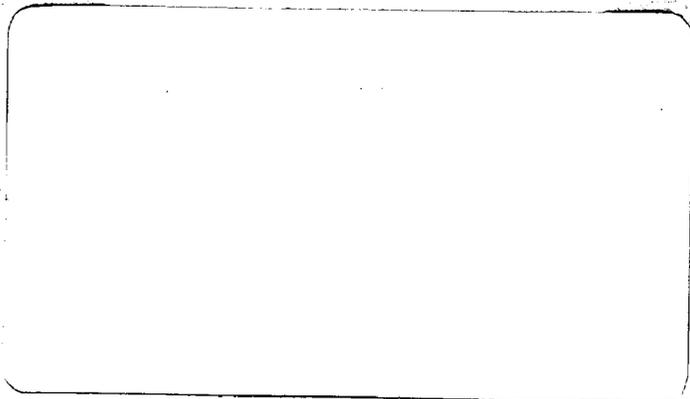


Coastal Zone Management Program



CZIC COLLECTION

WILLIAM J. COHEN And ASSOCIATES, INC.

PLANNING, GOVERNMENT AFFAIRS, RESEARCH, DESIGN

177 E. DELAWARE AVE.
NEWARK, DELAWARE 19711

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June 29, 1979

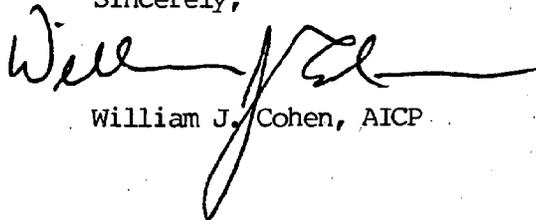
Mr. Kenneth Bessinger
Project Manager
Office of Management, Budget and
Planning
Townsend Building
Dover, Delaware 19901

Dear Mr. Bessinger:

I am transmitting this report, Background Information, as part of the Delaware Urban Waterfront Planning and Management Project. This document is intended to serve as the major compilation of resource materials that will be referred to and utilized throughout this project.

I would like to acknowledge the significant contribution made by Carol J. O'Donnell, Project Planner, of the Consultant staff, in undertaking much of the research and analysis contained in this report.

Sincerely,



William J. Cohen, AICP

WJC/ljg

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OVERVIEW

Background of Project

On January 15, 1979 the Delaware Office of Management Budget and Planning contracted with William J. Cohen and Associates, Inc. to perform a scope of work that would evaluate redevelopment potentialities on the urban waterfront in Delaware. This effort is part of a program sponsored by the National Oceanic and Atmospheric Administration, Office of Coastal Zone Management of the U. S. Department of Commerce, which has made planning grants available to selected states throughout the country.¹

An important early element of the project was the establishment of a project review committee to coordinate the work of the Consultant and included state, county, city and University of Delaware representatives.

Purpose of Project

The Delaware Urban Waterfront Planning and Management project has been fashioned to be consistent with the following objectives by the Office of Management, Budget and Planning (OMB):²

1. Plan for development of the deteriorating and underused urban waterfront;
2. Encourage establishment of water-dependent uses along the State's urban waterfront;
3. Provide increased economic activity, private investment, tax revenues, and number of jobs;
4. Provide urban amenities along the waterfront, with particular emphasis placed on increasing public access to the shoreline;

¹Authorized through section 305 of the Coastal Zone Management Act of 1972 (Public Law 92-583) as amended.

²See Delaware Coastal Management Program and Draft Environmental Impact Statement, Office of Coastal Zone Management, (1979), Sec. 5. d 2, pp. 11-12.

5. Encourage concentrated coastal development in or adjacent to urbanized areas; and
6. Encourage coordinated planning for management of and public investment in urban waterfront areas.

Essentially the project is intended to take a practical, planning-implementation approach in identifying redevelopment possibilities within the urban waterfronts of Wilmington, Newport, New Castle, and Delaware City in northern New Castle County. Figure 1 depicts the geographical location of each jurisdiction included within the project. It is a further purpose of the project to provide an impetus for redevelopment activity which can encompass a wide range of potential uses such as residential, commercial, institutional, cultural and recreational. In concert with these land uses the project can include both new construction, and adaptive re-use of existing or historical buildings.

A key factor that will determine the success of the project will be the utilization of planning techniques that can be directly related to accomplishing waterfront redevelopment. Therefore, the direction of the project will be ever mindful of contemporary realities that exist on the waterfront; the unique problems that each of the communities face; and what activities can reasonably be expected to serve as an impetus to further redevelopment by both the governmental and private investment sectors.

Project Emphasis

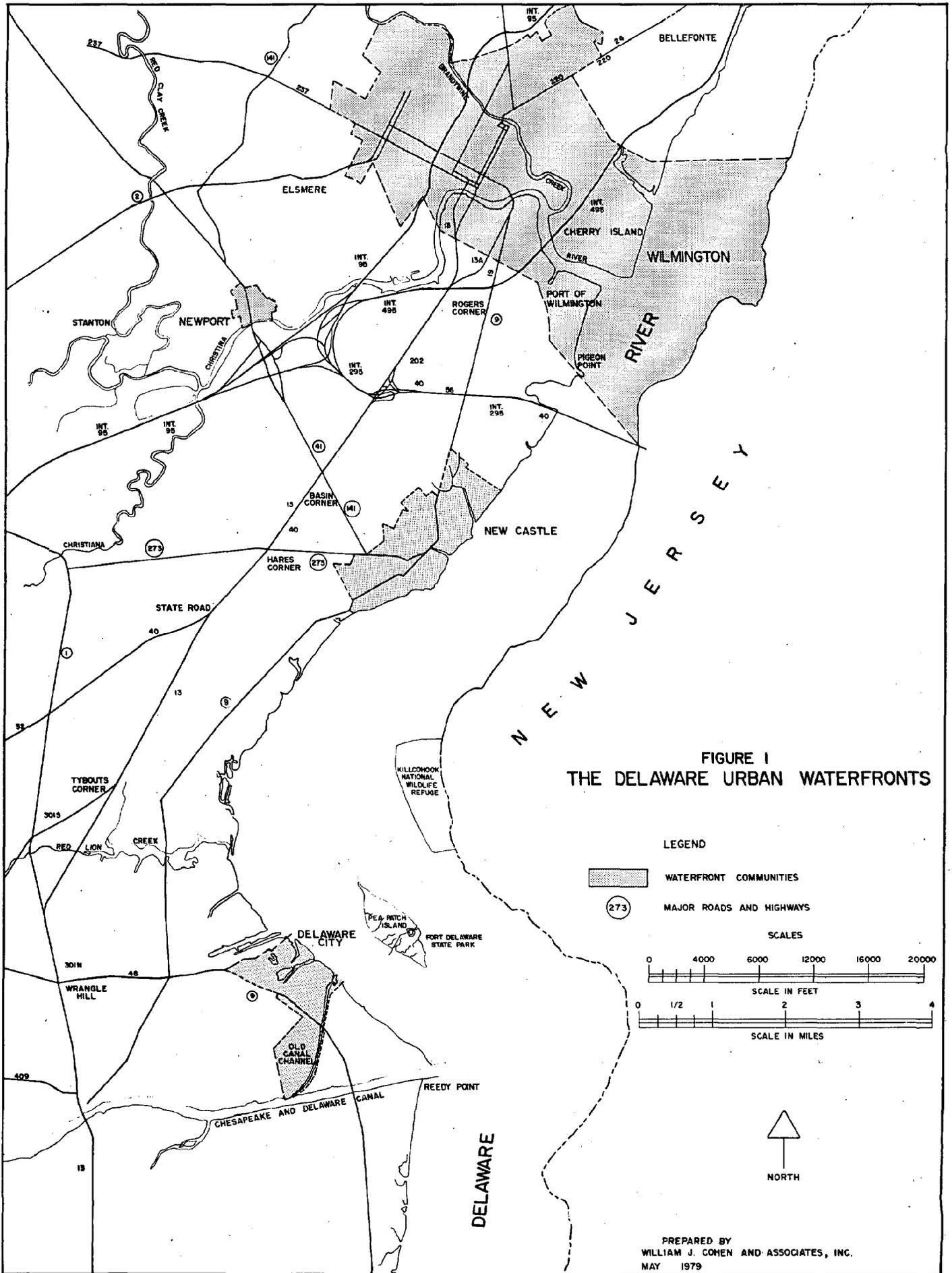
The Delaware Urban Waterfront project can be divided into the following significant areas of analysis:

1. Research - aimed at understanding the extent and nature of previous studies and planning that relate to the waterfront. An analysis of waterfront information, both locally and elsewhere, will serve as points of reference.
2. Identification of Redevelopment Prospects - will identify sites, establish criteria, evaluate identified sites, and develop a priority list of potential projects.

3. Feasibility Analysis - primarily is intended to provide an impact assessment on selected demonstration sites (projects).
4. Preliminary Grant Applications - will focus on utilizing Federal grant sources to allow for implementation of specific projects.

Federal Policies

The waterfront was historically the site of development and focus of many cities. In the past 25 or 30 years, however, changes in life styles, transportation technology, as well as the economic function of the city have resulted in partially abandoned, underutilized and physically deteriorating waterfronts. Recognizing that a rich mixture of uses could once again attract people to the waterfront and at the same time help revitalize decaying downtown areas, the Federal Government recently became involved in developing programs (including grant assistance) to encourage planning and development on urban waterfronts. Of special mention are two Federal agencies that are in the forefront of urban waterfront planning - the National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, and the Heritage Conservation and Recreation Service, U. S. Department of the Interior. Working together these two agencies have formalized the coordination of planning and implementation activities, technical assistance and financial support. Moreover, the Federal Government has extended this cooperation to work closely with the states and cities in addressing important waterfront redevelopment issues.



LOCAL STUDIES AFFECTING WATERFRONT USES

Introduction

The beginning research effort of the waterfront project has been to collect and synthesize the major points of studies and plans that address waterfront "issues". These issues may involve policy perspectives, such as, identifying a goal to encourage economic development or land use elements such as the acquisition of a parcel of land for recreation use. In either case an examination of local studies affecting waterfront uses was undertaken in order to have as full an understanding as possible of issues, plans and projects, which can be addressed during this project.

This section of the report will begin with state level involvements and then proceed to New Castle County and the municipalities in geographical order.

State of Delaware

1. Coastal Zone Act

On June 28, 1971, Delaware enacted the Coastal Zone Act. Among the stated purposes of the Legislation is the control of the "location, extent and type of industrial development in Delaware's coastal areas", and in so doing, the state would be better able to protect "its bay and coastal areas and safeguard their use primarily for recreation and tourism". The act expressly prohibits "heavy industry uses of any kind" - not already in operation at the time of enactment. In terms of prohibition, heavy industry specifically includes: oil refineries, steel manufacturing, pulp paper mills and chemical plants. The act also requires state approval of major expansion of existing heavy industry facilities within the Coastal Zone area.

Within New Castle County the designated Coastal Zone Area includes all land lying between the Delaware River and a series of roads generally following U. S.

Route 13. Also, land along either side of the Chesapeake and Delaware Canal is included under the Act's jurisdiction.

2. Delaware Tomorrow Commission

In 1974 the Delaware Tomorrow Commission was established by executive order of the Governor "to develop a statewide plan for growth". The commission's report, issued in January 1976, examined land use policies (involving industrial, commercial, residential, as well as open space, recreation, and transportation) in order to recommend a "path of economic growth that Delaware should pursue". In addition the commission was to "look at the effectiveness or lack of effectiveness in attracting desirable job producing industry to the state".

Of the commission's recommendations the following was enunciated for community patterns policies:

Established urban centers, small and large, must be revitalized and recognized for the values of their in-place structures, facilities, and installations.

As a further refinement of this recommendation, the commission included urban waterfronts as a focus of revitalized activity:

Available capacity - older buildings, business districts, waterfronts, streets, empty spaces, dwellings - must be renewed and reused in imaginative and attractive ways to satisfy business and private needs and not be allowed to deteriorate into empty unused eyesores.

3. Coastal Zone Management Program

Delaware's Coastal Management program, prepared by the State Office of Management, Budget and Planning, is the key policy framework for the proper management of land and water resources, striking a balance between environmental concerns and economic needs. The significant coastal issues and problems that have been identified affecting New Castle County included "the location of industry and urban waterfront redevelopment". Moreover, the 1979 Delaware Coastal Management program emphasizes that "urban shoreline recreation opportunities are limited",

even though there is an adequate amount of land in public ownership, and the Coastal Management program will consider providing recreation activities in existing areas.

Specifically concerning urban waterfronts the Delaware Coastal Management Program focused in on the following as a "development issue" that needs to be addressed:

Changes in marine transportation methods and industrial location requirements have left a legacy of economically obsolete, physically deteriorating, underused urban waterfronts in Delaware. Several studies have examined portions of the urban waterfront in the State and proposals for development of the deteriorated industrial waterfront along the Christina and Brandywine Rivers in Wilmington could create new recreation areas and scenic attractions in this urban area.

4. SCORP

The Delaware State Comprehensive Outdoor Recreation Plan (SCORP) first prepared in 1976 by the Division of Parks and Recreation, Department of Natural Resources and Environmental Control, is continually under review. As a policy guide the SCORP emphasized land "acquisition and development" as well as "preservation" of natural areas. In addition, the 1976 SCORP recommended that a "Delaware River Shoreline Recreation and Tourism Study" be undertaken to:

Identify needs for and formulate methods to obtain areas or recreation potential, particularly those sites which will provide public access to, and enjoyment of the urbanized portions of the Delaware River.

The current draft of the Delaware SCORP (September 1978) proposes that the state, during the next five years, "undertake a series of planning tasks aimed at (1) the improvement of resource management capabilities and (2) the enhancement of public recreational services." Moreover, future planning projects will emphasize "responsible fiscal management and a balance of environmental and economic concerns."

5. State Strategy for Economic Development

In 1978, the Delaware Department of Community Affairs and Economic Development prepared an "economic development strategy" for the state. The strategy was aimed at identifying and dissolving barriers to business growth, proposed improved intergovernmental coordination, promotes the state as a business location and tourist destination, focuses attention on projects with statewide impacts, and proposes a broad "development incentives" package to encourage increased business activity (especially in under-utilized facilities like the Port of Wilmington).

This recommendation was subsequently carried out and resulted in a study to be discussed in this section.

The strategy focuses upon two broad program levels: 1) statewide economic development, and 2) community economic development. Some provisions of the statewide program which might have an impact on the waterfront in northern New Castle County include the following:

- * A port development effort featuring major development in Wilmington.
- * An effort to secure major onshore support development based on Baltimore Canyon Oil production compatible with Delaware's environment.
- * A feasibility determination and possible construction of a major theme park in northern Delaware.
- * A feasibility determination and possible construction of a state-owned industrial park with access to the Delaware River in New Castle County. Identification and promotion of development magnets (which would include downtown Wilmington).
- * Targeting areas where development is timely, once a barrier is removed, or an unrealized opportunity is addressed, and formulating a blueprint for optimizing these situations.

- * Creation of a dormant industrial facilities inventory and rehabilitation program to restore valuable facilities to a marketable state.

On the community level the program provides the ability to identify and address local problems, needs and potential; match community resources with development opportunities; build local problem-solving capacities; and blend the broader community development functions with traditional economic programs to provide an effective mix of human and physical resources. A primary channel is provided by the program to transmit local concerns to the state level, thereby enabling Delaware to focus necessary federal, state, and local and private resources on a well-defined target.

New Castle County

1. The General and District Plans

The General Comprehensive Development Plan for New Castle County was adopted in 1967. More detailed area studies were subsequently undertaken which took the form of nine district plans. Currently the General Development Plan is in the process of being updated, which will make it necessary to evaluate information presented in the existing district plans that reflect recommended changes.

Four of the nine planning districts encompass sections of the waterfront along the Delaware and Christina Rivers. The Brandywine Planning District extends from the Pennsylvania state line to the northern city limits of Wilmington along the Delaware River. Intensive industrial use reserved for large production industries is confined to the flat lands in the northeast and southeast sectors of the district along the Delaware River. The very narrow elongated strip of land between the railroad and river is the proposed regional Fox Point Park. Unfortunately, access is extremely limited due to the ConRail main line, Interstate

495, and Governor Printz Boulevard.

The Lower Christina Planning District contains the land area along the Christina River from Wilmington and includes the community of Newport. The ConRail main line extends along the shoreline, as well as Interstate 95 in the eastern portion of the district. Industrial uses (intensive and extensive) exist between the railroad and the Christina River in Newport. A major County facility known as Banning Park is located north of the railroad. The Plan does point out development opportunities for many kinds of compatible uses along the shoreline of the Christina River, including the following; "a scenic area, selected recreation areas of many types, and industry can coexist along the shoreline bordering the southern side of the Planning District."

The New Castle - Upper Christina Planning District includes the waterfront land areas south of Wilmington, including the City of New Castle, and as far south as the Red Lion Creek. Both intensive and extensive industrial development is designated in the land use plan, reflecting to a large extent existing industrial facilities. These uses are located primarily north and south of the commercial and residential areas of the City of New Castle. This land is, however, within the jurisdiction of the Coastal Zone Act, precluding additional development for heavy industry, in particular, oil refineries, steel mills, basic cellulosic paper mills, and petro-chemical complexes as discussed earlier in this report.

The floodplains of the Christina and Delaware Rivers consist mainly of relatively open tidal marsh. The Plan designates such waterfront lands as "resource protection areas." A proposed regional park at Ommelanden is located in the southern portion of the district on the waterfront.

The land use plan as shown within the incorporated limits of New Castle, reflects the adopted General Comprehensive Development Plan (1965) for that community.

The Red Lion Planning District extends from Red Lion Creek to the Chesapeake

and Delaware Canal. The waterfront north of Delaware City is primarily stream valley, flood plain and marshland. The Plan states, in part, that "the coastal marshes are of great ecological value and should be left undisturbed." The Governor Bacon Health Center is located south of Delaware City, and open space preservation is the recommended land use from this facility to the Canal.

2. The Shoreline Study

In 1977 the Delaware River Shoreline Study was prepared for the New Castle County Department of Parks and Recreation and implemented the recommendation contained in the 1976 SCORP. The report reviewed existing studies of water-based recreational demand; examined experiences of other urban areas in the country; and evaluated the recreational suitability of several sties along the Delaware River shoreline. Five water-based recreation "scenarios" (i.e., courses of action) were also presented which were then evaluated in a public survey of 399 households in New Castle County. After reviewing the survey results, the scenario proposals were tempered and revised, and the final recommendations were made.

The recreation scenarios suggested several interesting uses for activities for the Delaware River shoreline. A system of bike trails was considered, orginating in urban areas and extending along the coastline whenever possible, linking in with trails along the Chesapeake and Delaware Canal. The establishment of a nature center with a network of trails east of Route 9, and a multiple-activity recreational unit west of Route 9 was proposed for Ommelanden. Excursion boat rides on the Delaware River, marina facilities near Delaware City, and a large multiple activity center in the vicinity of Delaware City and the Chesapeake and Delaware Canal were other proposals.

Public support for the recreational uses described in the scenarios varied, as did opinions on financing the uses, and as a result the final recommendations for the Delaware River shoreline were revised accordingly. The County was urged to proceed in planning a nature study center with hiking trails at Ommelanden,

east of Route 9, (Phase I), and a multiple-activity recreational unit, west of Route 9, (Phase II). It was recommended that New Castle County not actively develop, but encourage tour boat, marina and bicycling activity along the Delaware River. The only specific bikeway proposal was that Delaware Route 9 be upgraded to include a continuous bicycle path on the shoulder.

The Shoreline Study did not focus specifically on the potential existing at the Governor Bacon Health Center near Delaware City, but did point out the need for clarification of plans and further study of the site. The Delaware Department of Health and Social Services administers the property which has several under-utilized structures at present which could be developed for some future public use. Deep water near the shore could possibly accommodate recreational boat docking. Bicycle and hiking paths along the adjacent Chesapeake and Delaware Canal could be a linkage with Lums Pond State Park. Proximity to the historical Delaware City - Pea Patch Island complex, with an emphasis on Fort Delaware, became another positive consideration. The State Office of Management, Budget and Planning agreed that a study needs to be done, but no apparent action has been taken to date.

Some action has taken place on implementation of the Ommelanden (224 acre riverside tract) proposal. A public hearing was held the first week in March 1979 to consider developing Ommelanden, west of Route 9, into a Hunter Safety Training area. Ommelanden would include rifle ranges; trap and skeet field courses; an archery range and field course; handgun and muzzler-loader ranges; classrooms and nature trails. The State's Division of Fish and Wildlife has been searching for a site in New Castle County for the Hunter Safety Training Area/Range Complex, choosing a portion of Ommelanden as the best site. Although the general concensus of those attending the public meeting in March tended to support the gun range recommendation, certain public interest groups have been opposed. Final approval from County Council is still pending.

The Shoreline Study recommended that the County actively support the Delaware City - Pea Patch Island Ferry service. The forty foot tour boat is presently owned by an association of boat owners in Delaware City. While this group has indicated an interest in increasing the use of the boat for evening and special tours, nothing definite has been implemented as yet.

Wilmington

1. General Emphasis

The City of Wilmington has rather extensive waterfront areas due to its location on the Brandywine Creek and Christina River. Since the earliest settlement on the Christina River (in 1638) just west of the confluence of the two waterways, the City's development pattern stretched north and west. Figure 2 provides the current City geographical bounds from the City limits on the Christina to the Washington Street Bridge on the Brandywine.³

Although the City of Wilmington has not undertaken a comprehensive waterfront redevelopment analysis, the City has examined its waterfront uses more thoroughly than any other urban area in the County.

The latest completed effort by the City involving planning for the waterfront is found in the Riverfront Study, undertaken by Angelos Demetriou, and several Neighborhood Comprehensive Development plans prepared by the City Department of Planning and Development. The following presentation provides a comparative analysis of these and other sources so that the status of Wilmington's waterfront planning can be understood.

The Riverfront Study, prepared for the City in 1977, analyzed and recommended riverfront land uses. The Overall Economic Development Program (1978) for

³The Delaware River frontage within Wilmington may be referred to on Figure 1.

Wilmington, examined the City's economy, established development goals and presented a prioritized listing of proposed projects. Other more localized studies focus on the Port of Wilmington, Cherry Island and Brandywine Mills. However, very little overall implementation has resulted from these planning efforts.

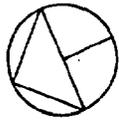
2. The Riverfront Study and Neighborhood Comprehensive Development Plans

A large percentage of the waterfront was proposed for industrial land use in the Riverfront Study, primarily since most of the subsequent jobs produced were important considerations in encouraging economic development.

The industrial recommendation for the area bounded by the Brandywine Creek on the south, Northeast Boulevard on the west, Vandever Avenue on the north, and the ConRail main line on the east contrasts with the City's Riverside Neighborhood Comprehensive Development Plan, 1978 (see Figure 2).⁴ The Riverside Neighborhood Plan took into account the scattered, deteriorating residential uses of the area and attempted to consolidate and centralize them, with buffer uses of park and neighborhood commercial strips. The remaining portions of the Riverside neighborhood could then be developed for appropriate industrial uses that would not be detrimental to the adjoining neighborhoods.

The Riverside Neighborhood Plan as well as the Price's Run, Eastside, and South Wilmington neighborhood plans, were consistently more sensitive to the needs and problems associated with the people and existing land uses in the neighborhoods, and tried to accommodate such uses in a more beneficial manner without excluding any particular present uses from the area. The neighborhood comprehensive plans are therefore more conservative in their approach than the Riverfront Study, which may partially explain the lack of consensus and action taken on the Riverfront Study proposals.

⁴The identified areas in Figure 2 have been designated for purposes of discussion in this report and therefore may not coincide with references in other city reports and studies.



NORTH

FIGURE 2

THE WILMINGTON WATERFRONT THE CHRISTINA AND BRANDYWINE

LEGEND

MUNICIPAL BOUNDARY LINE

STATE RIGHT OF WAY

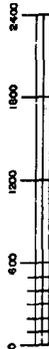
MARKET STREET MALL

RESIDENTIAL PUD (PROPOSED)

OPEN SPACE MARINE RECREATIONAL ZONING DISTRICT (PROPOSED)

NEIGHBORHOOD COMPREHENSIVE DEVELOPMENT PLAN BOUNDARIES

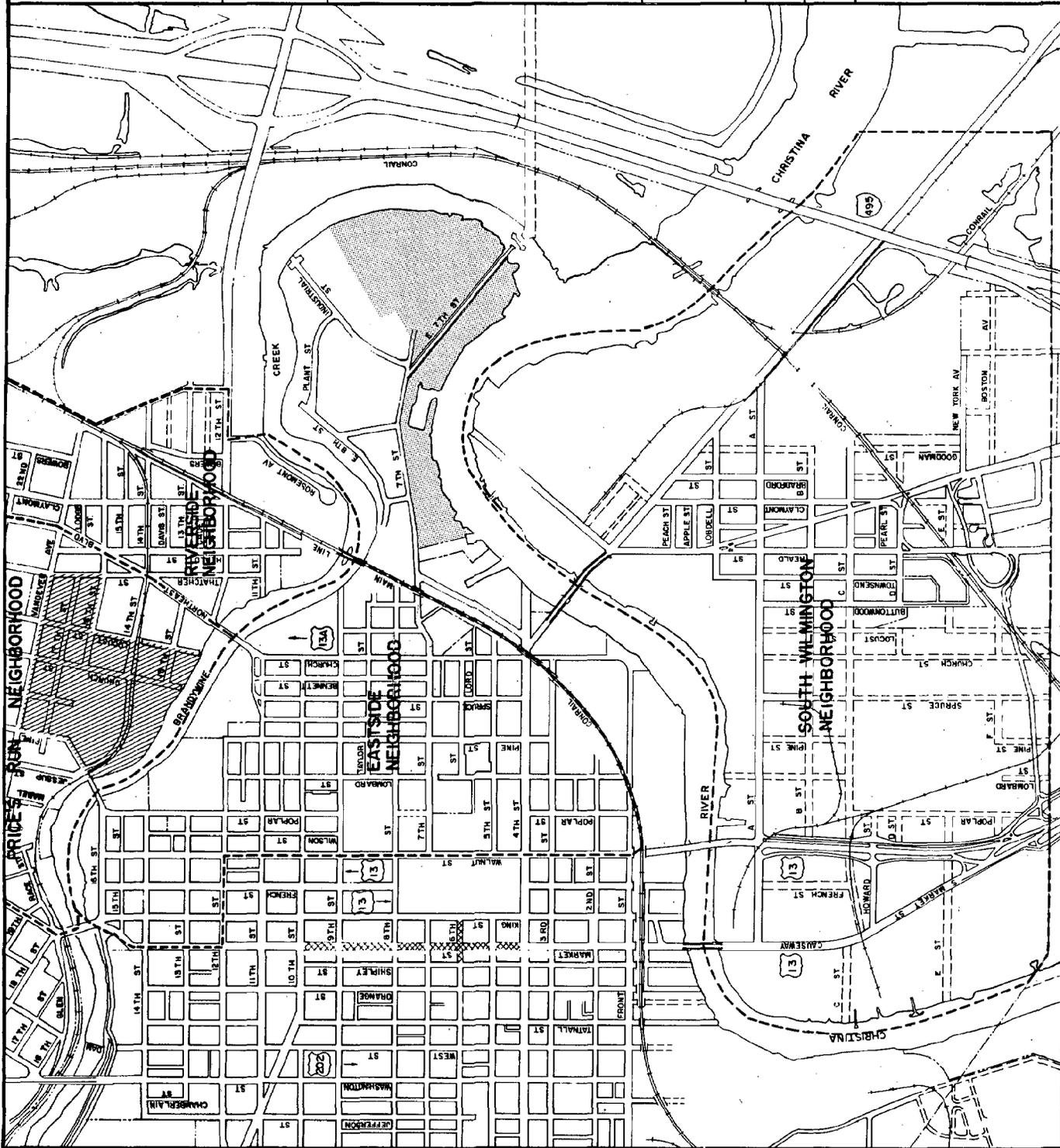
SCALE



1 INCH = 800 FEET

PREPARED BY
WILLIAM J. COHEN AND ASSOCIATES, INC.

JUNE, 1979



A proposed residential Planned Unit Development (PUD) was recommended in the Riverfront Study for a section of the Price's Run Neighborhood, bordered by the Brandywine Creek on the southern side, by Pine Street on the west, by Vandever Avenue on the north, and on the east by Locust/16th/Street/Thatcher Street (see Figure 2). The proposed PUD did not, however, take into account the possible extension of the 12th Street I-495 connector through the site along the Brandywine. This impact of this alignment, in addition to the existing ConRail main line which traverses the tract, and several existing industrial uses make the PUD proposal appear somewhat unrealistic at this point in time.

Although the Price's Run Neighborhood is characterized by stable residential areas north of Vandever Avenue, a problem exists with housing vacancies in evidence in the southwestern portion of the neighborhood. The area south of 23rd Street has been designated for concentrated treatment under the City's Community Development Block Grant Program. Low interest loans to homeowners, the Homestead Program, the Gift Property Program, and other efforts demonstrate the City's commitment to stabilize the housing stock in this area.

The Price's Run Neighborhood Comprehensive Development Plan, 1978, in contrast to the Riverfront Study, retains most of the current land uses, with industry located south of Vandever Avenue. Blighted residential blocks that face or border on industrial use were planned for light industrial use or a buffer use such as parking or residential rear yards. Although a section along the Brandywine riverfront is being examined for parkland development, it is separated from the stable residential neighborhood to the north by industrial uses, railroad tracks, and possibly in the future by the extension of 12th Street, which could further reduce the ease of pedestrian access to the waterfront park.

A detailed economic feasibility study was prepared for Brandywine Mills, a 2.1 acre tract owned by the Sayer family and located north of the Brandywine Creek

and east of Market Street in the Price's Run neighborhood. The study considered the feasibility of restoring the Brandywine Mills as a specialty retail center, although alternative adaptive uses were very briefly examined. Four tasks were completed including a market analysis, financial analysis, development planning and a structural evaluation of the buildings. The analysis indicated that the development of a "themed" specialty retail center, through restoration of the Brandywine Mills as proposed in the report, would be economically feasible.

The City has not, however, implemented the recommendation to purchase the Sayer property and resell it to an acceptable private developer for redevelopment as a specialty retail center. There is, however, a proposal, with plans currently submitted, to convert the Brandywine Mills into a condominium complex with some accompanying retail uses.

Overall, it is evident that a concentrated effort is being made by the City to stabilize the southwestern portion of the Price's Run neighborhood. In addition, there is the possibility of a very exciting private redevelopment effort taking place along the waterfront at Brandywine Mills.

The Eastside Neighborhood Comprehensive Development Plan, 1977, (see Figure 2) is primarily residential in character (including high density), and is located east of Wilmington's commercial center. Although there was a decrease in population from 1960 to 1970 due to out-migration and urban renewal clearance, there are indications of a stabilization of the housing market there, since the number of owner occupied units has increased. Nevertheless, vacancy of residential property is apparent in the northern and southern sections of the neighborhood as well as in the periferal industrial areas.

The proposed land use plan for the Eastside attempts to preserve the existing residential neighborhood and, where possible to buffer it against major industrial uses. No residential development is planned south of the ConRail main line.

The South Wilmington Neighborhood Comprehensive Development Plan, 1976, (see Figure 2) involves an area that is mostly industrial. (Only 2.7 percent of the total area is residential.) A substantial amount of land is undeveloped due primarily to soil and flooding problems.

Presently, residential, commercial and industrial uses are in close proximity, which causes several noise, odor, safety and aesthetic problems and conflicts, and heavy traffic flows cut through the residential community, further aggravating the situation. In addition, the population of South Wilmington has the lowest median family income in the City.

The neighborhood development plan for South Wilmington is similar in most respects to the proposals in the Riverfront Study with some locational differences. Both attempt to keep the residential area as homogeneous as possible, although buffering efforts would be much more extensive under the Riverfront Study proposal.

Hence, the lack of general consensus or official action taken on the Riverfront Study is partially explained by the different approaches and sets of priorities taken in arriving at the proposed land uses, in contrast to the neighborhood comprehensive development plan.

3. Recreation and Greenways

The Riverfront Study made a proposal for an Open Space Marine Recreational (OMR) zone located south of the Wilmington Industrial Park at the confluence of the Brandywine and Christina River. A mixed use development was recommended containing marinas, open space, recreational and incidental retail use.

The City of Wilmington recently purchased a seven acre parcel of land situated between two existing marinas in the proposed OMR district. It was indicated that the City may be willing to make some site improvements with the intent to lease or sell the site for additional marina development or expansion purposes. The City,

like the other municipalities in the County in facing a tight budgeting situation, may not be in a position at this time to invest additional City funds into a major public park development with the accompanying loss of tax revenue and employment opportunities, however, the opportunity has great potential public benefits.

Extensive greenways, located within easements adjacent to the waterfront in several places were recommended to improve the visual quality of the riverfront areas and to form part of a comprehensive open space system. Although the proposal has not been implemented, a recent land transaction is consistent with the intent of the Riverfront Study's proposal. The City sold a parcel of land on the south side of the Christina east of Walnut Street, with the stipulation that a twenty foot setback be maintained adjacent to the river. This restriction was in accordance with the Riverfront Study's proposal for an extensive greenway system along several riverbank properties within a twenty foot strip setback. The industrial developer has in fact landscaped the setback area.

4. Cherry Island

Of special long range interest to Wilmington is the proposed 750-acre industrial park on Cherry Island, an hydraulically filled tidal marsh tract of land. Dredge and fill operations affecting Cherry Island have been sporadically performed since the 1920's. It is an ongoing process scheduled for termination in 1984. Because surface drainage is so critical to satisfactory stabilization of the filled areas, an initial grading and drainage program would have to be developed as a first step to any development. The Study, Engineering Cost Estimates for Development of Cherry Island, 1978, pointed out that natural stabilization and settling of hydraulically filled areas would provide support for only the highest of structures and recreational use with time. The immediate use of all land areas on the Cherry Island tract for normal development purposes (i.e., involving building construction) could be accomplished by one of two techniques: 1) use of a deep foundation system for support purposes, and 2) stabilization of soil horizons

to significant depths, that is, the application of one or more solidification techniques. A comparison was made of different development modes through a determination of fundamental cost elements necessary to construct the finished facility. From a total cost standpoint, the most economic development uses were found to be recreation, a pollution control facility and lightweight storage. In contrast, marine-oriented development uses were found to be extremely expensive. The study did not address marketing assessments, financing bases, cost-benefit ratios or employment projections. Further long range planning efforts, or steps toward implementation for Cherry Island, are not taking place at this time.

The Riverfront Study had proposed an industrial PUD for Cherry Island. It was thought that the costs of stabilization could "potentially be applied only in large scale development where the excessive costs could be prorated and absorbed within a larger development package." The study also focused on the excellent locational advantages for industrial development, including on Interstate 495, accessibility to the local street network, plus the availability of both rail and water transportation.

5. Overall Economic Development Program

An overall economic development strategy was identified for the City of Wilmington, guided by several goals and sub-goals listed in the City's Overall Economic Development Program. The City is primarily interested in creating employment opportunities for the unemployed and underemployed, through both the expansion of existing firms and establishment of new firms. (The unemployment rate was 11.3 percent in 1976 and the City's labor force is increasingly comprised of workers seeking entry level employment opportunities.) Insuring a sufficient tax base to provide necessary services is also a major goal for Wilmington.

The OEDP Committee developed and prioritized a number of projects aimed at

implementing the economic development program. Twelve projects were listed: five involving industrial development and site improvements; four concerned with Port improvements and expansion; and three involving retail conversion, improvements, and development.

The original priority list has been modified since the OEDP was completed in March, 1978, with the container handling facility for the Port of Wilmington becoming the number one priority. There is also interest in singling out an industrial park area for improvements, with the exact site yet to be determined.

The Port of Wilmington is currently under study to provide an investment policy to guide port development and its related goods transport systems and services. Phase I of the report was completed in November, 1978. It points out that Wilmington's market potential indicates a need for a container handling capability and a modern bulk handling crane.

Newport

No specific reports involving waterfront uses have been prepared for Newport. However, the City is undergoing a redevelopment/renewal planning effort at the present time involving the County Department of Planning and the Department of Community Development and Housing. The County, therefore, is searching for ways to encourage economic revitalization by incorporating private investment sector participation to improve opportunities.

New Castle

A study was undertaken in 1974 to examine the recurrent flooding situation in the City of New Castle at the Broad Dike and Buttonwood ditch locations. Several recommendations were made for relief of the problem including upgrading the dikes to acceptable elevations; making structural changes and improvements;

upgrading several roads; including Route 9 and Route 273, to insure access; and dredging of the outlet channels on a scheduled basis to provide proper functioning of the tide gate structures.

An exploratory recreation master plan was developed for New Castle concurrently with the Broad Dyke/Buttonwood Study. Illustrative sketches were developed showing several recreational uses including bikeways; pedestrian paths along the river; a neighborhood playground; a nature study area; a plaza overlooking the river on an existing wharf; picnic grounds; a multi-purpose building for community use; and other recreational considerations. Annotations were made on the drawings, but no formal written document was prepared.

Since completion of the Broad Dyke/Buttonwood Study, twin tide gates have been constructed at Broad Dyke and partial dyke reconstruction has been completed for only 200 feet on both sides of the tide gates, thus reducing the flooding problem. However, the recreation proposals have not, at this time, been implemented.

Delaware City

On May, 1975, a study was completed by an Ad Hoc Committee for the 128th General Assembly, entitled, Fort Delaware and Delaware City Canal Lock. It proposed upgrading facilities on Pea Patch Island, restoring the old canal lock of the Chesapeake and Delaware Canal, and the creation of a pedestrian-oriented park at Delaware City. To date, most of the improvements have been made, the old canal lock has been made "presentable", the pedestrian park is a reality, and although no visitors center has yet been built, plans still exist for such a facility.

South of Delaware City, the Chesapeake and Delaware Canal extends in an east-west alignment connecting the Delaware River with Chesapeake Bay in northern Maryland. The barrier aspect of the Canal to north-south development continuity does provide, however, an opportunity for developing a land use buffer zone for recreation, environmental and educational uses. With this in mind, the Army Corps

of Engineers developed a Master Plan (Design Memorandum No. 28, 1977) for the Federal property along the Canal incorporating a broad scope of recreational development possibilities.

Recommended uses in proximity to the Delaware River include day-use facilities at Reedy Point (south) which would be fishing and environmental-study oriented with waterfront observation trails and picnic units. Marina development was considered for Delaware City to include mooring spaces and support services for full repairs, snack foods and boating supplies. A community park was also recommended in conjunction with the City's expansion plans.

A construction phasing sequence was developed for the plan's recreation proposals. Level I development included the community park for Delaware City, with the city as the possible principal sponsor, as well as a marina with a city/private sponsor relationship. The Reedy Point (south) recreation area, which would involve construction by the Corps and management by the state, was listed as a level II development project. Immediate implementation efforts would therefore not pertain to the Reedy Point recreation proposals.

WATERFRONT DISCUSSION ISSUES

Introduction

During January, 1979, the Coastal Zone Laboratory of the University of Michigan held a National Workshop on Urban Waterfront Redevelopment in Detroit. This was the first national conference specifically devoted to examining the urban waterfront. Over 130 participants from the United States and Canada attended representing local, state and federal governments, public interest groups, consultants, universities, and research organizations.

As part of the workshop, several sessions were held in which the participants were divided into discussion groups to share ideas on waterfront development strategies. Four general topics emerged during these discussion groups:

1. Community needs
2. Land uses
3. Federal funding
4. Role of private sector

This section of the report will summarize the main points brought out by the different discussion groups, which should serve as a guide throughout the Delaware Urban Waterfront Project.

Community Needs

The discussions concerning community needs primarily concerned the need for private sector involvement in the redevelopment process, and the need for public access to waterfront recreational facilities. The importance of private sector involvement suggested the following strategies: small-scale, multi-use-development with projects completed at periodic intervals; constituency buildings (i.e., building public support by involving members of different interest groups); and an active packaging-promotion effort with involved localities.

The ease of public access theme involved the need for points of public interest; recreational use of the waterfront; provision of open space; amenities to support new users (e.g., housing); and the need to communicate a broad public view of the urban waterfront.

Some methods of building public interest and support, which were identified, included: circulating success stories; producing newsletters, maps, handbooks, etc.; and holding exhibitions. Some methods of insuring broad public waterfront use are: land use controls; theme pathways; viewing points; piers; dredge disposal and use of street ends to provide access and activities.

Land Uses

The issue of land uses centered on how land use guidelines could be used to ensure a viable and useful waterfront development. The participants expressed concern about projects which lack flexibility. Such a situation could be avoided, for example, by arranging for interim uses of the waterfront. Other land use techniques were discussed, such as zoning, performance controls, and easements, with the overall objective being the enhancement of the aesthetic, cultural and historical waterfront features. Other land use strategies include: encouragement of private property improvements; provision of viewing areas; requiring a diversity of uses; and stimulating adaptive reuse of historically relevant properties.

Federal Funding

Federal funding was viewed as crucial in undertaking waterfront redevelopment. It was noted that 18 Federal funding programs could, potentially, be applied. Some of these funding programs could be related to specific or unique projects.

It was recommended that Federal grant procedures be streamlined and that greater flexibility be incorporated into the grant procedure to allow for multiple use projects; use of funds for operation and maintenance; and private involve-

ment and donations to meet matching requirements. It was further suggested that Federal Coastal Zone Management grants be used for integrated port planning, for demonstration grants, and for market studies.

Role of the Private Sector

The role of the private sector was agreed to be essential to the development process, particularly if community needs can be accounted for. Moreover, the working together of the private and local governmental sectors is necessary to build public support for development projects. A key ingredient for stimulating public involvement was acknowledged to be marketability, which was declared to be a promotion responsibility of the planners/developers. It was further recommended that waterfront activity be planned in such a manner as to maximize private commercial involvement. Small, successful projects could be implemented expeditiously to demonstrate the viability of the waterfront as an entity.

BIBLIOGRAPHICAL SOURCE MATERIALS

Introduction

Source materials were analyzed in two ways. Recent local reports affecting the waterfront project were reviewed and summarized in a narrative form. This also involved a follow-up to determine the extent of implementation or further action taken following completion of many of the plans and reports. A summary paragraph was included for selected local studies which were not addressed in the narrative, e.g., the urban design study for Cherry Island, and the Old Brandywine Village study.

Other selected bibliographical sources were reviewed and given either a brief summary or a statement focusing on the key points of each report for future reference. Those source materials were listed under one of four headings: area reports, methodology, newsletters, and topical studies. Area reports included large scale planning and redevelopment efforts as in Toronto or San Antonio, as well as more localized efforts such as Lowell, Massachusetts'; "Cultural Park." Methodological studies involved primarily recreational considerations. Newsletters listed provide a selection of several sources of information. Topical studies examined urban recreational/commercial complexes, historic preservation and reuse, urban recreation considerations, as well as waterfront issues and examples.

LOCAL STUDIES

State of Delaware

1. Delaware Coastal Zone Act. Title 7, Chapter 70, Delaware Code, June 28, 1971.
2. Delaware Department of Community Affairs and Economic Development. Delaware Economic Development Strategy. April 1, 1978.
3. Delaware Tomorrow Commission. Final Report of the Delaware Tomorrow Commission. January, 1976.
4. Division of Parks and Recreation, Department of Natural Resources and Environmental Control. Delaware Comprehensive Outdoor Recreation Plan. 1976 and 1978.
5. Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U. S. Department of Commerce. Delaware Coastal Management Program and Draft Environmental Impact Statement. 1979.

New Castle County

1. New Castle County Department of Planning. The Brandywine Planning District Plan, 1985. November 12, 1974.
2. _____ . The Lower Christina Planning District Plan, 1985. February 12, 1974.
3. _____ . The New Castle - Upper Christina Planning District Plan, 1985. October 22, 1974.
4. _____ . The Red Lion Planning District Plan, 1985. October 22, 1974.
5. University of Delaware, Department of Economics and the Delaware Sea Grant College Marine Advisory Service. Delaware River Shoreline Study. Prepared for the Department of Parks and Recreation. New Castle County, Delaware, 1977.

Wilmington

1. Demetriou, A. C., and Linton and Co., Inc. Riverfront Study for Wilmington, Delaware. Prepared for the Department of Planning and Development. Wilmington, Delaware (2 Volumes), April 1977.
2. Geo Del. Ltd. Wilmington Economic Development Planning Program: Engineering Cost Estimates for Development of Cherry Island. Prepared for the Department of Planning and Development. Wilmington, Delaware, January 1978.
3. Harris, F. R., Inc. Port of Wilmington Delaware Investment Strategy. Phase I: Port Development Potential. Prepared for the Department of Planning and Development. Wilmington, Delaware, November 1978.
4. Laventhol and Horwath. Economic Feasibility Study: Brandywine Mills. Prepared for the Department of Planning and Development. Wilmington, Delaware, November 1975.
5. University of Pennsylvania, Graduate School of Fine Arts. Cherry Island: Urban Design Study. Prepared for the Greater Wilmington Development Council, 1969.

The physical and environmental characteristics of the Cherry Island site are examined, listing problems and opportunities. Objectives and major issues are stated from which alternative programs for the site were developed. These include focusing on a flexible infrastructure to receive the primary inputs of jobs and housing a "Reculture City", an International Building Research Center, and a regional recreation proposal utilizing major water resources. A framework for action is also developed.

6. Wallace, McHarg, Roberts and Todd, and Alan M. Voorhees and Assoc. A Study of Alternate Planning and Design Policies for Old Brandywine Village. Prepared for Old Brandywine Village, Inc. February 1967.

This study, prepared over twelve years ago, makes several recommendations affecting an area of historical significance in the City of Wilmington, at Brandywine Village, situated on the north bank of the Brandywine Creek. Several recommendations were made ranging from making the area an Historic District to redesigning street patterns and planning a new park on the Brandywine Creek between Market and Jessup Streets. Long term planning was also recommended to remove the then Pennsylvania Railroad tracks and relocate certain industries.

7. Wilmington Department of Planning and Development. Neighborhood Comprehensive Development Plan for Riverside, January 1978.
8. Neighborhood Comprehensive Development Plan for South Wilmington, January 1976.

9. _____ . Neighborhood Comprehensive Development Plan for the Eastside. August 1977.
10. _____ . Neighborhood Comprehensive Development Plan for the Price's Run Area. July 1978.
11. Wilmington's OEDP Committee. Overall Economic Development Program. March 1978.

New Castle

1. Division of Urban Affairs, University of Delaware. A General Comprehensive Plan, New Castle, Delaware. Prepared for the Planning Commission of the City of New Castle. June 1965.
2. Edward H. Richardson Associates, Inc. Preliminary Flood Relief Study for Broad Dyke and Buttonwood. Prepared for the Department of Public Works. New Castle County, Delaware. April 1974.

Delaware City

1. Corps of Engineers, Department of the Army. Inland Waterway Delaware River to Chesapeake Bay, Delaware and Maryland. Design Memorandum No. 28 and 28 A. September 1977.
2. Hanson, I., Imbach, M. G., and Richardson Associates, Inc. Fort Delaware and Delaware City Canal Lock. Prepared for an Ad Hoc Committee created by the 128th General Assembly. May 1975.
3. New Castle County Department of Planning. General Comprehensive Development Plan. Delaware City, Delaware. Prepared for the Delaware City Planning Commission. May 27, 1969.

OTHER SELECTED SOURCES

Area Reports

1. Armenakis, A., Pearson, R. and Neely, W. The Relation of Water Resources to the Industrial and Recreational Potential of the Mississippi Gulf Coast. 1968.

The report reviewed the nature and extent of fresh and salt water resources in the region, examined existing industrial and recreational development, and surveyed existing planning studies for future development. Very general implications were made for industrial or recreational potential.

2. Central Waterfront Planning Committee. Programme for Planning, Phase I. Toronto, November 1974.

The history of the waterfront is described, also its character, recent planning efforts, and the formation of Planning/Technical Committees. Recommendations are made on immediate actions possible as well as plans expected by participating agencies. Long term issues dealing with the environment, land/water uses, and movement considerations are defined. A work program of steps, responsibilities, and timing is described, plus ways to expand public involvement in the waterfront planning process.

3. _____ . The Central Waterfront Visual Analysis. Toronto, June 1975.

A visual exercise is set forth to aid individuals in becoming more familiar with the study area and to promote a greater understanding of the qualitative aspects of the area and how they might be enhanced or changed in the future. The area-by-area analysis includes aspects of physical form, sensory characteristics, human activities and qualitative aspects.

4. _____ . Waterfront Precedents. Toronto, April 1976.

The report presents a catalogue of images (photographs and designs) from several northern waterfront cities. Brief descriptions are given of the situation existing in Toronto, and the precedents are arranged to illustrate themes and ideas that might apply to Toronto's waterfront.

5. Delaware and Raritan Canal Commission. Delaware and Raritan Canal State Park: Master Plan. May 1977.

The Master Plan states the issues that must be faced in making a park along the 60-mile long canal. Goals are explained with a statement of how the Commission will deal with issues. A long term framework is developed to guide future specific site planning efforts. Also included is a detailed natural resource inventory.

6. Department of Planning and Development, City of Trenton. The Delaware and Raritan Canal - Cadwalader Park Study. August 1975.

The State Park's Plan envisions the development of distinctive neighborhood facilities along the Canal at several points and the restoration of Cadwalader Park in an attempt to bring people back into their local parks. Emphasizing: walking and bike trails; canoeing; undeveloped park areas; a nature center; athletic fields; a petting zoo; restaurants; the restoration of a mansion to serve as a museum; an ice skating rink; picnic areas; an Historic District; a new state park with Canal Promenade; and several other improvements and developments. Implementation considerations and responsibilities are briefly described.

7. France, J. and Brayer, B. Of Town and the River: A Rochester Guide. 1977.

Tour maps indicating areas of special historic and cultural importance are presented including directions, text and pictures to accompany the maps. Also included are lists of experiences to find and enjoy, such as the area's parks, cultural centers, plus activities for children of all ages.

8. Frenchman, D. and Lane, J. S. "Saving the Past for the Future," Practicing Planner. (Lowell, Mass.), December 1977.

Efforts by Lowell, Massachusetts are examined, to use past history (the Textile industry canal complex) as the foundation for future development. Through those efforts the first national "cultural park" plan for an industrial area was initiated. Included in the plan is the attempt to preserve historic areas, as well as interpret (through educational programs), develop, and use these areas for the benefit of residents and tourists. Success of the cultural park concept depends on a catalyst and program prior to beginning revitalization. Reasons for Lowell's success are examined, including continuity of people and concepts, the "big idea" theme, intergovernmental involvement, and effective local leadership.

9. Hengst, William G. Coastal Zone Planning Analysis: Camden County, New Jersey. December 1978.

The coastal management program for New Jersey was reviewed, and county-specific revisions and additions were recommended. An analysis was made of the adequacy of county and municipal plans and policies affecting the coastal zone and their consistency with coastal policies proposed by the state. One specific recommendation pointed out the need for performance standards which differentiate between redevelopment and new development, that is, "Policies for Camden County's coastal zone should distinguish between highly urbanized areas previously developed and undeveloped areas, applying different development suitability criteria to each."

10. Kaplan, M. Gans, Kahn and Skidmore, Owings and Merrill. The San Antonio River Corridor. June 1973.

A plan is envisioned to help revitalize the city center by controlling and improving the design and use of the River Corridor in San Antonio. The study begins with an in depth proposal for water management, to bring about both water quality and safety in flood control and to undertake community-wide revitaliza-

tion as a result. Traffic access and congestion are studied, and a strategy is developed for generating a string of viable, mixed neighborhoods along the 7½ mile corridor. The study concludes with a management strategy, including coordination of existing agencies to maintain credibility in the community.

11. Louis Sauer Assoc. Fells Point Land Use Plan Recommendations. (Baltimore, Maryland), March 1977.

Fells Point is one of the last remaining examples of Baltimore's early harborside development, and has been on the National Register of Historic Places since 1969. The Plan identifies both the potentials and problems now confronting Fells Point and proposes ways of reconciling contemporary needs and economic pressures with the maintenance of historic and community values. A development strategy is included in the Plan with a description of recommended projects considered necessary for plan implementation, plus a suggested timetable and public-private cost estimates. The planning process used in carrying out the study is described, and an alternative plan (a compromise designed to address some of the disagreements voiced by some community interest groups) is also included.

12. Manogue, H. and Lesser, A., Jr. Waterfront Redevelopment Project, Report #2: Available Options. (Hoboken, New Jersey), March 1977.

An examination was made of several options for short and long term redevelopment of the Hoboken city waterfront, pointing out advantages and disadvantages of alternative schemes. Various redevelopment possibilities for each section of the waterfront were considered, and those capable of being supported by the physical and locational aspects of the site were reviewed in greater detail. Ideas for implementation and control were also briefly examined. (Designs for site specific alternatives were not, however, included in the report.)

13. Metropolitan Area Planning Council. Boston Harbor Islands Comprehensive Plan. Prepared for the Massachusetts Department of Natural Resources. October 1972.

The plan seeks to resolve the conflicts between recreation and conservation uses through a sound program of resource management. (Background: the Massachusetts Legislature passed an Act in 1970 whereby the Massachusetts Department of Natural Resources was to acquire the islands of Boston Harbor and develop them for conservation and recreation purposes. The Legislature authorized a \$3,500,000 bond issue to finance planning, acquisition, and a development program to implement the Act.) The Plan emphasizes the unique natural and man made characteristics of each island. Wherever conflicts between recreation areas and natural environments were found, they were resolved in favor of the conservation considerations.

14. Morton Hoffman and Company, Inc. Market Analysis and Proposed Programs for Waterfront Commercial Development, Chestertown, Maryland. November 30, 1973.

This report examines Chestertown's assets and market support for waterfront commercial development, in particular, marina, restaurant, lodging, and associated retail facilities. Market potential for new waterfront development is estimated for each of three alternative visitor growth projections, local population and economic gains, and competition from existing or prospective new facilities in the Chestertown area. An action program is proposed for public, tourist, and commercial development activities, followed by an estimate of the economic benefits that could result from the proposed action program.

15. The Environmental Planning and Design Partnership. Ohio River Park. Prepared for the Allegheny County Department of Parks and Recreation. Pittsburgh, Pennsylvania.

The report examines a 29-acre site at the western end of Neville Island as a potential river-oriented park and presents a plan for developing such a facility. Industrial development characterizes much of the island and the river based park would represent the only facility of its kind within Allegheny County. (Land for the park was donated to the County.)

Methodology

1. Chubb, Michael. "River Recreation Potential Assessment: A Progress Report,"
Proceedings: River Recreation Management and Research Symposium,
Minneapolis, MN. January 24-27, 1977.

The approach to planning the recreational use of rivers in the past was from the viewpoint of rectangular land areas as opposed to complete river systems. The federal Wild and Scenic Rivers Act of 1968 spurred management efforts from a river-oriented viewpoint, but no widely adopted method of assessing river recreation potential has yet been developed. Several approaches to potential assessment are summarized with special emphasis on the RIVERS Method. This method involves assessing 67 physical, biological, land use, esthetic, and accessibility variables and evaluating the potential for sixteen recreational activities.

2. Dwyer, J., Kelly, J., and Bowes, M. Improved Procedures for Valuation of the Contribution of Recreation to National Economic Development.
September 1977.

Improved procedures are presented to replace vague and often misleading procedures found in the Principles and Standards for Planning Water and Related Land Resources, i.e., use of the "interim unit day value approach" plus point system. It is recommended that models be developed to predict individual willingness to pay for many types of recreation as functions of site characteristics, the characteristics of the individual user (including the history of previous use), the availability of substitute activities and sites, and the location of the individual in relation to the resource under study. The total value of the resource would then be a function of these variables, the number of users, and the distribution of users within the market area.

3. King, David A. "Economic Evaluation of Alternative Uses of Rivers,"
Proceedings: River Recreation Management and Research Symposium,
Minneapolis, MN, January 24-27, 1977.

The benefit cost analysis decision criterion and the concept of opportunity

cost is reviewed. The article discusses data and research needs for using benefit-cost analysis as a tool for making recreational management decisions. The author maintains that benefit-cost analysis is a useful tool, even with shortcomings, and should be exercised.

4. Michalson, E. L. and Hamilton, J. A Methodology Study to Develop Evaluation Criteria for Wild and Scenic Rivers. December 1973.

The general objective of the research was to develop a methodology to evaluate selected rivers to determine if they should be included in the National Wild and Scenic Rivers System as defined in the Wild and Scenic Rivers Act, October, 1968. Generally, the process for evaluating any river use where environmental values are important could use the method presented in the report. (It is recognized, however, that the ultimate decision to preserve a wild and scenic river rests largely on a political value judgement.)

5. North, R. M. and Sellers, J. The Identification and Quantification of the New Effects of Multiple-Purpose River Basin Development. Athens, Georgia, June 1973.

The study attempts to develop and test procedures for evaluating water resources projects based on economics, social and environmental considerations. A case study was made of the Upper French Broad River Basin and a proposed 14-reservoir TVA project within the basin. Research in the general area of water resources development and in the UFBRB case indicates that the analyses currently used in estimating benefits and costs for water resources control projects do not include considerations for resources displaced, nor for the environmental and social cost impositions.

Newsletters

1. Bulletin, The Coastal Society (Washington D.C.).

Publishes articles that promote knowledge, understanding and wise use of coastal environments. Concerns and management problems of coastal areas are also emphasized, as well as information exchange.

2. Coastal Management Program News, Delaware Office of Management, Budget, and Planning (Dover).

Published every other month, the News contains information regarding the proper management of Delaware's coastal resources. A focus of this newsletter is the development of the State's coastal management program.

3. Seadrifts, University of Delaware Sea Grant College Program (Newark).

This publication contains recent marine-related news items and is designed to keep interested individuals aware of newspaper coverage of coastal and ocean issues.

4. Waterfront Memo, Coastal Zone Laboratory, University of Michigan (Ann Arbor).

An informal newsletter to promote the exchange of ideas and information among individuals and groups interested or involved in city waterfront development.

Topical Studies

1. Gunn, C. A., Hanna, J. W., Parenzin, A. J. and Blumber, F. M. Development of Criteria for Evaluating Urban River Settings for Tourism - Recreation Use. College Station, Texas, June 1974.

Three phases of investigation were recommended as guidelines in evaluating a city's potential for creating a park/business complex from downtown water resources: preliminary investigation; study of motivating forces, site factors and other influential factors; and planning and implementation. (Note: water resources within a five-minute walking distance of the CBD have the greatest potential for park/business development. Water levels must be controlled to prevent damage from flooding.)

2. Gunn, C. A., Reed, D. L. and Couch, R. E. Cultural Benefits from Metropolitan River Recreation - San Antonio Prototype. College Station, Texas, September 1972.

The study describes and analyzes an example of the revitalization of a decadent city core, accomplished primarily through design and development of a park-business complex around a natural river, the San Antonio River Walk. Research included a look at present trends in river development for recreation in other U. S. cities, an analysis of the landscape character of the River Walk, and a review of the opinions and attitudes toward the use and characteristics of the River Walk from those who visit, the voting public, and those who control or influence its development.

3. Gunn, Clare. "Urban Rivers as Recreation Resources," Proceedings: River Recreation Management and Research Symposium. Minneapolis, MN, January 24-27, 1977.

Several examples are cited of current recreational developments along urban waterways, discussing the mode and ribbon types. Benefits are documented. Some suggestions and guidelines are made for cities contemplating redevelopment of water resources for recreation.

4. Heritage Conservation and Recreation Service. Greenways of the Delaware River Basin. Prepared for the Delaware River Basin Commission. September 1978.

"Greenways" are defined as stream oriented corridors along which official actions have committed or planned the dominant land use to park and/or open space. The only non-greenway river reach in the Basin on the Delaware River extends from Tacony-Palmyra to Delaware City. Delaware City to the Bay is the proposed Delaware River Scenic Greenway. The study makes recommendations for DRBC and frequently for federal, state and local agencies on policy, programs, projects, plans and studies. The state of Delaware's concerns include marina development on the C & D Canal; scenic drives along Route 9; bike trails linking urban areas to the Delaware River and C & D Canal; a multiple activity recreation complex at Governor Bacon; and hiking trails and nature center at Ommelanden.

5. Houstoun, L. O. "Saving Urban Charm," Planning. December 1974.

The need is expressed for a thorough reconsideration of the assumptions behind historic preservation in the city. For example, the criteria used by the National Register of Historic Places focuses excessively on individual structures of outstanding architectural or historic significance rather than such values as livability and use potential. Also, the present value system is rather elitist, "valuing the home of the industrialist far above the collective residence of his employees." Vitality of a place should be emphasized, i.e., does the area provide - or with assistance could it again provide - attractive opportunities for residence, employment, shopping and recreation?

6. Morell, D. and Singer, G. "The Urban Coastal Zone: Challenge of Redevelopment," Coastal Zone '78 (Symposium). San Francisco, CA, March 14-16, 1978.

A case study is presented, focusing on citizen pressure, to reject five oil-related facilities proposed by energy companies for Jersey City, New Jersey. Citizen opposition centered on several broad issues: land use (i.e., away from

industrial toward diversified consumer amenity use), pollution, safety, and socio-economic impacts. The major goal of the citizens groups was access, diversity, and amenity use of the waterfront to balance the heavily industrial nature of the area. The Jersey City siting case illustrates the interrelationships between three critical national problems: greater energy self-sufficiency, revitalization of our cities, and protection of our rural coastlines.

7. Office of Coastal Zone Management, Division of Marine Services, New Jersey Department of Environmental Protection. Options for New Jersey's Developed Coast. March 1979.

The report suggests alternatives for development along the Hudson and Delaware River waterfronts and the tributaries. Greatest emphasis is placed on options which appear to be most desired and feasible. Coastal policies are described; the character of the different region within the "developed coast" is examined; and major waterfront issues are identified.

8. Progressive Architecture. June 1975.

The June issue is devoted almost entirely to urban waterfront planning and development. Urban design efforts and approaches that are currently proposed by city planners and architects are explored. Three case studies (New York City, Georgetown in Washington D.C., and San Antonio) are presented which exemplify certain basic issues and questions revolving around the waterfront. Other waterfront efforts are also examined to highlight certain considerations such as restoration/rehabilitation efforts, decking, the esplanade replacing a highway, and other topics.

9. Serchuk, Stephen. "Main Street is Revived on Toledos' Old East Side," Planning. December 1976.

The article recounts the experience of a neighborhood to revitalize a decaying retail district. The projects success points to the fact that the city was

an active partner providing staff and money for both operation of the development corporation and actual land development. Real economic incentives were offered to the developer, i.e., below market price of the land, property tax abatement, various site improvements plus commitment to develop additional off-street parking lots. A proven sequential development process was followed, progressing from a retail focus concept, to a market study and getting control over the land, to recruiting a major tenant and developer, to working out a site plan, and finally to negotiating the terms of the contract.

10. United States Department of the Interior. National Urban Recreation Study, Executive Report. February 1978.

The study describes and evaluates the current condition of urban recreation throughout the country and presents numerous options and alternatives to improve urban recreation. The importance of close-to-home recreation in "highly-populated urban regions" is emphasized, especially in light of the effects of current energy shortage and economic problems. The report identifies state, local and private actions that might be taken to complement several recreation options on the federal level. The study pointed out that existing and potential urban recreation resources are not fully utilized, and that decaying waterfronts have potential for reuse for recreation in the city.

11. National Urban Recreation Study, Philadelphia/Wilmington/Trenton. September 1977.

The study presents a picture of the recreational and open space opportunities in the Philadelphia/Wilmington/Trenton Standard Consolidated Statistical Area. Financing, administration, organization, and planning; recreational programs; and existing and potential open spaces were all examined. Several neighborhoods were selected for detailed analyses, including West Center City and St. Anthony's in Wilmington.

APPENDIX: WATERFRONT PROFILES

INTRODUCTION

One of the more valuable and informative undertakings in waterfront research is to understand what other cities have done in addressing waterfront redevelopment. Comparative analysis can serve a useful purpose in the Delaware Waterfront Project by providing a frame of reference for potential projects. This would include the type and kinds of projects that have been implemented elsewhere; the interrelatedness of certain land uses; institutional constraints; and other factors such as environmental and social issues that cannot be avoided.

This appendix presents a series of seven waterfront profiles for the following cities:

San Diego, California

Hoboken, New Jersey

Alexandria, Virginia

Philadelphia, Pennsylvania

Detroit, Michigan

Toronto, Ontario

Charleston, South Carolina

These profiles are a summary of information presented during the National Workshop on Waterfront Redevelopment held in Detroit, Michigan, in January, 1979.

SAN DIEGO, CALIFORNIA PROFILE

The San Diego Centre City Plan is a policy framework, providing guidelines and recommendations for public and private development. The Plan also is intended to provide a more positive orientation to the six miles of waterfront and to maximize the beneficial impact that Horton Plaza Redevelopment will have on the central area. The following opportunities are also expected to be more fully recognized as they benefit the central area:

- The metropolitan area is rapidly expanding. Considerable support (all sectors) exists for the conservation of present community facilities and investments as contrasted to perimeter development.
- The central area has good access to the freeway network and is the focus of the existing and proposed metropolitan transit system.
- The physical and social-cultural environment, while less attractive than suburban alternatives, is only moderately undesirable and far superior to most major cities.
- Centre City, endowed with a superb waterfront setting and its proximity to Balboa Park, has special advantages for the development of major land uses.
- The natural terrain, providing views to and from Centre City, is attractive and by no means fully exploited.

Land Use

The Business Core is intended to include the major financial, administrative, retail and governmental complexes. These are expected to develop at relatively high intensities. The gaslamp which extends south from the core to the waterfront is an area of specialty commercial and housing located in an historic and unique architectural district.

The Columbia sub-area is considered one of mixed and varied land use but at a lesser scale of intensity.

The Marina is an area of major new housing and commercial land use.

Housing is expected to be conserved in the Harborview and Cortez subareas. New uses including residential, commercial, and small offices are expected to develop in scale with the character of these communities. Family oriented housing will be emphasized in Harborview. Retirement (First to Sixth Street) and moderate and upper income housing is expected to occur in Cortez Hill.

The City College and South of College Area is expected to include conservation of existing land uses as well as major new residential, commercial and industrial land use. The scale of the majority of new development is expected to complement existing land use.

The Waterfront is considered as an area for prestige office - park development, institutional uses, commercial, recreational, specialty shop, waterfront-marine development and passive recreation. Development is expected to be low-profile and spaciouly sited.

Open Space

Strong visual and physical linkages which reinforce the interdependency of the Waterfront and the Upland Areas will be established through an open space system.

Open space is conceived as both passive and actively oriented; it is green (park-like), as well as architectural. All flat surfaces are considered open space opportunities, e.g. roof tops and street rights-of-way. Therefore, open space is expected to exist on many levels. Views and vistas are considered important open space elements.

Three categories of space are identified in the central area. They are:

1. Natural-Major Systems
2. Rights-of-Way
3. Performance Standards and Private-Public Development

2

The objective is to integrate these systems to create a natural man-made fabric which structures and forms urban land uses.

1. Natural-Major Systems

The San Diego waterfront and embarcadero is viewed as the single most important open space in the City. The concept for the embarcadero is the creation of an attractive urban environment in a park-like setting. The entire waterfront is also viewed as a visual gateway to the city. A linkage between Balboa Park and the waterfront is viewed necessary to maximize the regional assets of Balboa Park and San Diego Bay. The linkage is expected to be accommodated between 10th and 11th Streets, and match the attractiveness of Cabrillo Parkway.

Its purpose is to give character and identity to the South of College area, enhance land values and the environment in order to advantage the area for possible revitalization. Public spaces, such as Pantoja Park, Horton Plaza, and the space adjoining major public buildings, are elements of the natural system. These are to be conserved and enhanced. New major public spaces are expected to supplement this system, particularly in future redevelopment projects. New or proposed modes of activity are expected to center around public open spaces. The characteristics of these spaces will be predominantly architectural, however, generous landscaping is expected.

2. Rights-of-way

The freeway, major streets, local streets, pedestrian ways, and other transportation rights-of-way are expected to provide linkages between the first and third categories of open space. The freeway is considered a linear park. Its present planting should be upgraded to the highest quality of landscaping in conformance with State standards for landscaped freeways. Major streets, which enter the City from the freeway, e.g. Front-1st, Ash-"A", 10th, 11th-"F", "G", as well as Pacific Highway - Harbor Drive, 6th-12th, Broadway, Market and

Imperial-National Avenue should be enhanced as major gateways to Centre City. These streets should have boulevard qualities. This can be accomplished through street planting in widened sidewalk areas and median strips.

3. Performance Standards

Attractive private patios-plazas are expected to complement the above systems. These will be carefully sited to attract activity generating land use and to encourage pedestrian use. Performance standards in either redevelopment plans or future plan districts are expected to provide the means for implementing this category of open space.

Historic Preservation

A sense of history or social significance is a cherished ingredient of urban life. Interest in the restoration of the Spreckels and Balboa Theatres and the Golden West Hotel in the Horton Plaza Redevelopment Project as well as current efforts to rehabilitate the Sante Fe Station, demonstrates private developer recognition of the social value of conservation-rehabilitation. Further studies within Centre City, particularly in redevelopment projects, will be undertaken to determine the economic and structural feasibility of conserving historic structures as well as the possibility of conserving and upgrading housing units.

Park-Recreation

The parklike quality of the waterfront is within easy walking distance of the entire central area on its south and west perimeters. Balboa Park is convenient to the northeast portion of the City. Therefore most of the central area is adequately served by parks. These facilities are expected to be augmented by a major park/open space which links Balboa Park and San Diego Bay.

The park/open spaces in Centre City are intended to be in scale with the

relatively compact, urban environment, and to utilize existing public rights-of-way for pedestrian, bicycle, and landscaping improvements, which constitute linear parks. The specific design and treatment of each linkage will depend on subsequent office planning, design and feasibility studies. The implementation of this concept will require a departure from present park planning standards.

Environmental (special considerations)

Geological Hazards - based on seismic safety studies prepared by Woodward-Gizenski & Associates, for the entire City, there is some evidence that the Rose Canyon Fault Zone may extend southerly along the alignment of the San Diego Bay. Therefore, Seismic Safety Element of the City's General Plan, including Geologic Hazard Maps should be consulted by developers considering projects in Centre City.

Airport Approach Zone

The Lindbergh Field approach zone may be a constraint on the development of most northwestern portions of the Harborview area, in two respects, adverse noise conditions and height limitations.

HOBOKEN, NEW JERSEY PROFILE

Physical Characteristics

Description: The Hoboken waterfront is located along the Hudson River in the New York Harbor directly across from Manhattan. The waterfront is approximately 1.8 miles in length. The section of the City considered to be the waterfront portion is 327 acres in area, 140 acres of which are underwater. However, there are only 23 acres along the river which are upland.

Former Use: Hoboken's waterfront was once a prosperous shipping area and formed the backbone of the City's economy. With the advent of the use of containerized shipping and freight, the waterfront declined to its current negligible use as a shipping area. Other marine-oriented uses have virtually disappeared, such as passenger shipping, ferry service to Manhattan and marine repair services.

Current Use: The waterfront is quite underutilized and contains only two income producing properties - Maxwell House and Bethlehem Steel. The remaining portions are either vacant or owned by tax-exempt governmental entities and private institutions. They include the State of New Jersey, the Port Authority of New York and New Jersey, the City of Hoboken and Stevens Institute of Technology.

<u>Land Use:</u>	Industrial	41%
	Semi-Public	15%
	Vacant	37%

Water Use: Storage and some shipping. There is no recreational utilization of the water.

Condition: The piers along the waterfront are, for the most part, rotting and deteriorated.

Development Plans

Opportunities: The waterfront does offer a number of advantages of development. It is closely integrated with the rest of the City, has excellent mass transportation connections to New York City via PATH subway, and to northern New Jersey via the ConRail train lines. Additionally, the waterfront offers a magnificent view of the New York City skyline.

Development Focus: Plans focus redevelopment of the waterfront for residential, commercial and recreational uses. The City has recognized that it is neither viable nor desirable to utilize the waterfront for heavy industrial purposes. The waterfront would offer extremely desirable housing opportunities. Because there is presently no public access to one of the City's greatest assets, recreational use of the waterfront is a necessity. In addition, the City, with its dwindling economic base, needs revenue generating and job-creating commercial enterprises.

Redevelopment Areas: There are four sections of the waterfront targeted for future redevelopment:

1. Erie Lackawanna Rail/Ferry Terminal

This architecturally distinctive structure, now partially vacant, offers enormous opportunities for conversion into a regional commercial-entertainment complex with public recreation space in the form of a waterfront park and interior plaza.

2. Port Authority Piers

These three piers, which are in excellent condition, were, until rather recently, active shipping piers. The City has been coordinating with the Port Authority on possible reuse of the piers for commercial and recreational activities.

3. Fifth and Sixth Street Piers

Acquired by the City through tax foreclosure, these two deteriorated piers have been proposed for the development of middle-income condominiums and public recreation space. The piers are located near the City's downtown shopping district and stable residential neighborhoods and development can easily be integrated with the City.

4. Weehawken Cove

At the northern boundary of the City is another development opportunity for commercial or possible light industrial use.

Financing: Development of Hoboken's waterfront will require a leveraging of private sector involvement with utilization of various Federal grants available through the Economic Development Administration and Department of Housing and Urban Development, such as the Urban Development Action Grant. The City itself is not in a financial position to use its tax revenue or borrowing capacity to assist in the development.

Participating Parties

Public Policy: The thrust of public policy has been a combination of protection of the waterfront from environmentally hazardous activities, and development of income producing and tax generating activities, in concert with the creation of public recreational opportunities. The Master Plan, currently being developed, designates the waterfront as a Special Review District with design controls and uses restricted to public recreation, commercial, residential and university-related research.

Private Sector Involvement: The private sector has been minimally involved in the planning of waterfront redevelopment. Although the private sector has shown

some interest in development possibilities, they have by and large maintained a very passive posture. The City has recently taken a more aggressive role with regard to redeveloping the waterfront and in seeking private commitment and investment in the area. One mechanism to accomplish this has been the creation of an economic development planning capacity for the area as part of the City's Community Development Program.

Federal and State Initiatives: The Federal Government has demonstrated its interest in the New York and New Jersey waterfronts through the New York Harbor Drift Removal Program working through the U.S. Army Corps of Engineers. The government has committed sizeable funding to this cleanup project with the Hoboken waterfront and other New Jersey communities slated as the next project. The State of New Jersey has supported this project through a recent bond issue permitting the State to fund the local portion required in this program. The State is also developing policy guidelines for urban waterfronts as part of its Coastal Zone Management Program.

Citizen Involvement: The citizens of Hoboken are concerned with the future of its waterfront. Their concern demonstrates some of the conflicts surrounding waterfront redevelopment. While some advocate a purely recreational utilization of the waterfront, others see the need to use the waterfront opportunities to shore up the City's declining economy. A related area of conflict involves the environmentalists who are concerned with any development that would obstruct views to the waterfront, versus those who desire the higher density development seen as unavoidable with so little upland areas available. The City wishes to strike a compromise to deal sensitively with the environmental problems, while creating desperately needed recreational space and also encouraging development which will provide jobs and bring in tax revenues. The City feels both goals can be accomplished through mixed use developments sensitively sited and containing public recreation space.

ALEXANDRIA, VIRGINIA PROFILE

Incorporated in 1749 and located on the shore of the Potomac River, the City of Alexandria was to remain a commercial-oriented town. It was intended that the City be a major center of trade, serving the region and hinterlands beyond it. The ship and scales on the City seal were a logical choice as devices to symbolize the City. Time, however, produced a series of circumstances during the last two centuries that channeled the waterfront's history away from the potential of a great seaport into more of a mixture of urban-oriented land uses with limited reliance on waterborne commerce.

Today, the original function of Alexandria - a transfer point between land and water transportation - is a very small factor in the City's economic life. The waterfront is no longer the focal point it was in times past, either economically or socially. Activity has nevertheless been increasing on the waterfront, and in response the City of Alexandria developed a waterfront plan to strengthen this trend and guide the public and private efforts that continue along the Alexandria waterfront.

Alexandria, Virginia is a suburb in the large metropolitan area surrounding Washington, D. C. Alexandria has jurisdiction to the waterline, and Washington, D. C. has jurisdiction from the river to the pier head line and the deep sea channel. The entire three miles of shoreline has been extended eastward as a result of filling operations. This strip of land is the focal point of an ongoing title dispute between Alexandria and Washington, D. C. Twenty properties are presently involved in this title dispute.

The 71.8 acres that comprise the shoreline can be divided into three major areas. According to the recommended plan, the northern area will be predominantly water-oriented mixed use and recreation facilities and waterfront mixed use activities; the central area will concentrate on water-oriented commercial uses;

and the southern area will be for recreation and an Old and Historic District.

By way of summary, the three major areas are described below:

North Waterfront

Stretching from Daingerfield Island to Oronoco Street, the North Waterfront area contains the four largest private property owners involved in the Title Dispute. Therefore, the area is of critical importance to the future of the Waterfront Land Use Plan. Its location adjacent to two of Alexandria's greatest assets - the Potomac River and Old Town - has made the area extremely attractive to private development. Future development of the North Waterfront should include the design and adequate provision for open space; it must be compatible with and not detract from the carefully preserved quality of Old Town.

The Plan for the North Waterfront calls for:

- Waterfront mixed use development, preservation of open space, and a continuous promenade/bicycle path on the Bryant, Texaco, and Norton properties.
- Development of the 27 acres of the Bryant, Texaco, and Norton properties into 15 acres of residential/commercial office clusters and 12 acres preserved for open space and recreation.
- Acquisition, excavation, and restoration of the Historic Alexandria Canal Tidal Lock (north of Montgomery Street and east of the Lee Street right-of-way) to serve as the focus for a historical park.
- Linkage of the federally-owned park, Daingerfield Island, to Founders Park, with a continuous 25 - 50 foot pedestrian walkway/ bicycle path, depending on the character of adjacent land use.
- Development of a buffer zone to screen the PEPCO industrial coal pile from proposed waterfront mixed use development and link up the shoreline and W & OD Railroad right-of-way pathways.
- Preservation and enhancement of Oronoco Bay as a natural tidal basin bordered by a 4-acre park stretching to Lee Street and backed by waterfront mixed use development so sited as to benefit from the natural setting.

Central Waterfront

The historically significant Central Waterfront, situated between Oronoco and Duke Streets, is the area where the City originated. The area contains such major centers as the King Street commercial district, Torpedo Plant complex, and the Strand waterfront commercial node. Three large City-owned properties - Founders Park, Torpedo Plant complex, and the Virginia Concrete Plant site park - and the historic Carlyle House park owned by the Regional Park Authority - constitute the major open space and recreation areas. Residential uses in the Central Waterfront range from eighteenth and nineteenth century townhouses primarily south of Prince Street, to more recent cluster developments of north of Cameron Street. With the (1) future mixed use development of the Torpedo Plant complex, (2) the King Street specialty shopping and restaurant district and waterfront-oriented commercial activities in the South Strand, and (3) the existence of large City-owned park areas, the Central Waterfront should constitute the most intensive activity area of the waterfront. An effective circulation system must be coordinated with the land use plan in order to minimize traffic congestion and impact on residential neighborhoods.

The Plan calls for:

- Redevelopment of the Torpedo Plant complex to include a mix of private uses and public uses that will complement the existing open space, commercial, and residential uses in the nearby area. Acceptable private uses include restaurant, retail, theater, residential and office, with sufficient parking to meet public (to include the Art Center) and private uses plus a minimum of 150 additional spaces. Concurrent with private redevelopment efforts will be development of public water - and land-oriented open space and recreation activities linking Founders Park with the Virginia Concrete Plant site park. This park complex will be the focal point for activity in the central waterfront.

- Development of the South Strand area into the focal point for a waterfront commercial node involving such activities as a floating restaurant ship, boat repair and sales, and specialty shopping.
- Continuation of the 25-50 foot wide pedestrian promenade/bicycle path through the Strand commercial node.

South Waterfront

Stretching from Duke Street to Jones Point, the South Waterfront is a predominantly residential and public institutionally-owned area containing the City-owned Potomac View Park, Old Town Yacht Basin, and Pomander Walk Parks; the Federal-owned Jones Point Park and old Ford Plant site; and the VEPCO substation and warehouse storage facility. Much of the land area east of Union Street is suitable for open space use and development of public marinas which complement the more active commercial-oriented Central Waterfront.

The Plan calls for:

- Development of the 3.2-acre VEPCO property into residential townhouse and open space, with retention of the substation to be enclosed, and electrical wires leading to it placed underground.
- Retention of Robinson South Terminal and Warehouses.
- Upgrading the Old Town Yacht Basin into an attractive public marina with good facilities.
- Continuation of the 25-50 foot wide pathway/bicycle path along Union Street from Duke Street to Wolfe Street and then proceeding along the water's edge to Jones Point.
- Continuation of the Old Ford Plant site for water-oriented uses. If the Federal government abandons the site, reuse plans should include an open space connection to Jones Point as well as compatible waterfront uses consistent with the surrounding area.

Overall the waterfront has approximately 27% designated as open space, 11% mixed use, 9% industrial, 28% submerged land, and 25% waterfront mixed use. This

last category is a mixture of residential, commercial, office, and privately controlled public open space/recreational uses that complement the waterfront, as do marinas, boat or bike rentals, housing with water recreation facilities, seafood restaurants and fish markets. These areas are planned next to open space whenever possible. If the intended plans are implemented, these two uses could complement each other quite well.

At this point, the majority of the water use is oriented towards port development. Marinas and recreation are second, and these could be increased in the future.

As part of their redevelopment plan, Alexandria has adopted the following policies:

1. Land adjacent to the river which is suitable for recreation purposes should be made available for public use.
2. There should be free and convenient public access to the waterfront at frequent intervals, at street ends, and where feasible elsewhere.
3. A continuous pedestrian promenade and bikeway should be constructed between Daingerfield Island and Jones Point.
4. An alternative comprehensive system of transportation for the waterfront area should be explored.
5. Obsolete and incompatible industrial and storage uses should be replaced.
6. Uses along the waterfront should primarily include marinas, specialty shops, restaurants, public markets, and other water-oriented uses.
7. Residential development east of Lee Street shall be limited to no more than 40 dwelling units per acre.
8. No filling shall be permitted. Insofar as is reasonably possible, the natural shoreline shall be maintained along the waterfront, for necessary stabilization and straightening.
9. The existing port facilities should continue.

10. Daingerfield Island and Jones Point should remain federal recreation and open space areas and be further enhanced.

The plan is to look at the waterfront as a whole when deciding what uses are acceptable. For example, the plans recommend a tidal basin over a marina at Oronoco Bay, because Daingerfield Island and Jones Point are more suitable for a marina. At the Strand South, three of four businesses will be encouraged to stay. Potomac Arms will be asked to relocate since it is not water-related.

The north shore is an historical area which the City would like to make into an Old Historic District. The zoning there limits building to fifty stories. A recent dispute over types of uses to be permitted there was settled through a series of meeting between private owners and the City.

The future planning is intended to focus on nodes of open space such as historic sites, environmental buffers, and recreation areas. The City is in the process of converting unused facilities to uses oriented to the water. This can be seen through the conversion of the Virginia Concrete and the Torpedo Plant and through the waterfront policies adopted. Alexandria hopes to have a mixture of uses at their waterfront, and at the same time to provide as much public access as possible.

PHILADELPHIA, PENNSYLVANIA PROFILE

Penn's Landing

Philadelphia currently leads all other communities along the Delaware River in its revitalization of the waterfront. An area approximately 1 mile long, south of the Benjamin Franklin Bridge, has been reclaimed and enhanced. This area was once the location of rotting, obsolete finger piers which had been used for general cargo. In addition, the piers of the defunct ferry to Camden have been replaced by a new development, called Penn's Landing. Penn's Landing benefits from its close proximity to one of the city's oldest neighborhoods, Society Hill, where preservation and historic reconstruction have won national acclaim. Lying in the shadow of new high-rise luxury apartments, designed by I. M. Pei, the new development is also near Philadelphia's original outdoor market, Head House Square. Adjoining Head House Square and Penn's Landing is the award winning New Market area consisting of 96,000 square feet of new commercial, retail and residential space.

The plan for Penn's Landing was developed during the 1960's while the clearance and reconstruction activities in Society Hill were at their peak. The City of Philadelphia cleared the old piers between Market and South Streets, and created a 38 acre development site for a variety of public and private, land and water activities. The initial bulkheading and landfilling activities were funded by the City and State at a cost of 17 million dollars. In addition, \$13 million has been spent for site improvements such as utilities, special paving, landscaping, lighting, roads, marine facilities, parking, pedestrian shelters along the 1 mile esplanade, and other features to create a quality environment.

A ten acre boat basin has been built which houses historic sailing ships, famous military vessels, and exhibits of interest. Each year, Penn's Landing has

been the site of a very successful, in-water boat show. Each September, more than 250 sail and power boats are displayed.

Penn's Landing includes an international sculpture garden adjoining the boat basin. Representative pieces from India, Costa Rica, Africa and other nations are displayed in a setting of fountains and plazas. The intent of the garden is to foster an awareness of the art of other cultures while lending an international flavor to the area.

In order to make the site as educational as possible, mural sized lithographs portray the history of the development of the Philadelphia waterfront since 1702. Additional panels illustrate the various ships which call at the Port, their house flags and stack insignia.

Institutional Arrangements and Future Plans

The Penn's Landing Project is a joint undertaking of the Commonwealth of Pennsylvania and the City of Philadelphia. Implementation of the concept has thus far been the responsibility of the Philadelphia Department of Commerce and the Pennsylvania General State Authority. The \$37 million site development and improvement costs have been shared equally. Financing for the project's public improvements has been handled through State and City bonds. The City and State will remain tenants-in-common and plan to lease the site on long term basis to a private developer.

To coordinate the development aspects of the project, the Penn's Landing Corporation was formed as a subsidiary of the Old Philadelphia Development Corporation (OPDC), which had established an impressive track record during the development of Society Hill. The responsibility for project management, governmental coordination and developer selection rests with the Penn's Landing Corporation. An Advisory Committee has been established with citizen, governmental and corporate representation.

Newly revised plans anticipate that the 38 acre project will contain:

- * 350-500,000 square feet of office space
- * 450-500 hotel rooms
- * 50-100,000 square feet of retail space
- * 600 residential units
- * approximately 1,500 parking spaces, depending on other aspects of development

which will cost \$150-\$175,000,000 to construct.

Emerging Problems

Since the initial phases of the project were completed, in time for the Bicentennial celebration, development of the further phases of the Penn's Landing Development has not progressed as smoothly as planned. Some of the problems that have hampered development are described below.

Interstate 95: Linking cities along the eastern seaboard is complete and in use except for two sections. One unopened section separates Society Hill from the waterfront at Penn's Landing. The other "missing link" is between South Philadelphia and the airport. These breaks in I-95 have aggravated problems of access and made developers reluctant to commit themselves to construction timetables because of the difficulty in attracting tenants. Other arguments concerning funding for the landscaped cover over the depressed highway and the need to provide sound barriers to protect residential neighborhoods appear to have been solved.

The prime contractor: This has recently been dismissed following a dispute with the City over the scheduling of construction. The unfinished highway was cited by the developer as the cause of delay. None of the highrise buildings or other developments have, as yet, begun.

A Museum: Called the Port of History Orientation building was constructed as part of the first phase of the development. The building includes a 500 seat auditorium suitable for dance, music and dramatic performances. Unfortunately, the Legislature has refused to furnish the money for staff or exhibits that would allow the completed museum to open.

The Philadelphia Maritime Museum will probably be moved to this very prime location.

The Boat Basin: This was not designed to provide adequate shelter from the wakes of passing commercial vessels. The chopiness of the basins' waters has discouraged recreational boaters from tying-up when visiting historic Philadelphia. In addition, until recently no security was available for the boats while their owners and crews dined or visited ashore.

Future Trends and Management Approaches

In spite of the on-going riverfront renewal and preservation/revitalization efforts outlined above, the Coastal Zone Management Program in Pennsylvania has identified public access to the riverfront as one of the most serious future issues. As water quality in the Delaware Estuary continues to improve, in response to Federal and State water pollution programs, public demands for access are expected to grow in both frequency and volume.

Further, it appears unlikely that large, comprehensively planned, expensive renewal efforts of the Penn's Landing variety will be proposed in the future. Not only is the region's ability to absorb developments of this scale limited, but funding for such intensive undertakings will be difficult to secure. Therefore, it appears likely that demand will continue to grow in spite of severe constraints on publicly sponsored, large-scale projects. To remedy this potential imbalance, the Coastal Zone Management Program has proposed several recommendations.

Existing Urban Waterfront Parks: The parks should be renewed and restored to regain full public value. Legislation has recently been passed (Urban Park and Recreation Recovery Program) that would allow HCERS (Heritage Conservation and Recreation Service) to provide funds for drastically needed maintenance and restoration of urban parks in areas of "economic distress." This program would allow the smaller, existing and often neglected neighborhood parks to once again serve recreational needs.

Small-Scale, Multiple-use Development: This would allow recreation areas to be provided as an integral part of commercial and industrial development. Under this scheme, small, vest-pocket type facilities would be attached or developed along with larger, private ventures. The provision of limited recreational facilities might even be made a condition for approval of certain uses.

This approach seems especially appropriate or feasible when combined with an existing "land write-down" program presently underway in Philadelphia. This marketing strategy has been advertised nationally as the "Philadelphia Land Rush," and allows the Philadelphia Industrial Development Corporation to sell city-owned land for as little as 1/10 of fair market value. To qualify for this reduced price, industries make certain promises concerning numbers of jobs per acre, etc. The provision of public access areas could become a condition for participation in this program.

As presently conceived, the multiple use development technique could work several ways. Public use areas could be dedicated to local governments or could be retained in private ownership. In either case, the public would benefit from improved access, while industry would derive substantial public relations benefits.

Less-than-Fee Purchases: This will also be explored as part of the Coastal Zone Management Program. This technique would allow local governments to lease

excess industrial land on the riverfront for prescribed periods of time. Leases as short as 5 or 6 years, with options to renew might prove to be a valuable technique for improving public access. Often the large, riverfront industries with vacant, or underutilized land are unwilling to sell acreage that they view as a possible site for future expansion. They may, however, be willing to lease such lands for varying periods of time, providing problems of vandalism, trespassing and liability can be overcome. In addition, these industries often have large parking lots which are nearly vacant in the evenings and on weekends. These parking lots could easily serve to hold the cars and boat trailers of the public if adequate, small scale launching facilities are developed.

The emerging concept of the public access, promoted by the CZM program, for the urbanized Delaware River is a "string" of many small flexible facilities, rather than a few large and costly publicly owned areas. This less capital intensive approach has the advantage of providing more recreational and leisure opportunities, closer to Philadelphia's residential neighborhoods.

DETROIT, MICHIGAN PROFILE

The City of Detroit has 10.3 miles of Detroit River frontage extending from Lake St. Clair toward Lake Erie, with the Canadian city of Windsor on the southern river shore. Detroit is a major international and Great Lakes shipping port, importing significant amounts of Japanese and European steel and general container cargo, and exporting manufactured goods. The river's edge has varied use: heavy industry and port activity dominate the western side of the City (and continue another 20 miles through eight other Wayne County municipalities); residential and park use predominate on the eastern edge. There is extremely mixed use from "bridge to bridge" in the central section, where the Renaissance Center towers now dominate the skyline.

In the Detroit "policy approach" to land-use planning and development, the Riverfront is divided into nine planning sectors and several alternative plans prepared for each sector. Responsibilities for preparing and implementing the plans are shared by at least four City Departments and an interdepartmental task force communicates information and brings up potential conflicts and concerns. Policy decisions are made on an issue or specific site basis as necessary, within a number of general policies which emphasize increased public access as well as economic growth. The State of Michigan Department of Natural Resources also has important regulatory and funding controls over many riverfront activities especially through increased pollution regulations.

Major patterns of development and future plans include:

Sectors I & II: West City Limits to W. Grant Boulevard. Heavy industry dominates the air and ground from the industrial Rouge River Channel to Fort Wayne, a large historical park which only recently gained access to the river through a transfer of government surplus land. City plans include encouraging

industrial use and long range expansion of Fort Wayne as a tourist facility.

The Port Area east of Fort Wayne, includes industrial plants, the recently renovated and municipally-owned Mistersky Power Plant, and some privately leased docks and newspaper warehouses. The major port is municipally owned (through bonding default) and privately operated. City activities include major expansion of the port facility, using federal funds, to increase its container handling capacity. State legislation was signed into law this month to permit Port revenue bonding for improvements, and to encourage Port reorganization under City/County/State coordination.

Sector III: Riverside Park and Rail Yards. Adjacent to the extremely busy international Ambassador Bridge is Riverside Park, which is undergoing expansion through a complicated \$2 million Federal, State, City, and privately funded project. East of the Bridge lies heavily used rail yards and a barge-ferry ship, for the rail car movement to Canada as part of the international "land bridge" through the St. Lawrence Seaway to the Atlantic Ocean. The new Free Press building will include a river-edge easement as part of its development which will provide some public access in the area.

Sector IV: Civic Center. The Civic Center area includes the new campus of Wayne County Community College; a vacant housing site slated for about 2000 units of condominiums and rental apartments; the new Joe Louis Sports center; Hart Plaza, a \$28 million two-level festival site and park with a computer-controlled fountain; Ford Auditorium, home of the Detroit Symphony Orchestra; and the dominating Renaissance Center (Ren Cen), the John Portman designed \$350 million development funded by private dollars assembled by Henry Ford II. Two new "Rockefeller" office towers have just been announced in response to the demand for office space in this development.

There are major conflicts over land use in this area because of the intense need and pressure for parking, with acres of surface land (as well as a new garage) covering the riverfront with parked automobiles. City policies encourage residential, commercial or recreational uses, make provisions for commuter rail links and a Downtown People Mover, and favor increased visual and physical access to the waterfront. Once east of the Civic Center Plaza's opening to the water, it is increasingly difficult to see or find the riverfront, except from the offices or hotel rooms of Ren Cen. There is no question, however, of the importance of this development, which has brought more than 5000 jobs and several million dollars of taxes into the City.

Sector V and VI: Ren Cen to Belle Isle Bridge. This area of warehouses, cement silos, and manufacturing plants is one of the most crucial and rapidly changing of the riverfront sectors. Major industries include Parke-Davis (pharmaceuticals), Uniroyal (tires) and two container ports with their related heavy truck traffic. The area is bordered on the north by the major (and successful) urban renewal projects of Lafayette and Elmwood Parks, with more than 10,000 residents in townhouses and apartments. The City's plans include a major breakthrough of recreational development, called Linked Riverfront Parks, at least three sites, and assumes a mix of increased recreational, commercial and residential use interspersed with some continuing industry.

Belle Isle, a spectacular 1000 acre recreational facility in the Detroit River, has had more than \$9 million of improvements in the last five years and draws millions of people to its nature, sports, and museum facilities.

Sectors VII and VIII: Belle Isle to Conner Creek. The only highrise waterfront housing in the City is in the western end of this area, a stable, well-kept area of mostly older apartment houses interspersed with parks. City plans call only for reinforcement of present land uses.

The east end of this area includes the river-end of an eight-mile long industrial corridor, with a Detroit Edison power plant and Chrysler Corporation facilities anchoring the corridor. The City is trying to develop a 60-acre industrial park near the Edison plant, and at the same time, reorient all riverfront land (an equivalent 60 acres) for recreational uses, primarily boating. Commercial marinas in this area are seeking public support in improving the access to their facilities.

Sector IX:: Jefferson-Chalmers. Present use of the river's edge at the far eastern end of the City is parks, interspersed with deep finger canals running into the Jefferson-Chalmers urban renewal project. Major needs are for seawall/erosion protection of the land and continued improvement of the housing, since this neighborhood was one of the hardest hit by the massive abandonment problem created by HUD a few years ago. The State is developing a 300-boat marina at Greyhaven, and the City is buying the adjacent vacant land for use as a residential development. Although there is extensive park use in this area, visual and physical access is poor because of the canals and the depth of the residential neighborhood south of the main transportation route, Jefferson Avenue. At the eastern City limits is a surplus U. S. Public Health Facility, which will be taken over by the City for park use within the next year.

TORONTO, ONTARIO PROFILE

Toronto's regional Waterfront stretches for some 50 miles and is largely under the jurisdiction of the Metropolitan Toronto Regional Conservation Authority. The City's Waterfront is 11 miles long and is divided into 3 sections: the Western Beaches, the Central Waterfront and the Eastern Beaches.

Much of Toronto's 3,000 acre Central Waterfront area is man-made and is largely a result of landfill operations over the last 60 years. The Port of Toronto, where most of the port activities are contained, extends south into Lake Ontario. The Islands are located to the west of the Port but across the Harbour from the downtown and can be reached only by ferry.

The City's Central Waterfront is subject to jurisdictional control of at least 10 different agencies, but primarily by the Toronto Harbour Commissioners, and the City and Metropolitan governments. The Waterfront consists of the following major areas going clockwise around the inner Harbour.

Ontario Place (47 acres): This consists of a man-made island just south of Exhibition park. It includes a large modern entertainment complex and marina built and operated by the Province.

Exhibition Park (175 acres): The City's sports stadium and the annual Canadian National Exhibition are located here. Plans are being prepared to improve the area and extend its use for longer portions of the year; as well, emphasis is being placed on better transportation to serve the area.

Harbourfront Project (86 acres): This area, comprised of vacant and under-utilized industrial land, was acquired by the Federal Government in 1972. The area presently contains some milling operations and warehouses which will continue to operate on a leaseback arrangement for several years in order to give these businesses time to relocate. Eventually, the site will be used for recrea-

tion, residential and retail purposes. Redevelopment in the form of renovating industrial buildings for recreational and commercial uses has already taken place. A Harbourfront Passage was established through the area in 1974 to encourage public access and exploration. The passage includes a pedestrian and bikeway path with landscaping, and signing to explain current and historical industrial and port operations.

Harbour Square Area: This is the first area of redevelopment in the Central Waterfront and includes a hotel, small convention centre, 1,000 unit condominium building and the Toronto Star office building and newspaper printing plant.

East Bayfront: This strip of land between the Gardiner Expressway and the Lake is mostly light industry, employing approximately 2,500 people. The possibility of including housing on underutilized marine terminal sites is presently under discussion for this area.

Port Area (about 1,000 acres): This area was originally an old marsh which is filled to create modern port facilities as part of the 1912 plan. It is largely owned and controlled by the Toronto Harbour Commissioners. Over 5,000 people are employed here in petroleum products, manufacturing, building materials and scrap products. Public utility companies are also located here, including an electric power generation plant and sewage treatment plant.

Outer Harbour: The Outer Harbour itself is about half the size of the Inner Harbour. The Toronto Harbour Commissioners created this area during the past 12 years to accommodate the anticipated need for port expansion. That need has not materialized. In fact, Port activity has steadily declined over the past few years. In the interim, the land around the Outer Harbour is being

used for recreation. In addition, a wildlife sanctuary has developed on the Headland, with unusual vegetation and wildlife developing. Many people would like to see part of the area remain as a wildlife sanctuary, for educational purposes; so, a resolution to the desires of different recreational, naturalist and industrial interests is necessary.

The Islands: There is a series of islands which protect the Inner Harbour from Lake Ontario. The islands include a 600-acre public park with lagoons, beaches, a public marina, a wildlife sanctuary, a 215 acre general aviation airport, and a 26 acre 250 unit residential community which is the last of a community which stretched from one end of the Islands to the other as late as 1956. Two major issues are yet unresolved on the Islands. First, the Metropolitan government is continuing to press for the removal of the remaining residents in order to provide more parkland. The City and Province however, would like to retain the cottage-type homes. Secondly, the Federal Ministry of Transport wants to upgrade access to the airport from the mainland and install new instrument landing capabilities in order to allow its use as a STOL port in a proposed southern Ontario demonstration project.

Historically a major emphasis in the Central Waterfront has been on port and industrial development; now, significant land use changes are being proposed for some areas. Policies are presently being developed as part of the City's Official Plan, which will include:

1. Encouraging a mix of uses in order to extend the use of, and add economic viability to, improved transit, recreation and retail facilities.
2. Increasing opportunities for a wide range of recreational activities for all income groups.

3. Providing for interim recreational use of areas slated for future development.
4. Improving public access and transit to and across the Central Waterfront.
5. Maintaining and enhancing the uniquely waterfront character.
6. Consolidating and protecting industries.
7. Encouraging industries to provide public views of its operations, tours, explanative signing and, where appropriate, retail outlets.
8. Protecting and enhancing the natural environment.

CHARLESTON, SOUTH CAROLINA PROFILE

Charleston, South Carolina is one of the oldest port cities on the east coast. It is hard to imagine the soft beauty of historic Charleston ever falling into disrepair. Yet back in the 1920's and 30's it took some serious citizen action to halt deterioration of this 308 year old South Carolina seaport.

Restoration has been in full swing ever since. A majority of the area of redevelopment has been considered for multiple use (about 95%). There exists a natural/marshy area adjacent to the State Port Authority where there is a proposed park or recreation site. Funding support comes from the private sector, the Department of Interior and the National Park Service. The estimated cost for this redevelopment is one million dollars. Adhering to the multiple use pattern, some four million dollars of federal and private money will be used to redevelop the tour boat and cruise ship facility under the jurisdiction of the State Port Authority. There is no industrial development along the Ashley and Cooper Rivers. However, there is no lack of activity in commercial or historic development. Today, buildings in the oldest part of town sell for premium prices, and adjacent areas like Ansonborough are awakening to the values of historic reclamation. Amidst all the history, life in Charleston continues at a gracious pace. In fact, there is a 3½ square mile historic district on the peninsula between the Ashley and Cooper Rivers where one may see 18th and 19th century homes. Mansions line the harbor along the Battery; testaments to the city's wealthy seagoing days. Fort Sumter, the target of the first shots of the Civil War, lies out in the harbor. One can see several architectural styles. Most prominent is "single house" with wooden piazzas along the sides.

Tours of private houses are offered during the spring and fall, but several homes turned museums welcome visitors year-round. Among the best are Nataniel Russell House on Meeting Street and the Heyward Washington House on Church Street.

One area of particular significance is the Provost Dungeon in the Exchange Building on East Bay Street where the British held American Revolution patriots.

In the Market on Meeting and Market Streets, crafts, people, antiquers, and others sell their wares. One building there houses several international short order food shops. At the Market Place, one can dine on elegant continental fare in a restored Episcopal Seamen's Chapel. Just a few minutes from the Market Place is Charles Towne Landing, a 663 acre park about four miles west of the site of the state's first permanent English settlement. There is a replica of a 17th century trading vessel and several picnic spots.

In the past, Charleston has focused almost exclusively on historical restoration. The State Port Authority and private owners control the major portion of the shoreline. Consequently, the city has few plans for a redevelopment strategy. There is great potential for this beautiful waterfront if plans are instituted and coordination between the state, city and private sectors is increased in the future.



BACKGROUND INFORMATION

DELAWARE URBAN WATERFRONT PROJECT

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