data for National Park areas, visitor records at historic sites such as those in Salem and Concord, and current Lowell visitor records. The relationship of the Lowell Park to other historic and cultural attractions in Eastern Massachusetts will be investigated based on recent tourism surveys conducted by Economics Research Associates for the New England Regional Commission. The analysis will also

include projected Park use by Lowell area residents for recreation and education since the park concept is to provide a "living park" as well as a museum of industrialization, immigration and urbanization.

A.7 Research and review existing management/control structures for parks, events, development controls and historic preservation, that are related to aspects of a management/control structure for the Lowell National Urban Cultural Park. In addition to existing local, state and federal structures already available in Lowell, models for investigation would include, but not be limited to the following examples. For management structures:

- National and State Park management structures (operation and administrative model).
- Boston 200 organization (organization, public information, marketing and public/private investment model).
- Summerthing management structure (activities and program scheduling model).
- Disneyworld/Disneyland management and development structure (organization, marketing and private sector investment model).
- Cambridge Center for Adult Education (educational program management model).

For implementation and control structures:

- Section 121A Corporations (Mass. enabling legislation)
- Chapter 40C Historic Districts (Mass. enabling legislation)
- Chicago Plan
- Savannah Revolving Fund
- Historic Preservation structures (Federal and State)
- Ongoing Lowell historic preservation and adaptive reuse structures.

A.8 Review Urban Cultural Park components to identify potential funding sources and programs. Initial reviews will be with members of the Commission, city and state agencies, and groups, such as the Human Services Corporation and City Development Authority that have been directly involved with the development of the Park concept. Funding sources for the full range of Park components, i.e., educational programs, physical design and development, management and operation, and implementation and control structures would be investigated.

Sources potentially providing for the broad and varied programs of the Urban Cultural Park might include, but would not be limited to:

- Major governmental departments, such as Interior, Transportation, HUD, HEW and Commerce.
- State and local funding sources, both public and private, such as private enterprise and development, non-profit

corporations, municipal and state bonds, and Community Block Grants.

- Other public and private organizations such as National Endowment for the Arts, National Trust for Historic Preservation, Educational Facilities Lab/Ford Foundation, National Science Foundation and the Corps of Engineers.
- Any potential future funding sources, such as the Urban Reinvestment Fund recently proposed by the Chairman of the House Committee on Banking, Currency and Housing.

Components of the Urban Cultural Park will be ranked according to funding availability, and identified as:

- available for immediate funding/implementation
- potential for funding/implementation in mid-range future
- potential for funding/implementation in long-range future

SUBTASK B: IDENTIFY CONSTRAINTS AND OPPORTUNITIES, ESTABLISH OBJECTIVES FOR THE COMPREHENSIVE PLAN

B.1 Identify major constraints and opportunities for the establishment and development of the Park through the review and analysis of past, on-going and proposed planning efforts, management/control structures, current legislative requirements and existing or potential funding sources, as well as through a review and analysis of the cultural, historic, architectural, recreational and ethnic attributes of Lowell.

B.2 Establish a series of objectives to be achieved through the development of the Comprehensive Plan. Comprehensive Plan objectives would be based on the goals and objectives already established for the implementation and development of the Park itself, and would provide overall direction to the development of the Comprehensive Plan. Objectives will be based on information derived during the preceeding work tasks and the identification of constraints and opportunities, and defined through review with the Commission and participating agencies. Plan objectives could direct the comprehensive planning process for the Park, for example, more toward concentrated private sector implementation and development strategies, toward concentrated public sector strategies or toward specific combinations of both private and public sector strategies.

SUBTASK C: IDENTIFY IMMEDIATE ACTION COMPONENTS FOR IMPLEMENTATION OR INITIATION

C.1 Identify immediate action components for implementation or initiation where information collected and developed in Task 1 could assist in maintaining Park-related restoration and development momentum already apparent in Lowell, multiply the impact of other on-going activities relating to the Park, or support existing business

and industries. Immediate actions such as private restoration projects or educational programs could be reviewed and supported by the Commission, and encouraged to be carried through within the specific objectives of the National Urban Cultural Park, even before the completion of the Comprehensive Plan.

SUBTASK D: IDENTIFY RANGE OF POSSIBLE STRATEGIES FOR THE IMPLEMENTATION AND DEVELOPMENT OF THE PARK

D.1 Identify the range of possible strategies for the implementation and development of the Park. The range of possible strategies will be based on Park components reviewed and identified during the Task 1 work, the identification of constraints and opportunities and the plan objectives established above. The range of strategies would be identified by the matrix of alternative scales of development and related physical facilities plans, alternative historic preservation and adaptive reuse approaches, alternative transportation plans (both internal to the Park and related to external networks), as well as alternative management/control structures and funding approaches.

SUBTASK E: PREPARE TECHNICAL DOCUMENTATION AND REVIEW FINDINGS WITH THE COMMISSION

E.1 Prepare a technical documentation outlining the results and findings of the Task 1 work, and prepare recommendations, based on the results and findings, for direction of the Task 2 work.

E.2 Review the Task 1 findings with the Commission and participating agencies. The major findings concerning the identification of Park components and their constraints and opportunities for Park development will be reviewed, as well as recommendations for immediate action, objectives for the development of the Comprehensive Plan, and the range of appropriate strategies. This review should result in a decision by the Commission as to the direction for investigation into alternative strategies for the implementation and development of the Park.

Public Involvement

TASK 2: INVESTIGATE STRATEGIES AND PREPARE COMPARATIVE EVALUATIONS

The initial Task 2 work, based on the major Commission and agency review at the conclusion of Task 1, would be to identify appropriate short-and long-range alternative strategies for the development of the Lowell National Urban Cultural Park and to determine initial programmatic requirements for each strategy. During the course of Task 2 work, Comprehensive Plan elements (including schematic master development plans, plans for the Park nodes, internal and external transportation systems, activities plans, management/control structures and outline action programs) will be investigated and developed in detail sufficient to determine advantages and disadvantages for each alternative strategy.

A comparative evaluation will also be performed during Task 2 in order to enable the Commission, as well as other concerned individuals and city, state and federal agencies and organizations to assess short- and long-range impacts, both positive and negative, for each alternative strategy. The comparative evaluation would include, but would not be limited to, the investigation of physical and economic impacts; consistency with overall objectives for the Park; availability of funding; potential and actual development and private enterprise activity resulting from the implementation and development of the Park; required design, development and land use controls; and ownership requirements and/or joint development opportunities.

Immediate action opportunities would again be identified as Task 2 work progresses and would be included in the Immediate Action Program prepared under Task 4.

Task 2 work will be coordinated with local staff, as well as other community or governmental groups, during the development of the strategies and preparation of the comparative evaluation. After the strategies have been developed and the comparative evaluation underway, a second public information meeting will be held, under the sponsorship of the Commission and local staff, that would give the citizens of Lowell, as well as other interested groups and individuals, an opportunity to assess the alternatives and offer their opinions as a part of the comparative evaluation process.

The conclusion of the 2½ month Task 2 portion of the work program would be a major review of the various strategies, comparative evaluation and recommendations by the Commission and participating agencies. A decision by the Commission after the review as to a preferred alternative strategy - or a combination of strategies - for the implementation and development of the Park will provide direction for the Task 3 refinement of the detailed Comprehensive Plan elements.

SUBTASK A: IDENTIFY PARK IMPLEMENTATION AND DEVELOPMENT STRATEGIES AND DETERMINE REQUIREMENTS

A.1 Identify strategies for investigation based on the major Commission and agency review at the conclusion of Task 1. The implementation and short-and long-range development strategies selected as most appropriate would be based on the plan objectives established above. They might involve alternative scales of development (and related master planning approaches), alternative plans for historic preservation and/or adaptive reuse, alternative local and regional transportation systems, alternative organizational and legal approaches for management/control structures, and alternative funding approaches.

Strategies might emphasize a particular component, as well. For example, strategies could be developed emphasizing the management/control structure component or existing funding availability. In this case, other plan components would be investigated in accordance with this emphasis.

It should be noted, however, that even though there might be several appropriate strategies that could be investigated, the individual Park elements, such as the Heritage State Park nodes, the canals, the downtown revitalization work already accomplished and additional potential Park nodes identified by the City, the educational and cultural programs already instituted and the funding programs now available, would be integrated into any strategy developed.

Examples of strategies that would be investigated under Task 2 might include, but would not be limited to the following:

- Building on the Heritage State Park Plan, one strategy might be to focus all available funding and implementation resources on the development of the five Park nodes and the pedestrian, bicycle and barge links outlined in the Plan. Using this physical network to tell the story of the significance of Lowell in the cultural and industrial history of the country, the management/control structure would focus on the operation of these nodes for the education, recreation and enjoyment of the residents and visitors to Lowell. Secondary impacts, although not controlled by the Park, might include an increase in development and private enterprise adjacent to the Park network based on increased tourism.

- A second strategy might emphasize the design of a management/control structure that would not only be responsible for the operation of the Park, but that would be involved, on a city-wide basis, in the interpretation, development, preservation and/or adaptive reuse of all of Lowell's historic, cultural, architectural and recreational attributes. Under this strategy, funding resources may be spread throughout the City. Encouragement and resources might be made available for Park related development and for private enterprise such as the expansion of the factory stores now existing in Lowell.

Rather than outlining a specific network that defines the Park, more emphasis would be placed on the entire city as a park.

- A third strategy might be to concentrate funding resources and energies in the development of a ~~specific symbol~~ for commemorating and identifying the ~~Lowell~~ National Urban Cultural Park. Such a symbol might be similar to Seattle's "Space Needle" or St. Louis' "Gateway Arch", or it could be the restoration and adaptive revise of an entire mill complex emphasizing the theme of the early nineteenth century mill town. The approach might utilize some of the large mill complexes now existing in Lowell and could include boarding houses as tourist inns, 1830 Mill Town restaurants, specialty shops to sell goods manufactured or produced within the complex, a cultural museum and educational facilities, utilizing the historic renovation of the mill buildings and adjacent canals themselves, as well as other facilities and landscaping designed in keeping with the early Lowell Mill Town theme. Other nodes would remain under this strategy, but might not receive as much emphasis as they may under alternate strategies.

A range of alternative strategies such as these would be identified and a limited number chosen by the Commission for further investigation. The alternative physical facilities plans, activity plans, management/control structures and funding/action programs relating to each strategy will be developed and investigated under Task 2.

A.2 Determine programmatic requirements for public and private use of the Park; types of requirements would include the following elements based on the particular strategy:

- Number of people (Lowell residents, shoppers, tourists) that could be anticipated to use the Park or be attracted to Lowell because of the Park
- Transportation requirements (both within the Park and to other sites within the region)
- Required services
- Space requirements for theme centers/park nodes and links
- Space requirements for related private development

Sites, dates and anticipated participation will be identified for the activities and events and programmatic requirements will be determined for use of the park nodes and/or neighborhoods in terms of:

- physical impacts of large groups on neighborhoods
- parking requirements
- public transportation services
- pedestrian and bike trail links
- other services required

SUBTASK B: DEVELOP COMPREHENSIVE PLAN ELEMENTS

B.1 Prepare schematic drawings and related information, outlining alternative Physical Facilities Plans for each park node/theme center and for the total park network. Drawings and related information would describe:

- design concept and scope of the projects
- cultural/urban/ethnic themes emphasized at each node
- exhibits, displays, and activities proposed for each node
- recommended land use, design and development controls/incentives for adjacent parcels and buildings, and within the Park
- landscaping and site development for individual nodes as well as the park network, where appropriate
- architectural designs
- proposed reuses
- recreational opportunities (both park and resource related)
- linkages
- preliminary cost estimates for nodal and overall park development and economic feasibility/cost analysis

B.2 Develop alternative transportation systems for the park integrating:

- pedestrian and bike paths (Lowell Heritage State Park)
- river and canal barge networks (Lowell Heritage State Park)
- use of both working and abandoned railroad lines (since railroad was also major contributing factor in the industrialization and urbanization of America)
- use of abandoned trolley tracks on e.g. Merrimack and Central Streets
- use of other special transportation modes such as horsedrawn wagons or horsedrawn packet boats on canal

Internal park transportation systems will also be integrated with existing and planned city-wide transportation nodes and facilities such as:

- the transportation terminal (auto, bus and train)
- perimeter parking facilities at Market Street, John Street/ French Street (auto and bus), and Warren Street
- Lowell public transportation network (bus, taxi, train)
- Lowell streets and roadways

B.3 Develop regional linkages to other historic and recreational sites, including transportation, service, educational, recreation and management linkages. Related sites might include:

- Concord, Lexington, Boston - political revolution
- Lawrence, Haverhill, Nashua, Manchester - industrialization
- Salem, Boston, Newburyport - maritime and fishing
- Lowell/Dracut State Forest, Manning State Park - recreation

Physical elements of such a regional network would be investigated and based on waterways, railroad lines, scenic roads and bike trails. Several potential linkages that would be included in our investigation have already been outlined for regional extension of the Park:

- Along both sides of the Merrimack River within the city limits
- North from the Merrimack River along bicycle trails by two routes into Lowell/Dracut State Forest
- Extend downstream toward Lawrence as part of a regional bikeway system - on the north side of the Merrimack River
- Bikeway and trail network on Concord River to Manning State Forest
- Physical linkage of system along Old Middlesex Canal from Manning State Forest to Merrimack River

B.4 Develop a series of alternative management/control structures for the organization, management and administration of the Lowell National Urban Cultural Park. Alternative structures will be developed based on the overall goals of:

- maximizing on-going and future funding sources and development involvement in the Park and support by local, state and federal governments and private businesses, organizations and agencies.
- recognizing the importance of local community and citizen support of the events, activities and the Park itself.
- maintaining park nodes/theme centers, coordinating activities and events, and maintaining public awareness and support through advertising and public relations.
- maintaining public awareness and protection of Lowell historic and cultural attributes.

B.5 Identify and investigate ownership, operational, participation and/or control requirements, based on the alternative strategies, for all structures, facilities and lands within or adjacent to the Park; these requirements may be necessary for the preservation, interpretation, development and use of the Park elements by both public and private entities. The findings of the investigation will include the description of areas where cooperative agreements may be anticipated and will outline requirements and/or procedures to be used in implementing and insuring continuing conformance to the particular strategy.

B.6 Develop alternative implementation funding strategies for the establishment and growth of the Park and the economic growth of Lowell as it relates to the Park. Funding strategies will be based on:

- Heritage State Park investment program
- Expected development costs for park nodes/theme centers, and overall park facilities
- Funds available under existing or anticipated Federal, state and local programs (these programs will be investigated to determine relative availability of funds, eligibility requirements and application procedures)
- Funds that could be made available through new state and Federal legislation

- Funds that could be made available through private investment stimulated by the Park (the Lowell Chamber of Commerce non-profit development group and the Lowell Development Committee)
- Funds that could be made available through tax incentive or development programs (such as under the Chicago Plan or Savannah Revolving Fund)

B.7 Develop outline Action Programs based on the alternative strategy packages; action programs will describe a plan for staging development of the Park and will lay out specific actions based on available or potential funding programs for immediate action, and for the short-and long-range future. Action Programs would contain physical, managerial, economic, educational and activity elements relating to specific strategies.

As was the case during Task 1 work, actions that could be implemented or initiated prior to the completion of the Comprehensive Plan will be identified so that timely decisions can be made by the Commission to encourage ongoing revitalization and/or cultural or educational programming efforts by the City relating to the Park.

B.8 Analyze economic impacts for alternative implementation and development strategies for the Park, including:

- construction and related activities
- tax related impacts
- projections of park related jobs and impact on employment
- new development and business opportunities relating to tourist accomodations and services
- economic impact on existing businesses
- other secondary economic impacts

B.9 Develop outline capital and operating budgets, based on the Action Programs, to gain insight as to the annual budgetary impacts of the various Park strategies. Operating and capital budgets will relate to the management structure developed for the Park which might be responsible (among other things) for administration of development controls, coordination of private investments, design control and services for new building/alterations within or adjacent to the Park area. While capital expenditures would relate to cost analysis work developed under Subtasks B.1 and B.8, and the alternative Action Programs developed under Subtask B.7, operating budgets might include, but would not be limited to:

- maintenance and operation of Park facilities
- administrative services
- maintenance and operation of Park exhibits, displays, events and other activities
- educational programs

B.10 Outline new legislation requirements that may be necessary for implementation of the Park, as well as specific elements of the Park, such as establishing the management structure, creating funding programs, or modifying existing programs.

SUBTASK C: PREPARE COMPARATIVE EVALUATION

C.1 Prepare a comparative analysis outlining the advantages and disadvantages for each alternative implementation and development strategy investigated, and detailing:

- use of Lowell's historic, cultural and recreational attributes
- physical requirements and impacts
- development opportunities and economic impacts
- management and operational requirements
- linkage requirements and impacts
- overall costs and economic feasibility

SUBTASK D: PREPARE TECHNICAL DOCUMENTATION AND REVIEW FINDINGS WITH THE COMMISSION

D.1 Prepare technical documentation outlining the results of the Task 2 work; documentation will include recommendations based on the technical work involved in the investigation of alternative strategies and the comparative analysis of these strategies.

D.2 Review alternative strategies and comparative analysis with the Commission and participating agencies and identify, through decisions made by the Commission following this review, the implementation and development strategy preferred for the Lowell National Urban Cultural Park Comprehensive Plan to be presented to Congress.

TASK 3: PREPARE DETAILED COMPREHENSIVE PLAN FOR THE PARK

Based on information developed during Task 1 and Task 2, and on the decisions by the Commission at the conclusion of Task 2 as to the most appropriate strategy for the implementation and the short-and long-range development of the Lowell National Urban Cultural Park, Task 3 work will involve the refinement of the elements of the Comprehensive Plan and the detailed presentation of those elements in the draft Comprehensive Plan report. The major elements of the Comprehensive Plan are the Physical Facilities Plan, which would include both a master plan for the Park and descriptive drawings for each Park node and link, the Activities Plan, the Management/Control Structure and the Action Program.

An additional work task under Task 3 will be the development of a strategy for the presentation of the Comprehensive Plan to Congress. Task 3 would conclude with the review of the draft Comprehensive Plan by the Commission, and the determination of recommendations to be made to Congress by the Commission concerning implementation and development of the Lowell National Urban Cultural Park.

Task 3 would be primarily conducted during a 2½ month period leading up to presentation of final products in Task 4 during the last month of the project. However, initial work involved with the development of a preferred strategy would begin with Task 2 investigation and comparative evaluation of strategies.

SUBTASK A: REFINE PHYSICAL FACILITIES PLAN

A.1 Refine the Physical Facilities Plan for the Park based on the direction and preferred alternative strategy determined by the Task 2 major review. Prepare a master plan and related drawings and information describing for each park node/theme center, and for the total park network:

- design concept and scope of the projects
- cultural/urban/ethnic themes emphasized at each node
- landscaping and site development
- architectural designs
- recreational opportunities (both park and resource related)
- linkages and transportation system (bike and pedestrian paths, barge, auto, bus)
- cost estimates

A.2 Develop and design signing system for National Urban Cultural Park to be integrated into the Lowell city-wide signing program (public and private sector programs).

A.3 Develop design, development and land use guidelines to provide criteria for the historic renovation and/or adaptive reuse of existing historic structures, and the design and appearance of new buildings, facilities, open spaces and other improvements within and adjacent to the park. Identify recommended land use and development controls/incentives for adjacent parcels and buildings.

SUBTASK B: REFINE ACTIVITIES PLAN

B.1 Refine Activities Plan for the Park and prepare descriptive information to identify anticipated educational, interpretive, cultural, and recreational programs or activities, as well as celebrations, special events and other uses for each theme center/park node. Refine description of proposed exhibits, displays, or other interpretive elements for each theme center. Both public and private uses to be accommodated at each park node and within the entire park system, will be identified. Cost estimates for capital and operating elements of the Activities Plan will be prepared.

B.2 Develop program of revolving exhibits designed to both increase national awareness of the Lowell National Urban Cultural Park and to provide, within the Park context, outside exhibits, such as Manchester's Amoskeag Mill Exhibit designed by Randolph Langenbach. The program would be designed to seek out and provide revolving exhibits and displays depicting such things as the development of Lowell industrialization within the New England context, aspects of industrialization and immigration in other areas in the U.S., and the relationship and significance of Lowell to the Industrial Revolution as a whole, both in the U.S. and abroad.

SUBTASK C: PREPARE COST ANALYSIS

C.1 Prepare cost analysis for the elements of the preferred strategy based on the refined cost estimates developed for the Physical Facilities Plan and Activities Plan under this work task and information developed under Task 2. Cost analysis work will include both projected capital costs and annual operational costs.

SUBTASK D: REFINE MANAGEMENT/CONTROL STRUCTURE

D.1 Refine the management/control structure for the Park and prepare descriptive information covering such things as organization, required legislative actions, incentive and control mechanisms, and governmental participation. Goals for the management structure, as mentioned above, are:

- maximizing on-going and future funding sources and development opportunities, in both public and private sectors
- maintaining involvement in the park and support by local, state and Federal governments and private businesses, organizations and agencies
- recognizing the importance of local community and citizen support of the events, activities and the park itself
- maintaining park nodes/theme centers, coordinating activities and events, and maintaining public awareness and and support through advertising and public relations
- maintaining public awareness and protection of Lowell historic and cultural attributes.

Ownership, operation, participation and/or control requirements for structures, facilities and lands within or adjacent to the Park will be identified. Included will be a description of areas where cooperative agreements between public and private entities may be anticipated, and an outline of requirements and/or procedures to be used in implementing and insuring continuing conformance with the Comprehensive Plan.

SUBTASK E: REFINE ACTION PROGRAM

E.1 Refine funding/implementation mechanisms and prepare an Action Program for the implementation and short-and long-range development of the Lowell National Urban Cultural Park based on the preferred strategy. The Action Program will indicate staging relating to availability of funds from existing Federal or other programs, from new legislation required to implement the Park, and from potential private investment stimulated by the Park.

E.2 Develop detailed capital and annual operating budgets based on the Action Program. These budgets would relate to the funding sources described in the Action Program and would be presented in detail for the implementation and short-range development of the Park, and in more general terms for long-range development.

E.3 Prepare recommendations for new legislation if required to implement the Park, including the establishment of the management/control structure for the Park, establishing development control/incentive programs or creating new funding programs.

SUBTASK F: DEVELOP PRESENTATION STRATEGY

F.1 Develop a strategy for the presentation of the Comprehensive Plan to Congress. The strategy, developed in close coordination with the Commission and participating agencies, would provide direction for the Task 4 work involved in the preparation of the final Lowell National Urban Cultural Park Comprehensive Plan report and recommendations, the Immediate Action Plan and materials for use by the Commission in presentation of the Plan to Congress.

SUBTASK G: PREPARE DRAFT COMPREHENSIVE PLAN/RECOMMENDATIONS AND REVIEW WITH THE COMMISSION

G.1 Prepare a draft Comprehensive Plan report and circulate copies to the Commission, CDA, HSC and other participating parties for their review and comments.

G.2 Review the draft Comprehensive Plan and recommendations, including the Physical Facilities and Activities Plans, the Management/Control Structure, the capital and operating budgets and the Action Program/Funding Strategy with the Commission, CDA, HSC and other participating parties, and incorporate comments into the draft report.

TASK 4: PREPARE FINAL REPORT, RECOMMENDATIONS AND MATERIALS FOR PRESENTATION TO CONGRESS

Task 4 will consist primarily of the preparation of the Final Comprehensive Plan and Commission recommendations to Congress; comments received from the Commission concerning the draft Comprehensive Plan report and/or recommendations would be incorporated in the final report. Two other products produced under Task 4 would be the Immediate Action Program and materials for the presentation by the Commission of the Comprehensive Plan and recommendations to Congress.

SUBTASK A: PREPARE IMMEDIATE ACTION PROGRAM

A.1 Prepare an Immediate Action Program that would be designed to take advantage of potential available funding or to highlight specific actions required to initiate programs prior to the completion of the Comprehensive Plan. The Immediate Action Program would be developed throughout the course of the development of the Comprehensive Plan to allow timely decisions to be made by the Commission and participating agencies regarding ongoing Park-related efforts for such things as downtown revitalization or educational programming.

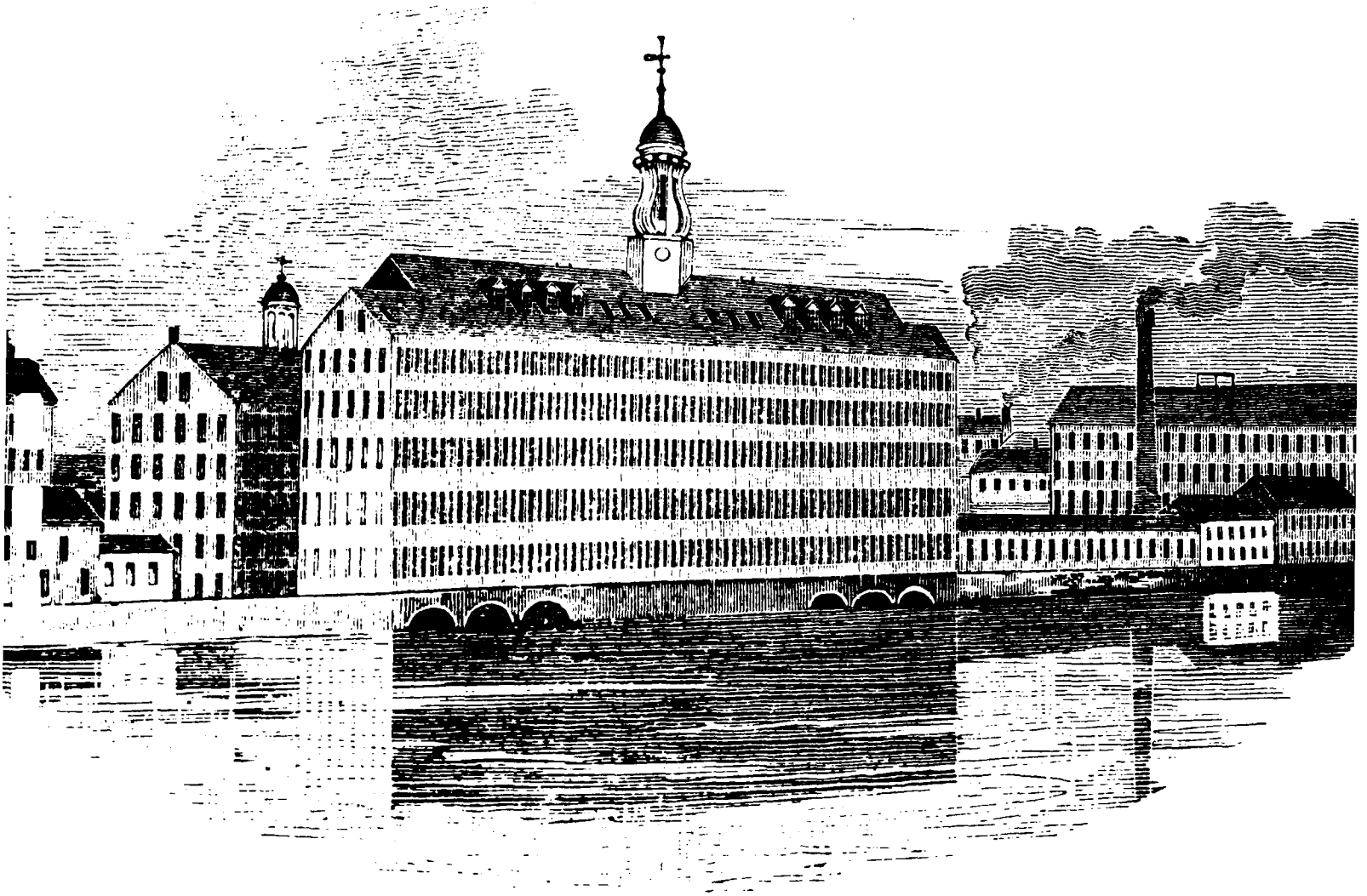
SUBTASK B: PREPARE FINAL COMPREHENSIVE PLAN, RECOMMENDATIONS AND PRESENTATION TO CONGRESS

B.1 Design and prepare the final Comprehensive Plan report of the findings of the study for use by the Commission, CDA, HSC and other participating agencies' comments received during the review of the draft report will be incorporated into the final report. The final Comprehensive Plan report could be presented as two final products based on the particular presentation strategy developed in Subtask 3.F:

- A Summary Report designed for information and marketing purposes, and
- A Technical Report designed for the presentation of technical work and background work involved in the development of the Comprehensive Plan.

B.2 Design and prepare materials for presentation of the Comprehensive Plan to Congress. In presenting the plan to Congress, both audio and visual materials can be prepared for use by the Commission; however, final decisions as to the type of presentation required will be determined with the development of the presentation strategy in Subtask 3.F.

III. Organization and Management

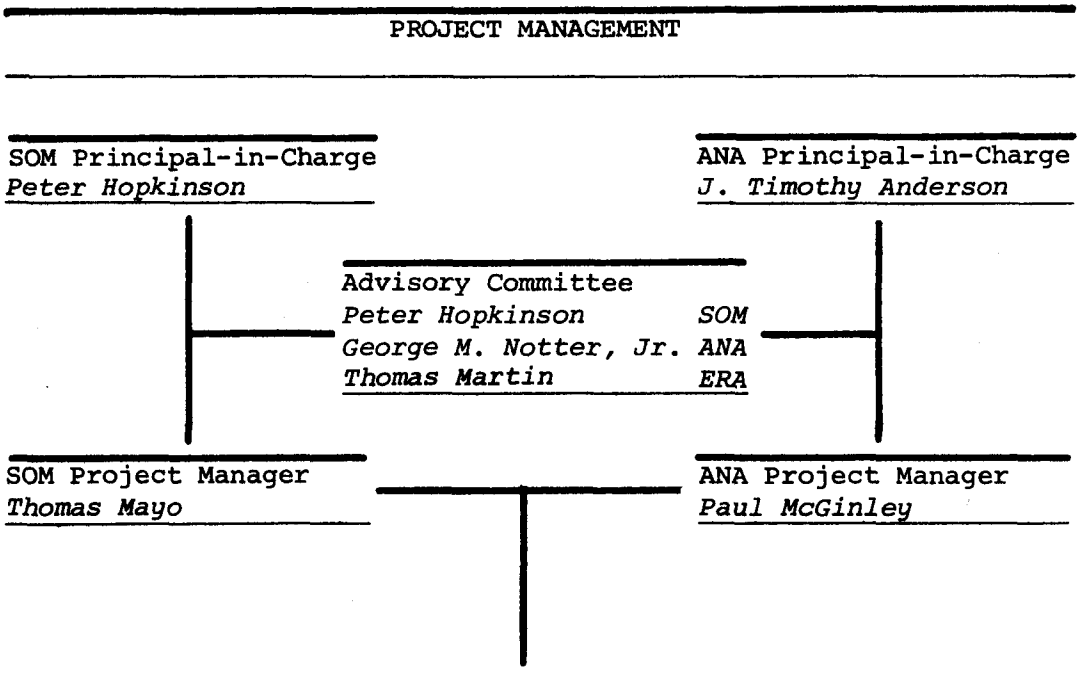


We propose to assemble a multi-disciplinary team of highly qualified professionals to carry out the preparation of the Lowell National Urban Cultural Park Comprehensive Plan. Under this proposal, prime contract responsibility for the preparation of the Comprehensive Plan rests with the firms of Skidmore, Owings & Merrill, (Urban Designers/Planners/Architects) and Anderson Notter Associates Inc., (Architects and Preservation Planners) with Economics Research Associates (Management and Economic Consultants) as principal subconsultant. Joining in the proposal are Dr. Patrick Malone, the Society for the Preservation of New England Antiquities, R. Randolph Langenbach and Alan M. Voorhees & Associates, Inc., who will provide additional specialized skills in the preparation of the Comprehensive Plan.

The work will be conducted primarily in Boston where SOM, ANA and ERA have offices. In addition, during the course of the preparation of the plan, it is proposed that a field office be opened in Lowell in order to develop a close working relationship with local participants and neighborhood groups and to facilitate the survey and investigation of proposed Park nodes and linkages. The Washington D.C. offices of SOM and ERA will also be available for assistance and to provide a staging area for presentation of the Plan to Congress.

The organization chart on the following page illustrates the management structure of the proposed team. Summary resumes and descriptions of project responsibilities for each of the key staff persons who will be assigned to the project are provided in the following sections.

ORGANIZATION & MANAGEMENT SUMMARY CHART (Fig. 2)



Political

Architecture & Urban Design

Culture & Education

Management & Administration

Cost & Impact Analysis

Transportation

Regional Linkages

Community Involvement

RESPONSIBILITIES OF KEY STAFF

Responsibilities for each of the key staff persons who will be assigned to this project are included here, as well as a summary of their qualifications for the task. Detailed resumes are included in Section IV Team Qualifications. Also provided here is a summary chart indicating staffing responsibilities as they relate to performance areas outlined in the Request for Proposal.

SKIDMORE, OWINGS & MERRILL

Mr. Peter Hopkinson, AIA, will serve as Principal-in-Charge for Skidmore, Owings & Merrill in association with Mr. Tim Anderson of Anderson Notter Associates. SOM will take on management and daily operation responsibility and will oversee the timely completion of the Comprehensive Plan. Mr. Hopkinson is presently the director of the SOM office in Boston, and as a member of the Advisory Committee, he will provide an overview of the entire project bringing to the team a broad breadth of expertise and commitment. As SOM's project manager of the Boston Transportation Planning Review, he coordinated all urban design, engineering, traffic, transit, economic and environmental studies for the North Shore Region and Third Harbor Crossing. Since the BTPR Mr. Hopkinson has been responsible for planning, urban design, and architectural activities including the Lowell Transportation Planning Study and continuing work with the Northern Middlesex Area Commission, an urban design and feasibility analysis for a waterfront site in the historic area of Salem and a study for Massport of ground access to Logan Airport.

Mr. Thomas M. Mayo, Architect/Urban Designer for SOM will have the responsibility of Project Manager and will work closely with Paul McGinley of ANA. Mr. Mayo will have principal responsibility for the overall coordination of the study and will provide special contributions in the areas of architecture, urban design, transportation planning and regional linkages and in community involvement. Mr. Mayo is currently Project Manager for the Lowell Transportation Planning Study and is involved in two multi-modal transportation planning projects for the Northern Middlesex Area Commission. His responsibility for the LTPS has included coordination of the study, urban design and planning work, community participation and report production. Throughout these efforts he has maintained an ongoing almost daily working relationship with local citizens and officials in Lowell. He has seen the concept of a National Urban Cultural Park develop over the last several years and has worked with local planners to develop a transportation/circulation system which will enhance both the State Heritage Park and National Urban Cultural Park efforts.

Karen B. Alschuler, Senior urban planner for SOM, will contribute her considerable experience in developing and guiding a community planning process to the development of an effective implementation strategy for a National Urban Cultural Park. Based on her extensive experience as a public planner working with local officials, various government agencies and community groups in the development of neighborhood, community and regional park systems, Ms. Alschuler will play a major role in development of regional recreation linkages, in planning for cultural and educational programs and will work to assure that the Comprehensive Plan best represents the needs and goals of the neighborhoods, officials, commissions and committees of Lowell. As an integral part of her technical planning work, Ms. Alschuler has been responsible for public education and participation in development of transportation, open space, conservation, recreation, school and housing plans and is currently directing production of an environmental impact study of the controversial Route 2 highway relocation proposal in Lincoln, Concord, and Acton, Massachusetts.

Mr. George Dickie, Landscape Architect for SOM, will direct the landscaping design component for the National Urban Cultural Park. Mr. Dickie is currently working with the Washington, D.C. office of SOM on the detailed landscape development of the Washington Mall Master Plan and is developing a City Beautification Plan and Landscape Report for Jefferson City, Missouri. He has had broad national experience in urban landscape design and park development and is presently chief Landscape Architect for the Chicago office of SOM.

Additional Staff Resources. David B. Smith, Participating Associate, will bring a broad background as a lawyer and planner to the vital legal, legislative and administrative issues raised in the search for the best institutional structure for the preservation and interpretation of Lowell's heritage. Mr. Smith is widely known as an expert in transportation and environmental law. Charles E. Steinman, Participating Associate, will apply his broad background dealing with the institutional aspects of urban planning, community development and transportation projects to the development of management and administrative structures for the Park. In the Lowell Transportation Planning Study, Mr. Steinman participated in planning for citywide transportation improvements, and he is currently project manager for a pilot carpooling project in Lowell. Hubert O. Schmidt, chief cost estimator for the Boston, Washington, New York, and Paris offices of SOM, will contribute to cost analysis in the development of a park network, specific site plans, and historic restoration programs. Mr. Schmidt's responsibilities include direct supervision and monitoring of construction trends for SOM. Won K. Chung, graphic designer for SOM in Boston, who will direct the efforts of the project team in this area, has had varied responsibility designing journals, brochures, handbooks, and architectural graphics. In the development of plans and recommendations for presentation to Congress and in the design of information systems for park nodes and learning interactors, graphic design will be an essential tool.

ANDERSON NOTTER ASSOCIATES INC.

Mr. J. Timothy Anderson, AIA. President and Principal of Anderson Notter Associates Inc., will be responsible for overall project management along with Mr. Peter Hopkinson of SOM. Mr. Anderson will personally oversee all phases of the project and will be directly involved in those activities undertaken by Anderson Notter Associates Inc.

Mr. Anderson is nationally recognized for his pioneering achievements and creative design solutions in the adaptive reuse of old buildings and the replanning of historic areas. In addition, he serves as a committee member and advisor to the Society for the Preservation of New England Antiquities, Boston Waterfront Restudy Committee, Advisory Council of the Boston Housing Tenants Council and the Advisory Subcommittee on Historic Buildings for the Massachusetts Building Code Committee.

Mr. George M. Notter, Jr., AIA. Treasurer and Principal of Anderson Notter Associates Inc., will serve as an integral advisor to the team throughout the project. Mr. Notter is Vice President of the Boston Society of Architects, a Director of the Society for Industrial Archeology and numerous architectural committees and historic preservation groups. His organization skills and design capabilities will be a valuable asset to the development of an imaginative and sound program.

Mr. Paul J. McGinley, Senior Associate and Preservation Planner, will be Project Manager for Anderson Notter Associates, Inc. Mr. McGinley has extensive experience in public administration of all types of historic preservation and urban planning programs. He was formerly the Executive Director of the Newburyport Redevelopment Authority where he developed and supervised the transformation of a former clearance project into a historic preservation model. He has expertise in integrating various state, federal and private programs to achieve restoration and economically viable reuses for historic areas. He is a recognized authority on the subject of historic districts and various other legal preservation techniques. As an urban planner he has supervised preservation planning programs including Portland, Maine; Salem, Mass.; Newburyport, Mass.; and Hartford, Connecticut.

Mr. McGinley will participate directly in the development of political, legislative and legal strategies, and will participate in the supervision and direction of community participation and involvement.

Mr. Anthony C. Platt, AIA. Senior Associate and Chief of Urban Design for Anderson Notter Associates Inc., will direct the adaptive reuse analysis of older structures and be involved in the development of overall urban design strategies. Mr. Platt brings to the project extensive experience in determining feasibility for restoration and developing imaginative reuses through innovative building code techniques.

Mr. Platt has been personally responsible for the restoration and adaptive reuse of the Chart House Restaurant, Customs House Block on Boston's Long Wharf, the New London Union Railroad Station in Connecticut, the conversion of the MBTA Coal Bunker into a Boston Waterfront Fire Station and the Tannery Apartment Complex in Peabody.

Additional Staff Resources. Anderson Notter Associates Inc. has selected from its staff these designers that have special skills and expertise applicable to the Lowell program. Mr. Louis Sirianni, a Registered Architect and Urban Designer, will be involved in all phases of architectural analysis, urban and landscape design. He has had experience in planning and development of integrated modes of transportation including bicycle paths, pedestrian walkways, rail and highways. He has supervised adaptive reuse surveys and plans of extensive historic areas including the sensitive and compatible design of new structures. Mr. Andrew Hudak, an architect and urban designer, will perform design studies and analyses of old structures. He has experience in design for housing reuse including mills and obsolete commercial buildings and in the design of imaginative multi-level pedestrian systems to interconnect old structures. Ms. Marie Viita, an urban designer and planner, will develop and generate community involvement and participation to achieve support and interest for the program. She has undertaken community and neighborhood planning projects that have succeeded due to her expertise in developing community relations with graphic exhibits and presentations, and her ability to communicate and work with citizens and civic groups.

ECONOMICS RESEARCH ASSOCIATES

Mr. Thomas J. Martin, who serves as manager of ERA's Boston office, will act as Project Manager for ERA on the study and contribute his input into the areas of special transportation systems, regional tourism analysis, historic and cultural facility programming, and economic feasibility. In addition to these areas Mr. Martin will also be involved in the analysis of management options for the Urban Cultural Park. Mr. Martin has recently directed a major tourist information development program for the six New England States, and will bring to the project a broad experience in recreation and tourism planning and management, real estate and development economics. He has been responsible for many of ERA's projects in New England and served as manager of ERA's work on the Lowell Transportation Planning study.

Mr. Melvin Gamzon, Senior Associate with ERA will contribute his skills in the area of regional tourism, and real estate economic and financial feasibility analysis. Mr. Gamzon has recently been involved in a study of the economic feasibility of retaining historic buildings in Dover, New Hampshire, as well as a planning and programming study for an arts and crafts center on Cape Cod, and a redevelopment plan for the central business district of Medford, Massachusetts.

Mr. James McCarthy, a recognized expert in tourism and recreation programming, development and evaluation will serve on the Advisory Committee. Mr. McCarthy's experience ranges from World's Fair planning to the evaluation of historic structures for re-use as museums and commercial uses.

Other ERA staff who will be available for assignments as required include Mr. Don Stewart, a recognized expert in the development of specialty shopping centers in historic structures; Mr. Robert Shawn, an expert in the development of policy and programming approaches in a public planning context; Mr. David Petersen, with extensive experience in public facility financing and development; Mr. Hayes McCarty, an urban planner with extensive experience in recreation and public facility planning; Mr. Ned Osborn, an expert in techno economics and industrial development; Mr. Jack Haeseler, a senior consultant in policy and program analysis.

SPECIAL CONSULTANTS

Dr. Patrick M. Malone as an educator and historian will play an integral role in preservation planning and in the development of cultural educational programs. He has personally used the City of Lowell as an educational laboratory for University students and for residents of Lowell, and has devoted much of his historical research to the Locks and Canals of Lowell.

The Society for the Preservation of New England Antiquities has a consulting group who will contribute to identification and analysis of the historic structures of Lowell and will advise on recommendations for specific preservation plans.

Randolph Langenbach will apply both his photographic expertise and his broad knowledge of the architectural history of New England Mill Towns to the presentation and interpretation of Lowell's cultural and architectural heritage. Past efforts with the Model Cities program in Lowell and recent exhibits such as the one in Manchester, New Hampshire on Amoskeag, display Mr. Langenbach's sensitivity to the many elements of mill town life and his ability to convey this understanding to the public.

Alan M. Voorhees and Associates will participate as advisors in the area of transportation engineering and the development of multimodal transportation linkages internal and external to the National Urban Cultural Park.

PROJECT STAFFING ALLOCATION & EXPERTISE (Fig. 3)

PROJECT PERFORMANCE AREAS	CONSULTANT TEAM STAFF																														
	SOM	Peter Hopkinson	Thomas Mayo	Karen Alschuler	George Dickie	David Smith	Charles Steinman	Hubert Schmidt	Won Chung	ANA	Timothy Anderson	George Notter	Paul McGinley	Anthony Platt	Louis Sirianni	Andrew Hudak	Marie Viita	ERA	James McCarthy	Thomas Martin	Melvin Gamzon	Don Stewart	Robert Shawn	David Petersen	Hayes McCarty	Ned Osborn	Jack Haeseler	SPECIAL CONSULTANTS	Dr. Patrick Malone	SPNEA	Randolph Langenback	AMV
PROJECT MANAGEMENT	■	■	■							■		■							■												
POLITICAL																															
Law & Legal Analysis						■						■																			
Institutional Analysis						■	■					■															■				
Preservation Planning						■						■																	■		
Program & Funding Analysis				■		■	■					■												■			■		■		■
ARCHITECTURE & URBAN DESIGN																															
Architecture	■	■	■							■	■		■	■	■																
Urban & Environmental Design	■	■	■		■		■			■			■	■	■	■															
Site Planning	■	■			■					■	■		■	■	■																
Landscape Architecture					■										■																
Historic Preservation										■	■		■																■		
Graphic Design/Photography									■							■														■	
Exhibition Design									■																					■	
Cost Estimating					■			■		■	■		■																		
CULTURE & EDUCATION																															
Architectural & Technological History												■																■	■	■	
Cultural History																												■		■	
Education & Educational Programming				■																								■			
Activity Programming				■																■											
MANAGEMENT & ADMINSTRATION																															
Management & Organizational Analysis						■	■					■	■							■			■								
Public Adminsitration						■	■						■										■								
COST & IMPACT ANALYSIS																															
Market Research & Analysis																				■	■										
Economic Feasibility & Impact Analysis																				■	■										
Budgetary Planning							■						■							■											
Financial & Cost Analysis								■													■			■							
Industrial & Commercial Development																						■				■					
Real Estate Analysis								■												■	■										
TRANSPORTATION																															
Transportation Planning	■	■	■	■		■	■													■											■
REGIONAL LINKAGES																															
Tourism Development & Planning																			■	■	■										
Recreation Planning				■	■														■						■						
COMMUNITY INVOLVEMENT																															
Public Presentation		■	■	■								■				■															
Community Liaison		■	■	■								■				■															

We have developed an estimate of manhours and budget resources for each of the four major tasks defined in the work program. The budget totals $100,000, as stated in the RFP. If selected for this project, the budget figures will be refined and finalized based on negotiations with the Commission. However, we are confident that the proposed work program can be fully carried out by the study team for the approximate amount of $100,000.

A detailed allocation of staffing resources was presented in the previous discussion of "Responsibilities of Key Staff".

SUMMARY OF ESTIMATED BUDGET AND ALLOCATIONS

Work Task	Person Hours	Direct Labor, Fringe and Overhead
Task 1	900	$ 19,500
Task 2	1325	$ 28,500
Task 3	1425	$ 29,600
Task 4	300	$ 6,500
Subtotal	3950	$ 84,100
Fixed Fee (10%)		$ 8,400
Other Direct Costs		$ 7,500
TOTAL		$100,000

IV. Team Experience

GENERAL TEAM QUALIFICATIONS

As a project team, Skidmore, Owings & Merrill, Anderson Notter Associates, Inc., and Economics Research Associates offer a valuable breadth of knowledge of Lowell and of planning for restoration, for parks and for economic development. Prime examples of recent redevelopment, restoration and tourist activity in Lowell and in the Boston region have been the result of plans developed by these firms.

SOM has recently completed a two-year study of transportation needs and design of a transportation network for the City of Lowell. Working with a broad range of local groups, SOM has developed specific design schemes for circulation improvements and for a transportation terminal and is presently working with the NMAC to develop a regional multimodal transportation plan for the area surrounding Lowell. Complementing their current work in Lowell is SOM's broad experience in urban planning and design, community development, planning law, engineering, landscape architecture and architecture. Examples of recent work on the Washington Mall Master Plan or on a design and feasibility study for a waterfront site in the historic area of Salem, Massachusetts, are directly applicable to the program for Lowell.

Mills, warehouses, wharfs and tanneries throughout New England have been given new life through the efforts of Anderson Notter Associates, Inc. Working with a great variety of cities, towns, and private developers, Anderson Notter has undertaken and successfully completed a number of recognized projects which have imaginatively recycled old structures for new and revitalized uses. In addition, the firm has had extensive planning experience in older waterfront and industrial areas such as the Boston waterfront, Newburyport's historic waterfront, Albany, New York's Hudson Park Neighborhood, and the first recycling project for downtown Hartford.

A project which is of particular significance to Lowell is the recycling of the old A. C. Lawrence Tannery in Peabody, Massachusetts, for interesting MHFA housing for the elderly. These extensive recycling projects have provided Anderson Notter with the capability of relating feasibility and construction costs to the important area of marketability and economic reality.

Economics Research Associates has conducted numberous market feasibility studies and tourism development studies throughout the country for private developers as well as public agencies and is particularly well qualified in the area of tourism and recreation facilities planning. Economics Research Associates has recently surveyed tourist facilities, needs, and interests throughout New England as part of their work for the State of Massachusetts and the New England Regional Commission as those agencies plan for the Bicentennial. ERA, working as a member of the Lowell Transportation Planning Study Team, has

developed an extensive data base on population and employment characteristics of Lowell.

In addition to these three firms, four special consultants will be an integral part of the multi-disciplinary team adding their experience and their enthusiastic support to the development of a National Urban Cultural Park.

Dr. Patrick M. Malone, cultural historian and engineer, will contribute his intimate knowledge of the locks and canals and his broad experience in using Lowell as an educational urban laboratory. He has done extensive research on hydraulic engineering, has testified in Congress on behalf of the urban cultural park, and has built a working relationship with local Lowell citizens and agencies.

The Society for the Preservation of New England Antiquities was organized in 1912 for the purpose of preserving New England's architectural heritage and has had broad experience surveying historic properties, advising individuals and public agencies on adaptive reuse of historic structures, and using scientific analysis techniques to investigate historic structures and materials.

Randolph Langenback has applied his background in architecture and cultural history, and photography to a variety of studies of the mill towns of New England. He has an extensive private collection of visual research material including a photograph portfolio he developed for Lowell Model Cities.

Alan M. Voorhees and Associates, Inc. has worked extensively throughout the United States in developing transportation and traffic management plans for recreational facilities and has developed a special sensitivity to the needs of historic areas through their work in Newburyport, Massachusetts, and Portland, Maine, and as well as in Lowell.

This team of firms and individuals will apply their complementary skills, broad experience, detailed knowledge of Lowell and enthusiastic endorsement of the National Urban Cultural Park to develop a useful and effective plan relevant both to the historic role of Lowell and to its promise as a model for economic recovery.

TEAM PROJECTS OF SPECIAL RELEVANCE TO THE LOWELL NATIONAL URBAN CULTURAL PARK

A number of recent projects in which Skidmore, Owings & Merrill, Anderson Notter Associates, Inc., and Economics Research Associates have carried primary responsibility are especially relevant to Lowell. These projects are summarized below and a selection of descriptive drawings and photographs is included to better illustrate the results of this work.

SKIDMORE, OWINGS & MERRILL

SOM's work in Lowell has demonstrated capabilities in the fields of interdisciplinary transportation planning, environmental impact assessment, and community involvement. At the same time projects elsewhere in New England and throughout the country have demonstrated SOM's role in urban design, parks development, community development and regional recreation networks.

Washington Mall Master Plan and Related Projects. SOM has carried out a series of planning and design projects for the National Park Service regarding the National Mall in Washington, D.C. These projects include an overall Master Plan; a circulation system study for tourist bus shuttle services; design of the Reflecting Pool in front of the Capitol; design of the Hirschhorn Museum; and the design of Constitution Gardens. In each case SOM has been responsible for directing the project from its inception through final design and construction supervision.

Salem Waterfront Site Feasibility Study. SOM is currently preparing a redevelopment feasibility study for the Salem Redevelopment Authority. The five-acre waterfront site is being investigated in terms of its potential for various combinations of housing, hotel, marina, and commercial uses. These potential uses are, in turn, being evaluated with respect to possible traffic and urban design impacts on the nearby historic and tourism resoruces. A Developer's Kit will then be prepared for the option which best fulfills the City's overall redevelopment goals.

San Antonio River Corridor Study. SOM prepared a comprehensive planning analysis and redevelopment concept plan for San Antonio which fully recognized the physical, economic, and political constraints and opportunities for development in the City's river corridor. The plan received an Award for Urban Design Excellence from Progressive Architecture.

Newark Community Development Plan. SOM conducted a series of urban design and planning studies for the Newark, New Jersey, Community Development Administration. These studies ranged from the preparation

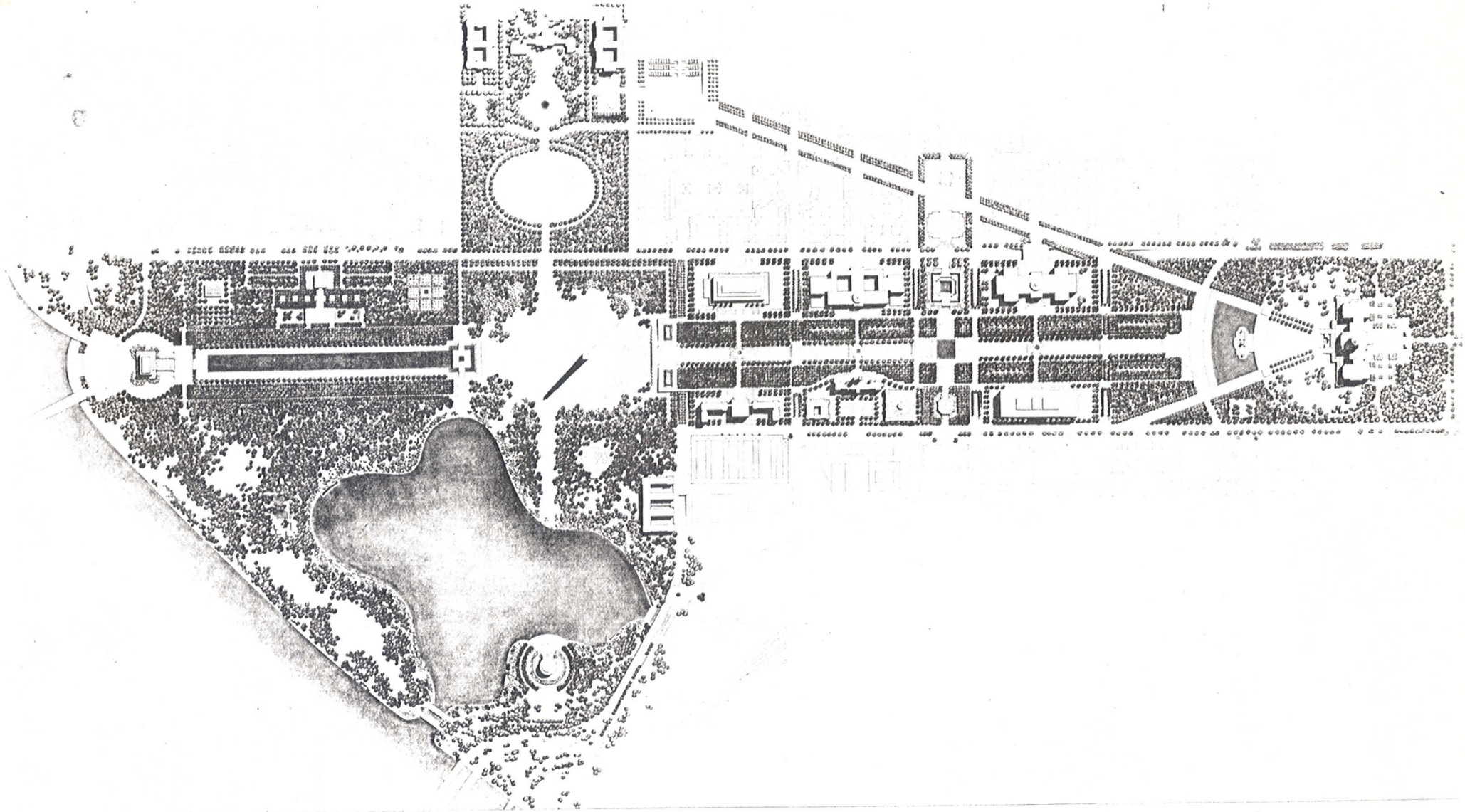
of a Model Neighborhood Action Plan and redevelopment strategy to the creation of a housing development corporation to the design and construction of bus shelters, street closings and landscaping, mini-parks, and a community health center.

Operation Breakthrough. SOM prepared a site plan for the Indianapolis, Indiana, Breakthrough site. SOM was responsible for landscape design; utilities engineering; signing graphics; and auto, bicycle and pedestrian circulation systems design; as well as for all site planning leading to the location of new housing units. The site plan received the 5th Biennial HUD Urban Design Award.

Brookings Institute Restoration Feasibility Study. SOM prepared a renovation feasibility study for the Brookings Institute headquarters in Washington, D.C. The analysis permitted the Institute to compare the costs of alternative renovation/expansion programs and to select a program which best suited its space needs and financial resources.

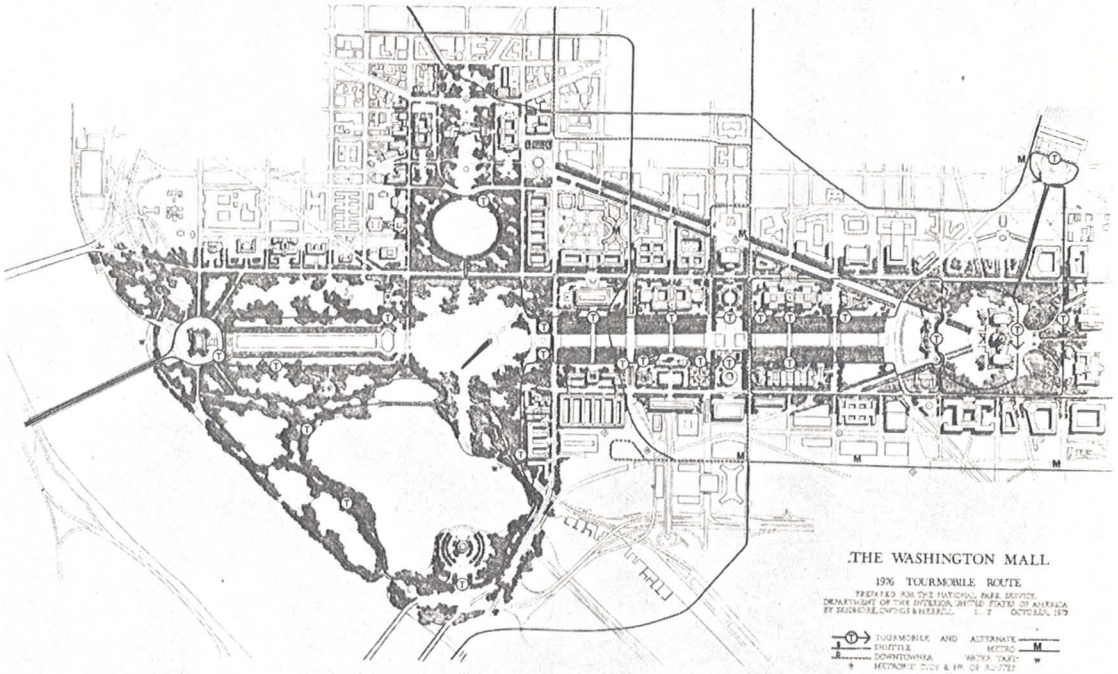
Physical Development Program for the Upper Albany Neighborhood, Hartford, Connecticut. SOM assisted the Greater Hartford Process, Inc. and the Greater Hartford Community Development Corporation by preparing a physical development program for the Upper Albany Neighborhood in North Hartford. The proposed improvement program seeks to ensure that the Upper Albany Neighborhood will continue to provide a suitable living environment for its residents, and over time, become a strong base for the projected improvement for all of North Hartford.

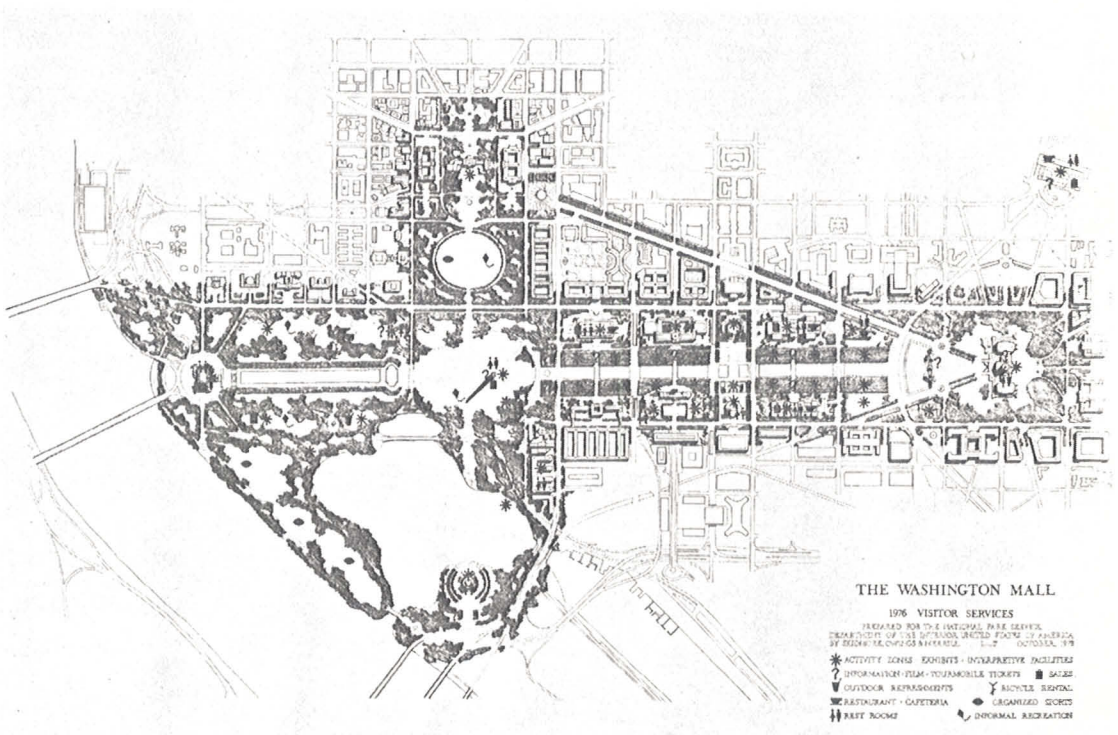
Study Design for Maumee River Planning and Development. The Maumee River is the most significant geographical feature in the Toledo area, although it is presently lacking in environmental amenities and public accessibility. Similar to the role of the canals in Lowell, it could be the focus of the downtown Toledo's rejuvenation and could contribute to the enhancement of the quality of life throughout the region. Skidmore, Owings & Merrill provided assistance to the Toledo Metropolitan Area Council of Governments and the Toledo-Lucas County Plan Commissions in designing a program for catalyzing interest and integrating planning and development of the Maumee River Corridor.



WASHINGTON MALL MASTER PLAN

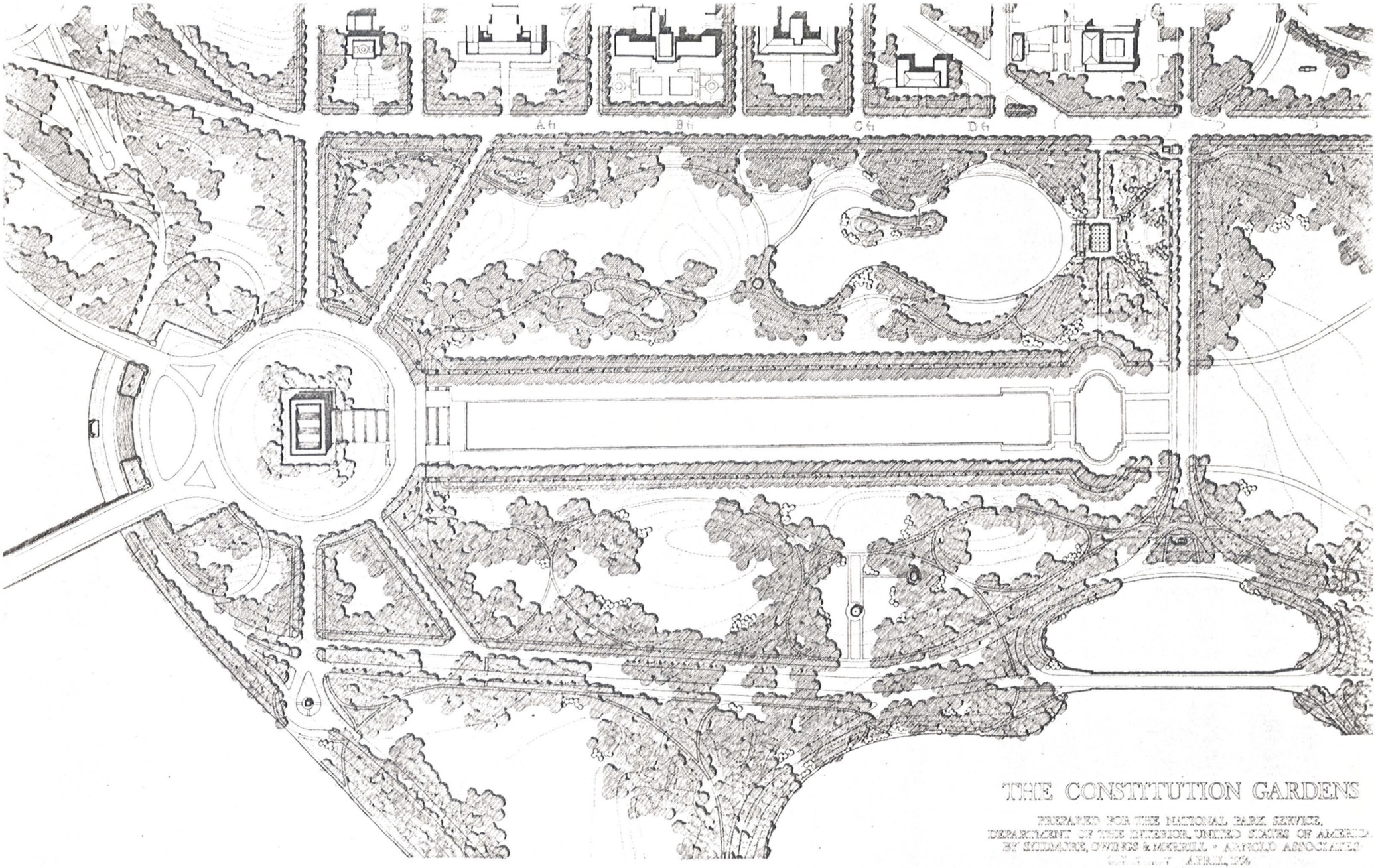
The Mall area in Washington, D.C. is a national center of art, history and government that includes the White House, the Capitol, the Washington Monument, and the Lincoln and Jefferson Memorials. Recently, it became necessary to improve the design of the area because of the growing number of tourists who visit the Mall each year. SOM undertook the development of a Master Plan for the Washington Mall in 1965. The major objective of the plan is to preserve and highlight the historical buildings and to establish them in a comprehensive landscape structure, while providing maximum use of the entire area. The study included interrelated elements of public and private transportation systems, terminal and parking facilities, shuttle systems and methods of circulation. The result was a plan which proposed one comprehensive park oriented toward pedestrians. Surface traffic roads were removed or replaced underground, and visitor circulation routes were developed. In addition, new centers to provide space for exhibits and lectures, lounges and rest rooms, and refreshment and relaxation were designed. As a part of the Mall Master Plan, SOM has also developed a design for a Capitol Reflecting Pool and a National Gallery Sculpture Garden. The Capitol Reflecting Pool is set in a large pedestrian plaza and is designed to reflect the entire Capitol Dome. The National Gallery Sculpture Garden consists of a circular pool enclosed by formal gardens and situated in the now vacant block immediately south of the National Archives.





THE WASHINGTON MALL

Development of the Washington Mall plans has been guided by Bicentennial celebrations and the way in which the landscape, visitor facilities and public use of the grounds will be expanded to deal with increased use-intensity during that period. The design task has been to evolve transportation and visitor facility systems that provide convenience without destroying the classic beauty of the landscape. Recreational paths, benches, curbing and lighting are all addressed in this detailed design study.



THE CONSTITUTION GARDENS

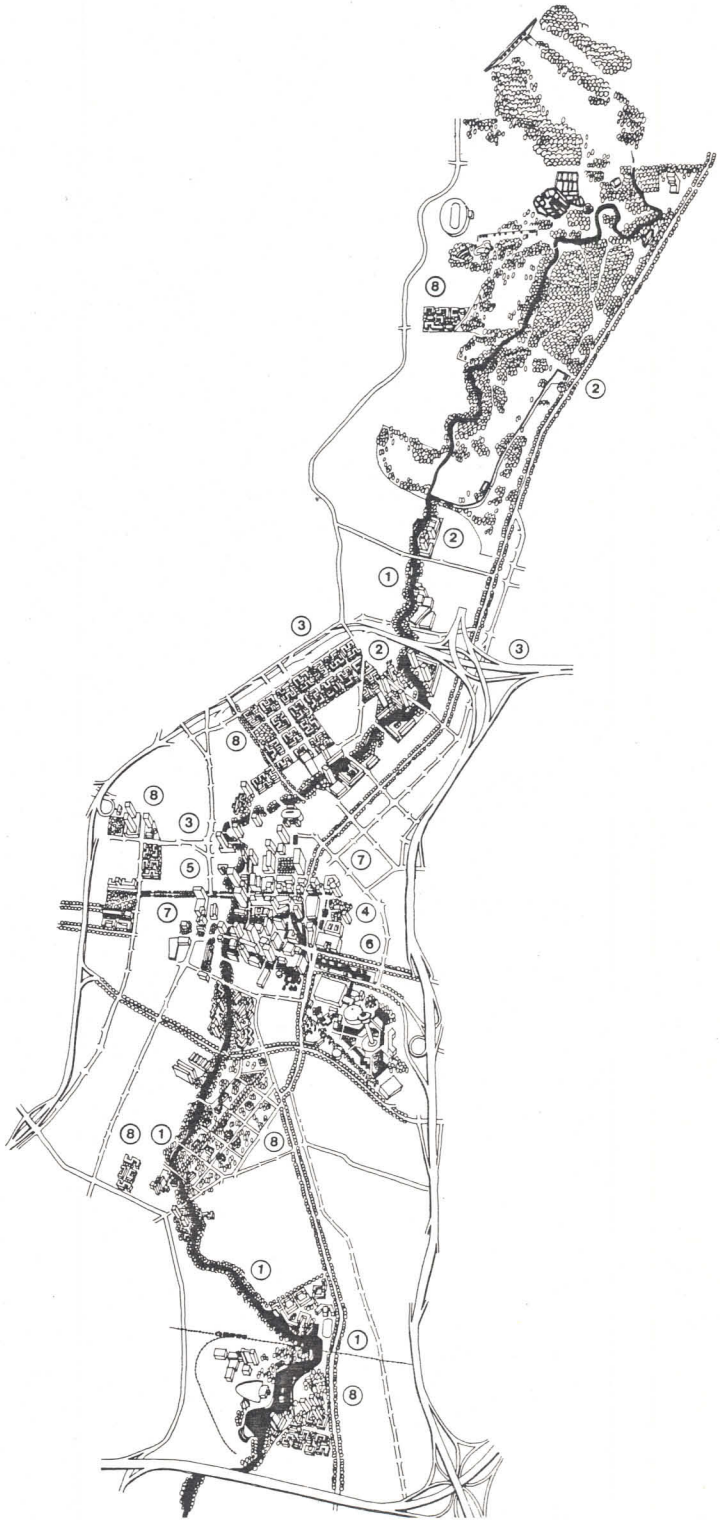
Landscape development of Constitution Gardens will transform the presently open and treeless site of the old Navy buildings into a setting that will complete West Potomac Park and unify the area with the Washington Monument grounds. The 52-acre site is between the Reflecting Pool and Constitution Avenue. A 6-acre lake with an island will lie toward the east of the large open meadow. Pedestrian paths will be interwoven with clustered trees. An information building and an outdoor restaurant will be provided for the park visitor.

THE SAN ANTONIO RIVER CORRIDOR STUDY

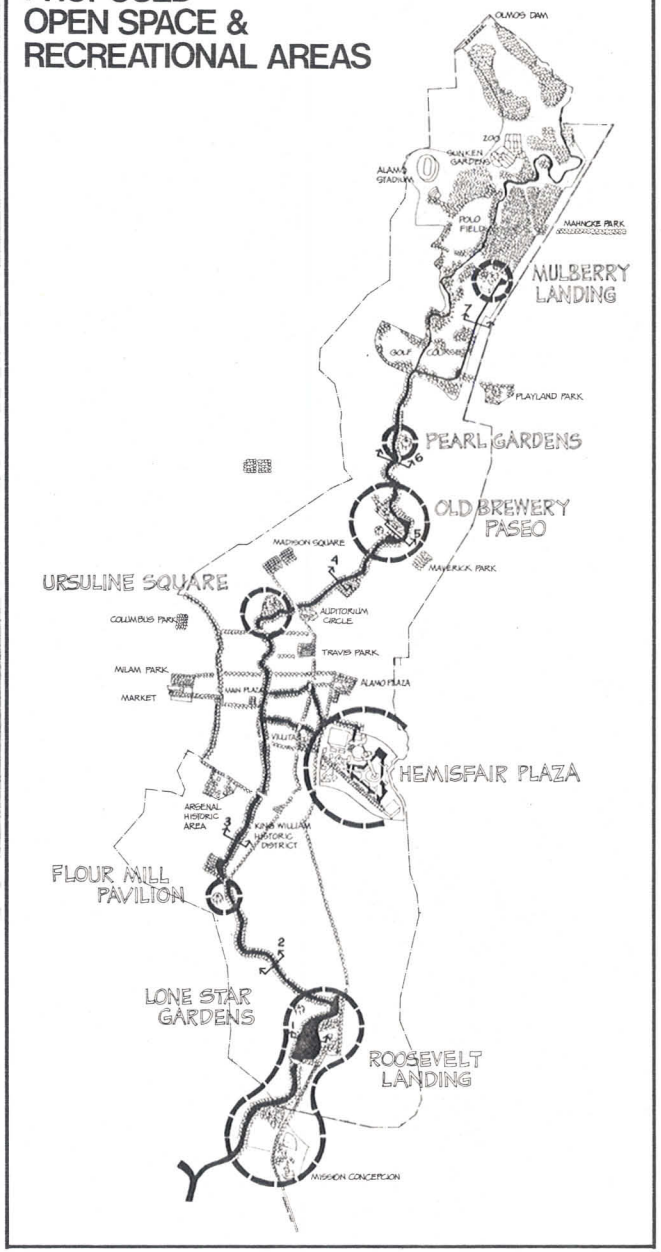
The San Antonio River Corridor Study is a plan for 3,000 acres of central San Antonio, which is being implemented. It was done by Skidmore, Owings & Merrill, in joint venture with Marshall Kaplan, Gans and Kahn, a social and economic planning firm, in 1972-73. A multi-agency committee was formed to conduct the study for the City of San Antonio. Working closely with the San Antonio River Corridor Committee, the consultants prepared a general plan and a set of specific development policies and programs. Since the River Corridor contains every urban land use, including the retail-commercial core, and lies at the geographic focus of the San Antonio Metropolitan region, the River Corridor Study deals with all aspects of urban life. The report submitted contains these chapters:

Part 1	The River
Part 2	The Corridor as the Regional Center
Part 3	Neighborhood Life in the Corridor
Part 4	Framework for Decision Making
Part 5	Managing Corridor Revitalization

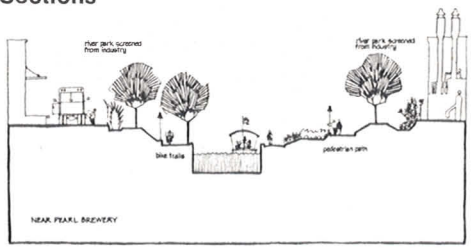
Since the settlement along the River is 250 years old, and has many structures of architectural consequence, and since the River is the undisputed basis of the charm of the City, conservation and environmental amenity were major concerns in the physical plan.



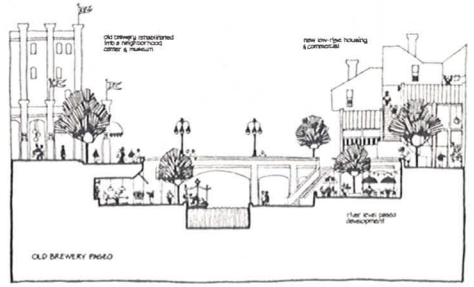
PROPOSED OPEN SPACE & RECREATIONAL AREAS



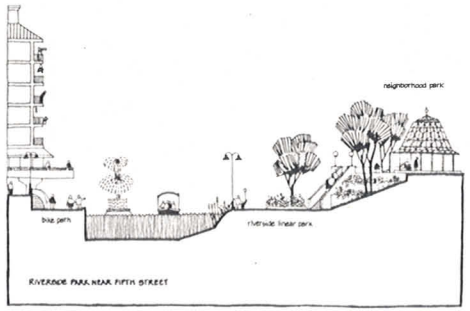
Typical River Channel Sections



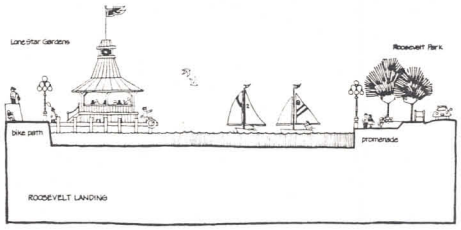
section 6
Thirteenth to Valero



section 5
Ninth to Thirteenth



section 4
Convent to Ninth

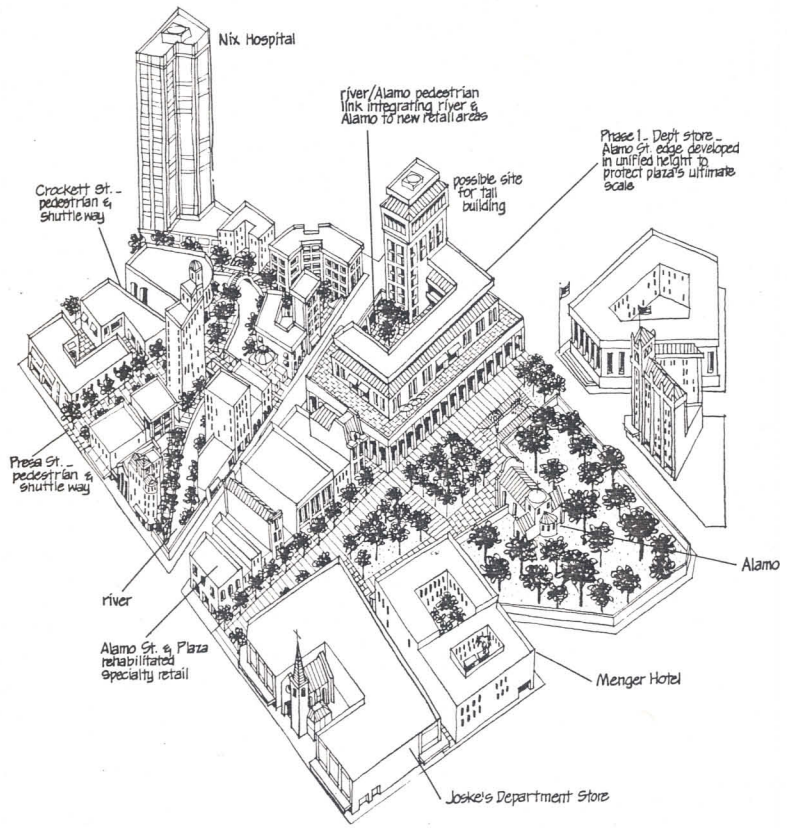


section 1
South of Lone Star Blvd.

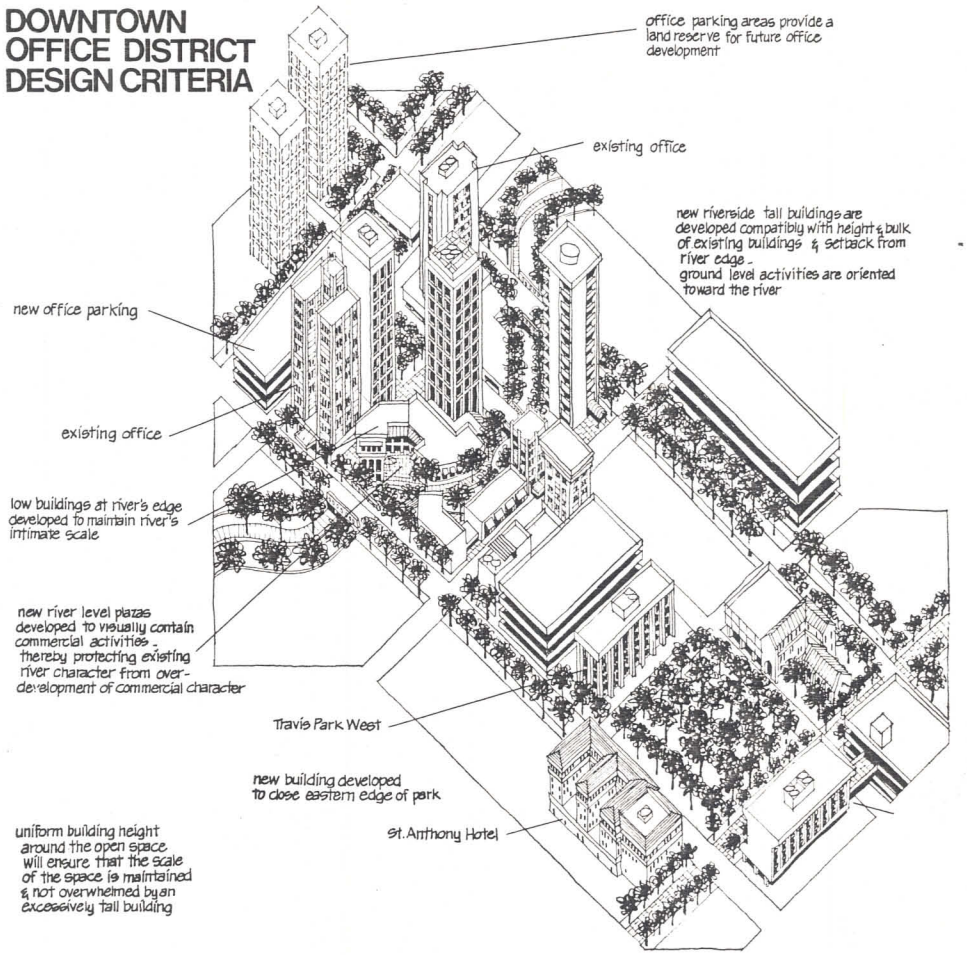
SAN ANTONIO RIVER CORRIDOR STUDY
Part 1 The River

The San Antonio River is the heart of the City of San Antonio. It is a unique and historical asset to the urban environment for residents and tourists alike. The plan combines existing activities, historical assets,and newly proposed attractions along the river to develop new open space and recreational areas. In addition, the study focuses on the river as a catalyst for new commercial and residential redevelopment. To achieve a higher level of amenity along the river, a costly, but highly beneficial,water control and open space program has been designed. A sophisticated channelization design for flood control is combined with a pooling and recycling system for the river during times of drought. With this system, all segments of the river are rendered navigable for recreation and shuttle craft.

DOWNTOWN RETAIL DISTRICT

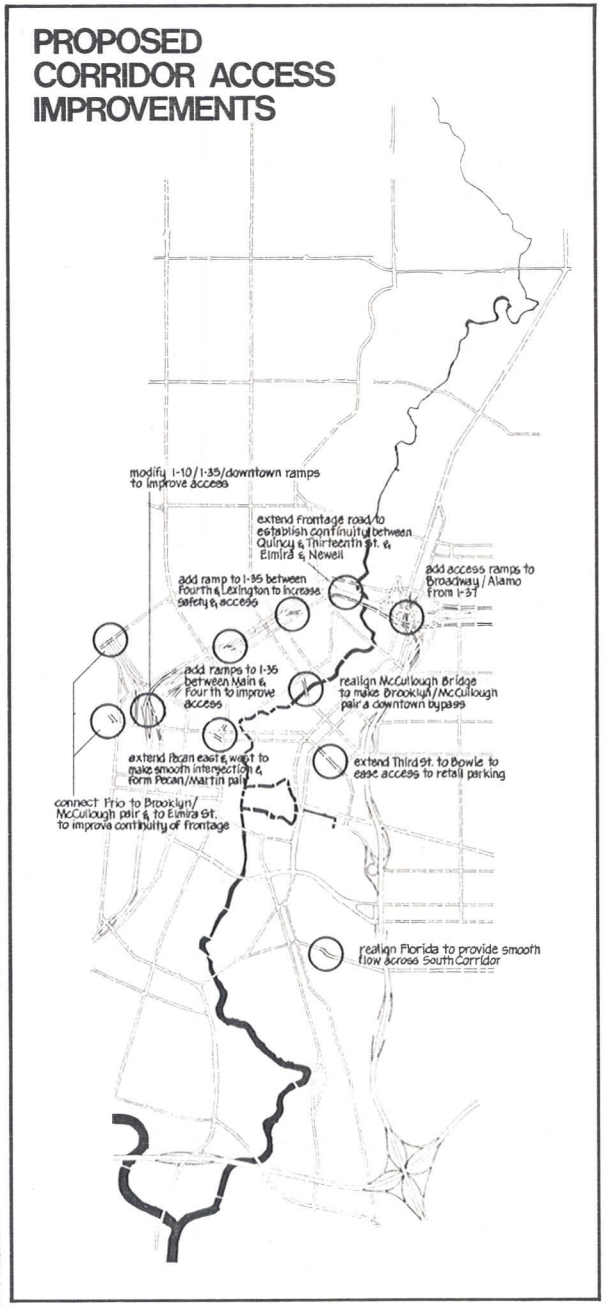


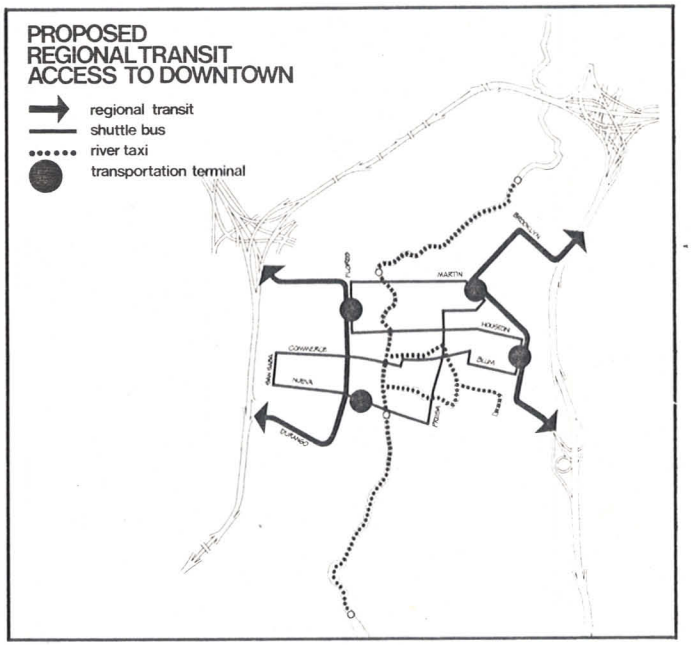
DOWNTOWN OFFICE DISTRICT DESIGN CRITERIA

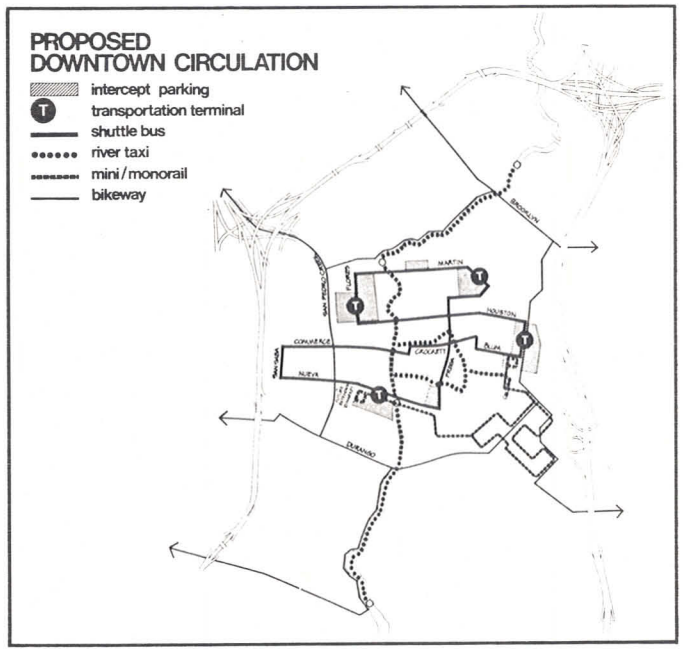


SAN ANTONIO RIVER CORRIDOR STUDY
Part 2 The Corridor As the Regional Center

At present, downtown retail trade is declining. For downtown to capture its share of regional retail growth, the shopping environment will be improved and rehabilitated, and new department stores added -- all within the existing retail district. The River Corridor Study consolidates the retail function in its historic location. Its revitalization relies upon recommended access improvements, urban design controls, and strategic investments in public amenities. The commercial office district is dispersed, buildings have deteriorated, parking is chaotic -- yet downtown rents are as high as in suburban office buildings. SOM and its joint venture partners developed a strategy for capturing a major share of the San Antonio region's office growth over the next two decades. The office district will be compacted, upgraded environmentally, and have convenient parking nearby. Shopping, recreation, and work are given an improved, exciting quality in the River Corridor plan.



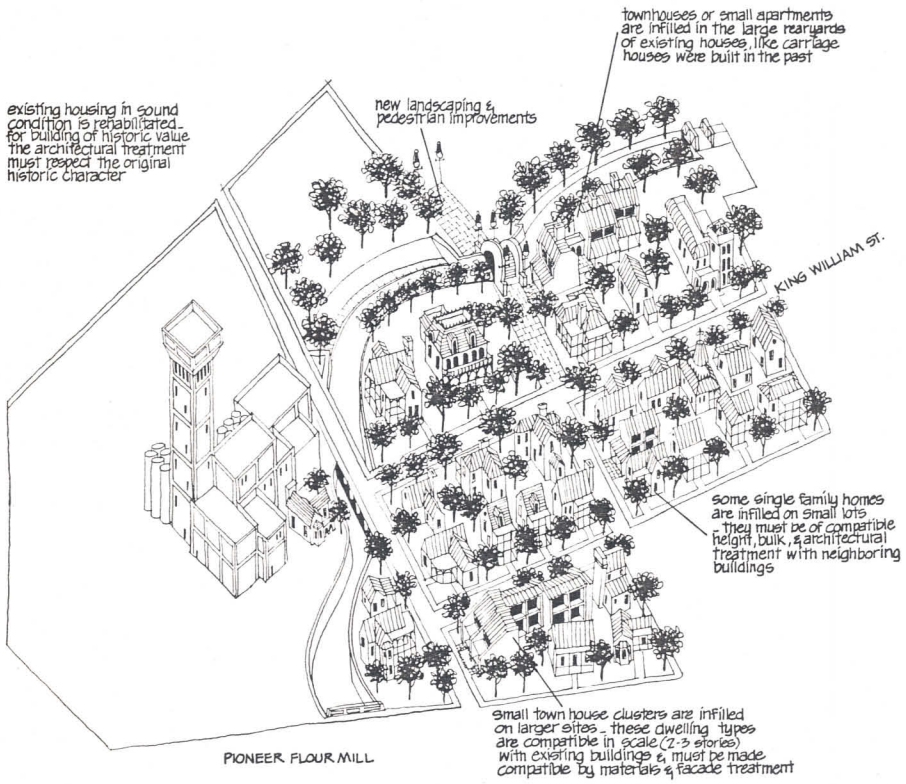




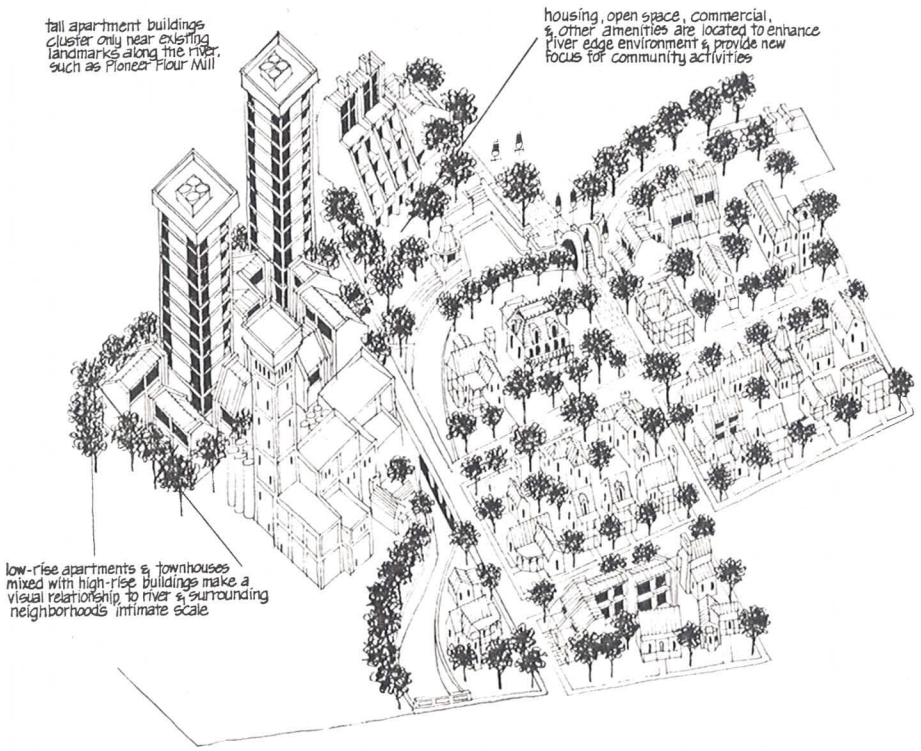
SAN ANTONIO RIVER CORRIDOR STUDY
Part 2 The Corridor As The Regional Center

One key to maintaining San Antonio's dominant role in South Central Texas is an improved regional and local access sytem, combined with parking and shuttle transit improvements in the downtown core. Modification of freeways and major streets is recommended as well as the creation of an auto intercept system. In the resulting transportation system, through traffic bypasses the core entirely, while core-bound traffic is routed along specially signed and landscaped streets at the perimeter of the core to parking reservoirs convenient to major destinations. A shuttle system connects transportation terminals and downtown attractions.

HOUSING REHABILITATION & SPOT INFILL DESIGN CRITERIA



HIGHRISE HOUSING DESIGN CRITERIA



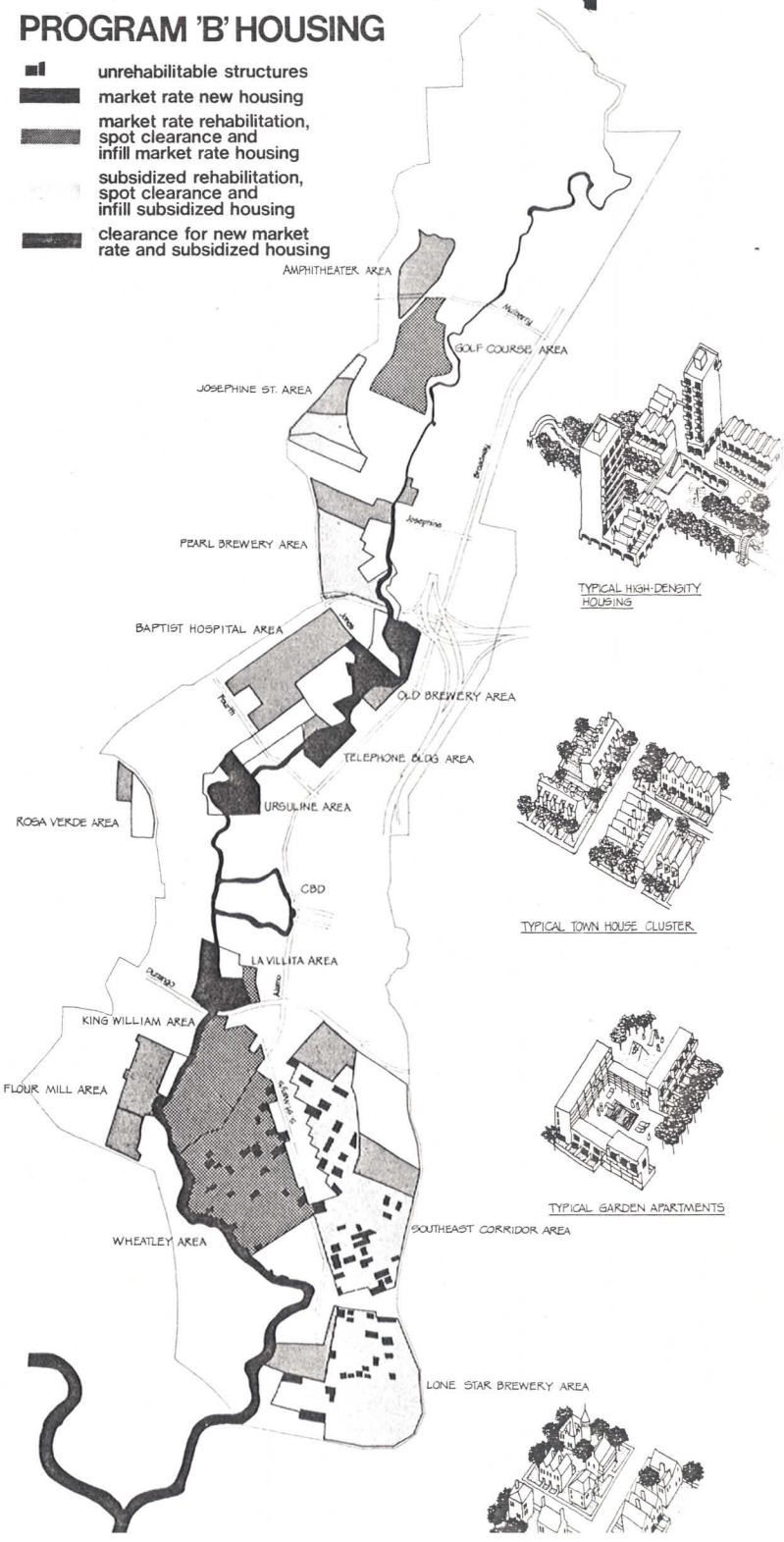
SAN ANTONIO RIVER CORRIDOR STUDY
Part 3 Neighborhood Life In The Corridor

Proposed housing in the Corridor is of different types and densities, depending upon neighborhood characteristics, location, and site size. The study recommends that most of the new housing be multi-family dwellings of high-rise and garden apartment densities. Town houses and some detached scatter-site single family dwellings are also planned. Higher density housing is concentrated near institutional and commercial employment centers, utilizing the river walk or river taxis as means of commuting between home and work. Additional schools, convenience commercial centers, and substantial open space and recreational areas are to be provided for support of the new neighborhoods.

SAN ANTONIO RIVER CORRIDOR STUDY
Part 3 Neighborhood Life In The Corridor

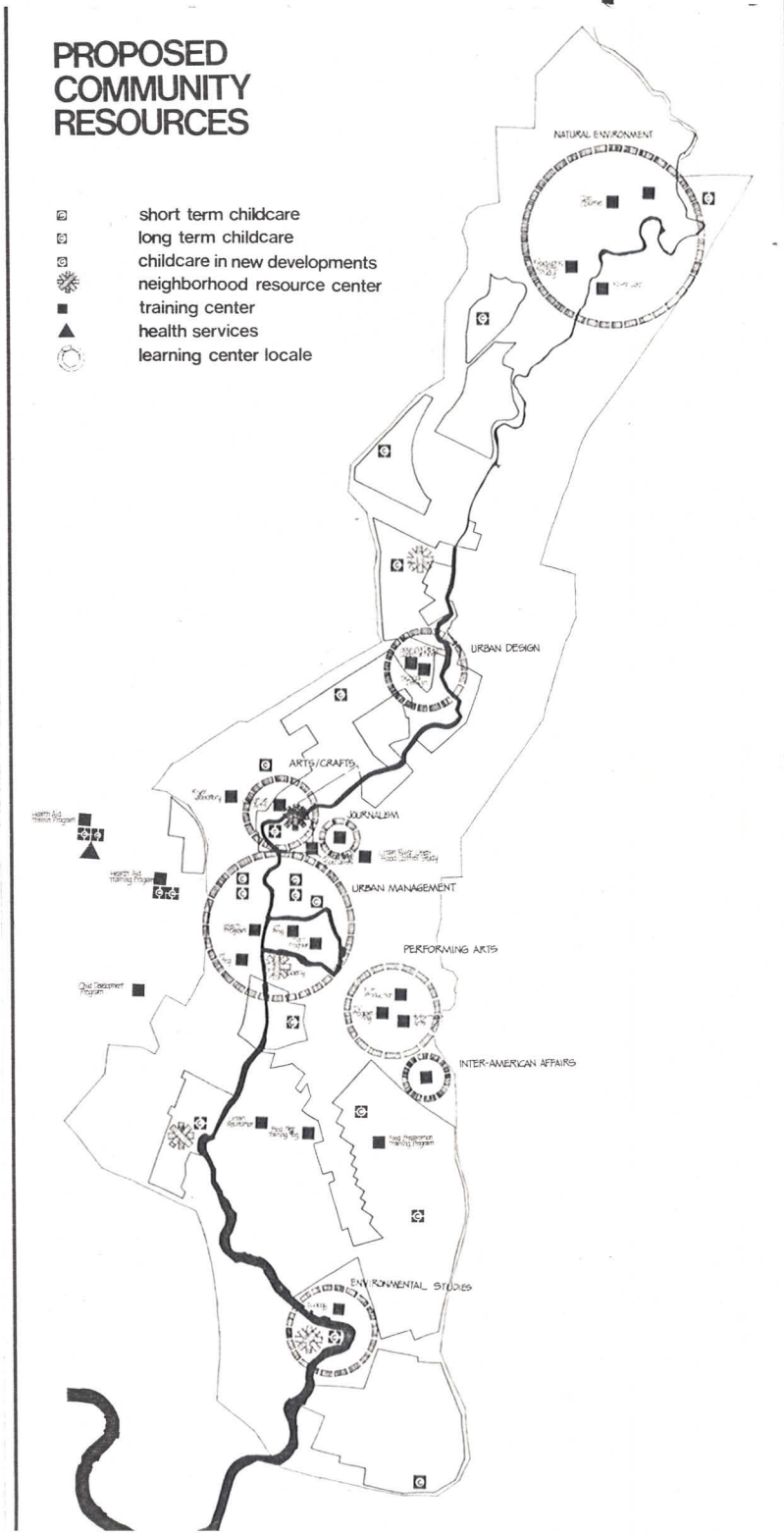
Neighborhoods in the River Corridor are blighted, with few parks or other amenities in the most neglected areas. Large numbers of elderly and low-income families live in older rental units in poor condition. The study outlines a plan to provide the people who want to continue to live in the Corridor with decent housing and to attract middle and upper-income families to the Corridor. The immediate action strategy is to promote private development of new housing on available land, change Corridor neighborhood images by spot-clearing dilapidated structures and emphasizing visible improvements such as street landscaping, upgrade the image of public housing through rehabilitation and increased social services, and finally, construct as many subsidized housing units as possible to create a relocation reservoir for those displaced by other programs. The next step is a major renewal effort concentrating on areas where less than half of the housing is in habitable condition. There will ultimately be an evaluation and rehabilitation of the remaining areas of housing in the Corridor.

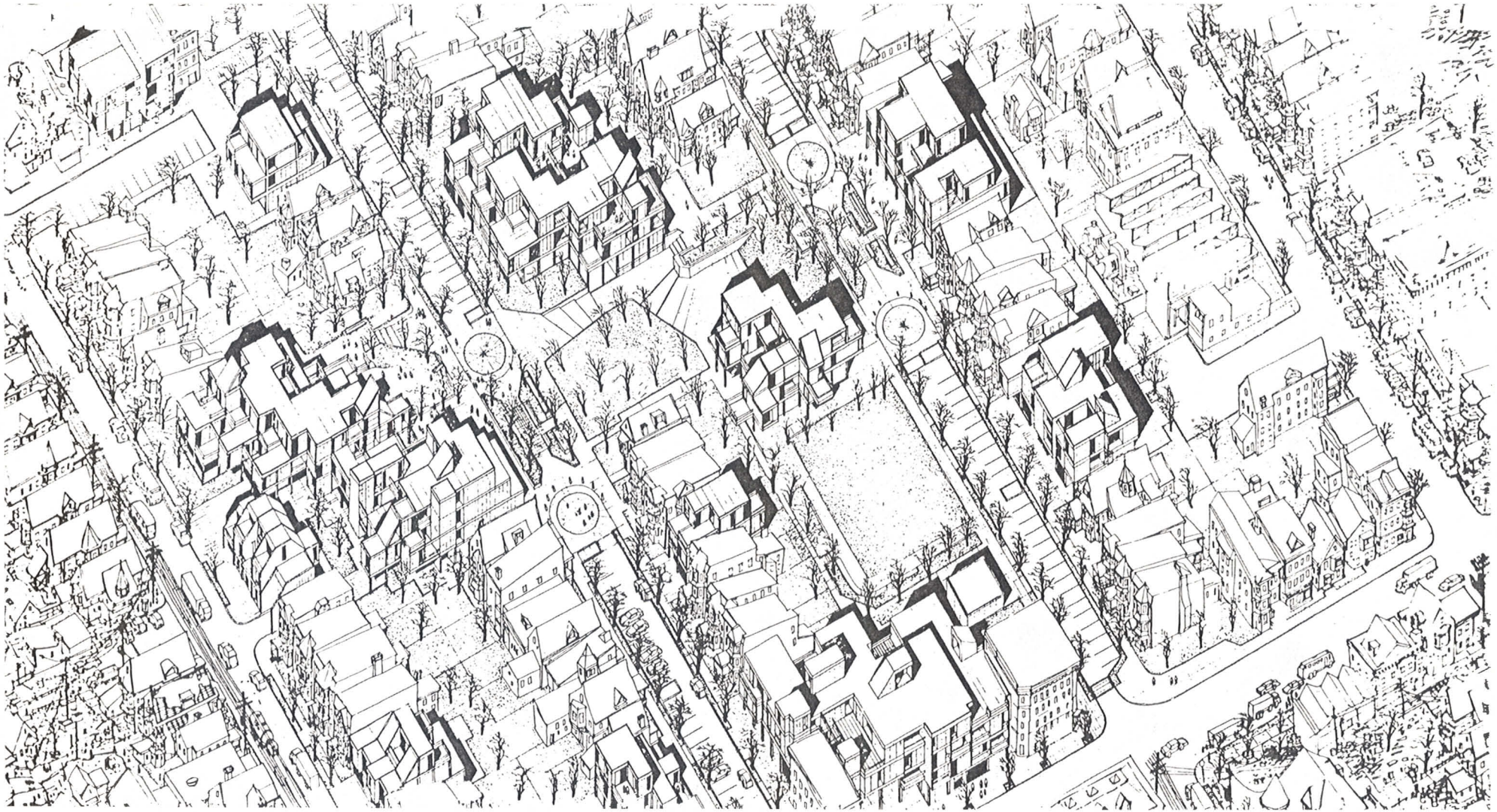
PROGRAM 'B' HOUSING



SAN ANTONIO RIVER CORRIDOR STUDY
Part 3 Neighborhood Life In The Corridor

Health care, education, family services, employment aids, and public safety are all available to Corridor residents today. There are service gaps, as is typical of most urban areas, and there are major problems of access to services for many. The River Corridor Study proposes that these services be given a new level of identity by locating Neighborhood Resource Centers at key points in the Corridor. Each resource center provides basic levels of community service and is a referral base for situations requiring specialized treatment. The study establishes the institutional framework for improved community services, and makes specific proposals for changes in staffing and community participation. Recognizing the unique resources available in the Corridor for environmental and cultural education, the consultants proposed that eight learning centers be established in the Corridor to house special programs for school age children, as well as extended education for all residents of San Antonio. The San Antonio Independent School District, which serves the River Corridor, is an enthusiastic participant in the innovative educational program which came out of the study.



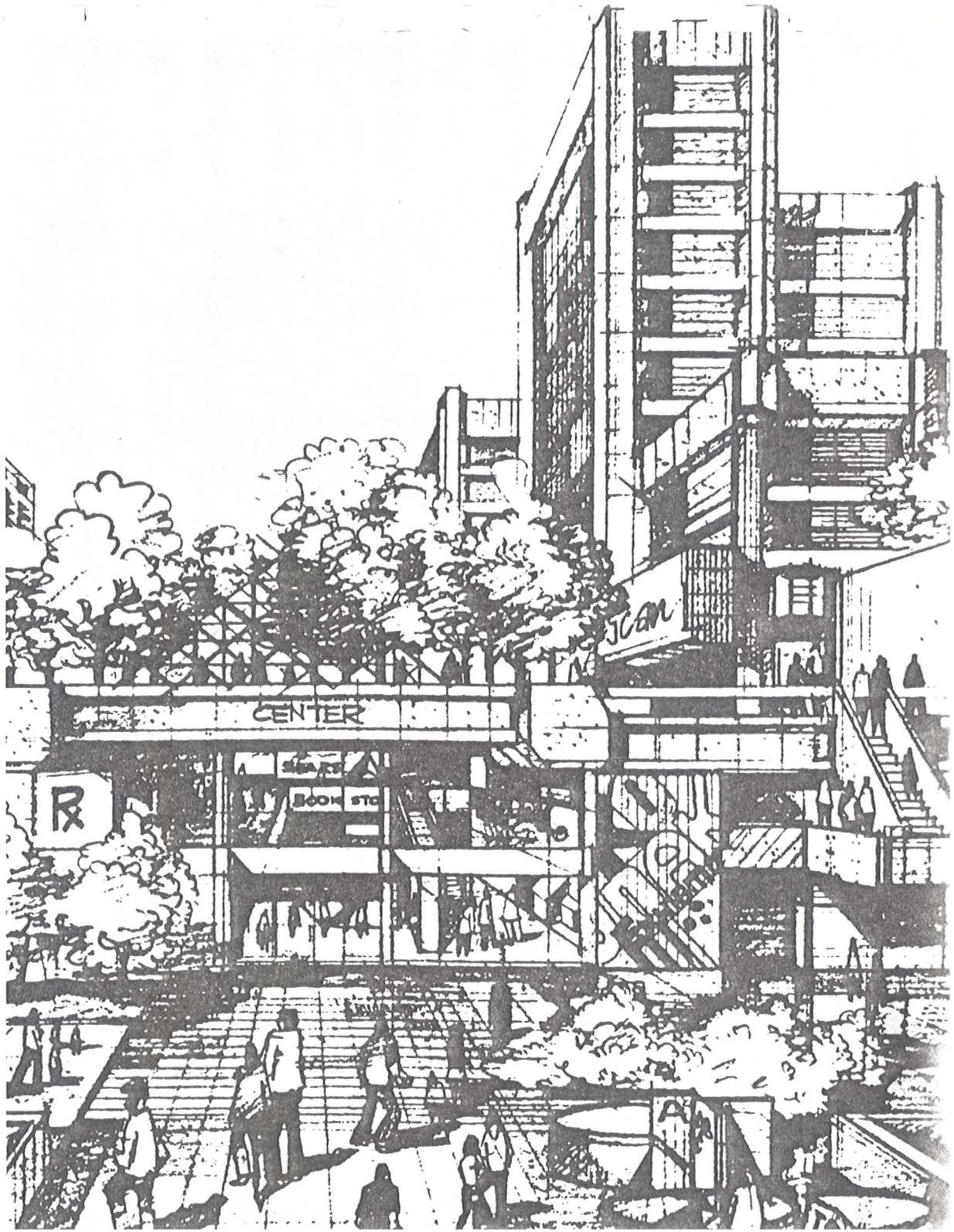


NEWARK NEW TOWN – INTOWN

The "New Town-Intown" planning concept presents an overall strategy and a vehicle for the citizens of Newark to capitalize on current development achievements and market potentials within the Central City. It is a means to avoid the limitations of conventional urban renewal and redevelopment methods and also to provide social and economic programs on which successful physical development inevitably depends. It also confronts the essential financial and economic realities which are integral to effect a comprehensive development plan. SOM has developed a program directed towards action in critical growth areas within the city. These include a Newark Center site of approximately 400 acres and a Weequalic Park site of 75 acres.

NEWARK NEW TOWN – INTOWN

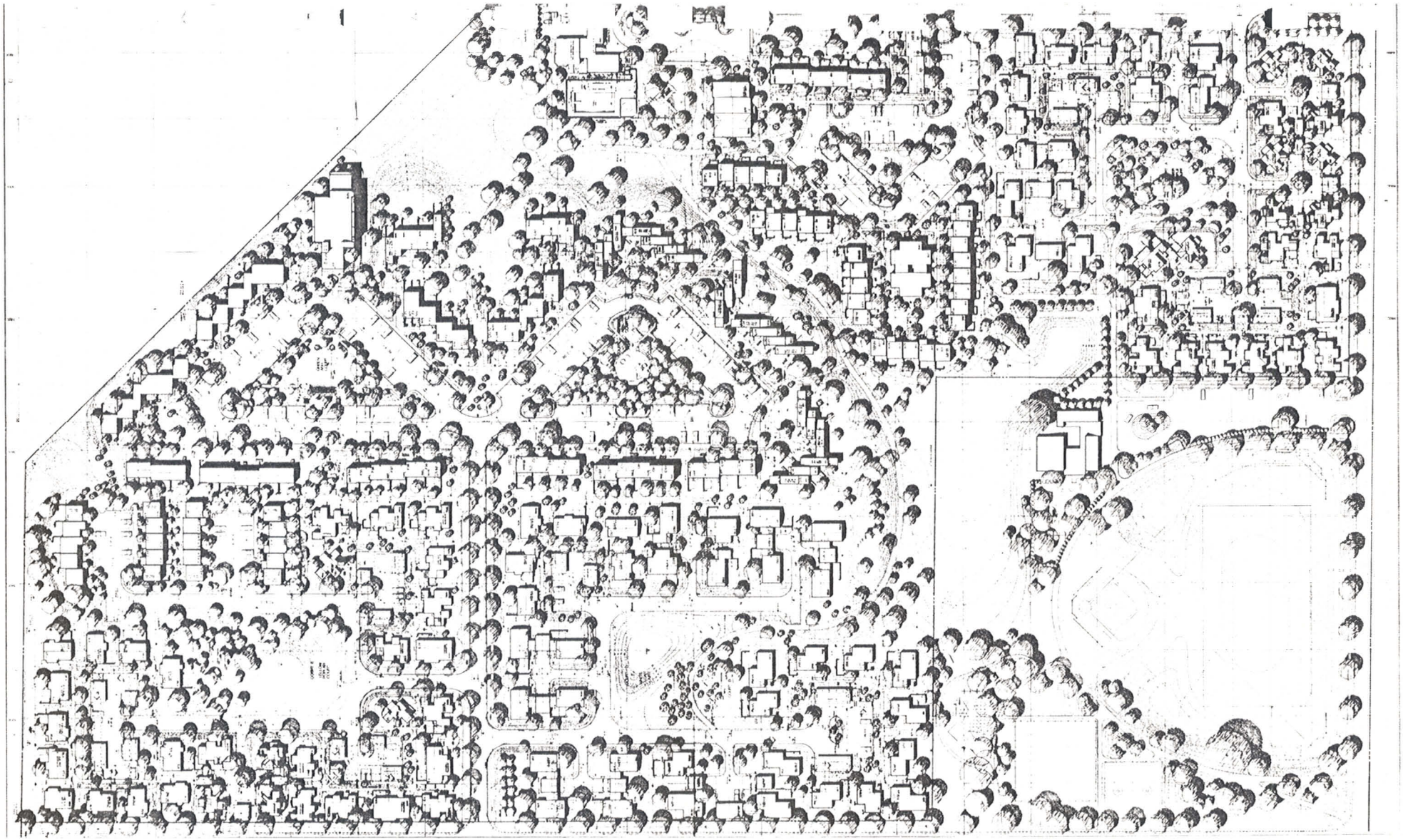
A major objective of "New Town-Intown" is to prepare and equip residents with the means to participate and possibly to be directly employed in the New Town programs. This will be in a variety of capacities including potential entrepreneurs, housing managers, contractors, and paraprofessionals in the fields of health, education or government. The concept defines seven planning districts, each of which represents a type of development particular to local conditions while still providing an overall framework within the New Town concept. The planning program is presently moving forward in the implementation and funding stages.



OPERATION BREAKTHROUGH—INDIANAPOLIS, INDIANA
MASTER PLAN PROGRAM DEVELOPMENT

In the initial planning stages two major goals were determined for the development of the detailed master plan. First, a unifying framework must be provided for the various housing systems as well as the different living patterns associated with private homes, townhouses and apartments. Second, the new site should be planned as an integral part of the surrounding community and be responsive to its needs and characteristics. By using the extensively landscaped and contoured open space system as the major design element, both of these goals are achieved. In addition to providing an important environmental amenity for the entire community, the open space system establishes a unifying framework for all the elements of the plan. In addition, it links the site to the surrounding community, providing a public community park as well as a series of semi-private spaces exclusive to the new community. An extensive network of paths running throughout the site emphasizes the close relationship between pedestrian circulation and the open space system. At the periphery of the site, the paths link with the surrounding community at key points. Vehicular access is provided by a discontinuous internal road system which affords access without disrupting the continuous flow of open space. Housing is placed in cluster patterns around small common parks which link with the major open spaces. Single family houses are located on the portions of the site which are adjacent to the surrounding community, maintaining a continuity of density and scale. Higher density housing is related to the interior portions of the site adjacent to major open spaces. A middle school, located in the center of the site is proposed by the School Board. Presently under construction on the northeast quadrant of the site is a special school for mentally retarded children. A key link with the surrounding community is the Community Center and Park which have been designed in the southeast quadrant of the site, central to the surrounding community and easily accessible to site residents. This park and community building offer major recreational facilities and are strategically located to be a focus for the total community.

SITE PLAN

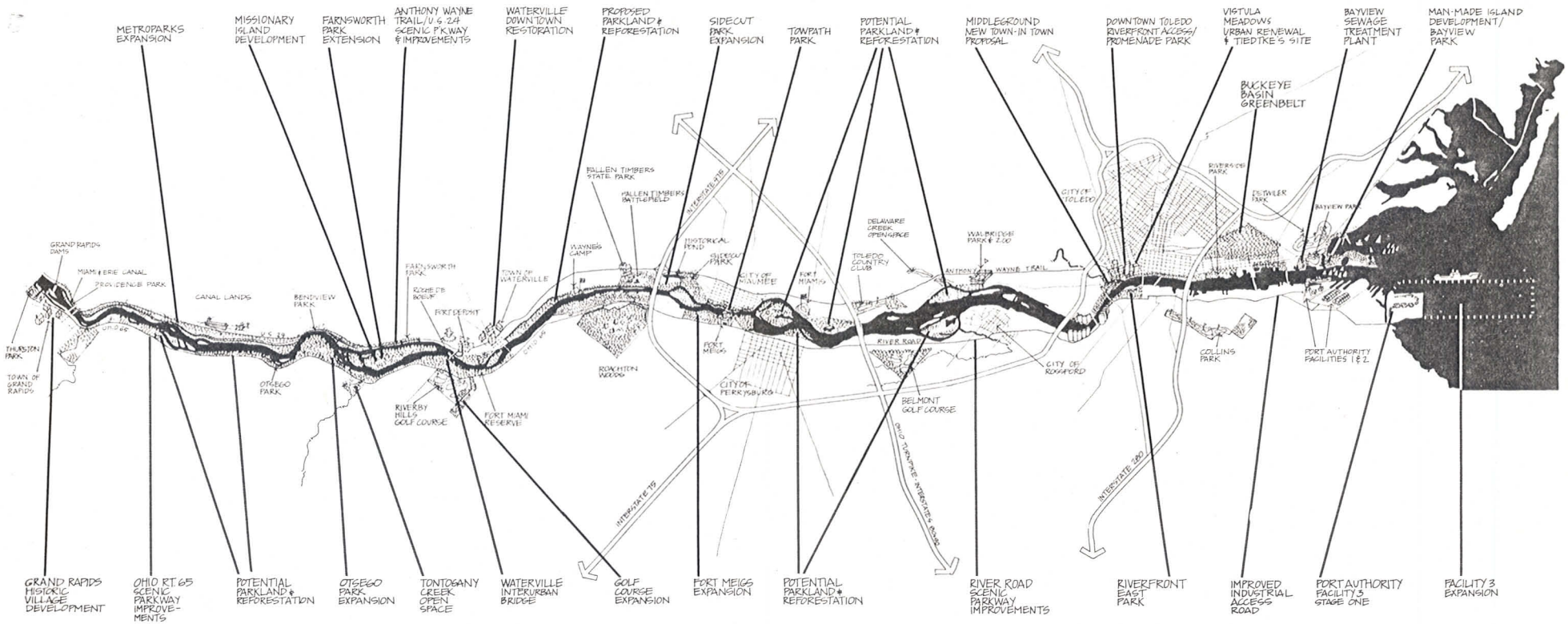


OPERATION BREAKTHROUGH – INDIANAPOLIS, INDIANA

Stage 1 of the development is the operation breakthrough portion of the total master plan. Consisting of approximately 42 acres, Stage 1 is located in the southeast quadrant of the site. Housing on the site will total 300 d.u.'s and include approximately 35% single family detached, 25% single family attached and 40% multi-family low-rise units. Housing: The basic goal in the design of housing on site is to create small, distinctive neighborhoods within the total community. These neighborhoods, averaging 50 units per cluster, are oriented along the open space network and are of two types. Single family detached clusters are located on the periphery of the site, reflecting the scale and density of the surrounding community. Multi-family and town house units are combined in clusters toward the interior of the site where they are adjacent to the major open spaces. Units in both types of clusters encircle semi-private parks which provide individual identity and focus for each small neighborhood. In the single family clusters, houses are placed on minimum lots. Utilizing the zero lot line concept, they are so arranged that individual private yards are defined by the blank walls of the adjacent houses. Through the use of minimum lots, the unused space which usually occurs in individual front and side yards can be consolidated for the semi-private in the center of each cluster. Thus, all exterior space is intensively and efficiently used for private or common activities. The site facilities designed for use by the residents of the development range from a community club and swimming pool to small neighborhood tot lots located in each of the cluster areas.

PHYSICAL DEVELOPMENT PROGRAM FOR THE UPPER ALBANY NEIGHBORHOOD HARTFORD, CONNECTICUT

Skidmore, Owings & Merrill assisted the Greater Hartford Process, Inc. and the Greater Hartford Community Development Corporation by preparing a physical development program for the Upper Albany Neighborhood in North Hartford. The proposed improvement program seeks to ensure that the Upper Albany Neighborhood will continue to provide a suitable living environment for its residents, and that, over time, it will become a strong base for the projected improvement for all of North Hartford. SOM prepared a general plan of development for Upper Albany, suggesting a range of physical improvements for reinforcing existing neighborhood strengths and for solving a number of the neighborhood's environmental problems. In addition to the general plan, special areas of concern were studied in more detail in order to identify needed improvements and early action projects. Such analysis has led to proposals for neighborhood-oriented commercial development and public environment improvements, for industrial development, and for recreation and open space improvements. The work, representing an initial stage of planning, was intended to provide a basis for discussion among Process/Devco, community representatives, business organizations, the City of Hartford, and Federal agencies, in order to reach consensus and commitment on a coordinated, comprehensive program to be developed into further detail for implementation. It was felt that the success of the neighborhood improvement program was contingent upon upgrading the image of Albany Avenue, the neighborhood's commercial spine. During the past several years the Avenue has changed from a neighborhood commercial street to an auto-dominated strip with several new gas stations, numerous drive-in businesses, and much commuter-oriented advertising, with neighborhood-oriented services in short supply. The Albany Avenue development program presents a set of proposals for increasing community-oriented businesses and services along Albany Avenue. The program calls for: first, the development of a new shopping center to provide needed neighborhood commercial services (supermarket, shops) and entertainment activities; second, reinforcing commercial concentrations along Albany Avenue by assisting local businesses to obtain financing for rehabilitation; and third, providing improved parking opportunities at new and existing commercial concentrations. In addition, an immediate action Public Environment Improvement Program for Albany Avenue seeks to create a new "image" for Albany Avenue, making it a community and pedestrian-oriented linear "Park-in-the-City" through continuous tree planting areas along the Avenue, numerous sitting areas, and several recreation parks.



MAUMEE RIVER CORRIDOR PROJECT POTENTIALS

STUDY DESIGN FOR MAUMEE RIVER CORRIDOR, TOLEDO, OHIO

Skidmore, Owings & Merrill provided assistance to the Toledo Metropolitan Area Council of Governments and the Toledo-Lucas County Planning Commission in designing a program for integrating planning and development of the Maumee River Corridor within the Toledo metropolitan area. The Maumee River is the most significant geographical feature in the Toledo area, although it is presently lacking in environmental amenities and public accessibility. The river has the potential of becoming the region's prime environmental asset. It could be the focus of the downtown's rejuvenation and could contribute to the enhancement of the quality of life throughout the region. In 1973 SOM helped the Council of Governments prepare the *Study Design for Maumee River Planning and Development.* To enable Toledo to move forward with this comprehensive program for the enhancement of the Maumee River Corridor, the Council of Governments, assisted by SOM, prepared a formal application for an Integrated Grant from the Federal Government's Integrated Grants Administration Program. The primary objectives of the proposed Maumee River program are to coordinate and guide land use development of the river corridor, to preserve open space areas along the river, and to increase public access to the river. Work would be coordinated with concurrent programs for water quality management, pollution abatement, erosion control, and sedimentation prevention. To accomplish the objectives, new program functions to be carried out were defined as follows: (1) Creation of an *overall plan* for the guidance of river corridor development and the establishment of *priority projects* for expediting planning and development; (2) Establishment of procedures and sufficient information for the *evaluation* of development proposals; (3) Eliciting *citizen participation* in the river corridor planning, the evaluation of development proposals, supporting water quality management programs, and responding to basin-wide issues; (4) Providing *technical assistance for flood plan management* to local jurisdictions to implement uniform management procedures and controls; and (5) Providing *overall management,* including program direction, decision and implementation coordination, and application for financial assistance.

Anderson Notter Associates is widely known in Eastern Massachusetts and New England for its extensive historic preservation planning, restoration and adaptive reuse work. Approximately 75 percent of ANA's projects have involved National Register Districts and/or Properties.

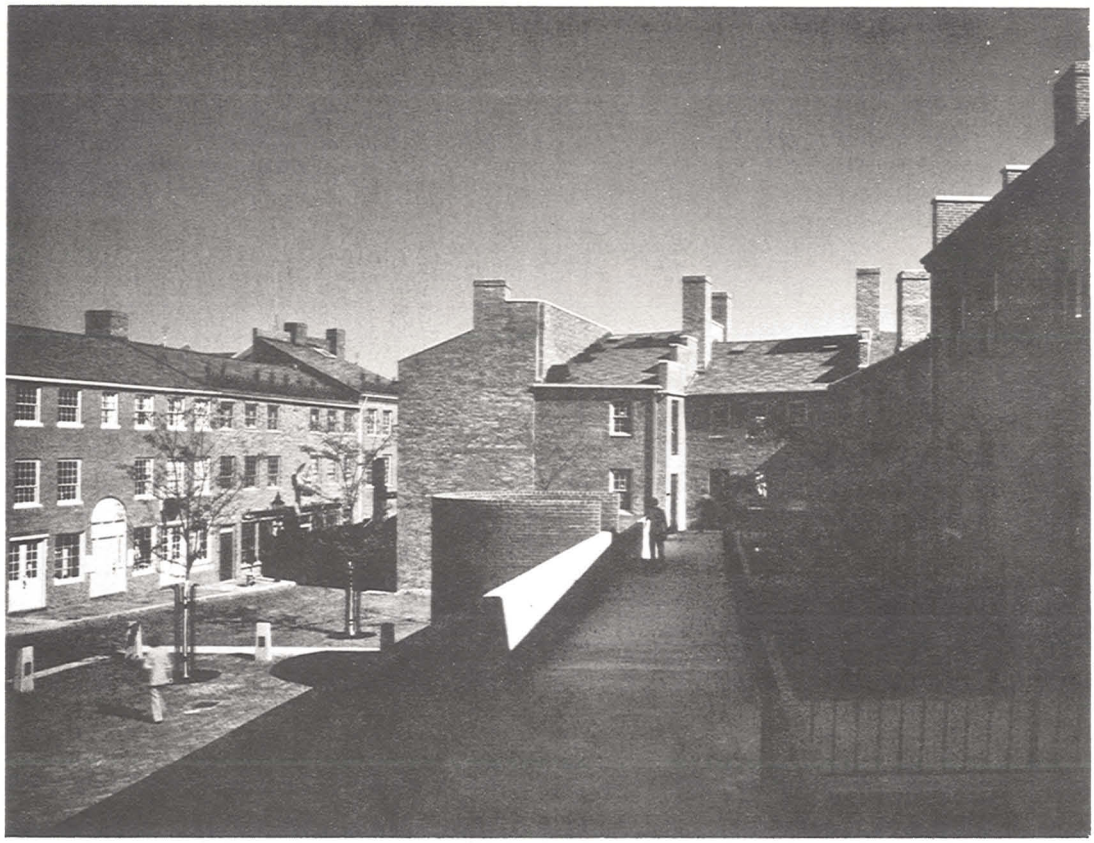
Old Boston City Hall--Boston, Massachusetts. ANA directed the conversion and preservation of this mid-ninetheenth century building, no longer useful to the City after its move to new quarters, into dynamic office, commercial and restaurant space. These efforts received the L. J. Peabody Award for Creative Excellence in 1973, the 1972 Preservation Award from the Boston Society of Architects, and a 1975 Honor Award from the New England Regional Conference of the American Society of Architects. The site is a National Register Historic Landmark.

Market Square Historic Redevelopment Project--Newburyport, Massachusetts. ANA was the architect and urban design consultant for the replanning of the 22-acre, early ninetheenth century seaport for the Newburyport Redevelopment Authority. Previously scheduled for demolition, the redesign plan emphasizes compatible new development and preservation techniques to enhance and protect the historic town center through urban renewal. ANA has recently received a 1975 Honor Award for this project from the New England Regional Conference of the American Society of Architects.

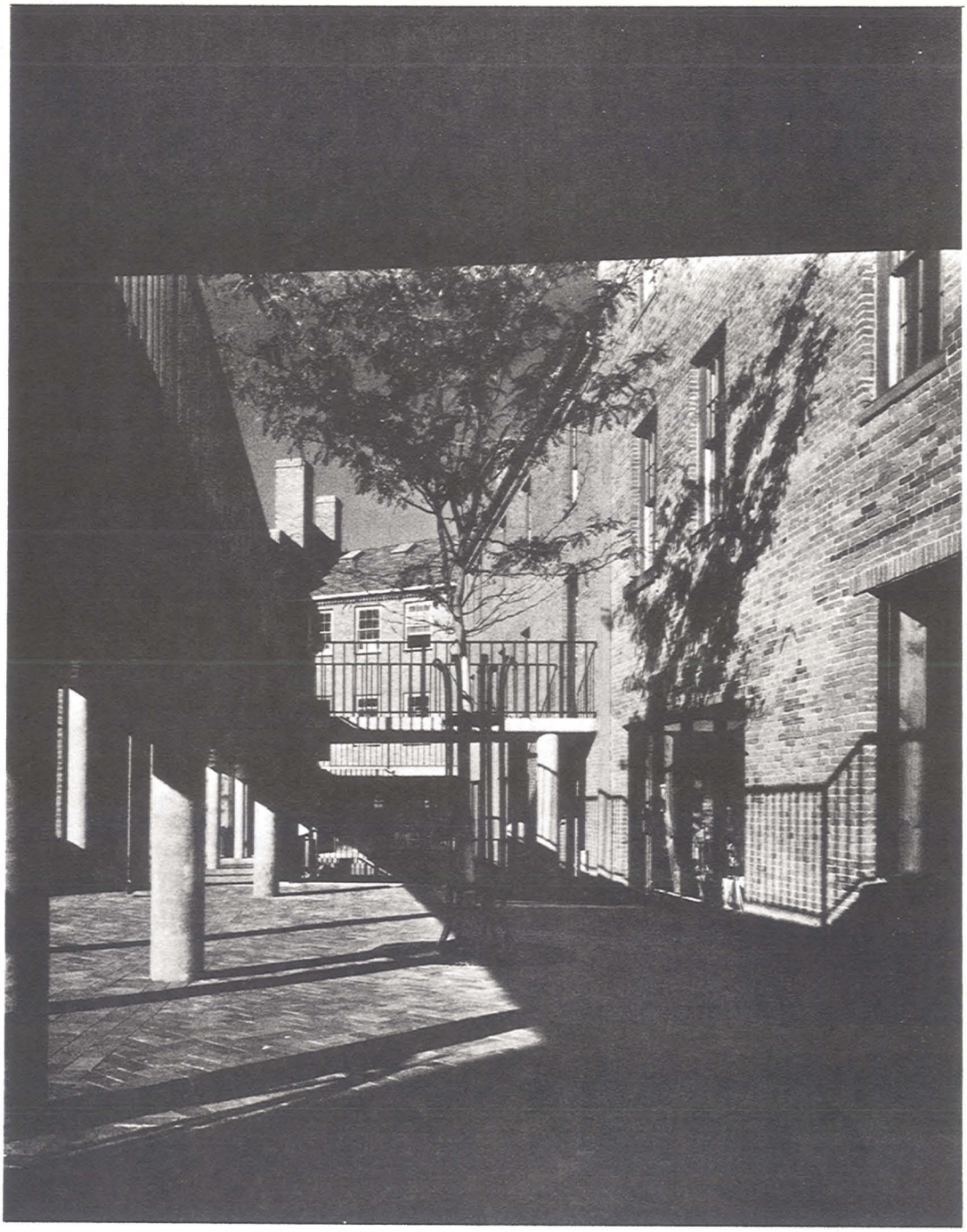
Customs House Block--Long Wharf, Boston, Massachusetts. Anderson Notter was responsible for conversion and preservation of this mid-ninetheenth century building, originally a ship's storage and warehouse, into new residential and commercial uses. The structure is listed on the National Register of Historic Places, and the restoration efforts received both a 1974 First Honor Award from the American Institute of Architects/House and Home National Competition, and a 1974 A.I.A. Design Award from the New England Regional Conference of the American Institute of Architects.

Chart House Restaurant (Gardner Building)--Boston, Massachusetts. Rehabilitation and conversion of this mid-eighteenth century warehouse into an imaginative restaurant facility for the Chart House was another of ANA's adaptive reuse projects. The structure is within the Waterfront National Register Historic District of Boston and served as an early catalyst in the reconstruction of that area, winning a 1974 A.I.A. Design Award from the New England Regional Conference of the American Institute of Architects.

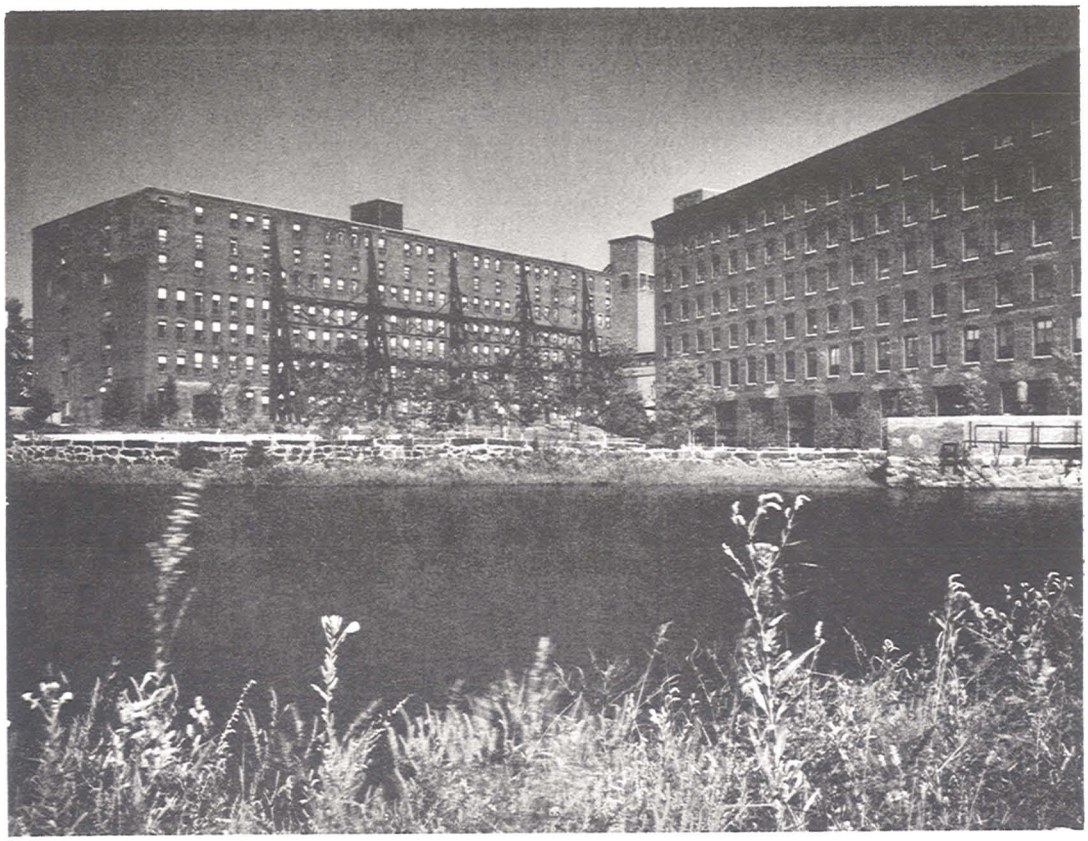
The Tannery--Peabody, Massachusetts. ANA was responsible for the rehabilitation and conversion of this mid-nineteenth century group of urban A. C. Lawrence tannery buildings into a dynamic and imaginative living community for senior citizens adjacent to the central business district. This project has also recently been awarded a 1975 Honor Award by the New England Regional Conference of the American Institute of Architects. It also ia a proto-typical adaptive reuse of old New England mill structures similar to those in Lowell.



Newburyport

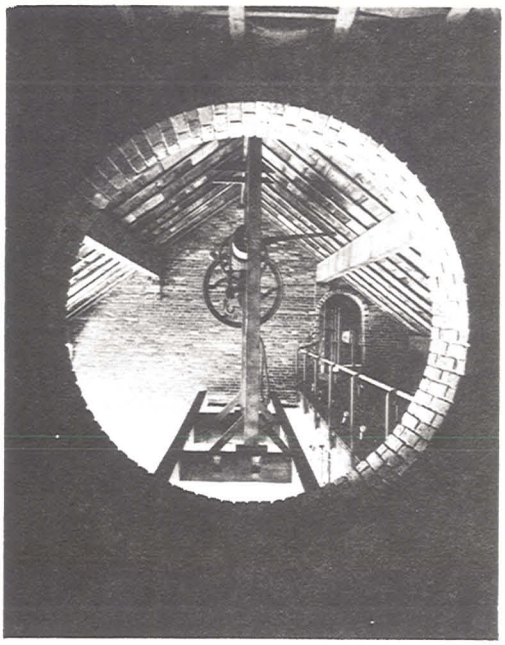


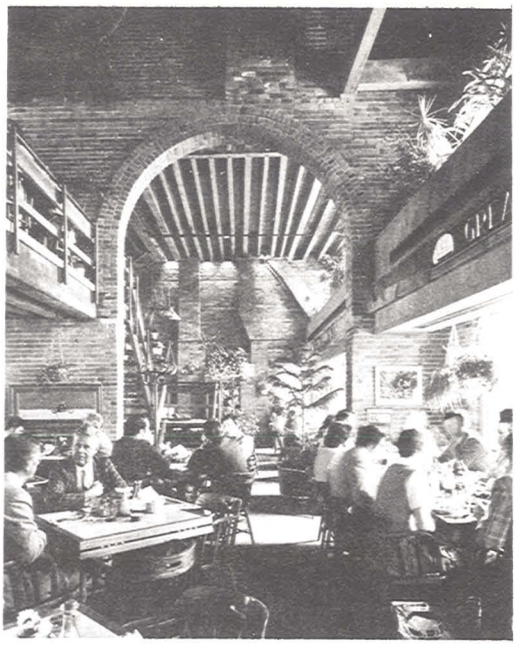
Newburyport



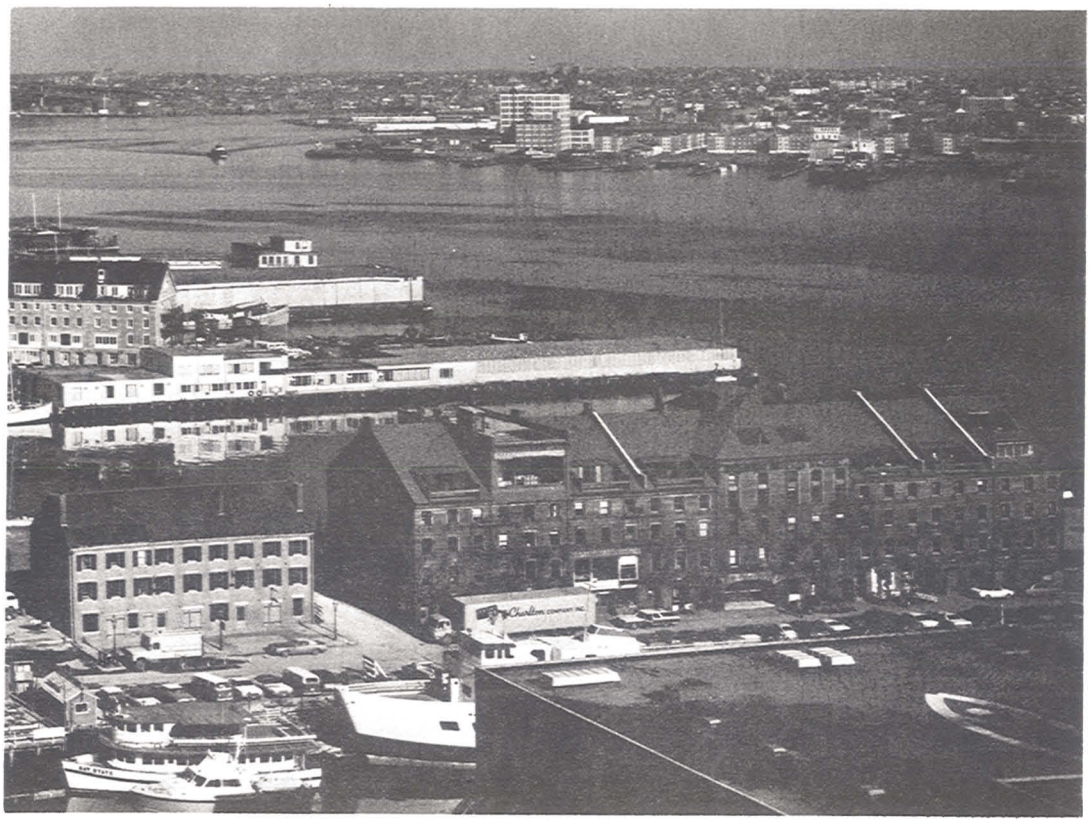
The Tannery

Old Boston City Hall

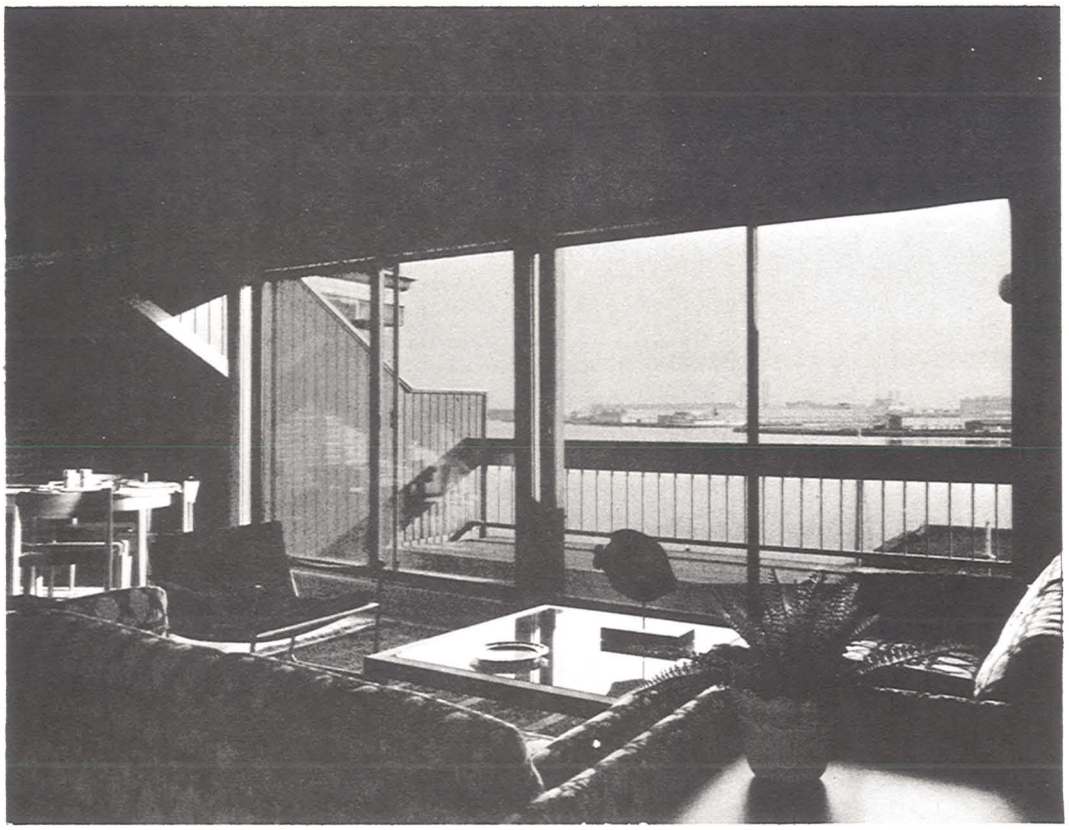


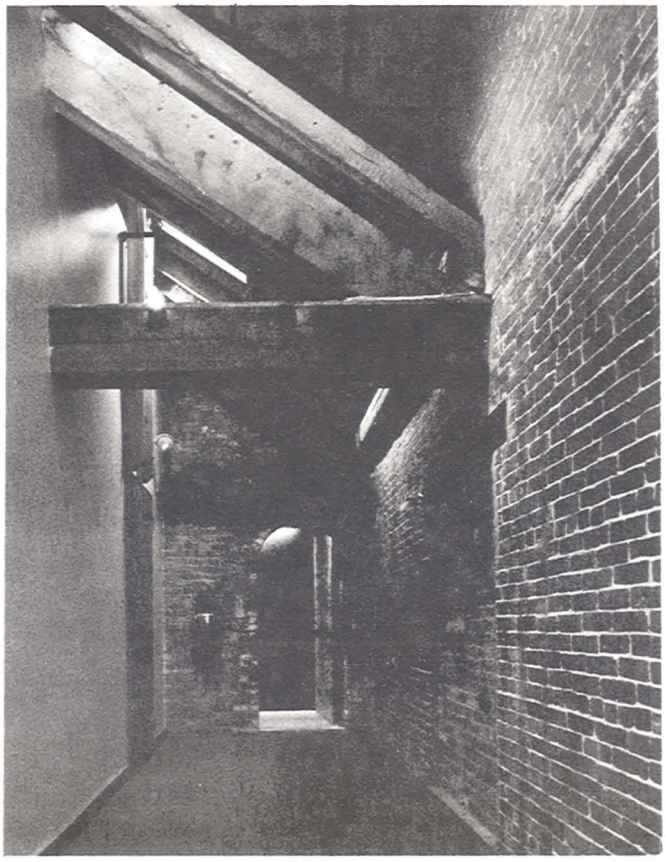


The Chart House



Long Wharf
The Custom House Block





Long Wharf
The Custom House Block

ERA has participated as a subconsultant to SOM on the Lowell Transportation Planning Study, the NMAC Comprehensive Transportation Plan Study, and the Salem Waterfront Feasibility Study. In addition to their knowledge of Lowell and its economic problems and potential, ERA has had national experience in the economic analysis of historic preservation and tourism projects and on the development of institutional, management, and budgeting structures.

Historic Areas of Rome, New York. ERA was retained under a grant from the U.S. Economic Development Administration to analyze the proposed tourism development program in Rome. This program, now partly in operation, includes a restored section of the Erie Canal, which visitors may view from a canal packet boat, and restoration of an 1840 canal village including church, hotel, train station and barn, as well as two history museums and other major sites and facilities in the area. ERA's work included evaluation of the initial development concept, market analysis, attendance projection, development of project planning guidelines, financial analysis, formulation of a recommended implementation program, and assessment of the potential impact of the project upon the local economy.

Tourism/Bicentennial Information System. ERA is currently involved in a study of the potentials for a New Engalnd-wide tourist information system. This work for the New England Regional Commission will seek to inventory the numerous public and private information resources available for visitors to the region and then to formulate an integrated overall Bicentennial tourist information system.

Faneuil Hall Area--Boston, Massachusetts. The Faneuil Hall area of Boston is currently undergoing a $25 million restoration involving 43 structures including the well-known Quincy Market. Primary uses will include specialty retail shops and restaurants (with retention of the long-standing Durgin Park Restaurant already at the site) and office space to be located on the upper floors of existing structures. Developer for the project is James W. Rouse, of Columbia, Maryland. Economics Research Associates served as consultant to the Rouse organization on the specialty retail uses for the project.

Massachusetts Bicentennial Planning. As a component of the transportation plan for the Massachusetts Bicentennial celebration, ERA evaluated tourist flows to the State, seasonality and length of stay factors and peaking characteristics of visitation to Massachusetts. As part of this work, ERA gathered use data on over 150 potential Bicentennial visitation sites in the State and a plan for accommodating increased visitation levels was recommended.

Golden Gate Recreation Travel Study. ERA is currently developing a recreation travel information system for the San Francisco Bay area which includes an inventory of existing information systems, analysis of user needs and design and implementation of a practical, simple-to-use information system on travel alternatives and conditions for recreation trips.

New England Aquarium--Boston. For the expansion program of the New England Aquarium, ERA evaluated the oeprating experience of the existing facilities, analyzed the program schedule, hours of operation, attendance patterns and facility use characteristics and pedestrian activity patterns. For the expansion program ERA evaluated the characteristics of alternative development proposals, projected attendance levels, and recommended facility sizing and operating schedules as well as admission rates for the recommended program.

SOM GENERAL FIRM BACKGROUND

Skidmore, Owings & Merrill was founded in 1936 to bring new approaches in architectural design, planning and engineering to bear on the vital task of improving the quality of man's environment. Since then, SOM has undertaken the design, engineering, and supervision of construction of a variety of architectural projects in the United States and over 25 other countries throughout the world, and it has received more than 180 National and International awards for excellence in design.

The firm's experience in architecture, urban planning, and environmental design is highly diversified. In architecture, SOM's work has included large and small scale projects ranging from commercial office buildings, industrial plants, education complexes, hotel and airports to religious, recreational and residential facilities.

In the field of urban planning and environmental design, SOM's experience dates back to 1940 when it designed the New Town of Oak Ridge, Tennessee. Since then, the firm has developed a wide ranging expertise and has undertaken major projects in dozens of American cities. This experience includes downtown urban renewal projects, new town planning, neighborhood rehabilitation programs for the Federal Model Cities Program, industrialized housing projects, urban highway and public transportation planning, environmental impact analysis, urban and regional land use studies, and open space and recreation plans. Throughout its work, SOM has placed major emphasis on developing the financial, administrative, legal and legislative analysis and mechanisms required to implement a client's project.

Skidmore, Owings & Merrill has offices in Boston, New York, Chicago, San Francisco, Portland, Oregon, Washington, D.C., and Paris, France. The firm pioneered the multi-disciplinary team approach to planning and design projects, and currently has a staff of over 800 architects, engineers, urban and regional planners, lawyers, economists, and management specialists. Each of the offices can draw on the others for specialized computer services and professional skills.

The Skidmore, Owings & Merrill offices in Washington, D.C. and Boston were established to specialize in community development planning and design, urban transportation and environmental planning and design. Opened in 1967, SOM/Washington, D.C. has done work for Federal, State and local government agencies, as well as private clients, and its staff has special knowledge of legal and administrative requirements affecting Federally financed development projects. The Boston office, which works closely with the SOM/Washington, D.C., was created in 1971 to provide expert professional services in the New England area.

The Boston and Washington offices of Skidmore, Owings & Merrill have been engaged in a series of highway and transit studies for various municipalities, States, and the Federal government. These projects have ranged from site-specific transit and highway facility design studies, to system routing and location analyses, to studies of transportation policy and planning procedures having nation-wide application. Selected summary descriptions of our related recent or current transportation planning projects are included below.

Many of our recent projects have been carried out in response to the mandates of the National Environmental Policy Act. As such, we have assisted transportation agencies in integrating a broad array of social, economic, environmental, and physical design evaluation criteria into their transportation facility location, design and selection processes. In addition, we have often been requested by our clients to conduct community and public agency liason programs in conjunction with our technical study efforts. This experience has provided us with valuable insights into the transportation planning and decision-making process, as well as first-hand knowledge of the probable beneficial and adverse impacts of various transportation facility alternatives.

Largely as a result of this experience, SOM has been selected to participate in several major transportation technology and policy studies for the U.S. Department of Transportation. In 1970, SOM, Arthur D. Little, Inc., Real Estate Research Corporation, and Wilbur Smith Associates joined forces to perform the Center Cities Transportation Project, a study of emerging technological and institutional transportation concepts designed to improve transportation services and facilities in five major American cities.

In 1973, SOM collaborated with the National League of Cities/U.S. Conference of Mayors and Development Research Associates to carry out the Transit Station Joint Development study, a project jointly sponsored by DOT and HUD. The purpose of the project was to identify the impacts, including land development pressures, associated with construction of new transit stations, and to establish planning guidelines and criteria that foster coordinated transit system/land use planning.

Most recently, in March, 1974, SOM was selected by DOT to assemble a team of specialist subconsultants, including Alan M. Voorhees and Associates, Jason M. Cortell and Associates; Hammer, Siler, George Associates; ESL Incorporated; and Howard, Needles, Tammen & Bergendoff, in order to conduct a comprehensive review of environmental impact assessment requirements, criteria and techniques, and to re-evaluate current procedures for preparing and reviewing Environmental Impact Statements. The products of the Guidelines for the Social and Environmental Assessment of Transportation Alternatives study will include a series of planning guideline manuals for use by transportation planners throughout the country in the development, evaluation and selection of transportation facilities.

SELECTED PROJECT DESCRIPTIONS

The projects listed below and briefly described in the following pages have been selected to demonstrate recent experience that Skidmore, Owings & Merrill has had in large- and small-scale transportation planning projects, and in the area of environmental and community planning and design.

Environmental Planning and Design

- Washington Mall Master Plan
- Washington Mall Circulation Systems
- The San Antonio River Corridor Study
- NERBC Urban Waters Special Study
- Study Design for Maumee River Planning and Development
- Port Royal Estuarial Study and Hilton Head Island Master Plan
- Hilton Head Island Transportation Concept

Community Development Planning and Design

- Physical Development Program for the Upper Albany Neighborhood, Hartford, Connecticut
- Springfield Center Site Development Study, Springfield, Massachusetts
- Salem Waterfront Site Reuse Feasibility Study, Salem, Massachusetts
- Operation Breakthrough
- Newark Model Cities: Phase 1
- Newark New Town -- In Town
- Detroit Paired New Towns
- Philadelphia/Market Street East

Urban Transportation Planning and Design

- Lowell Transportation Planning Study
- Route 2 Environmental Study
- U.S. DOT Gudelines for Social and Environmental Assessment of Transportation Alternatives
- Assessment of Community Planning for Mass Transit
- Baltimore Urban Design Concept Team
- Boston Transportation Planning Review
- West Side Highway Study (New York City)
- Transit Station Joint Development
- Center Cities Transportation Project
- Subway Station Design, Bay Area Rapid Transit (BART), San Francisco
- Chicago Transit Authority
- Fort Worth Transit Study
- Joint Development Planning for the Wellington Transit Station, Meford Massachusetts
- Baltimore Transit Station Joint Development Legislation
- Model Cities Transportation Project
- Salem-Peabody Arterial Connector Study
- Portland, Oregon I-80N Environmental Study
- Downtown Transit Mall, Portland, Oregon
- Chicago Crosstown Design Team
- Manchester Airport Master Plan

ENVIRONMENTAL PLANNING AND DESIGN

Skidmore, Owings and Merrill has considerable experience in environmental planning. As the projects described here illustrate, the firm has prepared regional land use plans, coastal area studies, and open space and recreation area designs of major national importance. SOM has also developed extensive expertise in preparing Environmental Impact Statements on numerous projects. The work described here does not include an equally varied number of community development projects ranging from residential site planning to urban renewal, new town planning, and neighborhood rehabilitation. On all these projects in both categories, SOM has sought community and public agency involvement in the planning and design process in order to assure implementation of the plans.

WASHINGTON MALL MASTER PLAN

The Mall area in Washington, D.C., is a national center of art, history, and government that includes the White House, the Capitol, the Washington Monument, and the Lincoln and Jefferson Memorials. In 1966, SOM was contracted to develop a Master Plan for the Mall as the need to improve the design became apparent with the growing number of tourists. Alan M. Voorhees and Associates, Inc. served as a subconsultant to SOM in the areas of traffic and transportation planning. The major objective of the plan was to preserve and highlight the historical buildings and to establish them in a comprehensive landscape structure, while providing maximum use of the area. The study included interrelated elements of public and private transportation systems, terminal and parking facilities, shuttle systems, and methods of circulation.

WASHINGTON MALL CIRCULATION SYSTEMS

In preparation for the Bicentennial celebration, the National Park Service commissioned Skidmore, Owings & Merrill, the architecture/planning firm that prepared the 1966 Washington Mall Master Plan, to develop design concept schematics for visitor circulation systems and related services to be implemented by 1976. The 1966 Plan was a conceptual framework for future development of the Mall. The area of greatest concern for this 1976 Development Plan was defined as the portion of the Mall between Madison and Jefferson Drives from the U.S. Capitol to the Washington Monument. The consultants were asked to develop a circulation network for tourmobiles, pedestrians, and bicyclists, with locations for tourist services and activities and appropriate adjunct lighting and landscaping.

The purpose of the proposed Bicentennial development on the Mall is to provide an efficient and aesthetically pleasing environment capable of accommodating the crowds of visitors expected in the nation's capital in 1976. An increase in the variety and number of cultural activities keyed to the interests of Bicentennial visitors will be made available through the National Gallery of Arts addition, the new Air and Space Museum, the National Sculpture Garden, and the Hirshhorn Museum, as well as important new exhibits in the existing buildings. The annual National Folk Festival on the Mall is proposed for expansion in scope and duration in 1976. Other projected major Mall developments for the Bicentennial include a visitor facility at the base of the Washington Monument and the Constitution Gardens on the north side of the lIncoln Memorial Reflecting Pool.

The part of the Mall currently attracting highest visitation is crowded with traffic and parking, which limits the ability of visitors to enjoy the full potential of the landscape. The Department of Interior believes that greatly reducing the impact of the automobile and charter bus will restore a sense of pleasing ambience to the Mall, while emphatically demonstrating the Department's intention to rededicate this foremost national parkland to the pedestrian.

The guiding philosophy of the design SOM has proposed in the 1976 Development Plan is to retain the appropriate dignity of the Mall while permitting an increased level of visitor activity. The design calls for the removal of the four east-west drives between Independence Avenue and Constitution Avenue from 3rd Street to 14th Street. Replacing these vehicular drives will be a tourmobile route and a network of pedestrian walkways. The tourmobile route would also be used for bicycles as well as emergency, police, and service vehicles. Visitors services located along the major pedestrian walkways would include bicycle racks and rentals, information/sales kiosks, tourmobile ticket booths, drinking fountains and benches.

The landscaping recommendations call for an increased lawn area in front of the museum buildings. The design calls for restoration of the axial center

panel lawn and the planting of an additional row of trees on either side of this greensward. New zones of activity are proposed under the existing plantation of American elms. These activities would be of a temporary and flexible nature and would include such events as outdoor art displays, casual evening concerts, and Smithsonian exhibits relating to the Bicentennial.

The lighting design recommends the reuse of the existing elegant light standards along the building side of the Mall, unobtrusive lights hanging from the trees themselves to light the pedestrian pathways and activity zones, and new bollard lights in alignment with the proposed new row of American linden trees.

THE SAN ANTONIO RIVER CORRIDOR STUDY

The San Antonio River Corridor Study is a plan for 3,000 acres of central San Antonio, which is being implemented. It was done by Skidmore, Owings & Merrill, in joint venture with Marshall Kaplan, Gans and Kahn, a social and economic planning firm in 1972-73. A multi-agency committee was formed to conduct the study for the City of San Antonio. Working closely with the San Antonio River Corridor Committee, the consultants prepared a general plan and a set of specific development policies and programs. Since the River Corridor contains every urban land use, including the retail-commercial core, and lies at the geographic focus of the San Antonio Metropolitan region, the River Corridor Study deals with all aspects of urban life. The report submitted covers the River; the Corridor as the Regional Center; Neighborhood Life in the Corridor; Framework for Decision Making; and Managing Corridor Revitalization.

Since the settlement along the River is 250 years old, and has many structures of architectural consequence, and since the River is the undisputed basis of the charm of the City, conservation and environmental amenity were major concerns in the physical plan. The plan for the River Corridor won a award from Progressive Architecture.

NERBC URBAN WATERS SPECIAL STUDY

Skidmore, Owings & Merrill is currently directing the Urban Waters Special Study for the New England River Basins Commission (NERBC). The multidisciplinary team which SOM organized to do the project includes two other specialized firms: Jason M. Cortell & Associates and Economics Research Associates.

The Urban Waters Special Study, which started in April, 1973, is a special three-month project for the Commission's Southeastern New England Study Region (SENE). As part of the New England River Basins Commission's program, SENE is preparing a comprehensive plan for conservation and development in this region, an area which encompasses inland river basins and coastal estuaries in southern Massachusetts, Rhode Island, and parts of Connecticut. Boston Harbor, the Providence waterfront, the rivers draining into Narrangansett Bay and Block Island Sound, and Connecticut's Pawtucket River Basin are all within the study region. Although this area contains only 7% of the land area of New England, it contains 45% of the population. Increasing urban and suburban development is placing heavy pressure on the region's open spaces, fresh water wetlands, coastal areas, and water resources. The Commission's work aims to establish a rational balance between the development and the conservation of these resources.

The Urban Waters Special Study is a separate component of SENE's overall plan. It is aimed at the particular issues and problems facing the cities and towns within this region which have waterfronts on rivers or coastal waters. The study covers harbor cities in major metropolitan areas such as Boston and Providence, smaller coastal cities like New Bedford, Fall River, Gloucester, Plymouth and Newport, and cities and towns like Pawtucket and Woonsocket in Rhode Island and Attleboro in Massachsuetts.

Focusing on a selected number of such cities and towns, the SOM team is doing the technical analysis required to formulate guidelines and criteria for treating urban waterfronts within the overall SENE region. The team has analyzed the physical, economic, ecological and legal and institutional issues related to urban waterfronts in the SENE region. This required developing an inventory of predominant waterfront land uses; reviewing water resources for fisheries, wetlands, flood areas and coastal zones in the area; analysis of general population, employment and waterfront land use trends; and a review of the Federal, State and local governmental jurisdictions affecting these urban waterfront areas and the program that exists for waterfront acquisition, improvement and development in this area.

A report incorporating the findings of the Study and the specific institutional and legal recommendations and management alternatives is being prepared for the SENE staff and the New England River Basins Commission. The report will define the key issues affecting urban waterfronts in the

area and will formulate specific planning and design guidelines for waterfront land uses, economic development and ecological protection and environmental improvement. Institutional and legal mechanisms for implementing waterfront controls and guiding improvements will be a primary portion of the Study.

Throughout the project, each firm on the team focused on its special area of expertise. Aside from managing the entire effort and integrating several parts of the Study, SOM concentrated on developing the issues and guidelines related to the physical design of waterfronts and on formulating the institutional and legal analysis and recommendations for the project. Economics Research Associates concentrated on the population, employment, and economic waterfront development issues, while Jason M. Cortell & Associates staff analyzed the water-related environmental and ecological issues.

STUDY DESIGN FOR MAUMEE RIVER PLANNING AND DEVELOPMENT

Skidmore, Owings & Merrill provided assistance to the Toledo Metropolitan Area Council of Governments and the Toledo-Lucas County Plan Commissions in designing a program for catalyzing interest and integrating planning and development of the Maumee River Corridor within the Toledo metropolitan area.

The Maumee River is the most significant geographical feature in the Toledo area, although it is presently lacking in environmental amenities and public accessibility. With a concerted effort, the Maumee has the potential of becoming the region's prime environmental asset. It could be the focus of the downtown Toledo's rejuvenation and could contribute to the enhancement of the quality of life throughout the region.

SOM assisted the Council of Governments in preparing a Study Design for Maumee River Planning and Development and, in addition, a Notification of Interest in applying for an Integrated Grant. It was intended that the Integrated Grant Administration Program would provide a vehicle for focusing potential Federal program sources and for moving forward with a comprehensive program for the enhancement of the Maumee River Corridor.

The primary objectives of the Maumee River Study Design are to coordinate and guide land use development of the river corridor, to preserve open space areas along the river, and to increase public access to the river. Work would be conducted in relation to concurrent programs for water quality management, pollution abatement, erosion control and sedimentation prevention.

The Study Design defined new program functions that would have to be carried out to meet these objectives. These included creating an Overall Plan to guide corridor development, establishing priority projects to expedite the plan, and creating procedures for evaluating development proposals in the corridor. Citizen's participation in program evaluation, increased technical assistance to localities on flood plains management and greater coordination and liaison activities among the several Federal, State and local programs affecting the Basin were also recommended.

PORT ROYAL ESTUARIAL STUDY AND HILTON HEAD ISLAND MASTER PLAN

SOM prepared a comprehensive master plan to guide the future land development program of the Hilton Head Company. The project included land use planning and design for 10,900 acres on Hilton Head Island, South Carolina.

As part of its master planning work for the Hilton Head Company, SOM conducted an analysis for the southeastern region of South Carolina. This study, entitled Analysis of the Port Royal Estuarial Region, was made in order to coordinate future island development with regional growth, as well as to identify potential roles the Hilton Head developers could take in the growth of the general economy of the region.

In developing a Master Plan for the Hilton Head Island, the central theme of the planning and design approach was to achieve balanced growth on the Island. A survey was made of existing conditions on the Island and development objectives established. The implications of a range of population increases and development orientations were studied and their impact measured in terms of the Island's natural features, water resources, transportation, housing, wildlife sanctuaries, schools, commercial facilities, recreation and utilities.

The principal objectives of the Master Plan were to provide the Hilton Head Company with a development plan which would assist the growth of the Island's economy while preserving the exceptional ecological environment of the Island.

HILTON HEAD ISLAND TRANSPORTATION CONCEPT

SOM also devised a transportation system in the Master Plan which was especially suited to its environmental objectives. The Island's existing circulation system was designed to provide direct vehicular access from one point of the Island to another. While it performs this function reasonably well, it has led to the growth of a segmented land use pattern in which roads bisect major communities and recreation areas. Should the development of the road network on the Island continue this way, the circulation system will break down, causing congestion and confusing traffic patterns.

The "Terminal Concept", a simple, clearly defined spine system of roads, will provide Island residents and visitors with direct access to major facilities under the proposed transportation system. In order to reduce emphasis on the automobile, however, the proposed system calls for establishing "transfer terminals" at major village centers and other central island facilities. At these terminals, both residents and visitors will be encouraged to transfer to the greenway or waterbus systems described below for their intra-Island trips, relieving the Island of a considerable amount of automobile traffic.

> The Greenway System: A low-speed system of trails especially designed for short trips in a non-polluting vehicle such as a golf cart.
>
> The Waterbus: Additional trip demands can be accommodated by a scheduled waterbus which would stop at major terminal points on the periphery of the Island. The extension of this sytem to Savannah, a trip which would take about 30 minutes, in contrast to the current 45-minute auto trip, is also under consideration.

In addition to long term parking and golf cart rental centers, other facilities could be included at the terminals such as tourist information centers, restaurants, and exhibition rooms.

COMMUNITY DEVELOPMENT PLANNING AND DESIGN

Skidmore, Owings & Merrill's experience in community development ranges from housing design, site planning, and neighborhood rehabilitation planning, to new town development planning and regional resource planning. Having a background in architecture, engineering, and construction, Skidmore, Owings & Merrill's orientation to community development is to identify and plan implementable projects. Through community and public agency involvement in the planning and design process, concensus is sought to ensure that desirable improvement and development projects will move forward. Several recent projects are as follows:

PHYSICAL DEVELOPMENT PROGRAM FOR THE UPPER ALBANY NEIGHBORHOOD, HARTFORD, CONNECTICUT

Skidmore, Owings & Merrill assisted the Greater Hartford Process, Inc. and the Greater Hartford Community Development Corporation by preparing a physical development program for the Upper Albany Neighborhood in North Hartford. The proposed improvement program seeks to ensure that the Upper Albany Neighborhood continues to provide a suitable living environment for its residents, and over time, becomes a strong base for the projected improvement for all of North Hartford.

SOM prepared a General Plan of Development for Upper Albany, suggesting a range of physical improvements for reinforcing existing neighborhood strengths and for solving a number of the neighborhood's environmental problems. In addition to the General Plan, special areas of concern were studied in more detail in order to identify needed improvements and early action projects. Such analysis has led to proposals for Albany Avenue commercial development and public environment improvements, Homestead Avenue Corridor industrial development, and recreation and open space improvements.

The work, representing an initial stage of planning, was intended to provide a basis for discussion among Process/Devco, community representatives, business organizations, the City of Hartford, and Federal agencies, in order to reach consensus and commitment on a coordinated, comprehensive program to be developed into further detail for implementation.

While the Upper Albany program is designed to stabilize the residential neighborhood and prevent housing abandonment, environmental surveys and discussions with Process/Devco and community and City representatives indicated the need to broaden the physical improvement program beyond just housing improvement to place major emphasis on improving Albany Avenue, the neighborhood's commercial spine.

It was felt that the success of the neighborhood improvement program was contingent upon upgrading the image of Albany Avenue. During the last several years, the Avenue has changed from a neighborhood commercial street to an auto-dominated strip with several new gas stations, numerous drive-in businesses and a great deal of commuter-oriented advertising but with neighborhood-oriented uses in short supply. The negative image of the Albany Avenue environment tends to downgrade what would be an otherwise very attractive neighborhood. Residential streets are tree-lined, with attractive housing stock that is not too densely built-up.

The Albany Avenue development program involves a set of development proposals for increasing community-oriented businesses and services along Albany Avenue to satisfy neighborhood needs now hindered by the auto-dominated character of the Avenue through (1) the development of a new shopping center to provide needed neighborhood commercial services (e.g. supermarket and shops) and entertainment activities, (2) reinforcing commercial concentrations along Albany Avenue by assisting local businesses to obtain financing for rehabilitation, and (3) providing improved parking opportunities at proposed new development and at commercial concentrations. In addition, an immediate action Public Environment Improvement Program for Albany Avenue seeks to create a new "image" for Albany Avenue, making it a community and pedestrian-oriented linear "Park-in-the-City" through continuous tree planting areas along the Avenue, numerous sitting areas, and several recreation parks.

SPRINGFIELD CENTER SITE DEVELOPMENT STUDY, SPRINGFIELD, MASSACHUSETTS

Skidmore, Owings & Merrill assisted the Springfield Institute for Savings and the real estate firm of Hayden Associates by preparing a design study of a major Springfield urban renewal site. The study served to illustrate urban design and architectural concepts for the site for a new office tower, a retail complex, a new department store, and new second level "skywalks" joining into the existing second level pedestrian circulation system. Taking into account the need to complement surrounding ongoing projects and to further the strengthening of the Springfield CBD, the project seeks to make a major urban design as well as economic contribution to the City.

The work process was initiated with the development of a series of alternative sketch plans to quickly bring to light the major urban design opportunities inherent in the site and its surrounding land uses. Upon review, designs were refined to provide a set of drawings for use in the marketing of the site as well as for public review.

SALEM WATERFRONT SITE REUSE FEASIBLITY STUDY, SALEM, MASSACHUSETTS

The City of Salem is planning for the redevelopment of a 4.7 acre downtown waterfront site. With all the unique advantages of access to water uses, proximity to downtown and to the National Historic site at Derby Wharf, City officials have recognized the site's important role in the revitalization of central Salem. The City contracted with SOM to do a reuse feasibility study.

To accomplish this task, the first phase of work has included analysis of major planning, design, historic and economic issues, and development of alternative reuse and implementation phasing strategies. It is a participatory process aimed at a range of possible uses which are consistent with neighborhood and city-wide goals and priorities and at the same time meet the tests of physical and economic feasibility. The Salem study is a multidisciplinary effort with Economics Research Associates providing the market analysis for alternative uses of the site.

A major product of the study is a "Developers Kit" for the site. This will include a set of alternative site utilization plans with land use, building types, parking and circulation patterns and utility service data included. Concepts under review presently include, in six different combinations, a motel of 100-200 rooms, one or two restaurants, office and retail space, a marina with 30-80 slips, as well as a private housing scheme. All site plans provide public pedestrian access to the waterfront and will be compatible with the neighboring building scale and historic and architectural quality. The "Developers Kit" will also provide market demand studies for potential land uses and alternative space programs. The "Developers Kit" will enable the City to solicit developer interest to several reuse possibilities for the site, each of which will be consistent with the City's interests. At the same time, potential developers will be able to see clearly all parameters of a potential investment, enabling them to respond with proposals which combine their interests with those of the City of Salem.

OPERATION BREAKTHROUGH

In January, 1970, the Department of Housing and Urban Development selected a publicly-owned 120-acre undeveloped site on the outskirts of Indianapolis to be one of 11 OPERATION BREAKTHROUGH sites throughout the country. The objective of this new housing effort is not only to examine cost savings of the industrialized housing built by the 22 Housing System Procedures selected by HUD, but also to develop new and innovative site planning concepts and land use programming, better financing mechanisms, and solutions for impediments to large-scale production of housing, such as restrictive zoning and building codes and inefficient use of labor forces.

SOM was selected to head the site planning and design for the Indianapolis Operation Breakthrough site. The site planning and design process is comprehensive in scope and interdisciplinary in approach and includes legal, economic, sociological, governmental and systems analysis inputs as part of the total planning and design process.

SOM had overall responsibility for site design, coordination of design and construction prototype units by the Housing System Producers, formulation of a public relations and community information program, and coordination of program plans with all appropriate departments of local, state, and federal governments. During the course of the project, SOM examined the physical character of the site and the nature of land use development and socio-economic trends in areas surrounding the site. On the basis of this information and from interviews with a broad array of persons active in government, civic, and business affairs, a site plan was developed which responds to the needs of the community and City. Using a network of open spaces, the plan provides much needed recreation space for the entire community and offers a unified design for the various housing systems.

Overall, Operation Breakthrough in Indianapolis offers an immediate opportunity to overcome the obstacles presented by past housing development procedures and pioneer new planning and design, production, marketing, financing and community liaison techniques which can become a model for the nation.

SOM's Operation Breakthrough design won an Honor Award for Urban Design Concept in the 5th Biennial HUD awards for Design Excellence.

NEWARK MODEL CITIES: PHASE 1

Under contract to the Newark Community Development Administration, SOM Washington has recently completed a major urban design plan and program to arrest the physical deterioration of the Model Neighborhood and promote its balance growth over the next decade. The Model Neighborhood area is comprised of a population of approximately 80,000 people -- nearly one-quarter the population of the entire city. The resultant Development Plan establishes a framework for the physical development of the total community, with specific development policies and project proposals encompassing a series of basic functional areas: housing, schools, health and community facilities, recreation and open space, commercial and industrial centers.

These physical improvements are programmed in four basic action periods. The action periods represent the immediate and short and long-term feasibility of implementing the proposals. The Plan also spells out, at a level of detail corresponding to the timing of each action period, the actions and mechanisms required for their implementation.

The most detailed and explicit planning has gone into project proposals that can be accomplished in the immediate future, while planning for longer range projects has been less explicit.

The Development Plan for the Model Neighborhood is the product of a year-long process of planning and design. In general terms, the process involved a continuous and increasingly refined analysis of the physical conditions and needs of the Model Neighborhood. This analysis provided a basis for formulating the Plan's underlying development strategy, the specific project proposals, and the recommendations regarding staging and implementation. Throughout the process, interim findings and conclusions were reviewed with Newark's Community Development Administration, the Division of City Planning, representatives assigned to Model Cities Task Forces, and other public and private interests in the City.

NEWARK NEW TOWN -- IN TOWN

Following the completion of the urban design plan and program for the Model Neighborhood area in March, 1970, SOM was requested to assist the New Community Development Administration in preparing pre-application documentation for a "New Town - In Town" under the HUD Title VII New Communities Program. The product of this work was a preliminary development plan and implementation strategy to serve as the basis for the detailed incremental physical, social, and economic planning and programming integral to the HUD Title VII application process. The New Town - In Town plan concept developed for Newark countenances the redevelopment of approximately 400 acres of underutilized land contiguous to the central business district and including the Model Neighborhood area over a twenty-year period. The physical plan calls for the development of a balanced mixture of housing, commercial, educational, and public facilities during four successive development stages. In terms of implementation strategy, the plan recommends an innovative use of the conventional urban renewal process with the Title VII bond guarantee program in a manner which will encourage joint public-private development undertakings. Both profit motivated and non-profit development programs are intended to be planned and developed together, and these, in turn, are to be reinforced through publicly sponsored social and economic programs in the fields of education, health, social services, manpower and economic development.

DETROIT PAIRED NEW TOWNS

This project was coordinated by the Metropolitan Fund, a non-profit research organization with a primary concern for urban areas in Southeast Michigan. SOM's contribution included site analysis and evaluation, physical programming, preliminary planning and design. Contributions by other members of the team included economic analysis, social considerations, governmental mechanisms and ecological planning.

Growth projections in Southeast Michigan indicate an urgent need for a public policy which would permit the coordination of land use on the basis of regional priorities. In addition, there is a need to reverse the trend towards proliferating local municipal governments as well as tax loss to the center city and job displacement caused by industrial and commercial relocation to outlying areas. The conceptual frame work of the proposal was initiated through a recognition that the problems of suburban sprawl and center city deterioration may have common paths to solutions. In this instance a new regional community simultaneously developed on two sites, geographically separated but united politically, socially, and economically, would provide some of those paths.

A total population of 100,000 people is anticipated on both sites -- 75,000 in the out-of-town component and 25,000 in the center city. The out-of-town component is designed with a basic structure that can grow over time in sub-units designed for 8,000 people, each complete in themselves. The structure of the in-town component constitutes a series of five neighborhood areas, organized in linear fashion and linked to the town center with a loop transit system. Both components would be served by a high speed commuter transit facility serving the Detroit area.

PHILADELPHIA/MARKET STREET EAST

SOM was engaged by the Philadelphia Redevelopment Authority to create a master plan for 60 blocks of Philadelphia's major retail-commercial area. Every aspect of the City's downtown development program -- transportation, land use, parking, pedestrial movement, and demand for privately financed development -- was included in the background study.

The facility is primarily a Transportation Commerce Center, a combined transportation center and air-conditioned shopping mall joined by an extensive system of pedestrian walkways. The proposed Transportation Center represents an innovative approach to meet the problems facing the Center City. It will permit the separation of pedestrian and automobile traffic by a system of connected walkways, plazas, malls and pedestrian underpasses. It will add 10,000 parking spaces, a bus terminal, rail terminal and subway access. Lastly, it will encourage private development by providing extensive opportunities, in the form of smaller sites with landscaped plazas and walkways, for the highest quality of commercial development.

URBAN TRANSPORTATION PLANNING AND DESIGN

Skidmore, Owings & Merrill's work in urban transportation planning and design has emphasized a thorough consideration of the environmental effects of proposed transportation facilities, community involvement in planning and design decisions, as well as the multi-modal potentials of a total transportation systems approach. Specific projects include the following:

LOWELL TRANSPORTATION PLANNING STUDY

SOM has assembled an interdisciplinary study team to carry out an innovative, 18-month transportation study in Lowell, Massachusetts.

The Lowell study involves a unique combination of study items that, in most past transportation studies, have not been adequately coordinated. Task A of the study includes three high-priority improvement projects which State and local public officials wish to implement as expeditiously as possible. For these three improvement projects, draft and final Environmental Impact Statements, as well as Highway Location and Basic Design Reports are being prepared. In each case, all documentation and Public Hearings required by Federal and State laws and regulations will be completed so that the projects can be advanced toward final implementation.

Task B of the Lowell Study includes a comprehensive analysis of existing and future traffic conditions and transportation needs in downtown Lowell. Downtown Lowell has encountered increasing traffic congestion over the past 20 years. Numerous transportation improvements have been made from time to time and additional improvements recommended. However, a set of clear, coordinated, and broadly accepted priorities for new improvements has not emerged. Task B provides a vehicle through which the Lowell area's "3C" planning body (the Transportation Coordinating Committee) can assess relative needs and priorities in conjunction with appropriate City officials and local citizens, develop a coherent transportation strategy for the downtown area, and present a program for future action to Federal and State highway funding agencies.

During Task C, draft and final Environmental Impact Statements and highway Location Reports will be prepared for the high priority projects identified as a result of Task B.

The Lowell study marks a new departure in State transportation planning in several respects. First, area-wide planning and project-level preliminary engineering funds and activities are combined in a single study contract. Second, the scope of the study's final phase (Task C) was purposely left

undefined until such time as the area-wide Task B findings become available; and once additional high-priority project are defined, the necessary legal procedures and documentation (i.e., Impact Statements, Public Hearings and Location Reports) will be prepared. Third, the type of specific projects that can be considered and studies with highway program funds is more flexible than in the past, and includes off-street parking facilities, street modifications to aid transit, and a "transportation center" facility.

ROUTE 2 ENVIRONMENTAL STUDY

SOM has been heavily involved, as subconsultants to Howard, Needles, Tammen and Bergendoff, in a study that will produce a Final Environmental Impact Statement for the portion of Route 2 in Lexington, Lincoln, Concord and Acton, Massachusetts. SOM has been assigned principal responsibility for the conduct of the technical work effort in this complex and controversial study.

Major areas of social and environmental concern include potential impacts on Walden Pond, Minuteman National Park, water supply reservoirs of Lincoln and Cambridge, relocation of homes and businesses, acoustic impacts on adjacent residential neighborhoods, impacts on National Register historic properties, and impacts on numerous additional historic, green space and wetlands sites of regional and local significance.

Physical design and engineering issues include the development of alternative roadway locations and designs, and the number, location and design of interchanges with local streets and highways.

Traffic and transportation issues include an assessment of the effect of improving alternative modes of transportation (bus and commuter rail), diversion of through traffic away from Concord Center, provision of access to the Hanscom Field Airport facilities, and the effect of various alternatives on traffic volumes of intersecting roads.

During Phase I, a series of alternatives in addition to those previously considered was developed, subjected to preliminary evaluation, and presented to the town officials and citizens. The alternatives include interim safety improvements, an arterial-scale solution, and 4 and 6 lane expressway solutions. Special efforts were made to develop design options for each basic roadway alternative which required minimum takings of land and buildings.

During Phase II, SOM will direct the final design development and evaluation of the alternatives, the preparation of "measures to minimize harm" to the social and physical environment, and the preparation of a Final Environmental Impact Statement.

U.S. DOT GUIDELINES FOR SOCIAL AND ENVIRONMENTAL ASSESSMENT

The U.S. Department of Transportation engaged Skidmore, Owings & Merrill to prepare a comprehensive and definitive set of guidelines for assessing the social, economic and environmental effects of highway projects. These guidelines will provide transportation planners, engineers, environmental designers, and other Federal, State and local officials with clear and manageable methods for fulfilling the requirements of the National Environmental Policy Act of 1969. The project began in March of 1974.

In order to address the different types of issues and impacts that have to be treated in the guidelines, Skidmore, Owings & Merrill has formed a mutli-disciplinary team with five other firms. The two principal participants are Alan M. Voorhees & Associates, Inc., specialists in transportation planning, and Jason M. Cortell & Associates, experts in ecological analysis and planning for the natural environment. Three other firms, Hammer, Siler, George Associates, economic consultants; ESL Incorporated, environmental experts; and Howard, Needles, Tammen & Bergendoff, engineers, are also contributing to the Study.

Skidmore, Owings & Merrill has a two-fold role on the team. As Prime Contractor, the firm is not only responsible for coordinating the work of the other participants, but also has a substantive role to play on the technical aspects of the guidelines which involve urban transportation planning, environmental impact analysis, urban design and joint development planning, and the legal and administrative procedures involved in the preparation of Environmental Impact Statements under the U.S. Department of Transportation Act of 1966, as amended.

Preparing these guidelines will involve the SOM team in two major phases of work during the two year period of the contract. Some of the activities involved in each of these tasks are described briefly below.

In general, the first phase of work involves the preparation of a series of technical guidelines and procedural manuals. These notebooks will incorporate the results of the following tasks: a) Identifying, classifying and defining both the direct and indirect social, economic and environmental effects transportation projects might have; b) Identifying the data required to assess, estimate, and project these impacts under various conditions; c) Identifying the methods for analysing and measuring the data; d) Identifying the particular problems and issues involved with setting criteria for measuring impacts; e) Discussing methods and techniques for identifying alternative transportation solutions and for designing measures to minimize the harmful effects of transportation alternatives; f) Identifying approaches for organizing Environmental Impact Statements; and finally, g) Describing the administrative, legal and procedural elements of the process involved in preparing social, economic and environmental assessments of transportation projects.

The second phase of work is, in part, a continuation of the first. More technical information on ecological matters such as water resources, wildlife, marine life, and vegetation and geological concerns will be analyzed and incorporated into the sets of guidelines prepared earlier. In addition, both a basic reference work to help transportation engineers, planners, and other officials responsible for assessing environmental studies, and a final summary report providing an overview of the environmental assessment process to elected officials and the general public will be prepared. One final aspect of this phase of work will be a discussion of the issues and problems associated with establishing criteria and standards for measuring the social, economic, and environmental effects of transportation projects.

ASSESSMENT OF COMMUNITY PLANNING FOR MASS TRANSIT

A growing number of American cities are recognizing the importance of improving public transportation. In an effort to find new ways to bring about such improvements, the U.S. Congress Office of Technology Assessment has sponsored a special study of community planning for mass transit.

The Office of Technology Assessment has commissioned this study as part of its mandate to examine the expected and unexpected effects that technology may have on society. Established by the Technology Assessment Act of 1972, OTA is an advisory body whose basic function is to provide the U.S. Congress with objective and thorough information on the consequences of technological change.

The assessment is being carried out by Skidmore, Owings & Merrill (SOM), prime contractor, in association with System Designs Concepts, Inc. (SyDeC). SOM is known for urban transportation planning and impact assessment, architecture, and environmental design, and SyDeC specializes in institutional and transportation planning.

The study includes an assessment of the ways cities and metropolitan areas in the United States reach decisions on whether to develop or modernize mass transit systems. Although it will focus on rapid rail systems in particular, other types of public transportation may be examined as they are related to rail transit. The assessment will cover transit programs in Atlanta, Boston, Chicago, Denver, Los Angeles, Minneapolis-St. Paul, San Francisco, Seattle and Washington, D.C.

The study will examine transit planning processes on the federal, state and local levels. The work has been divided into two major phases. The first phase defined both the Federal context for public transit planning and the present state-of-the-art of transit planning. This involved an analysis of how current Federal policies, assistance programs, planning and procedural guidelines, and funding requirements shape local planning processes, and a review of current literature on transit planning processes to shed light on better ways to plan transit systems.

The second phase of the study will examine transit planning in the nine cities or metropolitan areas. In each case the assessment will focus primarily on current transit activities and issues, but it will also cover the historical processes of decision-making that led to the present situation. The study will set forth alternative legislative mandates and possible courses of action for Congress to pursue. The implications of such alternatives will be evaluated in the study's final report.

BALTIMORE URBAN DESIGN CONCEPT TEAM

In October of 1966, SOM was selected by the Maryland State Roads Commission to be the architect-planner-director member of a four-firm joint venture to do the location planning and design of the Interstate Freeway System for Baltimore City. This joint venture--the Baltimore Urban Design Concept Team--also consisting of Wilbur Smith and Associates, traffic engineers; Parsons, Brinckerhoff, Quade & Douglas, Inc., transportation engineers' and J.E. Greiner Company, general highway engineers, was one of the first such multidisciplinary groups to undertake urban freeway design.

The Urban Design Concept Team is symbolic of the new public attitude toward highways. Transportation, as the prime generator of urban form and growth, must be designed with a comprehensive concern for all social, economic, visual and engineering factors that influence the total environment. This concept involves the simultaneous design and building of the freeway together with the city that surrounds it. New construction must not cut a barrier through the neighborhoods or ruin a city's historical or natural heritage. Instead, it must link both sides of its surroundings, build new homes, parks, schools, and other facilities which have been displaced by the freeway and above all, become a positive force in the total displaced urban development of the city.

To achieve this aim, three primary conditions are required. First, a new planning process is needed which unites the skills of the environmental design professions with sociology, economics, political science and engineering. Second, is a need for an effective coordination of the public bodies at local and regional, state and Federal levels with citizen groups and private sector. Third, and of vital importance, is the marshalling and coordination of both governmental and private programs and funds.

The complexity of the problem of integrating the freeway with the urban environment in Baltimore required consultation with a broad range of professional specialists. Such specialists included: Daniel P. Moynihan, government; Real Estate Research Corporation and Lloyd Rodwin in the field of economics; Charles Abrams, housing; George Grier, sociology; Kevin Lynch for environmental design; Bolt, Beranek & Newman, Inc., for acoustics; Michael Rapuano, landscape design; and Ailliam Garnet, visual communications. Working with these specialists and the other firms composing the Concept Team has given SOM working knowledge of the urban design and transportation facility impact issues raised by complex transportation construction proposals.

The Baltimore project had significant national impacts on relocation payment legislation and on changing Department of Transportation policies regarding responsibility for providing relocation housing and multiple-use facilities in relation to transportation facilities. It also brought increased national attention to bear on the environmental factors inherent in transportation programs.

BOSTON TRANSPORTATION PLANNING REVIEW

After the Governor of Massachusetts halted work on a number of controversial highway projects in the Boston metropolitan region, he established the Boston Transportation Planning Review to advise him on these controversies and to review them together as part of a balanced transportation program responding to the full range of metropolitan values and reflecting the concerns, priorities and proposals that the region's public agencies, institutions, and private groups might wish to contribute. The 18-month study was carried out by a multidisciplinary team of firms.

As a major participant on the BTPR team, SOM was in charge of urban design and planning, legal and administrative studies, and presentation of the project's technical findings to public agencies and community groups.

Throughout the project, which included intense community and official participation, a series of alternatives were developed and evaluated. Preliminary engineering and draft environmental statements were prepared for all controversial highway and transit projects. The study emphasized the joint development concept of using highway funds for improving the local environment in terms of industrial and residential development in conjunction with highway and transit construction.

In addition to analyzing new transportation facilities, concepts of transportation management -- downtown parking policies on parking and supply, the design and construction of special purpose lanes or facilities, and other traffic management strategies -- were investigated.

Following a complete round of formal and informal reviews, the alternatives, including their financial, economic, and environmental/social implications, were presented to the Governor.

Based on these findings and the response to them by the many participants of the study, the Governor adopted a three-point policy for transportation in the Boston Region.

- When compared to the environmental and social impacts, the transport benefits associated with general purpose expressways do not warrant their construction within the central portions of the Boston metropolitan area. Therefore, no new expressways are to be built within Route 128.

- Instead, a much accelerated and expanded transit system was proposed for this area. This system included not only modernization and extension of convention transit systems, but also the addition of innovative services such as a bus/limousine service to the airport with exclusive rights-of-way through congested areas, an automated circumferential transit facility around the fringe of the core,

and numerous special mobility services.

- A traffic management program, including regulation of parking supply, pricing, and special lanes, to implement a policy of providing high quality highway service for selective essential and socially valuable highway movements, such as trucks, buses, and emergency vehicles.

WEST SIDE HIGHWAY STUDY (NEW YORK CITY)

Serving as staff consultants to a combination of the New York State Department of Transportation, New York Urban Development Corporation and the New York City Planning Commission, SOM is participating in a study which has the objective of establishing consensus for the redesign of the West Side Highway, from Brooklyn Battery Tunnel to the vicinity of 42nd Street.

The Highway redesign includes an evaluation of rebuilding the highway in its current location versus at the pier-head line. Built at the pier-head location and decked over with parks, the highway would create a major development site at the Hudson River edge for new housing, parks, community facilities and commercial development. To be coordinated with the development plans are plans for Battery Park City, Pier 40, the new Convention Center, a Superliner Terminal and a new West Side transit line. The study will work closely with affected community groups and a number of participating agencies to achieve early consensus in order to utilize Interstate Highway funds for this major reconstruction project.

TRANSIT STATION JOINT DEVELOPMENT

SOM undertook the Transit Station Joint Development project for the Department of Housing and Urban Development and the Department of Transportation as the urban design component of a team that included the National League of Cities and U.S. Conference of Mayors, which served as project manager, Development Research Associates, and individual consultants.

The purpose of the project was to identify ways to establish a stronger basis for simultaneous development of station site surroundings ("joint development") in conjunction with design and construction of transit systems. Current planning for transit stations in the United States has tended to narrowly focus on the facilities absolutely essential to the transit system. Primarily because of limits in local administrative frameworks, initial planning decisions for transit stations usually involve engineering specifications; only once the engineering decisions have been approved, considerations of optional land use and development are often precluded.

The project fulfilled two assignments: to assist three cities in the preparation of applications to the Urban Mass Transit Administration for aid in joint development and to prepare a report identifying possible locations where joint development was feasible. Current constraints were to be identified, as were factors that help promote joint development.

The team surveyed candidate locations in several cities and selected the new Second Avenue subway's Wall Street Station in Manhattan, the transit station at Sixty-Third and Stoney Island in Chicago, and Oakland, California's Coliseum transit station. SOM prepared Planning Guidelines that were used in working with the three cities in preparing their applications for detailed transit station area planning. These transit facilities were to include all of the following: 1) a comfortable, safe, and convenient pedestrian circulation system from the transit station to various destinations in the immediate surroundings; 2) coordinated local street parking and transportation policies and programs; 3) a phased redevelopment plan for the station site surroundings including sites for coherently related public and private development; 4) public sector share in the increased values that accrue to the lands surrounding transit station sites due to the initial public investment; 5) improved public amenities and open space.

In the course of the project, six general categories of constraints to joint development were identified: fragmentation of government institutions, inadequate planning and redevelopment coordination, inadequate transportation coordination and potential ridership loss, the physical environments of the transit stations, the loss of potential economic benefits, and inadequate implementation support for station area development. One of the products of the study was a paper discussing the constitutional and statutory constraints to joint development and the existing legal avenues for effecting joint development.

CENTER CITIES TRANSPORTATION PROJECT

The Department of Transportation engaged SOM as part of a consulting team to undertake a major effort to improve the circulation and environment in American cities. The project, called the Center City Transportation Project, was designed to be an action program that would demonstrate how institutional barriers to public transportation improvements could be overcome and a process for planning and implementing circulation improvements and new types of technological solutions could be established. Atlanta, Denver, Dallas, Seattle and Pittsburgh were chosen as the demonstration cities. In Pittsburgh, particular attention was given to the transportation problems of low income people in Model Cities Nieghborhoods.

Five interdisciplinary teams were assembled, each including professions drawn from the field of government, political science, economics, social science, transportation, technology, architecture, urban design and city

planning. The task of each team was to work directly with the city in response to the directions of Urban Mass Transit Authority, contributing from their fields of specialization toward the implementation of the stated goals. Within these interdisciplinary teams, SOM's staff had responsibility for analyzing the potentially adverse environmental aspects of transportation improvements, the development of urban design opportunities, and the designs of the physical forms of the transportation systems and their multi-use potentials, particularly for terminals.

SUBWAY STATION DESIGN, BAY AREA RAPID TRANSIT (BART), SAN FRANCISCO

Skidmore, Owings & Merrill was responsible for the architectural design of the Powell and Montgomery Stations for the Bay Area Transit District in San Francisco, California.

These two stations, along with the Civic Center Stations, form the heart of the BART system. The three major stations will accommodate 80% of all system users. Skidmore, Owings & Merrill, working with the design engineers, Parsons, Brinckerhoff-Tudor-Bechtel, developed the structural configuration and the architectural design of the interior spaces. The stations are conceived as a bright space, accented by black aluminum and stainless steel trim. At the nodes of activity, intense color is provided by system graphics, advertising, and a specially-designed concession booth. Ingress and egress are via public or semi-public plazas, as well as through wide sidewalk entrances. Vertical circulation within the stations is by stair and escalator. Design features for the handicapped are incorporated which provide vertical transportation from the street level down to the lower levels.

The stations each are 800 feet long, 60 feet wide and 75 feet deep, with a building area of 170,000 square feet per station. The typical floor area is 50,000 square feet. There are three underground levels, one concourse level and two 2-track center platform levels in each station. Construction cost was $20 million per station.

CHICAGO TRANSIT AUTHORITY

Completed in 1970, this award-winning project consists of an extension to existing transit facilities located in the median strip of Chicago's north-south expressways and includes thirteen surface and two subway stations. Many stations along the line are designed as interchanges with surface transit, while extensive parking and drop-off facilities are located at the terminals. These points also serve as coordinated interchanges with surface transit, airport express buses and commuter rail lines.

The waiting and fare collection areas are single story buildings raised on recessed columns to adjoin existing bridges over the expressway with bus terminal facilities. Canopies of curved glazed roofs cantilever over the boarding platform providing unobstructed passenger access to trains. Glass and bright lighting were used extensively for ease of surveillance. The stations have steel frames with acrylic plastic domes covering platO form canopies. The fare equipment used in all station agents' booths, turnstiles and transfer issuing machines, which SOM designed, were made of stainless steel for durability.

Besides the stations, SOM's responsibility includes design control of all new rolling-stock, structure of aerial tracks, graphics, lighting, furniture, fencing and trackbed retaining walls.

FORT WORTH TRANSIT STUDY

SOM, as a subconsultant, is involved in a preliminary feasibility study for a transit system in the Fort Worth area. Tasks include preliminary traffic engineering and costing, corridor selection based on urban design, joint development, and social, environmental, and economic issues, and a transit analysis, including ridership and cost studies.

The study is embracing a number of different modes, including a taxi system, personal rapid transit system, automated rapid transit system, buses, and park-ride facilities.

JOINT DEVELOPMENT PLANNING FOR THE WELLINGTON TRANSIT STATION, MEDFORD, MASSACHUSETTS

SOM, in association with Nash-Vigier, Inc., assisted the City of Medford, Massachusetts in preparing a proposal and request for Federal and state financial assistance for joint development planning for the new Wellington transit station. The two principal objectives were: (1) to coordinate potential public and private investments of millions of dollars at a key point in the metropolitan transportation system, and (2) to devise effective planning methods for coping with general development problems of this magnitude which occur with increasing frequency in Boston and other major cities.

When completed, 9000 patrons per weekday are expected to pass through the Wellington station. It is planned as the largest station on Boston's Orange Line, due to its location in an area of regional economic and recreational importance. To allow fuller integration of the Wellington Station into the local Medford and Mystic Valley Corridor areas, SOM made preliminary studies of local development trends, recreational trends and transportation needs. A series of local highway improvements were recommended to improve access to the station and better accommodate the expected increased traffic in the station's vicinity.

In the proposed joint development planning study, SOM worked with local and state officials in identifying the range of professional disciplines and the scope of work necessary for the complex planning necessary to insure orderly and successful development in conjunction with a major transit station. The work also involved a thorough study of available implementation procedures and necessary State and Federal economic, social and environmental review. A major goal of the study was to devise a systematic approach for planning and programming similar complex development problems in other urban situations.

BALTIMORE TRANSIT STATION JOINT DEVELOPMENT LEGISLATION

As a consultant to Systems Design Concepts, Inc., SOM prepared draft legislation for a Task Force consisting of representatives of the Maryland Department of Transportation, Baltimore City and Baltimore and Anne Arundel counties. The draft legislation is designed to allow the local governments to acquire property in the vicinity of proposed transit stations, to prepare detailed redevelopment plans, and to dispose of the land to private developers for reuse in accordance with the plan. The Maryland DOT would provide technical and financial assistance to the local governments. The purpose of this program is to maximize development opportunities and resulting local tax revenues and to encourage sound and coordinated development in transit station areas.

MODEL CITIES TRANSPORTATION PROJECT

Skidmore, Owings and Merrill worked with a number of local Model Cities Agencies on community transportation problems. Sponsored by the U.S. Department of Housing and Urban Development, the project involved SOM and a number of other consultants working with Systems Design Concepts, Inc.

In Detroit and Grand Rapids, Michigan; Plainfield, New Jersey; Richmond, California; Athens, Georgia; and Wilmington, Delware, SOM staff worked in close cooperation with CDA staffs, Model Neighborhood residents, representatives of Mayors' offices, local transit operators, HUD and the U.S. Department of Transportation's Urban Mass Transit Administration. In all these cities, there was a clear need for transportation services which conventional transit operators could not provide. As a result, SOM is helping design transportation projects which will respond to the urgent demands that the poor, the unemployed, the elderly and disabled, the carless and the young have for transportation to places of employment, health centers, social service agencies, recreation areas, and other community facilities.

SALEM-PEABODY ARTERIAL CONNECTOR STUDY

This is a multi-disciplinary study to prepare location, basic design, and environmental impact statements for a series of highway improvement programs for a section of the North Shore area of the Boston metropolitan region. The study is a direct outgrowth of the BTPR.

Major elements of the study include improvements to an existing substandard expressway, introduction of a new, city-scaled arterial and improvements to existing streets to provide a future arterial network.

This project stresses joint development and several development program opportunities -- fringe parking, downtwon redevelopment and environmental improvement programs.

PORTLAND, OREGON I-80N ENVIRONMENTAL STUDY

The Environmental Study Group is an interdisciplinary team composed of SOM as the prime and coordinating consultant and six additional firms specializing in engineering, traffic and transit, economics, acoustics, landscape architecture and air pollution analysis. The purpose of the Interstate 80N Environmental Study in Portland is to integrate the five mile, transit/freeway facility into the present freeway system and the predominantly residential area in which it is located. The study affords an opportunity to define alternatives available and develop a context to aid decision-makers in assessing the urban freeway and transportation dilemma.

Study of economic, social and environmental patterns of the communities involved will yield designs, programs and multiple-use projects to minimize adverse effects of the proposed freeway through Portland's southeast district. The four integrated studies, corridor impact, river crossing, no build alternative, and air pollution, constitute a package from which the Federally required environmental impact statement will be prepared and preliminary engineering, design and costs will be established for the selected alternatives.

DOWNTOWN TRANSIT MALL, PORTLAND, OREGON

Skidmore, Owings and Merrill was selected to plan and design the Transit Mall in association with Lawrence Halprin and Associates, San Francisco, Landscape Architects, and Moffatt, Nichol & Bonney, Inc., Engineers. The Fifth-Sixth Avenue Transit Mall is intended to help reduce traffic conflicts, improve bus, automobile, and pedestrian circulation in the downtown, and provide a transit system that is more convenient and comprehensible for users. The Transit Mall is also intended to help strengthen retail activities in Portland's downtown.

CHICAGO CROSSTOWN DESIGN TEAM

This project is an example of SOM's contribution to the creation of a transportation planning process relating to social, environmental and community goals.

The Crosstown Design Team was a joint venture created by the City of Chicago as a result of extensive public controversy aroused by a proposal for an elevated eight-lane freeway which was considered by many a potential barrier that would blight the neighborhoods along its path.

In addition to responsibilities for the development of engineering and architectural design concepts and criteria, SOM's specific tasks included alternative route location studies, relocation studies, relocation housing and joint development feasibility studies, development controls and zoning change recommendations, interchange development plans, cost-benefit evaluation, public agency liaison and coordination and community liaison.

MANCHESTER AIRPORT MASTER PLAN

A Master Plan for long-range development of the Manchester, New Hampshire airport and its environs is under preparation by Howard, Needles, Tammen and Bergendoff. As a subconsultant, SOM has reviewed the financial and legal context of the airport and developed a set of strategies which could permit the airport to obtain a portion of its capital investment needs through non-transportation related revenues.

Specifically, one strategy consisted of the definition of an Airport Impact Zone in which the Airport Authority would be permitted to acquire and lease land to private business and commercial developers. In addition to property rental income, a portion of any increase in real property tax revenues realized from land within the Airport Zone would be credited to the account of the Airport Authority.

STAFF BIOGRAPHIES

PETER HOPKINSON
Associate Partner

EDUCATION:
Bachelor of Arts in Architecture, Princeton University, 1954
Master of Fine Arts in Architecture, Princeton University, 1960

LICENSE:
Registered Architect, Commonwealth of Massachusetts

EXPERIENCE:
Mr. Hopkinson joined the San Francisco office of SOM in 1961. His experience ther included site plans and architectural designs for the Mauna Kea Beach Hotel in Hawaii; Mills College (Oakland, California); U.S. Naval Electronics Training School; the Monterey Urban Renewal Plan; and the master plan and design for Peralta Junior College in Oakland, California.

From 1967 to 1970, Mr. Hopkinson was chief urban designer and planner for joint development on the Baltimore Urban Design Concept Team, a project entailing the planning, design and engineering of a 22-mile urban freeway. His responsibilities included determining the needs and desires of the community in the area adjacent to the expressway corridor and developing alternative housing relocation plans and related social problems. In addition, Mr. Hopkinson initiated and maintained liaison with local interest groups, designed and conducted presentations to community groups and the client, developed reports and graphics for presentations, and presented system alternatives and policy positions to reviewers at the local, state, and federal levels.

In 1971, Mr. Hopkinson became assistant project manager of the Boston Transportation Review, a 75 person multidisciplinary team assembled by the Commonwealth of Massachusetts to study transit proposals within the Route 128 region of Boston. Mr. Hopkinson was responsible for coordinating the project's technical work with public officials, agencies, and community organizations. He also coordinated urban design, engineering, traffic, transit, economic, and environmental studies for the North Shore Region and the Third Harbor Crossing study area.

Since the BTPR study, Mr. Hopkinson has been responsible for all planning, urban design, and architectural activities in SOM's Boston office. He directed work on environmental impact assessments of the Salem-Peabody Connector and the Springfield Mall circulation improvements study. His current projects include a feasibility analysis for a waterfront redevelopment site in Salem, a multi-faceted transportation planning study in Lowell, an employer based carpooling program sponsored by the Commonwealth that will be implemented on a pilot basis in Lowell, an environmental impact study of the controversial Route 2 highway relocation proposal near Boston, and a transit station area development and circulation plan in Dublin, Ireland.

THOMAS M. MAYO
Architect/Urban Designer

EDUCATION:
Master of Architecture in Urban Design, Harvard University, 1973
Bachelor of Architecture, North Carolina State University, 1967
Attended Harvard Graduate School of Business Administration (1972)
Attended Massachusetts Institute of Technology (1972-1973)

HONORS AND AWARDS:
Harvard University Scholarship
Alcoa Foundation Scholarship
Mid-State Tile Company Scholarship
ACSA European Student Exchange Program Fellowship
Carolina Solite Corporation Design Award

LICENSES:
Registered Architect, Commonwealth of Massachusetts

TEACHING EXPERIENCE:
Mr. Mayo has taught a planning and design studio at the Boston Architectural Center (1974-1975), and teaches a course in public presentation and visual communication techniques at the Boston University Metropolitan College.

PROFESSIONAL EXPERIENCE:
Mr. Mayo joined Skidmore, Owings and Merrill in 1972 as an architect and urban designer where he participated in the I-95 Relocated, Southwest Corridor and Northwest Corridor Environmental Impact Studies for the Boston Transportation Planning Review. His specific involvement included transportation planning and design analysis, joint development planning, transit station design and the technical production of the draft Environmental Impact Statements published by the Planning Review.

With SOM he has also been involved with the technical analysis and preparation of the Location and Environmental Impact Studies for the Salem-Peabody/Route 128 Connector and Route 2 highway planning projects, and with a public environmental improvement study for the Upper Albany Neighborhood in Hartford, Connecticut. In 1975, Mr. Mayo was the SOM project architect for the Dracut (Massachusetts) Elderly Housing Design Competition. The design, which included 90 housing units, a community center and other site facilities, received a Certificate of Merit Award.

Currently with SOM, Mr. Mayo is the Project Manager for the Lowell Transportation Planning Study where his responsibilities include the overall coordination of the study, urban design and planning work, community participation, staff work efforts and report production. The Lowell Transportation Planning Study includes transportation planning at both the city-wide network scale and at the individual project design and implementation scale.

From 1970 to 1971, Mr. Mayo worked with Perry, Dean and Stewart, Architects, of Boston as a designer and assistant job captain for two major hospital projects. He served as the Construction/Facilities Officer for the HQ, 44th Medical Brigade, U.S. Army, Vietnam, from 1969 to 1970, and was responsible for coordination, preliminary design work, and fiscal year programming for over 75 major construction projects ranging from a 400-bed General Hospital to water and sewage upgrade projects.

As an architect and architectural designer/draftsman, Mr. Mayo has had experience with design, working drawing and specification work on single-family and multi-unit residential, institutional and commercial projects in Florida, North Carolina and Massachusetts. He has worked in Stockholm, Sweden, as a designer/land planner on a major housing complex for Lulea, Sweden. From 1967 to 1968, he worked as an assistant campus planner for North Carolina State University and was involved with extensive revision work on the University Master Plan, as well as a Pedestrian/Activities Network Plan for the campus.

KAREN B. ALSCHULER
Senior Urban Planner

EDUCATION
Master of City Planning, University of California, Berkeley, 1969
Bachelor of Arts, Pembroke College in Brown University, 1967

AWARDS
Mellon Fellowship in City Planning and Urban Renewal

PROFESSIONAL ASSOCIATIONS
American Institute of Planners, associate member

EXPERIENCE
Ms. Alschuler joined SOM with five years professional planning experience in California. As a public planner, Ms. Alschuler has extensive background in developing and guiding the community planning process from the intitial goals and needs analysis through implementation, working with local officials and citizen groups throughout that process. Her experience has ranged from preparation and public presentation of housing, open space, land use, and neighborhood plans to the establishment of a countywide Housing Authority and the planning of an Ethnic Studies College.

Ms. Alschuler was responsible for the Housing Element of the Santa Cruz County general plan and became the first secretary/director of their Countywide Housing Authority. As a county planner, she served in a continuing community liaison role not only in the area of housing but through public education and participation in the development of transportation, open space, conservation, recreation and school plans, as well as area zoning studies and new ordinance development. In addition, Ms. Alschuler's work involved analysis and distribution of social and economic data and the development of a monitoring system for the regional housing market.

Special studies and personal involvement led to intensive experience in the areas of elderly, farm family and migrant housing as well as the social, economic and planning issues surrounding mobilehomes and mobilhome parks. At the University of California, Ms. Alschuler worked on a residential Ethnic Studies College involving students, faculty and architects in the planning of physical and academic programs.

Before joining SOM in 1974, Ms. Alschuler travelled for six months through Iran, Turkey, Greece, France and England interviewing planners in each country. Ms. Alschuler is presently participating in preparation of a final Environmental Impact Statement for Route 2 through Lexington, Lincoln, Concord and Acton and in development of guidelines for Social and Environmental Assessment of Transportation Alternatives for the U.S. Department of Transportation.

DAVID B. SMITH
Participating Associate
Lawyer-Planner

EDUCATION:
Bachelor of Arts, Cum Laude, Amherst College, 1965
J.D. Columbia Law School, 1968
Master of Science in Urban Planning, Columbia University, 1970

AWARDS:
Mellon Fellowship, 1968-1970

MEMBERSHIPS:
Member, New York State Bar
Associate Member, American Institute of Planners
Member, AIA Committee on the National Capital, 1971-1972, 1974-1975

PUBLICATION:
"Parks, Transportation and the Law", paper presented at the A.I.P. Confer-In '72, September, 1972, Boston Massachusetts.

EXPERIENCE:
Mr. Smith's experience includes a brief period as an attorney with the Department of Rent and Housing Maintenance, New York City.

Since joining Skidmore, Owings & Merrill in 1970, Mr. Smith has worked on the Urban Design Concept Team in Baltimore, a project involving planning, design, and engineering of a 22-mile urban freeway. His responsibilities included structuring proposals for joint development to conform with federal and local requirements, evaluating planning and design concepts in a legal and administrative context, and participating in special projects relating to replacement housing and neighborhood rehabilitation. Mr. Smith subsequently assisted in the preparation of a new-town study for the Model Cities Agency of Newark, New Jersey. His participation in the study included land use planning and an assessment of the legal and the long-term financial feasibility of the new-town proposal.

Assigned to the Boston Transportation Planning Review in August, 1971, Mr. Smith was named Director of Legal and Administrative Studies. As such he had responsibility for the full range of legal issues, including environmental review requirements, public hearing procedures, and the funding and implementation of highway, transit, and related joint development projects identified by the Planning Review.

Since the completion of the Boston project, Mr. Smith has been engaged in two highway planning projects in the Boston area, the Route 2 study, and the Lowell Transportation Planning Study, involving the preparation

of detailed Environmental Impact Statements as required by Federal Environmental legislation.

Mr. Smith has also been responsible for legal/administrative analyses on a number of SOM's other projects, including the Manchester, New Hampshire, Airport Master Plan, the I-80N Environmental Study in Portland, Oregon, the Baltimore Region Transit Station Joint Development Study, and the Southeastern New England Urban Waters Study.

Mr. Smith is presently Project Manager of SOM on the "Guidelines for the Social and Environmental Assessment of Transportation Alternatives" Study, a major research project sponsored by the U.S. Department of Transportation. The Study will produce planning guidelines and manuals for use by state and Federal officials in the preparation and review of transportation facility-related Environmental Impact Statements.

Mr. Smith also teaches a graduate course in Urban Legal Issues at the Boston University Metropolitan College.

CHARLES E. STEINMAN
Participating Associate
Planner/Administration

EDUCATION:
Master of City Planning, Massachusetts Institute of Technology, 1967
Master of Science, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, 1967
Bachelor of Science, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, 1964

AWARDS:
Mellon Fellowship

EXPERIENCE:
Mr. Steinman has served SOM for seven years as a project administrator and planner specializing in transportation/land use issues as they relate to community development. His work also reflects his interest in communicating information clearly and directly using simple language and graphics, and many of his projects have had manuals as their final products. He has had extensive contract management experience, including administration of consultants, establishment of contract, scope, budgets, and monitoring systems, and responsibility for coordinating and producing planning and design reports.

Before he joined SOM in 1967, Mr. Steinman worked with the Washington, D.C., Redevelopment Land Agency. He contributed to project planning administration for the Shaw School Urban Renewal Project, a 675-acre neighborhood renewal project. This work included participation in design and administration of community surveys, and liaison with city agencies and community organizations. Working for the Boston Redevelopment Authority, Mr. Steinman was responsible for planning for the re-use and disposition of parcels of land to be acquired under the Charlestown Urban Renewal Project. Mr. Steinman also worked with the Lexington Planning Board, where he served as assistant to the planning director on a land use and zoning study.

Mr. Steinman came to SOM to participate on the Baltimore Urban Design Concept Associates team. UDCA pioneered the multidisciplinary approach to transportation planning, and as a planner, Mr. Steinman concentrated on movement and needs of residents rather than vehicular traffic. He helped prepare alternative highway route location studies, relocation housing studies, interchange development plans, and development controls and zoning change recommendations. He assisted with agency liaison and was responsible for planning and design recommendations for several sections of the highway.

Working on the Newark Model Cities project, Mr. Steinman was responsible for the establishment of an overall framework for planning during the Newark project. He also undertook immediate action planning for a demonstration pedestrian street system as well as a series of public transportation interim improvements, bus route planning, bus stop shelter design and implementation, a health care center and multi-service center, and coordination of a new-town-in-town study for Newark.

Since coming to the Boston office, Mr. Steinman has participated in the Boston Transportation Planning Review, where he helped prepare alternative land/

transportation plans for the southwest highway corridor and analyzed joint development potential for the proposed Red Line transit extension to Alewife Brook. He also was involved in the substantive organization and technical production of the draft Environmental Impact Statement published by the Planning Review.

On the Lowell Transportation Planning Study, Mr. Steinman participated in the planning for citywide transportation improvements. He also assisted in the administrative coordination of the several specialist subconsultants, including the establishment of project budgets and work schedules. The Upper Albany Neighborhood Study in Hartford, Connecticut, which Mr. Steinman managed, produced a conceptual framework and detailed recommendations for immediate improvements to the physical environment of the Upper Albany Neighborhood, including retail area, recreation, open space, vehicular and pedestrian circulation plans. A priority action plan was developed for improving the Albany Avenue pedestrian environment, utilizing special paving, benches, landscaping, and street lighting with corner recreation parks linking residential feeder streets to the Avenue.

Several of Mr. Steinman's recent projects deal with institutional aspects of planning. He was SOM project manager of a multidisciplinary study of waterfront development for the New England River Basin Commission that produced a report recommending actions for local, regional, state, and federal agencies. He developed a comprehensive study design and funding application for the Toledo Area Metropolitan Council of Governments to use in seeking state and federal funds for implementing a development planning analysis of the Maumee riverfront. He participated in the planning and administrative analysis for the establishment of a new Department of Transportation for the State of Maryland. Mr. Steinman currently is participating in SOM's study of community planning for rail mass transit for the U.S. Congress' Office of Technology Assessment. He is the principal investigator in several of the case metropolitan areas under study and is responsible for the team's institutional recommendations.

Mr. Steinman is project manager of the Lowell carpooling project, which produced an employer's handbook for the Massachusetts MASSPOOL program that will be used in a pilot carpooling effort in Lowell. He is helping develop the format for a manual that explains the environmental impact assessment process to state highway departments.

GEORGE DICKIE
Landscape Architect

EDUCATION:
Master of Landscape Architecture, University of Pennsylvania, 1964
Diploma in Architecture, School of Architecture, Edinburgh College of Art, Scotland, 1962

PROFFESIONAL ASSOCIATIONS:
American Society of Landscape Architects, Associate Member
Advisory Committee, Bureau of Statewide Planning, State of Missouri

EXPERIENCE:
Mr. Dickie is chief landscape architect for the Chicago office of Skidmore, Owings & Merrill. He is responsible for the site planning, analysis and landscape design for the firm's major architectural projects.

He is currently working with the Washington office of SOM on the Master Plan detailed landscape development of the Mall in Washington, D.C. and is developing a City Beautification Plan and Landscape Report for Jefferson City, Missouri.

Prior to his afficiation with SOM. Mr. Dickie's work experience included:

Practicing Landscape Architect
St. Louis, Missouri 1966-1972

Assistant Professor of Architecture and Landscape Architecture
School of Architecture, Washington University, St. Louis, Missouri
1966-1972

Associate Professor of Architecture and Landscape Architecture
School of Architecture, Washington University, St. Louis, Missouri
1969-1972

Associate, Anselevicius, Montgomery and Rupe, Architects
St. Louis, Missouri
1967-1969

Landscape Architect
Office of Campus Planning, Washington University, St. Louis, Missouri
1964-1966

PROJECTS:
The Mall, Washington, D.C.: Landscape Studies and Details of Mall Landscaping for Bicentennial '76

Old Bonhomme Park, Olivette, Missouri: Landscape Design

Creve Coeur Park, Creve Coeur, Missouri: Playground Design

CBD Urban Beautification, Wood River, Illinois Beautification Committee: Urban Beautification

Kingsland Park, University City, Missouri: Landscape Design

Consultant to Univeristy City Land Clearance Authority, Univeristy City, Missouri

Mississippi River Festival Grounds, Southern Illinois Univeristy: Landscape Design

Mineral Area College, Flat River, Missouri: Site Planning and Landscape Design

Campus Landscape Plan, Washington University: Landscape Design

Juvenile Treatment Center, Fulton, Missouri: Site Planning and Landscape Design

Harbour Town Development, Lake St. Louis, Missouri: Landscape Design

Vital Services Building, East Alton, Illinois: Landscape Design

University Terrace, University City, Missouri: Landscape Design

St. Louis Osteopathic Hospital, St. Louis, Missouri: Site Planning and Landscape Design

Brown Group, Clayton, Missouri: Landscape Design

Alton Box Board, Alton, Illinois: Landscape Design

May Company Venture Department Store, North St. Louis County: Site Planning and Landscape Design

General Electric M.S.D. Headquarters, Waukesha, Wisconsin: Landscape Development

Sears Plaza, Sears Tower, Chicago, Illinois: Landscape Design

1st Wisconsin Center, Milwaukee, Wisconsin: Landscape Design

1st Wisconsin Plaza, Madison, Wisconsin: Landscape Design

Jefferson City, Missouri: Beautification Project

Arthur Andersen Center, St. Charles, Illinois: Master Landscape Plan

WON K. CHUNG
Graphic Designer

EDUCATION
Bachelor of Arts, Cum Laude, Dartmouth College, 1973
Master of Fine Arts, Yale School of Art, 1975

AWARDS
James B. Reynolds Fellowship for Study Abroad
Dartmouth General Fellowship for Graduate Study
Teaching Assistantship, Yale University
Teaching Assistantship, Yale School of Architecture
Adelbert Ames Fine Arts Award
Marcus Heiman Award in the Creative Arts

EXPERIENCE
As an undergraduate majoring in Visual Studies with emphasis in architecture, Mr. Chung worked as a designer for the Hopkins Center Design Studio on various cultural activities and as a photographer for the Office of Information Services and the Dartmouth Alumni Magazine. During graduate school he worked part time at Strong Cohen, a graphic design firm in New Haven and held teaching assistantships in both the Yale undergraduate program and the graduate program at the School of Architecture. Recent freelance projects include the publication "Perspecta: The Yale Architectural Journal," and graphic design for an architectural exhibition at the Museum of Modern Art in New York. Mr. Chung also teaches a graphic design workshop at the Boston Architectural Center.

Since joining SOM, Mr. Chung has worked on a variety of publications for several different projects. He designed the developer's prospectus for the Pickering Waterfront Site in Salem, Massachusetts, as a culmination of a feasibility study by SOM. He also designed the format for the Department of Transportation notebook series on environmental impact assessment guidelines. He is currently involved in designing a series of publications for Masspool, the statewide carpooling program, including a handbook, employer and employee brochures, posters, and stationery.

HUBERT O. SCHMIDT
Value Engineer

EDUCATION:
Building Engineer Degree, Staats Akademie fur Architektur, Idstein, Germany, 1947
Certificate in Value Analysis and Engineering, University of Wisconsin, 1973

LICENSES:
Licensed Professional Engineer, New York

PROFESSIONAL ASSOCIATIONS:
American Association of Cost Engineers
National Society of Professional Engineers
New York Society of Professional Engineers
Society of American Value Engineers, Inc.

EXPERIENCE:
Mr. Schmidt is the Chief Cost Estimator for the New York, Washington, Boston, and Paris offices of SOM. In this capacity he is responsible for projects totalling 1.5 to 2 billion dollars in construction costs for an average current year. Mr. Schmidt is the Engineer in charge of Project Estimating, Cost Engineering and Value Engineering during the preliminary stages of project development, and Cost Control during construction. Drawing upon the computer programming and the cost estimating staffs of SOM, Mr. Schmidt's responsibilities include the design and development of computer programs for cost estimating and cost control as well as the direct supervision and monitoring of construction cost trends. These projects range from Master Plans and Development Programs through completion of construction for new communities, major recreational developments, office buildings, new commercial centers, colleges and universities, hospitals, civic buildings and industrial facilities.

Before joining SOM in 1966, Mr. Schmidt was Supervising Estimator of the International Management Division of Building Construction in the Bechtel International Corporation's New York office. He was responsible for feasibility studies and project cost control on projects in approximately 40 countries in Europe, Asia, Africa, and South America. Previously, Mr. Schmidt served as Project Engineer for the Pepsi-Cola Company, in charge of their World Headquarters building project in New York City; as Assistant Superintendent for the Turner Construction Company on their work at the Rockefeller Institute in New York City; and as Consulting Engineer to the U.S. Department of State, Foreign Building Operations, in Bonn, Germany, for which he received a Commendable Service Award from Secretary of State J. F. Dulles.

ANDERSON NOTTER ASSOCIATES INC.
ARCHITECTS AND LAND PLANNERS • 10 THACHER STREET, BOSTON, MASSACHUSETTS 02113 • (617) 227-9272

SUMMARY OF EXPERIENCE AND QUALIFICATIONS

ANDERSON NOTTER ASSOCIATES INC. is a well established firm of 30 professional architects and planners that has a decade and a half of experience in planning for urban areas, designing new structures compatible with existing buildings and historic environments, and imaginatively recycling old buildings for new uses.

A partial list of projects for which they have been responsible is as follows:

OLD CITY HALL - Boston, Massachusetts
(Listed on the National Register of Historic Places)
(1973 L.J. Peabody Award for Creative Excellence)
(1972 Preservation Award, Boston Society of Architects)
Conversion and preservation of this mid-nineteenth century building, no longer useful to the City after its move to new quarters, into dynamic office, commercial and restaurant space.

MARKET SQUARE HISTORIC DISTRICT - Newburyport, Massachusetts
(Listed on the National Register of Historic Places)
Redesign of the twenty-two acre, early nineteenth century seaport for the Newburyport Redevelopment Authority. Previously scheduled for demolition, the redesign emphasizes compatible new development and preservation techniques to enhance and protect the historic town center through urban renewal.

CUSTOMS HOUSE BLOCK - Long Wharf, Boston, Massachusetts
(Listed on the National Register of Historic Places)
(First Honor Award - 1974 AIA/House & Home)
(AIA Design Award - 1974, New England Regional Council)
Conversion and preservation of this mid-nineteenth century building, originally a ship's storage and warehouse, into new residential and commercial uses.

COAL BUNKER/WATERFRONT FIRE STATION - Boston, Massachusetts
(Adjacent to the Waterfront District, which is listed on the National Register of Historic Places)
Reconstruction of this late nineteenth century former MBTA coal storage facility of heavy timber to imaginatively house Boston's Waterfront Fire Department and a land-based station to serve the North End.

CHART HOUSE RESTAURANT (Gardner Building) - Boston, Massachusetts
(Within the Waterfront Historic District, which is listed on the National Register of Historic Places)
(AIA Design Award - 1974, New England Regional Council)
Rehabilitation and conversion of this mid-eighteenth century warehouse into an imaginative restaurant facility for the Chart House.

J. TIMOTHY ANDERSON
GEORGE M. NOTTER, JR.
JAMES G. ALEXANDER
ANTHONY C. PLATT
PAUL J. McGINLEY

THE TANNERY - Peabody, Massachusetts
Rehabilitation and conversion of this mid-nineteenth century group of urban A. C. Lawrence tannery buildings into a dynamic and imaginative living community for senior citizens adjacent to the central business district.

PRINCE BUILDING - Boston, Massachusetts
(Within the Waterfront Historic District, which is listed on the National Register of Historic Places)
Rehabilitation and recycling of this obsolete concrete spaghetti factory into residential and office uses on Atlantic Avenue. The adaptive reuse of this building served as the catalyst for the rebirth of Boston's historic waterfront as a dynamic living area.

WATERFRONT HISTORIC DISTRICT PLAN (C-2 Parcel) - Boston, Massachusetts
(Listed on the National Register of Historic Places)
Extensive plan for rehabilitating and converting eighty-eight nineteenth century warehouse buildings in Boston's Waterfront District to residential and commercial uses.

GARRISON INN - Newburyport, Massachusetts
(Listed on the National Register of Historic Places)
Restoration of this previously abandoned early nineteenth century inn building to again house an inn and supporting facilities.

COMMERCIAL WHARF TOWN HOUSES - Boston, Massachusetts
(Within the Waterfront Historic District, which is listed on the National Register of Historic Places)
Proposed construction of thirty-two town houses on the north side of this mid-nineteenth century waterfront warehouse, now a residential building.

CHINA MILL - Suncook, New Hampshire
Proposed conversion of this mid-nineteenth century mill building into a living community for senior citizens.

STONEHOLM STREET - Boston, Massachusetts
(ARA Design Award)
Conversion of this obsolete concrete parking garage into a young singles residential building.

COMMERCIAL WHARF WEST - Boston, Massachusetts
(Within the Waterfront Historic District, which is listed on the National Register of Historic Places)
Rehabilitation and conversion of this mid-nineteenth century warehouse building into residential and commercial uses.

ASHDOWN HOUSE - M.I.T., Cambridge, Massachusetts
Restoration of the lobby and dining rooms of this late nineteenth century residential hotel, now used to house graduate students.

MORSE HALL - Phillips Academy, Andover, Massachusetts
Recycling of this early twentieth century building from its original science teaching function to a Mathematics Center, with audio-visual and faculty meeting rooms.

COMMONS BUILDING - Phillips Academy, Andover, Massachusetts
Extensive study to analyze the Academy's dining needs, both as an educational tool and as an economic reality. Cosmetic experimentation with an early twentieth century structure to experiment in new patterns to assist in evaluating goals of final program.

FULLER ARTS CENTER - Brockton, Massachusetts
(ARA Design Award)
(Red Cedar Shingle & Handsplit Shake Bureau Design Award)
Modern informal museum on a wooded lakeside site for the exhibition and practice of the arts.

SUNOCO GAS STATION - Boston, Massachusetts
(Within the Waterfront Historic District, which is listed on the National Register of Historic Places)
(ARA Design Award)
(AIA Design Award - 1974, New England Regional Council)
Unique design which integrates the facilities of a service station sympathetically into a growing waterfront residential community.

HARVARD YARD - Cambridge, Massachusetts
(Project Manager for Benjamin Thompson of The Architects Collaborative)
Rehabilitation of eight Harvard Yard buildings to elevate their standard to that of contemporary dormatories. Included among these buildings was Hollis Hall, Harvard's third oldest building.

CAPITOL BANK BUILDING - Government Center, Boston, Massachusetts
New home office building for the Capitol Bank, completing a design-integrated block of new and old buildings within sight of Boston's New City Hall.

CHICKERING PIANO FACTORY - South End, Boston, Massachusetts
(First Honor Award - 1975, AIA/House & Home)
(Housing & Neighborhood Design Award - 1975 Boston Society of Architects)
Supervising architects for the rehabilitation and recycling of this mid-nineteenth century factory of renowned pianos into moderate income housing for artists and commercial artist space.

MECHANICS SQUARE - New Bedford, Massachusetts
Rehabilitation and conversion proposal of an architecturally significant YMCA and adjacent parking garage into an imaginative combination of residential, retail and office uses.

UNIVERSITY OF MASSACHUSETTS, PHYSICAL EDUCATION FACILITY - Columbia Point, Boston, Massachusetts
New, comprehensive physical education plant for the Boston campus of the University of Massachusetts. Facility will accommodate all physical education activities and includes a skating rink, swimming pool, basketball courts and related facilities as an integral element of the University's program.

PORTLAND WATERFRONT - Portland, Maine
(Listed on the National Register of Historic Places)
Preparation of an adaptive reuse and development plan to stimulate the economic development of Portland's historic waterfront area. The program, financed by a grant from the National Endowment for the Arts, establishes an overall plan for the City to guide the rehabilitation and preservation of Portland's eighteenth century structures and provide public access and recreation along the waterfront.

UNION RAILROAD STATION - New London, Connecticut
(Listed on the National Register of Historic Places)
Preservation and adaptive reuse of H.H. Richardson's Union Railroad Station which was scheduled for demolition through urban renewal. The structure will contain a modern AMTRAK Station, restaurant and imaginative office space. Anderson Notter Associates Inc. serves as both architect and developer of this project through its entity known as Union Station Associates of New London.

BROOKWOOD SCHOOL - Manchester, Massachusetts
Advisory service to a private elementary school, housed in an old estate, to evaluate their existing program and to assist in the development of policies for future activities. Architect for the renovation and expansion of physical facilities.

ROYALSTON PRESERVATION - Royalston, Massachusetts
The National Trust for Historic Preservation has funded this study in collaboration with the Society for the Preservation of New England Antiquities. An overall program has been developed to ensure the preservation of the unspoiled nineteenth century Town Common and adjacent areas in the Town of Royalston.

CENTRAL GRAMMAR HOUSING - Gloucester, Massachusetts

Conversion and rehabilitation of the old Central Grammar School for elderly housing which is sponsored by a development entity of the local anti-poverty agency. The project has developed as a proto-type for reuse of old surplus schools in urban areas.

HOLIDAY INN - Cambridge, Massachusetts

Design consultant for the redesign of a proposed motel adjacent to the proposed Kennedy Memorial Library, to achieve compatible design relationships and to comply with local zoning and civic objectives.

BABSON BLOCK - Gloucester, Massachusetts
(Listed on the National Register of Historic Places)

Rehabilitation and preservation of a block of early nineteenth century buildings for commercial and residential reuse. This privately funded project has been undertaken as a demonstration project to initiate the revitalization of Gloucester's central business district and to retain the oldest section of the core city.

NEW BRITAIN HIGH SCHOOL CONVERSION - New Britain, Connecticut

Rehabilitation and conversion of the former New Britain High and Vocational Schools Complex into elderly housing and various supporting services. The complex includes a variety of architectural periods and styles which will be preserved together with the adaptation of special community facilities for continued public use. Anderson Notter Associates Inc. is involved as both architect and developer of this recycling project.

HUDSON/PARK NEIGHBORHOOD REHABILITATION PLAN - Albany, New York
(City of Albany Historic District)

Preparation of an action-oriented adaptive reuse plan to preserve and upgrade the Hudson/Park historic neighborhood immediately adjacent to the Rockefeller South Mall in the New York capital complex. This plan, financed by a grant from the National Endowment for the Arts to the Historic Albany Foundation, will enable local citizens to participate in developing a preservation plan for their historic neighborhood and will establish an overall plan for the City to implement improvements through its Community Development Program.

CHAUNCEY HARRIS SCHOOL PRESERVATION - Hartford, Connecticut

Preservation and conversion of an outstanding Victorian School to elderly housing. Located near the State Capital in a low-income neighborhood, this vacant and obsolete structure was on the verge of demolition as a fire and safety hazard. Anderson Notter Associates Inc. staff has assisted local preservationists in preventing demolition, in eliminating fire and safety hazards and is now working closely with the City and the Hartford Architecture Conservancy on an adaptive use plan for elderly housing. Anderson Notter Associates Inc. is serving as both architect and developer in this recycling project.

DOWNTOWN REHABILITATION PLAN - Hartford, Connecticut

Preparation of a detailed adaptive use and rehabilitation plan for a key city block adjacent to the City's newly completed Civic Center in downtown Hartford. Undertaken jointly for the Downtown Council and the Knox Foundation, this plan demonstrates the feasibility of reusing obsolete commercial structures to regenerate economic vitality in the downtown area. This plan proposes multi-level pedestrian connections and has been adopted by the Hartford Redevelopment Agency.

MECHANICS HALL RESTORATION - Worcester, Massachusetts
(Listed on the National Register of Historic Places)

Restoration of the Greater Worcester Mechanics Hall for continued use as a vital cultural element in downtown Worcester. This outstanding mid-nineteenth century neo-Renaissance Italianate landmark is recognized by historians as the finest hall, as distinct from theater, remaining in the United States from the pre-Civil War decade. The architectural program will restore the inherent architectural features of this landmark as a major facility in the cultural life of central Massachusetts. This program is the official Bicentennial Project of Worcester and the architectural study is financed by a historic preservation grant from the U.S. Department of the Interior administered by the Massachusetts Historical Commission.

S.U.M. GREAT FALLS HISTORIC DISTRICT PRESERVATION PLAN - Paterson, New Jersey
(Listed on the National Register of Historic Places)

Preparation of a development plan to preserve through recycling the original American industrial complex established by Alexander Hamilton as of S.U.M. (Society of Useful Manufactureres) and planned by Pierre Charles L'Enfant. In 1970, the Federal Government recognized Paterson as "the Cradle of American Industry" by designating the entire Great Falls area as a National Historic District. The plan is being prepared for Paterson Community Development Department and will include adaptive use feasibility studies and an action plan to revitalize the historic district.

21 MERCHANTS ROW - Boston, Massachusetts
(Within the Faneuil Hall-Quincy Market National Register Historic District)

Design of Clarke's restaurant on the first floor and lower level of this historic structure adjacent to the Faneuil Hall - Quincy markets.

GROSSMAN DAY CAMP* - Dover, Massachusetts

Preparation and execution of a master plan for a 850 student day camp situated on a 75 acre site. Eighteen buildings, seasonable scheduling and a variety of spaces for outdoor activities are compatibly provided within the natural environment and terrain which are conserved while enhancing the camping experience of children.

RANDALL MEMORIAL LIBRARY* - Stow, Massachusetts
A contemporary addition to a late nineteenth century library that quintriples existing space. The addition preserves and compatibly reinforces the original structure by the use of form, space and materials on a triangular sloping site.

ODD FELLOWS HALL - Ipswich, Massachusetts
Restoration and conversion of this early nineteenth century structure for commercial and office adaptive reuse. Exterior restoration and interior improvements for contemporary functions enable this structure to maintain and enhance the historic Meeting House Green.

IPSWICH GRIST MILL - Ipswich, Massachusetts
Preservation of an early nineteenth century grist maill on the Ipswich River and installation of compatible office use for the Labador Quebec Mission Foundation. The installation of modern but sympathetic office space was achieved without disturbing the character or basic structure of the old mill.

COHASSET PUBLIC LIBRARY* - Cohasset, Massachusetts
A feasibility study of expansion within unused basement space developed a master plan to increase useable space by one-third, makes the collection more accessible and supports efficient staff operation to serve local needs for the next ten years.

AMESBURY PUBLIC LIBRARY* - Amesbury, Massachusetts
Studies are underway to expand this architecturally prominent and active facility. Development of useable and interesting attic space will achieve a more efficient facility while reducing required new construction and costs.

BOLTON PUBLIC LIBRARY* - Bolton, Massachusetts
Restoration and expansion proposal to preserve the life, character, beauty, and usefulness of this extraordinary building.

MISSION HILL HOUSING* - Boston, Massachusetts
Modernization of 1,600 units of low income housing for the Boston Housing Authority included master planning, interior remodelling, breakthrough apartments, and working with the tenants as clients in this federally funded effort to improve the quality of life for less advantaged people.

NEWTON SCHOOL RENOVATIONS* - Newton, Massachusetts
Renovation of 19 elementary schools to accommodate hot lunch programs within the existing school program.

NORWELL PUBLIC LIBRARY* - Norwell, Massachusetts

This contemporary municipal building houses 35,000 volumes in an informal setting and is designed for future expansion. Its irregular shape blends comfortably into the heavily wooded site to conserve the natural landscape and provides a variety of reading spaces.

AVON PUBLIC LIBRARY* - Avon, Massachusetts

This addition quadrupled existing space, exceeded requirements for seating and volume capacity and was publicly bid 13% under budget. The maintenance free materials, the shape of the addition, and the selection of interior material and furniture combine to create a quality municipal building.

*Projects of the partnership of Finegold & Bullis prior to Maurice Finegold joining Anderson Notter Associates Inc. as a partner.

PRINCIPALS - August, 1975

J. Timothy Anderson

Diploma, Phillips Academy, Andover, 1951; A.B. cum laude, Harvard, 1955; M. Arch., Harvard, 1958; Architectural Registration: Commonwealth of Massachusetts and State of New York; Member of the Boston Society of Architects, American Institute of Architects, and the American Registered Architects; Member of the New England Antiquities, the Society for Industrial Archeology, the Society of Architectural Historians, Advisory Council of the Boston Housing Tenants Council, Boston Waterfront Restudy Committee, Advisory Committee on Historic Buildings for Massachusetts State Building Code Commission.

Established firm in 1961.

George M. Notter, Jr.

A.B. summa cum laude, Harvard, 1955; M. Arch., Harvard, 1958 (Urban Design Studies); National Architectural Registration Certificate with State Registration in Connecticut, Florida, Maine, Commonwealth of Massachusetts, Michigan, New Hampshire, Rhode Island, Vermont, Washington, D.C., Maryland, and Virginia; Member of the American Institute of Architects, Co-chairman of AIA/AGC Liaison Committee, Vice-Chairman of the National AIA Committee on Insurance; Vice President, Director and Commissioner of Professional Society of the Boston Society of Architects, Chairman of Task Forces on Insurance and Alternate Fee Schedules for the Executive Committee of the Massachusetts State Association of Architects; Director of Society for Industrial Archeology. Member of the National Trust for Historic Preservation, the Society for the Preservation of New England Antiquities, the Society of Architectural Historians, and Alternate Member, Beacon Hill Architectural Commission.

Joined firm in 1965.

Paul J. McGinley

B.S.C.E., Merrimack College, 1961; M. Public Administration, Northeastern University, 1973; Director Bay State Historical League; Member: National Trust for Historic Preservation, Society for the Preservation of New England Antiquities, Society of Industrial Archeology, and Society of Architectural Historians.

City planning and urban renewal consultant for national planning firm, 1961-64, 1967-70. Projects included general planning and renewal planning of cities throughout New England. Chief Planner, Boston Redevelopment Authority, 1964-66; Executive Director, Newburyport Redevelopment Authority, 1970-73. Joined firm in April, 1973; became an Associate in 1974.

ANDERSON NOTTER ASSOCIATES INC.

ASSOCIATES - August, 1975

Anthony C. Platt

B. Arch., Penn. State University, 1966; M. Arch., M.I.T., 1969 (Urban Design); Graham Scholar, 1963; SCARAB Honorary, 1963; Term of Study, University of Florence, Italy; Second Place, U.I.A. International Competition, New Town of Espoo, Finland, 1967; Architectural Registration: Commonwealth of Massachusetts; Member of the Boston Society of Architects, the American Institute of Architects, and the National Trust for Historic Preservation.

Design Instructor, Penn. State University, 1966-67; Research Staff, M.I.T. Department of Architecture, 1968-70, working on computer application in the field of architecture and planning; volunteer with VITA, Boston, Massachusetts, 1972. Joined firm in 1969, became an Associate in 1970.

Louis Sirianni

B. Arch., Carnegi Institute of Technology, 1969; M. Arch., Harvard, 1974 (Urban Design); Architectural Registration; Commonwealth of Massachusetts; C.I.T. Book Award, 1966; C.I.T. Alcoa Award, 1967;

Member of Architecture 2001, Pittsburgh, 1967-1968; John Kauper, Architect for New Castle Redevelopment Authority, 1969-72; joined firm in 1974. Urban designer for historic planning projects.

Andreur Hudak

B. Eng., U.S. Naval Academy, 1967; Mr. Arch., Harvard, 1974;

Lt. U.S. Navy 1967-71; joined firm in 1974. Architect and urban designer for urban recycling project and housing programs.

Marie Viita

B.A. in Art History, Smith College, 1972; M. Arch., Harvard, 1974;

Concentrated studies on architectural history in 19th and 20th centuries and in urban planning and design for historical areas; joined firm in 1974. Planner and designer for historic presentation projects in Albany, New York, and Hartford, Connecticut.

ECONOMICS RESEARCH ASSOCIATES QUALIFICATIONS

Economics Research Associates (ERA) is an economics and management consulting firm which provides a wide range of analytical services in tourism and recreation planning, real estate economics, marketing and feasibility analysis, development programming, and management consulting. The firm maintains a multi-disciplinary staff of some sixty professionals located in offices in Boston, Washington, D.C., Chicago, Los Angeles, Orlando and San Francisco. Included in the staff are economists, recreational planners, public administrators, financial analysts, marketing professionals and urban planners, as well as other disciplines concerned with providing creative solutions to business and governmental problems.

Many of our staff have held positions with government at the local, state, and federal levels, and others in private industry. Since its inception in 1958, Economics Research Associates has carried out more than 4,000 individual projects and includes among its clients numerous agencies of the Federal government, state, and local governments and large and small corporate clients. ERA has successfully carried out numerous projects for such agencies as the National Park Service, Economic Development Administration, U.S. Corps of Engineers, Departments of Housing and Urban Development and Transortation, and the New England Regional Commission, in addition to numerous studies for state and local agencies. The experience gained in many of these projects is directly related to the work to be undertaken in the proposed study for the Lowell Historic Canal District Commission.

Economics Research Associates is intimately familiar with the economy of the City of Lowell as well as Eastern Massachusetts due to its extended work in Lowell as part of the Lowell Transportation Planning Study. Our work on this project has ranged from socio-economic analysis and forecasting for the city and region through analysis of the economic impacts of various transportation projects on businesses and the general economy of the city. In addition to and even more important than familiarity with the city, is ERA's wide experience in tourism, recreation and historic-themed attraction analysis. This experience ranges from the evaluation of the reuse of historic structures to the analysis of special transportation systems, such as monorails, aerial tramways and various other people-mover devices for use in themed attractions and the development of implementation techniques.

Over the years ERA has undertaken a variety of assignments for clients involving reuse and rehabilitation of older buildings which have intrinsic architectural or historic values. These studies frequently involve the determination of an economically viable reuse which will permit retention and rehabilitation of the structure or determination of the degree of subsidy necessary to retain the building, often in conjunction with occupancy of the building by a culturally or educationally significant use. Some of the structures which ERA has evaluated to date and for which programs have been formulated include the

Philadelphia Bourse, the Old Post Office Building in St. Louis, the former City Hall in Corning, New York, the Quincy Market complex in the Faneuil Hall area of Boston, historic structures located in the Charlestown Naval Shipyard, and a proscenium theater in Elmira, New York, among others.

The firm has also had wide experience in evaluation and program development for numerous specialty shopping centers, a relatively new and unique concept in retail development, which often makes use of historic structures. This type of center differs from other retail facilities in that it employs a unifying theme carried out in architectural design, houses tenants offering unusual merchandise, and provides a strong recreational ambience through emphasis on dining and entertainment activities. Owing to the specialty center's extensive recreation/entertainment content and resultant appeal to the sightseer or tourist as well as to the shopper, analysis of its potential market acceptance requires a highly specialized capability that departs from the traditional approach to retail demand analysis. ERA has developed considerable expertise in the economic and conceptual planning of specialty shopping centers, having performed numerous studies for the development of such centers nationwide, including the Galleria development in Houston, Fort Worth Stockyards development, Queen Mary development in Long Beach, California, Lacledes' Landing project in St. Louis, a proposed development in Hartford, and the Torpedo Factory development in Alexandria, Virginia.

In addition to reuse and feasibility studies for individual structures, ERA has conducted a wide range of studies dealing with the creation of programs for the enhancement of visitor attendance and appreciation of historic sites and the creation of historically-oriented recreation attractions, such as museums. These projects have included the further development or re-creation of historic sites such as the original settlement of Charlestown, North Carolina, which is now a historical park with major attendance, a tourism development program based on historic sites in Rome, New York, an investigation of the potential for expanding the annual Inter-Tribal Indian Ceremonial held in Gallup, New Mexico, as a permanent, year-round cultural/educational attraction, and an analysis of the expansion program of the New England Aquarium.

For the State of Massachusetts and the City of Philadelphia, ERA has prepared detailed attendance projections for the Bicentennial years at a number of historical attractions and conducted evaluation and planning of visitor impacts. In addition ERA has conducted planning studies at several National attractions for a wide range of visitor support services including commercial facilities and transportation systems. In Washington, D.C., ERA analyzed the market for a specialized bus service linking the major monuments and other visitor attractions in the vicinity of the Mall and Arlington National Cemetery. Work on commercial services and potential internal transportation systems was conducted at Yosemite and Grand Canyon National Parks.

ERA's background includes a wide range of experience in estimating the type and extent of attendance at potential visitor attractions and the preparation of financial projections. Popularly known attractions for which ERA did the economic master plans include Montreal's Expo 67, Century 21 in Seattle, the 1974 environmental exposition in Spokane, Disneyland and Disney World. Experience with these and many smaller attractions has given ERA a considerable body of knowledge on behavioral characteristics at visitor attractions which has been employed at both historical and cultural facilities.

In the field of real estate and recreation economics, ERA has conducted highest-and-best-use studies, market support studies and financial feasibility studies for properties owned by a wide variety of clients, including Ford Motor Company, Hershey Foods, Alcoa, Paramount, RCA, Scott Paper, Shell Oil, Trans World Airlines, Anheuser-Busch, Penn Mutual Life Insurance, Rockefeller Center Inc. and the Marriott Corporation. Many of these studies have dealth with the development and programming of commercial recreation facilities, themed specialty shopping centers and multi-use urban developments. ERA has recently evaluated the commercial recreational reuse potential for Radio City Music Hall in New York City, the financial reasibility and program components of a proposed exhibition and observation area in a major new commercial office building in Philadelphia, and the program and financial feasibility of a proposed CINESPHERE theatre in Niagara Falls, Ontario.

The firm's experience in the planning and programming of numerous commercial recreation developments has lead to its increasing involvement in the public sector in planning and programming recreational and tourist facilities. Whether the goal is the creation of new business enterprises and jobs in areas of unemployment, the provision of inexpensive but good quality recreational activities for local residents, the stimulation of economic growth through expanded tourist visitation and spending, or the control of the environmental impact of increased recreational usage, the range of experience and technical ability offered by ERA can be invaluable, particularly in view of the need to ensure financial viability. Typical recent studies include evaluations of programs for the Boston Zoological Society expansion program, a tourism development program for the Province of Nova Scotia, an arts and crafts/visitor center development study on Cape Cod for the State of Massachusetts, a planning study for hostel and trail systems within state parks for the State of California Department of Parks and Recreation, and planning and program analysis for the Wisconsin State Fair.

All of this experience is germane to the determination of potentially viable uses and programs for older buildings which have intrinsic architectural or historic value, as well as to the development of new attractions and programs.

Some specific examples of ERA projects which have involved the preservation of historic structures, the development or expansion of historic attractions and other related work are cited below.

Rockwell Museum, Corning, New York

Economics Research Associates was retained to conduct the economic planning and evaluate the potential financial performance of this museum, which will house the Rockwell collections of Western U.S. Art, Indian artifacts, American Toys and American guns. The museum is presently under development and will be housed in the former City Hall building of Corning, an 1893 structure which is to be completely renovated in keeping with its period. This reuse will permit the preservation of this historic building and will also serve to strengthen the existing downtown district of this New York community.

Faneuil Hall Area, Boston, Massachusetts

The Faneuil Hall area of Boston is currently undergoing a $25 million restoration involving 43 structures, including the well-known Quincy Market. Primary uses will include specialty retail shops and restaurants (with retention of the long-standing Durgin-Park Restaurant already at the site) and office space to be located on the upper floors of existing structures. Developer for the project is James W. Rouse, of Columbia, Maryland. Economics Research Associates served as consultant to the Rouse organization on the specialty retail uses for the project.

New England Aquarium, Boston, Massachusetts

For the expansion program of the New England Aquarium, ERA evaluated the operating experience of the existing facilities, analyzed the program schedule, hours of operation, attendance patterns and facility use characteristics and pedestrian activity patterns. Also included in the evaluation were the characteristcs of alternative development proposals, projected attendance levels, and recommended facility sizing and operating schedules as well as admission rates for the recommended program.

New England Tourist Information System

ERA served as prime contractor on this recently completed study for the New England Regional Commission, which investigated a regional tourist information system for the six New England States. This major study included a thorough analysis of tourism in the six state region, analysis of tourist destination areas, travel modes and information requirements. As a part of this study over 600 attractions, transportation agencies, media personnel, travel industry groups, visitor center personnel and tourism development groups were identified and interviewed, resulting in a detailed overview of tourism in New England. Based on this work a tourist information strategy was developed which included a member of separate components oriented to the different segments of tourism in the region. The proposed program is now before the Economic Advisors to the Commission for their approval and action.

Salem, Massachusetts Harbor Site Redevelopment

The City of Salem retained the team of Skidmore, Owings & Merrill and Economics Research Associates to determine marketable alternative uses for a key site in Salem Harbor. This study developed market support data and used it to develop use schemes which involve joint participation by hotel, marina, restaurant, residential and retail facilities. The conceptualizations and market parameters were determined based on the site's beneficial impacts on the surrounding historical neighborhood and the City's economic infrastructure.

Southeastern New England Urban Waters Study

As part of a consulting team contracted by the New England River Basins Commission, ERA helped to develop a comprehensive plan for conservation and development of waterfront in the region encompassing southern Massachusetts, Rhode Island, and a portion of Connecticut. The report analyzed the physical, economic, ecological, and legal and institutional issues related to urban waterfronts in the SENE region. Meetings and telephone interviews with local planning directors, economic development groups, renewal authorities, and Chambers of Commerce addressed questions related to key resources and issues related to their urban waterfronts as well as recent development and long-term proposals.

Los Angeles Paleontological Museum

This project considered the economic feasibility of a proposed paleontological museum in Los Angeles County located near the La Brea Tar Pits. Research includes an explanation of financial requirements, description of project scope, and projection of annual attendance based on experience at other U.S. museums and existing Los Angeles attractions. A determination was made of revenue potential as a function of pricing policies, and future parking requirements and their implications on acquisition of the necessary propoerty were analyzed.

The Torpedo Factory, Alexandria, Virginia

The City of Alexandria, Virginia, will take possession of a federal records retention facility in 1975. This building, more commonly known as "The Torpedo Factory" after its earlier use, is on a riverfront site and is adjacent to an existing specialty retail area in the Alexandria Central Business District.

The City of Alexandria has retained ERA to assist in determining the optimum reuse for this facility. In this effort, ERA is providing advice on the overall planning process and strategy for future development, recommendations on market and financial feasibility analyses and land use mixes for the property, and advice on private-public developer relationships for potential on-site uses and development impact considerations. This work was still in progress at the time of writing.

Charlestown Naval Shipyard, Boston, Massachusetts

The Charlestown Naval Shipyard in Boston was recently closed by the Navy. Legislation enacted by Congress cedes a portion of the former Naval Shipyard to the U.S. National Park Service for development of a maritime and naval-related historic facility. The primary attraction at this facility will be the U.S.S. Constitution, which is visited by more than 600,000 persons annually. In addition to the Constitution, the Naval Shipyard Historical Park will also contain at least two museums. The present Navy Yard also contains a number of historic structures, some of which would be included in the park. These include the Commandant's House and the Marine Barracks, both of which were in continuous use for these purposes since their construction in 1809 and 1823, respectively, and Dry Dock No. 1, reportedly the oldest naval dry dock in the nation. This dry dock was completed in 1833, and the first ship to enter it was the Constitution. The Constitution was also the last ship to be overhauled there, in 1973.

The closing of the Charlestown Navy Yard will leave considerable facilities and acreage, of which only about 22 acres are presently scheduled for reuse for the historic park to be administered by the National Park Service, as described above. The City of Boston desires that the remainder of the shipyard, comprising more than 60 acres, be put to a desirable use or combination of uses.

ERA recently participated with a team of consultants to evaluate a number of potential reuses of this part of the shipyard for the City of Boston. A number of alternative plans were evaluated, ranging from use of the existing land and buildings for heavy industry to creation of a major hotel and residential complex along the waterfront similar to a "new town in-town." The presently preferred plan involves industrial reuse of most existing buildings combined with renovation to tourist-related and institutional uses in the area adjacent to the proposed National Historic Park site, which contains the remainder of the most important historic buildings, including several three- and four-story granite structures. In this historic area, institutional and retail uses would support and take advantage of activity in the National Park and preserve the character and scale of the historic buildings. Planned reuses for the structures include specialty shopping and restaurants, a hotel, museums, and several institutional uses.

ERA's assignment in this project involved determination of the market support for office space, industrial space, specialty shopping, hotels and housing on the site, and estimation of the fiscal impact of alternative reuse plans proposed by planning consultants and staff from the City's Economic Development Industrial Commission.

Charles Towne Landing, South Carolina

This facility consists of a 200-acre historical park on the site of

the state's first permanent settlement. The park, located at Albemarle Point across the Ashley River from present downtown Charleston, consists of a restored original settlement area, as well as a 1670 crop garden and animal forest, a replica of a 17th-century trading ketch, formal gardens, nature trails, and movies and other exhibits. Prior to the development of this facility, Economics Research Associates was retained by the South Carolina Tricentennial Commission to evaluate the concept and economic potentials for the proposed historical attraction. In the course of this work, ERA estimated the size and extent of the market; evaluated the site; recommended concept, scope of activities, attendance projection and distribution, physical planning factors and financial implications.

Historic Areas of Rome, New York

Rome is the site of Fort Stanwix where, during the Revolutionary War, tradition says the Stars and Stripes were first flown in battle. Archaeological excavation, preliminary to restoration of the Fort by the U.S. National Park Service, was begun in 1970. Oriskany Battlefield, scene of one of the bloodiest battles of the Revolution in 1777, is six miles east of the City. The City possesses other historical features capable of being combined as an overall visitor development program. ERA was retained by a local group, assisted by a grant from the U.S. Economic Development Administration, to analyze the proposed tourism development program in Rome. This program, which is now partly in operation, includes, in addition to the above features, a restored section of the Erie Canal, which visitors may view from a canal packet boat, and restoration of an 1840 canal village, including church, hotel, train station and barn, as well as two history museums and other major sites and facilities in the area.

ERA's work on this project included evaluation of the initial development concept, market analysis, attendance projection, development of project planning guidelines, financial analysis, formulation of a recommended implementation program, and assessment of the potential impact of the project upon the local economy. A considerable portion of the historic area redevelopment project has already been completed. ERA has undertaken a number of subsequent studies, including one on relocation of the Fort Stanwix Museum, which is operated by the Rome Historical Society and contains exhibits and dioramas of the Iroquois Indians and the French and Indian and Revolutionary Wars, including a 25-minute audiovisual program.

Greenfield Village, Dearborn, Michigan

The Edison Institute administers the Henry Ford Museum and adjacent Greenfield Village in Dearborn, Michigan. In 1970, the Institute retained the design firm of Herb Rosenthal and Associates to study potential improvement schemes at the two facilities and prepare a master planned program for the Institute's consideration. One of the major elements of the proposed master plan, submitted in July,

1970, is a project designated as the Pleasure Gardens.

The conceptual objective of the Pleasure Gardens is to complement the basically educational and cultural experience visitors currently derive in Greenfield Village with one emphasizing fun and pleasure. With the addition of the Pleasure Gardens project, visitors to the Village will have an opportunity to turn the clock back and experience an assortment of the pleasurable, leisure-time activities that were part of American life around the turn of the century.

Since the project calls for a significant commitment of capital expenditures, the trustees of the Edison Institute asked Economics Research Associates to conduct a feasibility study to ascertain the potential economic performance of the project as well as its overall impact on the Village operation. Accordingly, ERA studied the present Village operation, analyzed the proposed project's potential for generating additional attendance and revenues, and assessed the scope of development and probable operating characteristics of the Pleasure Gardens to determine the requirements for additional operating personnel and probably operating expenses. Findings from the analysis were positive, and the project is currently in the detailed design phase.

Old Post Office Building, St. Louis, Missouri

A Congressional pilot program allows for the transfer of landmark property by the U.S. General Services Administration to local municipalities for lease to commercial uses. The City of St. Louis has agreed to accept title to the Old Post Office Building in that city for leasing to a private developer. Economics Research Associates was retained by the developer to evaluate potential reuse of the building, but leaving the exterior in its present state.

ERA's analysis included evaluation of the structure and site, as well as competitive and complementary developments in the area. Market support for appropriate uses for the structure was evaluated, and a combined program of hotel and specialty retail uses was recommended for the structure. Recommended sizing and content of these uses were set forth, and probably patronage and revenues were projected. The proposed program for the building has been approved, but renovation will not start until the developer has assembled all of the necessary capital.

Massachusetts Bicentennial Planning

As a component of the transportation plan for the Massachusetts Bicentennial celebration, ERA evaluated tourist flows to the State, seasonality and length of stay factors and peaking characteristics of visitation to Massachusetts. As part of this work, ERA gathered use data on over 150 potential Bicentennial visitation sites in the State, including detailed characteristics of all historic and cultural attractions in Eastern Massachusetts, particularly the

high impact communities of Concord-Lexington, Salem, Boston-Cambridge and Plymouth.

Expo '74, Spokane, Washington

ERA performed the initial economic feasibility study on Expo '74 in 1970, when the organization for the exposition was set up. From that time until the project was over 4 years later, ERA was retained as corporate economic consultants and became involved in every aspect of planning and operational decision making. Among the numerous services performed were Master program planning, Market analysis, Marketing strategy, Monitoring of cash flow, and Evaluation of programs. By being involved in the project from start to finish, it was possible to assess the accuracy of earlier market projections. The consistent confirmation of predictions by actual operating statistics affirmed the accuracy of ERA's initial planning work, and resulted in one of the few financially successful expositions.

Alabama Space Science Center

The scope of this work included an evaluation of establishing a space science and exhibit center in Huntsville, Alabama, and development of concept and operating policy planning. A list of criteria for the attraction was developed to serve as the basis for evaluation of available sites, displays, management policies and staffing, and expected financial performance in terms of attendance and revenues.

The Philadelphia Bourse

The Bourse Building, fronting on Independence Mall in the historic section of Philadelphia, was constructed in 1894 to house the city's grain exchange and maritime exchange, and to bring together the businessmen of the city for exchange of views. Its upper floors are occupied by extensive office space.

The building is an attractive structure. Due to changes in the functions of the Bourse over the years, and the competitive disadvantages suffered by the older office space in the structure resulting in high vacancy rates, the governing board of the Bourse retained Economics Research Associates to evaluate whether the present structure should be renovated, or whether it should be demolished and replaced by a modern office building. Following an evaluation of possible uses for a remodeled structure, a financial analysis, and recommendations regarding design parameters, ERA determined that it was feasible to preserve the structure rather than demolish the building to facilitate new construction.

Arts and Crafts/Visitor Center Development, Cape Cod

As a part of a series of studies related to the reuse of Otis AFB, ERA evaluated the feasibility of a visitor center/arts and crafts facility on excessed property. The study was conducted for the Otis AFB Task Force and the Joint Commission on Federal Base Conversion in association with another firm. ERA's work on this study included determination of program components, tourism characteristics and financial feasibility of alternative development programs. As part of the study ERA surveyed all of the arts and crafts organizations in New England and developed detailed economic characteristics on arts and crafts fairs and organizations.

St. Louis Symphony Orchestra Summer Music Festival

This study involved the assessment of market support and development of planning parameters for a proposed summer music festival at Edwardsville, Illinois, consisting of an extended concert season for the St. Louis Symphony Orchestra. Determined during the course of analysis were attendance potential, estimated box office revenues, appropriate ticket prices, program format, promotional procedures, and approaches to a variety of other aspects of festival production.

Penn Mutual Historic Observation Facility, Philadelphia, Pennsylvania

The Penn Mutual Life Insurance Company is building a new wing on its corporate headquarters which is located directly in back of Independence Hall in Philadelphia.

For many years the roof of the present Penn Mutual building has served as favorite vantage point for viewing the historic area of Philadelphia, with annual admission totaling approximately 80,000. The company desired to continue this service upon construction of a new wing, but security considerations and the desire to provide a weatherproof observation deck indicated a fee would have to be charged. Penn Mutual Life Insurance Company retained Economics Research Associates to evaluate the characteristics and feasibility of a new observation facility.

ERA evaluated the site and its surroundings and the corporation's objectives and recommended a rooftop facility which would combine observation use with an exhibit facility which would interpret Philadelphia history. The firm evaluated market support and admission pricing for such a facility, overall program and sizing, prepared an operating budget and capital budget, and estimated attendance and revenues.

The facility was subsequently designed and includes two film theaters, one dealing with the forces that made Philadelphia what it is today and the second covering William Penn's promises to the people and the manner in which they have been fulfilled. Static exhibits (displays) will assess the role of craftsmen in Philadelphia

history including their impact on the Revolutionary War. Other exhibits will explore the physical aspects of the City, both past and present. The historic area of Philadelphia will be visible from all four sides of the rooftop facility, and materials identifying significant sites and structures will be featured in the observation areas.

John F. Kennedy Presidential Library, Cambridge, Massachusetts

This proposed Presidential Library will be housed in a new structure but will serve primarily as a museum of Presidential history during the Kennedy years. A comprehensive program of both dynamic and static exhibits will be designed and the facility is likely to be a major visitor attraction.

Due to its proposed location in Cambridge, Massachusetts, approximately three blocks from congested Harvard Square, the facility has engendered a considerable degree of controversey. The U.S. General SErvices Administration commissioned the preparation of an environmental impact assessment for the project, and ERA was retained to prepare an independent set of visitation estimates at the facility, and to project various attendance characteristics necessary for the evaluation of the proposed facility on the local community.

ERA evaluated the market and the proposed design of the facility and projected total annual attendance, with variations by season, month, day of week and time of day. Other characteristics assessed by ERA included visitor origins, mode of arrival, occupancy factors for autos and busses arriving at the site, and hourly capacity of the facility and per capita expenditures within the library complex. Anticipated attendance characteristics at two alternative sites within the Boston region were also examined.

At time of writing the location of the Kennedy Library had not yet been conclusively resolved.

Elmire Theatre, Elmira, New York

The Elmira Theatre was originally an old vaudeville stage. Presently, this 2,000-seat structure is being operated as a movie theater. However, a new arterial proposed by the City of Elmira, New York, will necessitate removal of 25 feet of the theater which currently houses the lobby, the projection booth and part of the balcony. Consequently the present owners have no desire to retain the theater.

The New York State Council on the Arts, in response to a request from interested local citizen groups who desired a performing arts theater, retained ERA to evaluate the financial feasibility of renovating the structure by relocating the lobby so that only 1,600 seats would remain. ERA was asked to establish the programming and ascertain

whether or not city opera performances, symphony concerts, touring groups, little theater, repertory groups and conventions would generate sufficient revenue to warrant preserving the structure for use as a performing arts center. ERA determined that while a quality performing arts theater could be achieved at only a fraction of the cost of newer construction, a subsidy would be necessary for renovation and operation of the theater. ERA then estimated the financial and program requirements for the facility, and formulated recommended methods of implementation. Included in ERA's work was a survey of performing arts theaters recently renovated in other cities.

Lowell Transportation Planning Study

This on-going project sponsored by the Massachusetts Department of Public Works and the Federal Highway Administration involves Skidmore, Owings & Merrill and Economics Research Associates, among others, and is aimed at providing the City of Lowell with an overall transportation plan which will not only serve to relieve the present and project traffic burdens, but it will serve as an economically beneficial input to the region. ERA's work on this project included economic base analysis, socio-economic projections for input into the traffic modeling component of the study, and evaluation of transportation impacts.

National Park Service - Grand Canyon Transportation System

This study analyzed the objectives of a proposed transportation system for the Grand Canyon National Park including shuttle bus and interpretive bus systems and recommended vehicle types, capacities, and route structures.

Philadelphia 1976 Bicentennial Celebration

Assessment of the socioeconomic impact of the nation's 1976 Bicentennial Celebration in the city of Philadelphia in terms of increased employment, capital expenditures, expenditures for goods and services, state and local tax revenues, and other benefits. ERA's involvement in this project subsequently has been extended by an analysis of planning factors for the celebration and preparation of a detailed analysis of physical demand on space and facilities at selected attendance levels. ERA continues to work with exposition management on a consulting basis.

Golden Gate Recreation Travel Study

ERA is currently developing a recreation travel information system for the San Francisco Bay area which includes an inventory of existing information systems, analysis of user needs and design and implementation of a practical, simple to use information system on travel alternatives and conditions for recreation trips.

THOMAS J. MARTIN, Manager, Boston Office

Mr. Martin, who is manager of ERA's Boston office, has had extensive experience in tourism, land use, recreation and transportation economics, and program development. He is currently directing ERA's work for the New England Regional Commission on the development of a regional tourist information system for the six New England states. This study has included a thorough analysis of tourism in the six State region, analysis of tourist destination regions, travel modes and information requirements. Based on this work a tourist information program and strategy was developed for implementation in 1976.

Other recent studies include an analysis of marina development in Narragansett Bay for the state of Rhode Island and the development of a transportation plan for the state of Massachusetts Bicentennial celebration. The latter study included analysis of high impact communities such as Boston, Salem, Lexington-Concord and Plymouth. For the Cambridge Street Community Development Corporation, a neighborhood development group, Mr. Martin evaluated the development potential of a multi-use recreational facility in the Beacon Hill-West End neighborhood of Boston. This study was accomplished in close coordination with a special sub-committee of the Development Corporation and numerous local groups and individuals. As part of studies for the reuse of Otis Air Force Base, Mr. Martin evaluated the reuse potential of the Base for an arts and crafts and visitor center. Work on this project included determination of program components, tourism characteristics and financial feasibility.

For the New England River Basins Commission, Mr. Martin evaluated the economic components of the reuse of urban waterfronts in Southeastern New England. Other projects include an analysis of the feasibility for a recreation development on Cape Cod for the Massachusetts Audubon Society and New England Aquarium, analysis of visitor projections for the J. F. Kennedy Library Environmental Impact Study, a programming study for the Lawson YMCA in Chicago, and analysis of various development projects for private clients.

In the area of transportation impact analysis, Mr. Martin directed ERA's work on the Boston Transporation Planning Review and on the Lowell Transportation Planning Study and is the co-author of a recent report for the Transportation Research Board on the Social, Economic and Environmental Consequences of Not Constructing Transporation Facilities.

Mr. Martin's educational background includes a B.A. degree from Southern Illinois University and a Master's degree in urban planning from the University of Washington. Mr. Martin is a member of the Travel Development Committee of the New England Council, an associate member of the American Institute of Planners, and a member of the Transportation Research Board and Urban Land Institute, as well as other professional groups.

JAMES H. McCARTHY, Vice President

Mr. McCarthy has more than 14 years of experience as a research economist and is an expert in the field of recreation and tourism and its relationship to local and regional economies. He serves as manager of ERA's recreation planning group.

A major category of Mr. McCarthy's research experience is economic planning for mass attractions and events. This includes: fairs, expositions, theme parks, wild animal parks, zoos, oceanaria, and cultural-historical attractions. He has had primary involvement in the planning of the *1962 Seattle World's Fair (Century 21), Montreal's EXPO '67*, the *Philadelphia 1976 Bicentennial, Kentucky's Celebration '74*, and the *1974 Spokane Exposition*. Mr. McCarthy served as the chief ERA consultant for the *Inter-American Center Authority* in Miami, Florida, and developed planning parameters for the *INTERAMA Tower of Freedom* and a connecting aerial tramway system.

Among other research efforts directed by Mr. McCarthy are an economic analysis of developing a *National Indian Memorial* and *Inter-Tribal Ceremonial* in Gallup, New Mexico; a feasibility study of *Greenfield Village* in Dearborn, Michigan, which recreates American life at the turn of the century; economic analyses for industrial exhibit programs at the *Corning Glass Works* in New York and *International Silver Company* in Massachusetts; and feasibility studies of several museums throughout the United States. He also has performed an analysis of the *Peche Island* outdoor recreation complex in Canada, evaluated potential for *Sea World* marine attractions in Florida and Ohio, determined feasibility of a major theme park in the San Francisco Bay Area of California, and analyzed the impact of the *Disney World* recreation complex on the East Central Florida area.

Throughout Mr. McCarthy's career in recreation and tourism research, he has specialized in developing concepts and plans where special development problems exist due to unique locational factors or economic circumstances in the development area. In such cases, he has achieved an excellent record of accomplishment in utilizing new and imaginative design concepts to overcome development problems.

Mr. McCarthy received a B.S. degree from Stanford University. Prior to joining ERA, he was an economist with Stanford Research Institute.

MELVIN A. GAMZON, Senior Associate

Mr. Gamzon is primarily involved in the preparation and presentation of marketing and financial feasibility studies to determine the greatest potential for various types of commercial and residential real estate developments. He has worked in close association with architects, land planners, attorneys, and other consulting firms in the team approach to solving development problems for both public and private clients.

Prior to his association with ERA, Mr. Gamzon was vice president of M.A. Sloane Associates, a real estate development and consulting firm. His responsibilities included the general supervision of marketing programs and the organization of the company's condominium conversion program. In directing the conversion program, he coordinated the efforts of field representatives in the selection of prime rental properties for conversion, prepared complete financial analyses for the acquisition of properties, and established marketing guidelines to effectuate the condominium conversions. His work included both primary and secondary home developments in the northeastern part of the United States.

Mr. Gamzon has gained experience with commercial real estate as a senior property analyst with First General Resources Company, a real estate investment trust, and as a member of the real estate department at First National City Bank where he functioned as a site location analyst.

Mr. Gamzon has a B.A. degree in marketing from the University of Cincinnati and has done graduate work in real estate at Bernard M. Baruch College–City College of New York and The Real Estate Institute of New York University.

DAVID C. PETERSEN,
Qualifications in Public Assembly Facility Financial and Development Analysis

As manager of the Economics Research Associates southeast region, Mr. Petersen's background includes ten years of diversified experience in public finance, community development, and real estate market analysis. The breadth of his experience is illustrated by the 50 individual research and consulting assignments he has personally conducted and managed in 25 states and 40 cities throughout the country. Specific areas of documented expertise include project implementation; community economic planning; real estate financial and market analysis; municipal financial advisory services; and arena, exhibition hall, and theater analysis.

After conducting the market research and designing a financing plan for an arena/exhibition hall/theater/hotel/retail complex in Lexington, Kentucky, Mr. Petersen served as executive director of the Lexington Center Corporation. His management of the investment/leases, legal, architectural, engineering, financial and other components of the center directly resulted in the implementation of the plan and the subsequent financing and construction of the facility. The financing program provides for over 85 percent of all funds for bond debt service for the complex to be supplied from nongovernment sources.

His research and publications relating to public assembly facilities include

- *Financial Prospectus, Los Angeles Convention and Exposition Authority,* 1967
- *Convention Center Site Location and Financing Plan, Bremerton, Washington,* 1968
- *Yerba Buena Center Financing Plan, San Francisco Redevelopment Agency,* 1969
- *Boulder, Colorado Convention Center Financing Plans,* 1970
- *Cost/Revenue Impact Analysis of Rainbow Convention Center, Niagara Falls, New York (U.D.C.),* 1971
- *Market Analysis and Financing Plan for Bluegrass Convention Center, Lexington, Kentucky,* 1972

Mr. Petersen worked for three years as a senior associate with Booz, Allen, and Hamilton, where his duties consisted of developing, designing, and managing research assignments for public and private clients. Individual consulting assignments included neighborhood revitalization, residential building abandonment, and related economic analyses. Prior experience includes employment as a municipal bond analyst for Halsey Stuart and financial consultant to local governments and agencies.

Mr. Petersen received a B.A. degree in economics from San Jose State College, where his academic honors included graduation with distinction and honors in economics. His record of involvement through professional memberships, research publications, lectures at universities and civic organizations, and community service participation reinforces and augments the achievement orientation evidenced by his academic and employment record.

ROBERT B. SHAWN, Vice President

Mr. Shawn has broad and diversified experience in development activities in both the private and public sectors. His experience includes project management and analysis in the areas of commercial, retail, housing, and multi-use development in the private sector and the planning and programming of public facilities for local governments, regional agencies, and state agencies. Recent assignments have included direction of a study to determine the feasibility of a major public arena in the Washington, D.C., area and a variety of studies leading to the development of a new town in central Florida; organization of a marketing program for office and commercial space in Philadelphia; programming joint use public facilities for the city of Chicago and local jurisdictions in Maryland; and major program development studies in Texas and Michigan. Mr. Shawn recently directed ERA activities as development and marketing consultant for Philadelphia's 400-million-dollar Market Street East Urban Renewal Project and currently directs ERA's activities as development consultant for the Atlantic City and Bridgewater Redevelopment Agencies.

Other recent projects directed by Mr. Shawn include a study involving potential location for a centralized modular housing production facility; a study analyzing component function and respective market for a new corporate headquarters building; market analysis and financial feasibility and developer selection for a regional center in Bridgewater, New Jersey; and market analysis and locational criteria analysis for a new town center in Maryland. He has directed a number of studies dealing with market assessments for regional and community shopping centers and the potentials for retail outlets and studies to determine the feasibility and fiscal impact of multi-use and new town developments in Florida and Maryland.

Mr. Shawn has also had extensive experience in the development and execution of policy and programming studies, of comprehensive and specialized subject nature, for a variety of state and local governments and regional agencies. He has served as project director in consulting work concerning the formulation of statewide planning programs and policy studies, organization and management studies, program development, facilities analysis and other activities relating to policy formulation, program evaluation, and the effective delivery of public services. Assignments have included work with the governors' offices of Michigan, Georgia, Nebraska, Minnesota, Texas, and Iowa; the legislature of the state of New York; state agencies in Kansas, Virginia, and Florida; regional councils of governments and regional planning commissions in seven states; and numerous local agencies and private clients. Other recent work has included management, financial, facility, and program analysis for such agencies as the Florida Crippled Children's Commission, the Joint Legislative Committee on Intergovernmental Fiscal Relations of the New York State Legislature, and the Office of Planning Coordination of the state of Michigan. Other experience includes an analysis of fiscal capacity for development and capital investment for the city of St. Louis, Missouri. He has held senior positions with two economic and management consulting firms.

Mr. Shawn holds a Bachelor's degree from Johns Hopkins University and a Master's degree from Cornell University, where he majored in business and public administration. He is a member of the American Society of Planning Officials, the International City Management Association, the International Downtown Executives Association, and the National Association of Redevelopment and Housing Officials. Mr. Shawn has been a frequent lecturer on urban and developmental problems and has presented several papers dealing with development considerations to national and local societies.

DON M. STEWART, Vice President

Tourism, recreation, and land economics constitute the major areas of Mr. Stewart's research expertise, and he has conducted numerous studies in these fields during the seven years he has been on the staff of ERA.

Mr. Stewart's recreation experience encompasses analyses of residential and lot sales potentials of several developments adjacent to golf courses or marinas; a feasibility analysis of a major theme park in Kansas City; a site selection study for an aquarium attraction in Southern California; an evaluation of potential for a sky ride at Pine Mountain State Park in Kentucky; and planning studies for two prestige tennis club projects in California. Mr. Stewart also has performed numerous feasibility studies for specialty-restaurant entertainment centers throughout the country. These studies include analysis of retail, restaurant, and entertainment potentials for Ports O'Call, San Pedro; Fisherman's Village, Los Angeles Marina; Half Moon Bay Center; and Old Towne Mall, Torrance. Other planning studies relating to specialty-restaurant developments have been conducted for prime clients in Mountain View, Pomona, and Huntington Beach, California, together with evaluations of similar potentials for the River Quay in Kansas City, The Old Post Office in St. Louis, and the Stockyard Restoration Committee in Fort Worth. This wide range of experience in this field of research qualifies Mr. Stewart as one of the leading consultants in this particular area of evaluation.

Mr. Stewart's project experience further includes an analysis of the redevelopment potentials of General Burnside Island State Park in Kentucky, a project funded jointly by the state and by local private enterprise in the interest of stimulating recovery from a severe local economic depression. Mr. Stewart also participated in the ERA research effort which identified tourism development potentials in Ventura, California, aimed at determining specific recreation projects that might be undertaken. Other experience includes a site selection study for a chain of Ripley's Believe It Or Not Museum attractions in Japan; a feasibility study of establishing a major recreation attraction in Australia; an analysis of the recreation land development potentials of the Gulf Islands located offshore of British Columbia; a determination of outdoor recreation development opportunities in the Castaic Reservoir area in Southern California; and an evaluation of potential for a cultural center as part of an urban renewal project in downtown Honolulu, Hawaii.

Mr. Stewart holds a B.A. degree from the University of California at Santa Barbara.

NED D. OSBORN, Executive Vice President
Qualifications in Technoeconomics

With a professional research background spanning more than 18 years, Mr. Osborn has conducted and managed a wide variety of projects for clients in both public and private sectors. His research background, coupled with expertise in statistical analysis, systems engineering, and industrial economics, enables him to contribute an interdisciplinary approach to the solution of research problems. He has primary responsibility for most Economics Research Associates studies in the field of technoeconomics research, a field which encompasses the disciplines of engineering, economics, planning, and marketing.

Representative technoeconomic studies managed or conducted by Mr. Osborn include a comprehensive study of development potentials for selected industries in the Republic of China; an analysis of U.S. production capabilities in a post-attack environment; a study of the U.S. numerical control machine tool market; a study of the potential market for Far Western coal for power generation in the western United States, including evaluation of trends in nuclear, oil, and natural gas electric power generation. Other projects in this field which he has directed include a study of spatial and adjacency requirements for departments within an expanded city-county building in Tacoma, Washington, and similar studies for the proposed new California State Legislature facilities in Sacramento, California, and the proposed law and justice center in southeast San Diego; an investigation of the potential market for Nicaraguan hardwood doors in the United States and development of an export marketing strategy; corporate relocation studies for several major U.S. concerns; and numerous studies involving industrial park development in Viet Nam and throughout the United States.

Other technoeconomic studies that he has managed or conducted include analysis of markets and distribution patterns for such manufactured goods as fire alarms, major appliances, plywood, recreation vehicles, mobile homes, and many other products. Mr. Osborn has also conducted site selection and plant expansion studies for a major food processing concern, an electronic components manufacturer, and a sand and gravel mining operation and has served as an industrial engineering consultant (plant layout and materials handling) to companies in the food, soft goods, and metal trade industries.

Mr. Osborn received both B.S. and M.S. degrees in industrial engineering from the University of Southern California. He is a registered professional engineer and a member of the American Institute of Industrial Engineers.

B. HAYES McCARTY, Associate
Qualifications in Public Facility Planning

Mr. McCarty has had extensive experience in the field of public facility planning and feasibility analysis. Such experience ranges from analyzing future facility needs for a federal agency to site selection and program design for municipal coliseum and theater facilities.

In a study for the Department of Health, Education and Welfare, the objective was to evaluate existing employee and visitor facilities at the Department's headquarters complex in downtown Washington and recommend the type and scope of facilities needed to satisfy future commercial, visitor, and recreational needs.

In Elmira, New York, Mr. McCarty conducted a programming and financial analysis of the Elmira Theater to determine the feasibility of converting the 50-year-old vaudeville and movie theater into a civic and cultural facility. Tasks involved in this research effort included the identification of potential user groups for the facility, a financial analysis of the revenues and expenses involved in operation, and the identification of financial sources available to provide funding for the project.

In analyzing auditorium, arena, and convention center needs, Mr. McCarty has participated in studies in the cities of Ft. Lauderdale, Florida; Jackson, Mississippi; Charleston, West Virginia; and Biloxi, Mississippi. In Ft. Lauderdale, Mr. McCarty assisted in a feasibility analysis of a sports arena which included such tasks as projecting utilization, attendance, and recommended sizing and preparing a financial operating statement for the proposed complex. In the cities of Charleston, West Virginia, and Jackson, Mississippi, Mr. McCarty analyzed the development potential of large-scale public resorts involving, among other tasks, market support analysis and facility sizing for major conference and convention facilities at these sites. In Biloxi, Mississippi, Mr. McCarty conducted a site location analysis for the proposed Biloxi-Gulfport Coliseum. This study, through the development and analysis of various site location criteria, evaluated alternative locations and recommended the optimum site for developing the complex.

Mr. McCarty holds a Master's degree in city planning from the University of Tennessee. He is an associate member of the American Institute of Planners and a member of the American Society of Planning Officials.

JOHN K. HAESELER, Manager, Operations Research

Mr. Haeseler has had extensive experience in policy and program analysis. He has been project manager or senior consultant on a wide variety of studies dealing with the design of work programs for state governments, regional agencies, and cities, including a statewide housing policy study for the Concho Valley Council of Governments in Texas and the determination of the fiscal capability of the city of St. Louis to undertake increased program activities.

Mr. Haeseler has also been active in the areas of program, policy, and management evaluation. His assignments in this area have included analysis of tourism and recreation demand forecasting methods for the Iowa State Conservation Commission and program and management analyses for the California State Office of Planning and the Governor's Office of the state of Minnesota. He has also developed management information and reporting systems for the Governor's Office of the state of Iowa and the Governor's Office of the state of Georgia. His assignments have also included carrying out analyses of the implication of urban growth for the Virginia Metropolitan Areas Study Commission and for the Baltimore Regional Planning Council.

Mr. Haeseler's previous experience includes work with the Community Renewal Program of the city of Philadelphia as a program analyst, where he was involved in analyzing the effectiveness of housing programs. He was also formerly associated with two other consulting firms where he participated in a wide variety of program and project evaluation studies.

Mr. Haeseler received his A.B. degree from Harvard College and holds a Masters degree in city and regional planning from the University of Pennsylvania.

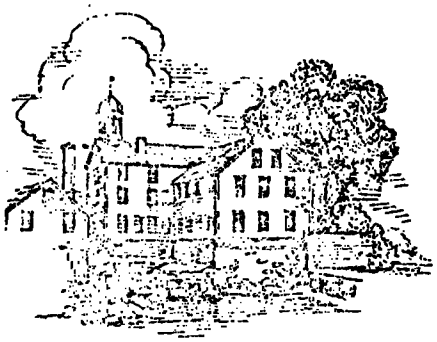
SPECIAL CONSULTANTS
LETTERS AND RESUMES

DR. PATRICK M. MALONE

SOCIETY FOR THE PRESERVATION OF
NEW ENGLAND ANTIQUITIES

R. RANDOLPH LANGENBACH

ALAN M. VOORHEES AND ASSOCIATES, INC.



Slater Mill Historic Site

ROOSEVELT AVENUE P. O. BOX 727
PAWTUCKET, RHODE ISLAND 02862

September 15, 1975

RECEIVED

SEP 17 1975

ANDERSON NOTTER ASSOCIATES INC.
ARCHITECTS AND LAND PLANNERS

Anderson Notter Associates, Inc.
Skidmore, Owings, and Merrill
77 Washington Street, North
Boston, Massachusetts 02114

Dear Sirs:

I am excited by the prospect of a major park development in Lowell and pleased that your firms are considering my participation in the planning phase. For five years I have studied the historical development of Lowell. The great industrial city on the Merrimack is a fitting place to create an urban, cultural park. The canal system and the surrounding urban environment can become an impressive monument to our industrial heritage.

The architectural achievements of both Anderson Notter Associates and Skidmore, Owings, and Merrill are well known. I have become very familiar with the restoration work of Anderson Notter Associates through my membership in the Society for Industrial Archaeology and my friendship with Paul McGinley. It would be a pleasure to work with Paul on a project of such great historical and architectural significance. I am glad that he knew of my interest in the planning of the park and my experience in the study of Lowell's cultural and technological history.

In 1970, I organized a graduate course on Lowell in the American Civilization Department of the University of Pennsylvania. It was called an "ethnography" and was an attempt to examine the cultural development of Lowell. Funded by a University grant, I acquired slides, microfilmed statistical data, xeroxed manuscripts, and published works on the textile city. The success of the course prompted Brown University to offer me a joint position in History and American Civilization and further funding to continue my research. I have taught the graduate course four times and have always included at least one lecture on Lowell in my large undergraduate course on "Technology and Material Culture in America". I have also taken groups of students on tours of the city and have lectured to Lowell teachers on how to develop local history programs in their school system.

For the past two summers I have been the senior historian, engineering specialist, and co-supervisor of a survey team from the Historic American Engineering Record of the National Park Service. My team has completed measured drawings of five sites on the canal system, an overall plan, and a series of schematics on historical development. I testified on behalf of the proposed Urban Cultural Park at two hearings of the House Subcommittee on National Parks and produced a brief monograph on the history and significance of the canal system. Soon, I hope to complete a detailed study of hydraulic engineering in Lowell. The finished volume will be illustrated with photographs, sheets by H.A.E.R. draftsmen, and drawings from the Proprietors of Locks and Canals.

My years of research in Lowell have given me considerable familiarity with the city, its historical collections, and the people involved in planning the park. I have developed a close working relationship with Arthur Eno of the Lowell Historical Society, Gordon Marker and Pat Mogan of Human Services Corporation, Annie Harris of City Development Authority, and Mel Lezberg of Locks and Canals. I have access to all the historical drawings of Locks and Canals and extensive practice in relating them to the existing system. It has taken a team effort and much time to learn the operation of the power canals and the way they were constructed; I want very much to put my engineering and historical knowledge to practical use on this park project.

I think I can be valuable as a member of your planning team. Nineteenth-century hydraulic engineering has become my special field, but I am still basically a cultural historian, interested in the effects of Industrialism on American culture. I never dreamed, when I began work on Lowell, that the decaying textile city would draw national attention as the possible site of a great cultural park. This park is a new chance for Lowell and a great opportunity for all of us to create a showpiece of architectural design, historical restoration, and cultural interpretation.

Sincerely,

Patrick M. Malone

Dr. Patrick M. Malone
Director

PMM:lrr
enc:

PERSONAL AND PROFESSIONAL DATA

Patrick M. Malone
Slater Mill Historic Site
P.O. Box 727
Pawtucket, Rhode Island 02860
401-725-8638

DATE OF BIRTH: June 28, 1942

DEGREES:

Ph.D., 1971, Brown University, Providence, R.I., History
B.S., 1964, U.S. Naval Academy, Annapolis, Md., General Engineering and History (Two Majors)

ACADEMIC HONORS:

Phi Beta Kappa, Brown University, 1971
United States Naval Academy, graduated "With Distinction", 1964

FELLOWSHIPS AND GRANTS:

Faculty summer grant, Brown University, 1973
Faculty summer grant, University of Pennsylvania, 1971
National Defense Education Act Fellowship, 1967-1970

PROFESSIONAL EXPERIENCE:

Director, Slater Mill Historic Site, Pawtucket, R.I. (present)
Co-Supervisor of Historic American Engineering Record Survey of Lowell Canal System, Summers, 1974 and 1975
Lecturer, American Civilization Program, Brown University, 1975-1976, Technology and Material Culture in America
Assistant Professor, American Civilization and History, Brown University, 1972-1975; Technology and Material Culture in America
Assistant Professor, American Civilization, University of Pennsylvania, 1970-1972
Teaching Assistant, Brown University, 1968-1969, History of Science and Technology in America; Summer, 1969, U.S. Military Affairs
Metallurgical Engineer, Manlabs, Cambridge, Mass., 1966; Summers, 1967 and 1968
Officer, United States Marine Corps, 1964-1965
Consultant:
- Lowell Urban National Cultural Park Project, 1971-Present
- Lowell Public Schools, 1974-Present
- Historic American Engineering Record of the National Park Service, 1973-Present
- Jefferson County Historical Society, Watertown, N.Y., Design of Turbine Exhibit, 1975
- BBC Television Special on the Industrial Revolution, Filmed at Slater Mill Historic Site, 1975
- CBS Television Special on the Industrial Revolution, Filmed at Slater Mill Historic Site, 1974

OTHER EXPERIENCE:

Papers Read at Major Academic Conventions:
"Changing Military Technology among the Indians of Southern New England, 1600-1677", Organization of American Historians, Annual Meeting, 1972.
"Continuity in the Teaching of Historical Archaeology", with Dr. John Cotter, Society for American Archaeology, Annual Meeting, 1972.

Congressional Testimony:
In support of HR14689 before the Subcommittee on National Parks and Recreation of the House Committee on Interior and Insular Affairs, 19 August, 1974.
In support of HR4514 before the Field Investigation Presentation of the Subcommittee on National Parks and Recreation of the House Committee on Interior and Insular Affairs, 26 April, 1974.

Field Work in Industrial Archaeology:
Co-Supervisor and Senior Historian of the H.A.E.R. Summer Survey in Lowell, 1974, 1975.
Supervisor of an inventory of historic engineering sites in Rhode Island, co-sponsored by the Slater Mill Historic Site and the Historic American Engineering Record, 1975.
Assistant Field Director of excavations at Hopewell Village National Historic Site (ironworks), sponsored by the University of Pennsylvania.

Direction of Lecture Series:
Sponsored by the Lowell Historical Society and the Merrimack Valley Textile Museum, "Spindle City: Industrial Lowell in the 19th Century", 1974.

PUBLICATIONS:

The Power Canals of Lowell, Massachusetts, with Larry Lankton. Occasional Paper of the Lowell Urban National Park Project, Lowell, Human Services Corporation, 1973

"Water Power in Lowell Massachusetts", with Larry Lankton. To be published by the U.S. Government Printing Office in conjunction with testimony in support of HR14689 (op.cit.), as part of volume on hearings concerning HR14689.

PROFESSIONAL MEMBERSHIPS:

Society for Industrial Archaeology
Society for the History of Technology
National Trust for Historic Preservation
Lowell Historical Society
Rhode Island Historical Society

Society
for the Preservation
of New England
Antiquities

Harrison Gray Otis House
141 Cambridge Street
Boston, Massachusetts 02114
617 227-3956

October 9, 1975

Anderson Notter/Skidmore, Owings & Merrill
77 Washington Street
Boston, MA 02114

Gentlemen:

Re: Lowell Heritage State Park

We would like to submit our background and abilities which we feel qualify us to act in a supportive capacity in your proposed involvement with the Lowell project.

The SPNEA was organized in 1912 to essentially preserve the architectural heritage in New England, and in fact now owns over 60 properties most of which are open to the public as museums. In administering these many properties, we have developed certain specialized skills to deal with the peculiarities associated with the individual buildings. In addition, we have expanded our role in the preservation sector to include consultation to agencies, groups and individuals on all types of preservation/conservation questions, including:

1. Architectural Surveys of historic property to determine original and sequential construction, for restoration/conservation purposes.

2. Research of architectural history of buildings, to establish provenance of the building, as well as the sequential changes the structure has progressed through to its present form.

3. Analytical investigation of structures, using scientific techniques such as, paint investigation, non-destructive X-ray investigation, and laboratory analysis of typical building materials.

4. Advice concerning techniques and materials for use in specific instances of building restoration/ conservation. These would include questions dealing

with masonry and mortar, exterior cleaning, preservation of wood, paints, roofing materials and metals.

5. Advice concerning the historically important components of a building for use in determining the adaptive use of that structure.

In order to illustrate the typical range of projects we are involved in or recently completed, we are listing just a few of the approximately 150 projects engaged in during the past year:

1. Longfellow House, Cambridge, MA; owned by National Park Service. Historic Structures Report.

2. Narbonne House, Salem, MA; owned by National Park Service. Historic Structures Report and Plans and Specifications for Restoration.

3. Fort Sewall, Marblehead, MA; Marblehead Bicentennial Commission. Structural Report and Plans and Specifications for Stabilization.

4. Fort Tabor, New Bedford, MA; City of New Bedford. Consultation with architect on structural survey and development of historic plan.

5. City of New Bedford, MA. Currently writing a booklet outlining proper course of action for individual property owners in restoring and repairing their historic house.

In addition, members of our staff are under contract or have recently completed research and written booklets for the National Park Service in the following areas:

Stone and Masonry Cleaning
X-Ray Investigation of Historic Structures
Historic Paint Research
Use of Epoxy Resins in Conservation Work

We are very interested in continuing our fine relationship with Anderson-Notter in terms of providing consultative help on the Lowell project. We forsee specific input in the following ways:

1. Provide input concerning the determination of alternatives for the preservation and interpretation of the historic and cultural role of Lowell in American industrialization.

2. Provide input concerning the architectural and/or historical importance of individual buildings and spaces, as well as complexes and groups of structures.

3. Provide detailed input concerning specific adaptive reuse of buildings and spaces, as well as assist in the determination of which buildings and spaces should be preserved for historical considerations.

4. Provide input on specific technical questions such as the feasibility, techniques and materials that might be used in restoring/conserving buildings and buildings and structures.

Our staff consists of (4) full-time professionals and (1) part-time consultant. We anticipate that our input on this project could easily be handled within the framework of our existing and anticipated workload. Biographical sketches of the individuals that would be involved are attached.

We are pleased to submit this brief sketch of our capabilities, and are looking forward to working with your people and the Lowell groups on this project.

Sincerely,

David M. Hart
Director
Consulting Services

DMH/nkd
Enc

Randolph Langenbach
24 Cambridge Terrace
Cambridge, Mass. 02140

Oct 9, 1975

George Notter, Architect
Anderson - Notter & Associates
10 Thatcher St.
Boston, Mass.

Dear George,

I will gladly accept the position as consultant on the Lowell Master Plan Project and look forward to the chance to work with the Anderson-Notter team on the project, and thereby continue a working relationship with a firm which I have always held in the highest esteem, and whose work is of the highest quality. During the past two years as photographer for the firm, I have become intimately familier with the details of the different projects, especially those incorporating old buildings. In all cases the work has shown a great deal of creativity in dealing with the problems of rehabilitation by respecting the inherent qualities of the different historic structures while maximizing the advantages of the space for the new uses. I am confident that the firm is ideally suited to carry out a project of such significance as the Lowell Master Plan.

Sincerely,

Randolph Langenbach

BIOGRAPHY

R. RANDOLPH LANGENBACH

222 Concord Avenue
Cambridge, Massachusetts 02138

Personal Data:
Born in Newton, Mass., September 19, 1945.
United States Citizen

Education:
Weston, Mass. Public Schools, (to grade 9).
Governor Dummer Academy, (grades 9 through 12).
Dulwich College, London, England, (English Speaking Union Exchange Fellowship, 1963-1964).
Harvard College, (B.A. cum laude, 1968).

Employment:
New England Textile Mill Survey I, A project undertaken by the Smithsonian Institution and the National Park Service, Summer, 1967, (architectural photographer and co-researcher.)

Ambassador William Roth, San Francisco, developer of Ghirardelli Square, a commercial development involving the preservation and re-use of historic industrial buildings on the San Francisco waterfront, 1969, (planning consultant involved in proposing specific development projects utilizing historic buildings in the New England region. This job resulted from the article published about Amoskeag in Fortune Magazine in February, 1969.)

Benjamin Thompson Associates, Architects, 1970, (consultant in planning and design on the Utica-Rome campus of the State University of New York, and on the rehabilitation of the Faneuil Hall Markets in Boston.)

Independent work on the preservation of the Crown and Eagle Mills 1971-72 (stemming from Boston Globe article of August 15, 1971.)

Richard Downing, Developer, and Mark J. Dooling, Architect, Spring, 1972, (consultant in planning and design on the rehabilitation of the Crown and Eagle Mills.)

Clark University, Spring 1972, (Instructor of a seminar on contemporary city development.)

Cambridge Seven Associates, Architects, 1972, (consultant in planning and design on the Rehabilitation of historic buildings in North Adams, Mass.)

Self-employment, 1968- , (free-lance architectural photography.)

Grants and Awards:
English-Speaking Union Exchange Fellowship, 1963-64.
The David McCord Book Prize, Lowell House, Harvard College, 1968, (For artistic accomplishment shown in the publication of the article of the article on the Amoskeag Mills in the Harvard Bulletin, April 13, 1968.)
The National Endowment For the Arts Grant in Architecture and Environmental Planning, 1969.
The National Endowment For The Arts Grant in Photography, 1971.

PUBLICATIONS

"The Amoskeag Millyard, An Epic In Urban Design, The Harvard Bulletin, April 13, 1968.
"Must We Destroy Our Past To Renew Our Cities?" The Portland (Maine) Sunday Telegram, April 28, 1968.
"Amoskeag, An Epic in Urban Design," The Journal of Industrial Archaeology, (Bath, England) December, 1968.
"A Doomed Industrial Monument," Fortune Magazine, February, 1969.
"A City No One Knew," The Architectural Forum, Jan./Feb., 1969.
"Lost City On The Merrimack," Boston Globe Sunday Magazine, March 9, 1969.
"What Manchester Really Needs Is Another Parking Lot!" Life Magazine, February 20, 1970.
"Epitaph For An American Landmark," by David McCullough and Randolph Langenbach, American Heritage, April, 1970.
"Bleak Fate Of The Yankee Mills," Life Magazine, September 4, 1970.
"The Crown and Eagle Mills," Boston Globe Sunday Magazine, August 15, 1971.

PUBLICATIONS ABOUT THE PROJECT

"Monuments Don't Pay," Time Magazine, August, 1968.
"Amoskeag, The Last of the Great New England Mills," by Suzanne Van Den Wymelenberg, photographs and research by R. Langenbach, Yankee Magazine, October, 1968.
"Lessons in Urbicide," by Ada Louis Huxtable, (about Amoskeag with reference to this project,) The New York Times, December 22, 1968.

BIOGRAPHY additions 10/1/75

Employment:
Self-employment, 1971-, (design and rehabilitation consultant)

Grants and Awards:
National Endowment for the Humanities Research Grant, 1974.

National Endowment for the Arts / New Hampshire Commission on the Arts Grant for the Exhibition "Amoskeag, A Sense of Place, A Way of Life." 1974-5

PUBLICATIONS:

"The Amoskeag Millyard Remembered," Historic Preservation Magazine, Aug-Sept, 1975

"Amoskeag, AMill and a Way of Life," New Hampshire Profiles, October, 1975

Forthcoming Book: Corporation City: The Architecture and Urban Design of a Planned Industrial City, Augustus M. Kelley, Publishers, New York City.

EXHIBITIONS:

"Amoskeag, A Sense of Place, a Way of Life," at the Currier Gallery of Art, Manchester, N.H. Sept. 21 - Nov. 2, 1975.

NEW ENGLAND OFFICE ☐ 210 SOUTH STREET, BOSTON, MASSACHUSETTS ☐ 617/542-0512

AMV

ALAN M. VOORHEES
& ASSOCIATES, INC.

TRANSPORTATION & PLANNING CONSULTANTS

September 26, 1975

Mr. Peter Hopkinson
SOM/Anderson-Notter
334 Boylston Street
Boston, Mass.

Dear Mr. Hopkinson:

We are pleased to submit our qualifications for assisting your team in planning transportation improvements for the Lowell Urban Cultural Park.

Through our previous and current transportation planning efforts in the Lowell area we have become intimately familiar with existing and projected transportation requirements of the area. Of particular importance to the success of the Urban Cultural Park is the information we have obtained in the following studies:

Lowell Transportation Study - Forecasts of travel demand, analysis of existing systems and development of specific improvement plans within the City of Lowell - completed in June 1975.

Transportation Planning Assistance for Eastern Mass- Update- an analysis of travel demand by mode for the entire eastern Massachusetts area - ongoing.

Northern Middlesex Area Comprehensive Transportation Plan - Development of a multi mode comprehensive plan for the NMAC planning area. Includeslong range highway and transit plans for the City of Lowell - ongoing.

Lowell Transit Development Program - Establishment of a five year transit operations plan for the metropolitan Lowell area - ongoing.

Integrating transportation improvement plans within sensitive urban environments such as the Lowell Cultural Park calls for creativity in planning and design. AMV has had considerable experience in this area through our traffic operations conceptual planning and design work in the historic central business district of Newburyport, Mass. and the historic waterfront area of Portland, Maine. The exposure of our staff to efforts of this nature have created an awareness of the needs to serve urban travel demands while preserving unique urban environments.

In addition AMV has worked extensively throughout the U.S. in developing transportation and traffic management plans for recreational facilities. These efforts have varied from estimating visitors by mode for museums and stadiums to actual operating of bus services at major expositions. We have been involved in transportation planning for Bicentennial Celebrations in several eastern cities, sports and stadium complexes throughout the U.S. parks and other recreational facilities in the eastern U.S.

Finally AMV can assist in determining sources of funds for implementing improvements required by the cultural park. In AMV's home office, McLean, Va. we maintain a team of Federal Agency Monitors who are continuously kept abreast of existing and future Federal aid programs. Our day to day intimate contacts with agencies such as US DOT, UMTA, and FHWA permit a thorough understanding of requirements and procedures for obtaining implementation dollars. We believe this type of assistance is vital to the success of the Lowell Urban Cultural Park.

We look forward to assisting you in this extremely worthwhile project.

Very truly yours,

Richard E Hangen

Richard E. Hangen, P.E.
New England Regional Manager

REH:mi.

The Lowell National Urban Cultural Park Comprehensive Plan

PRESENTATION SUMMARY
DECEMBER 5, 1975

Submitted to
The Lowell Historic Canal District Commission
by Skidmore, Owings & Merrill
Anderson Notter Associates Inc.
Economics Research Associates

with Dr. Patrick M. Malone, Director Slater Mill Historic Site
Society for the Preservation of New England Antiquities
Alan M. Voorhees & Associates, Inc.
R. Randolph Langenbach

INTRODUCTIONS

The Team. We bring before you today the principal participants in a team designed to meet the needs of the Lowell Historic Canal District Commission.

Skidmore, Owings and Merrill approaches this project with broad experience in designing urban management systems, tying diverse sites and activities into a comprehensive plan. Many of you are familiar with our work in Lowell but may not be aware of the full range of planning and urban design activities we will discuss today.

Anderson Notter Associates will share major contract responsibility with SOM providing expertise in preservation planning, architectural restoration and adaptive reuse. They are a part of this team because they have practical experience in planning, designing and completing successful reuse projects which are an example throughout New England.

Economics Research Associates are a primary subconsultant, offering the latest and most detailed data on tourism and recreation in New England--and having developed successful economic development strategies for historic districts.

In addition to these three major actors, special subconsultants have been made a part of the team to assure that all of the requirements of the proposal can be fully met. These include: Dr. Patrick Malone, cultural historian and engineer, the Society for the Preservation of New England Antiquities, Randolph Langenbach, photographer and historian and Alan M. Voorhees and Associates, transportation engineers.

The Goal. What should result from the initiative of this Commission is a creative and workable plan that will provide a focus on the wide ranging opportunities for preservation, education and recreation available in Lowell. What's needed is an entity and a plan which can get the support of Congress and therefore the commitments which will make the Lowell National Urban Cultural Park a reality.

A NATIONAL URBAN CULTURAL PARK FOR LOWELL

Lowell offers an urban culture rich in examples of early industrial architecture, innovative financial management, the survival of a multicultural heritage. Since the historic issues are broad and the desired programs are varied--mill restoration, museums, public education, oral history, cultural festivals and economic development--what must be provided is an implementation and development strategy. The creation of this Commission and its desire for a comprehensive plan is indicative of the growing support for such a program to demonstrate the historic

and cultural role of Lowell.

Those who have studied Lowell and devoted great energy to its revitalization--the Human Services Corporation, City Development Authority, City Officials, Chamber of Commerce, State Department of Natural Resources and many other public and private groups--see potential elements of an urban park system all around them. What must be done now is to focus this energy into a series of priority projects which will best represent and explain the role of Lowell in the nation's history, which will be most attractive and (educational) interesting to both local residents and tourists, which will be the most effective catalysts in the revitalization of Lowell and which will form the backbone of long range plans for an urban cultural park.

THE PLAN

Therefore we propose to develop a comprehensive plan which recognizes Lowell's potential and the need to coordinate local, state and Federal actions to fulfill that potential. It would include four basic elements: A management/control structure, an activities plan, a physical facilities plan and an action program.

It would be a document designed for presentation to Congress--to dramatically present the role of Lowell in the nation's history and the opportunities available for an aesthetic and educational experience. It would clearly outline the public and private components of such a park and the nature of the Federal role in its development and management.

However, such a document should also serve many other purposes: 1. It should focus the more immediate actions of the City of Lowell as they review development proposals, allocate their community development funds or invest in street improvements. 2. It should assist in coordinating the many local agencies which provide educational and cultural programs, and 3. It should serve as an aid to private developers indicating the dynamics of future revitalization and providing guidelines for private efforts which would compliment this revitalization.

Management Control Structure. As we see it, the plan would develop a management structure to coordinate and direct the energies, ideas, plans and pulbic or private investments which would make up an effective Urban Cultural Park. Our proposal is not necessarily to create a new entity but to work with the many existing groups and agencies involved to develop the most imaginative and most workable approach.

Activities and Physical Facilities Plan. In addition the Comprehensive plan would include both an Activities Plan and a Physical Facilities plan. The activities plan would relate the many cultural and educational activities planned (cultural festivals, tours of the locks and canals or the mills, organized school programs, film production or the annual regatta) to the management structure and to use of the park facilities. The physical facilities master plan would include schematic designs for the priority development nodes, and for the network to join those nodes into a unified park experience. Such links will range from

circulation and transportation systems to an historic information and signing system. These will be presented in a master plan that includes design and development guidelines and cost estimates as well.

Action Program. The action program will be designed to take advantage of immediate actions which can maintain the momentum of restoration as well as to present a shortrange and longrange program for development of the park. The goal will be to orchestrate the participation of private and public entities with a major focus on determining the most effective and realistic federal role.

These four plan elements represent products of a detailed work program which is outlined in our proposal. Scheduling of work tasks, information meetings, Commission review, and decision points are all indicated on the Summary Work Program chart.

THE TEAM

To provide the Commission with an effective and workable plan, we have assembled a team with valuable background in Lowell, with broad experience in managing complex projects, in designing historic preservation projects that work, in developing feasible marketing strategies for public and private projects, and with active ties to agencies and individuals in Washington. Each one of the participants will draw on this background in their areas of responsibility but will also function as part of an integrated multidisciplinary team.

Individually and jointly, the three primary firms have completed projects for numerous Federal agencies including the National Park Service, Economic Development Administration, Department of Housing and Urban Development, Department of Commerce and Department of Transportation.

Project Responsibility. Contract responsibility will be shared by SOM and Anderson Notter with SOM having responsibility for management of the project. SOM, ANA and ERA will work together to develop the overall comprehensive plan.

SOM will develop the management strategy and will combine various development components into a workable comprehensive plan. SOM will have primary responsibility for designing the physical and activities systems which will tie together priority park nodes. Such systems will surely range from minibus and boat travel to interpretive signing and historical information. Legal strategies for establishment of the park, its governing body and its funding will be of major concern. SOM will have major responsibility for preparation of the presentation for Congress.

Building on past efforts, Anderson Notter will conduct a survey of the architectural heritage of Lowell, working closely with ERA to focus on the most promising development areas. Some may have the potential for immediate action by the city or existing funding sources and others will

become part of the short range park plan. Schematic drawings and cost analysis will be prepared to bring a selected number of projects closer to completion and also to serve as models for the design and cost analysis for remaining portions of the long range plan.

Economics Research Associates as the primary subconsultant will play a major role in the economic analysis of development strategies and will recommend the most feasible and effective methods for establishment of a Park, for the development of its tourism and recreation potential and for the programming of the many varied activities and groups who use the Park. ERA will be an integral part of both preparation of the overall plan and the more specific designs for high priority nodes.

Skidmore, Owings & Merrill. SOM brings to this effort their experience in the management of projects involving diverse interests, community groups and public agencies at all levels of government. They have demonstrated their ability to fit such diverse interests into a carefully conceived and workable structure and to follow through to completion of a project. In Boston their work resulted in a realignment of State transportation priorities, for the New England River Basins it was a plan for urban waterfronts, in Hartford it was the transformation of a depressed commercial area and in Lowell the design of circulation improvements as well as the back-up effort required to get those improvements past the planning phase and into basic design.

SOM staff are experienced at working with Congress both from the Boston and Washington offices. Currently they are assisting Congress in developing priorities for future public transit policy, and are writing Federal guidelines for preparation of Environmental Impact Statements. In addition they have prepared a master plan for the Washington Mall for the National Park Service as well as architectural designs for Constitution Gardens, the Capitol Reflecting Pool and National Gallery Sculpture Gardens.

Anderson Notter Associates. Anderson Notter has been responsible forthe design and adaptive reuse of a wide variety of historic structures in New England--the Tannery in Peabody, the Old Boston City Hall, the Market Square Historic District of Newburyport or the Chart House on the Boston Waterfront, are some examples. These are among a long list of completed and economically successful projects where Anderson Notter has worked both with private clients and with the full range of public restoration and reuse funding sources. This background will enable Anderson Notter to proceed swiftly to assess those structures which offer the most promise for use in a Lowell Urban Cultural Park and work to develop both the designs and funding which will make such a Park a reality.

Economics Research Associates. Economics Research Associates will work with both ANA and SOM relating feasibility and construction costs to the important area of marketability and economic reality. ERA offers the best available source on tourism and recreation in New England, having just directed and completed a tourist information program for the New England Regional Commission, and variety of studies for State

Bicentennial efforts. Among other projects, they developed the feasibility, marketing and management strategy for the on-going successful historic restoration of Rome, New York. In addition they've been an integral part of the Lowell Transportation Plan Study Team, having established an extensive data base on population and employment characteristics of Lowell. The files of ERA offer the latest economic market data on a wide variety of comparable developments from specialty shopping centers, museums andhistoric tourist attractions to special transportation systems such as boats and barges. Their Washington office is also available for assistance in contacts with Congress.

Special Consultants. These three firms constitute the basic team covering fully the essential elements of plan preparation. Additional expertise will be called upon from four special subconsultants or others as required who will play a smaller but essential role as part of the team.

Dr. Patrick Malone, cultural historian and engineer will contribute his intimate knowledge of the locks and canals and his broad experience in using Lowell as an educational laboratory.

The Society for the Preservation of New England Antiquities will draw upon their experience in surveying historic properties, advising on adaptive reuse and using scientific analysis techniques to investigate historic structures.

Randolph Langenbach will make available his extensive private collection of photographic and research materials on New England Mills and will assist in the preparation of the presentation to Congress.

Alan M. Voorhees, transportation engineers, have worked extensively with recreational facilities throughout the United States and have shown a special sensitivity to the needs of historic areas through their work in Newburyport, and in Portland, Maine as well as in Lowell.

MEMBERS OF THE TEAM

Peter Hopkinson, Tim Anderson and George Notter as principals of the two primary firms, and Tom Martin as principal of ERA will work as a board of directors with two project managers carrying out the day to day work of the project.

Paul McGinley, Senior Associate and Preservation Planner, will be project manager for Anderson Notter. Mr. McGinley was formerly the Executive Director of the Newburyport Redevelopment Authority and is a recognized authority on the subject of historic districts and other reservation techniques. As an urban planner he supervised preservation planning programs including Portland, Maine, Salem, Mass., Newburyport and Hartford, Connecticut.

Tom Mayo, Architect and Urban Designer, will be project manager for SOM and will have principal responsibility for the overall coordination of the study. Mr. Mayo was Project Manager for the Lowell Transportation Planning Study and has maintained an ongoing almost daily working relationship with local citizens and officials in Lowell. He has seen the concept of a National Urban Cultural Park develop over the last several years, and will apply his urban design and planning experience to make this concept a reality.

Karen Alschuler, Senior Urban Planner, will take on a significant portion of the SOM effort being responsible for assuring that community plans and desires are integrated into the plan and for report writing and preparation. Ms. Alschuler has extensive community liaison experience as a public planner preparing public presentation reports and ordinances. She is currently completing work as project manager of the Massachusetts Route 2 Environmental Impact Statement.

Working under these people will be technical support staff including a lawyer, graphic designer and exhibit designer, architectural and cultural historians, photographer, management specialists and persons trained in community liaison responsibilities.