

FORM AND FORCES AT THE URBAN EDGE

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Submitted to the  
Department of Urban Studies and Planning  
in Partial Fulfillment of the Requirements for the Degree of

MASTER OF CITY PLANNING  
at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
May 1994

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## ABSTRACT

An accident of geography and history has created urban edge sites in the Boston Metropolitan area, the location of urban fringe uses once supporting the cities and towns they edge. For the past twenty-five years, these areas have been undergoing transition. As the necessity of their old fringe uses has declined, the orientation of land uses at these sites has become progressively more suburban. In some cases planning efforts have attempted to guide this transition with little success. However, even in the absence of comprehensive planning, many aspects of their emerging form are remarkably similar. This thesis will explore the forces that converge on these edge sites making them so difficult to plan.

In order to understand how these marginal old urban edge sites represent a unique planning and development phenomenon, this thesis investigates three edge sites in the Boston area. Using a comparative approach, a common set of issues is examined which has structured the development and built form at these sites, including their initial natural landscape structure, parallel transportation, industrial and commercial development, and persistent negative image.

This analysis reveals a consistent typology among these old urban edge sites, which has not been clearly acknowledged by past planning efforts. This consistency among the sites suggests the basis for a physical planning approach based fundamentally on the underlying ecology of these sites, their ongoing transitional character and remnant fringe functions.

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## CHAPTER ONE INTRODUCTION

This thesis explores why certain fringe sites on the edges of older cities have not responded to visions of change proposed by planners, and further, why at similar sites which are unplanned, a parallel urban form is emerging. The areas in question have been in transition, evolving over time, from locations of fringe activities once supporting urban dwellers - rail yards, industry, waste disposal - to uses which are more suburban in nature.

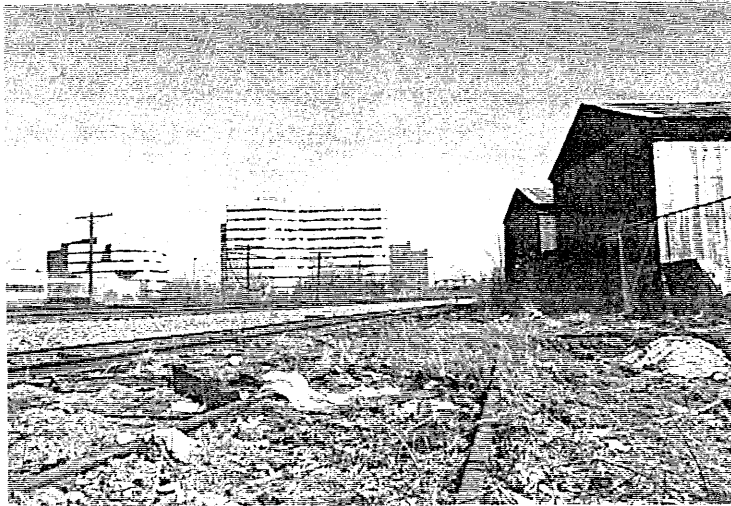
These sites are also transitional in another sense. An accident of similar geography and subsequent urban history in the Boston metropolitan area, they are the physical thresholds separating settlement patterns - urban to suburban, old suburb to new suburb, and the zone between two old cities. This thesis seeks to understand the history and current forces behind the developing form at this type of place.

Three case sites of varying scale will be utilized to explore the phenomenon. Two important criteria in selecting these cases were that the sites be at the edge of a community and that they possess visual similarities in their developing built forms indicating areas in transition. The sites reflect an indeterminate character with large lots, strip commercial development and stand-alone franchises interspersed with light industrial or commercial offices. An occasional vestigial residence appears, often adapted for business use. Though the specifics of each site differ, the general visual impression of the sites is similar. [Figure 1]

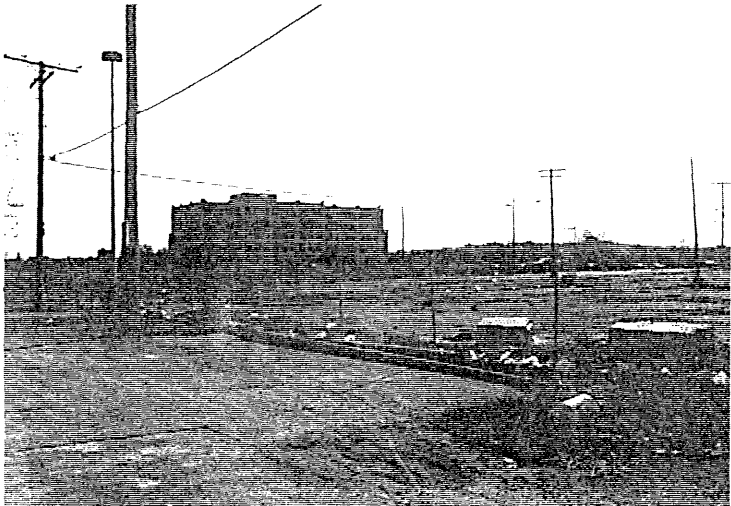
### THE SITES

*Alewife* Most documented of the three sites is Alewife, in western Cambridge, the subject of nearly 25 years of comprehensive planning attempting to direct its transition from a collection of outdated fringe uses to

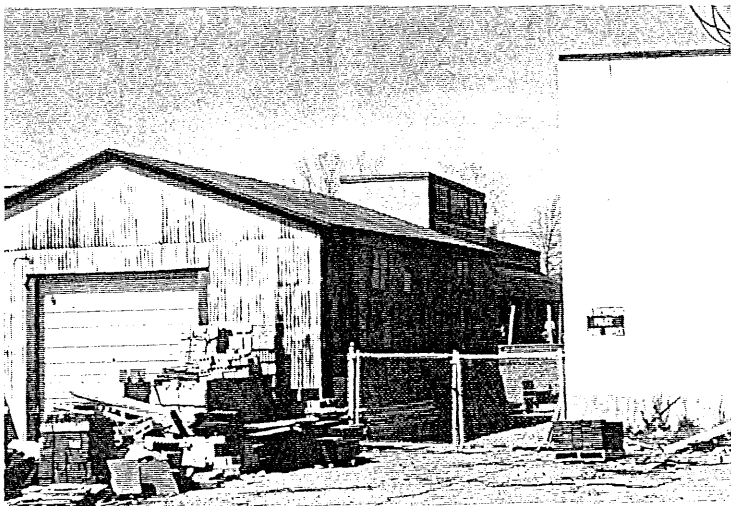
*Alewife*  
From Warehouse to  
Commercial



*Wellington*  
From Industrial  
to Commercial



*VFW Parkway*  
From Light Industrial  
to Retail



*Figure 1* Transitions

something else. Most of these efforts, focused on the 350-acre city-defined planning district, have had little impact. Historically the location of significant industrial activity, land uses at Alewife have changed in the past twenty years. The corresponding form represents a mix of retail, warehouse and underutilized light industrial parcels at scale much larger than the surrounding residential fabric. There remain significant pieces of undeveloped wetlands within the Alewife district. For the purpose of this thesis, a study area of approximately 480 acres was defined which includes the 50-acre city park, the former city dump. The aerial photo in Figure 2 and the map in Figure 3 indicate the general scale of buildings and the context of Alewife.

The eastern edge of Alewife is formed by the North Cambridge neighborhood. It is bounded to the south by Concord Avenue and the Fresh Pond Reservation. The old suburban communities of Arlington and Belmont are to the north and west respectively. The northern edge of Alewife is bordered by Route 2 which provides direct access to the Route 128 and the Boston area Metrowest suburbs, thus clearly defining Alewife as a site *where the city meets the suburbs*.

The district is bisected by the Alewife Brook Parkway which runs north to Arlington and south, through two rotaries, past Fresh Pond where it becomes the Fresh Pond Parkway. Commuter and freight rail runs east-to-west through the site, widening to form a small rail yard west of the Parkway. Additionally, Alewife is served by MBTA Red Line transit. The 55-acre Danehy Park, site of the former Cambridge City dump, is included in the study area investigated in this thesis.

***Wellington Circle*** A few miles away in southeastern Medford, the old industrial Wellington Circle area sits along the banks of the Mystic River, in the belt of old industrial land that borders the Mystic. Directly to the south is

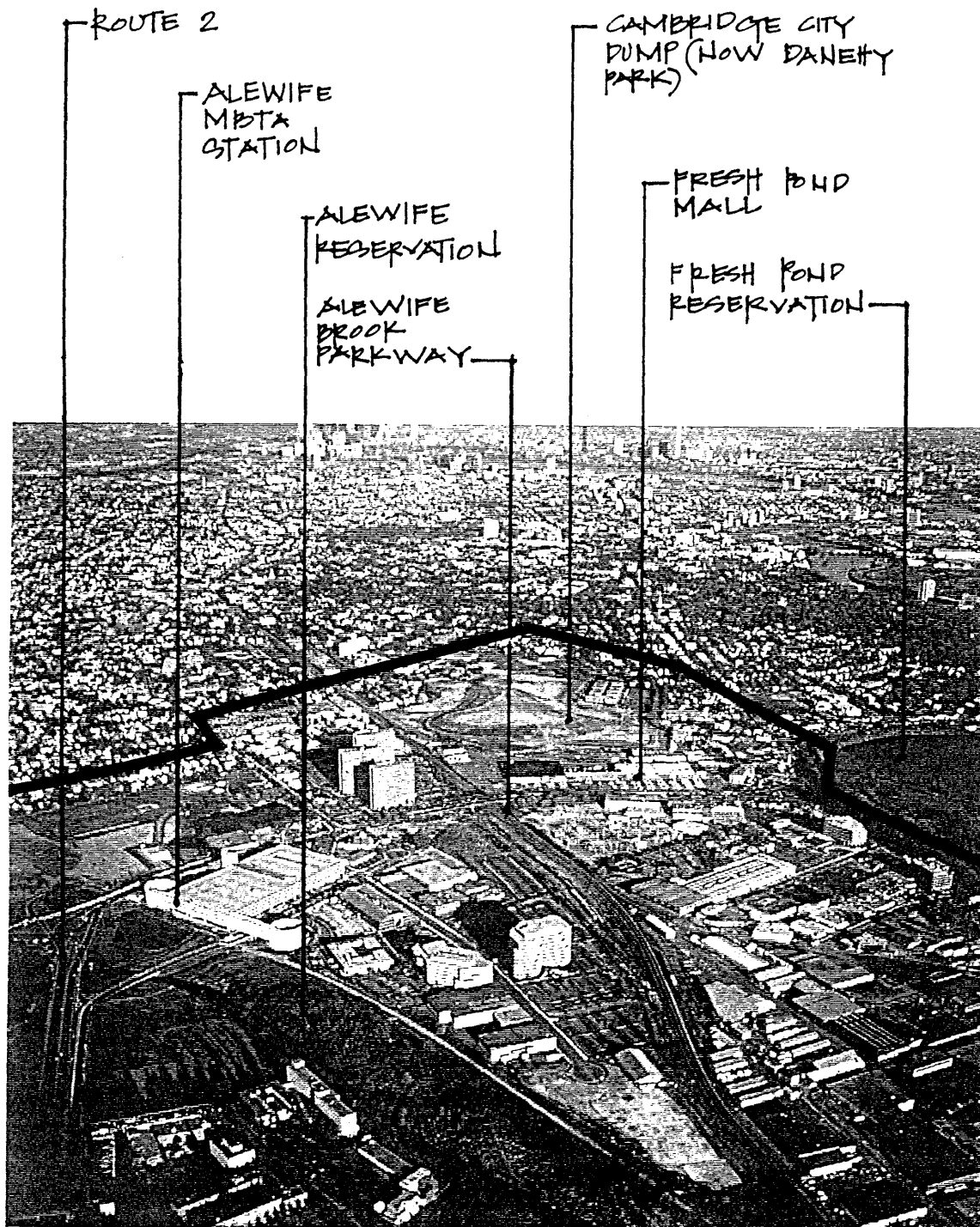


Figure 2 Aerial View of Alewife

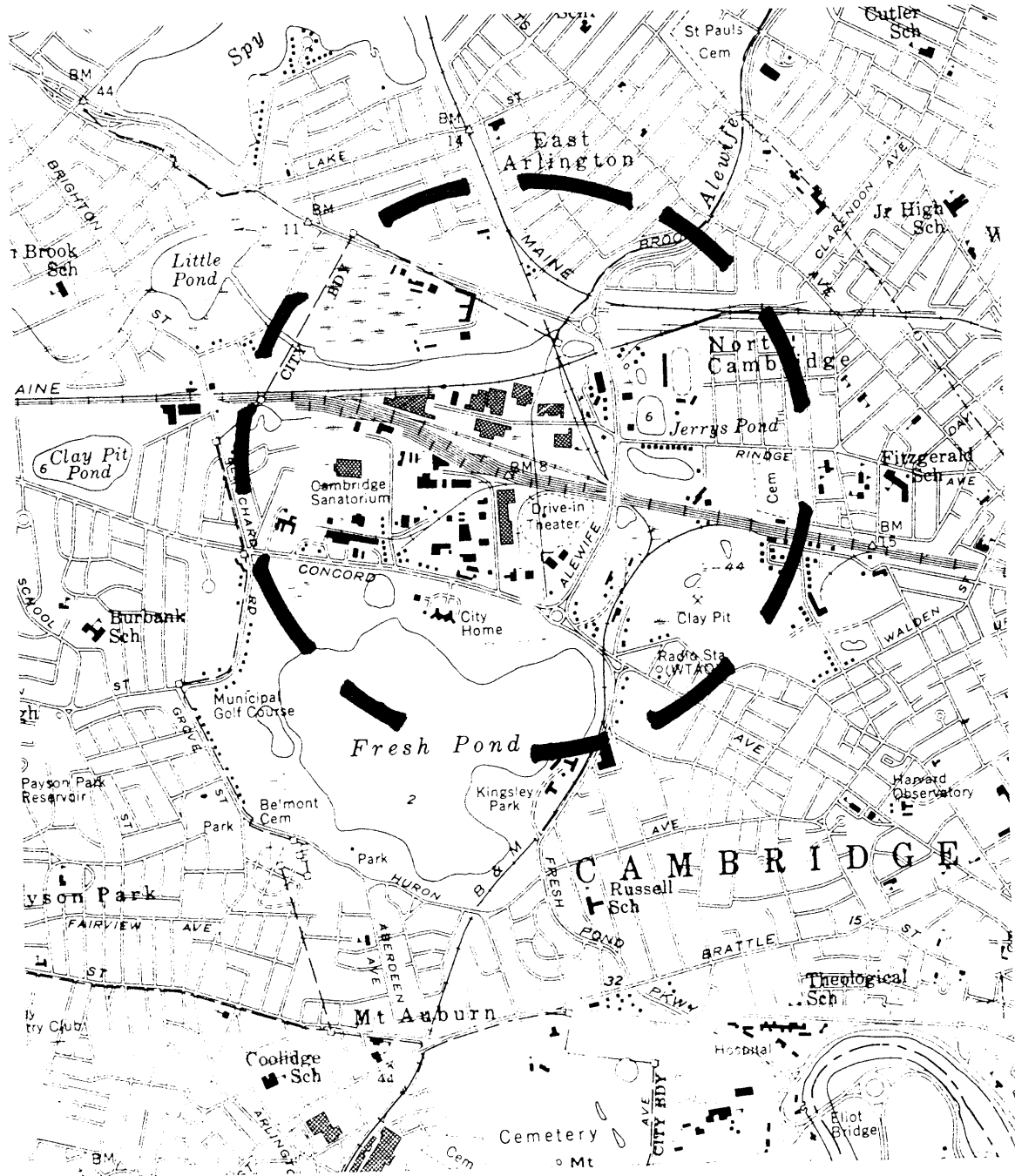


Figure 3 USGS Map of Alewife



Somerville and to the east, across the Malden River, is the industrial district of Everett. Further to the north along the Malden River is the city of Malden. Wellington is the most transitional area in Medford as the city's manufacturing job base has declined. Over the last 25 years, industrial uses have slowly been replaced by retail strip malls, warehouses and new office development. Figures 4 and 5 provide an oversight of this area. The edge condition at Wellington represents a site *where the old industrial districts of several older towns meet*.

Wellington includes Medford's principal industrial and commercial strip district, which virtually surrounds the isolated 100 acre Wellington residential neighborhood. Although individual parcels within Wellington have been the subject of redevelopment planning, particularly surrounding the MBTA Orange Line station, an overall planning district has never emerged. For the purpose of this thesis, a district of approximately 360 acres has been identified which comprises most of the area extending south of the Wellington neighborhood to the Mystic River. The study site is bounded by the Malden River to the east and Locust Street, the site of the Meadow Glen Mall, to the west - each former locations of drive-in cinemas. The site straddles the Mystic Valley Parkway and is bisected by the Fellsway at the intersection known as Wellington Circle.

**VFW Parkway** The third and smallest area investigated is along the southern end of the Veterans of Foreign Wars Parkway in the most suburban neighborhood in Boston - West Roxbury. It is the location of mostly inactive fringe uses supporting the city of Boston, including the former city dump, a residential cinder ash disposal site, and a few light industrial and warehouse businesses. Not much specific attention was paid to it by Boston's planning agency until recently when suburban-type development moved north across the town line from the suburb of Dedham. Consequently, there has been no planning at a district scale for this transitional area.

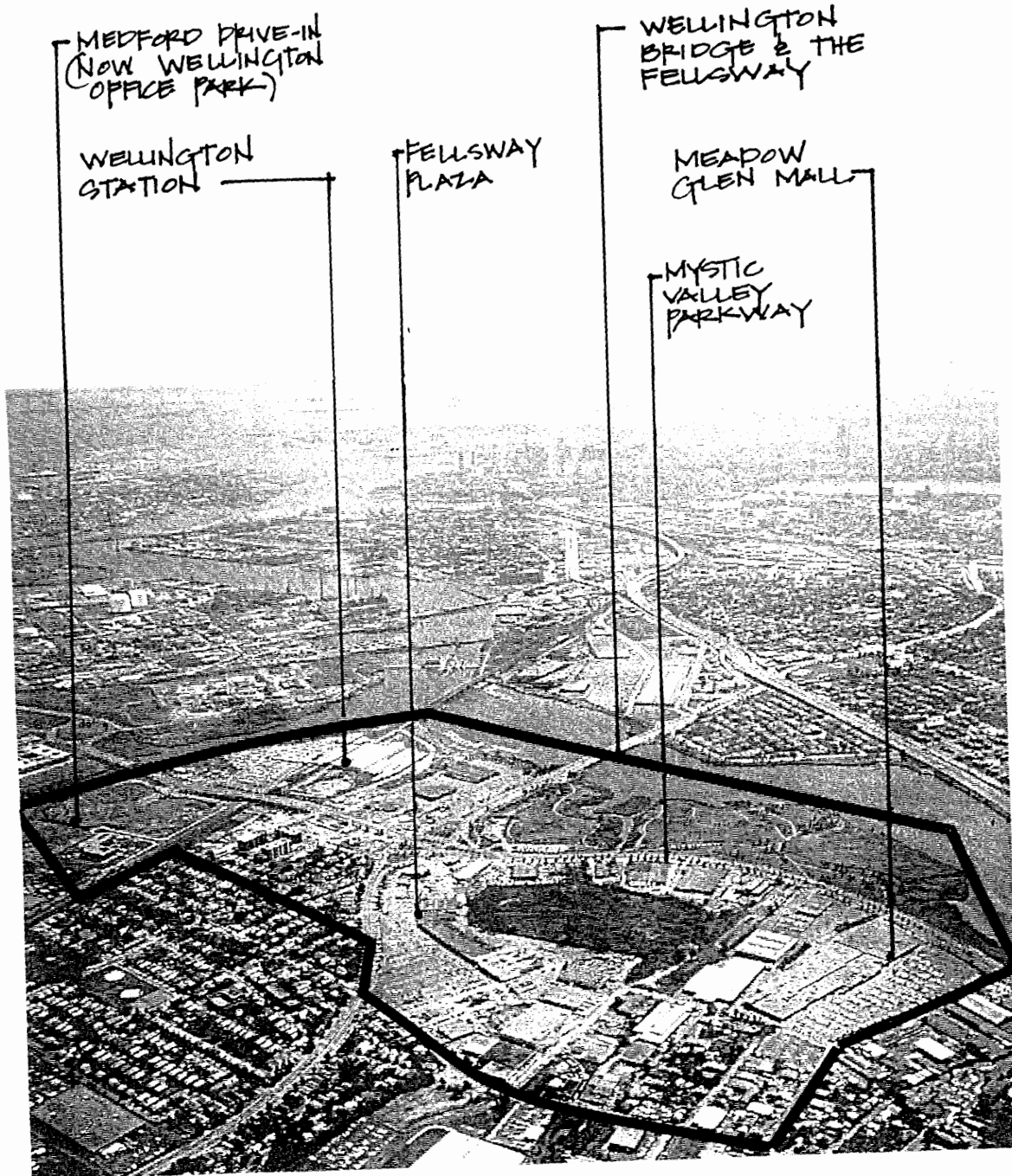


Figure 4 Aerial View of Wellington

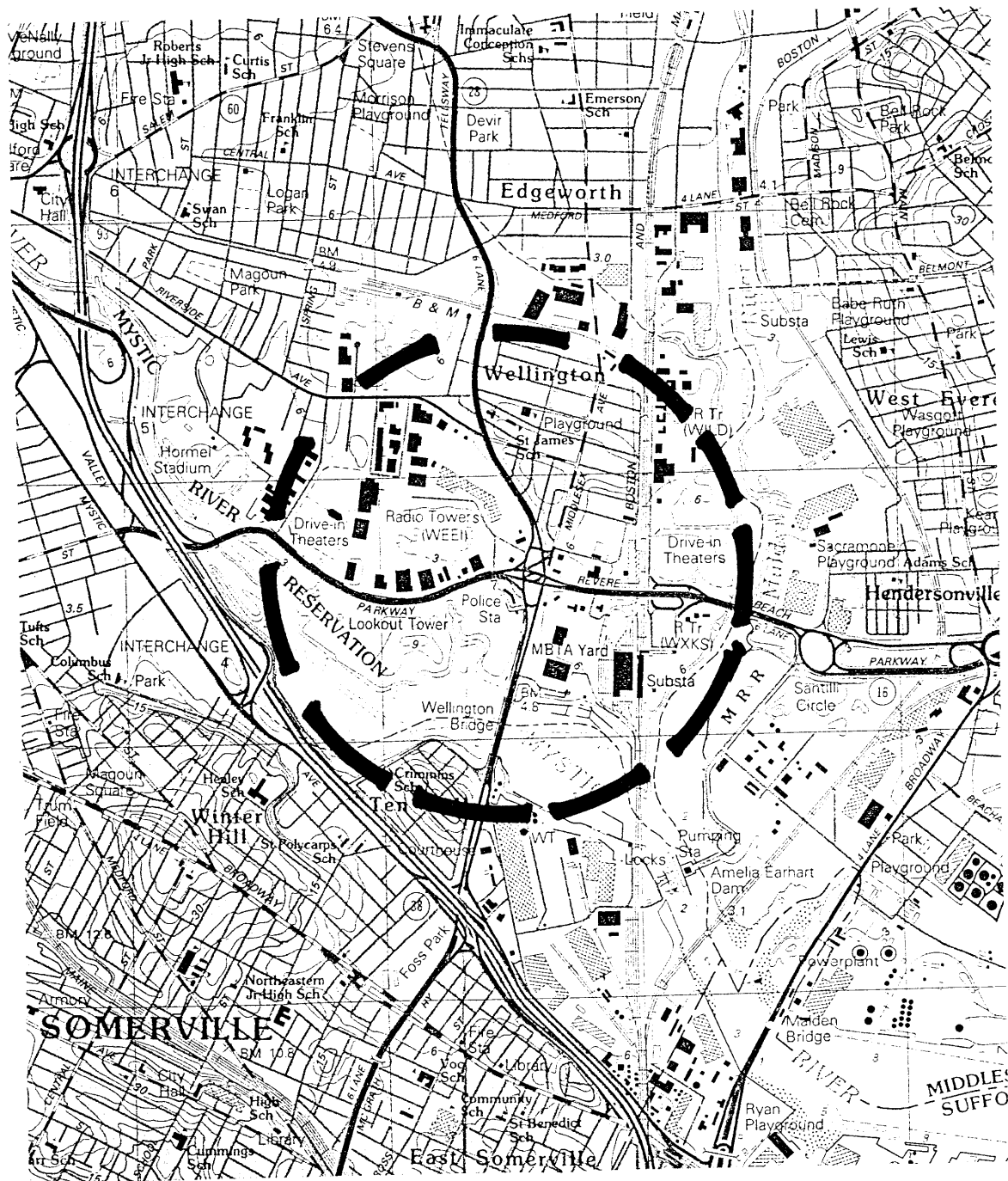


Figure 5 USGS Map of Wellington

For the purpose of this thesis, a study site comprising approximately 260 acres was defined, which includes the former VFW Drive-in Cinema site along the VFW Parkway and adjacent light industrial and commercial parcels. It extends from the south side of Boston's last active cemeteries to the Charles River Reservation at Cow Island Pond and includes the 85-acre inactive dump site. Compared with Wellington and Alewife, the VFW site does not share the same history of intensive industrial activity nor of subsequent decline, making its transitional character less obvious. However, the recent intrusion of suburban retail into this site, replacing former fringe uses, offers a clear example of changing form at an edge *where an old suburb meets a new one*. Figures 6 and 7 illustrate the general conditions in this area.

## ISSUES

Examination of the urban edge zones considered in this thesis revealed several shared characteristics, whose relationship to each other suggests a kind of natural development progression, perhaps outside the control of planners. Similar natural characteristics led to parallel development, transportation and infrastructure investments. The resulting form and use has an indeterminate character and lacks a specific constituency - making these sites a difficult challenge for planners. These common characteristics suggest distinctive issues at urban edges, which have been used to organize the investigation of these sites as follows:

*Nature as a Substrate* Development at the early urban edge was often constrained by natural conditions, such as flooding. Thus, sites delineated and isolated by natural features, usually wetlands, were initially avoided as prime building sites and relegated to less desirable, though necessary, uses. Not surprisingly, the natural features of these sites and their relatively low level of development made them attractive locations for the late nineteenth century parkway and open space plans in the Boston area. Unlike many

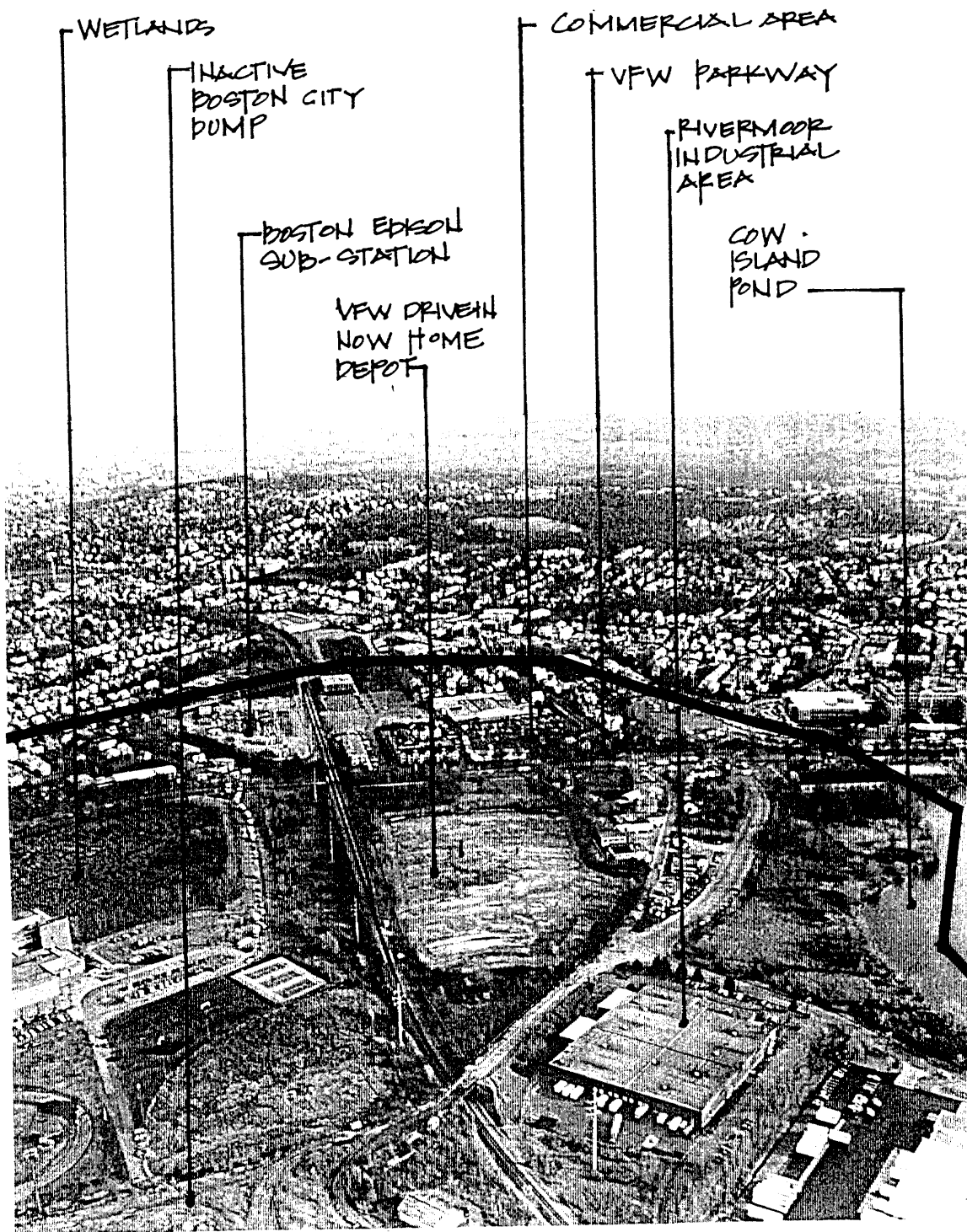


Figure 6 Aerial View of VFW Parkway



Figure 7 USGS Map of VFW Parkway

other urban sites today, nature is highly visible at these sites. There is an opportunity to base future development decisions on this rare urban resource.

**Transportation** Among fringe uses historically sited at the edge are utility and transportation infrastructures. The edge was the place of least resistance in the face of transportation improvements; its land was less "sacred". Architect Steven Holl has called edges the place of the "thrown away", and relative to more intensively developed areas, they remain perceived as sites of low value. Thus, they still are often abstractly considered only for their ability to function in a regional transportation network, which further disengages use of these sites from their immediate context.

**Urban Form** As the fringe area lost its urban support focus and industrial sites ran the course of their useful technological and economic life, these sites progressively became the location of commercial development best suited for the growing numbers of automobile-bound consumers passing through on their way into or out of town. Typically along a major route connecting the urban core with surrounding towns or growing suburbs, these were early sites of strip commercial development. Today, as metropolitan areas are under increased pressure to rein in urban sprawl, and limited resources are focused on redevelopment capable of enhancing local revenues, underutilized edge areas have valuable potential. Still, despite occasional efforts to plan otherwise, the current form and scale of these transitional areas is thoroughly defined by automobile access.

**Image** The minimal attention historically paid by planners to the appearance of transitional districts mirrors the public's lack of understanding of the function of these districts. Especially as the number of blue collar jobs they once contained is diminished through economic changes, edge districts are perceived as unplanned and needing improvement. As the population grows outside its limits, the edge which was once the back door to the city, has

become the front door and its messy support functions are at odds with the image of a gateway.

*Planning* These sites show a resistance to conventional approaches to control urban form. At the same time they are increasingly important to several constituencies. It is not just local residents who benefit from this new collection of land uses, but residents from surrounding communities as well. This transition in the users of these edge sites also changes the geographic scale appropriate for planning at these sites. The challenge to planners is to envision the role that these sites will play in the future of the city, and to a wider region, and to identify the constituencies they have come to serve.

These unique forces at the old urban edge provide the current palimpsest for development. Given their complexity, the question raised by this thesis is whether a city can determine the nature of development of such edge sites. Analysis of the aspects of these changing fringe areas suggests several physical planning strategies which may be useful to cities. The strategies are premised on the fact that these sites have become neither local nor regional, and therefore require a new planning paradigm.

One strategy would reestablish the dominance of the natural landscape as a type of infrastructure to order or organize development. Another approach would reconfigure the image of old edge sites in the mind of the public, while allowing the uses within them to continue to develop in an ad hoc manner. This would require performance standards tailored to transitional land uses. The former is perhaps a more regionally oriented approach, the latter more city specific. However, without deeper consideration of the specific characteristics of these unique sites, the form now appearing at the edge, while considered undesirable, may be inevitable.



## **CHAPTER TWO**

### **THEORY AND FACT**

An initial question raised by this thesis was: what kinds of places are these sites becoming? A better question may have been: what caused the form that is here? General answers may be found in the theory of urban land use and form although rarely has the formation of older fringe areas specifically been considered by urban theorists. Key theories of urban form and function which provide insight to the emerging edge are summarized below:

#### **THEORY OF FUNCTION**

The discussion about function of urban fringe sites centers around the economic basis of land use in general. In its most simplistic version, economic rents are based on the distance from the urban center and the availability of other necessary resources. [Exline et al 1982, 101] Economic activity requiring large amounts of land will locate further from the center while still enjoying reasonable access to markets.

According to Kevin Lynch "zones of industry, storage and transportation grew up along rail lines, highways or internal sites reclaimed from water and waste." [Lynch 1991, 540]. Land use activities benefiting from linkages, or similar requirements, will tend to cluster together. [Exline et al, Mitchell and Rapkin] Analysis of the urban structure reveals that there is a naturally occurring functional grouping - manufacturing and wholesale facilities with the necessity to maintain stocks of goods. A functional area exhibits a virtual natural sorting process whereby positive factors - such as low cost space and access - draw like land uses together.

Conversely fringe uses are sorted by negative factors resulting in their historical incompatibility with other urban land uses, namely residential and civic functions. Factors such as noise, truck and rail movement, outdoor

storage, etc., forged a land use district as well. [Mitchell 1975, 65] Figure 8 shows the historical and / or current location of similar land uses characterized by negative factors at the three sites.

Urban development can be viewed as dynamic, where time is as important a component as form. Any given form represents a slice through a chronologically unique socio-spatial value system [Lazano 1990, 88] and thus has value as a cultural landscape - representing processes within its form.

Functional obsolescence of entire urban districts often results in reuse. Purposefully accelerating or encouraging the changing of functional groupings necessitates altering activities which occur there through 1) accommodation - making such improvements to the infrastructure of a particular place that the space becomes appealing to a different market segment and 2) accessibility - changing the necessity of movement of goods or people to that location based on a particular process. [Mitchell 1975, 67]

Thus, one functional basis on which planners might act would be to create public improvements which enhance the desirability of an area, thus encouraging rents to rise and the nature of businesses located within an area to change. Another tool constrains or improves access to a site, which will appeal to different tenants, or cause existing businesses to restructure operations. For example, at Alewife and Wellington improved transit access was used to encourage development of a commercial office market where there was none before.

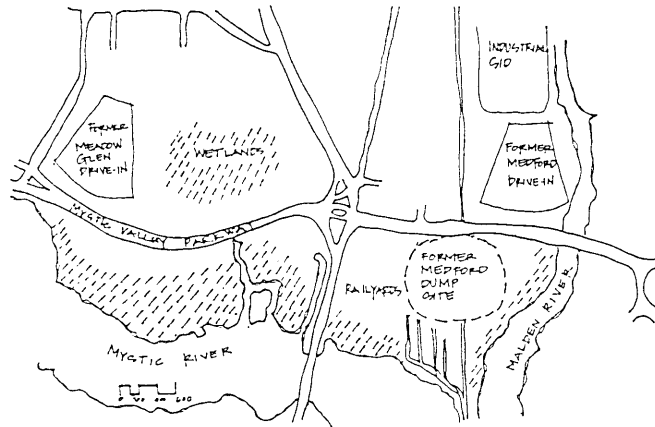
## **THEORY OF FORM**

Edge zones could be considered "breaks" within the urban fabric. [Clay 1973] In many older cities, such as Boston, the presence of a topographical "underlayment" of natural landscape features, caused a change in the scale or orientation of the street patterns. The chronology of settlement also created

Alewife



Wellington



VFW Parkway

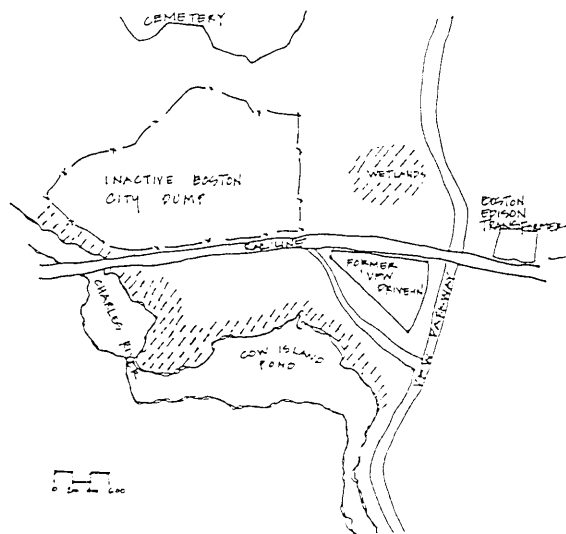


Figure 8 Negative Factors

analogous "breaks." These remain readable as junctures between urban structure and form. The fractious intersection created by two settlement patterns of different scales is an opportunity for investment in roadways, to route rail out of town and more lately, to channel incoming traffic.

Alternately, according to Clay, a "sink" - the location of the unwanted - might be a more appropriate moniker for the type of development at old urban edge sites. A chief characteristic is that the area be low-lying and therefore legible as naturally defined. According to Clay, "so noxious were many historic sinks that they became prime targets for public-health reformers in the nineteenth century, public housers in the 1930's and urban renewers and highway engineers in the 1950's and into the present. [Clay 1973, 144]

Urban designer William Morrish sees much of our urban landscape as lying within a "tension zone of ecology and economy". [Morrish 1994] Those areas that are accessible, having received good infrastructure, and therefore attractive for commercial speculation, he suggests will often be places whose ecological structure was ignored and is now generally masked by development.<sup>1</sup> It might follow that the more speculative a commercial development, the more likely the developer was to have looked for cheap (i.e. wet) land - sites often at the edge, near industry.

Old transitional edge sites have been described as remnant early twentieth century industrial landscapes which exhibit three visual traits. These sites contain some of the first prominent urban American relics - old industrial buildings or warehouses - which were soon followed by a second

---

<sup>1</sup>Morrish illustrated this fact with two Minneapolis examples, both shopping plazas. As part of proposed redevelopment, an investigation of the natural structure before construction was undertaken. It was determined that the parking lots of both lay over ponds. Morrish guesses that most of the strip mall development in the Minneapolis area would be over wetlands. [Morrish 1994]

characteristic marker - transportation routes. The remaining trait is lost natural function. [Meyer 1990, 249] The predictable association of uses thus creates a typical urban landscape, illustrating power, process and industriousness.

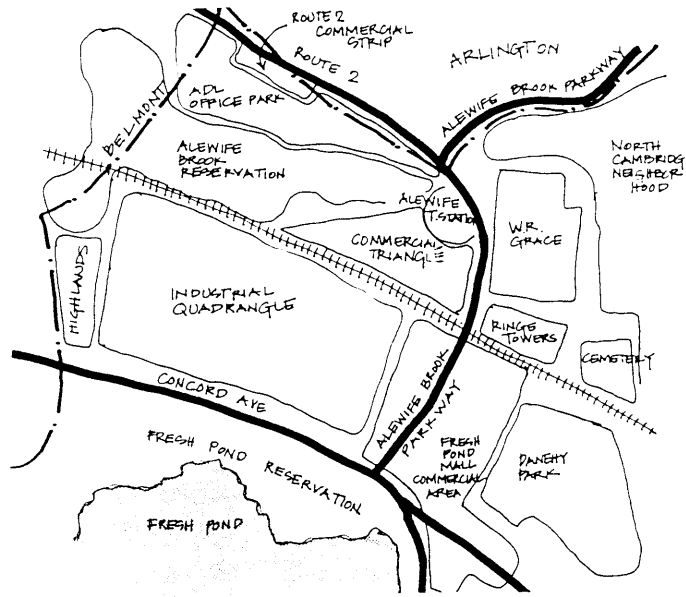
**FACT**

The best illustration of the nature of the three sites is provided by an inspection of their actual land uses. Figure 9 illustrates the general names of parcels within the three case sites. As indicated earlier, only Cambridge has officially designated an Alewife planning district, and within it has established sub-areas as distinct – the commercial triangle, the industrial quadrangle, etc. In the other areas, official overall boundaries and subdistricts have not been established, and were defined for this thesis.

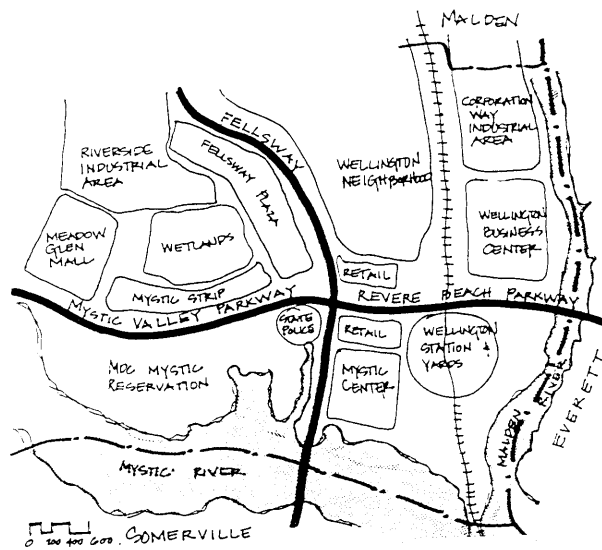
LAND USE (approx percentages)	ALEWIFE	WELLINGTON	VFW PARKWAY
Retail	9%	13%	11%
Office	14%	18%	2%
Industrial	18%	21%	15%
Residential	5%	8%	4%
Open Space	40%	24%	14%
Institutional	2%	1%	10%
Rail / Utilities	10%	11%	9%
Dump	(Included as open space)	(Included as rail)	34%
Vacant	5%	5%	1%
Total Acres	490A	360A	250 A

*Table I* – Approximate Land Use Percentages

Alewife



Wellington



VFW Parkway

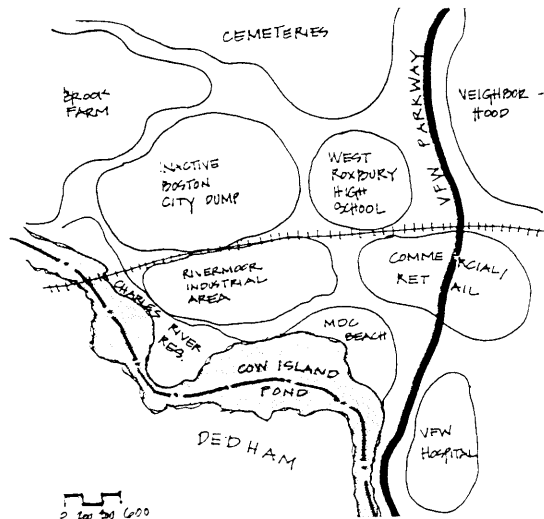
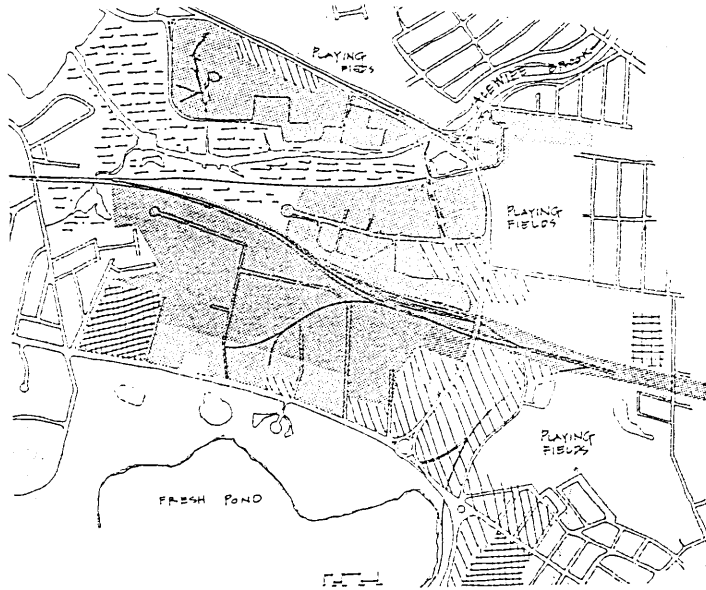
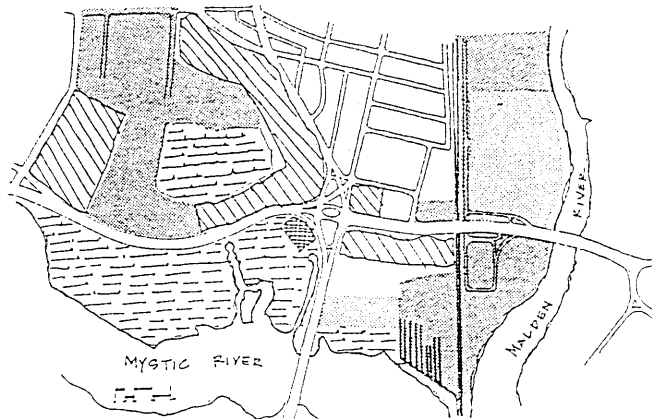


Figure 9 General Maps

*Alewife*



*Wellington*



Key			
Retail		Indus.	
Office		Resid.	
Open		Vacant	

*VFW Parkway*

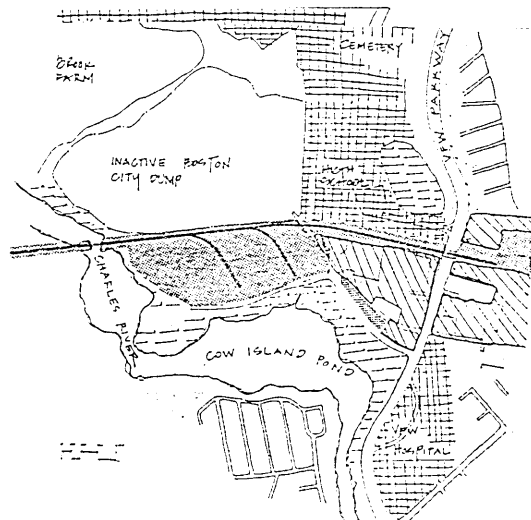


Figure 10 Land Use

Table 1 provides a summary of the land use categories of each location, indicating the relative percentages of their typical land uses. It is based primarily on current observable use. Figure 10 locates the same land uses. It illustrates a similar organizational theme - these districts are comprised typically of light industrial or other older fringe uses, bisected by newer commercial and retail along a parkway.

The three sites differ in terms of specific land uses, although a similar percentage is dedicated to rail and utility functions, and all areas have a large component of open space. While the relative percentage of retail and industrial land use is similar, the VFW Parkway site has not developed the nearly the extent of office area as have the other two sites.



## CHAPTER THREE

### THE EDGE IN HISTORY

In many ways the development of the current urban edge is not a new phenomenon. The process of growth at the edge continues much in the way typical American cities have always grown. During the 1850's the edge of Boston was pushed out as a result of small isolated development initiatives. The resulting assemblage has been described as a weave of small patterns. [Warner 1975] While a grid might have been present within new sections of older suburbs, its appearance was largely the effort of a particular developer on a particular site. Residential development skipped over less desirable areas - low lying damp areas attracting noxious uses. The collection of these uses created an urban fringe zone. As early as the mid-nineteenth century, the urban fringe was characterized by land uses in flux [Binford 1985, 5] suitable for the industrial districts and waste storage and disposal facilities that developed after city neighborhoods had been established. At a larger scale, the coordination of urban development was virtually non-existent. Depending on what farm was sold urbanization occurred.

Urbanization also occurred depending on what transportation route was in place. By the 1850's, all of the sites selected for this study were served by rail. Whether the location of rail lines was determined because other areas were already too densely developed, or because owners of specific fringe businesses were able to influence the infrastructure investment, rail service served as a magnet for transportation-dependent industrial development.

Perhaps, the greatest clue to the future of these three fringe sites is the form derived from their most recent generation of use. The parkways and intersecting arterial roads were the sites of typical fifties and sixties strip architectures - uses requiring relatively low valued land for their auto-

accommodating footprint. Today all of these sites have become the focus of suburban oriented development - office, retail or both - even though they have Boston-oriented transit, or, as in the case of West Roxbury, the potential for it. The strong parallel history of past uses, form and functional roles revealed by the investigation of these sites is countered by a disparity in the amount of urban planning attention they have each received. This unexpected factor contributes to the current complexity of these sites.

## **ALEWIFE**

### **Development History**

Native Americans and the earliest settlers described the landscape of the Alewife area in western Cambridge in terms which presaged future land use. Known as the "Great Swamp" and the "Fresh Pond Meadow", Alewife was part of the early open meadow agricultural system for Cambridge - it was common grazing land for townspeople, eventually divided into parcels for individual ownership. [Emmet 1978] However, most of this western section of Cambridge area, north of Fresh Pond, never achieved the same residential or commercial land value as other sections of Cambridge.

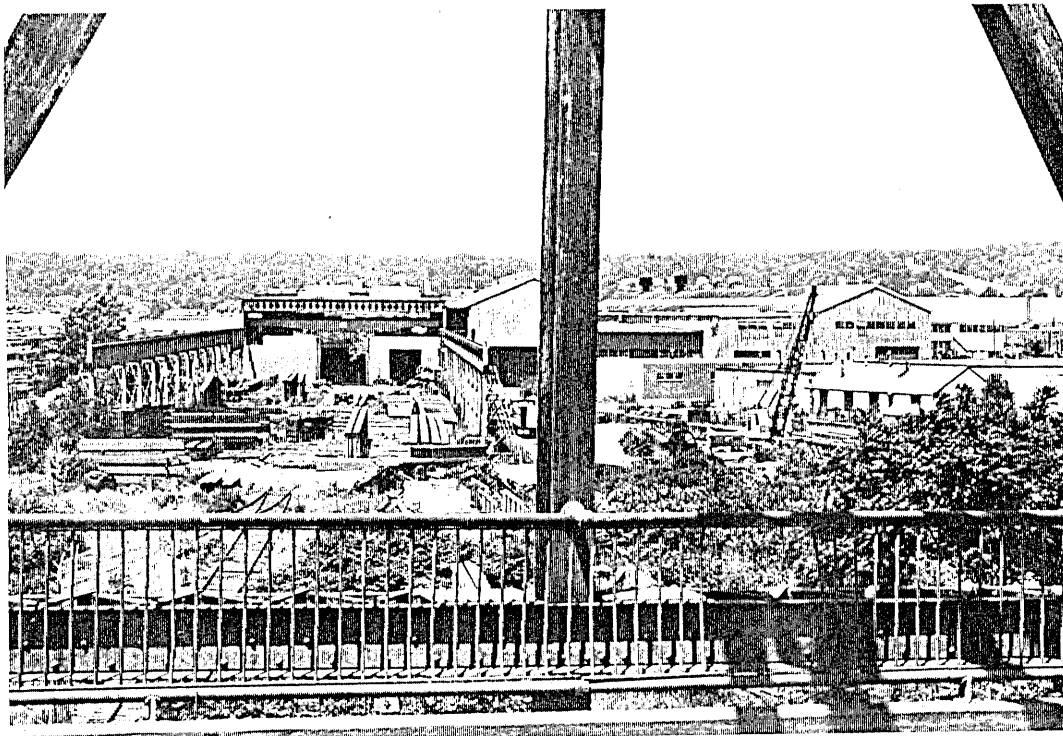
What did take hold, by the mid 1800's, were fringe activities supporting a growing metropolitan population. By 1858, rail served the area and ice houses surrounding Fresh Pond, brickyards and kilns using the local "blue clay", stockyards, slaughter houses and tanneries, cemeteries and light manufacturing developed in Alewife. [Emmet 1978, Cambridge Community Development 1979] As more industrial production was required, the marshy land at the periphery of Cambridge was filled.

In 1897, Charles Eliot proposed connecting Fresh Pond and the Mystic River with a parkway. [MDC 1992] The idea gained momentum with the onset of a public health crisis. Malaria had become a serious problem in the growing neighborhoods of West Cambridge and East Arlington. In a 1904 study

commissioned by the Metropolitan Parks Commission (now the Metropolitan District Commission - MDC), nearly 25% of the surrounding households reported at least one case of malaria. Standing water in abandoned claypits and stagnant tidal pools caused by the backflow of the Mystic River into Alewife Brook, coupled with the growing outflow of raw sewage from abutting development and industrial waste - particularly from the meat packing plants - were cited as causes. [Freeman 1904] Plans were made to dam the Mystic River at Medford Center and stabilize the water level in the upper watershed of Alewife. [Figure 11]

In a move underscoring the geographic impact of these sites, in 1904 the Massachusetts State Legislature granted the towns bordering Alewife, Cambridge, Belmont and Arlington, the authority to cooperatively control the area's land use. In hindsight, this was an early clue to the proper scale of decision-making at Alewife. Citing sanitary evils, the first industry targeted was brick manufacturing, which was forced to fill clay pits [Freeman 1904] (In the 1940's, one of claypits began use as the Cambridge municipal dump.) Much of the marshy land east of Fresh Pond Parkway and north of Ringe Avenue was also filled for development, but this legacy continues to affect the image, and reality, of Alewife today.

Starting in 1910, land was assembled for Alewife Brook Parkway and also for the Alewife Brook Reservation. Land which was also assembled on sanitary grounds, was later included as part of an open space plan to connect the Reservation with Fresh Pond, a project never completed though it continues to influence current planning efforts. The Alewife Brook Parkway, running from Massachusetts Avenue to Concord Avenue north of Fresh Pond, part of Eliot's parkway system extending to the Mystic River, was completed in 1931. [MDC 1992]



*Figure 11* Polluted Alewife Marshes, 1904

*Figure 12* Alewife Ironworks from the Parkway

At the turn of the century, Cambridge was ranked ahead of Detroit in industrial output [Cambridge Historical Commission], and the Alewife was one of the centers of this industrial activity. By the 1920's Alewife had become home to a growing steel fabrication industry. [Figure 12] Easy access into Boston, and the connection west via the Concord Turnpike fueled the growth of the trade. [Emmet 1978, Smith 1994] In 1942, further access into Alewife was provided by the Ringe Avenue extension as Alewife became the fastest growing industrial area in Boston after World War Two. [Emmet 1978, 61] North of Alewife Brook Parkway, the W. R. Grace Chemical plant also expanded operations.

Non-industrial uses also developed. A growing number of pubs and diners, catering to the blue-collar industrial workers, sprang up along the parkway. [Smith 1994] Commercial strip development continued with construction of the Fresh Pond Mall and the Fresh Pond Drive-in, now the site of a Boston Edison electrical substation. Ringe Towers, three federally subsidized apartment towers, were built in the late 1960s.

### **The First Comprehensive Plan**

No comprehensive planning took place at Alewife before 1968. In that year the Massachusetts Department of Public Works' (DPW) **Recommended Highway and Transit Plan**, considering transportation for the Boston metropolitan area, called for improvement of the northwest radial transit line. The report called for extension of the Metropolitan Bay Area Transit Authority (MBTA) Red Line from Harvard Square through Davis Square to Alewife in the short term, continuing to Route 128, through Arlington and Lexington by 1990. The extension of an 8-lane Route 2 from its terminus at Alewife along Fresh Pond Parkway to the Massachusetts Turnpike or to a proposed inner beltway was also suggested.

Two events resulted in the awkward transportation node that now exists at Alewife. Arising from citizen concern, the **Boston Transportation Planning Review** supported the extension of the Red Line from Harvard Square out to Route 128. But public opposition to any alignment of the Route 2 extension, coupled with efforts to block the inner beltway, derailed the highway segment. Later, opposition from the town of Arlington blocked the extension of the Red Line past Alewife. [Salvucci 1993] The abrupt termination of Route 2 and the Red Line left lingering concerns and engineering problems -- access issues to the MBTA station site, mostly proposed to traverse environmentally sensitive areas, and concerns about local automobile congestion and through traffic. As Boston, like many other cities, underwent a shift in demographics resulting in more city workers living in the suburbs than the city, Alewife became a bottleneck for commuters from the western suburbs. [CTPS 1989]

In anticipation of the Red Line station, a market study was commissioned by the city to determine the development potential of Alewife in 1972 . This study indicated that independent of mass transit there would be a demand for up to 3300 housing units, 700,000 SF of office space, 560,000 SF of retail space 500 hotel rooms and an additional 50 acres of industrial zoned land by 1985. [Cambridge Community Development 1979] Additionally, the industrial base in Cambridge, and Alewife in particular, began to shrink.<sup>2</sup>

This was the climate for the comprehensive planning effort funded by the MBTA as part of the agency's transit station area redevelopment initiative. Based on the work of a task force consisting of business and representatives from Cambridge and adjacent towns, an urban design study conducted by a

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<sup>2</sup>By the early 1980's A.O. Wilson Steel, located along the rail yard in Alewife, was the final steel fabricator to decide that access constraints and the cost of labor and plant operations was too high in Cambridge. They eventually moved their operations to northern Connecticut in 1989. [Wilson 1994]

consultant and the market analysis, Cambridge Community Development issued the 1979 **Alewife Revitalization Plan - Alewife Urban Design Study**, also known as the "Fishbook". In it the Cambridge Community Development Department boldly predicted that "the Alewife industrial area will experience a building boom in the near future."

The ambitious plan established an overall Alewife district and attempted to impose a new image on the area. The optimistic plan envisioned dense regional development node based, in part, on assumptions about the ability of transit to draw development. [Cambridge Community Development, 1978] The area around the planned MBTA station and parking structure, primarily declining steel and warehouse facilities, was seen as the focus of a new district featuring mixed-use, transit-oriented office complexes, high-rise residences, and retail space. The Fresh Pond commercial strip, Alewife's primary retail area, was expected to undergo complete transformation of its fifties form. The industrial area south of the rail yard, was expected to attract office development. The Alewife Reservation was treated as a landscaped moat around the commercial development. The entire district was to be linked by new landscaped boulevards and feature plazas, canals and arcades with ultimately little of the earlier industrial character of Alewife remaining. [Figure 13]

Several publicly funded improvements were expected to help the transformation process along. Among mitigation measures from the MBTA Red Line extension, was the filling and capping of the inactive city dump, and its redevelopment into a successful North Cambridge neighborhood park. In 1984, the final EIR submitted on roadway improvements for Alewife Brook Parkway and the local roadways included Alewife Boulevard, a new collector road providing direct access to the MBTA station. This solution, which avoided state proposed overpass, exit ramps and widening of the Parkway to Fresh Pond, was viewed as compromise sparing the beleaguered wetlands in

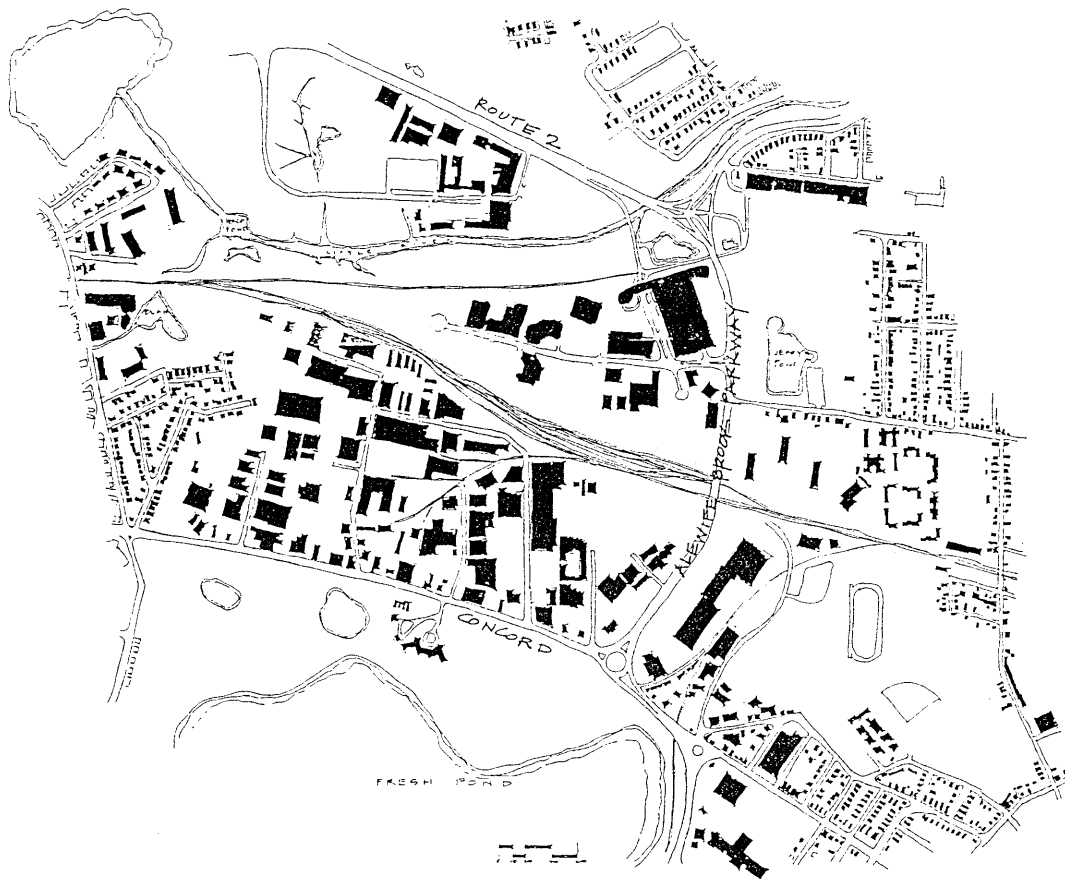
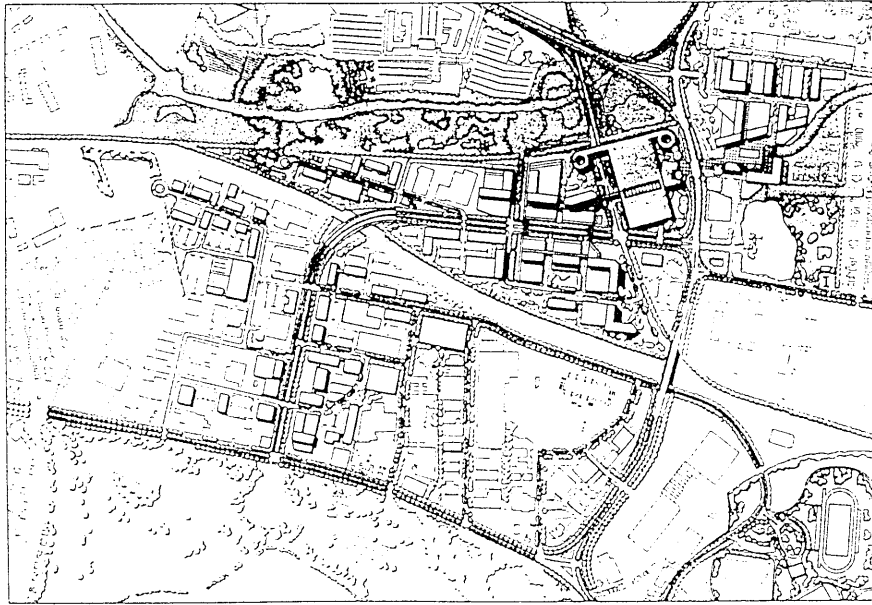


Figure 13 Alewife Urban Design Plan, 1977  
Figure 14 Current Alewife Figure / Ground Diagram



the area. [Meith 1994, Salvucci 1994]

Still, the Alewife MBTA Station and parking structure, completed in 1985, failed to catalyze the transit oriented development anticipated by the **Alewife Revitalization Plan**. Incremental changes did occur, however, throughout the district. During the 1980's Alewife continued to undergo commercial office development particularly near the MBTA station. Cambridge Community Development lists the Spaulding and Slye office complex as totalling 600,000 SF, with the same amount of research and development space planned. A major proposal for the W. R. Grace site, including 700,000 SF of office space, was also marketed, although abandoned during the economic downturn of the late eighties. Several Research and Development facilities were build along the perimeter of the site on Concord Avenue, and some warehouse and industrial structures were renovated. However wholesale change failed to materialize as strip commercial development continued and the area became increasingly paved for parking.

### **From Big Plans to Framework Building**

In 1990, a new Alewife Steering Committee commenced meetings in response to neighborhood and business concern over lack of development along the lines planned in 1979. Particularly troubled over the increasing suburban orientation of the site and its attendant traffic, the Committee was also concerned about the remnant natural landscape within Alewife [MAPC 1985], dismay at the lingering poor image of area, and a feeling of futility about the earlier planning effort. [Cambridge Community Development 1993] After another comprehensive planning imitative, the city proposed **A Plan for Sustainable Development**. Figures 14 illustrates the current built context of Alewife showing the continued abrupt scale change between the district and the surrounding neighborhoods.

The latest planning effort entails a shift from the optimistic large scale redevelopment proposal of the late seventies to a more modest change in character, although it still attempt to encourage denser development. The plan acknowledges existing subdistricts - the commercial "triangle" near the MBTA station, the industrial "quadrangle", bounded by Concord Avenue and the rail yard, and Fresh Pond Shopping Area. [Figure 15] The latest plan envisions working primarily within the boundaries of these existing use districts while attempting to lessen the auto orientation of new development. Housing, except along Concord Street, is not encouraged, although it is not excluded from any area of Alewife except the industrial quadrangle. More realistically, the plan focuses on urban infrastructure - primarily roadways, block size and access to the site and pedestrian linkages, and the connection to the regional transit network. The city acknowledges the continued suburban origin of the Alewife district workforce and advocates a public-private funding of commuter rail station at the southwestern edge of the triangle. [Flynn 1994]

Over the winter of 1994, the Metropolitan Area Planning Council (MAPC) reviewed and approved the city's nomination of Alewife as an Urban Growth Center. The Council compiled a mini-plan which approves the city's intent to strengthen pedestrian and bicycle access to the site and encourage denser development throughout the district. Although the MAPC does not have actual funding authority, it is recognized at the federal level as the Metropolitan Planning Organization (MPO), the agency responsible for reviewing development plans for compliance with land use and transportation goals. The MAPC has outlined its criteria in **Metroplan 2000**, a regional plan which seeks to direct new development to areas with existing infrastructure. Composed of six members -- four from transportation agencies and two from planning agencies -- it is heavily weighted towards regional transportation planning. [Stasiowsky 1994] Acceptance by the MAPC essentially shortlists a development area requiring non-local funding of

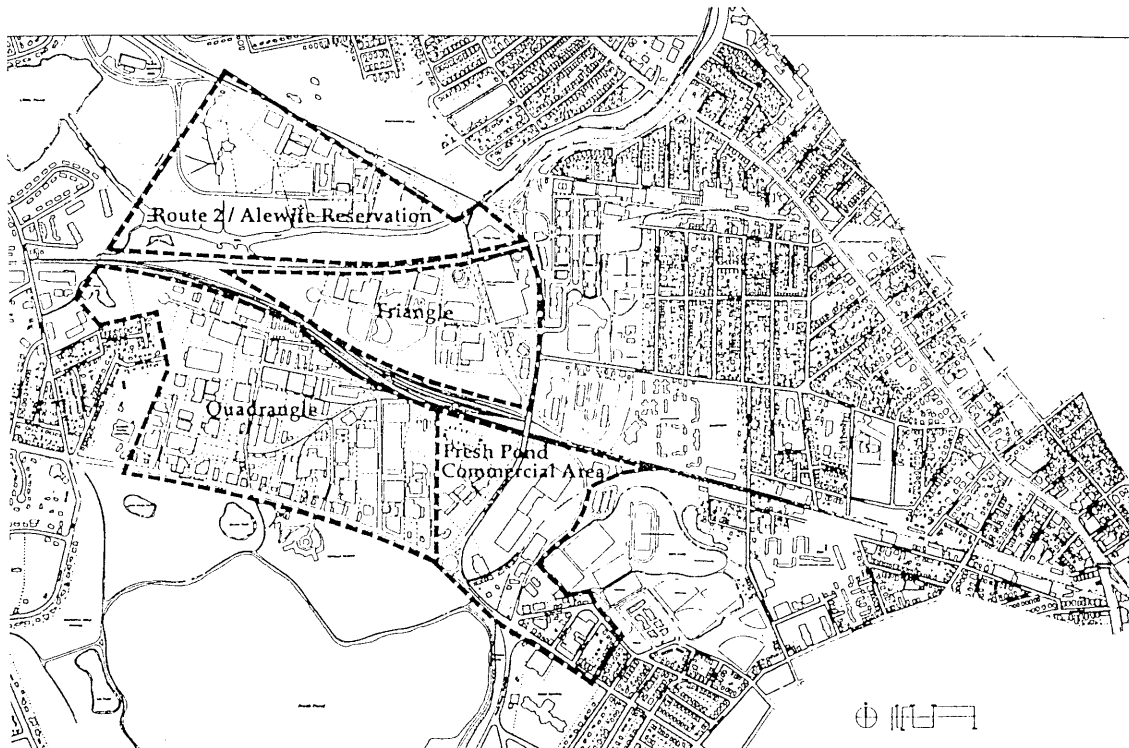


Figure 15 Current Alewife Planning Districts

transportation infrastructure, such as any of the ne roadwork envisioned for the Alewife district. [Easler 1994]

Of continuing concern, is the amount of automobile traffic generated by the site and the growing number of cars passing into and through Alewife. This issue illustrates best how, in some respects ,Alewife has become a victim of its own planning. Though currently built to accommodate 2000 cars, an additional two floors can be carried by the existing MBTA parking structure thus bringing the commuter parking total to 3000. It is unclear whether the Cambridge parking freeze, imposed by the state, also applies to MBTA facilities. However the city sees no additional benefit to economic development efforts in Alewife, from an increase in its effective capacity as a remote parking site for Boston business served by the Red Line, even though the state and the region might. The ambitious state investment starting in the 1970's and the local agency's development visions were coupled with unforeseen regional shifts. Together they have resulted in land use and traffic conditions which the city and its neighborhood residents now find unresolvable at the local level.

## **WELLINGTON CIRCLE**

### **Development History**

In comparison with Alewife, the Wellington Circle area was more completely developed as part of the urban industrial fringe zone which grew up around on the low-lying shores of the Mystic River. Located in the southeastern corner of Medford, the area is bounded on the south by the Mystic River and on the east by the Malden River. One of the Boston area's early notable industries, shipbuilding, occurred along the Mystic, though the bulk of construction occurred farther up-river near Medford Center. Until the late nineteenth century, the marshy Wellington area was primarily used for agricultural purposes, for grazing and feedlots, tanneries and piggeries. [Valeriani 1994]

By the late 1800's the Wellington area was included in a plan for improvements to the Mystic River proposed by the Olmsted Brothers for the Metropolitan Park Commission. A lack of public funds to complete the required land taking process as far as Wellington left most of the land in private control. [MDC 1992] In 1909 tidal gates were built at Medford Center - stabilizing the water level upstream (as far as Alewife Brook) and allowing for further riverfront improvements benefiting the dense residential neighborhoods of Medford and Arlington. Although the 70 acre Mystic Reservation was eventually established, one result of this chronology of improvements along the Mystic River was that the downriver Wellington site continued to develop without the design and planning scrutiny received by areas along upper reaches of the river.

The completion of the Mystic Valley and Revere Beach Parkways, and the construction of the Wellington Circle at the Fellsway intersection, further separated this edge of the town from Medford Center. Early uses included low density industrial, and warehouse facilities along the roadways and heavier industry along the Boston & Maine rail lines located parallel to the Malden River. By the early 20th century industrial activities located in the Wellington area. During World War II, an anti-aircraft battery and barracks was located near the site of the current Orange Line station. [Valeriani 1994] By 1964, about two-thirds of the city's industrial land was located along the Mystic Valley Parkway and Corporation Way along the Malden River, and a portion of the area was known as "Truckers Row." [Edwards and Kelsey 1964] By 1964 an inactive 40 acre private dump site and landfill on the shore of the Mystic River was under consideration for an MBTA station.

During the fifties the Wellington Bridge and rotary were reconstructed improving auto access from Somerville and fueling auto-oriented strip development which virtually obliterated the parkway character along the Mystic. Similar to Alewife, Wellington's commercial development represents

a familiar progression of land use at low value urban edges. Gas stations, auto dealerships, drive-up restaurants focused around Wellington Circle encroaching both on the adjacent Wellington neighborhood as well as the remnant wetlands north of the Mystic Valley Parkway. [Figure 16]

By 1964 nearly one half of Medford's commercial land was located in the Wellington section. [Edwards and Kelsey 1964] This included the Fellsway Plaza, an approximately 300,000 SF discount shopping mall and another 16 acre shopping center composed of free-standing stores adjacent to what is now the MBTA station. The Wellington area was also home to two drive-in movie theaters, identified by a 1964 comprehensive plan as "experiencing development pressure." [Edwards and Kelsey 1964] In the seventies, the Meadow Glen Mall, located on the western edge of the study area, was developed on the site of one of these, the Meadow Glen Twin Drive-in.

### **Infrastructure Based Plans**

With the completion of I-93 north and decision by the Massachusetts Bay Transit Authority to locate a new commuter-oriented transit station and service yard in Wellington Circle, the area took on a new prospect - as a potential redevelopment site. [Medford Office of Community Development 1981, Sasaki 1976] In a process similar that at Alewife, Medford undertook to exploit the development potential of the area around the station. In Medford, unlike Cambridge, the extent of the station area planning effort really was limited to the development planning of the 55-acre industrial and commercial site immediately adjacent to the Wellington Orange Line Station. The site is effectively the southeast quadrant of the intersection at Wellington Circle - bounded to the north by the Revere Beach Parkway, to the west by the Fellsway and finally by the Mystic and Malden Rivers. In some scenarios, the 13-acre drive-in site, across Revere Beach Parkway, was also included.

Wellington was viewed as an area whose image and transition would be aided by infrastructure investment and whose land would become

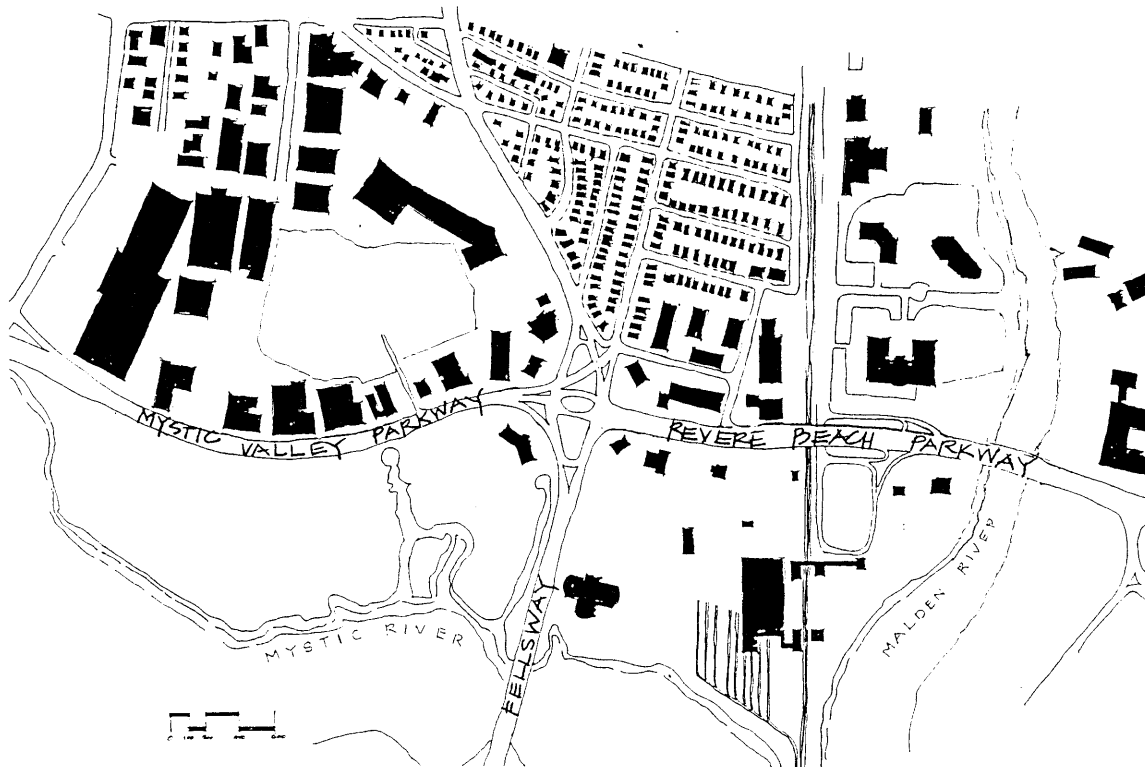
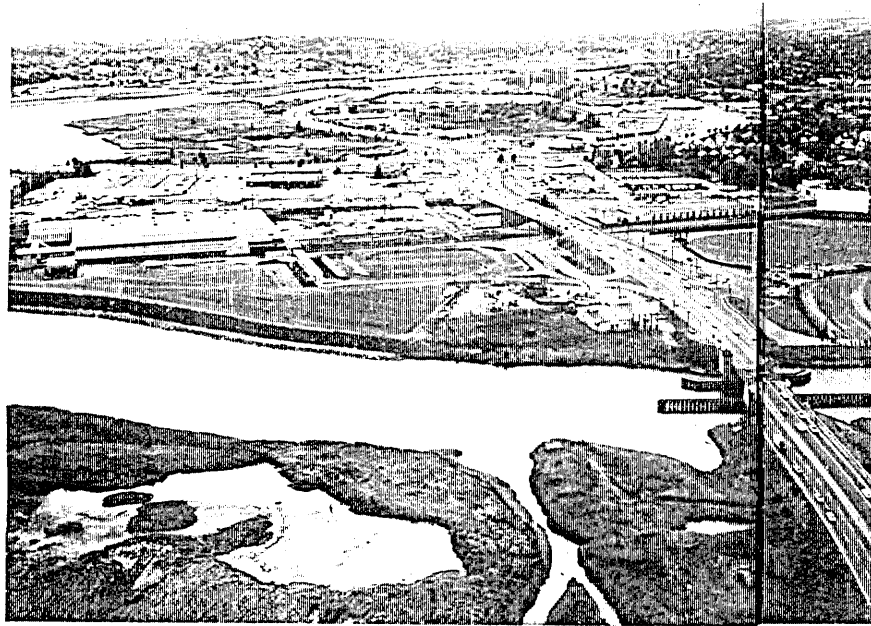


Figure 16 Wellington Circle - View shows the MBTA Orange Line Station on the left and the old Medford Drive-in site is on the right. Everett shoreline is in foreground.

Figure 17 Current Figure / Ground Diagram

increasingly valued by virtue of its proximity to Boston. Since the sixties, the city began to look at ways of encouraging this transformation by actively promoting its redevelopment. By 1967, the MDC Ameli Earhardt dam and pumping station were constructed, stabilizing the waterline by preventing saltwater intrusion into the Mystic River. A state-sponsored 1976 development feasibility study for proposed station area likened the potential of the Wellington site and the Mystic River Basin to that experienced by the Charles River Basin after construction of the Charles River Dam. [Sasaki 1976]

A series of transit-based development scenarios were presented in the mid-seventies taking advantage Wellington's perceived greatest asset - its position as a regional transportation node. Various large scale, high-density proposals included a regional shopping mall, a high-rise residences, a hotel, and a large commuter parking lot and bus transfer facility. [Figure 17] [Sasaki 1976, Medford EIR] Interestingly, relatively little office space was proposed. Deciding to move ahead with an active role in redeveloping the area, Medford named Forest City Enterprises of Cleveland as the preferred developer for the parcel. The city proposed joint development of the site, planning to assist with assembly, through eminent domain, of approximately 17 acres of still viable strip commercial parcels. The city was also willing to leverage its air rights over the Orange Line station - first secured from the MBTA in 1969. An urban renewal designation or other federal funding, still discussed as late as 1986, was pursued in part because of the multiple ownership status of the overall site [Di Lorenzo Popp 1994].

City sponsored plans for redevelopment did not come to fruition during the seventies. Financially strapped Medford had difficulty financing its portion of work. In the late seventies, the market did support a mixed development of the scale proposed. Additionally, through the early eighties, the city government appeared unable to mobilize; it did not, for example, change the



zoning of the Wellington parcel to allow massive residential uses proposed. In fact the zoning for the entire study area has not been revised since 1964, with the exception of a recent "spot" rezoning to industrial north of them Meadow Glen Mall.

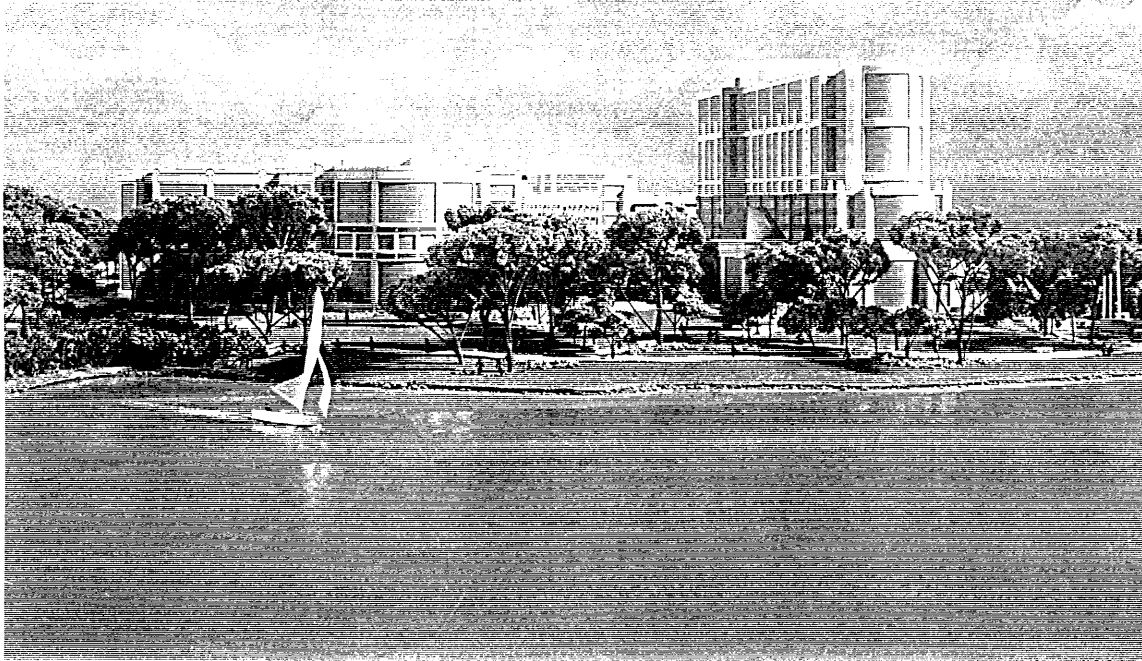
### **Regional Appeal**

By 1985 Cabot, Cabot and Forbes purchased the last remaining drive-in theater site, across the Revere Parkway from Wellington Station, and developed the Wellington Business Center. This isolated 500,000 square foot office park largely houses "back office" operations for financial institutions. This complex, surrounded by surface parking and separated from the Wellington neighborhood by the rail and transit lines is entirely divorced from Medford.

By the mid-eighties, in an improved economic climate, two developers were vying for the rights to develop the immediate station area, Cabot, Cabot & Forbes and Forest City. [Freker 1985] By 1987, Medford abandoned plans for a publicly sponsored development, such as urban renewal, as Cabot had proceeded with site assembly along the Fellsway without city assistance. After nearly twenty years, land values had risen enough to convince owners of strip commercial parcels to sell. [Freker 1985] Cabot's plan, called Mystic Center, included a hotel and nearly one million square feet of office space. Most of the housing earlier envisioned for the site was absent. Mystic Center was touted as finally creating a new gateway image of the city and placing Medford on the regional corporate map. [Yudis 1987] [Figure 18]

### **Awaiting Change**

Construction of Mystic Center ground to a halt after only one of the office buildings was completed. Most of the fifteen acre paved site remains enclosed in a chain link fence. The city's response was to lament the loss of tax revenues, even though already nearly \$5 million in permit fees has



*Figure 18* Proposal for the Mystic Center at Wellington - a suburban model for suburban workers. Only one building was constructed.

already been collected. [Yudis 1987] Additional suburban-type retail development has continued along Mystic Valley Parkway and seems clear that this is the direction of transformation at the Wellington urban fringe. Although the city does not want to lose rare industrially zoned land [Di Lorenzo Popp 1994], the Wellington fringe zone is becoming one of Medford's major commercial and service employment bases. [Lozano, White and Associates 1988]

The Medford Office of Community Development submitted plans for the Wellington station area to the MAPC for nomination as a concentrated development center. Even though the Wellington Plan "makes Alewife look like Manhattan", it meets the Council's criteria as regional development node in most aspects. However, the plan was not approved for two reasons. First, an improved physical connection linking the station area and related development across the parkways with the rest of Medford was not proposed. [Stasiowsky 1994, MAPC 1993] Medford's response is that most people who will work at these office complexes will not be local residents anyway, so that pedestrian access to site is relatively unimportant. [Di Lorenzo Popp 1994] Of greater concern is that Medford basically submitted the developer's plans for the area, making no attempt to significantly redirect the fringe land use pattern through a more comprehensive planning process. Thus, the MAPC's objection is that Medford does not want to "get in the way of what the market wants to do." [Stasiowsky. 1994]

Whether the MAPC designation provides an appropriate framework for redevelopment of these old urban edge sites is not clear. While the council considers transportation issues and encourages non-suburban development densities, for example by encouraging pedestrian linkages, it does not address the specific character of these sites. The ecological uniqueness of the edge of the Mystic River and the local wetlands is not investigated. Even though regional planning may be wise, the focus of the MAPC forces local

town's and cities to adopt densities which rely on the region as a market, and which may propagate certain types of urban form.

## **THE VFW PARKWAY SITE**

### **Development History**

Along the VFW Parkway (Route 1), at the southern tip of the West Roxbury neighborhood of Boston, is another site in transition. Situated on low-lying ground running along a broad section of the Charles River, called Cow Island Pond, parts of the site were, and still are, subject to flooding. Its marshy banks and flat terrain made the area unattractive for the picturesque residential development of the mid-to-late nineteenth which favored the higher outcroppings and hills of West Roxbury and adjacent Jamaica Plain.

According to Sam Bass Warner, the impetus for settling West Roxbury was the flight of the middle class from the industry, crowding and commerce of old Boston. Drawn by the promise of sizable lots and a still rural setting, the first major exodus occurred after the Civil War. The Dedham branch of the railroad made possible downtown commuting and by the 1880's large numbers of wealthy residents were moving to the outer edges of the metropolis. [Warner 1978, 62]. Another wave of residential construction took place during the 1920's.

The Dedham branch of the railroad was initially constructed to serve the growing ice industry operating at both Jamaica Pond and Cow Island Pond in the 1850s and the growing commuting population. [Hoffman 1994] Part of the rationale for creating the Olmsted designed Jamaica park was to ameliorate the view caused by the industry growing up around the wetlands surrounding these ponds. [Hoffman 1994] Although early records are not as detailed about this site as Alewife or Wellington, fringe uses persisted.

The Boston City Dump was located at this site during the Mayor Curley administration. Although it has been suggested that its site was selected as a rebuttal of some action committed by the residents of West Roxbury [Wall 1994], it is more likely that this fringe site was far enough from surrounding residences that its selection avoided arousing too much opposition. The dump is bounded to the north by cemeteries, a vacant farm and to the south by the wetlands along the Charles River. Additionally, parts of the site, particularly the portion which became the VFW Drive-in Theater, were already used for disposing residential cinder ash. [Vannasse, Hangen Brustlin 1992]

Most of the commercial development in West Roxbury was laid out along the arterial streetcar lines radiating from Boston. Historically, this included Center street and Spring street, to the west of this site. These locations, which are now served by MBTA commuter rail, have had their neighborhood scale retail reinforced. By comparison, the VFW site was never a natural location for neighborhood retail. There was virtually no neighborhood which could reasonably claim the site; the site is bordered primarily by the wetlands or cemeteries, and it was not served by transit. Historically, development was light industrial or warehouse backing up to the rail line. A small finger of housing developed along the Gardner Street, perpendicular to the VFW Parkway.

Public investment in institutions and open space have contributed to the mixed character of this site. The Veterans of Foreign Wars Hospital set on a 20-acre park-like site at the southern Boston city limits lent its name to the parkway. While not conceived specifically as part of Boston's Emerald necklace, the parkway, constructed between 1931 and 1938, was designed along its principles and is connected to it. [Boston PFD 1988] At the southern edge of the site along the banks of Cow Island Pond, the MDC established the 14-acre Harvey Beach and Bath House, now not maintained by the

Commission. Several Urban Wilds, under various ownership, have been designated, primarily along the bank of the Charles. One such urban wild is known as the Dump Shoreline [Boston PFD 1988]

### **Current Form**

The VFW parkway also served to improve the roadway capacity to the suburbs southwest of the city along Route 1, and as this has become a more important thoroughfare for commuters, the visual quality of the site has changed. Less than one mile to the south is the point where the landscaped Parkway terminates and the solid highway commercial strip architecture associated with Route 1 in Dedham begins. Even with the benefit of a landscaped parkway running through it however, this section of the site has begun to lose some of its parkway character due to pressure from the type of strip development found in Dedham, including auto dealerships, fast food restaurants, and Boston's last mobile home park.

Further, development pressure is experienced as old uses expire and suburban-oriented form is appearing in its stead. [Figure 19] As with Alewife and Wellington, the study area boundary was described by the location of parallel fringe uses which appear to be in transition. Strip development, probably originating in the late 1950s, including several restaurants, gas stations and a grocery store, continues to develop on top of older light industrial or residential uses along the VFW Parkway. In the small remnant neighborhood along Gardner street perpendicular to the Parkway, many of the residential structures have been converted to light industrial or warehouse uses with the addition of metal or brick structures . The VFW Drive-in site, after litigation, was redeveloped as a 115,000 SF Home Depots store. And a small office and small condominium development has recently been constructed on an old light industrial parcel across the. Figure 20 indicates the scale of buildings currently within the site relative to the surrounding residential neighborhoods. It also gives a clear picture of the amount of open

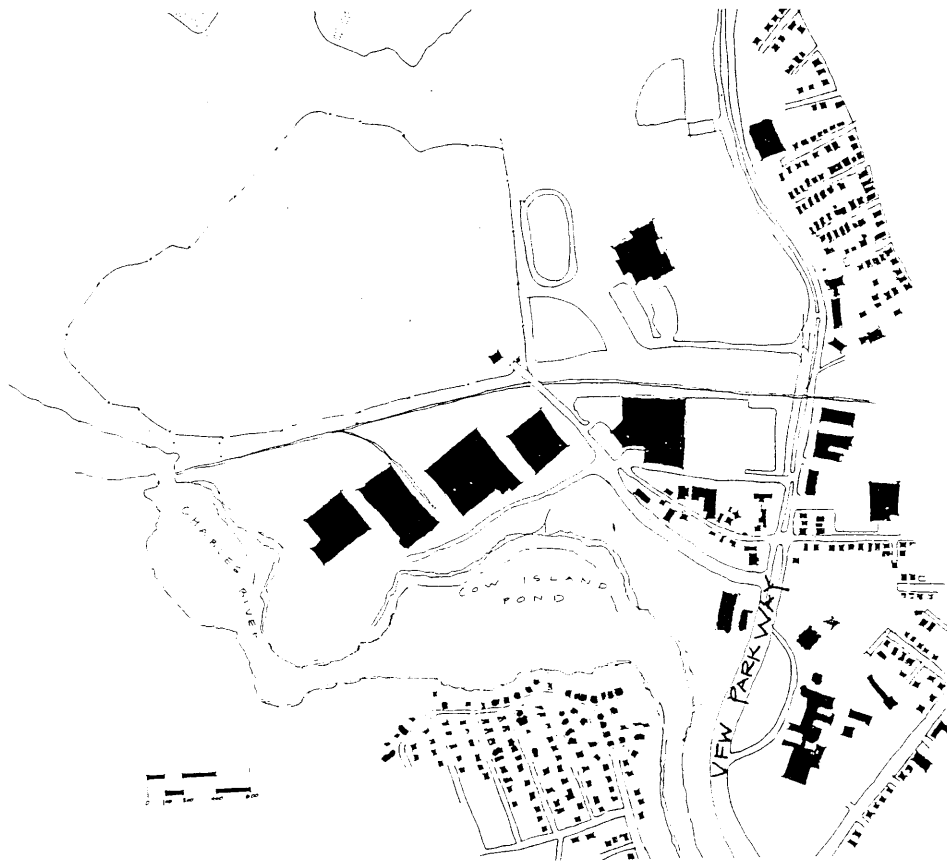
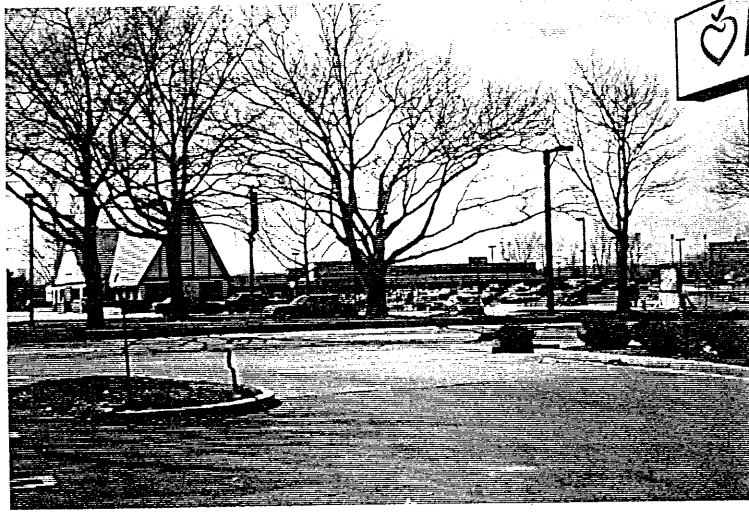


Figure 19 Recent Development Along the VFW Parkway  
Figure 20 Current Figure / Ground Diagram

space interwoven through the site.

In the last ten years, several warehouse structures have been built along Rivermoor Street at the southern edge of the site, as the demand for current-day fringe use space continues. Additionally, access to the site was recently improved by the construction of the Charles Park Road, a boulevard intersecting the VFW Parkway, with on-street parking adjacent to the wetlands near Harvey Beach. This has further encroached into the flood plain area along the Charles River, undermining the natural systems which remain.

The pervasive sense is that commercial development is mirroring that occurring along the Route 1 highway strip. Because the scale and the presence of the noxious uses was obscured by the predominance of open space, a particularly negative image of this district did not become established in citizens' minds. Most people did not wonder what was behind the cemeteries, nor was the site perceived specifically as a gateway or threshold to Boston. [Maistros 1994] The city tended to rely on the landscaping of the parkway to conceal the nature of the changing land use. Concern and attention have risen primarily as opportunistic suburban began to develop.

The short history of planning for the VFW Parkway site commenced in the late eighties, when the city of Boston implemented an Interim Planning Overlay District (IPOD) for particular areas in the city. The IPOD process required all proposed development to undergo review, as opposed to only those projects seeking a special permit. This city-wide attempt by the BRA was part of a process to redefine the nature of commercial development that was occurring in Boston's neighborhoods, and develop new zoning which. [BRA 1988] The West Roxbury site and the VFW Parkway were areas of particular attention, as planners focused on the encroachment of a new suburban type development into the area. [Bouvet 1994] The coincidental



development proposal for the Home Depot and the involvement of the Boston Civic Design Review Commission further focused attention on the area. The Boston Redevelopment Authority (BRA) finally was paying attention to the site.

As of 1993, revised zoning has been in effect. However, the BRA continues to view the study site in pieces basically inscribing what is there currently existing into separate neighborhood commercial and light industrial categories. This shortsighted view fails to understand the development at this transitional area as spatially interconnected.

## **CHAPTER FOUR**

### **ISSUES AT THE EDGE**

Though specific conditions vary from site to site, particularly the chronology of their urban development, certain common issues characterize these urban edges. These issues are present at Alewife, Wellington Circle and the VFW Parkway sites to varying degrees and provide a basis for a comparative study of the three sites.

#### **NATURE AS A SUBSTRATE**

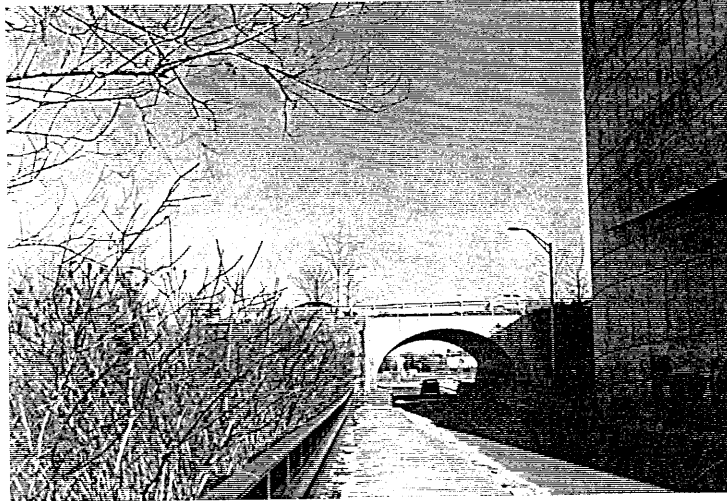
##### **The Present Landscape Structure of Urban Edges**

A fundamental characteristic of the three edge sites investigated is that their predevelopment landscapes were determinants of current urban form. Starting with their value for agricultural purposes and later for industry or undesirable urban functions, the development history of these sites was shaped by the character of the landscape. Therefore, a closer look at the structure and function of ecological elements underlying these sites, the fragments of the natural landscape remaining within them, and their change over time, is necessary to understand their capacity to shape future form.

For example, both the Wellington Circle and the West Roxbury sites lie along large rivers and are part of riparian corridor ecosystems. Portions of both sites have been filled and their original marshy character altered to accommodate development. What remains of the original landscape differs greatly in its ability to function both as urban habitat for wildlife and as part of a watershed system. [Marble and Gross 1984] Figure 21 illustrates the character of the natural elements present at all three sites.

At Wellington, the 70-acre Mystic River Reservation retains at least the visual character of the past wetlands landscape. Several marshy patches behind the

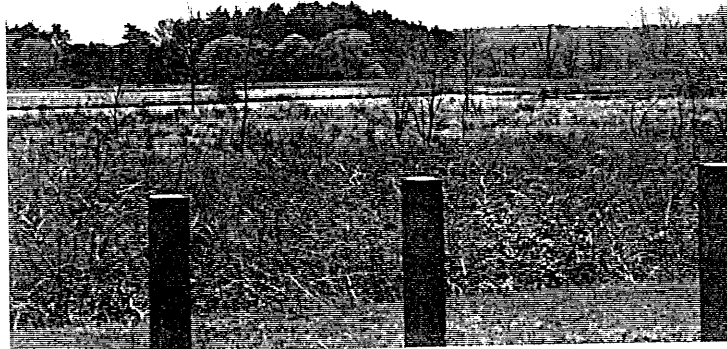
*Alewife*  
Wetlands along the Little  
River and the MBTA  
Station



*Wellington*  
Mystic Center from the  
Mystic Reservation  
Wetlands



*VFW Parkway*  
Cow Island Pond from  
the Rivermoor Industrial  
area



*Figure 21* Natural  
Landscapes

strip development along the Mystic River Parkway retain some wetlands vegetation although they probably function primarily as run-off basins for the paved areas surrounding them. The river edge extending around the entire Wellington Station area bordered by the Mystic and Malden Rivers has even less indigenous wetland vegetation.<sup>3</sup> In a broader context the landscape matrix here is urbanized and covered with impervious surfaces.

Taken at the same scale as the other sites, the West Roxbury site is a relatively small developed patch in the context of a larger undeveloped landscape. It lies along the VFW parkway which, unlike the sections of MDC parkways which run through the other two sites, still retains the distinct visual character of parkways - including a tree-shaded canopy and broad lawns. The site is bounded to the west and south by the Charles River. Its broad marshy banks are maintained as flood control wetlands, part of the flood management program established by the MDC and the Army Corps of Engineers. [Hellmund and Smith] Small marshy or woodland patches are scattered within other surrounding open spaces, including Brook Farm, a private conservation parcel, several cemeteries, and the West Roxbury High School playing fields. From field observations, this site retains the most natural habitat of the three, perhaps due to its least urbanized surroundings. In view of this context, the VFW site is in the best position to function as part of a larger network of natural habitats through direct linkage.

In terms of the relative extent of open space, Alewife is closer to Wellington than to the VFW site. Given the early descriptive names - the "Great Swamp" and the "Fresh Pond Meadow", the undeveloped landscape at

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<sup>3</sup> The Wellington station EIR called for the re-establishment of natural vegetation associated with any development on the 55-acre site. However, a tradeoff between the MDC and Medford and the Mystic Center developers seeking the abandonment of a public road right-of-way across the property, resulted in an office park surrounded by lawn. [Di Lorenzo Popp 1994]

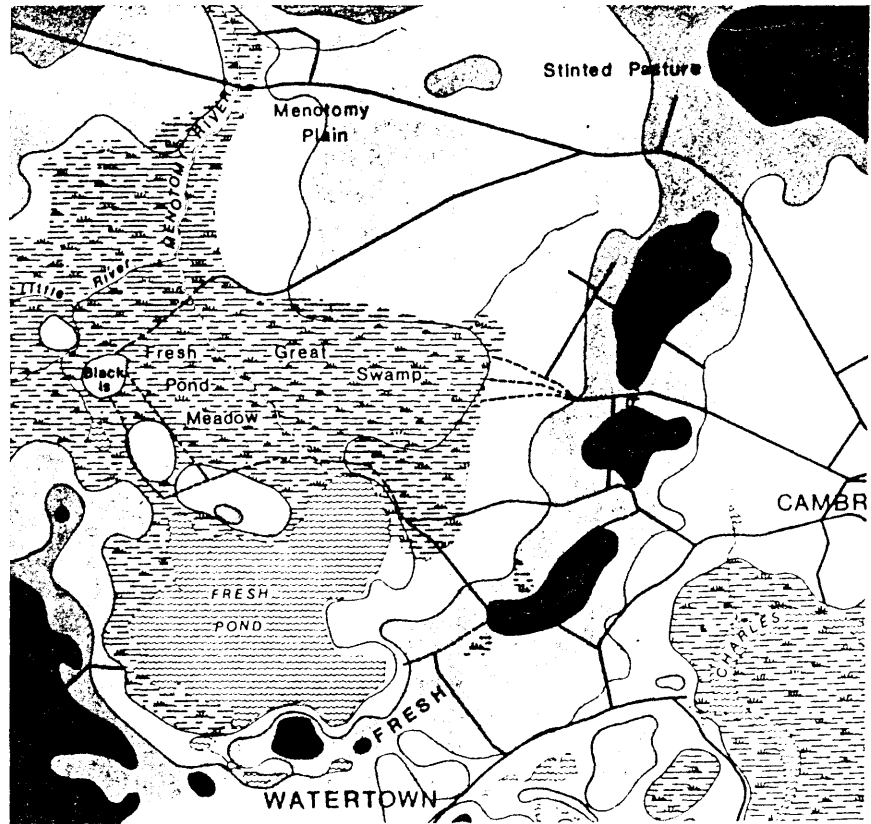


Figure 22 Alewife Area in 1638. The dark nodes indicate the ridge around the low lying site.

Alewife probably would have been representative of a transitional wetland, formed by a mosaic of shrubs, grasses and marsh plants. Figure 22 depicts the general features of the early Alewife landscape. However, only isolated elements of its former natural landscape remain. Fresh Pond lies to the south of the city's planning district once connected to the marshes within Alewife. Fresh Pond Reservation is now an unconnected patch since the pond, now part of the city's drinking water system, was isolated for that purpose. The low-lying Alewife area, to the north of the pond, is characterized by wet soils, glacial lakebed sediment and clay covered with marsh and peat. [Cambridge Community Development 1979] Most of the structures rest on fill and development has obscured much of the original ecological and geomorphological character of the area.

The exception is the approximately 100-acre Alewife Reservation which has the dubious designation of "Urban Wild" given by the MDC. The reservation avoided development due to its early acquisition by the Commission in anticipation of the Parkway. The reservation consists of a series of small ponds - Blair Pond, Little Pond and Perch Pond - feeding a marshy area and the Little Brook. This small watercourse passes on the north side of the Alewife MBTA station and under the Alewife Brook Parkway, to become the Alewife Brook, which runs to the Mystic River.<sup>4</sup> Though it is in a relatively inaccessible portion of the site, the configuration of the reservation allows only roughly 200 foot depth of wetlands vegetation. However, the reservation's relative isolation on the larger site, while perhaps protecting the area from heavy use, has conversely also helped to obscure much of the effects of human impact - primarily illegal waste disposal. This is an

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<sup>4</sup>The wetlands on the north side of the station have been used to frame the image of the Alewife MBTA station in photographs used by Peter Rowe. He uses this image to illustrate what he calls a "constructive engagement between buildings and natural systems" desirable in the non-residential fringe area. In the case of Alewife the wetlands and flood plain are entirely unacknowledged by the development, and it is difficult to see the engagement.

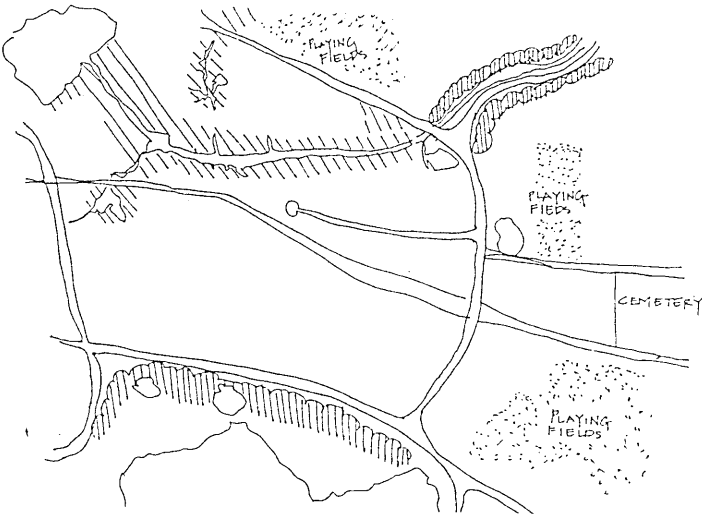
observed problem at all three sites. [MAPC 1985, Dillion 1986, Vanasse Hangen and Brustlin 1992]]

Natural systems planning at the three sites has tended to focus on the isolated wetlands which comprise the Reservations. Wetlands are also adjacent to railroad tracks, and all have protected reservation lands within only several hundred feet of high volume roadways. Figure 23 compares the landscape context of the three sites investigated. Especially at Alewife and Wellington, these areas might be considered what Forman calls "outlier land uses", in contrast to the more predominant urbanized landscape [Forman 1993]. Thus their ecological viability must be questioned. At edge sites with a development history similar to Alewife, there is little value in focusing on the quality of the remaining fragments of habitat for indigenous wildlife, without an analysis of these sites' connection to a larger source of this wildlife population. However, even as recently as 1985, the presence of many bird species, mammals such as muskrat, mink raccoon, rabbits and other rodents and fish such as herring, alewife, bass and perch was noted at Alewife. [MAPC 1985] In order to ascertain just how functional the undeveloped portions of these sites remain, one must know the habitat requirements, range and movement of these species. For that matter, a more current verification of their numbers in the aftermath of recent development is also necessary.

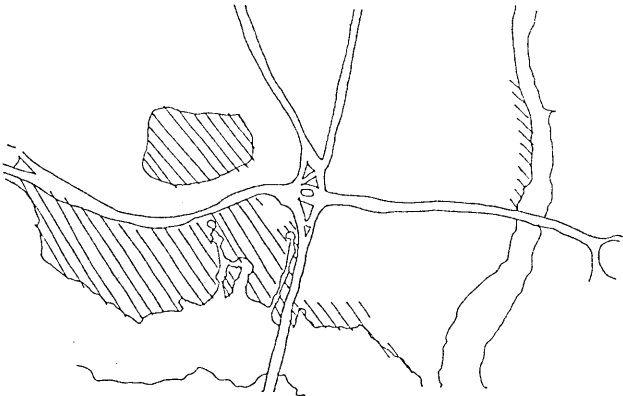
### **Impacts on Landscape Function - the Alewife Case**

Perhaps the most important ecological aspect of the three sites is their role in the landscape function of surrounding areas. This is well demonstrated by following the landscape change at Alewife. Low-lying Alewife was the principal marsh serving the watershed basin for about 70% of area of Belmont, and parts of Somerville and Arlington, and which ultimately flows into the Mystic River. Many of the interventions in the Alewife district were made, not only to render sites suitable for building by filling them, but to control flooding. Alewife Brook, for example, was channelized. Parts of the

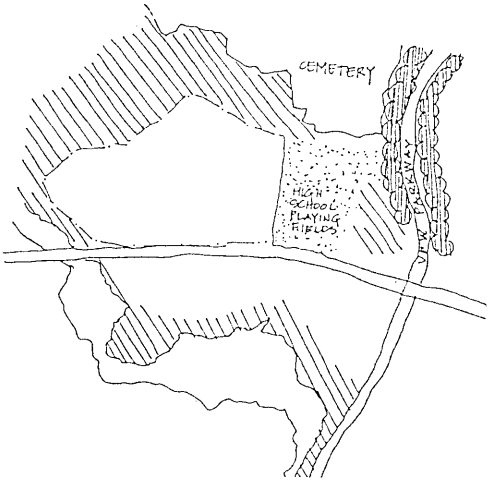
*Alewife*



*Wellington*



*VFW Parkway*



*Figure 23* Natural Conditions and Open Space



reservation are classified as a seasonally flooding wetlands and much of the developed area, including the MBTA station, lies within a 100 year flood plain. [Strycky 1994] The regional ecological significance of this edge site, while less concealed near the Reservation, is nearly imperceptible in the Fresh Pond Retail District or in the Commercial Triangle.

Of growing concern is the amount of impervious surface and compacted soil in the area. This has contributed to a loss in the ability of the area both to function as a filter and to retard the rate of groundwater recharge. Anecdotal evidence suggests unforeseen impacts. The current development in Alewife has caused ground water levels in an old claypit pond, now a landscape feature at the nearby Belmont High School, to rise over an inch since the late seventies. [Mieth 1994] Additional concern is now that subsurface water movement has also been affected. Residual chemicals in the soil from long-terminated industrial processes may find their way into the drinking water supply stored at Fresh Pond due to changed groundwater gradients.<sup>5</sup>

As the intensity of auto-oriented commercial use on the site grows, the impact of the diurnal cycle of carbound traffic is increasingly significant. Using the local roads bordering the wetlands, each day some 2000 cars pass into the site to park at the transit station during work hours; others park at surface lots surrounding businesses. Additionally an estimated 60,000 cars pass through the site on Alewife Brook Parkway. [Easler 1994] Airborne emissions create cycles of air pollution with very local impact and as traffic congestion increases, the impacts will worsen. [Newman and Kenworthy 1992] Toxic oil and other pollutants such as rubber particles and wintertime de-icing salt are conveyed into the wetlands by runoff. While Alewife surface runoff has not historically contributed to the Cambridge drinking water supply,

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<sup>5</sup> The W R Grace site, across the parkway from the MBTA station, was found to be polluted with naphthalene and other petroleum products. Remediation consisted of removing much of the polluted soil and depositing it in the city dump. The potential for these chemicals to leach into groundwater is of concern. [Epstein]

contamination from roadways and parking closer to Fresh Pond is a possibility [Epstein]

### **Future effects**

Increasingly, the continuing natural flows and manmade effects at areas such as Alewife seem at odds. The one time manufacturing related contamination to the soil and ground water are unlikely to be repeated. What remains under pressure are the surface uses. Plans to concentrate growth around existing infrastructure, while sensible at a regional scale, may perpetuate improper ecological decisions at a site specific scale. This is a critical point of conflict at the three sites investigated and may suggest standards limiting development at these areas. The more intense the development located at their edge, the less these isolated areas will be able to continue to recharge and function independently or as parts of a regional ecosystem. Conservation Commissions and the MDC are concerned about the level of development on property adjacent to the Parkways and alongside the reservations. [Krajovic 1994] For example, as even more area surrounding the Alewife Reservation is paved over, the impervious surface area grows and the function of native vegetation for runoff control and contaminant filtration is further compromised. Sediments, nutrients and toxic materials are washed directly into the Little River. [Smith and Hellmund 1993, 87] At the VFW site, all of the runoff from the Home Depot parking lot runs directly into the Charles River.

The size of the remnant undeveloped area at Alewife touches on another question. What is the required scale and economy of an urban wild patch in order for it to function well? And further, is this a realistic objective around which to organize development planning, particularly at sites such as Alewife or Wellington? It is unlikely that the remaining wetlands will shrink in size, due to their protection under Massachusetts Wetlands Legislation. In fact, negotiations are now underway between the consulting firm ADL, the MDC

and the Cambridge Conservation Commission over the firm's western parking lot, which is located on wetlands and uplands of the Little River. A swap is being negotiated between the MDC and ADL which would move the firm's auto traffic to the eastern portion of the site, closer to the Alewife T station. In exchange, the MDC would acquire approximately 4 acres, which would add significantly to the Alewife Reservation. [Brelis 1993, Strysky 1994] This is a valuable example of the ability to reinforce the ecological function of these edge sites by assembling larger parcels of natural landscape, even in the face of continued development.

It has been suggested that by reducing accessibility, particularly to remaining interior patches, and by re-establishing native plants, the functional capacity of urban landscape patches can be stabilized. [Westmacott 1991, 27] However, this conflicts with Cambridge's plan to encourage pedestrian access to the Alewife Reservation through paths and walkways and to also construct a nature center at the tip of the triangle. [Cambridge Community Development 1993] While improving access to the natural areas within these reservations, and therefore increasing awareness of their existence, may be a valuable political and public gesture, it may not be the best ecological strategy. The historic isolation of the Alewife Reservation fragment, and the fact that the public generally does not frequent these transitional edge sites, has worked in its favor to a large degree.

## **TRANSPORTATION**

### **Access as Value Added**

Following natural site conditions, the presence of infrastructure was the strongest determinant of land use and subsequent form at the old urban edge. It remains one of the persistent themes in development of these areas today although the issue has an inherent contradiction, and generates a set of "chicken-and-egg" questions about planning for them.

On the one hand, infrastructure investment favors areas which are inexpensive to acquire. In the Boston area, the wetlands and river edges at fringe sites, which often deterred residential and civic development, were of double benefit for the Metropolitan District Commission, whose parkway planning sought to these feature natural elements along its carriage roads - in what Eliot called a "museum of open space." [Krajovic] The fact that these sites were usually marginal in terms of private investment also made them among the least expensive right-of-ways. For example, Eliot's proposal in the late 1800's to connect Fresh Pond with the Mystic River via a parkway suggested a scenic alignment running through the commercial district at Arlington Center and along the banks of Spy Pond. Several alignments were studied before the preferred route was abandoned in favor of cheaper cost of land assembly for an Alewife Brook alignment. [ MDC 1992]

Conversely, transportation is perceived as "value-added" to a site. Rail service at the urban fringe was among the earliest infrastructures to increase value of these sites and encourage development. By the 1860's, freight rail service to the three sites facilitated natural resource exploitation - ice cutting at Alewife and at Cow Island Pond at the VFW site, and brick making from local clay at Alewife and Wellington. Industrial development utilizing heavy non-local materials followed.

The development of Route 2 through Alewife provides another interesting early example of the expectations of transportation investment. In the early 1800's, Route 2, forming Alewife's northern edge, was developed as a turnpike by the private sector. It diverted traffic from more established routes and commercial areas, such as Massachusetts Avenue, and provided development opportunities for landowners whose properties became accessible. [Binford 1985, 24] Even though Alewife still did not develop a high level of commercial activity, this was the spatial structure of the nineteenth century fringe economy, where providing access was considered a

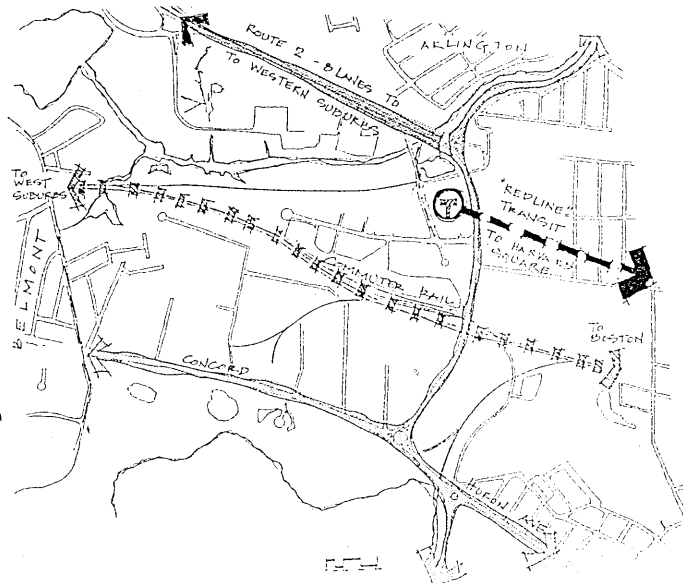
fundamental economic development tool in the growing metropolitan area.  
[Binford 1985]

Providing improved automobile access to town or out of it was targeted to serve a growing population of daily commuters from residential suburbs to urban work centers. This was the reality addressed by public agencies regarding Alewife and Wellington in the 1960's; transportation investment at these two sites were necessary in a regional context. Alewife became a node within a transportation network which now extended radially out to the metropolitan beltway, Route 128.

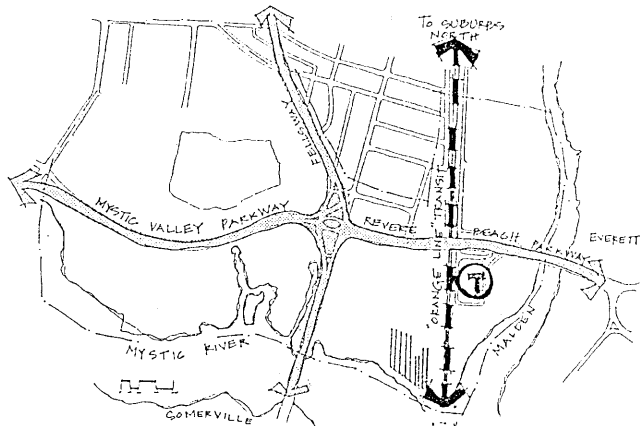
Wellington, with the access to nearby I-93 was similarly accessible. The early years of highway building have been described "as the great editor of windshield perception, as buildings changed to reflect a new audience - the carbound shopper." [Liebs 1984, 4] Road building might also be described as the editor of the urban edge landscape where the room to maneuver at a non-pedestrian scale continued to fuel the commercial speculation which drove much of development at these edge sites.

Throughout the 1970's, Alewife, in particular, was the focus of much state level transportation planning both around the siting and construction of the Alewife Red Line Station and resolving the abrupt transition of the Route 2 highway at Alewife Brook Parkway. The conflict between the amount of traffic generated by any new development at Alewife and the inability of transit to specifically alleviate it continues to be the crux of development debates. [Easler, 1994] The principal concerns at Wellington and the VFW site have been about the roadway capacity in the face of new development. Figure 24 illustrates the principal transportation infrastructure present at each site. Each has rail and parkways. Wellington and Alewife are served by transit.

Alewife



Wellington



VFW Parkway

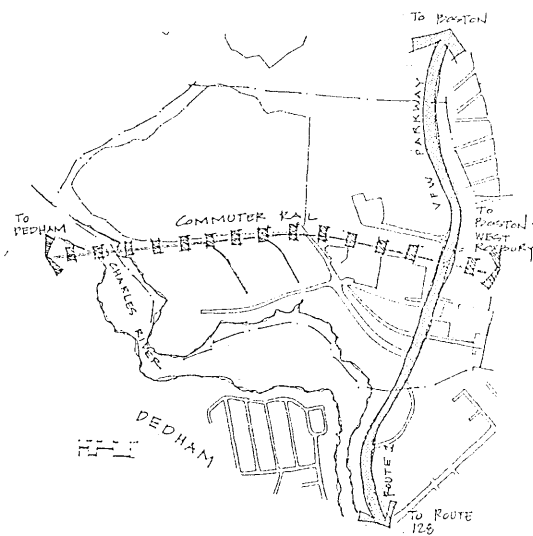


Figure 24 Transportation Access

### **The current transportation context - pressure on the parkways.**

A specific issue for each of these edge sites is the amount of traffic handled, but not anticipated, by the MDC parkway system. Parkway systems were conceived both as carriage roads for pleasure trips in a park-like setting and as an efficient means of moving urban dwellers and goods throughout a city. [Fisher 1986] While they have indeed continued to provide a basis for a metropolitan open space network in the Boston metropolitan area, they have simultaneously become major thoroughfares.

The MDC retains the right to grant curb cuts for access to their parkways, and could conceivably limit the development abutting them. Similarly, the MDC has the power to limit the use of its parkway buffer zone for parking. A lack of funding for the agency has curtailed enforcement. [Krajovic]<sup>6</sup> The traffic generated by the retail businesses continuing to locate at these sites is significant. At the VFW Parkway, the Home Depot alone is expected to generate up to 9,000 auto trips per day. [Vanasse, Hangen Brustlin 1992] While Medford's redevelopment strategy specifically recommends focusing new development on areas of the city physically separated from residential areas, it points out that nearly 9,500 car trips per day will be generated by the complete Mystic Center Development [Lozano, White and Associates 1988] further degrading the parkway character. Figure 25 provides a comparison of the impact of recent development on the parkways at the three sites.

### **Local Access**

Perhaps for the first time, transportation decisions are enforceably required to be made in the context of land use planning. The 1991 Intermodal Surface

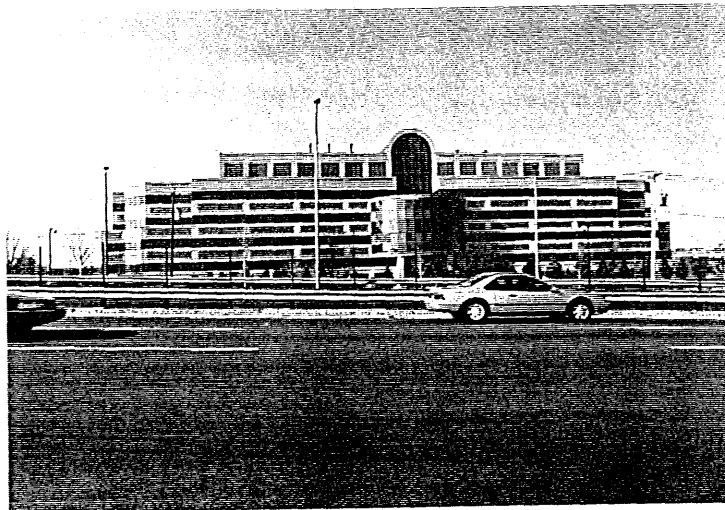
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<sup>6</sup> A look at the Alewife Brook Parkway reveals how persistent the erosion due to retail and office development has been. Within the Fresh Pond Shopping Center, fire hydrants, once located within the grassy Parkway buffer strip, now appear in the middle of actual parking spaces. The curb has been pushed back by over ten feet.

*Alewife*  
Along Alewife Brook  
Parkway



*Wellington*  
Along the Mystic Valley  
Parkway



*VFW Parkway*



*Figure 25* Parkway  
Character



Transportation Efficiency Act (ISTEA) calls for a land use-transportation linkage before any federal funds can be spent on local transportation projects. This has potentially great impact on the total land use planing effort at the scale of an individual city, and certainly at the scale of one of the edge sites examined here.

Each of these sites faces what is essentially a very suburban problem. They require new road infrastructure to make interior portions of the site accessible - a process of subdivision similar to that in newly developing exurban areas. The resulting block size will determine urban scale. [Rowe 1991] Boulevard type access or landscaped improvements to existing driveways have been constructed or are planned at all of the sites. Whether they appear as landscaped quasi-private driveways or truly public streets will have an impact on how accessible these edge sites appear. In this instance, a cognizance of the scale effects of urban infrastructure is necessary.

Of greater importance to the acceptance of planning and development proposals, particularly at Alewife and the VFW Parkway, is how much these new roads will improve traffic now spilling over into adjacent residential neighborhoods, by alleviating bottlenecks. Conscious of additional automobile traffic generated by new development in the interior of large edge districts, both Cambridge and Medford are considering mitigating transportation measures. Medford is investigating a local transportation network such as a monorail to connect the Mystic Business Center, Wellington MBTA station and the Corporate Way Industrial Park along the Malden River, north of the station. [Di Lorenzo Popp 1994] Cambridge is investigating linking businesses within the commercial triangle and the industrial quadrangle with a local shuttle service, possibly funded by participating businesses. [Easler 1994] Along with a connection to the Fresh Pond retail area, this would transform Alewife into an independent transportation district.

### **Regional Transportation Significance**

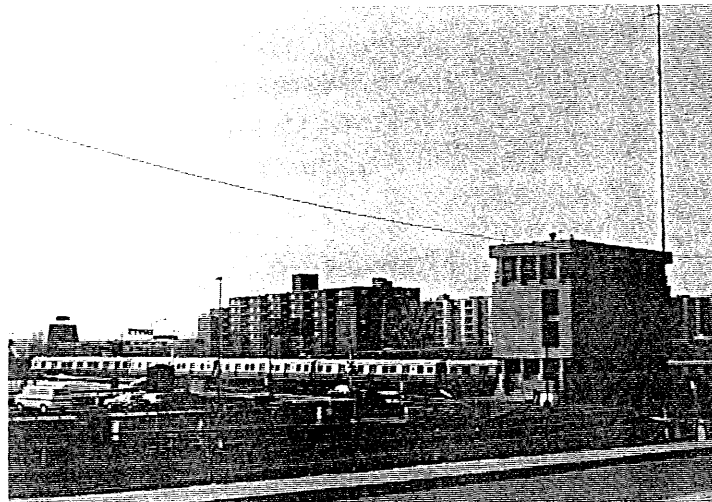
In the regional context, both Wellington and Alewife provide fringe parking for Boston-bound commuters [Figure 26] [Sasaki, Massachusetts DPW] These sites are primarily points of modal transition, from suburban originating autos to city-bound transit. True transit oriented development (TOD), as envisioned by Peter Calthorpe, is unlikely. At urban fringe sites, where virtually everyone is arriving by car, pedestrian scaled development and commuter parking lots do not mix. [Deakin 1993] According to Calthorpe even within TOD districts, 60% of travel is likely to remain by automobile. [Calthorpe 1993] Studies in the San Francisco area of similar fringe stations which are effectively "park-and-ride" facilities have concluded that transit oriented development has not emerged. [Deakin 1993] However, there is an opportunity to encourage continued mode shift from automobile to transit by providing commuter-oriented commercial development, primarily convenience services like dry cleaners, day care centers, etc. However, the limiting factors at Alewife and Wellington are still likely to be auto access to these sites and available commuter parking.

While transportation systems have the most potential to change land use and the form of our built environment, they often made with the least forethought. [Barnett 1982] Transit alone does not preordain land use, rather pre-existing land use conditions are the best indicator of the success of transit. This requires that a city have pro-transit land-use policies in place. [Calthorpe 1993, DeLeuw 1977] Both the Red Line Station at Alewife and the Orange Line Station at Wellington were developed with little regard for existing land use, rather land cost, seems to have been one of the determining factors.

*Alewife*  
The MBTA Station and  
Parking Structure



*Wellington*  
The MBTA Station and  
surface parking lots



*VFW Parkway*  
Surface parking at the  
Home Depot



Figure 26 Transit and  
Cars

## **URBAN FORM AT THE EDGE**

Relative to denser areas, land at the edge was less expensive. Since there was no incentive to build above the first floor, there was space for all manner of automobile-oriented urban form. [Liebs 1985, Rowe 1991]. The parkways at Alewife, Wellington and the southern tip of West Roxbury became the approach strips for the cities they bordered, serving as transportation corridors, market places and markers of community on the urban fringe. [Lambe 1986]

West Roxbury, Alewife and Wellington were and continue to be home to the unique early form of the transitional urban edge. Each of these sites was the location of drive-in movie theaters. Wellington and Alewife were home to car dealerships. [Figures 27, 28] A bowling alley still exists at Alewife along Route 2. Public discussion about encouraging a change in use on its site is met by resistance from members of the working class neighborhoods in Arlington, Somerville and Cambridge. [Flynn 1994] Although not within West Roxbury, just south of the terminus of the VFW Parkway is a true marker of the transitional nature of this strip. Tucked among the trees along the Charles River is Boston's last mobile home park. [Figure 29]

These level and large sites of these early uses were attractive for redevelopment, and were among early victims of the spreading urban area and increasing land value. As Garreau has commented, a sure sign that a change in the nature of an edge site is impending is the "auto dealership being bulldozed to be replaced by an office building...[which] represents such an extravagant increase in the value of the land that somebody is no longer thinking of it in acres but in square feet." [Garreau 1991]

### **The Shape of Retail**

Automobile motivated development, with its associated land use pattern and urban form, is perhaps the strongest and most consistent finding at the edge.



Figure 27 Fresh Pond Drive-in, now a Boston Edison Sub-station.  
 Figure 28 Boston's Last Mobile Home Park  
 Figure 29 Car Dealership on Alewife Brook Parkway

Commercial businesses, particularly retailers, figure prominently in the shape of the transitional edge. [Venturi 1972] Much of the urban form at these edges expressed the exuberance of the automobile age, culminating with the individualistic architecture of the free standing retail store. The urban edge has not always aroused the criticism that it does today. The opportunity to build outside of the congested constraints of downtown - particularly the opportunity to provide the suburban motorist with modern retail destinations - was heralded as "the promise of better shopping to go with better living". [Ketchum 1948, 248] Buildings were able to cater to the motorist's unique spatial perception; they were easily seen from a distance and expressive of particular function. The building itself was offered as an "exciting trademark". [Ketchum 1948, 253] Lacking time to find, much less focus on a display window and being separated from it by the depth of parking, signage was crucial. As the structure of marketing has moved to a more centralized, national scale, it is of little surprise that the easy recognition of franchises architecture and signage has proven so successful along all commercial strips.

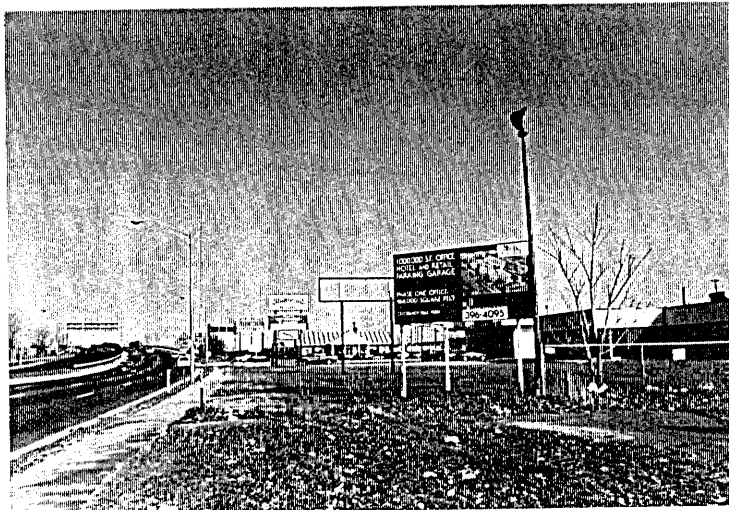
Much of the initial Alewife, Wellington Circle and VFW Parkway retail development was post-war and auto-oriented. Initially, small businesses took advantage of the market and cheap land at the edge - constructing individual buildings with big signs. Though they were similar in function, business owners in Wellington were not those who operated along Alewife Brook Parkway in Cambridge. [Figure 30] This has changed, and chain franchises often owned by national retailers, having made their way from more suburban locations, now predominate at all of the study sites.

The latest form of retailing that has attempted to locate at each of these Boston area edge sites is increasingly less site sensitive. Known as value or big box retailers, these are retailers that stock large volumes of goods, sell in large volumes, and take up a lot of space. They are typically associated with

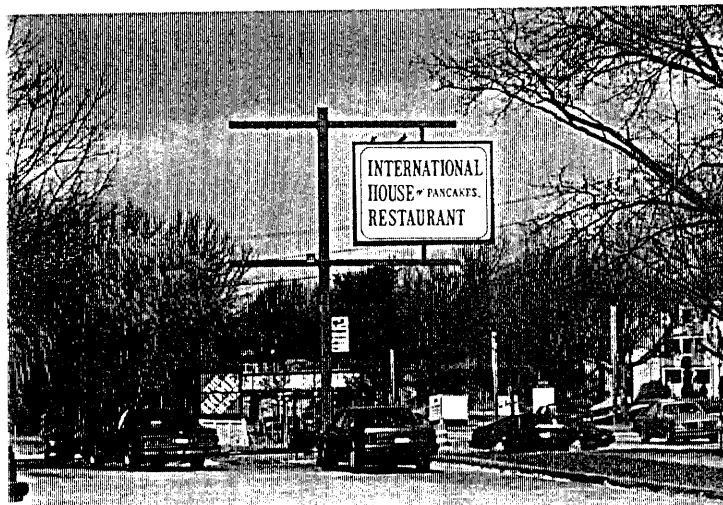
*Alewife*  
Fresh Pond Mall



*Wellington*  
Free-standing stores



*VFW Parkway*  
Drive - up restaurant  
and the Home Depot



Changing  
Retail  
Figure 30

suburban and newly urbanizing areas. However their encroachment into some of the older urban transition sites, particularly those which are not overly contaminated due to a history of heavy industrial use, should come as no surprise. [Gregory 1993]

High volume sales requires a significant buying population, so sites accessible to population concentrations are attractive. An estimate for store such as Wal-Mart, or Home Depot is that a population service area of 200,000 is required. Another key to the siting of these retailers are large lots, typically ranging from 5 to 25 acres. Stand alone developments, such as BJ's or Home Depot, range in size from 50,000 to 300,000 square feet of store area. On any given site, approximately two thirds is dedicated to parking. The industry standard is 5.5 parking spaces per 1000 square feet of gross leasable area. [Gregory 1993]] Transit is rarely provided in suburban areas as fully as it is in inner transition areas. However, even when transit is accessible, the warehouse retail concept is predicated on shoppers buying in bulk and transporting their goods home almost exclusively by car; using transit is antithetical to value retail shopping.

An appealing aspect of redeveloping old edge sites, the location inactive drive-in movie theaters or one-story industrial uses, is that site assembly is made easier and much of the site grading is complete. The recent history of West Roxbury is a good example of what can happen. The 13-acre VFW Parkway Drive-in Movie was purchased by General Cinemas in the 1970's. Later, when Home Depot was looking for an inroad location serving Boston's southern neighborhoods and Brookline and Newton, the benefits of selecting a suitably large site under single ownership were apparent. Over neighborhood opposition to traffic and anxiety over the type of strip development occurring less than a mile south of the site at the town line in Dedham, Home Depot filed to build as-of-right on the theater grounds. [Wall 1994, Ackerman 1993] This highlights the problems of land use and scale at



the edge. The zoning is relatively unrestrictive and the parcels, especially in former industrial areas, tend to be large. Without performance criteria which target the impacts of specific development, the edges will continue to undergo this kind of transformation.

Both neighbors and city planners feared the increase traffic effect on the already taxed VFW parkway. [Ackerman 1993] Indeed even with subsequent improvements to the intersection at the parkway, traffic volumes place the road at the minimum acceptable level of service. [Vanasse 1992] Big box retailers clearly have major traffic impacts, though some evidence suggests that they create less congestion than a similarly sized mall for example. [Gregory 1993]

So undesirable was the big box development in West Roxbury, that the Boston Redevelopment Authority rezoned the site to a more restrictive 2-family use. This was eventually overturned in Massachusetts Land Court as a taking, and the project went ahead. [Ackerman 1993, Wall 1994] Soon Costco, another value retailer expressed interest in building on an adjacent site, a clustering phenomenon attempting to form a retailing power center. Costco did not proceed and the city, following the IPOD process of the late eighties, has now implemented new zoning for the area. In the end, the only mitigation measure left to BRA and MDC planners has been the requirement of a landscaped buffer. [Maistros 1994]

Cambridge's approach to big box retailers has been different. In the fall of 1993 BJ's, a food warehouse retailer, expressed interest in locating on an Alewife parkway site when the last big grocery store lease expired. Cambridge reacted quickly to make the site as unattractive as possible for these type of retailers by filing a motion at the planning board to implement an IPOD for the retail section of the parkway. [Flynn, Strain 1994] Although the IPOD was tabled at the time, the reactive stance adopted by Cambridge

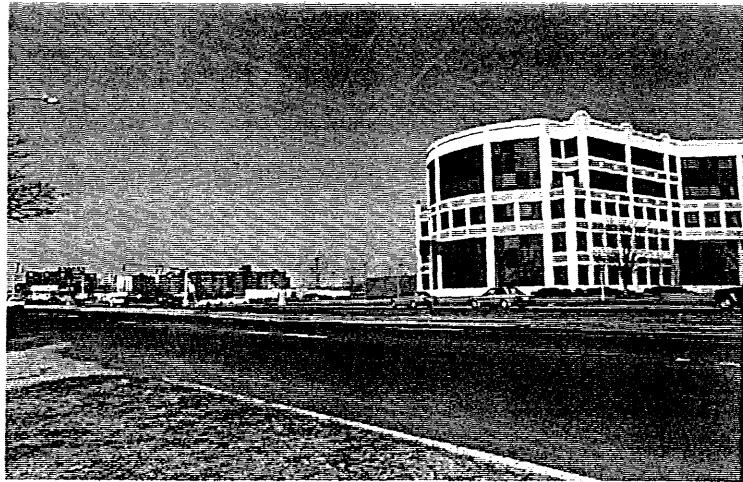
public agencies underscores the animosity that Cambridge feels towards these suburban shopping forms. Medford, on the other hand, did not discourage BJ's form locating at Wellington.

### **The Anywhere Workplace**

As modern uses revitalize sites at the edge, the development comes to present the characteristics of more suburban locations - separation of uses and growing distance between things. Indeed a look at the promotional material circulated by Cabot, Cabot and Forbes for the office complex at Mystic Center, or a walk through the Spaulding and Slye complex at Alewife, confirms that these developments have no place specific character. They are not identifiable as within the borders of some of America's oldest urban settlements. [Figures 30, 31] They are isolated, and nearly impossible to walk to from any of the nearest neighborhoods.

It is a common theme that commercial office at these edge sites, while developed with an eye on local revenue, are not for use by local residents. At Wellington, one of the MAPC's criticisms of the city's proposed station area redevelopment, which includes the Mystic Center project, was the lack of pedestrian access. [Stasiowsky 1994] A token below grade passage way from the Wellington neighborhood was proposed, but the city allows that most of the users of the site will not come from Medford. The site is really marketed as a back office location for downtown businesses and is meant to compete with locations along Route 128 or along I-93. [Di Lorenzo Popp 1994]

The scale of the office development occurring at these edges, specifically at Alewife and Wellington, is in abrupt contrast with virtually all of their surrounding uses. The proposed Alewife Center across from the Parkway from the Alewife MBTA station, a \$150 Million, one million square foot office and Research and Development on the W. R. Grace site, would represent a scale unprecedented in the area. And it would be separated from the North



*Figure 31* Offices at Alewife  
*Figure 32* Office at Wellington

Cambridge Neighborhood only by the Russell Playing fields. The Alewife Center plan boasts four different facades to achieve contextuality yet maintain a unique "office campus" identity. [Monacelli 1987] Though it aroused public opposition, it obtained a special permit from the Cambridge Planning Board. The project was derailed principally by the recession and only recently has its permit expired. Although some members of the planning board would not like to reopen the review process for this site, they allow that suburban campus style office development has lost legitimacy as well designed urban solution. [Flynn 1994]

One of the criticisms of the first round of comprehensive planning at Alewife was that the zoning in the commercial area known as the triangle was too generous. The resulting construction was not large enough to trigger the city's Planned Unit Development process, even though it was based on the optimistic expectations of the late seventies. This process would have forced developers to comply with specific design criteria that Cambridge would have imposed on a by-project basis. The result has been the downsizing of allowable floor areas, as outlined in **A Plan for Sustainable Development**, in order to more carefully monitor the scale of development.

### **Disappearing Housing**

The early comprehensive plans for Alewife and Wellington, and even early BRA ruminations on the West Roxbury site, described mixed use development which included a significant housing component. [Cambridge Community Development 1979, Sasaki 1976, BRA, 1970s] Although generally relegated to areas on these sites that did not have valuable access and visibility favored by commercial uses, the proposals included dense structures. An early urban design study for Alewife proposed up to units of housing. In 1981, for example, Medford's preferred plan for the Wellington station area included 860 housing units in mid and high-rise buildings.

In these comprehensively planned complexes there was a promise of a spatial pattern balancing jobs and housing. They were conceived as autonomous urban sub-centers, and also included a mix of retail and office uses.

Communities seeking to redevelop these edge sites viewed the opportunity to link new development to transit as the catalyst for transformation. The association was touted as mutual; transit-ridership rises when commuters can walk to stations. [Bernick and Hall 1992]

This rationale, that thorough physical planning could be used to achieve an efficiency of urban land use has been criticized for its authoritarian sensibility, and rigid pre-planned nature. [Lozano 1990, 27] Yet these were the real hopes for regeneration. As long as market pressure persisted, housing was seen as part of the mix. As long as developers were eager to grab up remaining parcels, cities like Cambridge and Medford could exact from them the construction of new housing, particularly affordable units. Through the seventies the residential components of development plans included a mix of market rate, subsidized and elderly housing. The housing density proposed always far exceeded the scale of the adjacent neighborhoods. And since it was self-contained it was never presented as physically connecting to the neighborhoods. [Figure 33]

Popular acceptance of proposed housing, even in these edge districts, was not so certain. According to planners in all three cities, neighbors were suspect of plans which included housing [Flynn, Wall, Di Lorenzo Popp 1994]; there was concern about who would live there. In West Roxbury, it appears that negative perception of affordable housing, and the view that it was associated with public transit, helped to defeat any discussion of a potential commuter rail station at the site. [Wall 1994] Ironically, some of the last non-industrial construction to occur at the interface between these edge sites and the residential neighborhoods surrounding them, was mid-to-highrise public or subsidized housing developments, such as Ringe Towers. At West Roxbury,

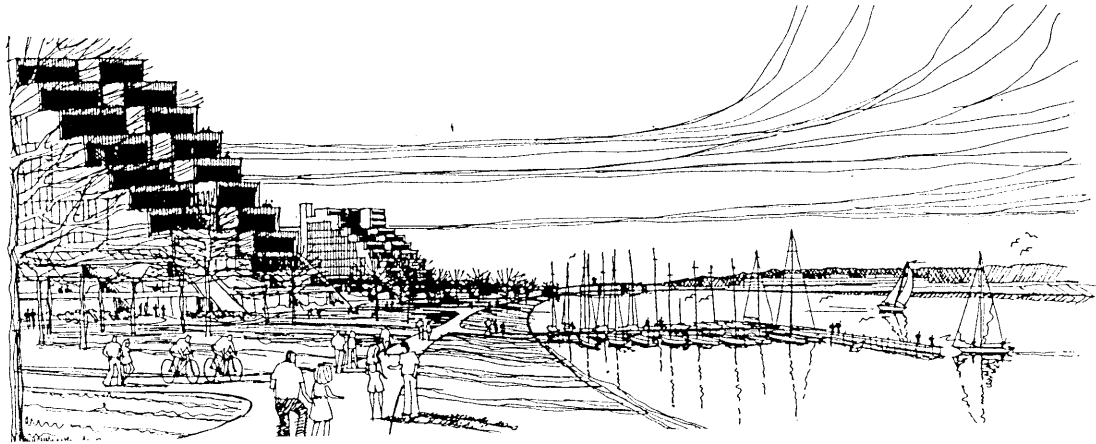


Figure 33 Big Plans for Housing at Wellington, 1976

it was not even an affordable housing development which initiated the concern mentioned above. Rather it was a condominium complex located across from the VFW Drive-in site. The inability to include development of housing in the formal redevelopment plans was a signal both of the lack of suitability of these sites for all purposes and the unreality of the planning process for these sites.

## **IMAGE**

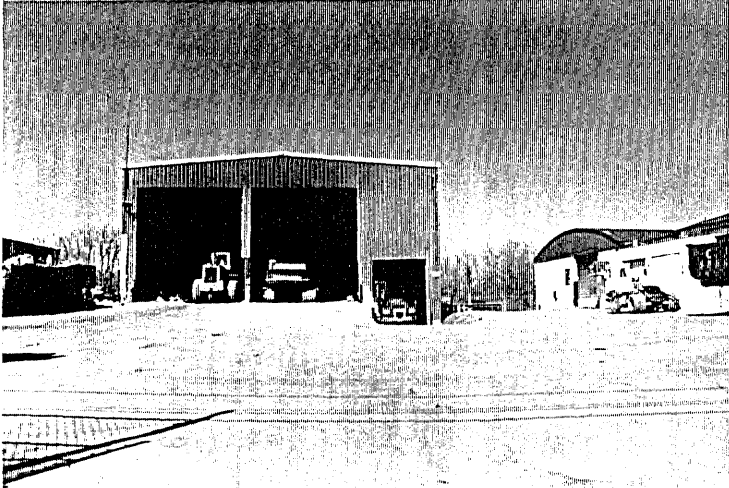
### **Undesirable Uses**

A great obstacle to the viability of housing and other planned land uses at these old urban fringe areas is overcoming the negative image of a discarded urban area. Venturi has written that perception of the built image depends on the past experience and emotional association of the viewer. [Venturi 1972, 87] Therefore, at an urban scale, parts of a city hold different meanings for each of its many clients. The image of the three edge sites embraces zones of industry and storage, unsightly urban support functions and more suburban spaces with large low buildings in a sea of parking. Transitioning away from a fringe-use may create an image which is considered an improvement over the past. Ironically, the scale of the past may have been more tolerable than the scale of the post-automobile forms which accompany edge redevelopment.

Many of the noxious uses within the fringe areas have expired. For example, the three locations investigated all have been served as dump sites. Danehy Park and the Wellington T-station are on filled dumps. One of the best views of the Charles River is from the atop of the inactive Boston city dump behind Home Depot. The chemical plants located at Wellington and Alewife are gone, as is most of the heavy industry at all of the sites.

But what about the less visually meritorious functions at the edge which continue to support a city? [Figure 34] Some of these continue to contribute to the negative image of these sites. For example, the Rivermoor section of

*Alewife*  
Garbage transfer station



*Wellington*  
Vacant lots and chain link fences



*VFW Parkway*  
From the top of the  
Dump



*Figure 34* Undesirable  
Uses



the VFW site continues as a viable small warehouse district and includes a Boston Gas substation and Wellington is expanding its non-industrial warehouse functions. Both Alewife and the VFW site have Boston Edison electrical transformer stations. Some planners recognize the ongoing necessity of a place in the city for fringe uses. "Sure [the Alewife quadrangle] is ugly but there has to be someplace in a city for a garbage transfer facility, or a lot to tow cars to." [Flynn 1994]

### **When the back door becomes the front**

Once on the limits of town and aesthetically insignificant, edge sites are now gateways. As their place in the sequence of travel has changed - from the occasional departure point on a trip of some distance to a daily entry point to an urban center cities have become more conscious of their marginal districts, or rather the "marketability" of their potential development sites.

To some extent, all the communities looked at for this paper were cognizant of the changing position of these sites. The city planners are all hoping the pending or expected development at the edge will transform the transitional area into a proper gateway. While some of the initiatives of the 1979 plan, including the construction of the MBTA station and some new commercial construction adjacent to the station and along the southern side of the district on Concord Street were built, the plan failed to change the image of the place [Chris Dame 1994] Indeed, much of the interior of the Alewife District remains unknown and possibly unperceived to those who drive through it.<sup>7</sup>

### **Changing an image**

Described in terms of Lynch's study of Boston in **Image of the City**, Alewife remains a "forgotten district". Casual discussions with several Cambridge

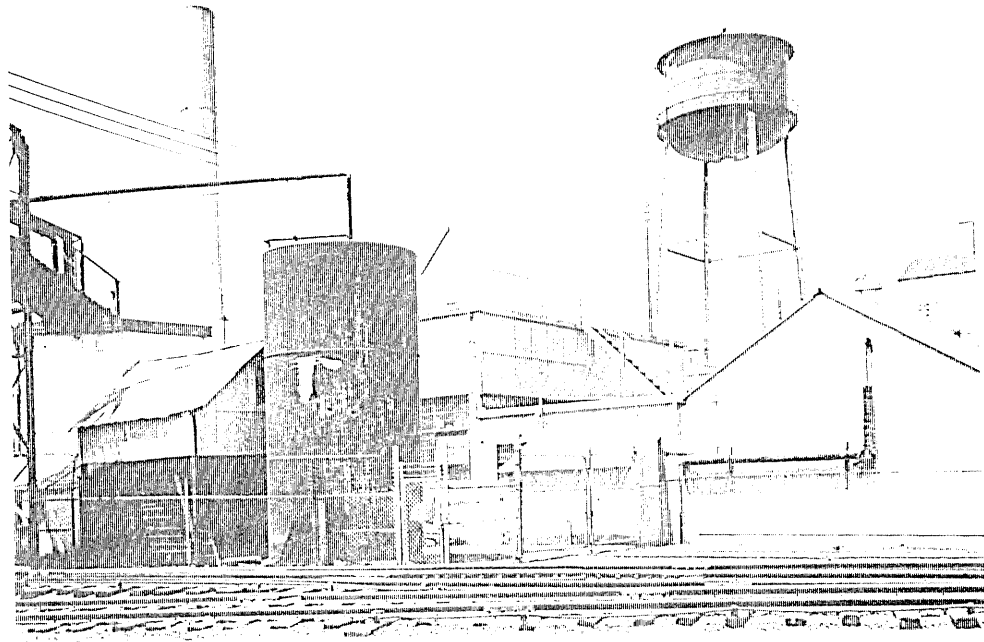
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<sup>7</sup> Casual questioning of several individuals revealed a lack of awareness of size and uses within the district - particularly around the scale of the MDC reservation, the garbage transfer station and the extent of light manufacturing which takes place.

residents revealed that extent of the site of the 460 acres and the nature of what actually takes place within it are not fully grasped. Since establishing a positive public connection and articulating the site has become important for Cambridge, the city is developing a beautification plan for the route through the Alewife area. Starting with a Design Brainstorming Session in the Fall of 1993 nodes, edges and routes through the district were targeted for landscape and signage improvements. In conjunction with the improvements resulting realignment of the MDC Alewife Brook Parkway - principally the reestablishment of a landscaped buffer along the commercial section - the city hopes to "green-up" the perimeter area, signal major intersections and transition points. This attempt at decorating the land uses rather than transforming them is the city's best hope.

The downturn in development at Wellington Circle is viewed not only as a loss of city tax revenue, but as the loss of the opportunity to change the image of the area. In the press the issues have been linked to the exclusion of other concerns - without commercial development, the area will continue to decline. [Dillion] The perception is that wholesale redevelopment is the only method to engender change.

Both Sennett and Lynch decry the tendency towards removing discordant uses - which do not fit with our view of ourselves and our environment. [Figures 35, 36] Lynch warns against the negative aspects of planned positive imageability - particular those efforts to beautify. Elements we tend to call beautiful are typically single purpose - fixed temporally in their purpose as well. [Lynch 1960, 91] Lynch has described industrial or transportation focused districts, not as ugly but as "powerful symbols of the application of non-human energies to vast new resources". Cities need districts which allow for industriousness are necessary in cities.



*Figure 35* The edge at Alewife according to WR Grace, circa 1954...  
*Figure 36* ...and according to office park developers, circa 1986

An attempt at wholesale improvement of a "sink" district is antithetical to Sennett's theory that a piece of urban fabric should be able to respond to incremental change brought about by residents of a city. Instead of a static conceivable whole - in short, pre-planned - a city's parts must be flexible, unplanned and therefore exhibiting disorder. Sennett calls this fluidity and the disorder allows for user directed identity of a place. Rather than planning for the sanitized image change of an entire area such as Wellington, through large-scale form and function changes, urban form should emerge which is derived from a natural process of use. "It is better for men to be makers of historical change than for the functional design of a pre-experiential plan to be "carried out". [Sennett 1970, 145]

The activity in a district such as Alewife, as opposed to the orchestrated activity associated with many of the planned large scale redevelopments, really reflects the inner workings of an urban city. This existing aspect reinforced by the city's economic development objectives for the interior of the industrial quadrangle. The city hopes to encourage a reuse of much of the existing low density industrial structures by emerging high technology research and development firms. [Strain 1994] Whether this will satisfy the more important objective of maintaining Alewife as place of high paying blue collar jobs, it does suggest an important retention of a past image and as a potential model for development at similar sites..

## **PLANNING AT THE EDGE ZONE**

*"What sins occur at the edge of cities where there is no constituency to look after things."*

Carolyn Mieth  
Co-chair of the Coalition on Cambridge  
Vice-Chair Cambridge Planning Board

### **Who is it for?**

A major difficulty of planning for fringe areas is that they are not claimed by any particular constituency. After all, as their focus has shifted from urban to

suburban, so has the group that is primarily concerned with their function. Since these fringe areas have become effectively interstitial spaces between areas, they frequently do not directly include residential neighborhoods. For example, although the Wellington Civic Association did participate in reviewing redevelopment plans, it has had relatively little involvement with recent proposals. [Di Lorenzo Popp 1994] So great was the community disassociation with Wellington fringe site during the seventies urban renewal efforts, that a planning study was conducted to determine the lack of neighborhood "ownership". Still "that end of town" has very little to do with the rest of Medford and very little to do with anything outside its immediate residential boundaries. [Valeriani 1994]<sup>8</sup>

Since these sites tend to be growing in regional orientation, when there is local citizen attention to the fringe, it tends to be focused on traffic rather than use or form. For example, once it was established that as-of-right building of the Home Depot would proceed, the focus of citizen concern was on traffic. Similar sentiments have been expressed about the prelude to the first Alewife urban design planning process. According to Chris Dame, Alewife project manager in the late seventies for Cambridge Community Development, the abutting neighborhoods had never claimed the site. The primary impetus for involvement of the nearby residents was concern over the local impact of traffic due to transit and roadway improvements. The recent North Cambridge Stabilization Committee which funded as a Red Line mitigation measure allowing official citizen participation in the planning

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<sup>8</sup>The study concluded that the lack of citizen identification with the Wellington site was historical. The water's edge had never fully been incorporated into Medford - since it had always been the site of noxious or industrial uses. Further, the immediate Wellington neighborhood had been settled long after Medford center - primarily by Irish and Italians from Charlestown who continued to focus their civic and commercial interests on Boston. Since the Wellington/Riverside neighborhood was early on served by streetcar service directly to Boston which was separate and unconnected to Medford center, they were isolated from both the issues and residents of other neighborhoods of Medford.

process for Alewife [Flynn 1994], was one forum to engage local residents. Essentially, however, this set up not a mutual problem solving scenario, but rather one of opposition. When local interests were expressed, were always in opposition to change at the fringe - if the change was development.

Further difficulties were encountered when trying to involve actual landowners within Alewife during the first planning process. Too many were small, undercapitalized compounded by the difficult economic conditions and poor job market at the time. At the same time they were confronting the beginning of the structural change in the manufacturing sector affecting some of their businesses. [Dame 1994] More recently at Alewife, businesses have tended to participate in the planning process - particularly owners of marginally industrial operations or those whose businesses were clearly in transition. For many of the land owners in the industrial quadrangle for example, virtually all of the infrastructure improvements made or planned by the city will serve to increase the value of their property. [Wilson, 1994]

However, the very geographic definition of edge sites suggests that there are constituencies from at least two communities. This was evident in the earliest public planning at Alewife, with Cambridge Belmont and Arlington all granted the power to address the unhealthy conditions at Alewife. Medford and the town to its north, Malden have jointly sponsored a development plan for the 100 acre industrial tract north of the Wellington T-station. [Cecil and Rizvi, Inc., 1993] Planners in West Roxbury have applied for grants to establish coordinated development policies with Dedham. The objective was to jointly address the nature of strip development moving north from Route 1 to the transitional district near Cow Island Pond. [Wall 1994]

However, the most fundamental change has been the scale of the latest constituency, the region. As connections to a regional transportation network have been improved, much of the infrastructure in Wellington and Alewife,

serves a regional purpose. The rational planning that resulted in proposed improvements to the roadway system was based on a regional analysis of demand. However, unless this constituency works at these sites, the result is constituency that is concerned only with minimizing time spent in the fringe area.

### **Poor Precedents**

Yet another issue frustrating planning at the fringe is that past efforts have demonstrably failed, or at the very least not had much of an impact. The lack of a clear cut constituency in planning for the fringe, has contributed to a set of muddy redevelopment objectives. The failure to effectively pre-plan for these areas has lead to a reactive planning on a by project basis, such as in the case of the Home Depot development. This results in a forfeiture of the opportunity to step back and evaluate the redevelopment of these transitional sites in depth.

## **CHAPTER FIVE**

### **CONCLUSION**

The initial questions addressed by this thesis were: what has lead to the formation of certain fringe sites on the edges of older cities?; and, why are they so unresponsive to planning efforts? An investigation of the development of Alewife, Wellington and the VFW Parkway sites revealed a similar history and a similar development pattern, although the sites differed in size and the scale of particular uses. What was also made clear is the similar process these sites are undergoing as they transition away from early urban fringe uses towards more suburban-scaled uses.

The key to this similarity lies in a dominant and interrelated set of issues which appear at every site. The early natural structure of the sites clearly established that the sites would always be interstitial, transitional areas between points of more intense development; the natural structure virtually pre-ordained the history of the subsequent development at these sites. The arrival of transportation, first freight rail, then parkways, and finally a position in a regional roadway or transit network further shaped these sites as conduits or destinations. Urban form, responding to changing access and market demands on the site, has evolved in an ad hoc manner. Now these sites are undergoing an image change - from messy urban fringe district to new gateway or destination. Finally, as the sites change in orientation, they go from being effectively unclaimed districts, to those which have a constituency much broader than the local city.

#### **AN EDGE SPECIFIC APPROACH**

The above issues establish a typology which is defined by these sites and which shapes a new approach to planning specifically for these old edge sites. Proposed below are four points around which a site specific planning effort can be structured.



*1. An Edge Model* A new planning strategy must first acknowledge the otherness of these sites. They are not local nor are they specifically regional - they are somewhere inbetween. Planning paradigms which rely on placing these edge sites wholly into either one of these two geographic categories will fail.

The sites are clearly not claimed by a local constituency. Interviews point out that very few local residents actually have a connection with the edge zone, especially as jobs once located there have diminished. Thus, engendering local support has been difficult in recent planning attempts. Nor have planners been successful with redevelopment plans attempting to transform these areas into regional centers. Both Alewife and Wellington have been the subject of plans envisioning these areas as regional employment nodes, due to their transportation infrastructure. Whether Alewife, for example, is actually competitive with truly regional "edge city" sites such as Framingham or Burlington is doubtful.

If the edge zone is generating a constituency at all it is evident in the scale of the market targeted by the value retailers locating at, and revitalizing portions of, these sites - Home Depot in West Roxbury, the food retailers in the Wellington area, and the retailers in the Fresh Pond Shopping Mall. This developing land use offers a clue to the new geographic scale or impact of these sites. Volume discounters, while aesthetically less than desirable, are targeting a market which is not local and not regional, but usually includes the communities surrounding these sites. This "multi-local" entity may be the appropriate scale for planning at these old edge sites.

## *2. Reconnecting nature - looking to the past to shape the future*

Acknowledging the continued presence of the principal ecological determinants which relegated these sites to fringe use in the first place, is crucial in fashioning an edge site-specific planning model. The natural

components on these sites, generally an edge along a river or an isolated patch of wetlands landscape which exist or which can be reconstructed, offer an opportunity to establish a new basis for urban development which is entirely place specific.

At a macro-scale, metropolitan Boston remains punctuated by these transitional edge sites. A potential regional network could be illuminated by plotting the areas which have both similar natural characteristics and a similar pattern of land use as the three sites examined. Mapping the presence of these twin characteristics would define a geographic band linked together by roadways or rivers. Certainly, maintaining the parkway system to reinforce this linkage through these old urban edge sites is essential.

Collectively these sites offer a tremendous opportunity to recapture land, perhaps not in its pre-settlement state, but in some capacity as open space. Inadvertently, these sites provide an opportunity for functions which might take place at naturally occurring spatial intervals. For example, while they serve as naturally occurring flood plains or provide ground water recharge, they may also be regularly spaced pockets for non-natural elements, such as transitional spaces for start-up businesses occurring in planned clusters through-out the region. Coordination of development at these edges can be based on a model similar to the regionwide transportation criteria applied by the MAPC to individual development sites, whereby a system-wide view of the impacts of specific development to natural systems is possible.

The concept of looking to the landscape to give structure to urban planning is not new. MacKaye and Morrish both view the natural structure of the landscape as providing a framework for development. Fifty years ago, MacKaye saw in the specific natural landscape of the Boston area inherent development "levees" - or natural occurring valves regulating the spread of urban development. These included swamps and valleys along streams and

rivers providing a physical break between urban areas and traversed by connecting parkways. [MacKaye 1928] Morrish, while not viewing natural areas specifically as greenbelts, does envision an ecological guide to the location of urban development. He bases redevelopment planning of urban sites on the natural structure of the landscape which either exists in remnant form or which he can reconstruct.

**3. *Do not focus on complete transformation*** All of the sites examined in this thesis are experiencing a transition in use which is accompanied by a transformation of urban form. Confronted with changing land use and growing underutilized land, the usual approach for has been to plan for complete transformation of these districts. Even when the actual development proposed is smaller, as in the gateway projects for Cambridge and Medford, the objective has been to set the tone for a wholesale image change.

Planning and urban design for these sites has relied on a paradigm which could just as well be used in other parts of the city. For example, early urban design plans for Alewife were remarkably similar to the redevelopment plans for East Cambridge. The same elements were used to indicate renewal - terraces, canals, festival marketplaces, etc. [Figures 37, 38] While this similarity may be attributed to accepted "good design", it committed Alewife to being viewed as a bookend to the city, part of a matched pair. Although both areas were characterized as declining industrial areas, most conditions at the site - location, access, regional role - were quite different. The result is that the distinctiveness of Alewife was obscured in the planning process.

The hyperbole touting large scale redevelopment results from the institutional mindset underlying the cities' views of these transitional sites. Each of these sites is discussed in planning documents as an economic resource, particularly in terms of tax revenues. Both Alewife plans, Medford's Redevelopment

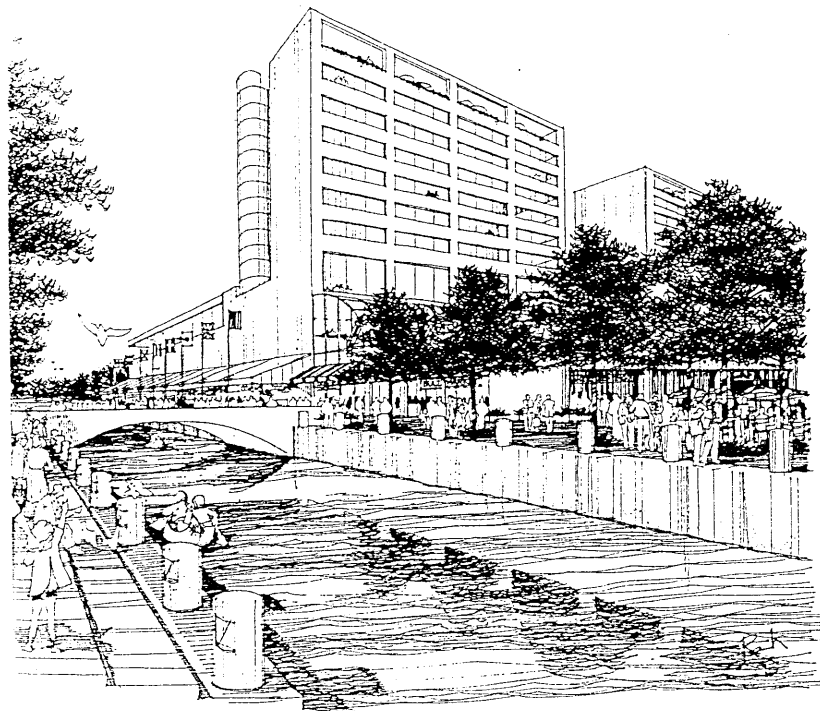
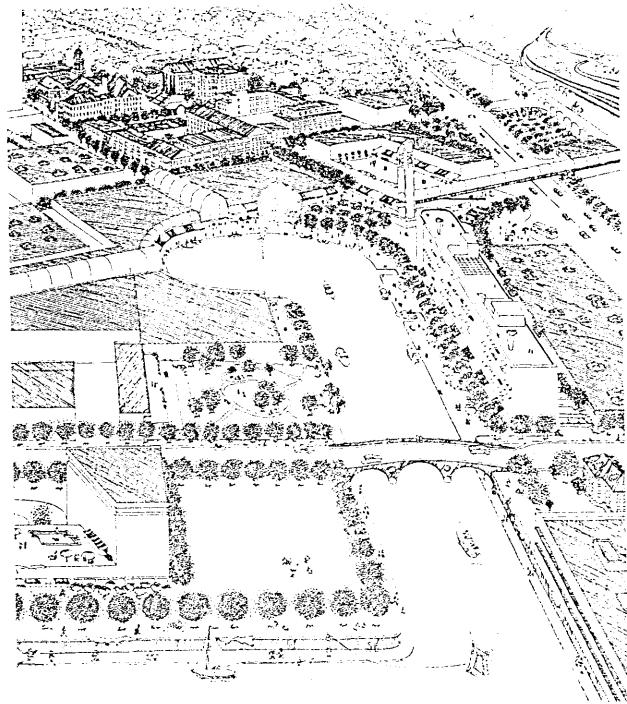


Figure 37 The kit of redevelopment parts at East Cambridge...  
Figure 38 ...and at Alewife

Strategy, even the BRA's planning and zoning guidelines acknowledge the development value of these sites. Public expectations are further fanned with newspaper headlines such as " a new face for Wellington Circle" [Yudis, 1987] This outlook is reinforced by the cities' views of the uses contained on these sites. For example, both Cambridge and Medford felt that these old edge sites met federal urban renewal criteria for economically and physically blighted areas. [Di Lorenzo Popp, Dame] All three cities viewed the drive-in parcels as underutilized and unsightly. Essentially these cities dismissed the aesthetic appeal of individual existing uses and most of their practical appeal as well.

Particularly as cities are constrained by limited funding availability, and limited leverage over developers, the planning effort at these sites has been skewed further towards being market reactive. Planning has become used to a new pragmatism, based increasingly on a process learned in the eighties and thus limited by the politics and economics of the feasible. [Kivell] This has focused cities, when they do plan, on the foreground, the urban forms and land uses immediately saleable. The result has been a shortsightedness to the unique qualities and opportunities at these transitional edge sites.

**4. *Maintaining areas of Transition*** Applying pre-planned large scale solutions to these sites establishes a new development baseline, effectively denying the transitional past or future of these edge sites. It is useful to look at underlying market forces which are propelling this transition at the edge to determine whether the fringe district really can be planned out of existence. As the orientation of these sites has changed, their function is less locally driven. While there is a declining need for manufacturing space, a need persists for areas within a city which can accommodate uses scaled differently than the surrounding fabric - strip malls, warehouses, bulk shopping, etc. Most of these uses require the relatively cheap land which is still present at the old urban edge. Given the experience of the three sites investigated in

this thesis, it appears unlikely that an entire transformation of the urban fringe area at the edge of older cities is possible or even desirable.

As a planning tool, then, cities recognizing these areas at their edges, should establish a transitional land use district similar to any other land use category. This requires two changes. First, it requires acceptance both on the part of planners and the public that these districts are a viable and necessary component of a city's fabric. These districts, whether large or small must be defined and their purpose conveyed. For example, each of the sites has the ability to teach us about the local chronology of development. They could all be a sort of "educative" landscape according to Michael Southworth, and recapture the expressiveness of their past fringe and industrial uses.

[Southworth 1992] Compared to new suburban edge development, these sites also have a spatial advantage. They are within an older urban context and tend to be surrounded by urban land uses usually at a fine enough grain to effectively define an edge or boundary. Alternately, they have a boundary which is naturally occurring, such as a river or marsh. [Lozano 1990] Rather than perceiving a boundary as negative, it can be used to delineate transitional areas and thus can be used to further convey identity. A continued working fringe district - malleable and transitional - could be defined.

The second important change is that a city adopt performance standards for transitional land use districts. This action would establish criteria which, while allowing flexibility of land use characteristic of vital fringe districts, reflect planning priorities. Since the landscape structure has been identified as a principal asset of these sites, reestablishment of the natural systems to the greatest extent throughout these districts must serve as the organizational basis of these criteria. In order to achieve this, for example, an "open space bank" could be established allowing development credits for reconstruction of wetlands. Additional criteria such as establishing limits on the number of

automobile trips generated by particular land use, the extent of impervious surface relative to the amount of landscaped area, building volume to site area, etc. are also necessary. Through performance criteria it is also possible address Rowe's observations on the low ratio of public and private spaces which result from auto-oriented uses, by establishing a desired ratio. [Rowe 1991] But beyond these sensitized planning objectives, the criteria should stop short of design guidelines.

### **Summary**

This thesis has explored the structure underlying the current or impending changes in urban form at several old urban edge sites. Too often these transitional edge districts are overlooked as places of value and potential in the urban landscape; their urban history and function are not clearly acknowledged. Typically their unique scale and orientation has been obscured by planning models which fail to incorporate the unique set of issues which characterize these edge sites.

As these sites transition away from past uses, they are susceptible to new criteria. Recognizing and identifying these transitional edge sites is an important first step both for local communities and the greater urban region in effecting land use planning which is truly site-sensitive.

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## **Lectures**

Deakin, Elizabeth. University of California - Berkeley. Lecture at MIT Department of Urban Studies and Planning. December 13, 1993

Morrish, William. Lecture in the American Landscape Series, at the Graduate School of Design, Harvard University, April 26, 1994.

## **Interviews**

### **Alewife**

Chris Dame, former Project Manager, Cambridge Community Development, February 1994

Mary Flynn, Assistant Director, Cambridge Community Development, March 1994

Jeanne Strain, Director of Economic Development, Cambridge Community Development, February, 1994.

Richard Easler, Cambridge Community Development, February, 1994.

Alex Strycky, Cambridge Conservation Commission, March 1994.

Al Wilson, President A.O. Wilson, February, 1994

Carolyn Mieth, Vice Chair, Cambridge Planning Board, April 1994

### **Wellington**

Lauren di Lorenzo Popp, Director, Medford Office of Community Development, March 1994

Kent Stasiowsky, Planner, MAPC, February 1994

Dr. Ed Valeriani, Director, Medford Historical Society, March 1994

### **VFW Parkway**

Cindy Wall, Former West Roxbury Neighborhood Planner, Boston Redevelopment Authority, March 1994

Natalie Bouvet, West Roxbury Neighborhood Planner, Boston Redevelopment Authority, March 1994

Tom Maistros, Project Manager, Boston Redevelopment Authority, March 1994.

Ruth Bonsignore, Vanasse, Hangen Brustlin, March 1994.

### **General**

John Krajovic, Planner, Alewife and the Charles River Basin, MDC, March 1994

Fred Salvucci, Former Massachusetts Secretary of Transportation, December 1993

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