DEVELOPING LYNN HARBOR: PROCESS, POLICIES, AND IMPLEMENTATION

by

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ABSTRACT

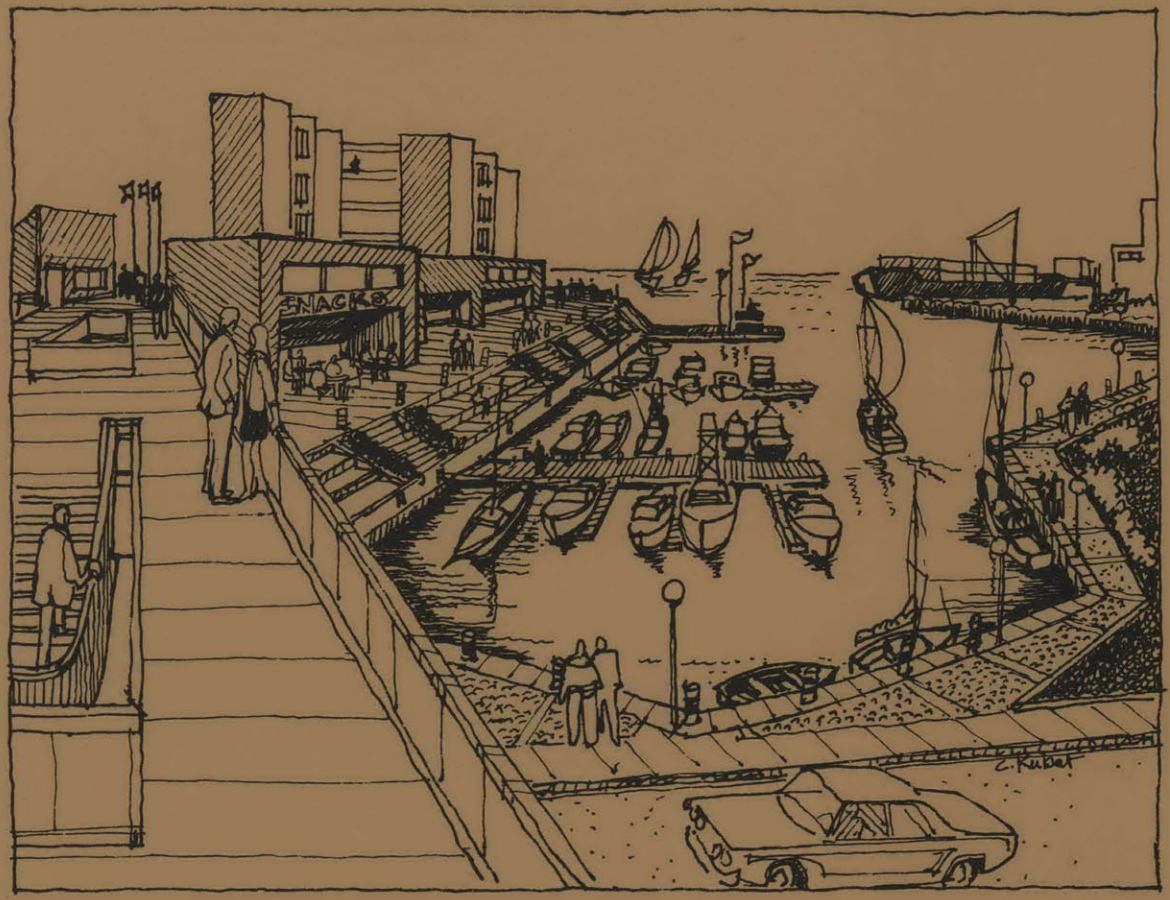
This document is prepared as a report to the Lynn Departments of Community Development and Planning, and to the Lynn Port Authority as a basis for harbor area land use/economic development planning and policy recommendations to the mayor and city council.

The recommendations for policy objectives and the city actions necessary to implement those objectives result from an analysis of community planning objectives, the regional context for development (development competition, transportation linkages, and coastal zone management policies), the local context (job needs, tax base and market prospects), existing harbor conditions (land use, water use, image, ownership, utilities, etc.) and an assessment of the potential for development of activity types such as water related industry (seafood processing), water based recreation (marinas), and waterfront supportive uses (retail uses, etc.). Policy recommendations are made concerning the public approval process, utility infrastructure, land activities, water activities, "place" quality and movement.

Thesis Advisor: Philip B. Herr, Associate Professor of City Planning

ACKNOWLEDGMENT

The financial support, professional advice and personal encouragement necessary for the completion of this document have come from many sources. I would like to express my appreciation to the National Oceanic and Atmospheric Administration Office of Sea Grant at M.I.T. and the Lynn Department of Community Development for the financial support of this work, support that could not have been possible without the backing of Mayor Antonio Marino and the Lynn City Council. In addition, I would like to thank A. Linda Benson, Port Authority Coordinator; William McInerney, Economic Development Officer; and Kevin Geaney, Planning Director, for their enthusiasm and openness to my participation. My special thanks to Professor Philip Herr for his professional advice, to Professor Kevin Lynch for his helpful comments, and to Professor William Seifert for his counsel and for the initial opportunity to work in Lynn. My greatest appreciation goes, however, to my wife Susan for her continued untiring encouragement, for the typing of this document, and for enduring the frustrations of the graduate student life.



Developing Lynn Harbor

A Policy Plan

by Charles Kubat May 1977


GE
LYNNWAY
COMMERCIAL ST.
COMMON
CITY HALL
BLOSSOM ST.
PLEASANT ST.
MARKET ST.
DOWN TOWN
POINT OF PINES
SHOE LOFTS
NEWHALL ST.
LYNN HARBOR
SAGAMORE HILL
N

Priority Actions

Based upon the analysis and policy recommendations contained in this document and upon the history of city interest in harbor planning to date, the following critical next steps should be undertaken to move forward.

1 Both the mayor and city council are keenly interested in harbor planning and development and have been looking to the harbor task force for some guidance. Their interest should not be allowed to wane. Therefore, the harbor task force (Kevin Geaney, William McInerney, A. Linda Benson) should immediately prepare and formally adopt a list of concrete recommendations about the harbor and present them to the mayor and city council economic development committee. The immediate recommendations should include:

- ideas generated in the past several months of discussions
- rezoning the northern harbor area from "industry" to "general business" to establish basic city intent for that part of the harbor
- adopting a special harbor district as the location in which to apply new harbor policies
- the policy recommendations in this document or some variation of them

2 The Planning Department should immediately begin to draft the rezoning and special district ordinance, so that they can be implemented as quickly as possible. These zoning changes are the first visible public policy action the city can take for the harbor.

3 The harbor task force, with the help of the Planning Department, Port Authority, Community Development Department and City Council should immediately begin to seek out harbor land owners, neighborhood groups, community groups and business groups to discuss the policies proposed for the harbor.

4 The harbor task force, with help from other city departments, should use the three summer months ahead to begin action on several short term projects that by next year will help make the harbor "visible" to the larger community. Specifically, the Port Authority should finish the public landing and find a person or group who will work with the Park Department and yacht clubs to begin a boating/sailing instruction and recreation program. The Planning Director should work with Community Development and Public Works to plan the first phase of a public waterfront walkway. The Community Development Department should find a person or group who will work with the local media and Boston Gas Company to create a harbor symbol and paint it on the white LNG gas tank next to the public landing on Blossom Street.

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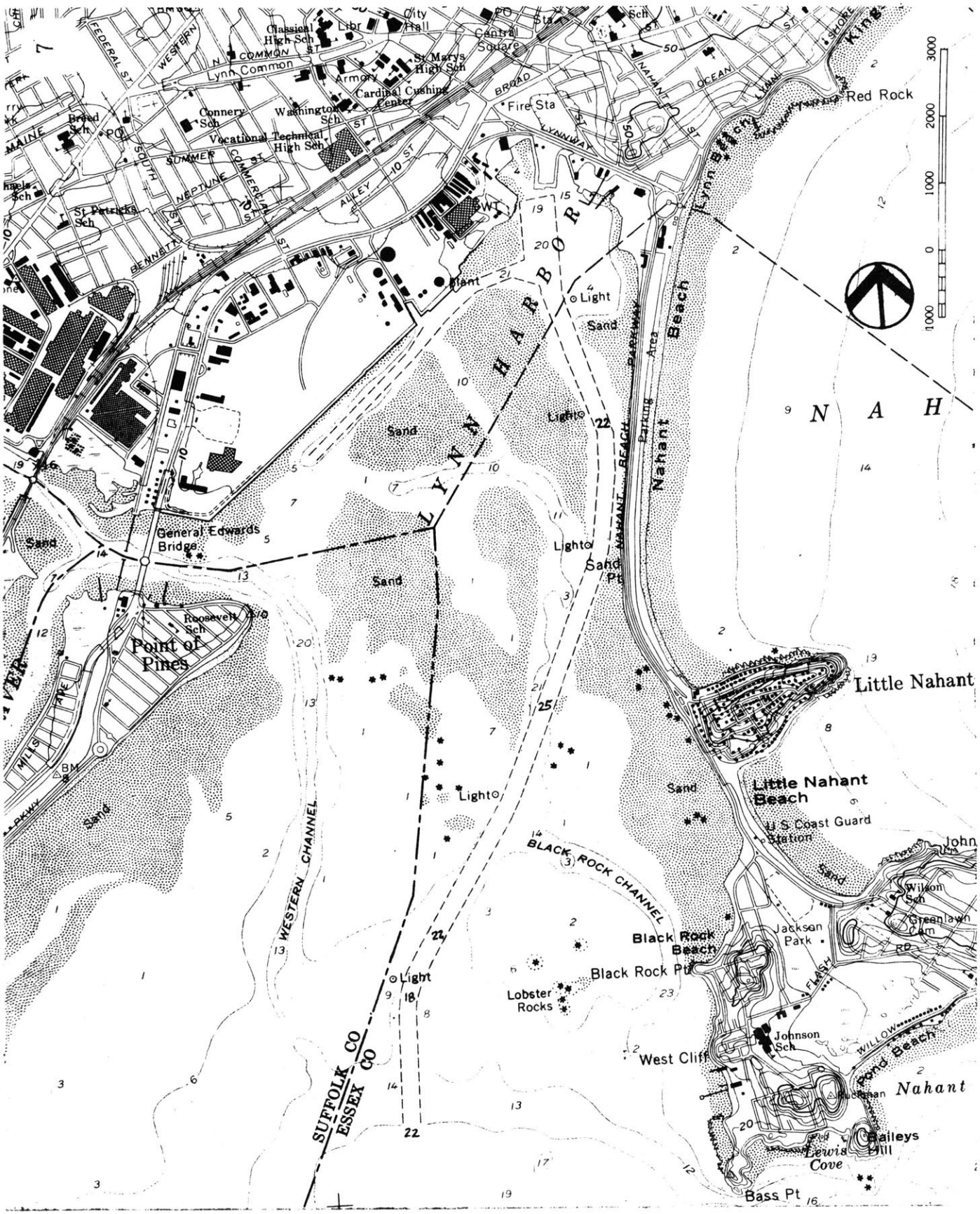

Lynn Common
Classical High Sch
City Hall
Central Square
St Marys High Sch
Armory
Cardinal Cushing Center
Fire Sta
Red Rock
Connery Sch
Washington Sch
Vocational Technical High Sch
Breed Sch
St Patricks Sch
Plant
Light
Sand
LYNN HARBOR
Lynn Beach
Nahant Beach
Parking Area
NAH
General Edwards Bridge
Roosevelt Sch
Point of Pines
Little Nahant
Little Nahant Beach
U S Coast Guard Station
Sand Pt
WESTERN CHANNEL
BLACK ROCK CHANNEL
Black Rock Beach
Black Rock Pt
Lobster Rocks
Jackson Park
Wilson Sch
Greenlawn Cem
Johnson Sch
West Cliff
Pond Beach
Nahant
Baileys Hill
Lewis Cove
Bass Pt
SUFFOLK CO
ESSEX CO
BM

INTRODUCTION & SUMMARY CONCLUSIONS

The physical and economic development of the harbor area of Lynn can help in the long term revitalization of the city. The research this document represents is one of the early steps the city is taking to achieve harbor development and caps the active involvement of the M.I.T. Sea Grant Program in helping the city realize that goal.

This document has been completed in order to stimulate informed discussion of the harbor development policy commitments required of the city, to suggest the actions that correspond to those commitments and to serve as an example of one municipal development process.

THE PROBLEM

Population:

1950	99,738
1960	94,478
1970	90,294
1975	77,892

Employment Loss:

1950-1970	350 net jobs/yr.
1972-1973	700 net jobs/yr.
1974-1976	250 net jobs/yr.

Lynn, once a thriving center of North Shore commerce, industry and living, is suffering from a combination of loss in population, lack of a range of employment opportunity, job losses, a shrinking economic base and loss of retail sales, and a deteriorating physical stock. Corresponding with this downturn, property tax increases have made Lynn's adjusted tax rate second only to Boston's in the state. Within this context, however, exists a strong community desire to find a way to halt the decline and reestablish Lynn's viability as a good place to live. One direction for such revitalization is the fuller utilization

of Lynn's natural resources. The harbor area, even in its neglected state, is one of those resources.

The existing harbor, although it has commercial features, is not used by Lynn's industry and business. In addition, although it is a powerful physical feature, it does not add in any positive way to the public image of Lynn or the environment of the near downtown area. Therefore, to better utilize the harbor as a resource, change is necessary. The challenge to the Lynn community is to manage this change in a manner that is responsive both to the natural and manmade aspects of the harbor, and to the evolving needs of the community.

The focus of this research, therefore, is the formation of land use and development policies that can help the city manage the change it desires. These policies are formed on the basis of an understanding of community objectives, the regional context, the local context, the existing harbor, and the activity types that are both feasible and desirable for Lynn. These topics are the subjects of subsequent sections in this document.

SUMMARY CONCLUSIONS

1. The harbor area, although currently neglected, is one of the city's strongest assets in efforts to attract new investment to Lynn. It has the market potential of high exposure to North Shore commuters, the vacant land for development and the physical space in which to develop water activity amenities. However, even with intensive development the harbor area will not by itself solve Lynn's unemployment or tax base problems. The spin-off investment interest in the larger area created by a harbor with activity and visual amenity can more significantly affect tax rate and job opportunity. This conclusion is especially true if through aggressive and cooperative government and business action the harbor can stimulate the revitalization of the near downtown area, including loft buildings and adjacent Sagamore Hill neighborhood. This observation is not meant to diminish the importance of jobs and revenue from the harbor area but to establish a priority for action. Therefore, the city should first concentrate on both public and private development in areas that will improve the amenity value of the harbor. Recreational boating, fishing, cruises, barging, public access open space, specialty shopping and restaurants are generators of the people and boat activity that create amenity.
2. The likelihood of water-related industrial use of the New England Power Company site is high and should be encouraged; however, without continued and focused city action the north part of the harbor will not develop into the recreational/commercial boat and people activity

center that is possible and desirable. Therefore, within the broad range of public action that is possible an emphasis must be established. The following actions can lead to this emphasis:

a. Expand public discussion of harbor development policies, particularly by actively seeking the counsel of neighborhood, community and business groups.

b. Adopt zoning changes that will quickly establish an intent for the harbor as a whole and the north harbor area in particular. These changes include the adoption of a special harbor zoning district and the rezoning of the north harbor area from "industry" to "business".

c. Discuss and publicly adopt some form of harbor development policy.

d. Identify a key project on the north harbor waterfront that will embody several amenity improvements and make a concerted city effort to promote that project as quickly as possible. To accomplish the project, responsibilities will have to be assigned and time goals established.

3. While the development of parcels in the north harbor area should emphasize visual and pedestrian amenity and be compatible to the existing commercial and residential character of the area, the New England Power Company site represents the major industrial development opportunity. Here development would benefit overall harbor activity by being water related, but community employment objectives should take precedence.

If the entire 54 acres of this site (including the sanitary landfill area but excluding the existing park area) were developed

intensively in industrial uses such as fish processing, manufacturing and warehousing, the employment impact could be in the range of 1,500 to 4,500 jobs of varying types. Although these numbers represent a 4-12% increase in Lynn employment, there is no sure way that Lynn residents will be hired. Predevelopment training programs with potential employers could help. The Lynn Industrial Development Commission should help identify the firms that would most broadly meet employment objectives.

4. The tax rate changes that are possible with intensive development of the entire harbor area (vacant parcels plus on half of state owned water areas) are small enough that the net tax return from new activities should not be a high priority in choosing or allowing those activities. Although the existing tax rate of $168.00 per $1000.00 assessed value could potentially decrease by $5.75 to $15.00 per $1000.00 depending upon the quantity and cost of city services required for new development, reductions of $2.00 to $7.00 per $1000.00 are more likely. A tax rate change even at the $5-$15 level will not solve Lynn's tax base problems or make the tax rate competitive with many other metropolitan communities, although it would bring some tax relief to the individual tax payer in the range of $80.00 to $225.00 on a house assessed at $15,000. What can have a greater effect on tax base is the increased investment in an area larger than the harbor stimulated by a harbor that is a visual and recreational amenity. Therefore, the "atmosphere" created by new activities is more important than their immediate net tax return to the city.

1 COMMUNITY OBJECTIVES [13]

To begin the process of planning analysis, public policy formation and action for the harbor area, an articulation of community objectives is needed. An initial formulation of these objectives, stated following the next section, results from an evaluation of resident attitudes and from discussions with city personnel. These statements are assumed to accurately reflect community concerns and desires for harbor development at this point in time.

COMMUNITY ATTITUDES

One source of information about community attitudes and concerns is the local Growth Policy Statement prepared by Lynn's local Citizen Committee in 1976 under the Massachusetts Growth Policy Development Act. The following conclusions about community concern for development are drawn from this statement.

First, the committee believes Lynn's commercial base has been eroding primarily due to "lack of access, changes in labor mobility, deterioration of community image, lack of physical resources, i.e. buildings and land ..." and severe competition from other development in the region.

Second, frustration is felt over the negative effect of continued deterioration and disinvestment and the quantity of low income housing

on the regional image of the city; the lack of success of a "fragmented planning process"; community stagnation; the lack of local, state and federal investment in the city; and ineffectiveness of state economic development policies to benefit Lynn.

Third, the major problems are felt to be hierarchically the loss of tax base, the loss of jobs, the lack of access, a declining image, an ineffective government and the physical deterioration of housing. The major assets include "the ocean shore, proximity to Boston and Logan Airport, Lynn Woods, the labor force, citizens and the water supply."

Fourth, the community has high expectations of benefits in reinvestment, job opportunity and stimulated housing and commercial activity resulting from the extension of the MBTA Blue Line to Lynn and improved highway access (offered by the Revere Beach connector). The residential development desired is in the middle to upper income range, in hope of establishing an improved population mix.

Last, the harbor is seen as an area of critical planning concern due to the potential impacts of local development on Nahant and Revere and as part of a larger need to achieve "a complete revision of existing land use policies."

OBJECTIVES

First, the city recognizes that the economic and transportation changes of the past three decades have altered the formerly active use of the harbor as a commercial port and have left the water and land area

to some water recreation activities and non-water oriented commercial/ industrial activities. However, the city is also aware that the harbor area, with its vacant and underutilized land, its channel and its visual qualities, offers the opportunity for physical development that can bring new employers, new residents and a new image to Lynn. Therefore, <u>the first and broadest community objective for harbor development is to capitalize on the physical properties and the commercial and visual potentials of the harbor, in order to help stimulate the local economy and revitalize the harbor environment.</u>

Objective #1

Second, the city understands that numerous changes in manufacturing industries, the market, energy and transportation costs, as well as federal policies have caused a steady movement of manufacturing industries out of New England, eroding the property tax and employment base of cities like Lynn. Furthermore, without the influx of sufficient replacement employers in new industries or other activities that desire the skills of Lynn residents, these residents will seek employment and often living accommodations elsewhere. These changes have resulted in the loss of population which compounds the problems of the downtown business/retail area struggling to hold its own, of the managers of apartment housing stock seeking to keep their stock rented and financially viable, and of the remaining residents who must bear the increased property tax cost of operating a city with fewer businesses and buildings to share the burden. Therefore, <u>the second community objective is to develop the harbor area so as to increase the net revenue to the city from property tax income, relative to municipal service costs.</u>

Objective #2

Furthermore, the city realizes that the loss of business and industry

has made the working population more dependent upon fewer sources of local employment and has created a difficult unemployment problem. In addition to the employment opportunity that would help alleviate these problems, residential moves to Lynn rather than away from Lynn would help stop population loss, maintain the existing quality school system, increase the utilization of the existing housing stock and more broadly distribute the tax burden. Therefore, the third community objective for harbor development is to create permanent and varied employment opportunity for the city's existing residents (employed, unemployed and underemployed) and opportunity attractive to new residents. In addition, development should diversify the local sources of employment to provide greater variety of opportunity, less dependence upon any one employer and greater workforce stability over time.

Objective #3

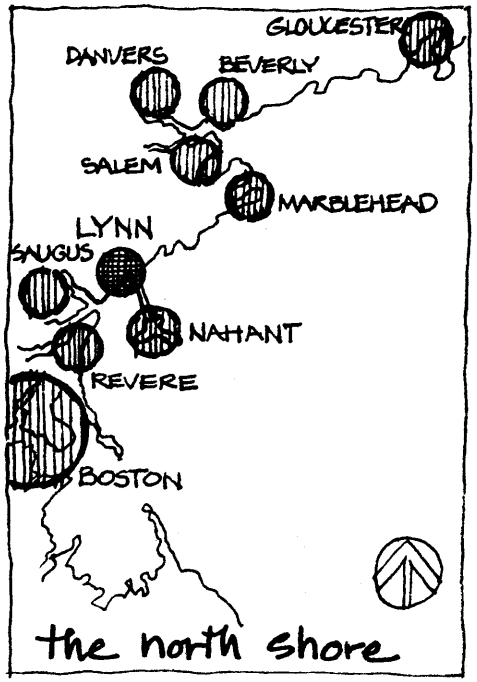
Fourth, the city believes that although physical and economic development of the harbor by private interests is important, the public interest in the harbor must also be developed and protected. Although this "public" is as broad as the North Shore region when considering the need to control the air or water pollution that exists or results from new development, or when considering the need for housing and job opportunities, the local public is as important as the broader public. The interests of the local public include the opportunity to glimpse the water and its activity while traveling adjacent to the harbor, to get to the wateredge for active and passive recreation purposes without trespassing on private property, and to expect that the amenity benefit of an active, developed harbor is not restricted only to directly adjacent property owners but is spread as far inland as possible in order to stimulate and support

Objective #4

city revitalization. Therefore, the fourth policy objective is to maintain and increase visual and physical access to the harbor for the public.

2 REGIONAL CONTEXT

The Regional Context for harbor development consists primarily of Lynn's competition from other North Shore waterfronts, regional transportation linkages, and the effects of new policies proposed by the State Coastal Zone Management program.



COMPETITION FOR DEVELOPMENT

Regional competition for harbor development in Lynn will occur in the Boston to Gloucester North Shore area. The on-going efforts by communities that have waterfronts similar to Lynn's (such as Salem, Beverly and Gloucester) to attract new water-related development and renew their waterfront areas will potentially compete with Lynn's efforts to do the same. Lynn must be aware of the thrust of current efforts in these communities, in order to better assess its own competitive advantages. The thrusts of current development efforts by these communities are a result of the existing use and character of their waterfronts and the potential developable land areas available.

Lynn must also be aware of the water-related development in neighboring, although not necessarily competing, communities. Revere,

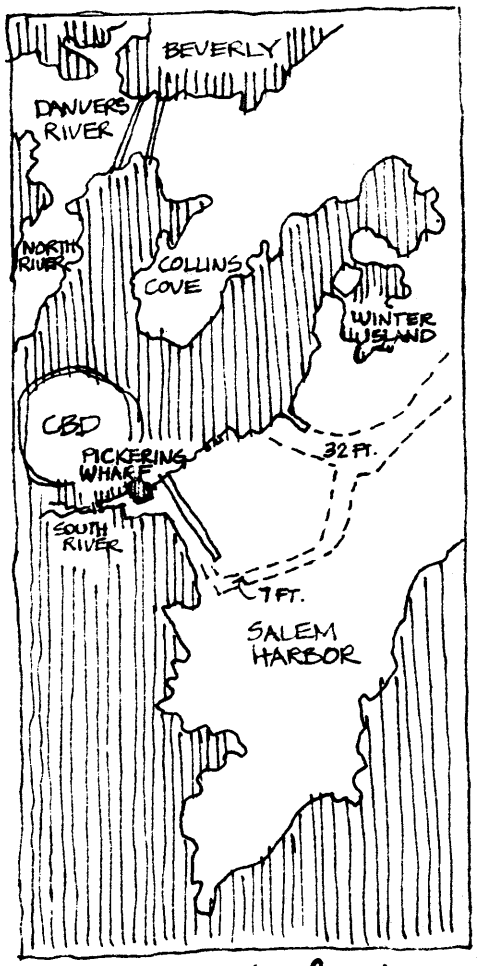
TABLE 2-1
COMPARISON OF HARBOR SHORELINE LAND USE OF LYNN WITH THAT OF OTHER WATERFRONT COMMUNITIES

	Lynn (harbor only)	Salem[1] Harbor	Beverly[2] Total	Beverly[2] Main Harbor	Gloucester[3] Total	Gloucester[3] Inner Harbor
Approximate Linear Feet	12,700	56,600	26,500	2,600	50,100	22,500
Residential	3% (under construction)	16%	36%	0	16%	13%
Commercial	7%	4%	7%	15%	10%	15%
Industrial	18%	25%	17%	23%	26%	54%
Transportation	0	3%	4%	0	0	0
Public & Semi-Public (Recreation, etc.)	31%	39%	25%	62%	22%	3%
Vacant	41%	13%	12%	0	26%	15%

[1]Blair Associates, Salem Massachusetts, Waterfront Study, August 1963 and interview with David Lash, City Planner, 1977. Salem Harbor and Collins Cove areas only. (Excludes North River and Danvers River Areas although the percentages are roughly the same including those areas.)

[2]Approximation based on USGS map (1:24,000) incorporating area from Woodbury Point to the Liberty Hill Avenue Bridge (including the Bass River Shores); and upon interview with Dan Bumagin, former Planning Director, 1977.

[3]Approximation based on most recent city land use map, 1969, by Herr Associates.



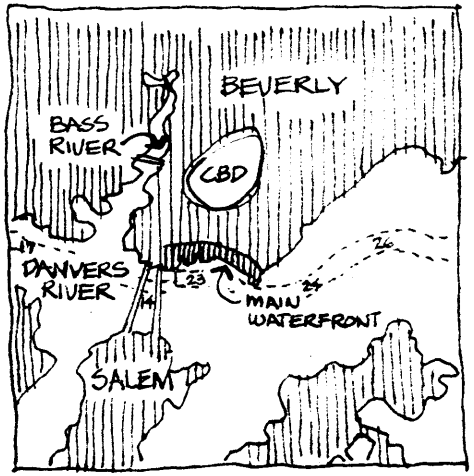
Salem Waterfront

Saugus, Marblehead, Nahant and Danvers have waterfronts, but in most cases very different from Lynn's. Developments and attitudes in these communities also pose possible constraints on Lynn's harbor efforts. These should be considered.

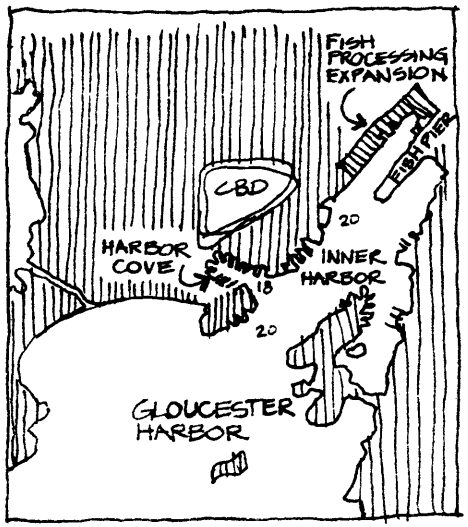
A regional context is especially important for Lynn when considering the potential regional economic effects of state and national policies. These policies have resulted in the extension of the territorial limit to 200 miles and its impact on the fishing industry, as well as state efforts to encourage exploration and development of possible offshore energy reserves. These two factors are discussed under Local Context.

After reviewing the existing conditions and development directions of North Shore waterfront communities (see appendix 1 p. 126 for detailed discussion by city), the following conclusions for Lynn's efforts can be stated.

1. Lynn has the largest parcel of vacant waterfront land (the 65 acre N. E. Power Company parcel) of any community surveyed. In addition, the industrial development of this parcel is generally supported by the Lynn community in contrast to the desires of other communities to develop some of their larger parcels for recreational or community service uses.
2. Other communities (especially Boston and Gloucester) do have a few small (1-4 acre) vacant parcels similar to Lynn's. However, these parcels could be freed for development only with some increase of community support and development commitment, and they are not typically easily accessible from a deep water channel. The small vacant parcels on Lynn's channel or turning basin, therefore, are



Beverly Waterfront



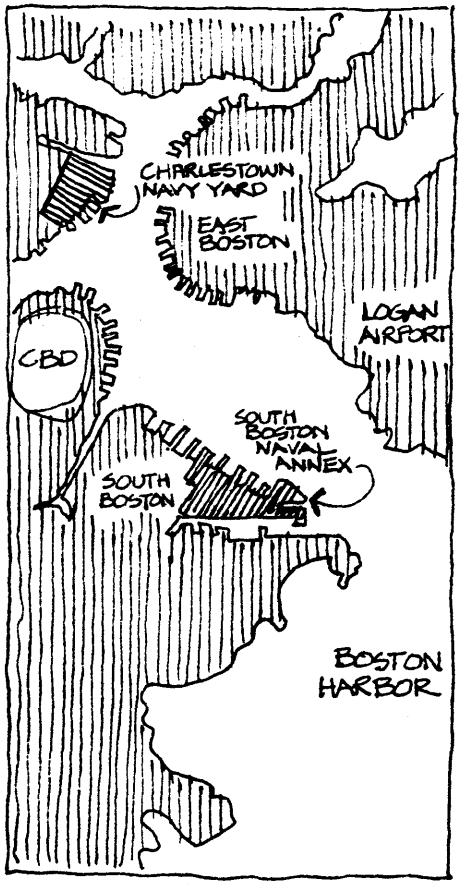
Gloucester Waterfront

among the best small sites available in the region for development.

3. There is considerable regional interest in doing combined recreational boating and waterfront commercial/cultural/tourist facilities (Boston, Salem, Gloucester). Salem's Pickering Wharf is on the scale and mixture of uses that Lynn can encourage rather than developing on the Boston scale. Salem's efforts are building on on-going wider revitalization efforts, and Lynn would need to do the same. Pickering Wharf is not so large as to take the market away from Lynn, especially if Lynn development is slightly different in concept. See appendix 1 for details on Pickering Wharf.

4. None of these communities (except perhaps Boston) is actively seeking the use of their waterfronts for offshore oil and gas exploration related development, especially temporary drilling support bases. Although Gloucester is often mentioned as a possible location for such activity, city officials have stated they want no part of activity that would compete with the fishing industry for space. Other communities also vaguely talk about support activity but don't have the infrastructure or space available for a support base. The greatest competition for oil related development is coming from a much larger region than the North Shore (Portland, Maine; Portsmouth, New Hampshire; New Bedford, Massachusetts; Davisville, Rhode Island; etc.), and these areas are likely to be more attractive than Lynn unless the exploration tracts that are developed are closer to Lynn.

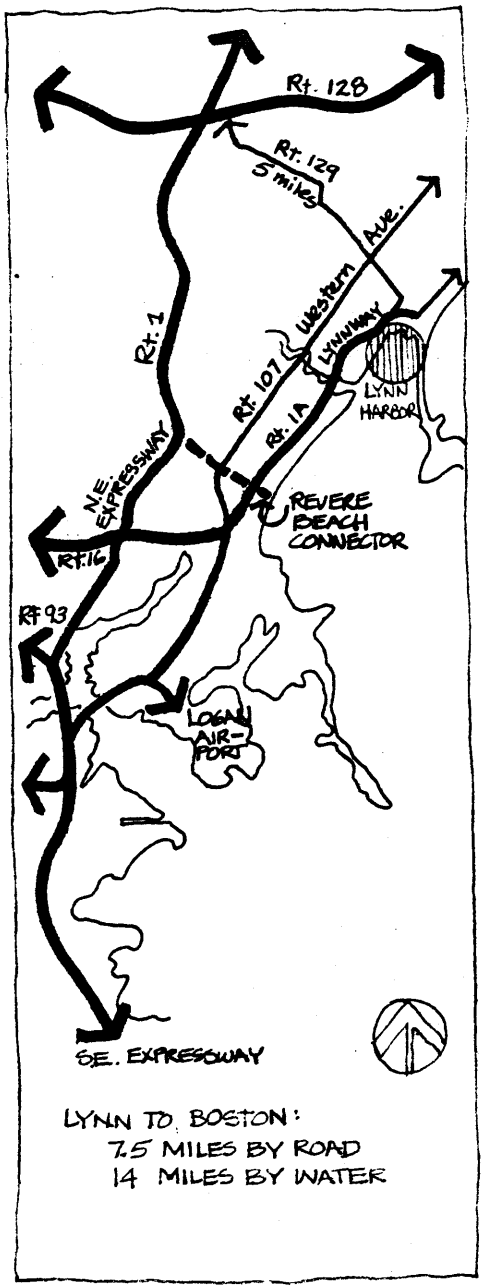
5. There is considerable competition in the fishing industry from harbors where fishermen and lobstermen are already established,



Boston Waterfront

but in all these communities (even currently in Gloucester) facilities for offloading catch are relatively limited. Expansion in the Saugus River lobster fleet could require expanded facilities and could branch into fishing as well, if boat storage and supply facilities were more readily available.

6. Lynn's channels are as deep as those in any community surveyed and deeper than in most cases. Industrial land development should make use of this resource and existing investment.
7. Lynn is surprisingly less developed and less recognized as a recreational boating center than other communities — yet has better potential than some.
8. Because of continuing demand for housing with view amenities, housing on or close to the waterfront is being successfully encouraged by several communities.
9. The demand for recreational boating is very large and even with the expansion of facilities in Gloucester, Marblehead and some in Salem, the demand that could be absorbed in Lynn appears great.
10. Recreational boating is stimulated by access to ancillary facilities such as restaurants, shops, clubs, beaches or parks in addition to standard support such as fuel, food, bait, etc. Lynn has the potential to provide good ancillary access to new restaurants and shops while at the same time connecting to the MDC park at Nahant Circle and to the beach across the road.
11. No communities except Gloucester have good public facilities for the loading and unloading of cargo or fish and the truck access needed to support these facilities.



REGIONAL TRANSPORTATION LINKAGES

The regional linkages that affect harbor development are primarily highway access and public transit.

Present regional highway access is difficult (especially to the northern part of the region) and will constrain some types of development (regional shopping, regional truck shipping, etc.). Improved highway connections between the Lynnway and Route 107 (Western Avenue) or between the Lynnway and the N.E. Expressway (formerly Route 95) would greatly improve overall harbor access. The State Dept. of Public Works' proposed Revere Beach connector would accomplish the latter if designed for access from the Lynnway. Current alignment alternatives do allow for southbound traffic access from the Lynnway (North Shore Road, Route 1A) onto the connector. This connection won't be available for 5-7 years[1] unless political pressure raises its priority. The project is currently in the environmental impact assessment stage with public hearings scheduled for September to November of 1977.

Access to Boston and to Logan Airport is excellent. Lynn could promote the development of a major air freight warehousing or collection point to take advantage of its airport access.

At the harbor end of the system the current design and traffic volume of the Lynnway make auto or truck access to and from some land parcels on the harbor extremely difficult. This situation could potentially be improved with some study of the specific problems involved.

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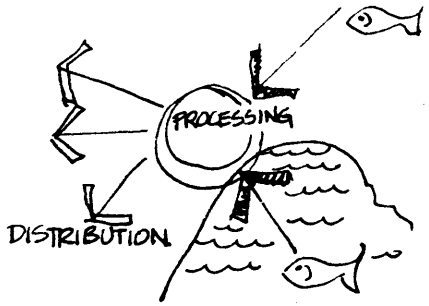
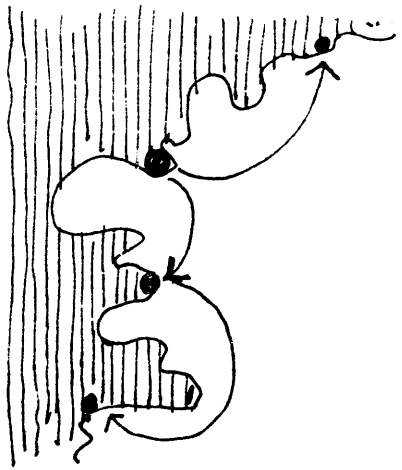
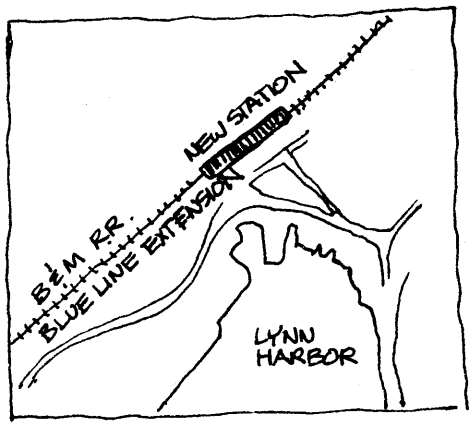
[1]Conversation with Ed Elfman, D.P.W. Project Expediter, May 6, 1977.

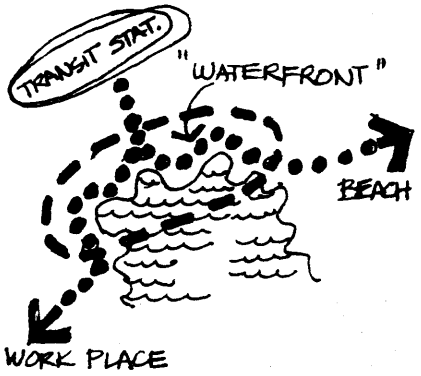






Although one might contend that regional highway access has undercut the former transportation advantages of harbor cities like Lynn by putting freight traffic on trucks instead of boats or barges, the opposite is also true. For example, good regional highway access has enabled Gloucester to continue to serve as a fishing and processing center. The effect of good highway access influences primarily industries that distribute to a large regional or national customer area (such as Gortons in Gloucester). Distribution to a smaller regional or local area is less dependent on the long distance economies of the highway. Water transportation is still competitive for long distance port-to-port shipments and for high volume/weight or low-value products such as sand, concrete products, petroleum, etc.

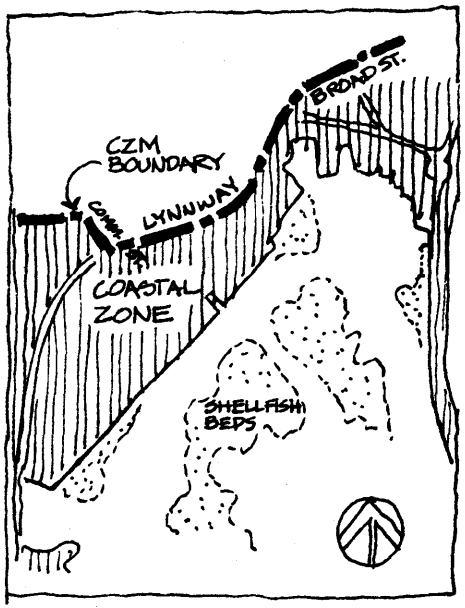
Public transportation linkage is provided primarily by commuter rail service on the Boston and Maine right-of-way and bus service to Salem, Marblehead, Revere, Saugus and Boston. Commuter rail connects Lynn (near the harbor) with New Hampshire, Cape Ann, Beverly, Salem and the North Station in Boston. Although the service is used, increased ridership has been hampered by lack of parking near the downtown station, cost and the required transfers on the MBTA. MBTA plans for extension of the Blue Line from Wonderland Station to Lynn (in 5 to 10 years) could have a significant effect on ridership to and from Lynn for employment or recreation. More importantly, the public investment in a new station next to the shoe loft buildings should act as a catalyst for revitalization of the area connecting the waterfront with the central business district. For the harbor, the Blue Line extension offers commercial/recreational waterfront development the marketing



opportunity to link high pedestrian demand areas such as Lynn Beach or new industry to the transit station by way of a unique waterfront environment.

COASTAL ZONE MANAGEMENT POLICY CONSIDERATIONS

The Coastal Zone Management program is in the midst of its planning process. The policies the CZM program and the legislature finally adopt may affect the development efforts of Lynn. Likewise, the local policies and initiatives of Lynn and other communities can influence the content of CZM policies and actions. For example, Lynn should consider questioning the CZM designation of most of the tidal flats in the harbor as significant resource shellfish beds (see map). Such a designation may unduly constrain boating development in the harbor.



The extent of CZM effect on Lynn development is debatable. CZM policies may be so weakly implemented as to have little effect, may make local initiatives more difficult by adding a level of state bureaucracy, or CZM funds and technical assistance could help implement local policies. Lynn should, however, continue to work for CZM policies that expand harbor development options in the event CZM is strongly implemented. Lynn should exploit its CZM designation as a Special Assistance Area, if and when state assistance becomes available. The

current CZM findings and policy proposals[1] that may most affect harbor development are:

Marine Environment

Water quality standards

1. Ensure that existing water quality standards for all point source discharge activities are stringently enforced and that the standards are continually upgraded...

Dredging

2. Ensure that dredging and disposal of dredged material minimize adverse effects on marine productivity.

Coastal Hazards

Hazard areas

3. Prevent further growth and development in high hazard areas and preserve natural buffers throughout the coastal zone.

Visual Environment

Visual concerns

4. Incorporate visual concerns into the early stages of the planning and design of facilities proposed for siting in the coastal zone. Establish a design review process for development that is of regional, state, or national concern.

Technical assistance

5. Provide funding or technical assistance to communities and local conservation commissions in the development of local zoning and land use controls which can be utilized to improve visual access and the compatability of proposed development with existing community character.

Visual access

6. Expand visual access in urban areas and provide views of coastally

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[1] Massachusetts Executive Office of Environmental Affairs, Massachusetts Coastal Zone Management Review; A Preliminary Program for Public Review, November 1976.

dependent activities with significant educational or interest value.

Ports and Harbors

Expanding uses

7. The uses predicted to expand and demand waterfront space are ferry services, marine industry, recreational boating, fishing, container shipping, oil and gas related trade if OCS exploration is successful.

Competition

8. The most severe competition for waterfront space is in ports and harbors with channels 20 feet deep or more and developed infrastructure (transportation links and utilities). Such ports are an important state resource.

Dredging channels

9. Deepening of channels and expansion of mooring or turnaround basin space should be done when essential to waterfront dependent uses of particular state economic importance, i.e. fisheries, maritime shipping, marine industry.

Industrial development

10. Encourage water-dependent industrial development in port areas. Deter preemptions of present and proposed water-dependent industrial uses by favoring the use which is the more limited in its physical or economic options. Permit non water-dependent industrial uses when such use would not preempt forseeable water-dependent industrial uses.

Dredging

11. Promote the widest possible public benefit from port and harbor and channel dredging and ensure such proposals are consistent with marine environment policies.

Water-dependent uses

12. Encourage, through technical and financial assistance, the expansion of water-dependent uses in port areas and developed harbors where the risks of damage to the marine environment are minimal.

Waterfront renewal

13. Encourage urban waterfront redevelopment and renewal in developed harbors in order to link residential neighborhoods and commercial downtown areas with physical and visual access to the waterfront.

Recreation

Public access

14. Improve public access to coastal recreation facilities, and alleviate auto traffic and parking problems, through improvements in public transportation.

Recreation links

15. In addition to expanding major access, link existing coastal recreation sites to nearby coastal inland facilities via trails for bicycles, hikers and equestrians, and via rivers for boaters.

Capacity

16. Increase capacity of existing recreational areas by facilitating the multiple use of the site and by improving maintenance. Resolve conflicting uses whenever possible through improved management rather than through exclusion of uses.

Public access

17. Facilitate expansion and improvements of private recreational facilities and sites that provide public coastal access.

Energy

Energy facilities on coastline

18. Maximize use of existing marine terminal capacity.

19. Discourage siting of tank farms on the coast.

20. Accommodate new base load LNG facilities or additional LNG deliveries where and when the risks to public safety and the environment are minimized.

21. Consider siting of electric generating facilities in non-coastal areas.

3 LOCAL CONTEXT

Lynn's job needs, tax base and assessment practices, and market prospects are the most important local preconditions to development and provide the basis for some of the later analysis of development options.

A definition of Lynn's job needs and job development strategy is an important first step in making land use decisions that affect employment opportunity. Second, the existing tax base and assessment methods affect the possibility of tax rate reductions from the development of new tax producing activities on the harbor. Third, market prospects are an important constraint on the amount and type of development activity that can occur. Market prospects include estimates of demand for new space and the potential consequences of the 200 mile limit and offshore oil development for Lynn.

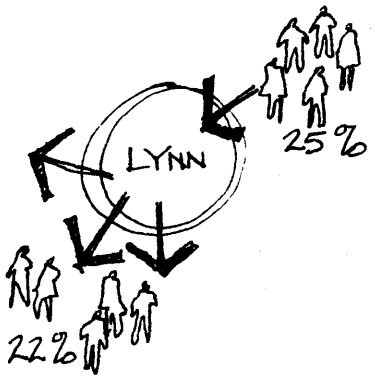
Detailed information on Lynn's employment/unemployment situation is discussed in appendix 2, but the conclusions from all of these local considerations are included here.

LYNN'S JOB NEEDS

Lynn's job needs are defined by analyzing existing employment, unemployment, underemployment (underemployment is not analyzed within the scope of this document), and state employment growth projections, and then using the analysis to formulate a job development strategy.

Employment Context

From Lynn's employment setting three major conclusions are reached (see appendix 2 p. 135 for details). First, employment is dominated by General Electric. In order to move away from this domination, jobs should be developed in industries unrelated to G.E. while at the same time building upon the strengths of the existing labor force — many skilled and semiskilled workers. Second, Lynn has relatively few jobs in some employment sectors when compared to the region or the state. To further escape G.E. employment dominance and to increase employment stability within an uncertain future, some jobs should be developed in finance, insurance, real estate and services. Third, approximately 22% of Lynn's employed work force commutes out of the city for clerical and service work, and 25% commutes in for jobs in manufacturing and retail. In order to provide jobs closer to home, thereby increasing local economic linkage and general Lynn income, clerical and service jobs should be developed within the city. To reduce the flow of Lynn employment dollars out of Lynn, job development in manufacturing, trade, etc. should be complemented with attempts to attract the employees from these sectors to live in Lynn or increase their spending in Lynn.



Unemployment Context

From Lynn's unemployment conditions, one can conclude that jobs are needed in all categories; however, the problem is most acute in clerical/

sales, craftsman, operative and labor occupations. New jobs in these occupations may help the unemployment problem if Lynn finds a practical way to assure that the unemployed will be hired. Job training to increase the marketable skills of the unemployed is one method that can help. Unemployment is primarily a regional problem in an urbanized area such as Boston; however, this is less true for Lynn than many other metropolitan communities due to decreased workforce mobility. Therefore, Lynn's harbor development should be sensitive to the needs of the local unemployed but probably not tied solely to those needs.

From the state employment growth projections, two conclusions are reached. First, clerical, professional/technical and service occupations will experience the greatest growth and increases in demand while other occupations show only moderate growth or some decline. Second, the greatest growth in industry sectors will be in services, construction, mining, trade and finance/insurance/real estate while manufacturing employment (especially in nondurable goods) is expected to decline.

An Employment Strategy

All of these conclusions should be used in defining an employment development strategy against which new harbor development can be assessed. The strategy proposed here will be used for later analysis of development activities but should be refined as needed by those in Lynn charged with employment concerns. At least two strategy approaches are possible. One strategy would assume that jobs in needed occupations such as clerical are highly likely to develop naturally with general growth over time and so little effort should be expended on them, while great effort should be used to develop jobs for operatives and laborers.

Another approach might assume that because Lynn has been declining, a major effort is needed to develop jobs even in those occupations and industries where natural growth may occur but, without the effort, will not occur in Lynn. The Lynn strategy could be:

1. Concentrate first on clerical job development, but if efforts meet with early success, shift to #2 as a first priority.
2. Develop craftsman, operative and labor jobs, foremost in growth sectors but secondarily in any sector.
3. Develop professional/technical/managerial jobs if such employment opportunity can prove attractive to potential new residents as well as commuters.

TAX BASE AND ASSESSMENT

An Income Approach

The city assessors currently evaluate and establish assessed value for existing and new uses primarily on the basis of an income approach. The exceptions to this rule are the many existing properties for which the value was historically established by some other method and have not been reassessed. New industry, commercial and residential locations are assessed for property tax at approximately 50%[1] of their market

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[1] Lynn is moving toward assessment at 100% of market value as required by the state. Last year assessments were at 22% of market value, and the tax rate was approximately twice as high.

value or net capitalized income.[1] The appropriate yearly tax rate is levied against this assessed value of the property. The current total assessed value of real property is $252,718,180.00.

1976-77
Total Assessed Value
of Real Property
$252,718,180.00

For example, a 10,000 sq.ft. industrial building and site that is leased for $1.00/sq.ft. per year net = $10,000/year. Capitalized at 20%, the value = $50,000. Therefore, in Lynn the assessed value would be 50% of $50,000 or $25,000. The property tax return for 1977 would be the tax rate ($168.00/$1,000 assessed value) X $25,000 = $168 X 25 = $4,200.

Personal property taxes on inventory, equipment and machinery represent another form of tax revenue from land use activities. Personal property in Lynn is assessed at 40% of a book value which takes into account age, depreciation, condition, etc. The current total assessed value of personal property is $23,919,726.00.

Conclusions

The conclusions from the basic property tax picture in Lynn are:

1. The harbor area (from the water's edge to the Lynnway) currently produces approximately $2.5 million in property taxes (5.2% of the city's 1976 fiscal budget[2]), primarily from the strip commercial development along the Lynnway.

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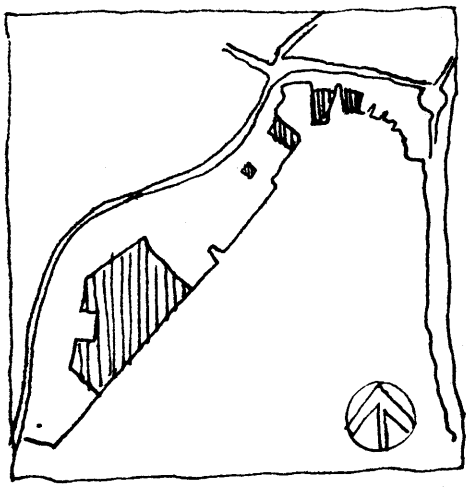
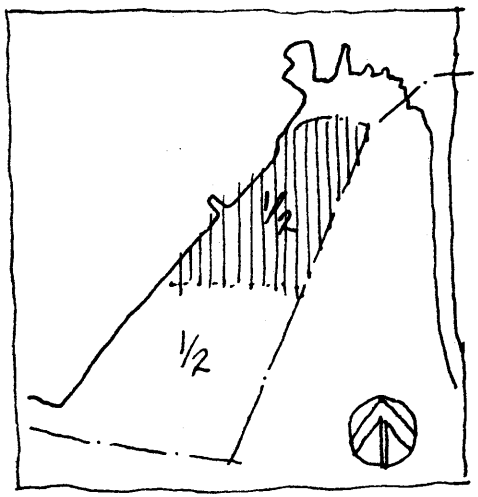
[1] Gross income minus operating expenses, depreciation and an assumed 10% return on investment to the owner equals net income. This net income is capitalized at 20% to arrive at market value.

[2] The 10.2% figure mentioned in the Interim Report - Lynn Harbor Development, M.I.T., 1976, was incorrect, because it was unknowingly based on proposed rather than actual assessment and tax figures.



2. If all vacant land parcels on the harbor (see map) including the landfill area (2,991,000 sq.ft.) were so heavily developed as to produce taxes per sq.ft. of land higher than 99% of total parcels and equal to the highest now produced in the harbor ($2.00/sq.ft.), the harbor could produce approximately $5.98 million in property taxes more than it produces currently ($2.00/sq.ft. represents $4.75 net assessible income per sq.ft.). This $5.98 million represents a potential change in the current tax rate ($168.00 per $1,000 assessed valuation) of $4.25 to $12.50, depending upon city service costs involved in development. For a typical house assessed at $15,000, this would mean a tax savings to a Lynn resident of approximately $64 to $188 per year, or about 2-8% of the tax bill. The probability of this great a degree of development is very low. A more realistic idea of tax relief is 30-50% of the above numbers.



3. If one-half of the state-owned tidal flats and underwater land were developed for recreational boating (mooring, docks, etc.) so as to produce taxes at the rate of $0.20/sq.ft. (approximately two to four times the rate currently received from private lands), the harbor could produce approximately $1.07 million in property taxes more than it produces currently. This potential new income represents a possible change in tax rate of $1.50 to $2.50 depending upon city service costs involved, or a tax savings on a house assessed at $15,000 of $22.00 to $38.00, about 1% of the tax bill.

4. The above conclusions point out that maximizing taxable development in the harbor can mean a significant dollar savings for the individual tax payer even if the total result is only a 3% to 9%

reduction in the tax bill paid. However, the possible tax rate reductions of $5.75 to $15.00 per $1,000 of assessed value are not by themselves going to solve Lynn's tax base dilemmas or even make Lynn's tax rate competitive with many other communities in the metropolitan region. What can have a far greater effect on Lynn's tax rate is increased investment in an area larger than the harbor, stimulated in part by an improved harbor area. If Lynn can greatly increase boat activity and wateredge activity, the harbor will become the visual and recreational amenity that can spur new investment in the Sagamore Hill residential area, the shoe loft district, the near downtown and perhaps the Lynnway. The resulting economic spin-off effects of new residents, new spending, and new investment can have substantial effect on the tax base. Therefore, although property tax production from new development is important, decisions about possible activities should give as much or more importance to the "atmosphere" these new activities can generate.

Tax rate reduction should be less important than the "atmosphere" new activities generate.

MARKET PROSPECTS

The market constraints for Lynn include space demand projections, the effect of the 200 mile territorial limit and Lynn's fit into offshore oil development.

Space Demand 1975-1995[1]

If Lynn can effectively capitalize on the opportunities afforded by

- the MBTA Blue line extension
- the waterfront
- a level of retail expenditures by residents of Lynn and immediately adjacent communities which exceeds the service capacity of present retail facilities in the immediate market area

then a reasonable forecast of the amount of new investment that can be attracted to the combined downtown and waterfront areas of Lynn, Nahant, Saugus and Revere includes:

A Supermarket Typically Contains 20,000 sq.ft.

	Average Annual Demand 1975 - 1995
1. new retail store space	70-150,000 sq.ft.
2. new office space	35-50,000 sq.ft.
3. housing (higher density waterfront-oriented housing for middle to upper income households)	650-900 units
4. industrial land	0-10 acres and new facilities for incubator industries
5. (continued on next page)	

[1] These forecasts and conclusions result from the work of Gladstone Associates as reported in "Development Potentials for Downtown Lynn, Mass., 1975-1990," July 1974, and "Lynn, City Scale Urban Design Project", (Gladstone Assoc. forecasts, May 1976).

5. a harbor-front recreation complex including marina, restaurant, retail and entertainment facilities and possible motel/boatel facilities

Most new investment could go to Lynn.

Lynn could reasonably expect to attract the major portion of this investment due to its population size, available land and economic dominance in the small area mentioned. These forecasts assume no significantly upgraded access from the Lynn CBD to Routes 1 and 128. If upgraded auto access were to become available, the forecasts of possible development could be expanded almost three times.

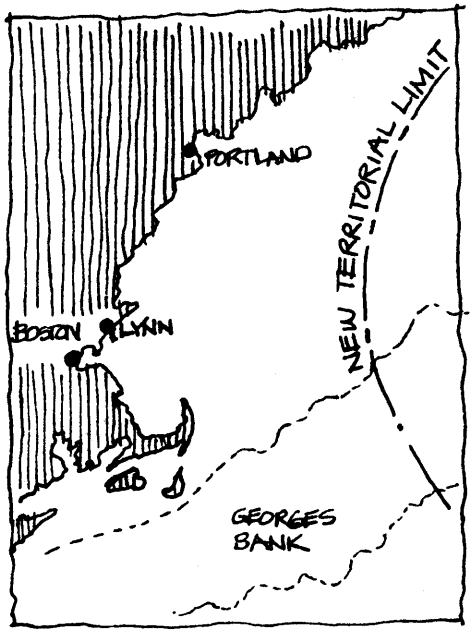
Additional conclusions include:

1. immediate recreation development (marina, specialty and gift shops, restaurant) and housing on the waterfront can spark redevelopment of adjacent loft building area where development time is greater due to relocation, multiple ownership, and new public service improvements.
2. the key to change is coordinated action by the city, the business community and individuals toward a common goal of renewal.

200 Mile Limit

The Effects of the 200 Mile Limit on Lynn

The 200 mile limit, instituted March 1, 1977, has been supported as a life preserver for the depressed and dying fishing industry of New England. The decline of the industry during the 1960's due to the tremendous competition and total take of foreign fleets as well as the nature of the U.S. fleet boats has been well documented by numerous



Expansion Scenario

reports[1] and need not be repeated here. The projected impacts of the new territorial limit, however, are not as available nor do they always agree.

Essentially two scenarios have been developed. One, that over time, because of reduced foreign fishing, most species will rebuild and increase, and domestic landings will increase.[2] Two, that even without foreign fishing, domestic catches of some species currently exceed the "maximum sustainable yield", and the industry is not likely to see growth except in new species and with new marketing.[3]

From these scenarios (the details follow) one can conclude for Lynn that first, in a growth scenario, seafood processing and some fishing could expand to Lynn, especially if land is available. Second, there would be a definite demand for increased docking, berthing, mooring and unloading facilities in any harbor to which fishing boats are attracted. Third, even in a no growth scenario, seafood processing activity that was developed in 3-5 years rather than immediately would probably represent stable long term expansion in the industry.

The expansion scenario is constrained by the following Coastal Zone Management observation.

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[1] Massachusetts Coastal Zone Management, "Survey of Uses - Preliminary Draft - Commercial Fisheries", December 1975.

[2] Governor Dukakis as reported in Massachusetts Coastal Zone Management, "Coast Lines", Vol. 2, No. 2, February/March 1976.

[3] Jack Devanney, Professor of Ocean Engineering, "Fishermen and Fish, Consumer Income Under the 200 Mile Limit," M.I.T., 1976.

> The passage of the 200-mile fish conservation zone represents an opportunity for fishermen, but not necessarily a heyday. The age and size of the Massachusetts fish fleet, the need for more modern port and harbor facilities, and the tasks of training the next generation of commercial fishermen and finding the millions of dollars necessary to retro-fit the existing U.S. fleet and to purchase new and more modern fishing vessels are issues and problems that require time.

Even with these constraints, the state has projected that a healthier fishing industry could generate 5-10,000 new jobs in marketing, processing and boat construction within 15 years, and could double annual landings and value of catch in 5 to 7 years. This expansion is projected with a 25% reduction in foreign fishing, domestic fleet expansion by 50% to replace some foreign fishing and exploitation of presently underutilized species. The domestic fleet expansion may also change the composition of the fleet from wood hulled side trawlers to larger steel hulled stern trawlers.[1]

This expansion in landings may result in a need for more fish processing plants, creation of new fish products distribution systems and even an increase of fish exports.[2] However, CZM projects that the existing frozen fish processing industry can accommodate growth in domestic landings by switching to domestic sources of supplies and

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[1] Mass. CZM "Survey of Uses - Fisheries," p. 6.

[2] Leah Johnson Smith, Woods Hole Oceanographic Institute, in a Boston Sunday Globe article "200 Mile Limit Won't Cure Fishing Overnight, Expert Says," by Robert Cooke, November 7, 1976.

reconverting some processing operations.[1]

In either case, CZM further projects that facilities for docking, repairing, berthing, mooring and unloading fishing vessels are insufficient in the smaller harbors of Massachusetts to provide for the expected increases in the fishing fleet. Lynn should heed this projection.

No Growth Scenario

The no growth scenario is basically the result of the work of Professor Devanney in a model for fisheries management. According to Devanney, the domestic fishing fleet is already catching most of the high value species such as cod, haddock, pollock, hake and yellowtail flounder for sale as fresh fish. (The haddock are at low levels because of previous foreign fleet overfishing.) The foreign fleet has been taking primarily the low value species such as mackerel, squid, whiting and herring for sale in frozen blocks to American processors or to foreign markets.

Even with the 200 mile limit and reduced foreign fishing, there is a need for a fisheries management program to maintain present species stocks. This management program may mean closed areas and seasons, gear restrictions, catch quotas, etc. Because present domestic catches of all species are probably above "maximum sustainable yield" levels, even without foreign fishing the catch of those species may have to decrease or remain stable instead of increase. Fish processing activity

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[1] Mass. CZM "Survey of Uses - Fisheries."

would decrease or stabilize along with catch levels. If there is no management program there may be a short term (1-3 years) increase in landings and processing, especially in species formerly caught by foreign fleets, but the stocks are so low the boom will shortly go bust.

The meaning of the no growth scenario for Lynn is that there is the possibility of limited or no expansion of the fishing fleet, and fish processing should be developed only if the short term benefits of construction jobs, property taxes, etc. outweigh the long term commitment of the land to a constructed facility.[1] The likelihood is small that such benefits would be great enough to compensate for the creation of another unused building in Lynn. If such a building is usable for other activities (manufacturing, etc.) that make use of the waterfront, then the collapse of the processing activity would not be as great a loss.

However, if processing is not developed for three to five years and a fisheries management program is implemented, fish species should have had time to rebuild and any increases in landings and processing after that time should be long term. In addition, general industry marketing of new species could expand this growth.

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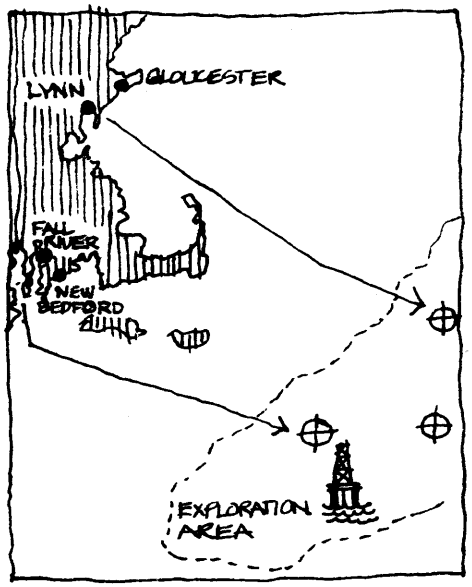
[1] Conversation with Jack Devanney, March 2, 1977.



Lynn's Place in Offshore Oil and Gas Exploration and Development[1]

We will soon see the first bidding for oil and gas exploration tracts on Georges Banks. This will be the first public indication of actual demand for development by oil companies. Exploratory drilling in these lease tracts will take place over a one to five year period, and if a find is made, rig development and oil production could continue for one to two decades. The location of exploratory and production drilling will greatly influence the location of onshore facilities related to the offshore activity. Only if the northern tracts on the Banks are drilled is there likely to be much oil related development in the Boston/Lynn region.

Based on information in the RALI report about types of energy related onshore facilities (such as regional office space, platform construction yards, partial processing facilities, refinery, gas plants, marine tanker terminals, pipe coating yards, and pipeline landfalls) and their requirements, only the following should be looked at in greater detail for Lynn.

1. Regional office space for company operations
2. Pipeline landfalls
3. Onshore service base for logistical support of drilling rigs (crews and materials)

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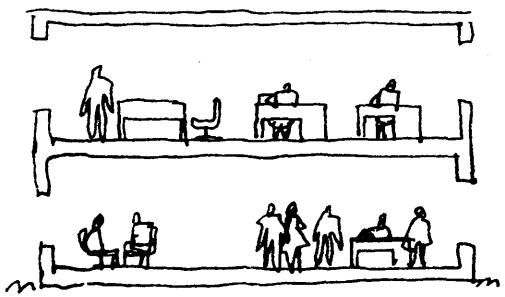
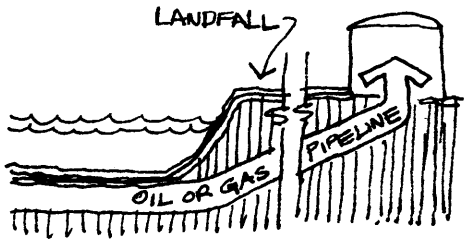
[1] The basic information about facilities development comes from Draft Interim Report #1, A Methodology for the Siting of Onshore Facilities Associated with OCS Development, by the New England River Basins Commission Resource and Land Investigation (RALI) Project, January 1976; and from conversations with Gene Socolitch of the State Energy Policy Office 8/4/76; and with Marty Zeller of the Office of State Planning, 7/13/76.



Regional Office Space

Office space for company operations in a region occurs during the development phase (5-10 years in length) and is usually located in a medium-sized coastal city such as Lynn, New Bedford, etc. Because each main office is the result of a location choice by one oil company, the potential of attracting at least one company is increased, but not unless there are operations in the region for the district office to coordinate. Each office represents approximately 50 executive, research, managerial and clerical personnel earning an average of $20,000/year. The space required is 20,000 to 75,000 sq.ft. Although Lynn has a chance of attracting this facility into rehabilitated loft buildings, the demand won't occur for several years, and the competition from communities with vacant office space and also established service harbors will be great. The uncertainty of successfully competing is very high.

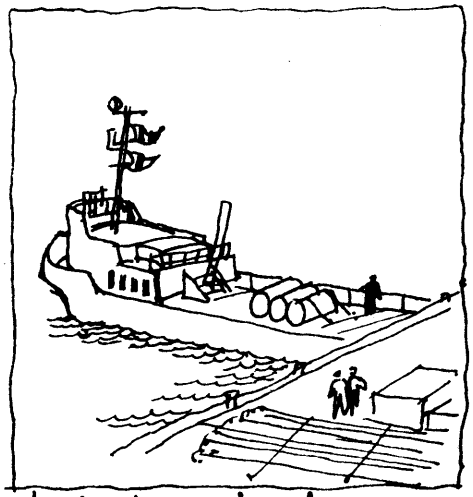


Pipeline Landfalls

Oil and gas pipeline landfalls would not be established until oil and gas are found and put into production (3 years or more). In addition, pipelines wouldn't be constructed until companies make a determination that the production levels from the find would be sufficient to justify the pipeline expenditure (1-2 years after a find). Once this decision is made, landfalls would be established so as to minimize pipeline length and yet be able to link into a tank farm, a refinery and/or existing distribution pipeline networks. Although Lynn may be one of the closest landfall points for a few drilling locations, and

although the ocean bottom conditions may be reasonable for pipeline installation, Lynn does not have a nearby refinery or a developed pipeline distribution system flowing from it. In addition, use of vacant waterfront land for a landfall would not add to activity or image of the harbor, or add jobs, even though property taxes would result. Lynn should not seek to keep land available specifically for this potential use, although large areas of public open space on the waterfront would leave open the future option of joint recreation/ pipe landfall activity. In this case, the pipeline would need to continue further inland before reaching a tank farm, refinery or distribution network.

Onshore Service Base to Supply Men & Material to Offshore Platforms



typical service boat

Two types of bases are possible — temporary, during the exploration phase, and permanent, during the development/production phase. Permanent bases are normally located in established commercial harbors with adequate marine services, often require 30-50 acres of land with 500-1,000 feet of docks or wharfs on 15-20 feet of water that can be leased or purchased by the oil company, and use the land for warehousing, office and parking space, not particularly employment intensive. Because Lynn can't meet the land and infrastructure requirements, the city should probably not look toward this use. This elimination leaves temporary bases as a possible land use in Lynn.

Temporary bases generally require:

1. 15-20 feet of water depth at dock
2. 200 linear feet of loading space

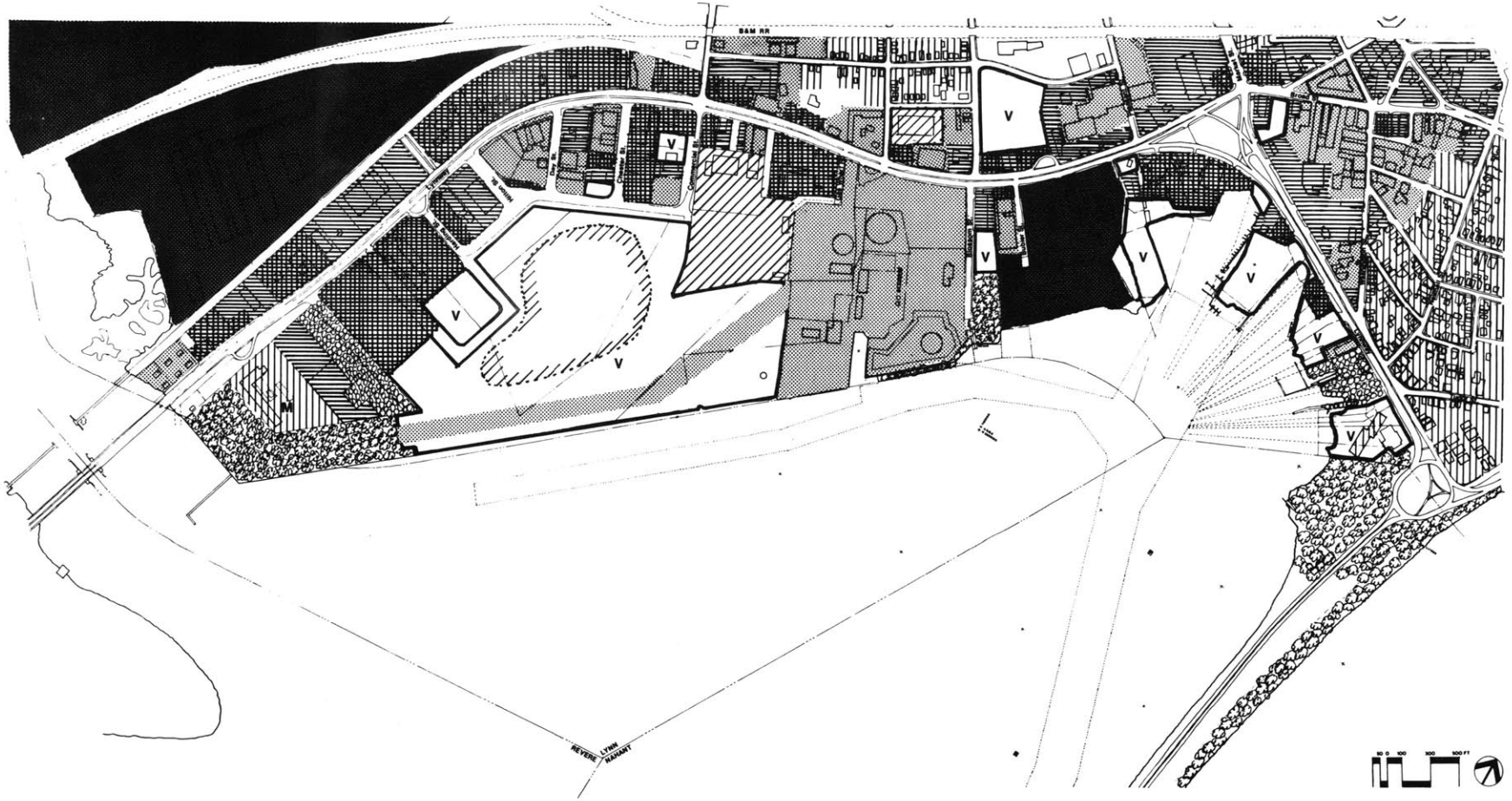
3. 3-5 acres of land for each rig served (2-3 boats per rig) that can be leased on a short term basis (1 year or less). This land should have on it 2-3 covered warehouses (50' x 100'), at least one close to the docks, and some open space for pipe storage (1 acre).
4. access to rail, highway and airport facilities (nearby heliport is desirable
5. protected all weather harbor and proximity to the drilling site
6. fresh water supply of 170,000 gallons per well per day minimum

At present Lynn can't meet all of these requirements, although some minimal warehouse construction and wharf space might be sufficient to attract a temporary base. The oil companies themselves don't operate the supply bases but do often dictate to their drilling subcontractors where the base will be established. Because Lynn is close to marine repair facilities in Boston, close to the airport, has indigenous skilled labor, machine shops, and other community support services (such as fire, medical, catering, motel, etc.) and doesn't have a hectic harbor (often an important consideration to a crew and supply boat operator), the city could prove attractive to some service boat company in the next 1-3 years. However, only under conditions of a substantial find of oil would temporary service base activity be likely to last more than 3-5 years. Temporary bases are also known for their highly cyclic activity and "footloose" nature. Because of these added uncertainties, service base activity should be viewed by Lynn as a potentially desirable adjunct to other development in the harbor (due to boat activity and materials loading activity) but not as the primary user of a harbor facility.

Why Lynn might be desirable

4 EXISTING HARBOR CONDITIONS

The following series of maps and tables illustrates the existing land use, water areas, image, zoning, filled areas, ownership, potential for change and utility systems of the harbor. The opportunities for developing a shared community perception of the place, a direction for desired change and specific physical development projects must proceed from a recognition of this base. The conclusions for development that can be drawn from these conditions follow.



Residential
Motel
M

Vacant
V

Commercial
Retail / Office
Auto & Fast Food

Industrial
Light & Pub. Utility
Heavy (mfg)

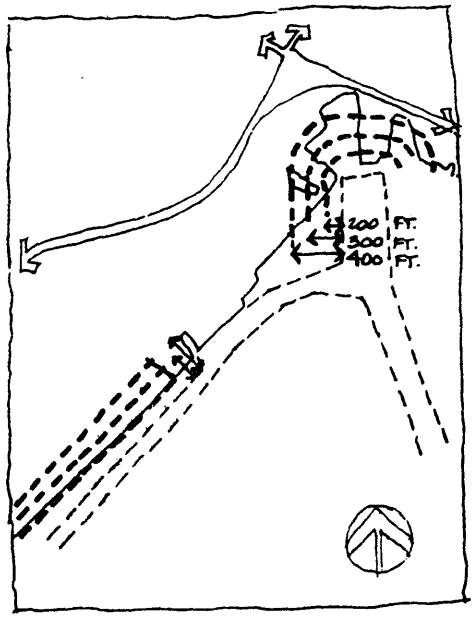
Recreation
Public
Private

Municipal
DPW
Landfill

Existing Land Use

LYNN HARBOR

LAND USE



1. The quantity of commercial land use listed in table 4-1 is deceiving because fully 95% of the amount tabulated is related to the Lynnway and not to the harbor. This means the harbor has almost no commercial uses relating to it at present.
2. The quantity of shoreline listed in table 4-2 that is vacant is significant. To understand the potential for use of vacant shoreline by boat related uses, the following observations are made from the land use map and tables 4-1 and 4-2 based on different distances from a dredged channel or turning basin:

	Within 200 feet	300 feet	400 feet
vacant land area included	1.6 acres	6.1 acres	12.9 acres
% of total vacant land	4%	15%	31%
vacant shoreline included	950 lin. feet	3,200 lin. feet	3700 lin. feet
% of total vacant shoreline	18%	62%	71%

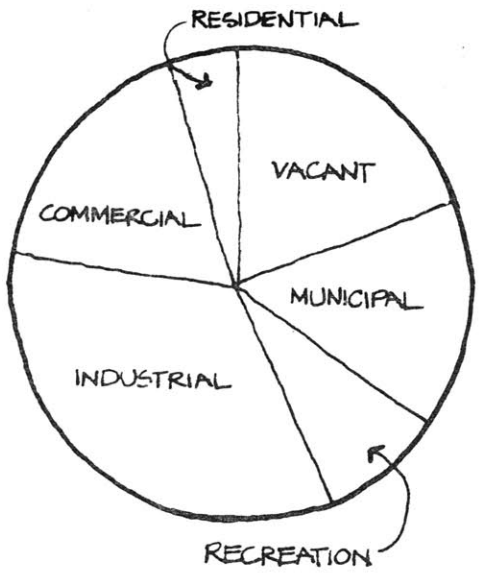


TABLE 4-1
HARBOR LAND USE BY LAND AREA - WATER EDGE TO THE LYNNWAY

	Sq.Ft.	Acres	% of Total	
Residential				4.4%
Multifamily (under construction)	204,707	4.70	2.0%	
Motel	241,998	5.55	2.4%	
Commercial				17.9%
Retail/office	313,707	7.20	3.1%	
Auto sales/service	1,447,076	33.22	14.4%	
Fast food restaurant	39,799	.91	.4%	
Industrial				34.2%
Light (public utility)	2,257,049	51.81	22.4%	
Other	452,751	10.39	4.5%	
Heavy (mfg., metal extraction)	733,499	16.84	7.3	
Recreation				8.1%
Public	542,410	12.45	5.4%	
Private (yacht clubs, marina)	118,082	2.71	1.2%	
Other	147,157	3.38	1.5%	
Municipal				17.6%
DPW	590,408	13.55	5.9%	
Solid waste (land fill)	1,175,700	26.99	11.7%	
Vacant	1,815,070	41.67	18.0%	18.0%
Total	10,079,413	231.39		

Source: Field survey, fall 1976.

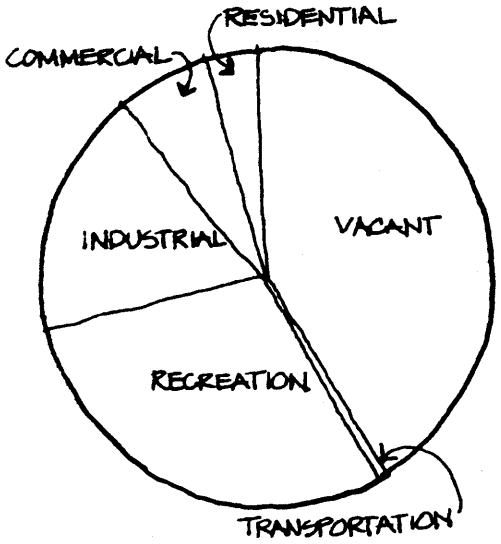
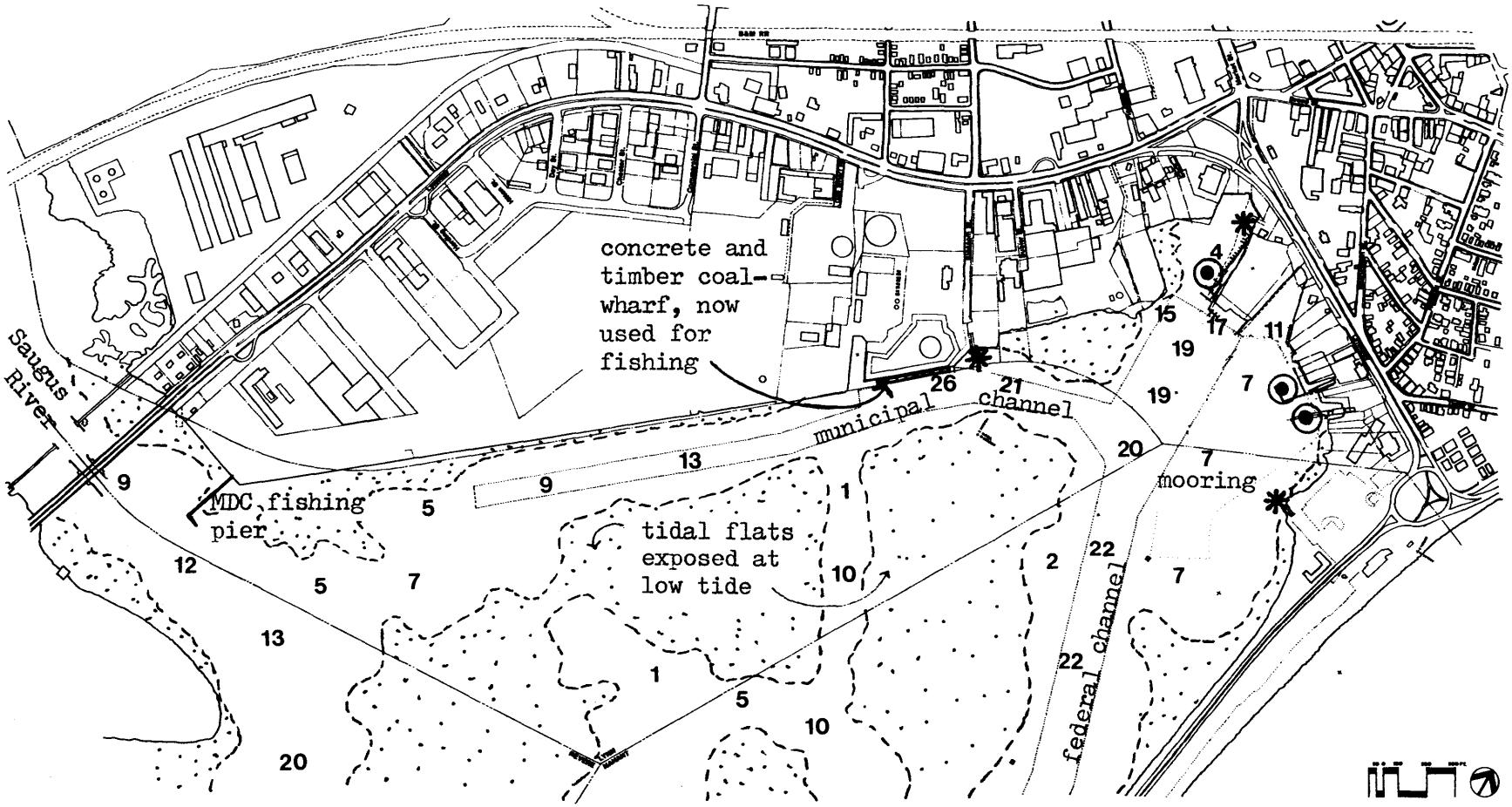


TABLE 4-2
HARBOR LAND USE BY PERCENTAGE OF SHORELINE IN EACH USE

(General Edwards Bridge to the Nahant Circle City Boundary)

Approximate linear feet: 12,700

Residential		2.7%
Multifamily (under construction)	2.7%	
Commercial		6.9%
Retail/office	0	
Auto sales/service	6.9%	
Fast food	0	
Industrial		17.6%
Light	10.8%	
Heavy	6.8%	
Recreation		31.4%
Public (public landing & utility co. park)	23.0%	
Private (yacht clubs & marina)	8.4%	
Transportation		.1%
Vacant		41.1%



Water depths shown in feet at mean low water
Mean tide range is 9.0 feet
Spring tide range is 10.5 feet

Boat ramp

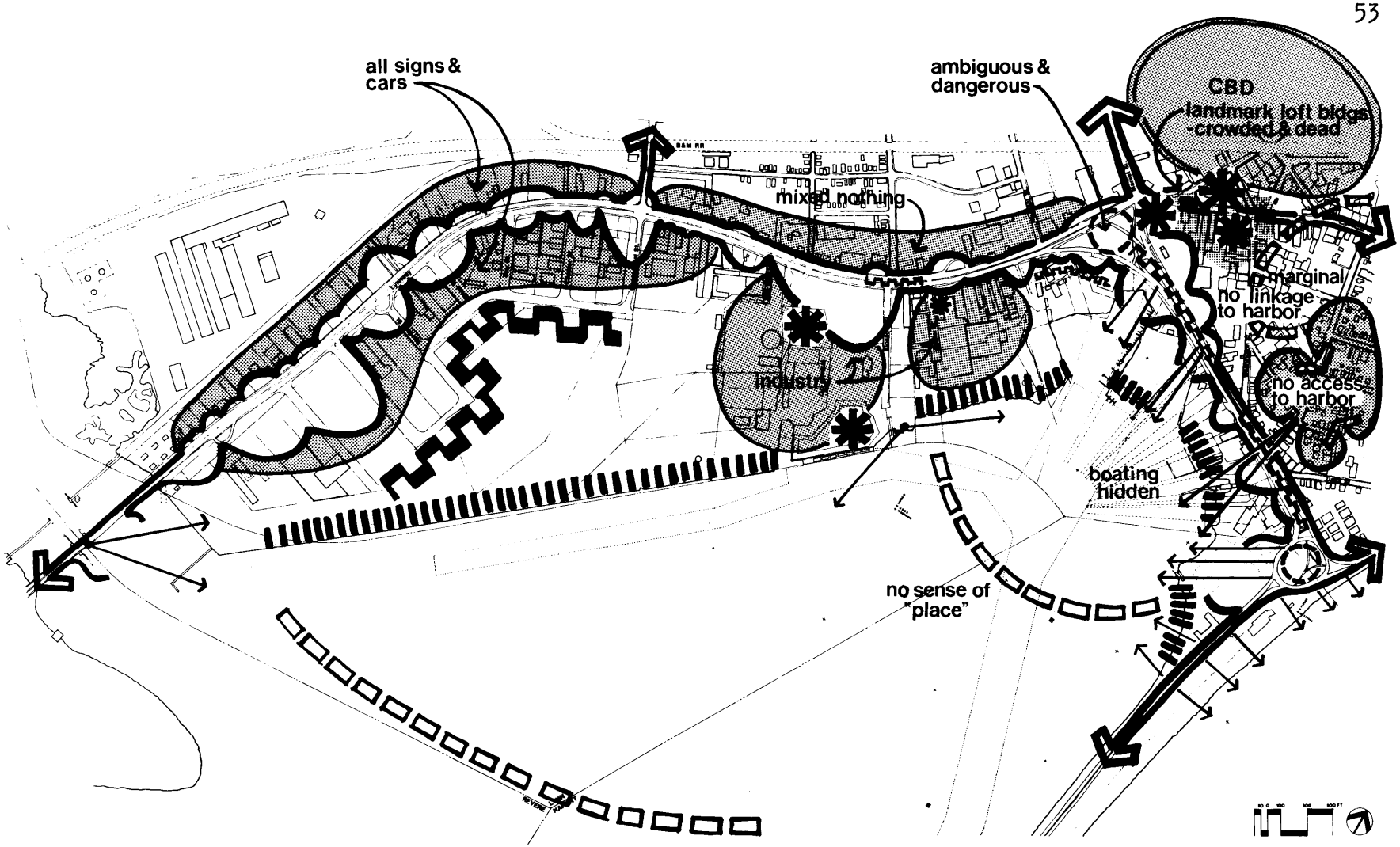
Boat slips

Water Areas

LYNN HARBOR

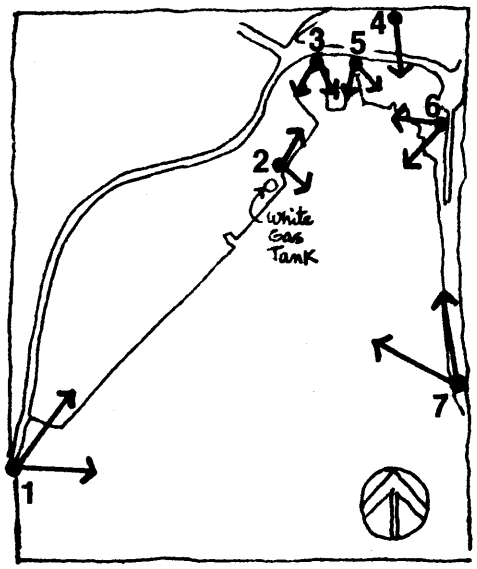
WATER AREAS AND WATER ORIENTED FACILITIES

1. The main federal channel and turning basin have remarkably retained most of their originally dredged depth of 22 feet without Army Corps of Engineers maintenance dredging.
2. Most water 4 to 7 feet deep or more (and some of the navigable turning basin) in the inner harbor is used for boat mooring. Such limitation of maneuvering space as well as the length and width of the federal channel to deep water has resulted in a preponderence of power boats over sail boats in the harbor. To encourage greater sailing activity (sailing has great visual image potential) larger areas of the center of the harbor would need dredging.

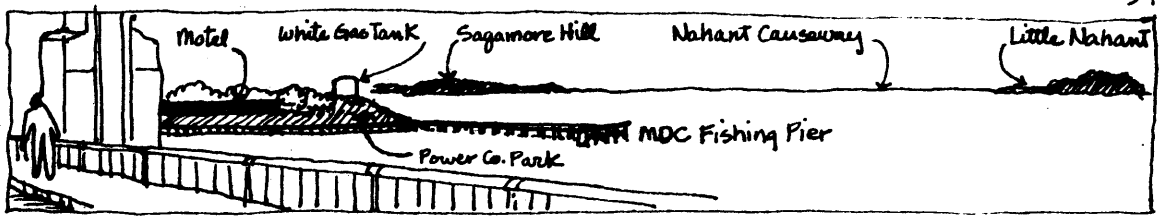


Existing Image

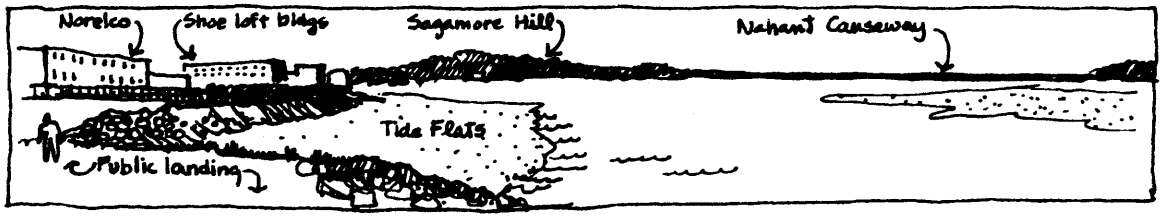
LYNN HARBOR



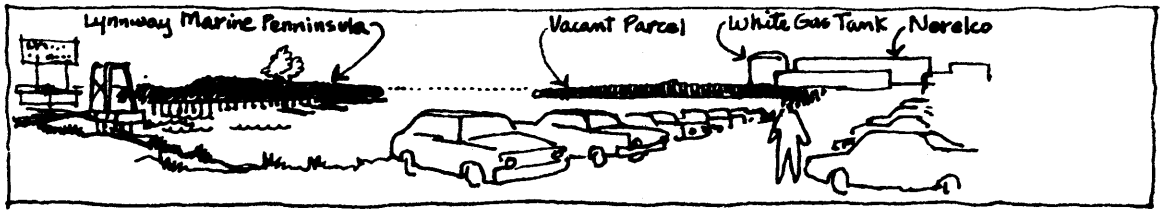
Public View Locations



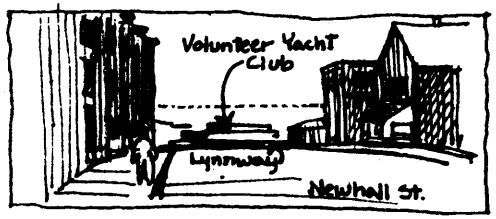
1 From the center of the General Edwards Bridge



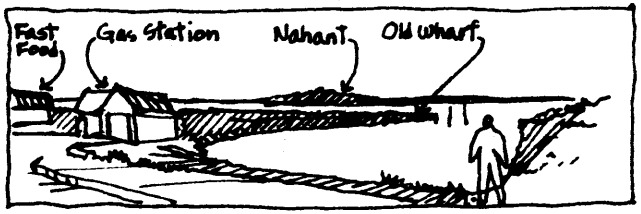
2 From the public landing on Blossom Street (at low tide)



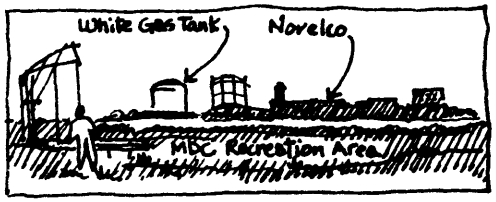
3 From the Lynnway between Beacon Cheverolet and Lynnway Marine



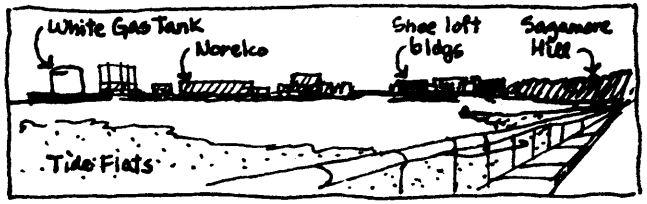
4 From the top of Newhall St.



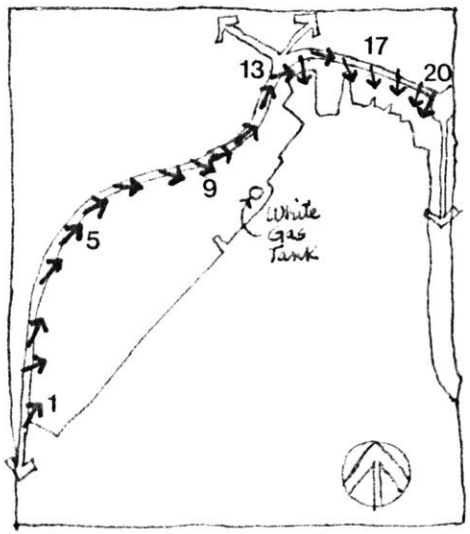
5 From the Lynnway east of Bill & Bob's



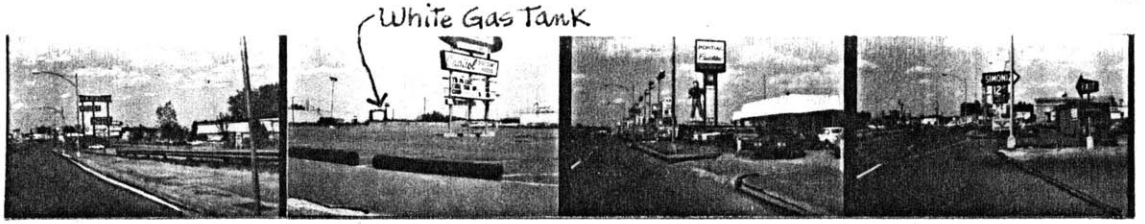
6 From the Nahant Circle



7 From the Nahant Causeway



Views From the Lynnway



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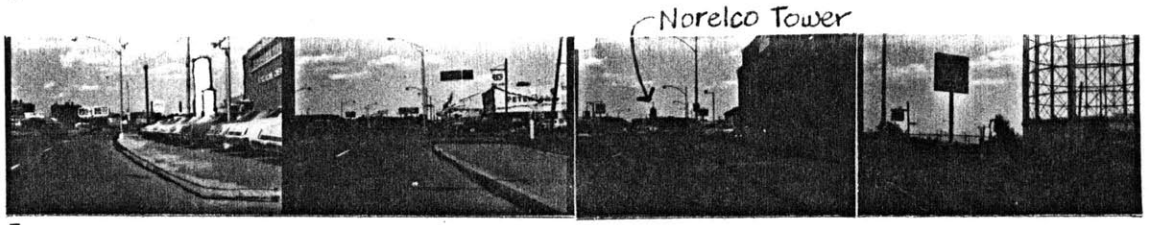

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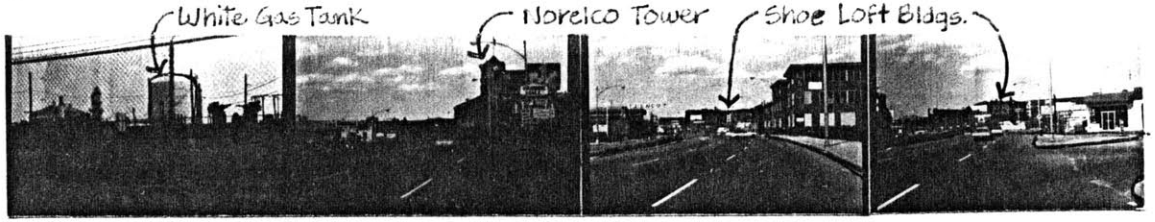

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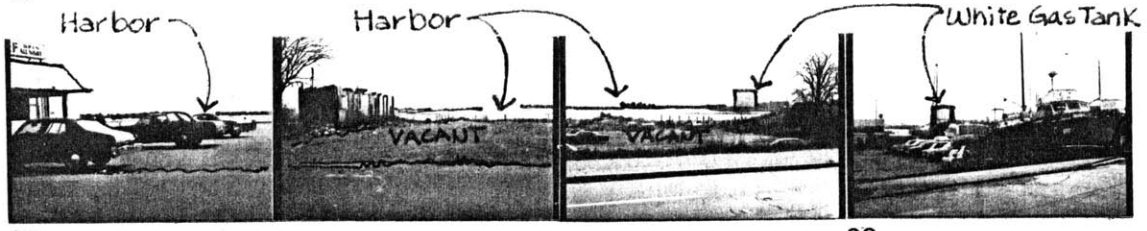
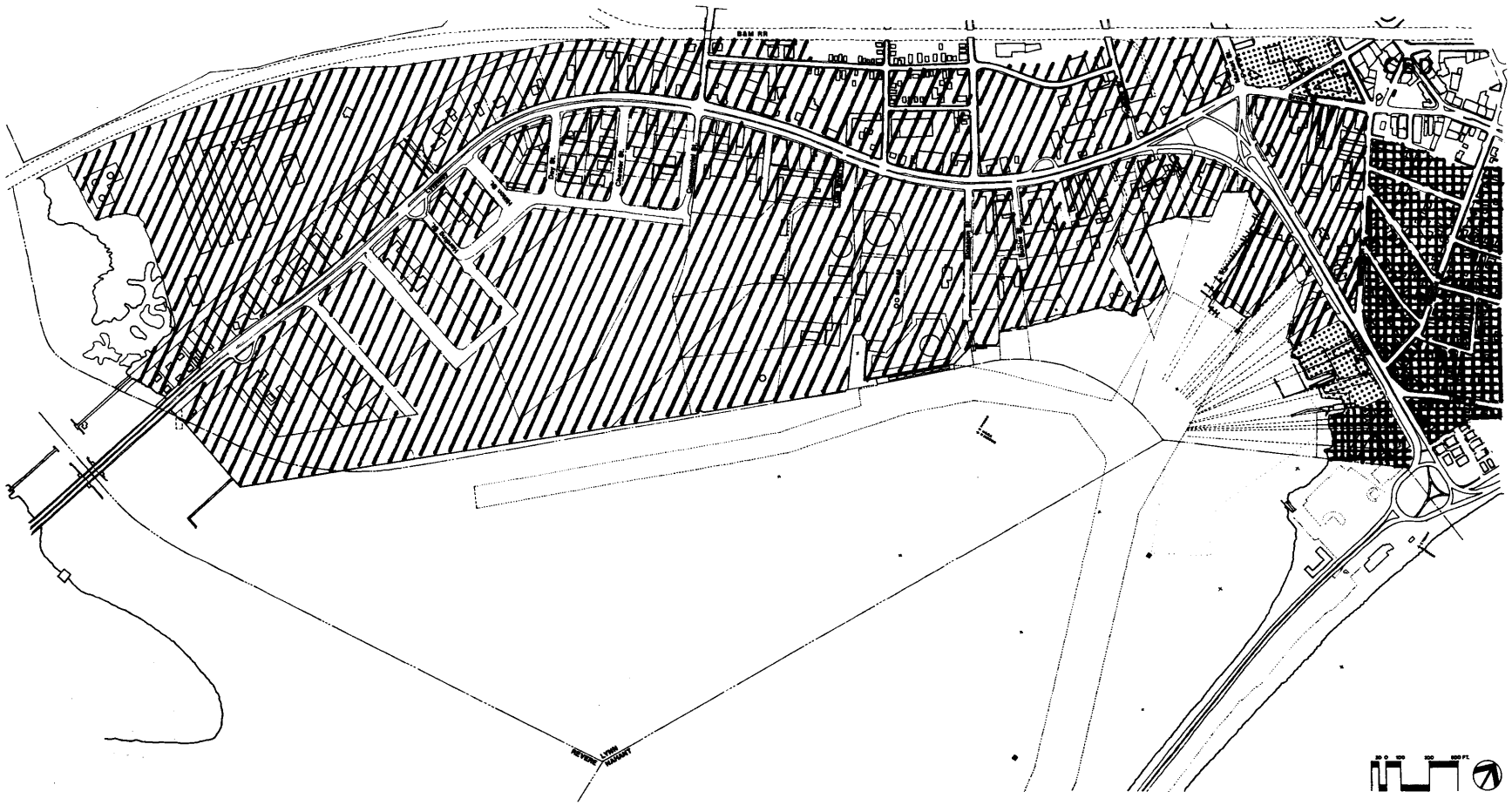


17 20

EXISTING IMAGE

1. The harbor image is this author's analysis of and conclusions about the visual aspects of the harbor area that affect "image". The analysis of Lynn's existing image could be expanded to include the image held by different Lynn residents (boat owners, downtown businessmen, Sagamore Hill residents, the city council, etc.) and by people outside of Lynn (commuters who travel the Lynnway, boat users in other communities, etc.). Such analysis could prove useful for isolating the commonly held key elements of image to concentrate improvements upon.
2. Most shoreline areas, including boat docks, are either hidden from view or visible from such a great distance as to lose all detailed character. Increasing the vantage points from which the shoreline can be viewed, especially from the water toward the land, can help make the harbor more visually interesting.
3. The harbor is not now a memorable "place" to many Lynn residents and outsiders. One of the reasons for this lack is the physical shape of the harbor. This splayed "U" shape is so open ended that there is no definition of "here" and "there", especially when viewing from the north end of the harbor.
4. The existing landmarks (gas tanks, Norelco clock tower and shoe loft buildings) offer potential for a more positive identification of the harbor area and gateway to downtown.



Heavy Industry - no height restrictions

Light Industry - no height restrictions

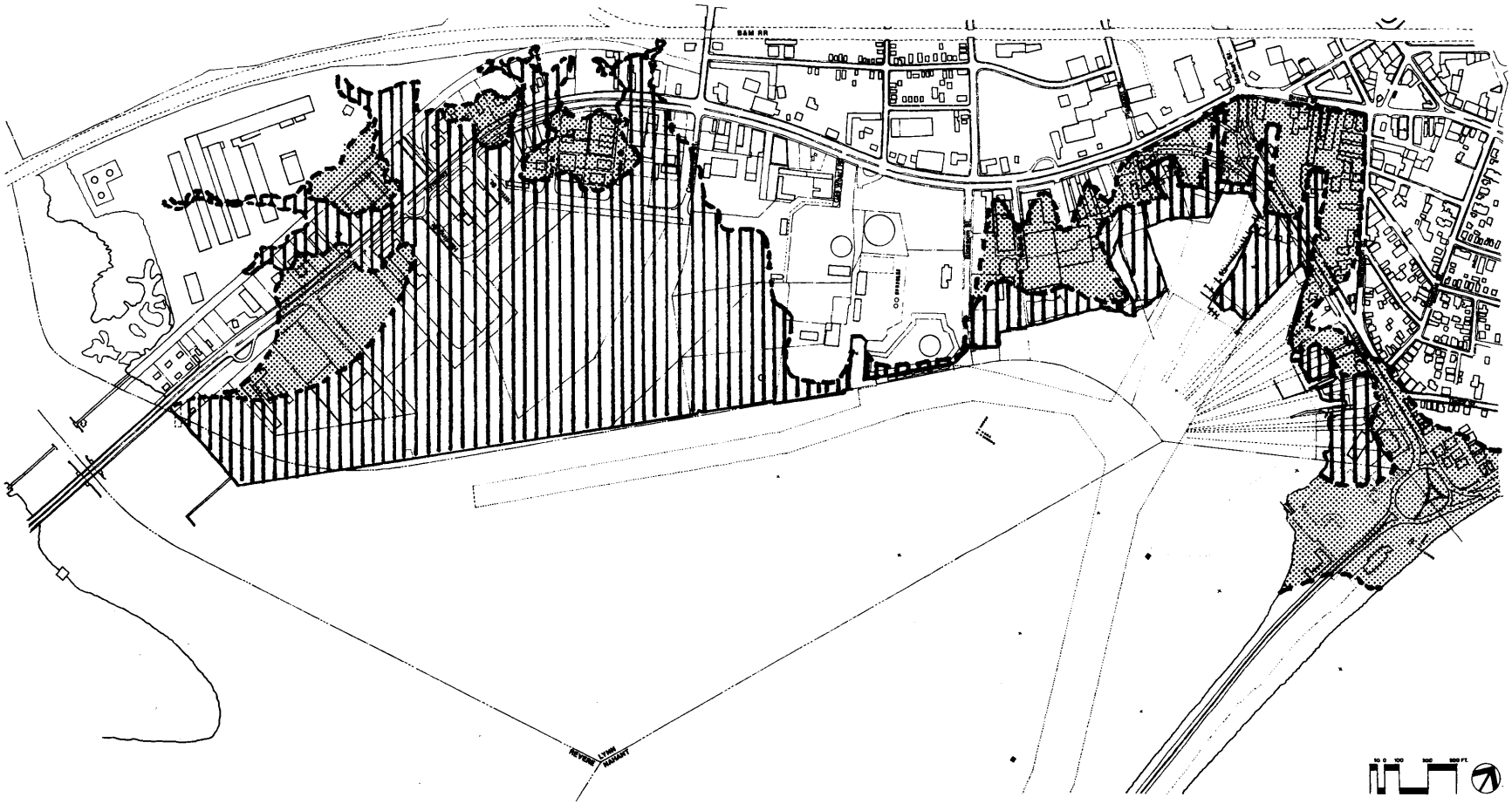
High Rise Bldg. District - height by city council

Existing Zoning

LYNN HARBOR

EXISTING ZONING

1. The great preponderance of the harbor area is currently thought of as an industrial area with little concern for the existence of the harbor or potential spill-over effects from the height and density of development. Zoning alone has not effectively implemented previous desires for industrial development, as evidenced by the 65.8% of the district (Lynnway to the water) now in uses other than industry.
2. The industrial zoning in the north harbor area is adjacent to the central business district and to the residential area of Sagamore Hill. Industrial development between the CBD and the waterfront could further isolate the potential amenities of the harbor from CBD revitalization. Similarly, industrial development so close to residential areas can be detrimental to other city efforts to stabilize and upgrade those same areas. Therefore, industrial zoning in the north part of the harbor is inappropriate.
3. The extent of the high rise building district creates great uncertainty in the Sagamore Hill neighborhood and does not work to help community development efforts to upgrade the area. Some decrease in the area may be appropriate. The front side of the hill facing the harbor is especially one place to consider for removal from the district.

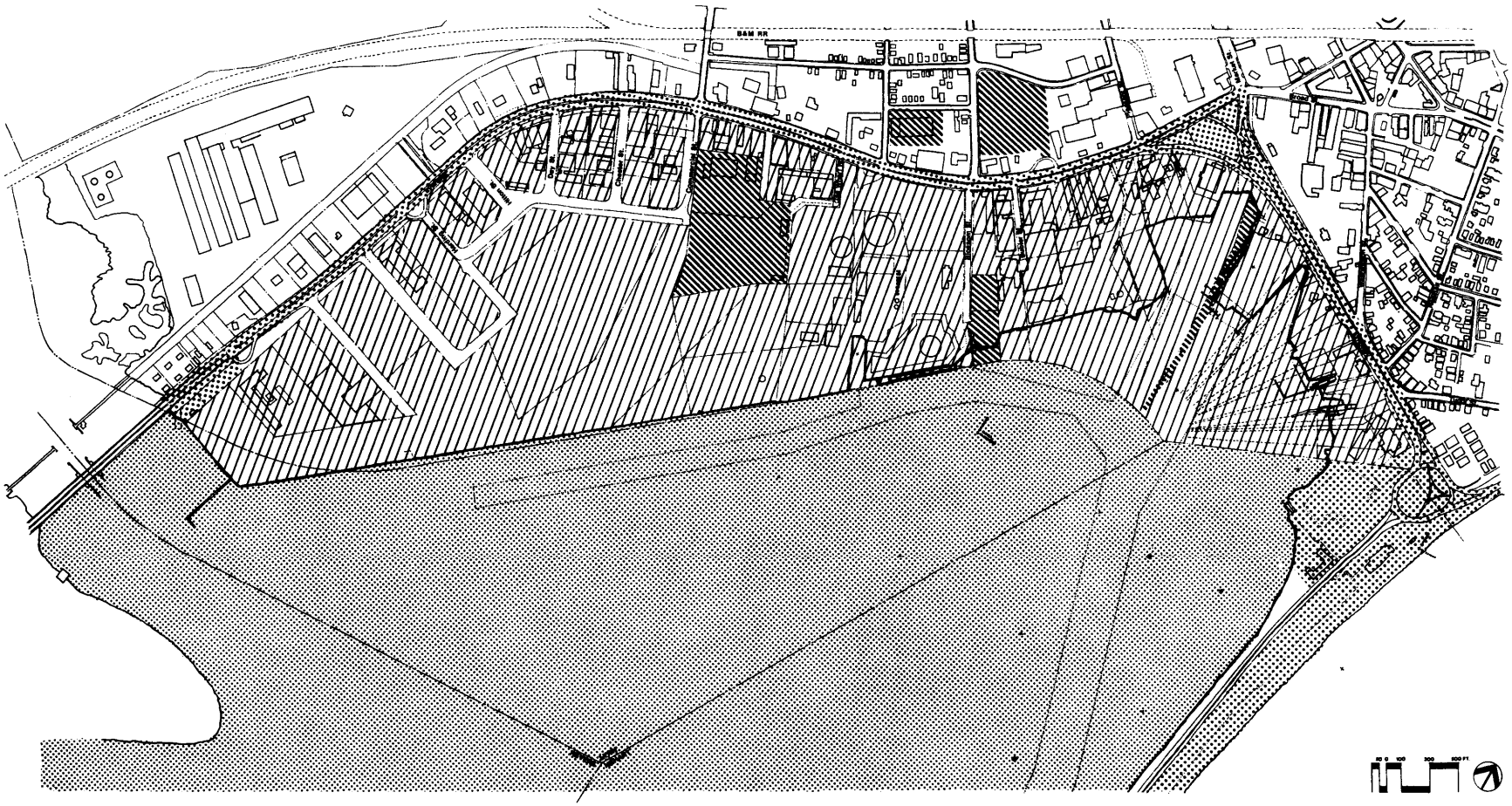


1829 - 1927

1927 - 1975

Harbor Filling

LYNN HARBOR



Note: see Interim Report, Lynn Harbor Development for detailed ownership by parcel

Private
City
State
MDC

Ownership

LYNN HARBOR

Areas relatively stable & fixed

Areas of relatively low investment & subject to change

Stable/ Changeable

LYNN HARBOR

HARBOR FILLING

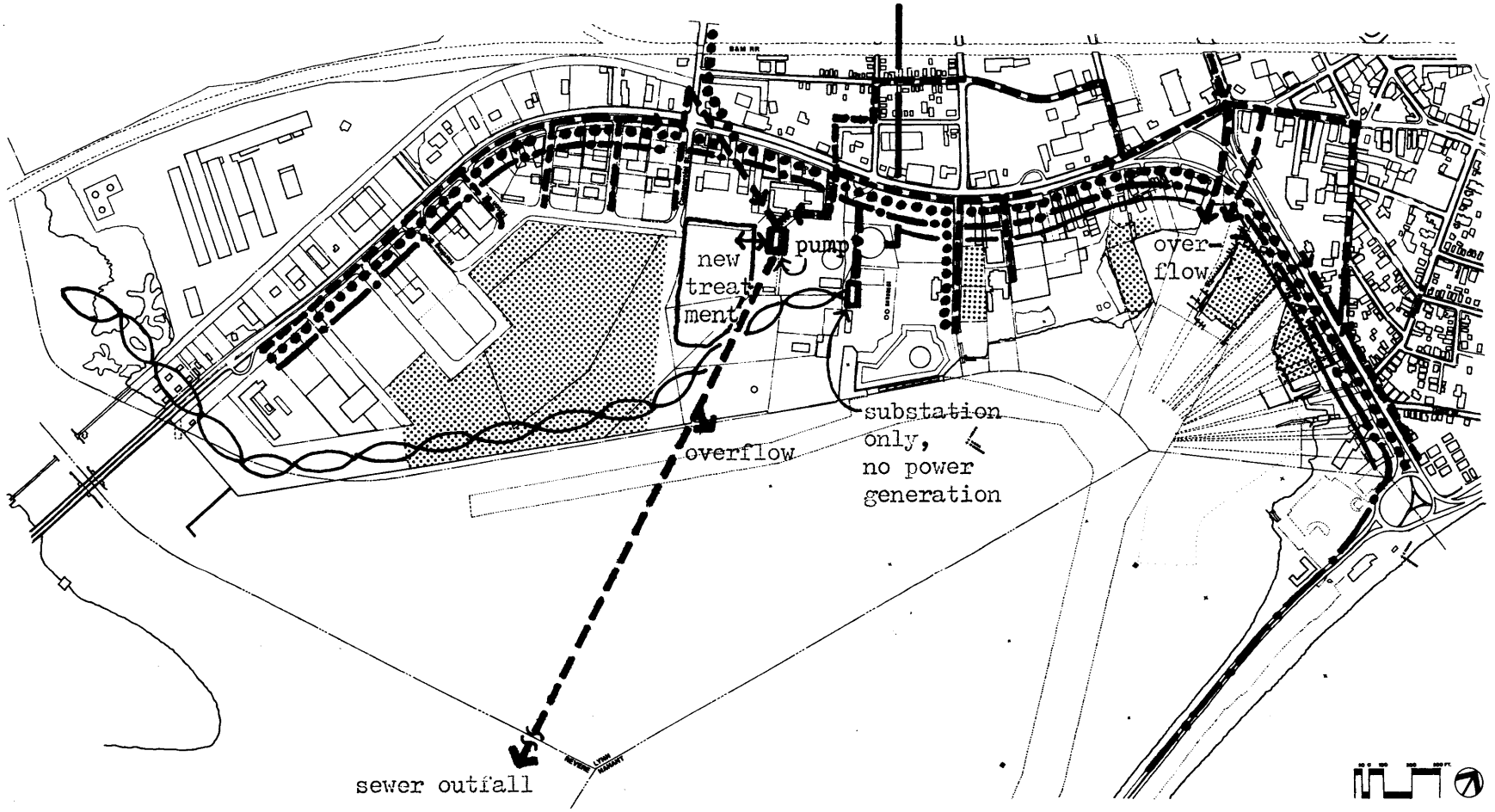
1. All vacant, developable parcels are on filled land, of varying quality. This fact will affect the structural design of new construction and is likely to increase foundation costs by as much as 250% over development on good load bearing soil.
2. The new state building code requires an engineering analysis of soil liquifaction potential during earthquakes, before allowing construction in areas like the waterfront. If this potential is high, as is very likely on most waterfront sites, construction height will be limited unless pile foundations are used, in which case, the liquifaction rating will not affect building height.

OWNERSHIP

1. State owned tidal flats and underwater land in the harbor are available by a 1910 law to the city through gift, purchase or eminent domain for "improving the harbor".

STABLE/CHANGEABLE

1. The relatively changeable areas are where harbor land use policies are likely to have the greatest effect. 80% of the shoreline could be considered changeable.



Elec. Transmission 115,000 v.

Elec. Distribution

Development Site

Combined Sewer

Water

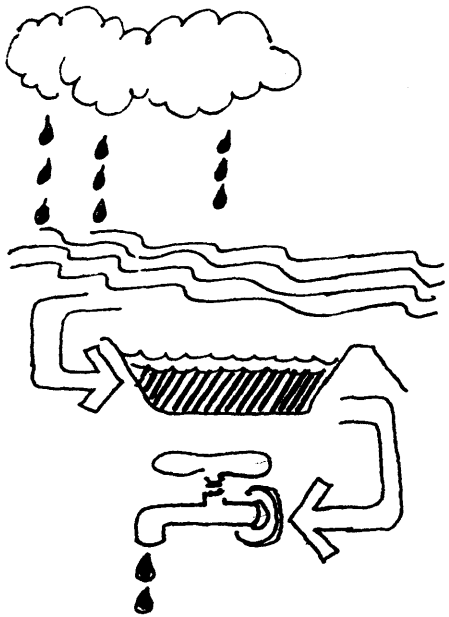
Gas

Utility Systems

LYNN HARBOR

UTILITY SYSTEMS

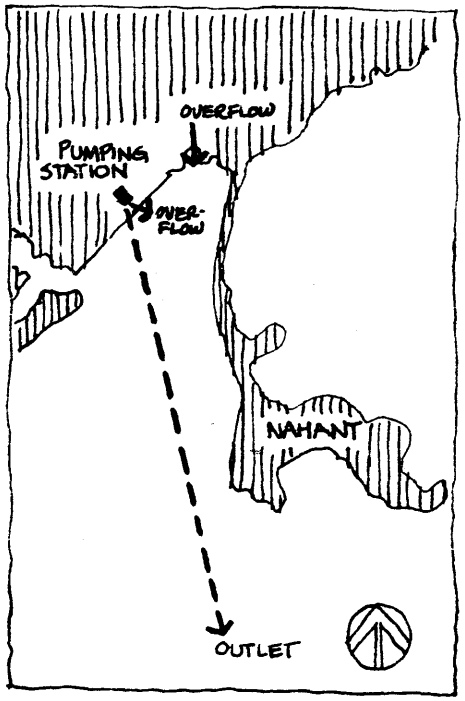
The utility systems that have particular bearing on harbor development are the water supply system, the sewage system, other utilities and the street network.



Water supply system - The Lynn system of watersheds and reservoirs has a total available water yield of 12 million gallons per day in excess of the current peak summer water demand and twice as great as the current average daily demand. The supply and replenishment rate of existing reservoirs are sufficient to handle an increase of as much as two million gallons per day in use even in summer months, although there may be need for distribution system improvements to carry that large an increase. Two million gallons per day could supply 20 regional shopping centers like Burlington Mall or 13 frozen fish processing plants like Gortons in Gloucester. Therefore, Lynn's water supply system is not a constraint on harbor development except for an industrial use with very extraordinary water demands (see appendix 3 for system details).

Sewerage system - The sewerage system currently combines both sanitary wastes and storm runoff, although some parts of the city have separated systems. The sewage flows to the city outfall sewer pumping station on the harbor and is pumped without any treatment but screening to deep water 1½ miles from Nahant. At peak flow times, some of the peak flow is discharged at overflow points directly into the harbor.

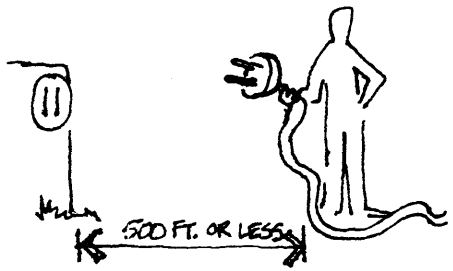
A new primary and secondary sewage treatment facility is currently being planned with EPA insistence. Construction is not expected for



approximately two years, and operation will begin in approximately four years.

The existing and planned sewerage system characteristics (see appendix 3 for system details) imply the following conclusions for harbor development:

1. Even today the capacity of the outfall pumping station is adequate for peak sanitary flows alone. No inner harbor overflow discharge would be necessary if storm water flow were not added to the system.
2. An increase of flow of 1 to 2 million gallons per day due to harbor development would probably not tax the existing system during normal flow periods and can be easily accommodated by the new treatment system in four years. At current peak flows, however, increased overflows into the harbor would result. The EPA and state may react negatively if such a possibility results from a specific new project. In addition, until the new treatment facility is concretely underway, the EPA will hold up any federal funding that might be desired for harbor development.
3. A one to two million gallons per day increase could accommodate a large range of new uses on the harbor, a range similar to that mentioned previously under water supply, since water use and sewage flows are generally similar.
4. New development on the harbor should separate storm and sanitary sewage to minimize total flows to the pumping station. Separated storm runoff should be directed to the harbor but not allowed to flow directly from heavy use parking, trucking or work areas where it might carry petroleum product wastes to the harbor.

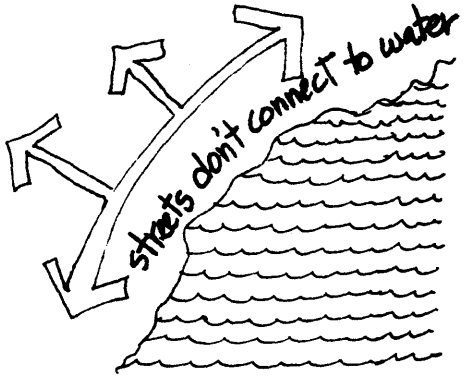


Other utilities - In addition to the water and sewerage systems, the location of other utilities such as gas and electric power has a possible effect on the costs of development in the harbor.

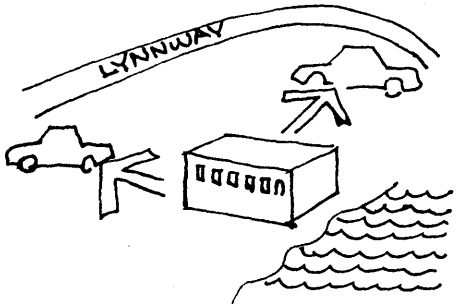
From location information one can conclude that first, all utilities are within 500 feet or less of potential development parcels on the waterfront, and for some parcels they are directly adjacent. Sites such as the New England Power Company parcel would require the greater distances. For all sites, the cost (a few thousand dollars) to a developer for utility extensions of the scale required are probably not prohibitive. If the city extends water or sewer service, some of the costs can be passed on to the developer.

Second, underground electric distribution south of Commercial Street is 4,000 volts, and north from Commercial Street all around the harbor to Nahant is 13,000 volts. The New England Power Company parcel has relatively easy access to either level of power, while development parcels on the north end of the harbor may experience more difficult access and therefore higher development costs. Access difficulties stem from a Massachusetts Electric Company policy of not tapping the 13,000 volt line except for major heavy power users, which may force power connections to slightly more distant distribution lines. Access to 13,000 volts should be sufficient for any major industrial development on the waterfront.

Street system - The present street system isolates the harbor from the rest of Lynn both physically and in the imagination (see appendix 3). No streets currently run from the water's edge back into the community, although potential connections exist at Commercial Street,



Traffic Impacts



Blossom Street and perhaps Pleasant Street. The Sagamore Hill residential area (Newhall and Tudor Streets) and upper floors of the shoe loft buildings and Telephone Company offer the only visual bridging of the Lynnway at present. In addition, all access (except for Commercial Street) to harbor lands comes from the Lynnway. This fact makes the Lynnway particularly vulnerable to the traffic impacts of new development. With major development occurring on vacant land, the Lynnway may experience as much as 16% to 29% increases in average daily traffic and corresponding congestion (see appendix 3 p. 154). Such levels of increase can have serious implications on air quality, safety, etc. Therefore, traffic generation should be looked at in some detail for individual development proposals and be perhaps limited to a level acceptable for the Lynnway.

5 DEVELOPMENT POTENTIAL

The process of assessing development potential includes the following activities:

1. identifying the community objectives which development should serve
2. identifying the physical characteristics and constraints of the harbor area
3. developing a list of possible land activities (those that occur on waterfronts in New England, that seem desirable for Lynn, that offer some chances for growth, etc.) and their characteristics
4. identifying desirable activities or activity characteristics by matching #3 to #1 and #2

One way to make the match is to look at land use activities in detail, eliminating from the options those that for various reasons are not possible physically or economically on the available waterfront and then evaluating the remaining options against community planning/development objectives. This section attempts to begin the evaluation for Lynn. If this analysis and framework for evaluation prove useful to the city in identifying the public interest considerations to be protected or in illuminating aspects of the decision process, then further analyses can be completed. Such additional analysis may not be completed until there is a specific demand (due to a permit proposal, etc.), but at that

point there then exists a framework for analysis and an initial set of activities against which to compare a proposal.

The purposes of evaluating activities against community objectives and physical reality are multiple. Understanding how land use activities meet objectives can help the city to focus its economic development promotional efforts on a selective list of target industries and uses. Second, the match can be the first step in developing a "plan" for harbor use that fully utilizes the resource, is responsive to community concerns and is implementable. Third, the match can help the city make decisions about proposed uses of the waterfront based on a more complete understanding of the potential effects on the city. Last, the match can help the city implement a harbor "plan" by highlighting the important use, siting, design or infrastructure considerations and tradeoffs that must be addressed before new activities occur.

The analysis presented here is meant to be a first step in all of these areas. If the city wishes to go further in any one of them, additional steps are required beyond the scope of this document.

Industrial Targeting

For example, targeting specific industries for industrial development can be done much more rigorously than is done here, partly because the focus here is not only industry but other waterfront uses as well. If the city believes that the identification of specific industry types (and individual firms within those types) for concentrated promotional efforts will result in industrial moves to Lynn, then a more complete analysis can be useful in making that identification.

Arthur D. Little Inc. completed such a targeting study for the

Commonwealth as a whole in 1970.[1] In the study they identified three industries (computer periferal equipment, biomedical instruments and air/water pollution control equipment) that met state criteria for high growth and technical basis and identified individual firms within those industries toward which to direct state promotional resources.

Similarly, the Community Development Corporation of Boston, with help from M.I.T., did a targeting study of industry for the Roxbury crosstown industrial park in 1976. This study is useful as an example of the targeting process for a smaller city or area. The study incorporated three varying methods of targeting. The first two are labor oriented methods, and the third a location requirements method.

1. The 20 two-digit Standard Industrial Code (SIC) industry groups in Boston were reviewed with emphasis on labor market criteria such as past employment growth, employment projections, wages, layoffs, occupations, turnover, space intensity and minority hiring. This review yielded three "best" industry groups.
2. Profiles were developed of residents in Roxbury as well as within four commuting rings of the proposed site based on age, educational attainment and minority status. Similar profiles of all three digit SIC industries in New England were developed and ranked by how well their labor force demands could be met by the populations in each of the commuting rings. The top 30 industries resulting from this

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[1] Arthur D. Little Inc., Fostering Industrial Growth in Massachusetts Volume II - Strategies for Development of Selected Industries in the 1970's, Massachusetts Dept. of Commerce and Development, 1970.

ranking were then used to develop a list of firms within each industry (based on age, size, employment growth, sales growth and net worth). This list was then used as a mailing list for a direct mail and advertising campaign.

3. Using a national EDA Office of Planning and Program Support advisory service, product classes and firms were matched to the Roxbury/Boston area based on locational features such as distance and size of markets; transportation services by truck, rail, air and water; existing industries; resources; utilities; sites and buildings; labor force; and local services. The results (5 digit product classes graded for match with Roxbury) corresponded fairly closely to the industry groups identified using the first two methods and served as a further way to prioritize firms listed in method #2.

The broad industry groups that were ranked highest by all three methods were Fabricated Metals (SIC 34), Machinery (SIC 35) and Electrical Machinery (SIC 36).

Realization & Cautions

Evident from this brief description is the realization that the analysis presented in this document is only a beginning of a similar targeting process and makes many assumptions about the criteria and measures of evaluation to be used. Furthermore, a caution should be mentioned about targeting studies. Even with a target list of firms, the rate of success in firm attraction is very low. It is low because there are other factors such as general economic conditions, unique internal firm characteristics, individual firm locational criteria or readiness to move, etc. that may or may not be reflected in the targeting techniques.

To Lynn these observations mean that a much more detailed targeting effort should be done only if sufficient city staff time is available and a large new industrial land opportunity, such as the New England Power Company property, offers an area to which to attract new industries.

Even if detail targeting is not called for, potential harbor area activities should be analyzed against community objectives before being made the focus of development policy. The activities that are analyzed here are a beginning of this analysis.

CRITERIA FOR ANALYSIS OF ACTIVITIES

Selected activity/land use options can now be evaluated on the basis of their match with community objectives. The detailed analysis of activities is included in appendix 4, but summary findings are found at the end of this section. The following community objectives are used in the evaluation:

1. use of the waterfront
2. tax rate reduction
3. employment impact
4. compatibility with public access
5. market feasibility

Criteria #1

The use of the physical properties and commercial and visual potentials of the waterfront location and the need for that location.

The use and need can vary from dependency to irrelevance. Dependency exists where direct land water interface is required for the activity,

such as the shipping or receiving of raw materials or products by water transportation. Water using use occurs where large volumes of water are required for industrial purposes, although a waterfront location may not be necessary. Waterfront supportive or complementary use occurs when an activity reinforces existing or builds new waterfront activity and image. Irrelevance occurs where uses that neither require nor support the waterfront locate on the waterfront because of other non-water related economic factors such as good land transportation and site access, cheap land, etc. These activities often, although not always, turn their back on the waterfront and affect it negatively by polluting, eliminating access or destroying the edge.

Defining "water dependent"

A clarifying observation about industrial uses that seek the waterfront comes from the Waterfront Industry Study for San Francisco by Gruen Gruen and Associates[1]. They conclude that the requirement of shipping or receiving by water is too restrictive a definition of water dependency/relatedness and suggest that "to be water related, an activity or firm must gain cost saving (cheaper to operate next to the water than inland) or revenue-differentiating (can charge customers more because of shoreline location) advantages, neither of which is associated with land rents or costs, from being located on" the waterfront "that it could not obtain at an inland location." They further suggest that this definition of water relatedness is precise and allows a

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[1]Gruen Gruen and Associates, Waterfront Industry Study; a Report to the San Francisco Bay Conservation and Development Commission, July 1976, p. IV-4.

determination of "whether or not an industry would produce less benefit to the region" if it were excluded from the waterfront.

Need for people & boat activity

The "commercial and visual potentials" aspect of this objective goes further than physical or economic dependency upon a waterfront location. Because the image of the harbor area is a critical part of its attractiveness for many types of development, Lynn should give serious consideration to the potential of activity options to build or support a high level of people and boat activity on the waterfront. People and boat (both recreational and commercial) activity has the potential of improving the general public image of the harbor and of the larger harbor vicinity. Allowing activities on the waterfront on the basis of their physical need for waterfront space may be necessary for some selected priority uses such as fishing, but the benefits to Lynn harbor will be greater if those uses also mean people and boat activity.

Criteria #2

Tax rate reduction due to new tax revenue.

Because property tax revenue is important to the city currently, activities can be evaluated on the basis of their revenue potential. However, those interested in the waterfront should keep in mind that the productivity of the waterfront can be measured in ways other than tax revenue alone. Public spaces, for example, although not producing direct revenue, can help produce an environment that attracts people, thereby providing consumers for nearby goods and services — an economic benefit potentially far greater than the foregone tax revenue from the public space itself.

The impact of new activities on the property taxes of Lynn taxpayers

can be evaluated in terms of tax dollars received by the city or in terms of the effect of increased assessed value on the total assessed value of Lynn, and therefore the change in tax rate. The change in tax rate by activity is one method of comparing the revenue advantages of one activity over another.

For purposes of rough comparison the net income/rental per sq.ft. of each activity (because the assessed value is proportional to income) will give an approximation of the relative ordering of activities by their potential property tax impact. However, such a simple comparison also easily overlooks the potential costs to the city for schools, police, fire, roads and general government which are greater for some uses than others. For example, service costs for residential development that adds children to the school system are substantial, while ignoring these costs would make residential activity appear quite favorable from an increased assessment standpoint.

Calculating change in tax rate

The change in tax rate, measured as additions or subtractions of dollars from the current rate of $168.00 per $1,000.00 of assessed valuation, can be calculated by the total annual fiscal gain or loss resulting from the activity divided by the assessed value of the community plus the new development. The fiscal gain or loss is based on the following steps outlined in Herr:[1]

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[1] Phillip B. Herr and Associates, Evaluating Development Impact, Massachusetts Department of Community Affairs, February 1976, pp. 68-84.

1. an estimate of the tax revenue from an activity (assessed value x tax rate)
2. minus an estimate of school costs (number of new students x average school cost per pupil)
3. minus an estimate of non-school costs for residential or non-residential activity (.3 to .7 x assessed value of development x general tax rate)
4. plus or minus an estimate of resultant change in state school aid because of increased assessed value (% change in school aid x current school aid)
5. minus an estimate of average year debt service of major public improvements (if relevant)

30%-70% of new tax revenue generally covers city service costs for streets, utilities, etc.

Criteria #3

The creation of permanent and varied employment opportunity for Lynn's unemployed and employed and the diversification of local sources of employment provided by the activity.

For a discussion of the city's current employment needs and how they relate to state projections for change in industry/occupational sectors, see Chapter 3. For analysis, the employment characteristics of activities are evaluated with regard to the employment objectives/ strategy in Chapter 3 page 28.

Criteria #4

Compatibility with public access and with other activity types as adjacent uses or as joint users of a development site.

Compatibility is based on the existence of nuisance effects such as odors, vibrations, noice, or other factors such as site use, physical appearance, building type used, amount of auto/truck access necessary, etc.

Criteria #5

Market feasibility based on existing market demand or a potential demand undervalued at the present time.

Market conclusions are included in the analyses located in appendix 4 The comments of these analyses are not intended to be exhaustive but are to give a sense of the market picture and indicate whether further consideration is justified.

CHOOSING ACTIVITY OPTIONS FOR FURTHER ANALYSIS

From the great number of activities that are possible on a waterfront location or have occurred on New England waterfronts, the options for analysis can be narrowed first by eliminating from a broad list those activities that seem to be unreasonable based on three points.

1. Activity land needs do not fit the nature (size, access) of typical sites available on the waterfront.
2. The attractiveness of locating in Boston or surrounding communities is too great for that activity to seek a Lynn location.
3. The economic trends and climate of the region as well as the first two points above suggest a very small likelihood of an activity being attracted to Lynn.

By these criteria, the following options that have at one time or another been suggested for Lynn are eliminated from consideration here:

Oil refinery (500-3,000 acres needed)

Deep water oil port (existing Everett facilities too great a competition for Lynn)

Landfall for oil or gas pipeline (requires tank farm, refinery or pipeline network on land side)

Electric power generation plant (already rejected by New England Power Company and possible only if new energy situation creates need for new small production facilities)

Shipbuilding (too much competition from Boston and other East Coast port areas)

Biomedical instruments & computer periferal equipment[1] (already established around Route 128)

Sports training or playing complex & convention facilities (regional competition from Boston and 128 locations very great)

Cinema center (regional competition from Boston and 128 locations great although local entertainment needed in Lynn)

Second, the options can be narrowed somewhat by understanding why an activity might not best fit into the Lynn waterfront context and by eliminating from consideration here those with the following problem characteristics:

1. The activity is not waterfront dependent (doesn't require water transportation of raw materials or products) or is not waterfront supportive (doesn't build or reinforce waterfront activities and image). For example:

   Oil/gas storage tank farm

   Open storage

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[1]Suggested by Arthur D. Little Inc. as targets for state industrial development efforts in Fostering Industrial Growth in Mass., Vol. II: Strategies for Development of Selected Industries in the 1970's, October 1970.

Building products yards (brick, clay and concrete depending upon shipping mode).

Warehousing (depending upon shipping mode)

2. The activity is highly controversial and political due to the potential of spillover effects (such as air or water pollution) impacting adjacent communities. Controversy makes implementation uncertain, more difficult and more time consuming. For example:

   Oil/gas tank farm

   Oil shipping of any kind

3. The activity does not lend itself to mixed use of land/water parcels because of public safety or private security needs. For example:

   Oil/gas tank farm

   Chemical plant

   Building products

   Open storage and warehousing

Other problem characteristics

These potential problem characteristics could be expanded to include other spillover effects such as smell, noise, vibration, solid waste or water use, other site reasonableness factors such as topography, drainage, soil capability, utilities, development costs, or even broader concerns such as some level of public safety. However, for selecting some activities for further analyze here, I do not believe the expansion is necessary.

The activities I have chosen to analyze further include:

Seafood processing

Warehousing

Commercial fishing resulting from the 200 mile limit

Offshore oil support services

Marina

Miscellaneous retail

Beyond the scope of detailed analysis here but of potential interest to Lynn are miscellaneous manufacturing of large bulk/low value products that are shipped by water, pollution control equipment manufacturing, barge shipping, restaurants, office space, marine related research facilities, public open space, museums, a hotel, housing and a maritime trade educational center. Some of these uses will be commented upon here but have not been fully analyzed.

ACTIVITY ANALYSIS SUMMARY

Activity/ Use	Criteria 1. Use of Waterfront	2. Tax Rate Reduction ($ per 10,000 sq.ft. of site in use)	3. Employment Impact	4. Compatibility	5. Market Feasibility
Seafood Processing (See appendix 4 p. 157)	Not dependent on waterfront for transport, but does gain cost savings there. Boat activity but little "people" activity.	5¢-10¢	Greatest # of employees are semi-skilled & non-skilled labor. Fresh processing more labor intensive than frozen processing. 25% of peak seasonal employ. are permanent. Some year-round operations. Some effect on employment needs.	Truck access & odors limit location, but public access possible.	200 mile limit is creating new foreign markets for products. New plants will result from new U.S. or foreign investment rather than existing Massachusetts plant expansion.
Warehousing (See appendix 4 p. 163)	Boat activity depends on product stored. Little "people" activity. Generally not a positive use of limited shoreline space.	1/2¢	Not employment intensive. Mostly operative jobs at limited wages. 29% clerical jobs. Minor effect on job needs.	Not normally noxious, but truck activity limits joint uses. Public access possible if outdoor storage not needed.	Very little growth predicted for the industry. No existing sites have both good water & truck access. Lynn could capitalize on access to Logan Airport.

Activity/Use	1.	2.	3.	4.	5.
Commercial Fishing (See p. 37 for general discussion, also appendix 4 p. 177)	Boat & people activity most of time - peak at unloading. Very dependent on waterfront. Often competes with recreation boating for space.	No real property tax contribution except through mooring & landing fees. Personal property taxes possible on $300,000 - $1,000,000 value of new trawlers.	Not employment intensive. Most jobs are in labor occupations but at good wages.	Compatible with many other activities. Good public access possible.	2 scenarios, some expansion probably feasible.
Temporary Offshore Oil Support Base (See p. 42 for general discussion, also appendix 4 p. 177)	Dependent on waterfront. Boat activity, but limited "people" activity. Small amount of actual shoreline needed.	Less than for warehousing alone (less than 1/2¢). Landing fees possible.	Not employment intensive. 1/2 of jobs filled by outsiders. Mostly operative & labor employment but at high wage levels, some managers. Does use skilled labor. Short term jobs.	Little traffic generated, but storage limits joint use of site. Public access possible but probably limited due to storage.	Feasible with wharf & warehouse improvements. Much competition from other harbors. Should be adjunct not main focus to harbor development.
Marina (See appendix 4 p. 167)	Dependent on waterfront. (Winter boat storage not dependent on waterfront but usually occurs there.) Seasonal but much boat & people activity.	1/2¢	Not employment intensive. Part time & seasonal labor with low wages. If boat/engine repair included then skilled labor & operatives needed.	Good public access. Compatible with most activities, provides much visual amenity. Potential pkg. conflicts in joint use situation. Potential boat traffic conflicts with comm'l boats.	Rough estimate of current demand for marina slips in Lynn is 441 boats. Feasible if dredging occurs in some areas.

Activity/Use	1.	2.	3.	4.	5.
Miscellaneous Retail: Specialty, Fish & Convenience Sales (See appendix[4]	Not water-front dependent but is high "people" generator. No inherent boat activity but can draw boat activity. To maximize water-front support, should be oriented to water.	1¢-2¢	Median range of full time employment per limit of site. Mostly cleri-cal/sales jobs with low wages, but likely to employ Lynn residents.	Compatible with many activities but auto traf-fic can be problem. Public access & open space should be clearly defined as public. Good access if activity is oriented to water.	Probably feasible if linked to CBD yet differ-entiated.

The following activities have not been analyzed in as great a detail as the activities above; however, observations about them may be useful to consider. See p. 177 and 180 for employment and tax data.

Restaurant	May be dependent if success based on waterfront views. High "people" gener-ator & possible boat attraction. Desirable for waterfront.	2¢-4¢	High employment intensity. Most jobs in service occupations with low wages. Not priority jobs for Lynn. Higher than average con-struction employment.	Very compatible with other activities & public access. Good joint use potential.	Probably feasible.
Offices	Not dependent on waterfront but seeks waterfront for amenity. High "people" generator but little attrac-tion for boats.	2¢-3¢	High employment intensity. 2/3 clerical jobs & 1/3 profes-sional/mana-gerial. 1st priority for job strategy.	Very compatible with most activities. Potential parking con-flicts with other uses. Good public access possible.	Unknown.

Activity/Use	1.	2.	3.	4.	5.
Research (especially marine related)	Can be waterfront dependent if there is close connection needed between facility & sea water. Some boat activity possible, but little "people" activity likely.	Similar to office space (2¢-3¢)	Average employment intensity. Most jobs are professional/ technical at average wages. High construction employment for some facilities.	Very compatible with most activities.	Unknown.
Housing Midrise to Highrise	Not dependent on waterfront but often seeks amenity of water location. May generate boat activity & implies high "people" activity.	5¢ per 10 two bedroom apts. of about 1,000 sq.ft. each. (Less as bedrooms increase.)	Very little permanent employment, above average construction employment.	Compatible with many non offensive industries. Some mixed use with light industry possible. Good public access possible, if waterfront not privatized.	Unknown but growing more feasible as money sources become available again.
Public Open Space	High "people" activity.	Tax exempt but can generate increased return from adjacent property.	Little.	Highly compatible with all activities. Public access is primary.	

Conclusions from Activity Analyses

The detailed analyses and summary comments lead to the following conclusions for harbor development.

1. A preliminary priority ordering of the activities summarized that would best meet the first objective: the use of the waterfront would be:

   marina
   commercial fishing
   boat using industry (e.g. seafood processing)
   retail, restaurants, open space
   housing
   offshore oil support base
   office, research
   warehousing

2. A preliminary ordering of activities on the basis of tax rate effects would be:

   industry (e.g. seafood processing)
   high density middle to upper income housing
   restaurants
   office, research
   retail
   marina, warehousing
   offshore oil support base
   commercial fishing

   No one activity, even if occupying a very large site, will mean a great reduction in Lynn's tax rate. Therefore, tax effects should perhaps be of lower priority in development than image and employment.

3. An ordering of activities on the basis of employment impacts is difficult, because the impact can vary greatly with the specific development proposed. However, the following list relates the

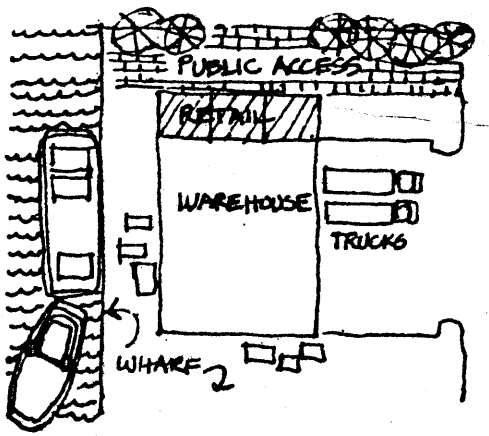
activity types to each other in a general way.

office
retail
industry (processing)
research
offshore oil support base
commercial fishing
warehousing
restaurant
marina
housing
public open space

4. The last ordering is based on the compatibility of an activity with public access and joint development.

open space
restaurant
research
commercial fishing
offices
retail
housing
marina
industry (processing)
offshore oil support base
warehousing

5. Seafood processing is a viable activity for the Lynn waterfront. Commercial boat traffic will increase to serve the processing, probably to higher levels for fresh versus frozen operations. Truck traffic will also increase with processing, and Lynn should consider regulating allowable traffic increases. Processing activity could be a more positive addition to the waterfront if a producer were to display, or at least make more visible, his processing



operation to the waterfront observer, so as to add to waterfront interest.

6. Warehousing has so few positive characteristics that only very limited building should be allowed directly on the waterfront, although it might be a desirable use in other locations. One possible solution to warehousing compatibility problems is the combination of warehousing with perimeter pedestrian oriented retail or commercial uses and public access space, if these uses don't conflict with the need for outdoor short term storage during shipping or receiving of goods from the warehouse.
7. Because substantial marina demand exists and because increased boating could help to quickly create a more recreational and positive image for the harbor, marina development in highly visible locations should be a high priority for implementation.
8. Retail development on the waterfront should be complementary, not competitive, with CBD shopping. Specialty, convenience and some food retail (such as fish) uses are appropriate. In addition, retail development should be oriented to the water and combined with adequate pedestrian public spaces. To maximize pedestrian environment, parking requirements might have to be satisfied off the waterfront site.

6 POLICY & IMPLEMENTATION

Policy objectives and implementation are often thought of sequentially; first policy objectives are defined, and once accepted, thought is then given to how achievement will occur. Such separation of the two is often fatal to the process. Early on, because they influence each other, thinking about policy must be accompanied by ideas for implementation. While not assuring successful implementation, this linkage is the most practical way to begin.

The following sections briefly discuss a working definition of policy and its usefulness, the range of public actions the city can take to implement policy objectives, and the question of uncertainty. Included in the implementation discussion are the following recommendations for the broad levels of implementation.

Broad implementation recommendations

1. Rezone the northern portion of the harbor from "industry" to "business".
2. Adopt a special harbor overlay zoning district.
3. Consider public development of pivotal improvements such as a "waterfront walk".
4. Coordinate local development corporations to make local financing more available.
5. Initiate aggressive government/business revitalization actions and attitude.
6. Improve regional media coverage of Lynn.
7. Consider defining and promoting the private development of a major project on the northern harbor waterfront.

The specific implementation actions that are tied to specific policy objectives constitute the following chapter of policy recommendations.

POLICY

What is a policy?

Policy can be defined in numerous ways depending upon the context or environment for policy making and its connection to administrative responsibility and mechanisms for implementation. The definition that I find most helpful in the Lynn context is "a set of objectives and a patterned set of actions aimed at the achievement of these objectives."[1] The articulation of these objectives and actions can help elected officials and the wider community understand and interrelate their intentions and decisions in independent situations relating to the harbor. The

Why have policies?

statements of policy thus exist in part to guide local government decision making toward internal and external consistency, and toward prevailing community values.[2]

The types of decisions that local government makes that can be positively influenced by a conscious adoption of policies include those relating to day-to-day operations (city council permit approvals or work orders in the Public Works Dept., etc.), those relating to the management of the government itself (the Mayor's budget process, etc.),

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[1] Professor Alan Altshuler, M.I.T. lecture, February 14, 1977.

[2] Solesbury, Policy in Urban Planning: Structure Plans, Programmes and Local Plans, pp. 53-54.

and those relating to planning and development decisions (capital facilities, social programs or organizational change).[1]

The articulation of policy for harbor land use and development is an important step in beginning to focus the energies of the whole city structure on harbor improvement and development. Policy consensus can lead to the focused thinking and practical actions necessary to influence events in the harbor toward positive development.

IMPLEMENTATION BY PUBLIC ACTION

Need for policy consensus and city council adoption

Policy consensus, whether a formal adoption of policies by the city council or an informal public use of policies over time, is the first step in implementation. If harbor development policies are to be useful internally (to city departments carrying out day to day operations) as well as externally (to the land developer wondering whether Lynn is the place for investment), their adoption by the city council can be important. Similarly, adoption by the council can act to guide objectively, later decisions about and approvals for harbor development. Thus the council can begin to make explicit its attitude toward and intentions for the harbor.

Beyond public agreement, the city can take specific actions to begin to influence events and implement its land use/development policies. The city can take regulatory actions that prohibit certain responses

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[1] Kraemer, Policy Analysis in Local Government, p. 9.

and require minimum levels of performance from development initiated by others, or the city can act as change initiator itself. In this later role, the city can use its power to promote activities that meet its policy directives or can use public money and land taking power to develop its own land and facilities.

Regulatory Actions

Zoning Recommendations

The basic regulatory action that can be used to implement specific policies is zoning. Zoning may be done by mapping and defining standard use areas (as it is currently in Lynn), or by special district controls that overlap or replace use areas for some particular public purpose.

To establish the basic city intent to change the character of the northern section of the harbor to retail, research/office, and recreational uses will either require rezoning the existing heavy and light industry districts to a standard business zone or mean adding a harbor use zone to the use classification as was done in Cohasset.[1] For simplicity, ease and speed of implementation, the former is recommended. Along with this change, the establishment of an overlay Special Harbor District is recommended (see following map). This district will establish the city's special harbor concerns within the entire harbor area, including the existing industrial zone.

Special Districts

Special Districts are created where the city believes the public

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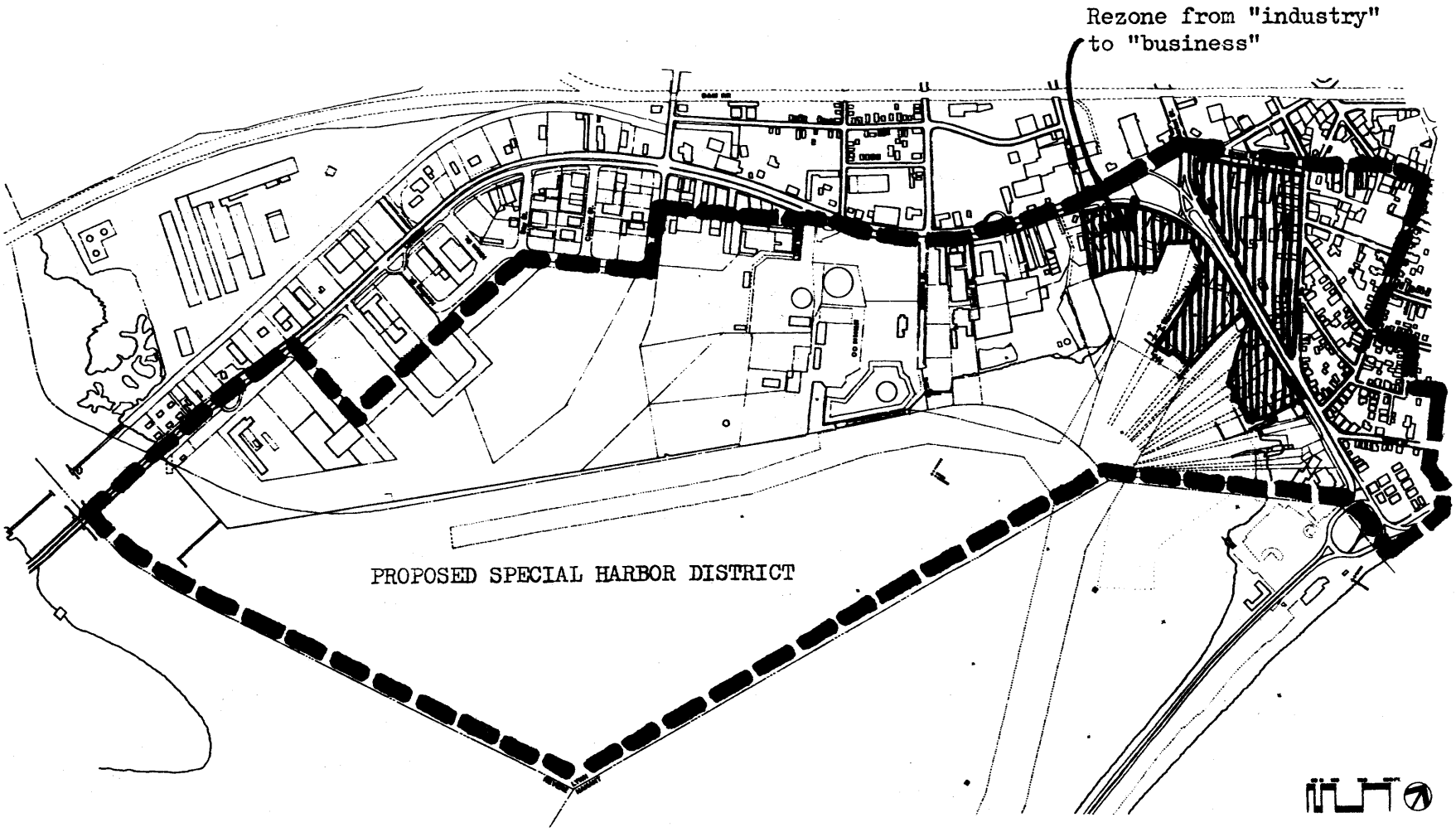
[1] The town of Cohasset added a Waterfront Business District to its existing zoning districts and defined uses by right as well as uses requiring a special permit, lot coverage, height regulation and setbacks.



INITIAL ZONING CHANGES

interest requires increased or different types of intervention than that provided by standard use district controls. Most often special districts have defined historic areas and special preservation controls or flood plains, etc.; however, other kinds of unique locations such as the harbor are good bases for special districts.

The district can contain special controls such as design review or guidelines, view easements, development incentives or special tax assessments, manditory dedications, building height limits or guidelines, public access requirements, mixed use agreements, etc. A planned unit development ordinance can also be applied to the special district and may be sufficient to protect public concerns where and when it is applied. However, a special district can be better tailored to the unique requirements of the harbor and will be in effect at all times. Some specific suggestions for special requirements follow in the policy recommendation chapter.

Defining a special harbor district can, in addition, help the city in efforts to receive special assistance grants (state coastal zone, federal economic development, H.U.D., etc.) for planning or improvements, or special financing and insurance programs such as H.U.D. flood plain insurance, or state redevelopment funds. The district designation can help principally because it shows that the city recognizes the harbor as a special area in the city worthy of special attention and is taking positive steps to utilize as well as protect this asset.

City Initiative Actions

The city can also initiate change more directly than through regulating the activities of others. The city can act as its own developer of land and facilities that are in the public interest and can act as the promoter of specific desired development by the private sector.

The city as developer

As a developer of parks, paths, wharfs, streets, etc., the city can make use of its land assembly powers of eminent domain, city employee resources for design, management and construction, and financial resources from general tax revenues, bonding authority or federal grants. Although the city role is well known, there is the opportunity to use it in a new way for harbor development. Lynn is not accustomed to using this role in a highly promotional way, rather than purely to provide service to its existing population. The promotional aspect of the development role would be to pinpoint one or more public improvements in the harbor around which, once provided, a number of new activities and investments would coalesce.

Pivital improvements

Lynn should consider developing (by itself or in conjunction with the private sector) such pivital improvements in the harbor district as a commercial wharf or a waterfront walkway (see appendix 5 for possible funding sources and public/private cooperation ideas).

The city as promoter

As a promoter, the range of possible city actions is probably even greater. In this role the city is seeking to sell the advantages of waterfront sites to potential private developers and investors. To aid with this selling, the city can use several techniques including: tax arrangements, local financing and land assembly, development prospectuses, design proposals, boosterism, and the regional media.

Tax Arrangements

Special tax arrangements (through the granting of Chapter 121A privileges or special assessment letters of understanding) are often and successfully used to entice development. In light of Lynn's tax objectives and the public image and distrust of tax "deals", tax arrangements should be followed only after careful consideration of the advantages of the particular case.

Local Financing

Another means of selling the prospects for development is to make local financing dollars available to developers and aid developer assembly of land parcels. The Department of Community Development has been studying the financing situation in Lynn (see table 6-1 and also appendix 5 for description of programs to assist private development) and has recommended the coordination of the fragmented and competing local development corporations (Lynn Municipal Development Corp., Chamber of Commerce Development Corp., Essex County Development Corp., and a proposed neighborhood revitalization development corp.). This coordination is essential to strengthening local financing, and these groups should be encouraged or compelled to present a united fund raising effort and reach a consensus on a priority of project types to be undertaken.

Eminent Domain

Land assembly power is also an important government tool to promote development. Municipal eminent domain power can be used to acquire land for a "public purpose." "Public purpose" does not necessarily mean "public use", thereby freeing the use of eminent domain "taking" to help implement waterfront projects defined to be in the public interest. However, eminent domain taking means the expenditure of city funds. The public opinion of

Table 6-1

Sources of Industrial and Business Capital	Use in Lynn
Banks and Financial Institutions	Limited
Local Development Corporations (Three)	Limited
Venture Capital	None
Small Business Investment Company	None
Economic Development Administration Overall Economic Development Plan Accepted March 1976: Future Funding Pending Status of Sewer Treatment Plant	Pending
Industrial Revenue Bonds (Chapter 40D)	None
Small Business Administration	Active
Massachusetts Mortgage Industrial Finance Agency Effective 11/76	Active
Massachusetts Science & Technology Foundation	Active
Community Development Finance Corp. Effective: Massachusetts 11/76	None

Source: Economic Development Office, Department of Community Development, City of Lynn, November 1976.

eminent domain acquisition of land in Lynn is very low. In addition, the existence of several vacant, developable parcels owned by the Lynn Redevelopment Authority suggests that either the parcels are inappropriate for the types of development investors are currently interested in, or other factors besides land availability have discouraged development. I suggest both factors are at work. On the waterfront, eminent domain should not be considered for every project but can be a city advantage in generating developer interest in the one or two key private projects that can create a new harbor environment.

Development Prospectus

Development prospectuses are another method of selling. Lynn should consider a prospectus if a major waterfront project can be defined. A prospectus can promote a specific site or project by putting into one place most of the pertinent front-end information a potential developer wants to think about for a project. This information thereby reduces the time and energy costs a developer would have to invest on his own to even become aware of the site being offered and increases the chances that he will consider making the type of proposal for site desired by the city. The types of information to be offered in a prospectus often include:[1]

1. background and area photos
2. site location

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[1] Majority of outline taken from the "Pickering Waterfront Site/ Prospectus for Development" for the city of Salem by Skidmore, Owings and Merrill, 1975.

3. existing site conditions
    - utilities
    - subsurface conditions
    - zoning
    - site access
    - site development potentials
4. assessment of development factors
    - market
    - land cost
    - site preparation
    - parking
    - scale
5. special considerations
    - design objectives for the area
    - required easements and zoning flexibility
    - accompanying public improvements
6. illustrative development schemes
7. contracts and submission requirements

The Boston Redevelopment Authority often uses this same technique with great success (although admittedly development demand in Boston is greater than in Lynn). The BRA usually prints a small number of copies (50-100) of their "developer's kit", which after advertising are picked up and paid for by developers. This process, rather than distributing them by general mail, minimizes cost and separates the more serious developer from the curious one.

Design Proposals

Either as a part of a prospectus or separate from it, illustrative development schemes and design proposals are another useful promotional tool for the city. Given some publicity, these ideas can expand both developer and public imagination of what is physically possible on a waterfront which has been ignored by almost all. Balance is important

here though, and the city shouldn't oversell pipe dreams, or public confidence in seeing real improvement could diminish further. The advantages of a detailed area design proposal, either alone or as part of a prospectus, is that it allows the average person to better comprehend the implications of a plan for an area than does a concept land use plan or zoning map, etc.[1]

Commitment

As a part of promotional selling activities, improved city boosterism and media coverage are also necessary. The city must begin to present to the rest of the region a united front of business leaders and local officials committed to Lynn's improvement and prosperity. Lynn's slow population and economic decline have become self-fulfilling prophecies. In part, they can begin to be arrested by a new determined effort not to let them continue, especially when a new commitment results in cooperative and aggressive action by the government and local business community to halt decline and build new, revitalizing initiative.

Regional Media Coverage

Improved regional media coverage is important to combat a generally negative impression of Lynn as a place in which to live, do business or to invest. The regional media (rather than local), however, have much competition for news space. They will cover events that are easy to cover, have some regional effects, or are particularly unusual or controversial in some way. To improve positive regional media coverage of Lynn in general, the city should consider taking some positive steps.

1. In combination with the Chamber of Commerce, the Mayor's office

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[1] Skidmore, Owings and Merrill, Urban Design Mechanisms for San Antonio, 1972, p. 22.

should have one person who has media experience and contacts to handle PR and public information.

2. Specific personal contacts should be established with one major reporter or editor (e.g., the regional city reporter) at the Globe or Herald and one or two television stations. Personal contact is a much better way to generate coverage than are news releases.
3. Special efforts, such as the Union Street Mall, harbor development, Blue Line station, should be brought to the attention of the wire services such as U.P.I. Their pick-up of a story would mean its distribution in smaller newspapers throughout the region.
4. A general boosterism feature article about the city should be written by a freelance writer and submitted to local magazines like the "Boston Magazine", "New Englander", Boston Globe Sunday New England magazine, etc.

Implementation Uncertainty

In taking action of any kind, the city faces the question of uncertainty: uncertainty about the accuracy of its analysis, assumptions and predictions about how the "market" will really operate in the next few years, about whether a policy or a decision resulting from that policy is really the best one possible. Living with this uncertainty has several implications.

The "Harbor Plan" is composed of policies

1. Don't plan for specific activities in specific locations on the harbor. Specific activities limit flexibility, are difficult to achieve and may not be the best decision. For this reason, a harbor plan is composed primarily of policies. Harbor plan policies

are not meant to create inflexibility. Just the opposite, they are meant to guide public decision making over time, adapting to changes in market, in public attitude or physical context.

Short range program of actions

2. Public actions should be organized into short range programs (1-3 years) so that significant changes in the market and other factors can be adjusted for as they occur. In addition, the implementation of short range programs of action may themselves change the situation enough that the longer range objectives that started the process also need to change, e.g. is reducing unemployment still critically important? Short range programs of action are also a way of setting priorities for implementation, e.g. is a new zoning regulation more important to accomplish this year than a project prospectus for developers?

Keep land available for the "right" kind of development

3. If there is reason, keep as many use and land options open for as long as is practical; sooner or later there will be increased consensus on the appropriate use of the parcel or resources for its development. The three ways the city can increase this decision time are, first by allowing only low intensity interim uses of the site that involve little or no capital investment by the user for buildings or by the city for utilities, roads, etc. (e.g. storage, parking, exhibitions, etc.). Unfortunately this strategy may be counterproductive to other objectives of rapidly increasing public image making activity on the waterfront. One way around the dilemma is to identify the key projects or parcels that, if developed, will stimulate adjacent investment and be "image intensive" themselves, and then proceed to promote the prompt development of

such projects. The remaining harbor areas can then be left open or to interim uses until development demand generates proposals for them.

Second, the city can keep land available by purchasing it and land banking it until such time as public consensus dictates it be used. Unfortunately this action may also negate objectives such as increasing tax return.

Third, the city could buy, trade or negotiate the development rights to a parcel, to be held by the city for use in the future by appropriate development. This option would cost less than outright purchase yet give the city control over development while continuing property tax income from the existing use.

"Key Project" Approach

When possible the city should attempt to decrease the effects of uncertainty and the need for long decision times. As noted above, one approach to decreasing uncertainty that does not imply the direct outlay of city funds at the outset is the aggressive promotion of a "key project". The following three observations further suggest that the city seriously consider the key project approach.

Why is it needed?

First, to improve the image and salability of the harbor, the city must take some aggressive coordinated actions or find itself at the mercy of regional economic unrest and investment disinterest.

Second, new private investment in the waterfront and adjacent areas is difficult to promote given the great uncertainty in the future of the area, its current neglected image and questions about the long term livability of the city. These uncertainties add substantial risk to any private project that depends upon a positive image and vital waterfront

for its successful marketing.

Third, the nature of the existing use pattern, parcel ownership pattern and historical development of the waterfront imply that for a change in activity emphasis to occur, the trend must be begun in a major way. Without a major push, land use on the waterfront will continue to be developed piecemeal and will likely be unrelated to and unsupportive of a new positive waterfront image.

7 POLICY RECOMMENDATIONS

The policy recommendations here stated are specific suggestions for an official city position on development in the harbor district. Some of these policies are controversial and therefore need to be publicly discussed to clarify city intent and arrive at some level of agreement. These policy statements are meant to be used to initiate discussion of the content, implications and implementation of specific objectives for the harbor.

Policy statements can be organized in a variety of ways. I have chosen to use an organization suggested by Solesbury[1] — process of change, infrastructure, activities or function, environmental or "place" quality, and movement.

These policies have been stated in the general form, "the city should..."; however, in order to make policy intent clearer, final policy statements should identify the city office (mayor, council) or department (planning, public works, etc.) that will take responsibility for carrying out the stated policy. Most policies require the cooperative interaction of several groups for successful implementation.

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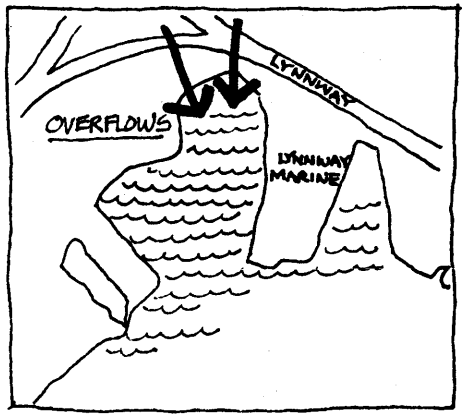
[1] William Solesbury, Policy in Urban Planning: Structure Plans, Programmes and Local Plans, p. 67-69.

PROCESS OF CHANGE

Policy 1. In order to seek the counsel of the Lynn Community and existing users of the harbor area and to achieve some public agreement on use of the harbor resource, policies should be discussed publicly (and amended if necessary) before being implemented or formally adopted by the City Council.

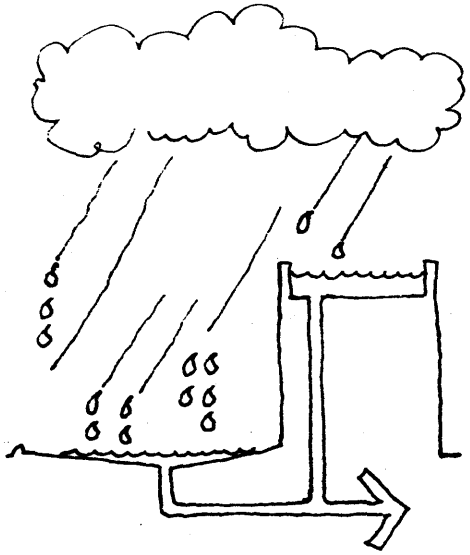
Implementation - In order to broaden the opportunity for informed public discussion, the city should publish a set of policy intentions for the harbor and actively work with the existing Lynn community and citizens groups to clarify and refine these intentions. The Planning Department should take the initiative in seeking out these groups and soliciting their suggestions.

INFRASTRUCTURE



Policy 2. In order to improve long term harbor water quality, the city should continue to separate the sanitary sewage system from storm drainage and take short term steps such as screening to decrease the negative effects of the overflow in the north part of the harbor where the least tidal flushing occurs.

The water quality of the harbor is related to the quantity of raw sewage discharged into it, especially during storms when the volume of water in the combined sanitary and storm sewer system necessitates some direct discharge of overflow. This overflow is likely to occur



occasionally even with a new sewage treatment plant. Overflow is released into the tidal area next to Beacon Chevrolet and Lynnway Marine as well as at the main overflow outlet near the pumping station.

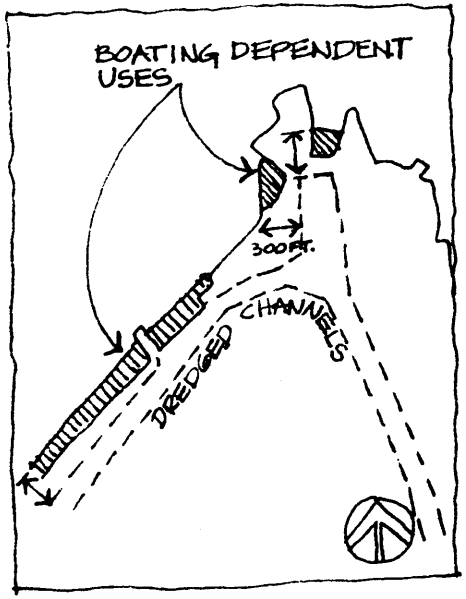
Implementation - Within the Special Harbor District all new development should separate storm runoff and sanitary wastes. All storm/site drainage for waterfront parcels should be directed to the harbor with precautions such as filtering taken to avoid pollution from site uses, especially petroleum or chemical based. The quality of site drainage allowed into the harbor can be based upon an acceptable standard. For parcels not on the waterfront and without access to a separate storm system, combining storm and sanitary wastes is acceptable until a city storm system is installed, provided that some type of storm runoff storage, recharge or delayed discharge system is constructed to avoid peak flows to the pumping station.

ACTIVITIES ON THE LAND SIDE

Policy 3. To increase the capacity of limited waterfront land to provide tax revenue, employment and a built-in market for associated uses, the city should encourage intensive use of waterfront sites by existing and new activities. The city should use all means available to facilitate increased use of the harbor for shipping by existing industry such as Norelco or G.E., if economical from the industry standpoint. New uses on vacant parcels should be encouraged to be

high people/boat attraction uses, or activities with a high number of employees per sq. ft. of land, or a high volume of capital facilites per sq. ft. of land rather than low intensity uses such as open storage.

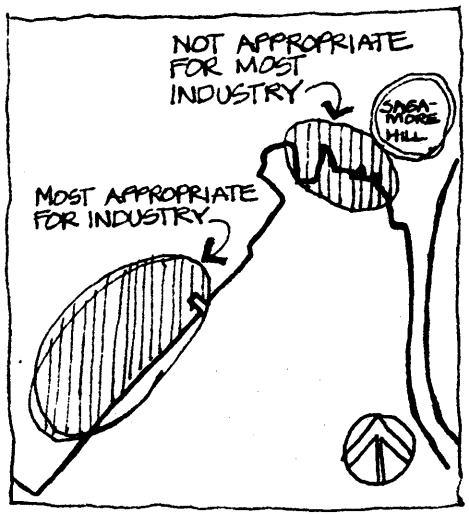
Implementation - To insure intensive use of the waterfront, specify some intensive uses by right in the harbor district and allow most other uses (that may or may not be intensive) by special permit only. For example, water oriented retail, restaurants, office or marina space might be uses by right, with other uses such as manufacturing, warehousing, etc. by special permit only. To control the potential traffic impacts of intensive development, traffic generation from a site should be limited to 20% of the total average daily vehicles on the receiving street.



Policy 4. To capitalize on the existence of the harbor, the city should encourage water dependent uses of waterfront land, specifically those uses requiring boat access (e.g. fishing, fish processing, boat yards and services, cruise and ferry services, recreational boating, public access for water related recreation, tugboat services, barge shipping, marine research and education). Although the city recognizes that the present industrial demand for waterfront property is low and that other communities including Boston have available waterfront parcels, potential economic changes in fishing, oil production and other unpredicted industries suggest that the city give increased priority to water dependency in the long term. In addition, there is a limited amount of land on the waterfront with which the city can reestablish

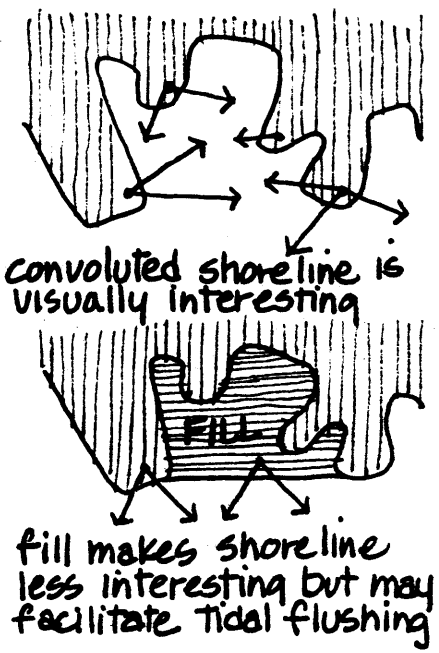
boating and shipping activity to utilize the existing channels. Therefore non-water dependent uses of the waterfront are acceptable only if they are short term and do not represent an irreversible commitment of the waterfront location to that use, or if they represent an overwhelming employment or tax advantage over a water dependent use.

Implementation - Specify channel dependent uses such as fishing wharfs, boatyards, tugboat services, cruise services, etc. as uses by right on any parcel located close (perhaps 300 ft.) to a dredged channel.



Policy 5. To lower potential external nuisance effects of industrial development, the city should only support water dependent industrial development of land with navigable channel access and industrial zoning, that is well removed from residential neighborhoods and where auto and truck access will not create congestion problems.

Implementation - The northern part of the harbor is close to the Saga-more Hill residential area and should be rezoned from industrial uses to business.

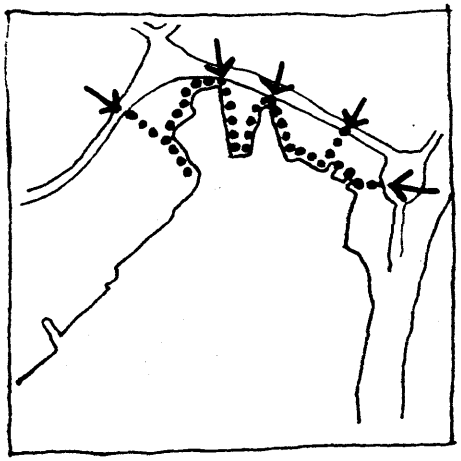


Policy 6. Proposed filling activity should be reviewed and approved by the city for effect on harbor usefulness and quality as well as by the existing state and federal agencies having jurisdiction.

Filling to create developable land has several consequences. On the positive side, filling can be used to increase the amount of shoreline (as in a breakwater) to provide for increased boat access, protection and visual variety, as well as to increase the usableness of small land parcels. However, filling can also destroy the visual variety of a convoluted shoreline by straightening it out, decrease boat maneuvering and mooring space, and affect tidal cleansing action.

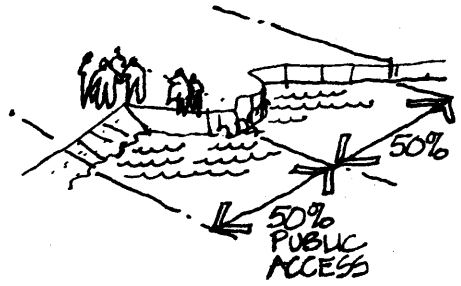
Implementation - To control filling activity within the harbor district, require a special permit from the city council as well as normal state agencies. Possible criteria for granting special filling permits include:

1. The fill is required to make a parcel usable by a water dependent activity.
2. The fill is required to provide expansion for existing industry.
3. The fill increases the visual interest of the shoreline.
4. The fill facilitates, or at least does not hinder, tidal flushing.
5. The fill does not interfere with water areas currently used for recreational boat mooring or docking.

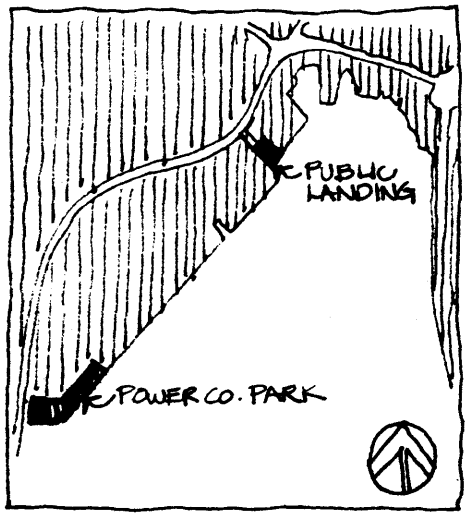


Policy 7. In order to increase the opportunity for physical access to the water close to residential and business areas, the city should seek to establish public access along the water's edge of north harbor properties (as indicated on map). This access should be sought in new development, as well as with existing users, and should be connected to other public areas such as the Lynnway.

Currently there exist two points of public access to the harbor — one at the MDC pier and power company bulkhead for fishing and one at the municipal landing on Blossom Street for fishing and small boat launching. Both of these points are substantially removed from residential areas or the central business district and are not in a position to attract many users and observers to the water's edge or support adjacent commercial uses.



Implementation - To protect opportunities for public access, uses on the waterfront should treat it as public open space and keep at least 50% of the water edge publicly accessible within the special harbor district. In addition, a public access easement (the water's edge and 8 feet of property) should be made a requirement of any new use on the north part of the harbor. The planning department should try to negotiate similar easements from existing property owners where new development is highly unlikely

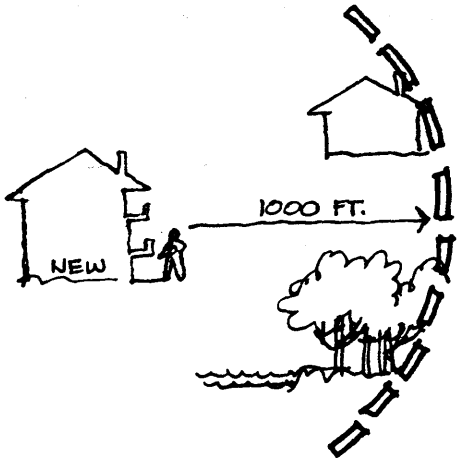


Policy 8. Open space recreation areas are a valuable source of public awareness and enjoyment of the harbor. As public access, these areas offer Lynn residents choices between passive picnicking and observing, or more active fishing and boating use of the water edge. To preserve the limited amount of existing public access to waterfront recreation, the city should protect, help maintain and seek to improve the existing open space recreation areas on the harbor.

Implementation - The primary recreation spaces on the Lynn side of the harbor are the Blossom Street public landing and the New England Power Company park at the Saugus River. If the city negotiates the repurchase of the power company parcels for development, the park area, or at least a major portion of it, should be continued in recreation use, even if the major portion of the land is developed industrially. With ownership, the city can retain a portion of the property (for example, a strip 150 feet from the water edge) as a city park to exist as is or to be upgraded with city park funds, can develop it as a recreation space jointly with the developer of the larger area, or can sell it to the developer with a recreation restriction. If resale of the whole property to the city does not occur, the city can still negotiate a permanent public access easement with the power company or encourage the company to put a conservation restriction on the recreation portion of its property. Without city ownership, the city can encourage the power company to upgrade the area by showing a cooperative concern for the recreation use provided, i.e. increasing police supervision of the area.

The public recreation area at the Nahant Circle is controlled by the

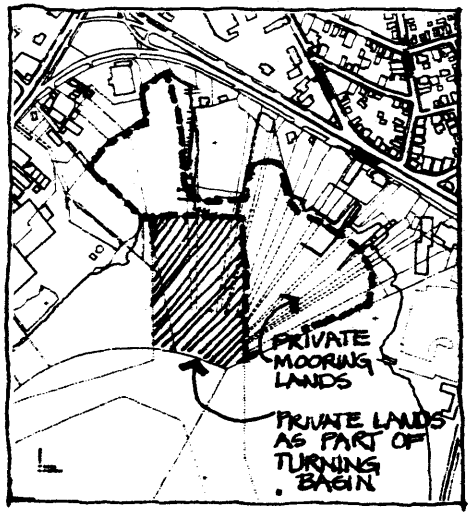
MDC. This area could be upgraded by better integration with the remainder of the northern harbor waterfront, i.e. linking public access on the waterfront with the MDC park. Expansion of boat launching capability at the MDC park should be supported by the city, especially if the MDC decides to include better wind and weather protection of the boat area. Such protection could mutually support harbor image development guidelines, such as increasing visual enclosure.



Policy 9. In order to maintain residential uses close to the waterfront, to provide housing opportunity for Lynn residents, to attract new residents to Lynn and to help create demand for waterfront restaurants and other commercial activity, the city should encourage housing development on the waterfront where close to existing residential areas and recreation space, and where traffic access does not create congestion problems.

Implementation - Housing on the waterfront should be a use subject to a special permit based on simple performance standards such as location near existing housing and recreation areas (within 1,000 feet) at a density that doesn't increase traffic on access streets by 20% over existing levels, etc. With the adoption of a planned unit development ordinance, housing is in effect allowed by special permit. The above performance standards could be added to the P.U.D. ordinance.

ACTIVITY ON THE WATER SIDE

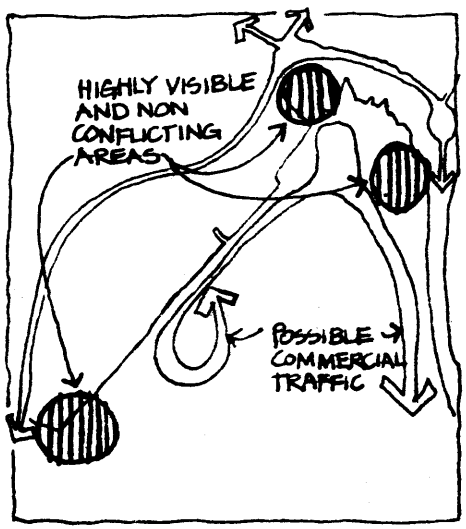


Policy 10. The current use of privately owned underwater land is either for recreational boat mooring or for part of the dredged federal turning basin. The city currently assesses owners of all these parcels a minimal amount for property tax purposes. Although an assessment of underwater land that can feasibly be used for mooring or docking activity is proper and should be continued (at a level that accurately reflects potential mooring income), there should be no assessment of land that cannot legally be used for mooring, such as in a navigable channel location.

Implementation - The city council should direct the assessor's office to review underwater assessments.

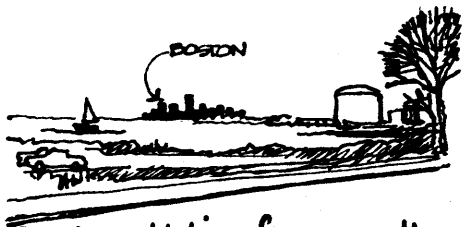
Policy 11. All mooring locations (and boat tenants) should be documented and regulated by the harbor master and revenue from mooring on public underwater lands submitted to the city.

Implementation - The city council should so direct the harbor master.



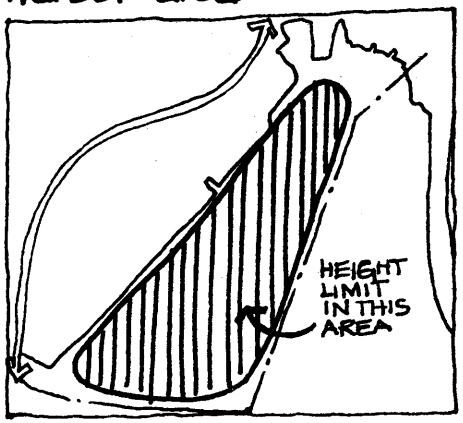
Policy 12. Because of potential conflicts between recreational boats and commercial vessels, marina development in the harbor district should be encouraged in highly visible locations separate from areas likely to be used for commercial traffic or port facilities.

Implementation - To increase recreational boating in areas highly visible from the Lynnway and central business district and to improve the boating image of the harbor, the city should promote the expansion of marina facilities in the north harbor cove area. The city could consider donating the use of its tidal flat parcel here, free of rent, if Lynnway Marine marina activities were expanded.

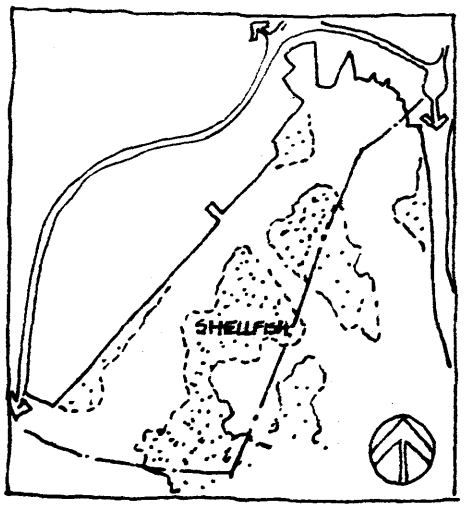


Boston skyline from north harbor area

Policy 13. The great preponderance of underwater land and tidal flats within the harbor municipal boundary is owned by the Commonwealth. Although this area provides no revenue for the city, it does provide a great open space of water and from some areas long vistas of the Boston skyline. In order to increase revenue from this area, the city should encourage the development of low scale water dependent uses such as boat mooring and landing facilities.



Implementation - The ownership and control of Commonwealth harbor lands can be transferred to the city for development purposes. To protect panorama views across the harbor toward Boston, a height limit of one story (15 or 20 feet) above Mean High Water level should be placed on general development in the water area of the harbor, excepting navigation aids and observation towers. All such development must protect water quality and tidal current flushing action in the harbor.



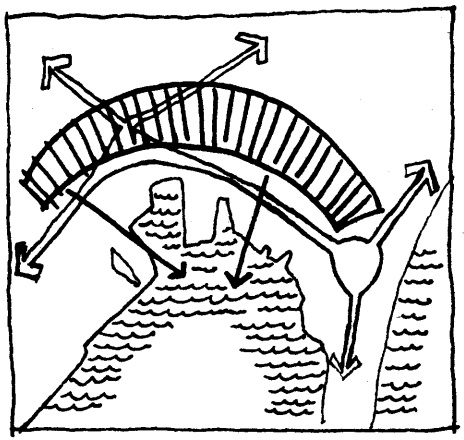
Policy 14. Some of these same tidal flat areas also support shellfish beds which at the present time are not heavily harvested due to the low water quality in the harbor and the shellfish varieties involved. If the pollution can be eliminated, however, these beds could potentially provide a source of shellfish for increased local, though perhaps not commercial, harvesting. At present these areas can be used for harvesting sea worms as commercial bait, although the return to the city from such activity means little. In order to preserve some of these shellfish beds, physical development of the Commonwealth tidal flats should be limited to only a portion of the shellfish area.

Implementation - Dredging applications to regulatory bodies for increasing mooring space in the harbor should be given strong city support but be limited to only partial destruction of existing shellfish beds. The amount of shellfish habitat to be retained shall be determined with help from the State Coastal Zone Management Office, in consideration of the value of these areas as a state resource.

"PLACE" QUALITY

Policy 15. Part of what is desirable and attractive about active waterfronts is the diversity of activities that take place simultaneously. Recreational boating, commercial shipping, wharf activity, observers, etc. all contribute to the ability of a place to attract more observers and users of related recreational or commercial facilities. In order to stimulate the development of such diversity, the city should encourage a mixture of uses on adjacent sites and where possible multiple use of individual waterfront sites.

Implementation - Mixed use can be encouraged by the granting of density bonuses to developments of more than one use, or by the use of planned unit development within the harbor district.



Policy 16. To spread the amenity value of views of waterfront activity to adjacent areas and to spur revitalization of adjacent areas, the city should insure that key views of waterfront activity (and limited distant water vistas) are maintained from important adjacent residential or new development areas, and that the waterfront is visible from beyond the direct waterfront sites.

Implementation - To protect views of the harbor, the following steps are suggested, based on an analysis of alternative techniques the

city could use to control view encroachment.[1]

First, to make city objectives clear, identify on a refined view sensitivity map (similar to the following map) the critical areas for public views and potential views from adjacent property. Second, to protect view areas from encroachment in the short run, to keep city options for public views open and to maintain development incentive, a low (20-25 ft.) height limit should be established in the northern harbor portion of the special district, but with provisions for a special permit exception based on criteria such as view impact, height sensitivity, site design and building massing. Examples of such criteria include:

- a requirement for "visual permeability" in new development. Permeability could be achieved by confining development to a total of ½ of site width or by requiring ground level openings through development equal to 1/3 to 1/2 of average site width.
- a siting requirement for primary and tall building masses to be oriented with their long dimension approximately perpendicular (rather than parallel) to the general waterfront edge, so as to minimize any walling effect of the harbor edge. (Individual building design can maximize views within this constraint.)

Third, views from public areas such as streets to the water that are deemed important to the long run public enjoyment of the harbor,

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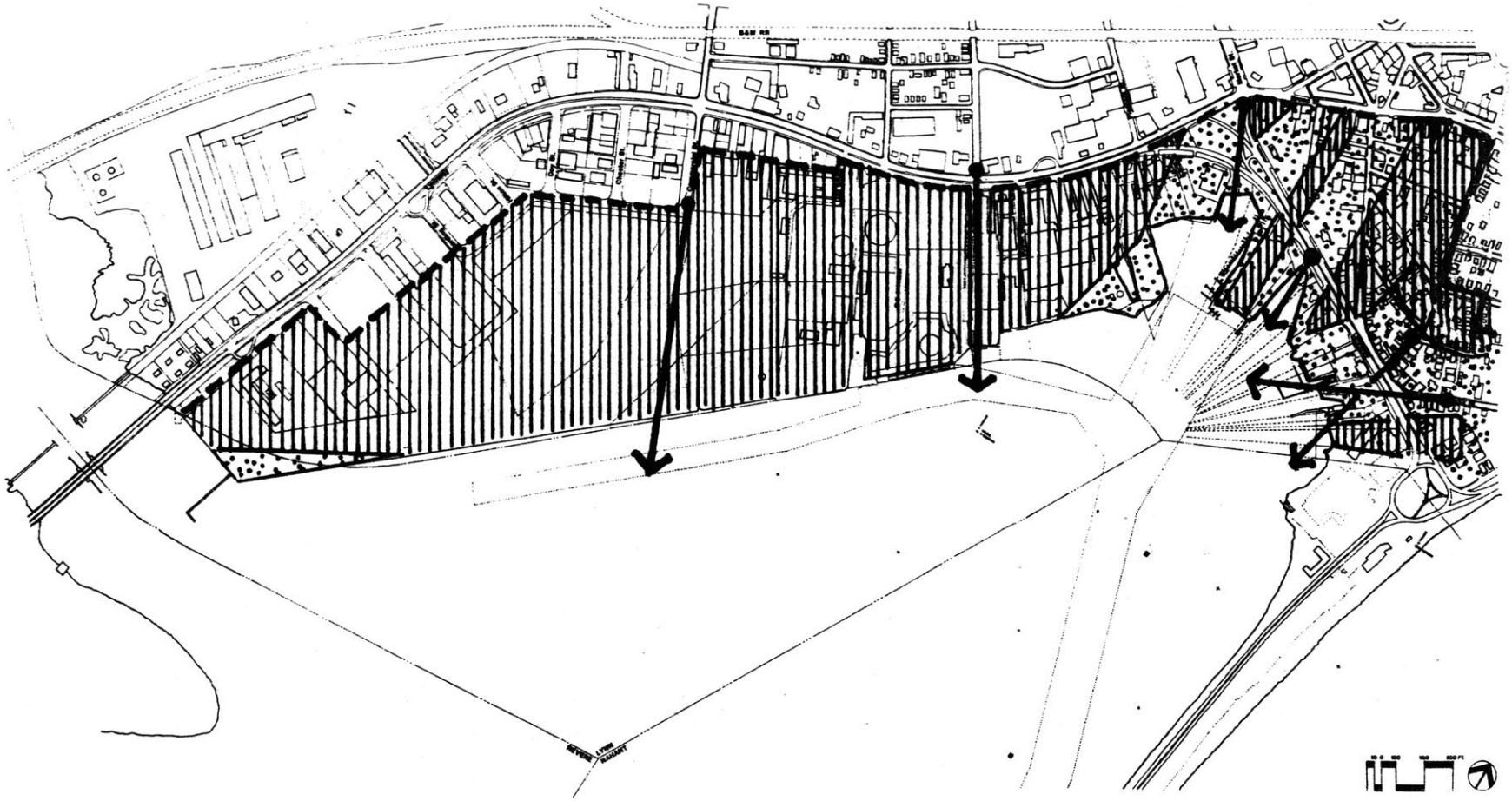
[1]Charles Kubat, "Lynn Harbor Building Height and View Preservation Analysis," unpublished report to the Lynn Planning Department, February 1977.



Areas more sensitive to building height, massing, etc.

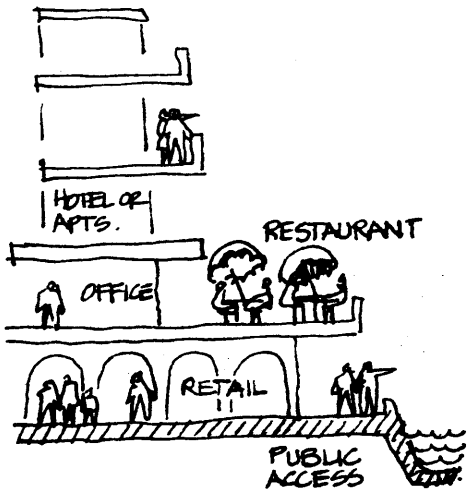
Areas less sensitive to building height massing, etc.

Public views

VIEW SENSITIVE AREAS

should be established with a public purchase of development rights (view easements) before the land is developed. This sale could be negotiated or imposed by use of eminent domain powers.

Last, as soon as is practical, the city should encourage developers of existing buildings (such as the shoe loft structures), or new office/residential buildings to purchase view easements across land between themselves and the water. This purchase is a way to protect those views in the long term rather than trust their protection to discretionary design review or special permit decisions.



Policy 17. To add to and capitalize on views of waterfront activity and to increase public awareness of the harbor, the city should encourage uses that bring people to the waterfront. These uses include commercial activity that is complementary to the waterfront (e.g. restaurants and fast food outlets with sit down eating oriented to the water, hotel, marine research office space, retail shops, fish markets, etc.). The city should discourage auto strip commercial uses such as gas stations, auto sales, etc. on waterfront land.

Implementation - Uses that are not water dependent, that don't draw people to the waterfront or that are of open storage in character (other than boats) should be specifically banned from parcels within 400 feet of the waterfront.

To help Lynn residents become more aware of the harbor, the city can encourage special activities on the waterfront (for example, fishing contests, clean up campaigns, school marine biology field trips, local television coverage, improvement suggestion campaigns, etc.) and prepare a simple boosterism poster or map of harbor access points and view locations.

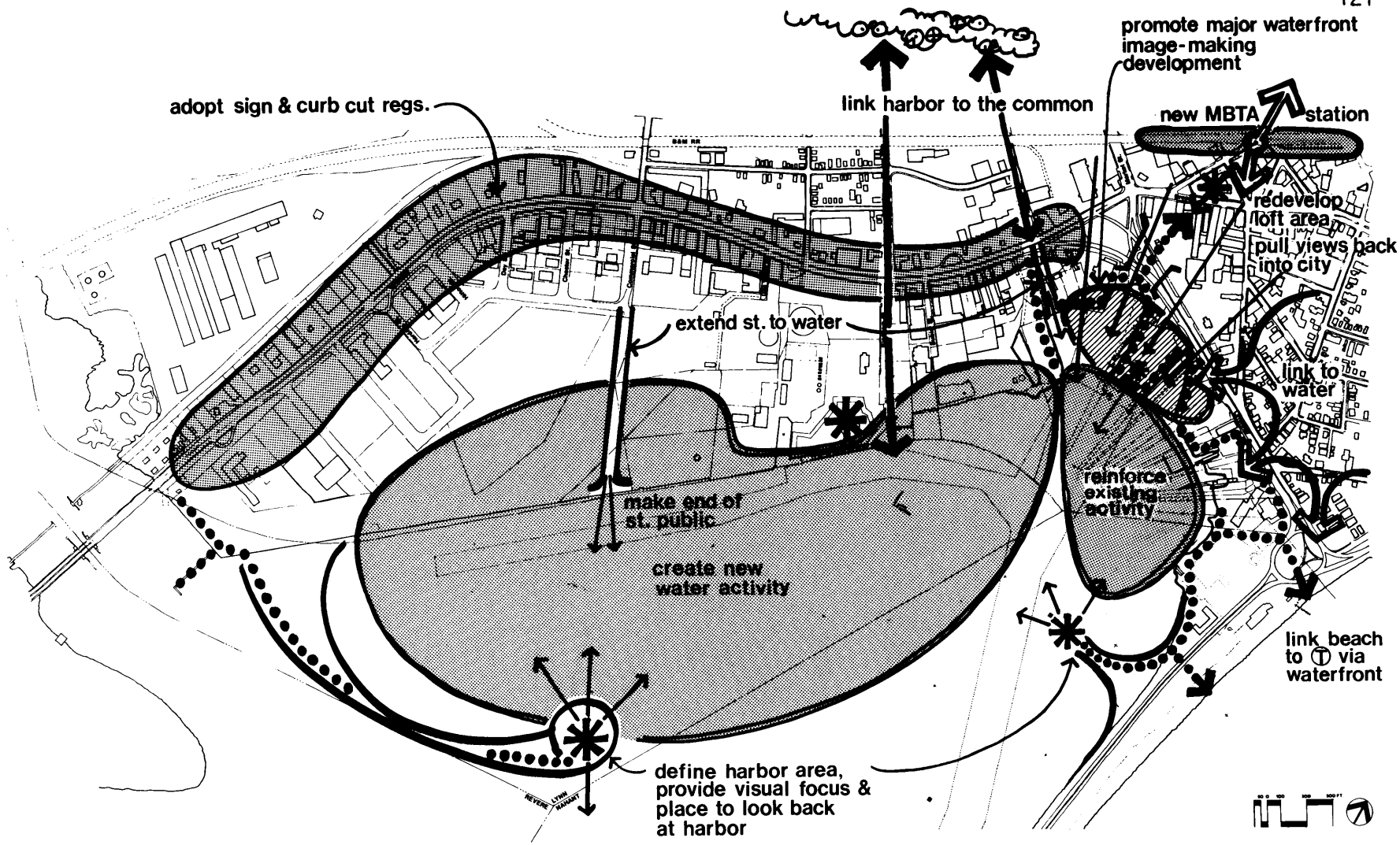
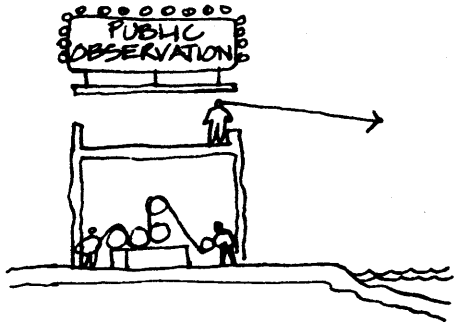


Image Development Guidelines

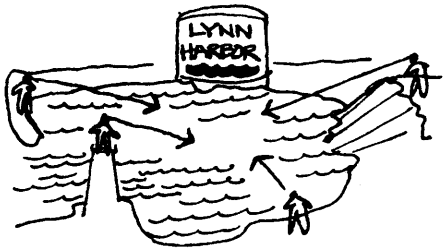
LYNN HARBOR



Policy 18. Views of the harbor are a primary ingredient in building and maintaining a positive image that can attract users and observers to the harbor area. Views are most intriguing when possible from a variety of vantage points including unique places. A high building or promontory, a spit of land, a partial enclosure, a place to look back at a harbor all become good viewpoints. Because the harbor has few such places at present, the city should strive to preserve existing views from high places and encourage new and unusual vantage points.

Implementation - To enhance the opportunity for unusual views of the harbor the public use of rooftop and other observation areas on private property could be rewarded with small increases in building density for new projects or small tax abatements for existing uses.

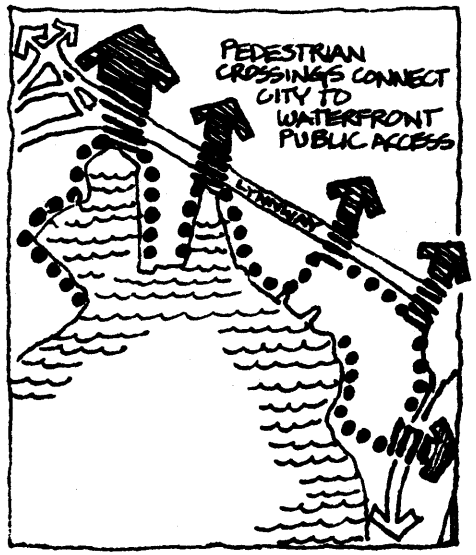
Policy 19. Currently the harbor has limited "place" making qualities. To improve the imageability and memorable quality of the harbor, new development should be sensitive to the image guidelines illustrated on the map p.121. For example, improved identity could be facilitated by landmarks unique to the harbor to help identify the place or more definable water boundaries creating greater enclosure of the harbor. The city should support these additions to the harbor area in development proposals.



Implementation - To increase visual closure to the harbor as well as providing increased shelter for recreational boating or commercial docking operation, the city should promote the building of a peninsula or breakwater as a part of the development of the New England Power Company site.

To increase the landmark value of the white Boston Gas LNG tank in the harbor, the city should persuade Boston Gas to paint the tank with a harbor symbol and then sponsor a local contest to develop a harbor symbol.

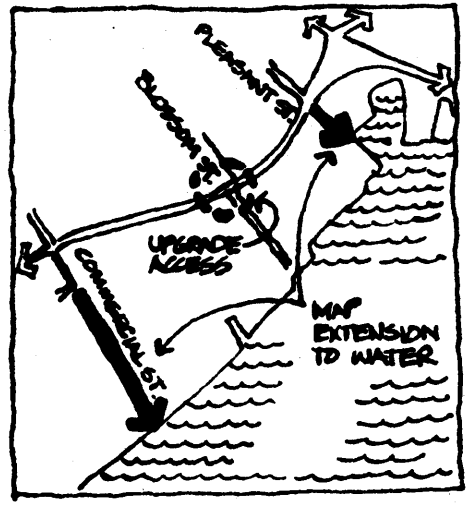
MOVEMENT



Policy 20. One of the major deficiencies of pedestrian movement in the harbor area presently is the lack of generous and safe access to the harbor side of the Lynnway. The speed and volume of traffic on the Lynnway aggravate the lack of adequate pedestrian crossing locations. In order to improve pedestrian access to the harbor from residential areas and the central business district, the city should cause to be provided improved and increased pedestrian crossings that lead to public access locations on the waterfront.

Implementation - To improve the auto and pedestrian access to the harbor, a summary report should be done or press coverage collected on the dangerous pedestrian and auto/truck access points on the Lynnway. These might serve as an added inducement beyond city requests to get the Metropolitan District Commission to study improvements to the situation.

Policy 21. The harbor wateredge is physically, visually and conceptually isolated from the rest of the community by the lack of harbor connection to the existing street network and by the traffic, median strip and stop light arrangement of the Lynnway. Therefore, where possible, the existing street system should be extended to the wateredge. In addition, to improve vehicular access (to make getting off and across the Lynnway easier) the Lynnway should be studied and changed where appropriate.



Implementation - The city should map a street as the continuation of Commercial Street and of Pleasant Street. This action will require that the city compensate the existing owners for the loss of their development rights but not for the purchase of the property until the street is actually built. The Commercial Street extension should probably wait until the city repurchases the New England Power Company parcel so that the mapping does not entail a city expenditure.

Commercial, Blossom and potentially Pleasant Streets should be considered for improved access across the Lynnway, with final recommendations being transmitted to the MDC.

Appendices

DEVELOPING LYNN HARBOR- A Policy Plan

by Charles Kubat M.I.T. May 1977

Appendix 1

DETAIL DESCRIPTIONS OF NORTH SHORE WATERFRONTS

SALEM[1]

The Salem waterfront is much larger than Lynn's, but the division of land uses on the shore is similar for both, except that Salem has a greater residential use and a lower percentage of vacant land. Some commercial fishermen and about a dozen commercial lobstermen work out of the South River area of Salem near the downtown where a channel is dredged to approximately 7 feet. In addition, the New England Power Company operates a large electric power station and oil storage facility supplied regularly by oil tankers using the 32 foot deep Salem Channel. Large sections of the Salem waterfront are, however, isolated from recreational or commercial boating depth water by expanses of mud flats and shallow tidal flats. Although numerous boat clubs and water access points exist, only about 260 boat slips are available and only 107 mooring locations are documented.[2]

The limited vacant land on the Salem waterfront is not easily usable for industrial or commercial development because of its existing use as public or semi-public open recreation space or because of adjacent residential uses. For example, the vacant 30 acre former Coast Guard station on Winter Island is in a poor wind location for active recreational boating development, has numerous community demands for use as a campground and park, and is affected by odors from overflow sewage effluents in Cat Cove.

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[1]Based on interview with David Lash, Salem City Planner, January 22, 1977, and Blair Associates, Salem, Massachusetts, Waterfront Study, 1963.

[2]Boating Almanac, 1976, and above interview.

Even with these problems, there has been some discussion of recreational boating, apartment housing development or sports/health club type facilities proposed for the location. Salem has taken control of the site and supports the proposal to develop camping and boating facilities there.[1]

Proposed developments on the Salem waterfront include a marina and beach in Collins Cove and the Pickering Wharf development. The Collins Cove proposal by the city's Waterways Advisory Board is to create 500 boat slips by dredging and also a beach facility and parking area by filling in the cove. There are no city funds for the project, the environmental consequences of extensive dredging have not been studied and CZM is recommending relocating the project to some alternative area with deeper natural water.[2] This project seems unlikely.

The Pickering Wharf proposal, however, is very real. The site, 4.7 acres in size, was formerly an oil tank farm adjacent to the Salem Maritime National Historic Site on the South River waterfront. It was acquired by the city for $280,000 (one-half the appraised value due to the arrangement the city made with the oil company to allow them to relocate the tank farm elsewhere on the waterfront), cleared and resold to the developer for $389,000. It will be developed into a 10,000 sq.ft. multimedia tourist theater depicting the history of life on the sea in New England, 40,000 sq.ft. of commercial craft and specialty shops and three restaurants (approximately 30,000 sq.ft.), 47 to 60 one and two bedroom luxury townhouse apartments over the commercial space, 50 to 60 boat slips for apartment residents, and limited parking. The development, seen as an important regenerative waterfront link in tourist activity from the renewed downtown area to the historic House of Seven Gables area, is projected to cost up to $4 million (financed by Salem banks) and is intended to be carried out in small stages.

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[1] Massachusetts Coastal Zone Management Office, Preliminary Draft - "Lower North Shore Regional Chapter," February 22, 1977.

[2] Ibid.

BEVERLY[1]

Only a small portion of the Beverly waterfront has good access to water deep enough for commercial or industrial boat traffic. The main harbor area is a small strip at the mouth of the Danvers River on a 23 foot deep channel. The land is used by a liquid chemical storage tank farm which receives approximately 10% of its chamicals by water (425 foot wharf and 300 foot storage shed), four recreational boating marinas with 315 boat slips and 55 moorings, a lobsterman's pier, and commercial fish sales outlets. The secondary section of the Beverly waterfront lies along the Bass River. Typical uses along the river and its onetime 9 to 14 foot channel include a public park and launching ramps, a yacht club, warehousing, a boatyard, a shoe machinery factory, assorted non-water related commercial activities and much housing.

The vacant parcels on the Beverly waterfront are constrained in their potential use by channel access and adjacent uses. The Boston Gas site is a 4-5 acre vehicle maintenance area at the head of the Bass River. It has poor channel access and is unlikely to be sought by boat related commerce or industry. A 20 acre vacant parcel on the western bank of the river is adjacent to residential areas and an elementary school, and the community desires to preserve it as open space.

Beverly is not interested in industrial development of its waterfront areas (by offshore service industries or fish processing, etc.) but is interested in visually upgrading its main waterfront business area adjacent to the residential historic district. There are no major developments currently proposed for the waterfront, and past city ideas for a small hotel, museum and theaters on the harbor, fishing pier with a restaurant, as well as 50 units of luxury housing on the chemical storage site, were abandoned three years ago.

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[1]Based on interview with Mr. Dan Bumagin, most recent Beverly Planning Director, January 19, 1977.

GLOUCESTER[1]

Gloucester is the recognized major port and fishing industry center of the North Shore region. The inner harbor area is primarily industrial in nature, although some commercial areas coexist and some residential areas occur on the east Gloucester side. The harbor handles foreign freighters carrying some dry bulk goods, but mostly frozen blocks of fish, and the local fishing fleet of 70-130 boats. The harbor contains 20 foot channels and an 18 foot channel in the harbor cove. It has an entrance width of 1,200 yards, 15 acres of anchorage at a depth of 15 feet, piers and berths to accommodate vessels up to 22 foot draft and over 400 feet in length, and a 970 foot long state fish pier.

The major industry on the harbor is fish processing and storage with several facilities combining to provide the capacity for cold storing 100 million pounds of fish and quick freezing 1 million pounds per day. Frozen fish blocks are processed, packed and distributed, and fresh fish is also distributed. However, in addition to industry, recreational boating is a major activity. Gloucester's harbor, cove and marina areas currently provide mooring space for approximately 1,000 boats and have an additional 745 slips (estimates vary slightly).

The vacant land that exists on the inner harbor is primarily the result of two urban renewal projects, because the harbor is a highly developed area. In the harbor cove area, which is adjacent to town public parking and a restaurant, one site of 1.6 acres remains vacant from the first renewal

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[1]Based on interviews with Dale Pope, Gloucester Downtown Development Commission Planner, January 27, 1977, and Jack Sheady, Executive Director of the Gloucester Housing Authority, which is also the Urban Renewal Agency, January 27, 1977. Also based on information from the Phase I Committee Report - Gloucester Downtown Development Commission, October 14, 1975; the first and second "Urban Renewal Plans for the Waterfront Urban Renewal Area", Gloucester Housing Authority, 1963 (amended 1967) and 1971; Mass. Coastal Zone Management "Survey of Uses - Preliminary Draft - Commercial Fisheries", December 1975.

project. Numerous proposals have centered on this site, including retail development and a 100 unit hotel. The hotel proposal has limited market feasibility[1], and the city is currently evaluating the proposal along with alternative industrial uses.

In the second renewal area at the head of the north channel part of the inner harbor, clearance has provided approximately 7.25 acres of land that, although vacant at present, is felt to be committed to use within 1-2 years for new fish processing and cold storage facilities and new wharfs for the fishing fleet. In addition, the city has had strong interest expressed by four firms wanting to build fresh fish operations. Both vacant sites mentioned have good transportation access on a rebuilt street to Route 128, and all utilities will be available at the edge of the sites.

In addition to the urban renewal sites, the city plans expansion and improvement of the state fish pier for which the U.S. Economic Development Agency has allocated approximately $8 million. Some other vacant parcels exist on shoreline in the outer harbor but well removed from downtown. Potential exists for housing development in these areas, but no proposals are current.

BOSTON

A brief mention should be made about the type and extent of land and facilities available for development on the Boston harbor. Although Boston harbor areas are of a different scale and context than other communities in the North Shore, they do potentially provide alternative locations for some of the uses Lynn may wish to attract.

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[1]Economic Research Associates, Market Study for Downtown Gloucester, for the Downtown Development Commission, October 1976.

The primary development areas available are the Charlestown Navy Shipyard and the South Boston Naval Annex, with some additional possibilities in East Boston and on or near a rennovated Massport fish pier (fish processing and unloading).

The Charlestown Shipyard consists of 84 acres of land and piers, and 46 acres of water on the main harbor channel (40 feet deep) with over 3 million sq.ft. of existing building area.[1] Although 27 acres of this area is used as a National Historic site, the Boston Redevelopment Authority has proposed that the remaining area be used for mixed development to include 80,000 sq.ft. of retail commercial space, 430,000 sq.ft. of institutional activities, 60,000 sq.ft. of office/incubator industry, a 700-1,000 unit hotel conference center, 1,000 units of new luxury and mixed income housing, and up to 250,000 sq.ft. of light industry.[2] Construction will begin this spring on a $3 million 20 acre waterfront park in the area, and the city has designated a developer for the housing portion of the shipyard on which rehabilitation work will begin late in 1977.[3] The South Boston Naval Annex contains 138 acres of land and piers, 89 acres of water on the main harbor channel and almost 4 million sq.ft. of existing building space.[4] Already Massport is in the process of investigating use of this area as a second container terminal facility for the harbor. The remainder of the site is used as a shipyard and for facilities related to the recent declaration of the area as a free trade zone.

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[1]Michael Kennedy, "Boston Naval Shipyard: A Reuse Study," unpublished masters thesis, M.I.T., 1975.

[2]Boston Redevelopment Authority, "Boston Naval Shipyard/Charlestown, Planning and Development Program", December 1975.

[3]League of Women Voters information sheet on Charlestown Navy Yard prepared for the Land Use Symposium, February 26, 1977.

[4]Kennedy, op.cit.

The East Boston waterfront contains a number of scattered parcels that are mainly old Massport piers. Two sites of note are an old Navy area of 33 acres on the Chelsea River (for which no plans have been advanced) and a series of Massport piers that the East Boston community desires for community uses (park, school, housing, etc.).

REVERE

Most of Revere's ocean shoreline is beach and not available for development. This fact has made Revere very concerned about beach quality and the Lynn sewage disposal situation. However, there is a major project underway at the Revere Beach Wonderland Blue Line terminal area. The project entails 1,000 units of high density and highrise housing and other facilities connected to the beach by pedestrian walkways over Ocean Avenue.

At the mouth of the Saugus River and on the Pines River substantial recreational boating occurs. Three yacht clubs and several marinas offer 300 boat slips and 50 to 100 moorings as well as other facilities.[1] Revere is not contemplating further water related commercial/industrial development.

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[1]Boating Almanac, 1976.

SAUGUS[1]

Saugus hosts a 40 boat lobstering fleet and some recreational boating on the Saugus River. Because the shallow river channel allows boat passage at high tide only, Saugus has petitioned the Army Corps to dredge the river from the Boston Street Bridge to the mouth, and the Corps has agreed to do a feasibility study with CZM support. CZM says there is a high demand for recreational boating in the Saugus River area. The large, open and industrially zoned Saugus marsh will probably be protected as a critical area wetland by the CZM program and local flood plain zoning. Industrial development in the marsh will be severely limited, if allowed at all.

NAHANT[2]

Nahant's isolation, low density nature and recreation facilities make it most concerned about recreation traffic pressure and shoreline quality. In particular, Nahant views offshore mining or heavy ship traffic (especially any carrying petroleum products) into Lynn Harbor as a serious threat to its beaches and shoreline. Nahant supports a town dock and recreational boating but is not very interested in developing fishing or shellfishing operations. Typical attitudes are expressed in the following statement from Nahant's Growth Policy Report:[3]

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[1] CZM, "Preliminary Draft - Lower North Shore Regional Chapter."

[2] Ibid.

[3] Massachusetts Office of State Planning, Perspectives on Growth, Excerpts from Local Growth Policy Statements, interim report, January 1977, p. 9.

Nahant is a water-oriented community that depends upon clear water and clean beaches for our municipal survival. An oil slick-prone, semi-industrial aura would ruin this. We are not adverse to the development of non-polluting industry, which would help the economic health of the entire area, but we are deeply concerned about oil-related developments.

DANVERS[1]

Danvers Harbor is contained within a river area and is quite different from Lynn Harbor. It is a developed recreational boating area and handles some industrial use. In addition to several marinas with 237[2] boat slips, mooring for 450 boats during peak recreational periods, a public landing with 33 slips and a public beach and parking area, a fuel oil terminal services 200 oil vessels per year using the 16 foot channel.

Limited vacant land area is proposed to be developed into additional beach and a passive recreation area, and the town seeks to expand the town boat slip area. Danvers Harbor will not compete with Lynn for commercial and industrial development activity.

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[1]CZM, Preliminary Draft - "Lower North Shore Regional Chapter."

[2]Boating Almanac, 1976.

Appendix 2

DEFINING LYNN'S JOB NEEDS

To define the population for whom jobs are needed is the first step toward identifying a measure of the effect of various activities/land uses on employment. Job need can be defined by existing employment, unemployment and underemployment.

Table A2-2 outlines the existing employment of the Lynn workforce by industry. The table clearly indicates that the manufacturing sector predominates. This is even more evident when Lynn's employment is compared to the distribution of employment by industry for the Boston SMSA or the state as a whole.

Table A2-1 Employment Comparison

	Lynn (1975)	Boston SMSA (1974)	State (1975)
Agriculture/fishing	0.2%	0.6%	0.5%
Mining	0%	0.02%	0.05%
Construction	2%	5%	4%
Manufacturing	52%	21%	31%
Transportation/Communications/Util.	5%	6%	6%
Trade	20%	23%	27%
F.I.R.E.	3%	8%	7%
Services	18%	31%	24%

In addition, one should also understand that of the average 16,670 employees in manufacturing, approximately 14,000 are employed by General Electric. G.E. clearly dominates Lynn employment. Because the future of G.E. is tied to national and internal corporate policy, Lynn dependence upon G.E. as a

TABLE A2-2
LYNN EMPLOYMENT BY INDUSTRY, 1975[1]

	# of Firms	Annual Average Wage	Average Employment	% of Total Employment[2]	Annual Payroll Rounded
A. Agriculture/ Fisheries	15	$ 9,043	53	.2%	$ 479,300
B. Mining	0				
C. Contract Construction	120	12,465	584	2%	7,279,400
D. Manufacturing	162	13,476	16,670	52%	224,642,000
E. Transportation/ Communication/Utilities	39	10,971	1,502	5%	16,477,700
F. Trade	560	7,119	6,338	20%	45,121,100
G. Finance/Insurance/ Real Estate	127	9,301	1,038	3%	9,654,400
H. Services	520	7,433	5,694	18%	42,321,600
Totals	1,543	$10,853	31,879[3]		$345,975,600

[1]Source: Massachusetts Division of Employment Security, Employment and Wages by Area Then by Industry, 1975. S-202 file. Employment covered by Employment Security Office only.

[2]Does not add to 100% due to rounding.

[3]Covered employment only; total employment approximately 36,000.

TABLE A2-3
LYNN EMPLOYMENT BY OCCUPATION[1]

Occupation	# of Persons in 1970	# of Total
Professional/Tech.	4,457	
Managers	2,271	
	6,728	19%
Sales	2,256	
Clerical	7,771	
	10,027	28%
Craftsmen	5,507	
Operatives	6,800	
Transport Equipment	1,029	
Laborers	1,208	
	14,544	40%
Service	4,613	13%
Total Employment	36,129	

[1]U.S. Census, 1970.

large employer is precarious. In addition, many periferal and supporting industries locate in Lynn to serve G.E., further increasing Lynn dependence upon a single employer. To free itself from this domination, Lynn should seek the development of employment sectors (including manufacturing) that are unrelated to G.E.

Furthermore, table A2-1 points out that Lynn has relatively few jobs when compared to the region or the state in several areas, but most significantly in fisheries, construction, finance/insurance/real estate and services. This lacking of jobs does not necessarily imply that these are the only areas in which Lynn should expand, especially if such sectors are unrealistic, suffer chronic unemployment or don't meet other employment objectives, although expansion in these sectors might add some measure of future employment stability to the city. Finance/insurance/real estate and services probably could expand.

Furthermore, Lynn continues to be a regional employment center even while losing a net total of over 450 jobs annually since 1972. A 1973 Lynn Planning Department report, "Economic Base Study", reported that Lynn had 37,000 jobs (33% of jobs in the North Shore) and an employed labor force of 36,000. Within the labor force, however, 8,000 Lynn residents commuted to areas outside of Lynn for jobs, primarily in clerical, construction and service occupations. In addition, 9,000 non-Lynn residents come to Lynn each day for jobs in manufacturing, wholesale and retail trade, transportation, communications and utilities. Although the number of jobs and the size of the employed labor force could easily have changed since 1973, the 22% to 25% outflow and inflow of labor has probably remained.

From this observation one can conclude that new development in the harbor that provides jobs in the clerical, construction and service areas may allow greater numbers of Lynn residents to work locally rather than commute to distant jobs. Because clerical and service jobs are often low paying and are performed by women, local jobs could add to take home pay and general Lynn spending by saving commuting costs and could provide the opportunity of part time jobs for housewives. Job development in

manufacturing, trade, etc. may increase the immigration of employees for work but probably will not increase the number living in Lynn.

Another way to define job need is to look at unemployment. The unemployed are probably the group on whom a major emphasis should be put for job development because of the extent of the problem and its effects on the remainder of the city. Table A2-5 illustrates the unemployment problem Lynn faces. The sub-categories under occupations are listed to clarify the content of the major occupational groups but are not exhaustive. The median wage/income for these occupations is extremely difficult to document. A great variety of wages are paid, even within one occupation such as medicine/health, and there is no consistent data available for the more detailed occupation breakdown. It is also important to note that providing one figure for a major occupational group such as clerical/sales can be extremely misleading without some indication of the range of incomes that create the median wage.

Looking at unemployment would seem to indicate an almost equal need for jobs in the clerical and sales occupations and for craftsmen and operatives. Professional/technical and services are less critical and laborer's jobs perhaps least important. Clearly if land use activities provide major employment in the largest unemployed categories, the opportunity for a major part of the unemployment problem to be addressed is provided — assuming employees come from the Lynn unemployed.

A third way to define job need is to look for the underemployed within the workforce — those people who have the human capacity to do higher skill level and higher paying jobs than those in which they are currently employed or for which they are trained. The underemployed are an almost invisible group. They are extremely difficult to identify except through individual contact, testing and counseling. For the purposes of comparing the employment impacts of different activities, the effect of underemployment will be assumed to be non-existent.

TABLE A2-4
UNEMPLOYMENT BY OCCUPATION (TO CHECK CONSTANCY OF CATEGORY PERCENTAGES)

	1970[1]	5/75[2] Lynn	5/75[2] CETA	9/75[2] Lynn	5/76[3]	5/76[2] Lynn	5/76[2] CETA	1/77[3]
Employment	36,129				37,750			36,800
Total Labor Force	37,730				42,395			40,309
Unemployment	1,601				4,645			3,509
Professional/ Technical/Managers	19%	8%	7%	16%		12%	12%	
Clerical/Sales	28%	19%	17%	24%		27%	21%	
Craftsmen/ Operatives/Laborers	40%	44%	50%	43%		44%	48%	
Service	13%	7%	7%	10%		9%	15%	

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[1] 1970 Census

[2] Massachusetts Division of Employment Security, Data on the Insured Unemployed, from the Lynn Office area which includes some people living outside Lynn and from the Lynn CETA (Comprehensive Employment and Training Act) Office area which includes only Lynn residents but not necessarily all the unemployed.

[3] Massachusetts Division of Employment Security, Annual Averages, Cities & Towns, Mass. - 1976, Census share method. Figures generated by mathematical formula based on Lynn's share of Boston SMSA employment and updated by information from SMSA employment offices. This is an estimate and not an exact accounting.

TABLE A2-5
LYNN UNEMPLOYMENT (MAY 1976) BY OCCUPATION

Occupation	# from Lynn Office[1]	% of Total Unempl.[2]	% of Employed[2]	# from Lynn CETA[1]	% of Total Unempl.[2]	% of Employed[2]	Rounded Median Annual Wage/Income[3]
Prof./Tech./Mgr.	720	12%	10%	420	12%	6%	$15,900
Engineer - 2%							13,000
Medicine/Health - 2%							9,700
Admin. Spec. - 3%							
Managers - 4%							
Clerical/Sales	1,536	27%	15%	715	21%	7%	11,700
Steno/Type/File - 9%							
Accounting - 7%							9,100
Records - 3%							
Sales - 3%							5,400 (+ commissions)
Merchandizing - 3%							14,900
Craftsmen & Kindred[4]	1,092	19%	20%	780	23%	14%	12,400
Mechanics, Repair - 3%							10,300
Machine Trades - 1%							6,000
Elec. Assemb. & Repair - 3%							6,300
Textile Fab. & Repair - 3%							5,700
Construction - 9%							7,300
Operatives[4]	1,188	21%	15%	684	20%	8%	10,700
Food Processing - .5%							12,100
Chem., Plastic, Rubber - .2%							11,700
Leather, Textile - .2%							7,800
Metal Machining - 5%							9,400
Metal Fabricating - 2%							
Elect. Assembly - 4%							10,500
Transportation - 2%							

(Continued)

TABLE A2-5 Continued

Occupation	# from Lynn Office[1]	% of Total Unempl.[2]	% of Employed[2]	# from Lynn CETA[1]	% of Total Unempl.[2]	% of Employed[2]	Rounded Median Annual Wage/Income[3]
Services	528	9%	11%	347	15%	7%	$ 8,200
Food & Beverage - 3%							5,500 (+ tips)
Apparel & Furnish. - 1%							7,300
Bldg. - 2%							5,700
Laborers[4]	216	4%	20%	168	5%	15%	7,500
Farm/Fish. - 1%							
Motor Freight - 3%							4,400
Total	5,832			3,450			

[1]Source for unemployment data: Massachusetts Division of Employment Security, Data on the Insured Unemployed, May 1976, Lynn Employment Office Area (includes some persons living in communities adjacent to Lynn) and Lynn CETA Area (only Lynn residents but does not necessarily include all the unemployed).

[2]Percents are rounded.

[3]Sources: U.S. Department of Labor, Industry Manpower Characteristics for Lynn City, State of Massachusetts, 1970 Census of Population. 1970 census figures (1969 data) inflated to 1976 by the rise of the consumer price index (CPI) 1969 to 1976, CPI 1969 = 110.0, CPI 1976 = 176.1, 176.1/110.0 = 60.1% increase.

Massachusetts Division of Employment Security, A Quarterly Survey, Unfilled Job Openings: Boston Metro, October 1976.

U.S. Dept. of Labor, Bureau of Labor Statistics, Area Wage Survey Boston, Massachusetts, Metropolitan Area, August 1976.

[4]Categories computed from data listed in different categories by Massachusetts Division of Employment Security in Data on the Insured Unemployed, May 1976.

MESH WITH STATE GROWTH PROJECTIONS

In addition to Lynn's jobs needs, state employment projections for the next decade can add some insight into the formation of an employment strategy against which to assess activities. The state has made projections of demand for workers through 1985, both for occupations and for industries. The figures are to be used as indicators of relative magnitude and general trends rather than exact forecasts.

As is indicated in table A2-6 "Occupational Requirements", the state has projected the clerical division to be the fastest growing group in the next decade. In addition, growth in the professional/technical/kindred division will be substantial. Demand for medical and health workers, computer specialists, accountants, and electrical and industrial technicians will be particularly strong. Service occupations will also experience increased demand. Craft workers, especially construction trades, will show some moderate gains, while operatives and farm workers will decline in numbers. Overall the growth trend in white-collar and service employment is expected to continue at a faster than average rate.[1]

In industry sectors, as detailed in table A2-7, the largest gain due to industry growth will be in the service industries. "Most of the expansion will come from the medical and educational sectors which are labor intensive and little affected by labor-displacing technological advances."[2] Business services, data processing and maintenance are also expected to grow rapidly. Manufacturing is projected to suffer the largest decreases and correspondingly will diminish in its relative share of total

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[1] Massachusetts Division of Employment Security, Employment Requirements for Massachusetts by Occupation, by Industry, 1970-1985, July 1976, p. 6.

[2] Ibid., pp.3-4.

TABLE A2-6
OCCUPATIONAL REQUIREMENTS WITHIN THE COMMONWEALTH OF MASSACHUSETTS

All Occupations	Annual Labor Demand 1974 - 1985		
	Total Demand	Due to Growth	Due to Separation
Total, All Occupations	120,885	18,043	102,842
Professional, Technical, Kindred	20,370	4,769	15,601
Managers	10,150	1,841	8,309
Sales Workers	8,056	1,315	6,741
Clerical Workers	35,852	6,004	29,848
Crafts & Kindred Workers	9,158	2,207	6,951
Operatives	12,470	-1,535	14,005
Service Workers	22,165	3,437	18,728
Laborers, except Farm	2,757	447	2,310
Farmers & Farm Workers	-93	-442	349

Note: May not add to totals due to rounding.

The total demand by occupation during the 1974-1985 span of years is the sum of the demand arising from industry growth and that needed for replacement of workers who leave the labor force because of death, retirement or other separations from the labor force. The eleven-year growth component will amount to approximately 200,000 while more than five times this number will be needed as replacements. On the average, therefore, approximately 120,900 additional workers will be required each year during the eleven-year span.

Source: Massachusetts Division of Employment Security, Employment Requirements for Massachusetts by Occupation, by Industry 1970-1985, July 1976, p. 6.

TABLE A2-7
INDUSTRY EMPLOYMENT TRENDS FOR MASSACHUSETTS

Industry Sector	Employment 1974	Employment 1985	Net Change 1974-1985 Amount	Net Change 1974-1985 Percent
Total - All Industries	2,433,841	2,623,706	189,865	7.8
Agriculture, Forestry, Fisheries	23,075	21,780	-1,295	-5.6
Mining	983	1,106	123	12.5
Construction	134,097	152,204	18,107	13.5
Manufacturing	629,209	612,113	-17,096	-2.7
Durable Goods	372,811	385,287	12,476	3.3
Nondurable Goods	256,398	226,826	-29,572	-11.5
Transportation, Communications & Public Utilities	137,716	143,219	5,503	4.0
Wholesale & Retail Trade	548,662	606,254	57,592	10.5
Finance, Insurance, Real Estate	144,324	159,915	15,591	10.8
Services	696,023	800,378	104,355	15.0
Medical	215,993	263,670	47,677	22.1
Educational	191,493	235,486	43,993	23.0
Public Administration	119,752	126,737	6,985	5.8

Both Massachusetts and the rest of the nation have experienced a shift from a goods producing economy to a service economy. This trend is expected to continue into the mid-1980's. Nationally, employment in the service sector is projected to increase by over 30 percent while a modest 6 percent growth rate is forecasted for the goods producing industries. The Massachusetts economy is expected to show similar trends with the number of jobs in service industries registering a 12 percent gain as opposed to a slight decline in the goods producing sector.

Source: Massachusetts Division of Employment Security, Employment Requirements for Massachusetts by Occupation, by Industry 1970-1985, July 1976, p. 2.

employment. Jobs in transportation/communication will rise at a slower than average rate as a group, but some increase in trucking and utilities industries is expected. Wholesale and retail trade jobs are projected to increase at a faster than average rate, with retail increasing faster than wholesale. Although employment in agriculture/fisheries is projected to decline, this projection is based on a mathematical model that ignored major economic changes such as the recently implemented 200 mile territorial waters and fishing limit.[1]

CONCLUSIONS FROM THE LOOK AT STATE PROJECTIONS

The conclusions from these projections should temper the employment strategy Lynn pursues. First, jobs in the clerical/sales occupations (mostly clerical) will have the greatest impact on unemployment and at the same time are the most likely to grow in the next decade. Therefore, creating clerical jobs should still be a high priority for new development.

Craftsmen's jobs are important to reducing unemployment, even though they are not expected to grow tremendously. Construction trades jobs will result from increased building activity in the region and are difficult toward which to direct a local employment strategy. In addition, local jobs created in this sector are not necessarily filled by local craftsmen. Because of these reasons, the impact of new activities on construction employment should not be as heavily weighed in identifying an employment strategy as Lynn might do without this realization.

Third, operatives are predicted to decline in number, and that trend is already evident in the Lynn

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[1] Ibid., p. 5

unemployment data. One strategy would be to vigorously pursue limited opportunities for job development in this area in the hope of capturing employer relocations and preventing further unemployment in the existing labor force. However, another strategy might be to offer training to members of this occupation in order to make them more employable in different or higher skill jobs within existing industry. This same approach could be considered for labor occupations as well, because of their projected decline.

The occupations of services and professional/technical/managerial offer a dilemma. Although they are expected to expand dramatically in number, the current unemployment in them is not as high as in occupations discussed previously. One strategy might focus on developing jobs in these areas in order to employ the unemployed and to attract new residents to Lynn. The job needs of the unemployed as well as the chances for growth in these occupations suggest a concern for creating new jobs in these areas but not to the exclusion of jobs in larger unemployment categories.

In terms of industry sector growth, service industries such as education and medicine are expected to increase substantially. Although Lynn is already well represented by service industries, the strength of the growth in these areas should be used to help Lynn's employment diversification. The growth in retail trade should also be captured in new and revitalized retail centers and used to help stimulate that revitalization. Because manufacturing (nondurable goods) is expected to decline even further, the strategy of diversifying the industry mix (and therefore employment opportunity) seems wise. Durable goods manufacturing will increase somewhat and may indicate that Lynn's manufacturers, especially General Electric, will remain fairly stable in employment over the decade. The difficulty in relying on such an observation, however, comes from reviewing recent drops in employment at General Electric. The conclusion here may be that economic development hopes should not be pinned on new manufacturing, especially in areas not already established in Lynn, but existing employers should be actively encouraged to remain in Lynn by making it easier for them to conduct their business.

Last, jobs in finance/real estate and transportation, although desirable for employment diversification, are not expected to grow tremendously. In addition, finance/real estate activity follows rather than leads other types of activities. For this reason, some priority should be placed on the sectors of primary activity, such as retail, manufacturing and services, in order to create the basic activity needed to spur later increased finance/real estate jobs.

Appendix 3

UTILITY SYSTEMS

Water Supply

Lynn is blessed with a very adequate supply of fresh water for homes and industry.[1] The city draws water from a 24,000 acre watershed feeding the Saugus River (to which it has year-round pumping rights) and from the Ipswich River (to which it has six month pumping rights). This water is stored in the four city reservoir/lakes in the Lynn Woods area and is partially replenished by the average of 40-45 inches of rain per year that falls in the area. The total available yield from the watershed and rivers is approximately 35 million gallons per day.

The storage reservoirs currently hold 4.25 billion gallons of water or enough to supply 11.6 million gallons per day for 365 days if no replenishing were possible. With some raising of the dam height on the reservoirs, an expansion of 25% to 50% in capacity is possible (up to 6 billion gallons total).

Lynn homes and industry currently use an average of 15-16 million gallons per day year-round. The use is much higher in the summer months (22-23 million gallons per day) than in the winter months (11-13 million gallons per day). General Electric, the city's single largest user, accounts for approximately two million gallons per day alone.

To understand whether the existing water supply is likely to act as a constraint on harbor development or whether development will necessitate increases in the supply and therefore costs to the city, the following observations are made.

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[1] All information on water supply is based on conversation with Commissioner of Public Works Macaione, March 25, 1977, and the Lynn Department of Public Works Annual Report for 1975.

1. The total available water yield is 12 million gallons per day above the peak summer demand and more than twice as great as the average daily demand.

2. The supply and replenishment rate are sufficient to easily handle an increase of as much as two million gallons per day in use even in peak summer months without need for expansion in the existing supply. A two million gallon per day increase would be adequate to supply varying types and amounts of development. The following table lists some types of land uses with accompanying water usage.

Table A3-1 Water Usage

Land Use	Rough estimate, gallons per day per employee[1]
Office	15
Restaurants	10-35 (per seat)
Shopping Center	30
Apartment Housing	60 (per resident)
General Electric	155
Warehousing	40
Printing	300
Frozen fish processing	250
Fresh fish processing	700 (most of this is salt water in Gloucester)
Chemicals manufacturing	2,000
Typical manufacturing	40-300
Offshore oil support base	8,000-19,000 (per base)
Paper manufacturing	21,000

[1]Herr, Evaluating Development Impact, p. 103; and DeChiara and Koppelman, Planning Design Criteria, p. 307; and Urban Land Institute, Industrial Development Handbook, p. 120.

At these rates 2 million gallons per day could supply 20 regional shopping centers like Burlington Mall or the North Shore Shopping Plaza,[1] or 13 new frozen fish processing plants like Gortons of Gloucester.

Gloucester Fish Processing Water Usage[2]

Industry	# Employees	Water Use in Gal./day	Waste Water in Gal./day
Gortons (frozen products)	550	143,000	132,000
Seafood Kitchen (frozen products)	170	32,000	27,000
Ocean Crest Seafood (fresh fish yr. round)	60	41,000 salt 600 fresh	41,000
Litman Marine (fish meal yr. round)	32	110,000 fresh 67,000 salt	29,000 150,000 cooling

3. Whether or not this excess capacity is easily available with the existing distribution system needs to be confirmed with water supply technicians. However, the commissioner of the Lynn Department of Public Works has indicated similar optimism about excess capacity and feels the city can easily meet the water needs of whatever new uses locate in the harbor area.

Sewerage System

The sewerage system currently combines both sanitary wastes and storm runoff, although some parts of the city have separated systems. The sewage flows to the city outfall sewer pumping station on the

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[1] Herr, p. 109.

[2] Whitman and Howard, Industrial Waste Survey, Fish Processing Industry, Gloucester, Massachusetts, March 1977.

harbor and is currently pumped without any treatment except screening 3½ miles to deep water (approximately 35 ft.) in the Broad Sound area of Massachusetts Bay 1½ miles S.E. of Bass Point, Nahant through a 60" line. Lynn accepts and is paid for pumping some of the Saugus sewage with its own. The average flow is 18.6 million gallons per day through the pumping station with peak flows of 95.6 million gallons per day (38.2 million gallons of sanitary plus 57.4 million gallons of storm runoff). Because the capacity of the pumping station and outlet line is approximately 70 million gallons per day at peak flow times (during and after large storms, etc.), the remainder of the occasional peak flow (25.6 million gallons per day) must be discharged at overflow points directly into the harbor. The main overflow outlet is at the bulkhead line closest to the pumping station, although there are other overflow points into the harbor and the Saugus River.

Revere and Nahant have alleged that Lynn's pumping of raw sewage has helped decrease the quality of beach and shoreline, and overflows into the harbor have caused the state to declare shellfish in the harbor unsuited for commercial use (although local residents sometimes still gather them). As a result of these problems, the U.S. Environmental Protection Agency has put pressure on the city to install a treatment system. Other federal funds (i.e. from the Economic Development Agency) are also being tied to the city's starting of such a facility.

Therefore, a new primary and secondary treatment facility is currently being planned. It is being designed to handle the projected requirements up to the year 2020 and will handle sewage from Lynn, Saugus and Nahant. As currently planned, it will handle an average flow of 25.8 million gallons per day and a peak flow of 107 million gallons per day. Of this peak flow, 75 million gallons will receive primary and secondary treatment and be pumped to deep water, while 32 million gallons will receive primary treatment and chlorination only and be discharged into the harbor. This facility should considerably increase water quality in the harbor.

The timetable for this new facility, as indicated by the consultant,[1] will be:

June 1, 1977 - expected EPA 2nd phase design grant award

January 1, 1979 - completion of engineering, drawings and approvals

April 1, 1979 - completion of bidding and construction contract signing

September 1, 1981 - completion of construction

These times indicate approximately 2 years until construction begins, a costly length of time if other federal funds are held up until that date.

In addition to this facility, the city plans to further study earlier recommendations of consultants[2] for increased separation of sanitary and storm drainage, storage during peak flows for pumping to deep water at lower flow times and minor treatment at some overflows into the Saugus River.

Street System

The street system affects harbor development in the way it links or isolates the harbor from the rest of the Lynn community and in its ability to accommodate increased traffic.

Lynn originally developed in part as a link in the overland connection between the maritime centers of Salem and Boston and not primarily around its shallow harbor.[3] Because the focus of activity did not occur on the waterfront, few streets ran toward it, although some ran along its edge. Even when shipping in the harbor increased, serving shoe manufacturing on the waterfront, few streets connected

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[1]Conversation with Mr. Stan Reich, Engineer, VTN Consulting Engineers, March 25, 1977.

[2]1970-71 report by Metcalf and Eddy, Consulting Engineers.

[3]Kubat, Oliver, Interim Report, Lynn Harbor Development, 1976.

this activity deeper into the community. The construction of the Lynnway and accompanying harbor filling further isolated the wateredge from the community with traffic, median strips and uses that feed off the through traffic of the Lynnway rather than traffic from the wateredge inland.

This physical isolation of the harbor from the rest of the city began the process of emotional isolation from the harbor that has endured to a great extent to the present. Today this manmade barrier to the wateredge is crossed visually only from the raised residential areas along Tudor Street and Newhall Street on Sagamore Hill, visually at two brief points where the Lynnway touches the harbor on its north end and physically at the public landing on Blossom Street. Blossom Street was an excellent choice for a public landing, a street that, except for the Lynnway median strip, reaches back into the community to the common, a potentially strong linkage.

Traffic Capacities - The street network around the harbor consists primarily of the Lynnway. Few streets connect potential development parcels with any part of Lynn except by way of the Lynnway. This fact has potential negative effects on the ability of the Lynnway to cope with major new traffic-generating development. The Lynnway is currently very congested at peak rush hours, congestion aggrevated by the numerous entrance/exits to auto dealers and strip commercial uses. The following calculations give a ballpark estimate of the potential negative effects of new traffic.

1. Estimate of traffic generated by new development assuming all vacant land on the harbor — 2,980,000 sq.ft. (including land fill area) — were developed into some variation of the following scenario:

	Vehicle trips per day generated[1]		
	Low	Average	High
200 units of multifamily housing	600	1,300	1,800
75,000 g.s.f. neighborhood & specialty retail shopping & parking	4,500	7,500	9,750
30,000 g.s.f. office space & parking	250	325	500
6,000 g.s.f. restaurants & parking	300	900	1,800
200 boat marina & parking	400	800	2,000
100,000 g.s.f. warehouse space & truck pkg.	450	550	700
400,000 g.s.f. industrial park & parking	3,000	3,700	4,500
200,000 g.s.f. manufacturing & parking	700	975	1,100
	10,200	16,050	22,150

g.s.f. = gross sq.ft.

2. The traffic loads (average daily traffic) on existing streets (from a 1972 survey):

   Lynnway (main section) = 40,000 vehicles per day
   Lynnway (north harbor section) = 28,000 vehicles per day
   Commercial Street = 8,000 vehicles per day
   Broad Street = 15,000 vehicles per day
   Market Street = 14,000 vehicles per day

3. Percent increase in current traffic:

   Assume the newly generated average traffic is distributed over the above streets in the following order:

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[1] Herr, p. 37-38.

Lynnway (main): 40% of new traffic = 6,420 vehicles per day
Lynnway (north): 50% of new traffic = 8,025 vehicles per day
Commercial St.: 7% of new traffic = 1,124 vehicles per day
Broad St.: 2% of new traffic = 321 vehicles per day
Market St.: 1% of new traffic = 161 vehicles per day

This amount of new traffic represents the following percent increases in average daily traffic:

Lynnway (main): 16%
Lynnway (north): 29%
Commercial St.: 14%
Broad St.: 2%
Market St.: 1%

The likelihood of all of this new traffic occuring within the next four to six years is probably quite low (perhaps 40% chance), so that the percent increases shown would happen gradually, with the intervening time available for right-of-way improvements if necessary. The north section of the Lynnway will be the greatest impacted, and a 29% traffic increase could have tremendous congestion effects.

4. Peak hour congestion:

Current peak evening rush hour traffic on the north section of the Lynnway is (20-30% of average daily traffic) = 5,600-8,400 vehicles

Peak hour traffic with all the new development added would be approximately 7,200-10,800 vehicles, or an increase of 29%, enough to lower the quality of service significantly!

Appendix 4

ACTIVITY ANALYSES

ACTIVITY ANALYSIS - SEAFOOD PROCESSING

Seafood is sold fresh, processed via freezing, canning, curing or ground into fish meal. The industry is highly competitive due to three factors:[1]

1. Given an acceptable quality of raw material, products are difficult to differentiate and difficult to add value to by processing. Value adding happens as a result of heavy brand advertising for canned products or quick distribution to the fresh retail market. Frozen processing requires more capital, equipment and labor skills than the fresh or canned industries but is still basically a simple assembly line operation that produces sticks or portions of uniform size and quality. Product innovations in breading and batter are possible, but these are small differentiations.

2. New firms can easily enter the industry, because capital needs for entry are low, few technological barriers exist, branding of products is difficult and few economies of scale exist in the industry. New firms and price competition keep pressure on the marginal profit or larger processors.

3. The domestic fish products market is not expanding rapidly. The industry has grown in total pounds of consumption, but at a rate no faster than population growth, although the frozen portion of the market has grown substantially.

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[1]Source: Lee White, Harry O'Hare, Jr., Report from the Joint Commission on Federal Base Conversion, Commonwealth of Mass., Agribusiness Feasibility Study, draft final report, "The Massachusetts Frozen Breaded Seafood Industry", 1976, p. 19-21.

1. The Use of the Waterfront

Seafood processing is often thought to be waterfront dependent because of the existing waterfront location of major firms. However, even with 10 percent of the raw input for products such as fish sticks coming from fresh fish, a waterfront location is not essential to the processing operation,[1] although it is desirable. Processors currently receive 90 percent of their input material as frozen fish blocks by truck or boat, but all ship products overland by truck or rail. Frozen blocks and even fresh fish can be trucked from port landing point to processing plant, although most producers try to eliminate this extra handling time and expense by locating on the waterfront. In a competitive industry the cost savings of existing producer locations tend to attract new firms to the waterfront as well.

Although sizable quantities of water are used in fresh processing and canning, the water demands of the frozen product industry are not as great. Fresh processing in Gloucester uses salt water and returns all the wastes to the inner harbor. However, where sewage treatment occurs, as will be the case in Lynn, salt water cannot be used, and the tie to the waterfront is lessened also.

Seafood processing, while not always dependent on a waterfront location due to the transportation mode, is dependent if one takes the definition of dependency to be industry cost savings. In addition, because processing often involves substantial use of shipping and boating for raw inputs, it is highly supportive of waterfront character and can create desirable working harbor images.

However, to the extent that the major activity is interior to buildings and that materials arrive

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[1] Ibid., p. 16.

by truck instead of water, processing can have just as negative an impact on waterfront character as does warehousing. This is an important consideration, because considerable space (often as much as 65% of plant or site) is used for warehousing (cooling or freezing) before or after processing.

2. Tax Rate Effects per 10,000 sq.ft.

Net assessible income (after deductions) = approximately 15% of annual sales[1]		
Typical established operations in Mass. do $10-20 million in annual sales[2] (Gorton's does over $80 million)		
Annual sales per sq.ft. of land used =		$35-200
Net assessible income per 10,000 sq.ft. of site =		$52,500-300,000
Market value (income capitalized)		$200,000-1,500,000
Assessed value (50% of market)		$130,000-750,000
Tax revenue ($168 per 1,000)		$22,000-126,000
Costs:		
School costs	0	
Nonschool costs	$6,600-88,000	
Loss of school aid	$2,000-12,000	
Potential costs		$8,600-100,000
Total annual fiscal gain		$13,000-26,000[3]
Divided by assessed value of community plus development (000's)		$252,731-252,793
Est. change in tax rate		$.05-.1

This would mean a drop in real taxes for a house assessed at $15,000 of about 75 cents to $1.50 per 10,000 sq.ft. or processing activity.

[1] Industry Profile No. 66014, "Quick Frozen Fish", constructed for U.S.A.I.D. by the U.S. Dept. of Commerce.

[2] "The Mass. Frozen Breaded Seafood Industry", Ibid., Exhibit 8.

[3] Herr, Evaluating Development Impact, pp. 69-84.

3. Employment Effects

Processing is not as employment intensive as some other activities, such as office work, but is more intensive than shipping, museums, etc. Construction employment is in the median range comparatively, because a processing facility is not a highly complex or highly finished building type. The occupational mix stresses crafts/operatives and labor (generally semiskilled and unskilled labor), and therefore may have some effect on the unemployed. The greater number of skilled unemployed in Lynn, however, may diminish this benefit. The number of permanent employees is generally 25% of peak seasonal employment.[1] Therefore this activity can employ lower skilled seasonally available labor such as students but may not be as successful in providing year-round employment. Wage levels for the majority of labor involved is minimum wage to $4.00 per hour, although wages in union positions are as high as $5.50 per hour.[2]

4. Compatibility with Other Activities

Processing will vary in its compatibility depending upon the type of operation involved. The fresh and frozen products, if processed indoors with adequate storage and removal of wastes, are not generally offensive to other industrial and commercial activities. Canning, however, because it involves cooking of the product, is usually much more odorous and can be a nuisance near residential areas. Fish waste dehydrating and fish meal production plants often accompany the location of processing operations, and because of the process involved produce much, often offensive, odor that is difficult to limit within an industrial area.

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[1] Conversation with Susan Peterson, processing researcher at Woods Hall Oceanographic Institute, July 1976.

[2] Ibid.

The heavy use of trucking in the industry also presents a possible nuisance impact. This impact makes the activity more compatible with other industrial uses than with pedestrian public access or even auto related retail and recreation activities.

The activity itself, if visible, can potentially be attractive to observers.

5. Market Feasibility[1]

The seafood market consists of two major segments — a retail sector and an institutional sector. Each of these sectors include a fresh and a processed market. The retail sector consists mainly of grocery or fish stores and the institutional sector includes restaurants, fast food franchises, school lunch programs, industrial cafeterias and the military. The frozen and canned segments of the industry are two and one-half times larger than the fresh segment, and institutional sales account for the majority of the frozen sales.

In Massachusetts, the number of processing plants has fluctuated since 1970 but has usually remained in the 107-120 range. These plants account for a substantial (near 40%) part of the U.S. marketshare. The fresh and frozen market producers have had difficulty surviving in the past decade, but the frozen breaded (fish sticks and portions) segment of the industry has had rapid and strong growth since 1960. Because of this growth, most plants are relatively modern (constructed within the last 15 years) and are operating below peak capacity. This excess capacity means that only with substantial industry production increases could existing plants justify expansion. Because industry production is tied closer to consumer demand than raw fish supply, the potential expansion of domestic fish catches due to

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[1] "Mass. Frozen Breaded Seafood Industry", pp. 22-26.

the 200 mile limit will probably not affect the need for new plants. However, the same 200 mile limit on foreign fishing may have the effect of creating major new foreign markets in both fresh and frozen product areas. This demand is already being felt in the number of foreign firms and investors interested in U.S. plant locations.

Feasible development in Lynn is tied to parcels that have potential water access and good truck access. Although sites as small as one acre could be utilized, the sought after aglomeration of supporting facilities such as freezing warehouses, fish meal producers, etc. makes a large site more attractive.

ACTIVITY ANALYSIS - WAREHOUSING

This storage phase of the goods flow process can occur for both durable and nondurable goods. Produce, groceries, dry goods, chemicals/paints, building materials, furniture, sheet metal and wire, glass products, electronics products, paper, leather and other miscellaneous products are typically stored some time in a warehouse. Durable goods such as automobiles or machinery are often of too great a bulk to be efficiently stored in warehouses and are stored in the open. Products that use warehousing are typically sensitive to weather or security.

1. The Use of the Waterfront

Warehousing can be said to be dependent on a waterfront location if the raw material or products stored there are received or distributed by water transportation. However, the products that in the past were shipped by water (especially coastal barges) such as leather, shoes, lumber, etc. are not necessarily shipped that way today because of changing technology and markets. Alternatively, one can expect that products not shipped by water today might be shipped by water in the future. The result of this uncertainty over products is that allowing some warehousing on the waterfront offers the flexibility of use by water-shipped products in the future even though current use may be by non-water transported products. Warehousing of water-borne products can be sensitive to proximity to pier space because of unloading by crane or conveyor system.

Warehousing is by nature an interior activity. Except for the possible short term transfer of goods from water vessel to warehouse (or vice versa), warehousing does little to support a general boat activity atmosphere or provide operations activity that attracts public interest and observers. Warehousing of products such as agricultural produce or fish that are perishable and therefore are received or shipped often may aid waterfront image with the frequency of boat landings. Conversely, warehousing

that is not for water-borne products has a strongly negative effect on the image of the waterfront by using limited land for large visually impenetrable structures void of any water related activity.

2 Tax Rate Effects per 10,000 sq.ft. of Site

Gross rental income approximately $1/sq.ft. 1 year		$10,000
Net assessible income (after deductions) approximately		$ 7,000
Market value (income capitalized @ 20%)		$35,000
Assessed value (50% of market value)		$17,500
Tax revenue (@ $168.00/1,000 assessed value)		$ 2,940
Costs:		
School costs	0	
Nonschool costs	$880-2,060	
Loss of school aid	$280	
Total costs		$ 1,160-2,340
Total annual fiscal gain[1]		$ 600-1,780
Divided by assessed value of community plus development (000's)		$252,720
Est. change in tax rate		$.007-.003 or approximately ½ of 1¢

This would mean a drop in real taxes for a house assessed at $15,000 of approximately 7.5 cents per 10,000 sq.ft. of warehouse activity.

3. Employment Effects

Warehousing is not an employment intensive use. Construction employment (see p. 177) is less

[1] Herr, Evaluating Development Impact, pp. 69-84.

intensive than many other uses because of the simplicity of the building type and lack of costly interior partitions, mechanical systems, finishes or equipment. Permanent employment is also not high on a unit basis, and the occupational mix of employees emphasizes operatives at a limited wate level, although some clerical jobs are also possible. Lynn's employment needs are affected little by warehousing.

4. Compatibility with Other Uses

Warehousing is generally compatible with manufacturing activity and is not normally noxious except for the nuisance effects of possibly heavy truck traffic. Although not normally noxious, it is not often compatible with many retail uses, especially on a limited site because of the potential competition between truck and car for maneuvering and parking space. It is compatible with public access to the water's edge for activities such as fishing, if the use of boat landing facilities are not intensive and the building satisfies security requirements. However, the bulk and blankness of the exterior in most cases has a very negative visual effect on image of waterfront activity.

5. Market Feasibility

The state has predicted[1] an approximately 1% rise in employment in warehousing through 1985. This use is certainly not a high growth activity but will probably remain quite stable. Feasible development will depend upon cheap land, good access, low building costs and demand. The harbor offers some parcels that could probably be leased cheaply enough, but because these parcels are also filled land, the cost of development is uncertain. Only three parcels have good water access currently but are limited in easy use of the Lynnway for truck traffic. Lynn, at present, has very little warehousing separate from

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[1] Mass. Division of Employment Security, Employment Requirements for Massachusetts by Occupation, by Industry 1970-1974-1985, July 1976.

some other primary activity like manufacturing or retail. However, some potential exists to serve the North Shore area by Lynn's proximity to Logan Airport. Lynn could become a collection point for either air or water shipment of products produced in several North Shore communities.

ACTIVITY ANALYSIS - MARINA

Marinas can vary greatly in size, facilities and services. The standard marina in the past typically included mooring, slips, fuel, ice and limited maintenance and supplies. New marinas typically include showers and saunas, self-operated laundry, full-line ships store including groceries and clothing, maintenance facilities and some combination of the following:

bar
hotel/motel
liquor store
tennis/swimming pool
food delivery
sailing school or club headquarters
specialty shopping
boat and equipment sales

The smaller and more basic type of marina still exists, however, and is still a viable development, independently or often as an amenity to other development. In those increasingly less common situations where property is relatively inexpensive and minimum site preparation (e.g. dredging) is required, new small marinas can succeed; however, larger scale marinas (200 slips plus) tend to be more commonly developed and efficient.[1]

1. The Use of Waterfront

Marinas are dependent upon a waterfront location for major boating operations. In addition, recreational boating increases in Lynn Harbor would have a substantial supportive effect on adjacent retail, office or housing development. Accessory activities to marinas (parking for users and winter boat

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[1]Introductory information from Economics Research Associates, Market Study for Downtown Gloucester, "Analysis of the Marina Market", October 1976, pp. VII9-10.

storage) are not dependent on a waterfront location, however, in most cases are a part of the same site as the main facilities. Outdoor winter boat storage can occur on the boat owner's property if the boat is trailerable, on the outdoor parking lot of the marina if easily accessible to the take out point for large boats, or in the water at a slip if special winter ice-free systems are installed.

2. Tax Rate Effects per 10,000 sq.ft.

Although there is some year-round income to a marina owner (storage in the winter) major income occurs for only a portion of the year. This reduced total income decreases the potential tax return to the city from marina operations. Marinas, however, can also attract an affluent group of boat owners who may directly or indirectly bring other taxable investment to the city.

Gross income from operations per 10,000 sq.ft. of land & water area (see table A4-2 p.180)		$5,500-23,000
Net assessible income (after deducations) approximately		$4,000-17,000
Market value (income capitalized)		$20,000-85,000
Assessed value		$10,000-42,000
Tax revenue ($@ $168.00/1,000)		$1,680-7,000
Costs:		
School costs	0	
Nonschool costs	$500-4,900	
Loss of state school aid	$160-660	
Total costs		$660-5,560
Total annual fiscal gain		$1,000-1,500
Divided by assessed value of community plus development (000's)		$252,719-252,722.2
Est. change in tax rate		$.004-.006

This would mean a drop in real taxes for a house assessed at $15,000 of approximately 7.5 cents per 10,000 sq.ft. of marina.

3. Employment Effects

Marinas are not employment intensive activities. Many marinas can be adequately operated by less than a dozen employees, only half of whom may work full time. The occupational mix and seasonal nature of marina activity lead to low median wages. Marinas will not meet much of Lynn's employment needs.

4. Compatibility with Other Uses

Marinas are compatible with most activities. In particular, they complement and provide amenity for other recreational, retail, office, housing and research activities, although the parking demands for all of these activities can potentially conflict. Marinas can fit into industrial areas as well. In industrial areas the marina might well have to provide greater user facilities of its own because of not having nearby retail shops, open space, etc. normally available to draw upon. In addition, marina boat traffic in industrial areas could easily become a potentially negative constraint on commercial boat traffic, docking and mooring. Recreational marina locations should probably fill in edges of the harbor area where commercial traffic is not needed.

5. Market Feasibility[1]

The boating industry has shown substantial growth in the past decade (approximately 5-7% annual growth rate during the 1967-1976 period with the greatest growth in boats 26-40 feet). Because Massachusetts registers only motorized boats, many thousands of small and medium sized sailboats and other small craft are not counted in these figures. Most boats are under 16 feet in length and typically do

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[1]Basic information and technique from Market Study for Downtown Gloucester, pp. VII1-13.

not require marina or commercial storage facilities. Boats over 16 feet constitute about 48% of the total.

In Massachusetts the Division of Marine and Recreational Vehicles estimates that in 1975 one in five (20%) state residents participated in boating. In addition, a Boating Industry Magazine survey in 1973 concluded that one participant in five (20%) owns a boat.

Projected Supply of Boats by Resident Population Lower North Shore Marketing Area:[1]

	1975
population[2]	182,817
participation rate in boating	20%
number of participants in boating	36,563
boats per participant	20%
residents' boats in marketing area	7,313

Because this number could easily be high considering the lower income nature of the market communities, assume only 75% for demand study = 5,485 resident boats.

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[1] Lynn, Nahant, Revere, Saugus, Swampscot, Winthrop.

[2] Based on 1974-75 Polk survey for Lynn, 1975 Massachusetts state census; Office of the Secretary of State for the remaining cities.

Estimate of Existing Supply of Marina Facilities:[1]

	Marinas	Yacht Clubs	# of Slips	# of Moorings
Lynn	2	2	213	200
Nahant	-	2	-	-
Revere	4	3	300	50
Saugus	-	1	-	-
Swampscot	-	1	-	-
Winthrop	2	3	100	-
Total	8	12	613	250
Assumed slips & moorings for 11 establishments not reporting			440	440
Total existing supply approximately			1,050	700

[1] Boating Almanac 1976. Normally only marina information on slips and moorings is given. Yacht Clubs are listed but do not report numbers of slips and moorings. To more exactly compute the existing supply, a telephone survey of harbor masters and/or Yacht Club operators would need to be conducted. For purposes of this estimate, an average number of 40 slips and 40 moorings per yacht club will be added per facility not already counted.

Demand in Market Area for Marine Facilities 1976-1985:

	1976	1978	1980	1985
number of resident boats in region (5% increase/yr.)	5,759	6,307	6,855	8,225
number of boats requiring marina space (48% of resident boats)	2,764	3,027	3,290	3,948
total storage demand (includes additional 30% of boats from inland communities)	3,590	3,935	4,277	5,132
less estimated existing supply (moorings & slips)	1,750	1,750	1,750	1,750
net demand for boat storage	1,840	2,185	2,527	3,382
portion locating in Lynn (assume Lynn's share of existing facilities)	24%	24%	24%	24%
cumulative demand for boat storage in Lynn	441	524	607	812

Because waiting lists and high levels of demand exist at most marina facilities in the lower North Shore, the preceding indication of demand for boat storage in Lynn suggests that major marina facilities are feasible from a market standpoint. From a physical standpoint, there are some land parcels open for development, but very little water area that can now be developed without dredging. The creation of additional land for land facilities and the dredging of portions of the harbor are the only ways the harbor area will be able to provide the physical space needed to meet market demand.

ACTIVITY ANALYSIS - MISCELLANEOUS RETAIL

The retail activities that are commonly attracted to waterfront locations include gift, novelty, craft and art sales related to a tourist area; fish and meat sales related to a historical or functioning marketplace and quick access from fishing docks; and sometimes neighborhood or community convenience/comparison goods sales where a close local residential market exists or the amenity value of the waterfront can create a marketing advantage. The likelihood of attracting a new regional shopping center or of the existence of regional scale shopping is normally limited by the non-central location within the market area that a waterfront location implies.

1. The Use of the Waterfront

Retail activity is not dependent upon a waterfront location, but can enhance and support waterfront character. The types of retail activity listed above have the potential both to draw people from the land market area to the waterfront and to draw boaters or beach users to the area for a diversion from their primary recreational activity. Many other types of retail activities also establish on waterfronts, although few make the move based on their use of the waterfront amenity. The ideal situation is where the waterfront amenity itself draws people, creating an instant market for retail activity, and this total activity then further draws people to the area. The waterfront in this situation can be likened to the magnet (major) department store in a shopping center, around which smaller stores cluster, creating a whole larger than the individual parts.

Retail activity is dependent upon access. Waterfront retail uses will probably be accessible partly by pedestrian traffic but will also need parking space. The distribution of this parking space on the site should not be primarily on the wateredge and should penetrate the site as little as possible.

Retail activity, to maximize its supportiveness of waterfront character, should be oriented to the water not to parking lots or access streets.

2. Tax Rate Effects per 10,000 sq.ft.

Assessed value could be based on the rental income retail uses provided an owner or upon the actual sales volume of the retail uses themselves. Based on sales volume, assessed value can be between 8% and 10% of annual sales.

	gifts & convenience goods	fish/ meat sales
Median annual sales/10,000 sq.ft.[1]	$400,000-700,000	$800,000-1,800,000
Assessed value	$32,000-70,000	$64,000-180,000
Tax revenue (@ $168.00/1,000)	$5,000-12,000	$11,000-30,000
Costs:		
School costs 0		
Nonschool costs $2,000-21,000 (30-70% of revenue)		
Loss of state school aid $500-2,850		
Total costs	$2,500-9,000	$8,000-23,850
Total annual fiscal gain	$2,500-3,000	$3,000-6,000
Divided by assessed value of community plus development (000's)	$252,721—252,725	$252,724—252,736
Est. change in tax rate	$.009-.01	$.01-.02

This would mean a drop in real taxes for a house assessed at $15,000 of approximately 15 cents to 30 cents per 10,000 sq.ft. of retail activity.

[1] Urban Land Institute, Dollars and Cents of Shopping Centers: 1975, Washington, D.C., information based on neighborhood and community shopping areas in New England.

3. Employment Effects

Retail activity does not provide intensive construction employment but does provide greater full time employment per unit of site used than most industrial activities. Most of the jobs provided are in the lower paying clerical/sales occupations ($6,900 median annual wages), are likely to be part time or seasonal, and are likely to be held by women. However, these jobs are likely to go to Lynn residents, because commuting distances to sales jobs tend to be short.[1] Clerical/sales jobs are a high priority in employing the unemployed and retail trade is a strong growth sector that Lynn should be trying to encourage and capture. In conclusion, retail activity will have positive employment effects.

4. Compatibility

Retail uses are compatible with many other activity types. The only potential nuisance effect is the extent of auto traffic generated on and around the site. The city may wish to limit this traffic to an increase of not more than 20% over existing usage.

The combination of retail uses with other activities might consider the following points:

1. Public access and open spaces should be clearly defined as public and their character/use should be respected by retail activity.
2. Protected pedestrian spaces enhance pedestrian movement and comfort.
3. Retail activity and light industrial uses are not incompatible.
4. Commercial and recreational boat activity provide good market support for retail activity.
5. Retail image is important to the attractiveness of the area to office users and restaurants.

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[1] Herr, "Evaluating Development Impact," p. 129.

5. Market Feasibility

Market conclusions listed earlier under local context indicate feasible expansion of retail space in the Lynn area to the extent of 70-150,000 sq.ft. annually for the next two decades. If Lynn's share of that expansion is 60%, and the waterfront share of Lynn's share is 30%, then the demand for retail space on the waterfront would be 12-27,000 sq.ft. annually.

Location is of prime importance to retail stores, especially with regard to access, but also image and prestige. The character as well as the spending power of the surrounding area is of importance to the retailer making a location decision. In addition, retailers prefer to congregate and locate near competition in order to accentuate the magnet effect of a shopping area.[1]

To Lynn these concerns mean that:

1. The linking of waterfront retail to the downtown shopping area is important if they are to be supportive of each other.
2. Because the downtown to waterfront walking distance is greater than the acceptable distance to a single comparison shopper, the total distance cannot be one single shopping district.
3. To link the downtown to the waterfront and to upgrade the character of the surrounding area, the loft building area development should also include retail activity, but all three areas should be differentiated somewhat. While the downtown area can remain a comparison shopping area, the waterfront should move toward specialty, convenience and some food retail uses.

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[1] Sherman Maisel and Stephen Roulac, Real Estate Investment and Finance, McGraw-Hill, Inc., New York, 1976, p. 484.

TABLE A4-1
EMPLOYMENT CHARACTERISTICS OF ACTIVITY OPTIONS

Activity/Use	Construction[1] Employment (Manyrs. per 10,000 sq.ft. of bldg.) low-high	Full Time[2] Employees per 10,000 sq. ft. of site low-high	Occupational Mix in %[3] Prof./ Tech./ Mgmt.	Clerical/ Sales	Crafts/ Operatives/ Labor	Service	1976[4] Median Annual Wages
Chemical Plant	5-8	24-28	21	19	58	2	$15,700
Bldg. Products (brick, glass)	5-7	3-7	15	16	67	2	5,000
Warehousing	5-6	5-20	13	29	56	4	11,300
Seafood Processing	5-8	10-20	14	16	66	4	8,800
Misc. Mfg.	5-8	5-40	11	17	71	1	6,700
Pollution Control Mfg.	5-8	28-30	30	20	48	2	10,300
Fishing	NA	10-20[5]	13	2	75	5	13,800
Offshore Mining	NA	1-3[6]	21	8	70	1	18,000
Support Services							
Tugboat Services	NA	5-15	21	8	70	1	11,600
Boat Bldg./Services	NA	7-9	15	11	72	2	11,700
Marina	2-3	1-2	21	13	58	8	5,700
Barge/Ferry Shipping	NA	1-2	21	8	70	1	11,600
Offices (Professional)	8-17	40-70	30	69	0	1	10,100
Retail (Misc)	5-8	20-40	21	60	18	2	6,900
Hotel/Motel	8-11	4-6	7	14	6	73	3,200 (+ tips)
Restaurant	9-14	60-120	8	4	1	87	4,000 (+ tips)
Med. to high density res.	6-10	NA	NA				NA
Public Open Space	NA	NA	NA				NA
Cinema Center	6-12	10-20	45	23	12	21	2,200 (part time)
Research Space	9-24	20-40	71	16	3	10	8,400
Museum	Similar to retail	1-5	41	22	10	27	6,000

(Continued)

TABLE A4-1 Continued

Note: Percentages may not add due to rounding.
NA means not applicable

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[1]Phillip B. Herr Assoc. Evaluating Development Impact for Massachusetts Dept. of Community Affairs, February 1976, p. 115, based on comparative magnitudes of construction costs per sq.ft., assuming 30 man-years of labor on site per million dollars of construction costs. Man-year = 2,000 hours, and hourly wages range from about $7 to $10, p. 114.

[2]Ibid., p. 116; Boston's Industry. Boston Economic Development and Industrial Commission, March 1970, Table 3; and Industrial Development Handbook, Urban Land Institute, Washington, D.C., 1975, p. 112.

[3]Source: Massachusetts Division of Employment Security, 1970 Industry - Occupation Employment Matrix for the State of Massachusetts, July 1975.

Massachusetts Division of Employment Security, Occupational Profile of Manufacturing Industries in Massachusetts, 1974, Report no. 4.

Massachusetts Division of Employment Security, Occupational Profile of Wholesale and Retail Trade in Massachusetts, 1973, Report no. 3.

Massachusetts Division of Employment Security, Occupational Profile of Selected Nonmanufacturing Industries in Massachusetts, 1973, Report no. 2.

The mix of occupations within industries has probably shifted slightly since 1970, for some in the direction of professional/technical, for others toward crafts/operatives.

[4]Source: Massachusetts Division of Employment Security, Employment and Wages by Area Then by Industry 1975, S-202 file for Lynn Industries.

These figures are inflated from 1975 to 1976 by use of the rise in the consumer price index 1975 CPI = 162.1, 1976 CPI = 176.1, increase = 8.6% and rounded.

[5]Fishing and tugboat services: assume 1 boat requires approximately 5,000 sq.ft. of land and water area for loading, unloading, support and docking. Fishing: 4-8 employees per boat; tugboat services: 3-6 employees per boat.

TABLE A4-1 Continued

[6] New England River Basins Commission Resource and Land Investigation Project (RALI). Draft Interim Report #1, A Methodology for the Siting of Onshore Facilities Associated with OCS Development. January 1976. Table A-1. Assuming four acres of land for storage of supplies and 1 acre of water for docking activity support two supply boats and crew boat plus shore personnel during exploratory drilling phase only. 42 employees on 217,800 sq.ft. = 2 employees per 10,000 sq.ft. of site area.

TABLE A4-2

APPROXIMATE RENTAL RATES FOR LAND OR SPACE IN VARIOUS USES IN LYNN[1]

(i.e. income per 1,000 sq.ft. of site area that can be used to establish potential tax return to the city)

Use	Annual Rent per 1,000 sq.ft. of Site
manufacturing space	$2,000 - 3,000
warehouse space	$500 - 1,500
open storage, i.e. construction yard	10% of value
garage (for heavy equip. or boat repair)	$2,500 - 3,000
retail space (depending upon location, facilities, size)	$2,000 - 5,000
(gifts, fish market, etc.)	$3,000 - 4,000
office space (depending upon amenities	$4,000 - 6,000
car dealership	$7,000 - 7,500
restaurant space	$5,500 - 6,500
marina:[2] land area (for facilities & pkg. depending upon facilities & amount of sales)	$400 - 2,000
water area (for boat slips)	$150 - 300
residential (depends on size of units, amenities, age, etc.)	$3,600 - 5,400

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[1] Conversation with Lynn assessors Mr. Pike and Mr. Smith, March 1, 1977, and conversation with Mr. Ambrose of the Nester Realty Co. in Lynn, March 23, 1977. Also Urban Land Institute, Dollars and Cents of Shopping Centers, Washington, D.C., 1975.

[2] Using a 1:2 proportion for land to water and approx. 1800-2200 sq.ft. total land and water area per slip, an average boat length of 25 ft., and an average rental of $12/lin. ft. of boat for slips and $6/lin.ft. of boat for outdoor storage in parking area. These rates currently exist in Lynn; however, rates up to $20 or $30/lin. ft. of boat for slip rental are not uncommon in some newer full service marinas on the East Coast.

Appendix 5

Programs to Assist in Financing Public Improvements:

1. Outdoor recreation - acquisition, development and planning grants (Dept. of the Interior Program 15.400)[1] for paths, parks, boat ramps, tennis courts, picnic areas, bike trails, area utilities and landscaping. 50% of project costs available and 100% of relocation. Priority to urban projects of basic facilities. State agency must apply for the city.

2. Construction Grants for Wastewater Treatment Works (Environmental Protection Agency Program 66.418) - municipal sewage treatment facility costs up to 75% of eligible project costs.[2]

3. Grants and Loans for Public Works and Development Facilities (Economic Development Administration, Dept. of Commerce, Program 11.300)[3] - up to 50% of project costs (80% in severely depressed areas) for water and sewerage systems, access roads to industrial parks, port facilities, site improvements, etc. that will initiate and encourage long term economic growth in the economically lagging area.

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1 "Catalog of Federal Domestic Assistance, Update to the 1976 Edition", Executive Office of the President, Office of Management and Budget, p. 5-76.

2 Ibid.

3 Ibid.

4. Public Works Impact Projects (Economic Development Administration, Program 11.304)[1] - grant for 80% of costs of project to provide immediate useful work to unemployed and underemployed persons.

Programs to Facilitate Private Development

1. Local Development Corporation financing - Small Business Administration loans are available to LDC's for small businesses.

2. Financing through tax exempt local revenue bonds (Chapter 40D). Bonds can be used for the purchase of land, buildings, machinery or equipment or the construction of new manufacturing or warehousing facilities at the same rate of interest that a municipality is able to sell the revenue bond issue. This interest rate is usually 1-3 percent below commercial rates, because municipal bonds are federally tax exempt.

3. Implementation in conjunction with a public building project - Excess condemnation of land around a new public facility (such as the Blue Line station or a waterfront park) for resale to developer. Acquisition money from Community Development Revenue sharing discretionary funds.

- Public-private joint venture - Combine public use spaces with private commercial spaces. Use public funds to pay for some part of a private project (such as the park or enclosed pedestrian walkway of a retail shopping area that can be considered permanent public space). This might make the remainder of the project a viable private development project, since the majority of the space would be revenue producing. The city in this case gets the project it needs and the amenities

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[1] Ibid.

it requires by contributing land assembly powers and tax exempt bond financing, while the private developer contributes construction, marketing, management and operation.

4. Incentives for new development and rehabilitation of existing structures:
   - Tax abatements or assessment agreements
   - Granting Chapter 121A status
   - Deferred reassessment for newly renovated building

5. Massachusetts Housing Finance Agency financing for new or rehabilitated housing:
   - Owners profit limited to 6% of equity
   - Equity required to be 10% of total replacement value
   - Project must contain minimum of 25% low income subsidized units

6. U.S. Economic Development Administration Business Development Assistance:

   - Long term business development loans for up to 65% of fixed assets acquisition (land, building, machinery, equipment, land preparation, building rehabilitation)

   - Of remainder, 10% must be applicant equity and between 20-25% from a commercial lender.

7. U.S. Dept. of Housing and Urban Development Mortgage Insurance programs for housing (takes the risk away from the conventional lender)

   Section 207:
   - Basic multifamily rental housing insurance for moderate and middle income families — usually moderate to upper income.

- 8 or more units of detached, semi-detached, row, walkup or elevator units
- No income requirements for tenant occupants

Section 220:

- Mortgage insurance for rental housing in urban renewal areas, construction or rehabilitation
- Mortgagors include builders, private developers, public bodies
- Loan to value ratio - 90%

Section 221 (d) (3):

- Mortgage insurance for market rate rental housing for low and moderate income families
- New construction or rehabilitation mortgagors can be non-profit, public, limited distribution entities, investor sponsors, and profit motivated mortgagors
- No family income limits as a requirement for occupancy; may be occupied by rent supplement tenants
- Loan to value ratio of 100% for non-profit and public sponsors and 90% for limited dividend and private mortgagors

Section 221 (d) (4):

- Mortgage insurance for moderate income housing projects
- 5 or more units
- New construction, repair or rehabilitation of existing project
- Loan to value ratio of 90%, 10% builders and sponsors profit and risk allowance
- Eligible mortgagors include individuals, partnerships and corporations but exclude non-profit, limited dividend, cooperative and public mortgagors.

Section 234 (d):

- Mortgage insurance for construction or rehabilitation of condominium projects
- Mortgagors include private profit developers and non-profit groups
- Loan to value ratio - 90%

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