Cambridge Institutional Growth Management Plan

Cambridge
Community
Development
Department

6

Cambridge Institutional Growth Management Plan

Cambridge Community Development Department May, 1981

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Introduction

Cambridge Community Development Department (May, 1981)

Introduction

Chapter 565 of the Acts of 1979 authorized Cambridge to impose use restrictions on the use of land for religious and educational purposes in residentially zoned districts requiring at least 1200 square feet of lot area per dwelling unit. In 1980, Chapter 387 of the Acts of the General Court, additional home rule legislation, extended this authority to apply to Harvard University, exempted from the original law. Cambridge thus became the first community in Massachusetts to be granted the power to directly regulate institutional growth.

The Community Development Department has been working for the past two years on a proposal to implement the authority of the home rule legislation. The Cambridge Institutional Growth Management Plan documents the Department's work and introduces the strategy for managing institutional growth as it evolved through the initial research and planning period.

In addition to the items included in this plan, the Department assembled an Institutional Inventory (dated September, 1980 and revised April, 1981) and prepared an Institutional Use Map (1"=400') based on that inventory. The inventory and map are on file at the Community Development Department.

Home Rule Legislation

Chapter 565 of the Acts of 1979
Chapter 387 of the Acts of 1980

Cambridge Community Development Department (May, 1981)

H 6594

Chapter 565.

THE COMMONWEALTH OF MASSACHUSETTS

In the Year One Thousand Nine Hundred and Seventy-nine

AN ACT RELATIVE TO USE OF CERTAIN LAND IN THE CITY OF CAMBRIDGE WITHIN RESIDENTIAL DISTRICTS.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Notwithstanding the provisions of section three of chapter forty A of the General Laws, the city of Cambridge is hereby authorized to regulate and restrict the use of land or structures for religious purposes or for educational purposes on land owned or leased by a religious sect or denomination, or by a nonprofit educational corporation within all residentially zoned districts which require a lot area of one thousand two hundred square feet or more per dwelling unit.

SECTION 2. The provisions of section one of this act shall not apply to land or structures owned or controlled by Harvard College.

Approved August 21, 1979.

THE COMMONWEALTH OF MASSACHUSETTS

Advance Copy 1980 Acts and Resolves

MICHAEL JOSEPH CONNOLLY, State Secretary

Chap. 387. REPEALING THE EXEMPTION OF HARVARD COLLEGE FROM THE LAW RELATIVE TO USE OF CERTAIN LAND IN THE CITY OF CAMBRIDGE WITHIN RESIDENTIAL DISTRICTS.

Be it enacted, etc., as follows:

SECTION 1. Section two of chapter five hundred and sixty-five of the acts of nineteen hundred and seventy-nine is hereby repealed.

SECTION 2. This act shall take effect upon its passage.

Approved July 6, 1980

Institutional Land Use Evaluation Attributes

Cambridge Community Development Department (October, 1980)

CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT
City Hall Annex - Inman & Broadway - Cambridge, Mass. 02139

498-9034

INSTITUTIONAL LAND USE EVALUATION ATTRIBUTES

October 1, 1980

Each category of institutional use has been evaluated according to thirty-two attributes. These attributes describe the character of the use,its associated activity patterns, its physical form and its customary users. On the evaluation matrix, each cell contains a positive, negative or neutral score. If an attribute for a use is similar to or beneficial for residential uses in lower density residential neighborhoods, it has been assigned a positive score; if it is dissimilar then it is assigned a negative score. Attributes that are not applicable to a particular use (such as living arrangements in an athletic facility) or that are not particularly positive or negative are given a neutral score. Looking at the scores of all thirty-two attributes gives an indication of the similarity or compatibility of the institutional use with neighborhood residential uses. Comparing the relative compatibility/incompatibility of the various institutional uses suggests possible use regulations for institutional zoning controls.

A word of caution is in order. This matrix evaluation system appears more scientific than it actually is. The score in each cell is, for the most part, represents qualitative assessment of the nature of the attribute of an institutional use. Furthermore, the relative importance of the attributes has not been weighed. For example, the scores for total daily population and waste disposal requirements have the same range, +2 (very positive) to -2 (very negative). In short, this system should be treated as an organized framework for thinking about and qualitatively judging the compatibility of institutional uses with residential neighborhoods, not an empirical tool to precisely measure which uses are right for a neighborhood and which ones are wrong.

The thirty-two criteria are organized into categories as outlined below.

A. INTENSITY OF USE (persons or vehicles per 1000 s.f.)

1. Peak instant population
2. Total daily population
3. Average daily population
4. Daily auto generation

Considerably higher than residential uses: -2
Somewhat higher than residential uses: -1
Roughly equivalent to residential uses: 0
Somewhat lower than residential uses: +1
Considerably lower than residential uses: +2

B. NATURE OF USE

1. Hours of use

a - customary business hours (9-5) -1
b - extended business hours (9AM - 10PM) -1
c - evenings only -1
d - 24 hours 0

2. Temporal use pattern

a - even, little variation 0
b - pronounced peaks -1
c - substantial peaks -2

3. Degree of outdoor activity

a - none +1
b - low level intermittent (low=unorganized, passive) 0
c - low level regular -1
d - high level intermittent -2
e - high level regular -2

4. Existing use restrictions

a - allowed 0
b - conditionally allowed -1
c - prohibited -2

C. USER CHARACTERISTICS

1. Age characteristics *

a - all ages 0
b - young children (up to 12 years) 0
c - older children -1
d - young adults (18-24 years) -1
e - adults -1
f - elderly 0

* Housing, the primary use in residential neighborhoods, is customarily inhabited by persons of all ages. Facilities for young children and elderly people are also quite common in such neighborhoods. Uses primarily catering to those three groups are considered to have negligible impact. Land uses which are primarily used by other groups are different from those customarily found in neighborhoods and are therefore considered to have a slight negative impact.

2. Diversity

a - heterogeneous use population 0
b - homogeneous use population -1

3. Residential living arrangements

a - not applicable 0
b - family 0
c - non-family/group with custodial supervision -2
d - non-family/group without custodial supervision -1

C. PARCEL PHYSICAL CHARACTERISTICS*

1. Existing zoning restrictions

a - allowed use 0
b - conditionally allowed use -1
c - prohibited use -2
d - unclear -1

2. Customary building form

a - residential +1
b - inistitutional -1
c - commercial -2
d - industrial -2
e - flexible, use may be accommodated in a residential structure 0
f - customarily no building 0

3. Site plan compatibility with residential setting

a - inherently compatible +1
b - may be comfortably accommodated in a residential setting 0
c - inherently incompatible with a residential setting -1

4. Signs

5. External lighting

D. ACTIVITY IMPACTS*

1. Noise generation
2. Communication interference
3. Hazardous activities (including presence of controlled substances)
4. External lighting

* Scoring Codes

Substantial adverse impact: (-2)
Slight adverse impact: (-1)
Negligible impact: 0
Slight positive impact: (+1)
Substantial positive impact: (+2)

5. Inducement to loitering
6. Other nuisance (smoke, dust, odor)
7. Off-street parking demand
   a - higher than customary residential uses
   b - comparable to customary residential uses
   c - lower than customary residential uses
8. Waste disposal requirements
9. Special property maintenance requirements
10. Special security needs
11. Delivery/disbursement demands
12. Activity likely to occupy and displace exciting residential units

E. GENERAL IMPLICATIONS FOR NEIGHBORHOOD CHANGE*

1. Impact on residential property values
2. Propensity for attracting other non-residential uses or activities
3. Accessibility to neighborhood residents
   a - facility customarily used by residents
   b - facility occasionally used by residents
   c - facility rarely or never used by residents
4. Enhancement of residential desirability
   a - open space or recreational benefit
   b - sucurity benefit
   c - other benefit

* Scoring Codes

Substantial adverse impact:	(-2)
Slight adverse impact:	(-1)
Negligible impact:	0
Slight positive impact:	(+1)
Substantial positive impact:	(+2)

Use Evaluation and Designation

Cambridge Community Development Department (October 15, 1980)

CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT
City Hall Annex - Inman & Broadway - Cambridge, Mass. 02139

498-9034

October 14, 1980

USE EVALUATION AND DESIGNATION

October 15, 1980

The following table summarizes the attribute scores for each of the institutional uses as determined by the Use Evaluation Matrix (10/15/80). The forty-eight use categories are listed and grouped in order of increasing negative impact. This ranking begins to suggest possible use regulations. Uses which are determined to have few if any negative impacts would be allowed in the Res. A-1, A-2, B and C districts ("Yes" in the third column). Uses with somewhat greater number of negative impacts would require a special permit ("SP"). Uses which are expected to have a large number of negative impacts would be prohibited ("No").

In addition to the basic use table regulations, special zoning regulations may have to be developed for some uses. For instance, some of the use categories will need clear definitions (e.g. "cultural and ethnic heritage appreciation facility"). Other uses might be divided into subcategories (e.g. spectator and non-spectator oriented college athletic facilities). Another type of special regulation would be intensity limits for certain allowed or conditionally allowed uses. Finally, there might be restrictions on conversion of existing dwellings to allowed institutional uses. The fourth column in the table indicates which uses might be subject to such special regulations.

INSTITUTIONAL USE	SCORE	USE DESIGNATION	USE REGULATIONS
Group 1 (+7 to -5)			
Cemetery	+7	Yes	
College/University family housing (faculty, married student)	+6	Yes	
Rectory, parsorage	0	Yes	
Public Parks and Playgrounds	-1	Yes	
Place of worship	-3	Yes	Res. Conv., intensity limit
Convent, monastery	-3	Yes	Intensity limit Res Conv., Intensity limit
Ethnic and cultural heritage appreciation	-3	Yes	Res. Conv., Intensity, definition
Pre-school, day care, kindergarten	-5	Yes	Res. Conv., intensity
Group 2 (-6 to -10)			
Religious affiliated recreational facility	-7	SP	
College/university affiliated museum	-8	SP	Intensity limit
Community residence	-8	SP	Mgt. Prog.
Public library	-8	SP	
Museum, gallery	-8	SP	Intensity limit
Other institutional use	-8	SP	Intensity limit
Social service center	-9	SP	
College/university administrative Offices	-10	SP	Intensity limit
Group 3 (-11 to -15)			
Primary school	-11	No	
University/college library	-12	No	
College/University faculty offices	-12	No	
Other non-commercial research	-12	No	
Nursing Home, convalesient home	-12	No	
Fire, police station	-12	No	
Private library, study ctr.	-12	No	
Infirmary	-13	No	
Community Center clinic	-13	No	
Fraternal meeting facilities	-13	No	
Vocational or special school	-14	No	
Unaffiliated clinic	-14	No	
Other outpatient clinic	-15	No	
Group 4 (-16 to -20)			
University research (non-science)	-16	No	
Hospital or med school clinic	-16	No	
College teaching facilities	-19	No	

Group 4 continued

Dormitories	-19	No	
Higher education support facilities	-19	No	Definition
Secondary school	-19	No	
College dining hall	-20	No	
Fraternity, sorority	-20	No	
Community center	-20	No	
Government Office	-20	No	
Non-commercial recreation	-20	No	

Group 5 (-21 to -30)

College/university theater or auditorium	-21	No	
Science oriented non-commercial research	-21	No	Definition
College athletic facility	-22	No	Definition
Municipal service facility	-24	No	
College/university science research	-26	No	
Hospital	-26	No	
College/university laboratories	-28	No	

Use Evaluation Matrix

Cambridge Community Development Department (October 15, 1980)

USE EVALUATION MATRIX

INSTITUTIONAL USES	INTENSITY				USE PATTERN				USERS			PARCEL				ACTIVITY											OTHER				
	PEAK INSTANT POPULATION	TOTAL DAILY POPULATION	AVERAGE DAILY POPULATION	DAILY AUTO TRIPS GENERATED	HOURS OF USE	TEMPORAL USE PATTERN	DEGREE OF OUTDOOR ACTIVITY	EXISTING USE RESTRICTIONS	USER AGE CHARACTERISTICS	DIVERSITY	RESI. LIVING ARRANGEMENTS	CUSTOMARY BUILDING FORM	SITE PLAN COMPATIBILITY	SIGNS	LIGHTING	NOISE GENERATION	COMMUNICATIONS INTERFERENCE	HAZARD POTENTIAL	INDUCEMENT TO LOITERING	OTHER NUISANCE	OFF-STREET PARKING	WASTE DISPOSAL	MAINTENANCE PROBLEMS	SECURITY NEEDS	MONEY/MANAGEMENT DEMANDS	RESIDENTIAL DISPLACEMENT	PROPERTY VALUE IMPACT	USE ATTRACTION PROPENSITY	RESIDENT ACCESSIBILITY	NEIGHBORHOOD ENHANCEMENT	SCORE
RELIGIOUS USES																															
PLACE OF WORSHIP	-1	0	+2	+2	-1	-2	+1	0	0	0	0	0	0	0	0	1	0	0	0	0	-1	0	0	0	0	-2	0	-1	-1	0	-3
RECTORY / PARSONAGE	0	0	0	0	0	0	0	0	0	0	0	+1	+1	0	0	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	0	0
CONVENT / MONASTERY	0	0	0	0	0	0	0	0	-1	-1	-1	+1	+1	0	0	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	0	-3
SOCIAL / RECREATION CENTER	0	-2	+2	+2	-1	-1	-1	0	0	0	0	-1	0	0	-1	-2	0	0	-1	0	-1	-1	0	-1	0	0	0	0	-1	-1	-7
OTHER RELIGIOUS USE	+1	-1	0	0	-1	0	+1	0	0	0	0	-1	0	0	0	1	0	0	0	0	0	0	0	0	0	-1	0	0	-1	0	-3
PRIMARY-SECONDARY EDUCATION																															
PRE-SCHOOL, DAYCARE CENTER, KINDERGARTEN	-2	-2	0	+2	-1	-1	-1	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	-1	0	0	0	-2	+1	0	-2	-1	-5
PRIMARY SCHOOL	-2	-2	0	+2	-1	-1	-1	0	0	0	0	-1	-1	0	-1	-1	0	0	-1	0	0	1	-1	-2	-1	0	+1	0	-2	-1	-11
SECONDARY SCHOOL	-2	-2	0	+2	-1	-1	-2	0	-1	0	-1	-1	-1	-1	-2	-2	0	0	-2	-1	0	-1	-1	-2	-1	0	+1	-1	-2	-1	-20
HIGHER EDUCATION																															
ADMINISTRATIVE OFFICES	-1	-2	+1	+1	-1	-1	+1	0	0	-1	0	0	0	0	0	-1	0	0	0	0	0	-1	0	-1	-1	-2	0	-1	0	0	-10
FACULTY, STAFF OFFICES	-1	-2	+1	+1	-1	-1	+1	0	-1	-1	0	0	0	0	0	-1	0	0	0	0	0	-1	0	-1	-1	-2	0	-2	0	0	-12
TEACHING FACILITIES	-2	-2	-2	0	-1	-1	0	0	-1	-1	0	0	0	0	-1	-1	0	0	0	0	0	-1	-1	-1	-1	-1	0	-2	0	0	-19
RESEARCH FACILITIES																															
LABORATORIES	-2	-2	-2	+1	0	-1	0	0	-1	-1	0	-1	-1	-1	-1	-2	-2	-2	0	-2	0	-2	-1	-2	-1	0	-1	-1	0	0	-28
OTHER PHYSICAL SCIENCE	-2	-2	-2	+1	-1	-1	0	0	-1	-1	0	-1	-1	-1	-1	-2	-2	-1	0	-1	0	-1	-1	-2	-1	0	-1	-1	0	0	-26
SOCIAL OR APPLIED SCIENCE	-2	-2	-2	+1	-1	-1	+1	0	-1	-1	0	0	0	0	0	0	0	0	0	0	0	-1	-1	-2	-1	-1	-1	-1	0	0	-16
LIBRARY	-2	-2	-2	0	-1	-1	+1	0	-1	0	0	-1	-1	0	0	+1	0	0	-1	0	-1	-1	0	-1	-1	0	0	0	+1	+1	-12
DORMITORIES	-2	-1	-1	+1	0	0	-1	-2	-1	-1	-2	0	+1	-1	0	-2	0	0	0	-1	0	-1	-1	0	0	-2	-1	-1	0	0	-19
FRATERNITIES / SORORITIES	-2	-1	-1	+1	0	0	-1	-2	-1	-1	-2	0	+1	-1	0	-2	0	0	0	-1	0	-1	-1	0	0	-2	-2	0	0	0	-20
DINING HALLS, ETC.	-2	-2	-2	0	-1	-2	0	-2	-1	-1	0	-1	0	0	0	-1	0	0	0	-1	0	-2	-1	0	-2	0	-1	0	0	0	-20
ATHLETIC FACILITIES	-2	-2	+2	+2	-1	-2	-2	-2	-1	0	0	-1	-1	-1	-1	-2	0	-1	-1	-1	-1	-2	-1	-2	-1	0	0	0	+1	+1	-22
MUSEUMS	-2	-2	-1	+1	-1	0	+1	-1	0	0	0	-1	-1	-1	-1	+1	0	0	0	0	-1	0	0	-2	-1	0	0	0	+2	+2	-8
THEATRES / AUDITORIUMS	-2	-2	-2	-2	-1	-2	+1	-2	0	0	0	-1	-1	-2	-2	-1	0	0	0	-1	-1	0	-1	-1	0	0	0	0	+1	+1	-21
SUPPORT AND ANCILLARY USES	-2	-2	+1	-2	0	-1	0	0	-1	-1	0	-2	-1	-1	-1	0	0	-1	0	-1	0	-1	-1	-1	-1	0	0	0	0	0	-19
VOCATIONAL OR SPECIAL SCHOOLS	-2	-2	0	+2	-1	-1	0	-2	-1	-1	0	0	0	-1	0	-1	0	0	0	0	-1	-1	0	-1	-1	-2	0	0	+1	+1	-14
NON-COMMERCIAL RESEARCH																															
RESEARCH INSTITUTE (SCIENCE ORIENT.)	-2	-2	-1	-1	-1	-1	+1	0	-1	-1	0	0	0	0	0	-1	-1	-2	0	-2	-1	-2	-1	-2	-1	-1	0	0	0	0	-21
PRIVATE LIBRARY OR STUDY CENTRE	-2	-2	-2	0	-1	-1	+1	0	-1	-1	0	0	0	0	0	+1	0	0	0	0	-1	-1	0	-1	-1	0	0	0	-1	0	-13
OTHER RESEARCH (OFFICE BASED)	-1	-2	-1	-1	-1	-1	+1	0	-1	-1	0	0	0	0	0	0	0	0	0	0	-1	-1	0	-1	-1	2	0	0	0	0	-12
HEALTH CARE FACILITIES																															
HOSPITAL	-2	-2	-2	-2	0	-1	+1	-2	0	0	-1	-2	-1	-1	-2	-1	0	-1	0	-1	-1	2	-1	-1	-2	0	-1	-2	-1	-1	-26
INFIRMARY	-2	-2	-2	0	0	0	+1	-2	-1	-1	-1	0	0	0	0	0	0	0	0	0	0	-1	0	0	-1	-1	0	0	0	0	-13
NURSING / CONVALESCENT HOME	-1	-1	-1	+1	0	0	0	-2	-1	-1	-1	0	0	0	0	0	0	-1	0	0	-1	-1	0	0	-1	-1	0	0	0	0	-12
UNAFFILIATED CLINIC	-2	-2	-1	-1	-1	0	+1	-2	0	0	0	-2	-1	0	-1	0	0	0	0	0	-1	-1	0	0	-1	-1	0	0	0	0	-14
HOSPITAL OR MED SCHOOL CLINIC	-2	-2	-2	-1	-1	-1	+1	-2	0	0	0	-2	-1	0	-1	0	0	0	0	0	-1	-1	0	0	-1	-1	0	0	-1	-1	-16
COMMUNITY CENTER CLINIC	-2	-2	-1	-1	-1	-1	+1	-2	0	0	0	-1	-1	0	-1	0	0	0	0	0	-1	-1	0	0	-1	-1	0	0	-2	-1	-13
OTHER OUT-PATIENT CARE	-2	-2	-1	-1	-1	-1	+1	-2	0	0	0	-2	-1	0	-1	0	0	0	0	0	-1	-1	0	0	-1	-1	0	0	-1	-1	-15
SOCIAL SERVICE FACILITIES																															
SOCIAL SERVICE CENTER	-2	-2	-2	+1	-1	0	+1	-1	0	-1	0	0	0	0	0	0	0	0	-1	0	-1	0	0	0	0	-1	0	0	+1	0	-9
COMMUNITY CENTER	-2	-2	-2	+1	-1	0	-1	-1	0	0	0	-1	-1	-1	-1	-1	0	0	-2	-1	-1	-2	-2	-1	-1	0	-1	0	+2	+2	-20
COMMUNITY RESIDENCE	0	0	0	0	0	0	0	-1	-1	-1	0	+1	+1	0	0	-1	0	0	0	0	0	0	0	-2	0	-2	-2	0	0	0	-8
MUNICIPAL GOVERNMENT																															
ADMINISTRATIVE OFFICES	-2	-2	-1	-1	-1	-1	-1	-2	-1	0	0	-1	-1	-1	0	-1	0	0	0	0	-2	-1	0	-1	-1	0	-1	-1	+1	0	-20
FIRE, POLICE STATIONS	-2	-2	-1	-1	0	0	0	0	-1	-1	0	-1	-1	0	-1	-2	0	0	0	0	-1	0	0	0	0	0	+1	0	0	+1	-12
LIBRARIES	-2	-2	-2	-2	-1	0	+1	-1	0	0	0	-1	0	0	0	0	0	0	-1	0	-1	-1	0	0	0	0	+2	0	+2	+1	-8
MUNICIPAL SERVICE FACILITIES	-2	-2	+1	-2	-1	-1	-1	-1	-1	-1	0	-2	-1	-1	-1	-2	0	0	0	-1	-1	-1	-1	-1	-1	0	0	0	0	0	-24
PARKS, PLAYGROUNDS, RECREATION	+2	+2	+2	+2	0	-2	-2	0	0	0	0	-1	+1	0	-2	-2	0	-1	-2	0	0	0	-2	-2	0	0	+2	0	+2	+2	-1
OTHER INSTITUTIONAL USES																															
FRATERNAL MEETING FACILITIES	-1	0	+2	+2	-1	-1	0	-2	-1	-1	0	-2	0	0	0	-1	0	-1	0	-1	-2	-2	-1	0	0	-1	0	0	+1	0	-13
MUSEUM, GALLERY	-2	-2	-1	+1	-1	0	+1	-1	0	0	0	-1	-1	0	0	0	0	0	0	0	-1	-1	0	0	0	0	0	0	+1	0	-8
CEMETERY	+2	+2	+2	+2	-1	0	-1	0	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	0	0	0	0	+1	0	+1	+1	-7
CULTURAL & ETHNIC HERITAGE	0	-2	+2	+2	-1	0	0	-1	0	-1	0	0	0	0	0	-1	0	0	0	0	-1	-1	0	0	0	-1	0	0	+1	+1	-3
NON-COMMERCIAL RECREATION	-2	-2	-2	-2	-1	-1	0	-2	0	0	0	-1	-1	-1	-1	-1	0	0	0	-1	-2	-1	0	0	0	-1	0	0	+1	+1	-20
OTHER INSTITUTIONAL USE	+1	-1	0	0	-1	0	0	-2	0	0	0	0	0	0	-1	-1	0	0	0	0	-1	-1	0	0	0	-1	0	0	0	+1	-8
HOUSING (OPEN MARKET OR INSTITUTIONALLY AFFILIATED FAMILY HOUSING, E.G. MIXED STUDENT, FACULTY)	0	0	0	0	0	0	0	0	0	0	0	+1	+1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+2	+2	+6

Proposed Strategy for Managing Institutional Expansion

Cambridge Community Development Department (October, 1980)

CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT
City Hall Annex - Inman & Broadway - Cambridge, Mass. 02139
498-9034

PROPOSED STRATEGY FOR MANAGING INSTITUTIONAL EXPANSION

Donald Balcom, Cambridge Community Development Department
William Collins, California State University at Chico

October 1980

INTRODUCTION

Cambridge is faced with the spread of institutional land uses into residential areas. Each year that passes finds an increasingly large share of neighborhoods converted from residential to institutional use. Growth of institutions in neighborhoods and the consequent displacement of households creates two serious problems for the City: the gradual and piecemeal erosion of the residential integrity of these areas and the reduction of the low and medium density of housing stock and sites for new housing as dwellings are demolished or converted to institutional use. Traditional neighborhoods are experiencing an incremental transition from their homogeneous residential characteristic one mixed with more intense institutional activities. The environmental and social impacts of these changes are great. This transition in neighborhood character cannot be checked by usual zoning devices regulating height, bulk, open space, etc. The traditional exemption of land uses which have some educational and religious purposes has allowed the problem to grow. Recent home rule legislation offers, for the first time, the potential for effective institutional growth management.

Chapter 565 of the Acts of 1979, as amended in 1980, gives Cambridge the authority to "regulate and restrict the use of land or structures for religious purposes on land or leased by a religious sect or denomination, or by a non-profit educational corporation within all residentially zoned districts which require a lot area of one thousand two hundred square feet or more per dwelling unit." At present this law would apply to all areas zoned Residence A-1, A-2, B or C-1. To implement this law, the Community Development Department has developed a strategy to manage the future location and intensity of institutional uses. It is a strategy that could lead to regulation of those uses through expanded use restrictions in those residential neighborhoods. The approach presented here is intended to protect and stabilize residential environments while allowing limited compatible institutional development.

It should be clearly understood that what is proposed here is an approach to new zoning controls only. The strategy does not directly deal with the numerous other institutional expansion issues which face Cambridge such as property acquisition by institutions or tax base erosion due to property accumulation by tax exempt organizations. Nor will any new zoning controls adopted under Chapter 565 apply to properties owned by the Federal, State or County governments or to land used for religious or educational purposes by any municipal agency. These and similar institutional problems, while posing serious questions for Cambridge, are beyond the scope of Chapter 565 and the proposed strategy.

Assumptions

Inherent in the control strategy are the following operational assumptions.

1. Residential environments, generally free from intrusion by land uses with different physical characteristics and activity patterns, are a valuable resource critical to the well-being of the City. They must be protected, unrestricted institutional expansion should be checked and the adverse impacts of the expansion which does occur should be minimized.

2. Institutions in Cambridge play a vital role in the economic, intellectual and social health of the City and region. Some of these institutions constitute one of Cambridge's basic industries. Like any basic industry, a certain amount of growth is to be expected and is reasonable. For the health of those institutions and the City, some growth should be accommodated.

3. Institutional and neighborhood interests should be balanced. In the areas where Chapter 565 is not applicable, institutional growth will be allowed to continue as in the past. In the four districts where new control is authorized, only institutional uses which are most compatible with residential environments should be allowed.

4. The full range of religious, educational, governmental, social service, health care and charitable/benevolent institutions should be considered in formulating the growth management strategy. Although Chapter 565 only mentions "educational and religious" purposes, several types of institutional uses are found in residential neighborhoods. New controls should be applicable to all those institutions which are subject to regulation under Chapter 565 of the Acts of 1979, as amended, and Chapter 40A of the General Laws (the state zoning act).

5. Small scale institutions, as well as large scale ones can have adverse impacts on neighborhoods.

6. Regulatory distinctions among institutional activities should be based on their physical land use attributes, not on the type, size, tenets or membership of the organization.

7. New institutional growth management controls should apply both to conversion of existing buildings and to new construction.

8. Higher density neighborhoods are more able to accommodate a mix of uses than lower density ones. However, the intensity of institutional development in residential neighborhood areas within each class of zoning district should not exceed the overall average intensity for the district except for locations where institutional uses are already dominant.

9. All else being equal, concentration of new institutional activity in areas of existing institutional development is preferable to dispersion or scattered growth of those new activities.

These assumptions were used to develop a municipal strategy to provide a fair and efficient system of institutional growth management. Official recognition and endorsement of these assumptions would clarify

and strengthen the legal basis for management. Municipal policy based on these assumptions would be intended to serve equitably the needs and interests of institutions and the inhabitants of residential neighborhoods.

NATURE OF THE STRATEGY

The type, location and intensity of institutional activity would be regulated through modifications to the Zoning Ordinance. Each institutional use proposed in one of the four applicable zoning districts will be subject to two types of review and regulation: first, whether or not the use is compatible with a low density residential neighborhood and second, whether or not development at that location would exceed a defined saturation level of institutions for that zoning district. Compatibility is based on the evaluation of several performance criteria which evaluate the potential impact of any particular use on a residential neighborhood. Activities which are likely to create negative impacts such as higher than usual traffic generation, substantially different activity patterns, noise hazard etc. would be prohibited. Institutional activities which have slight negative impacts or which provide direct positive benefits for the neighborhood would be permitted.

The second type of regulation limits the level of institutional concentration; that is, it controls dispersion of institutional uses within the targeted residential zone. Given the need for a certain amount of institutional growth, it is important to manage the distribution of that growth and to provide a fair, predictable and efficient system of allocating institutional development sites.

The existing pattern and intensity of institutional use in each of the four zoning districts should be the basis for determining whether or not new institutional uses could be accommodated. For those categories of use deemed to be compatible with a residential neighborhood, the burden of future institutional growth should be shared. Areas below the district norm for institutional dispersion could accommodate a limited amount of new development. In areas at or above the norm, no new institutional development would be permitted. In neighborhood areas where substantial institutional development has already occurred, perhaps even become the dominant activity, certain types of additional institutional use would be allowed. Such areas have developed institutional infrastructures and activity patterns that make further institutional concentration efficient and reasonable.

This strategy would be implemented by changing the use regulations in the Zoning Ordinance. Use compatibility would be determined by the Table of Use Regulations. In order to suggest changes to the use table, existing institutional activities in Cambridge have been inventoried and evaluated based on a variety of physical and operational attributes. The inventory of institutional uses is documented separately. The attribute evaluation is discussed below. Use dispersion would be controlled by new regulations defining distances and

densities for each class of zoning district which would define locations for new residentially compatible institutional uses. A concentration analysis was performed for each class of zoning district to determine measures of allowable institutional density increase. This analysis is also discussed below. If these new zoning regulations are adopted, each institutional proposal in a Residence A-1, A-2, B or C-1 district would be subject to two levels of scrutiny. One for the use compatibility and one for dispersion permissibility.

USE CONTROLS

Institutional land uses in Cambridge have been classified into six major categories: (1) Religious, (2) Educational, (3) Health Care, (4) Social Service, (5) Government, (6) Other Institutional. These six categories are further divided into subclassifications, grouped according to similarity of function and intensity of use (see Appendix A.

An inventory of institutional uses in Cambridge, organized according to this classification system, has been prepared.* Each institution is identified by name and address. Several contain a one or two word statement of function or activity describing the use. For each institution there is an indication of the nature and extent of institutional occupancy. Many institutional listings are followed by a number indicating an area in square feet (s.f.). This indicates that institutional ownership of the property it occupies and the size of the lot(s). Other institutional listings are followed by a one digit code. If such a code is found, it usually means that the institutional user leases space from a separate property owner. In a few cases the institution might own the property under a different name. The code identifies the principal use of the lot on which the institutional use is located (another institutional use, commercial/office, residential or industrial). Finally, the zoning designation of the lot on which the institutional use is located is indicated for each use.

Use Evaluation Matrix

The use evaluation matrix is a table of use characteristics referenced to each category of institutional use. It provides a framework for analyzing each type of use in terms of numerous physical and operational characteristics. It defines a set of institutional performance criteria for neighborhoods. The vertical axis lists each of the institutional use categories. The horizontal axis of the matrix lists attributes such as daily peak population, hours of operation, traffic generation, activity patterns and service requirements. A complete listing of these uses is shown in Appendix B. For each use a compatiblity/incompatibility value is estimated for each attribute.

*Cambridge Community Development Department, Institutional Inventory, September 1980

Some attributes have well documented and quantifiable values based on local research. For example, each type of use has different expected levels of daily population and automobile traffic generation per thousand square feet of floor space. Other attributes must be evaluated more subjectively. In the case of such judgemental attributes, whenever a use attribute is seen, through evaluation of local experience, to have an adverse impact on a residential neighborhood, the matrix cell is assigned a negative score. For example, an athletic facility can generate substantial traffic volumes, often with extraordinary peaks, which may be considered incompatible with customary traffic characteristics of a residential neighborhood. If a use attribute is considered to have negligible adverse impact or to have a positive impact, perhaps by providing some direct benefit to neighborhood residents such as open space, the cell is given a positive score.

By looking across the attribute scores in each row, it is possible to get a comparative measure of the compatibility of that use class with a residential zone. If the intensity of the use is high ahd negative impacts are numerous, the use is considered incompatible. Uses with low levels of activity and few negative or many positive impacts may be considered compatible. Those use types with a fairly even mix of positive and negative attributes cannot be generalized and individual proposals should be subject to separate scrutiny.

Table of Use Regulations

The use evaluation matrix may be used as the basis for constructing a revised table of use regulations for institutional uses in the Residence A-1, A-2, B and C-1 neighborhoods. The horizontal sum of impacts for each use classification will determine whether that use would be permitted as-of-right (those which are benign or positive), conditionally permitted subjec to case by case review (those with mixed attributes) or prohibited (those which are negative). The use table would be the first authority to be consulted in application for a development permit for an institutional use. If the use is prohibited, no other regulations would be applicable. If the use is allowed or conditionally allowed, further review would be undertaken to ascertain potential threat to neighborhood residential character due to excess concentration of institutional activity.

CONCENTRATION CONTROLS

The second part of the growth management strategy limits the overconcentration of institutional uses in primarily residential areas. In the proposed system, the impact of the proposed use on neighborhood institutional density is analyzed after a use is determined to be permitted or conditionally permitted. Even if a use category is deemed to be inherently compatible with residences, if a specific proposal for that use threatens the residential character of the neighborhood by excessively increasing the institutional presence, it should not be permitted. Two tools to be used for this study are the institutional land use map and the neighborhood concentration indices.

Institutional Land Use Map

The master institutional land use map illustrates, at a scale of 1" = 400', the precise location, extent and general use category of each institutional activity in Cambridge.* It is prepared on a city base map which shows property lines and buildings. The map also has a transparent zoning overlay sheet indicating district boundaries. It would include all identified institutional uses, whether or not the property is institutionally owned. This map would be the principal reference for reviewing the relative concentration or dispersion of institutional uses and the potential impact of expansion of those in any neighborhood. It will also be used as the base for concentration analysis. If this management system is adopted by the City, keeping the master institutional land use map up to date will be essential in order to maintain an accurate system for regulating the distribution of activities. Updating will entail regularly adding new institutional properties to the map and deleting ones that are vacated.

Concentration Indices

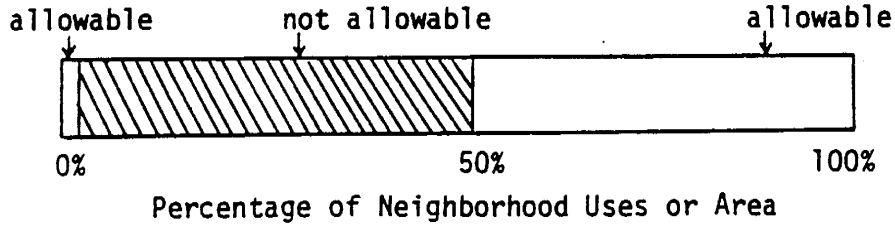
Institutional development and expansion in neighborhoods must be measured in terms of the degree to which the neighborhood can absorb them without perceivable harm to its integrity as a residential living environment. All residential areas have a tolerance for and tradition of some limited level of non-residential land use. These uses, subject to limitations on their design and operating characteristics, can co-exist with homes in a neighborhood without severe threat to neighborhood character. Three types of neighborhood conditions may be identified. First, neighborhood areas with a very low density of non-residential use are considered capable of accommodating limited institutional growth. There is an upper limit to the level of tolerable institutional use in a residential setting, however. The impact of each individual use may be negligible, but cumulatively they can change the physical character of an area. For example, a day care center may be compatible and beneficial because it provides a service to working parents in the neighborhood. Four day care centers, however, would negatively change the quality of that block as a living environment by, for example, leaving four properties empty at night. When the intensity of non-residential uses reaches a pre-determined level for each type of neighborhood (Res. A-1, A-2, B or C-1), further institutional growth should not be allowed in order to prevent further erosion of residential character. This is the second category of neighborhood condition.

*This map has not yet been prepared. Several months ago an institutional land map was prepared from data in the Cambridge Assessors' files of Fiscal Year 1980. It shows all tax exempt properties. Most of these, but not all (e.g. Cambridge Redevelopment Authority properties) are institutional land uses. The existing map also shows tax paying properties owned by large institutions such as Harvard and MIT. These are not institutional land uses. Finally, the existing map does not show institutional uses which occupy portions of tax paying property. If the approach suggested in this report is adopted a master institutional land use map would be prepared based on the 9/80 Institutional Inventory (as updated).

Third, some neighborhoods have already absorbed a very high level of institutional use. Due to long term historical aggregation at particular nodes or due to spreading in areas where neighborhoods border upon extensive institutional or other non-residential areas, the predominant neighborhood character may have shifted away from primarily residential to mixed institutional/residential or even primarily institutional use. For example, a multiple block area of homes containing a church and a school retains a residential character, but an area of similar size with half or more of its parcels occupied by institutions has unquestionably lost its primarily residential character and has acquired the character of those non-residential uses. The attributes which characterize those uses will dominate neighborhood form and activity patterns due to higher intensity activity. In such a neighborhood area, the introduction of further compatible institutional uses will not significantly damage neighborhood character. Together with prior institutional activity new institutional development in these areas would concentrate rather than disperse institutional growth.

A threshold (in terms of land area, floor area, number of uses, etc.) for such neighborhood areas should be established above which further institutional expansion, subject to use restrictions, should be allowed. Additional institutional activity in such areas have marginally less adverse impact on residential character and reasonably focus institutional growth. This focused expansion takes advantage of the efficiencies of existing institutional activity linkages and infrastructure. It also relieves the pressure for institutional expansion in more homogeneous residential areas.

In the proposed regulatory system, therefore, two concentration indices or thresholds would be established for defining neighborhood locations in which further institutional development would be allowed. One institutional use for uniformly residential neighborhood areas (as defined below) would be the maximum allowable. Furthermore, that single use could not occupy 50% or more of the land area within the defined neighborhood area (highly unlikely given the applicable areas). A minimum of 50% of land area devoted to institutional use would be required in a neighborhood area before any additional institutional use would be permitted. Therefore, residential neighborhood areas with at least one institutional use but less than 50% of the land area devoted to institutional use would be protected from further institutional development. The following graph depicts the intensity range and use allowances for neighborhood areas. An additional use would be allowed or not based on existing institutional intensity.



This approach will allow an even distribution of new institutional development across neighborhoods at very low levels (extreme left

end of scale). It would also encourage concentration in areas where existing infrastructure, activity patterns and perceived neighborhood character justify further development of such uses.

Neighborhood Impact Area Definition

Dispersion/concentration controls would be implemented using the thresholds suggested above. The applicability of such controls to particular locations depends on a defined neighborhood area on which a new institution might be expected to have a direct impact. We have called this the "neighborhood impact area." Neighborhood is a very subjective phenomenom. For the purposes of this discussion we are not referring to the 13 geographic subdivisions within Cambridge or to specific zoning districts. We are talking about the place or area which people identify as their turf. It is space perceived as an extension of the home but it is defined areally in varying dimensions by different residents. Furthermore, an individual's perception of neighborhood may vary over time for different purposes or due to different circumstances. In short, there is no one correct definition of neighborhood.

Perceived neighborhoods range in size across a community. In low density residential areas the general reuse of neighborhood will be more extensive. Neighborhood spaces are larger, building types are more homogeneous, and non-residential elements are more scattered. In higher density areas characterized by more ground coverage, smaller open spaces, more building types and greater diversity of population and activities, perceived neighborhoods are more compact. More groups are defining their "turf" and those turfs are smaller.

The size of the area of impact of a change of a given magnitude will vary depending on the number of building and activity elements in the cityscape, wider in locations with relatively few elements and narrow in places with many. To estimate neighborhood impact area size for Residence A-1, A-2, B and C-1 zoned areas, land use characteristics for those areas were studied. Sanborn Atlases, the institutional land map and other maps were investigated. Field observation of residential-institutional relationships in the four classes of zoning district was undertaken to ascertain and define average areal dimensions of possible neighborhood impact areas from place to place across the city. Of all of the possibilities considered, one of the best surrogates for neighborhood impact area definition was a measure of existing institutional density. We observed that, within the applicable zoning district, there is a fairly consistent relationship between permitted development density and frequency of institutional occurence. The relationship between number of institutions and resident population was almost constant. In part, this historical development pattern is a reflection of part zoning policies and the needs/activities of neighborhood resident populations. We have concluded that, within each class of zoning district, the neighborhood impact area for new institutional development should be related to the existing dispersion pattern of institutions in those districts. There is merit, both legally and practically, in managing future institutional expansion relative to

present levels of development rather than from some idealized lower level which existed in the past.

Using a dispersion measurement technique known as nearest neighbor analysis, the institutional density in each class of zoning district was determined by measuring the distance between each institutional neighbor within the district. Certain benign or neighborhood serving institutional uses such as cemeteries and playgrounds were not included in these calculations. A mean distance between institutions was compiled for each of the four classes of zoning districts. Institutional development at locations which are closer than the district mean distance from another institution will have a perceived impact on neighborhood character. Therefore, the neighborhood impact area has been determined to be a radial distance from any location equivalent to the mean dispersion distance for the district.

The radial distance of neighborhood impact areas in Residence A-1 districts was determined to be 520 feet. The radial distance for A-2 and B neighborhoods is 365 feet, and for C-1 neighborhoods it is 340 feet. A circle with one of the above radii circumscribed about the edge of a site proposed for institutional development should approximate the area of primary impact within the neighborhood of that use.

A proposed institutional development (permitted or conditionally permitted) would be allowed at a location within a defined neighborhood impact area if that area does not already contain an institutional use. If the impact area already contains one or more other uses, but more than half of the property in that area is institutionally occupied, that location would be allowed. This mechanism would protect residential integrity by preventing adverse impacts of variant uses. It would also encourage the concentration of new institutional growth in areas which are already intensely occupied by those uses.

Institutional Growth Management Map

The area of institutional impact circles have been applied in each of the zoning districts to determine which locations have exceeded or are below the proposed permissible level of institutional presence (one use per neighborhood impact area). The map was prepared by plotting the locus of points traced by the edge of a circle when its center was guided around the boundaries of existing institutional uses.* Four classes of institutional growth areas were designated on the resulting map.

*The existing institutional land map with its zoning overlay was used for this analysis. As discussed above, the institutional map contains some properties that it should not and excludes others. The result is illustrative only and should not be treated as a precise map of sites where institutions would be permitted or prohibited.

1. Institutional restriction areas. Where existing institutional density exceeded one per neighborhood impact area. Further institutional development would be prohibited.

2. Limited institutional growth areas. Where existing institutional density is below the norm for the zoning district and where additional institutional development would be permitted, provided that the uses proposed are compatible.

3. Institutional concentration areas. Locations where institutional activity is already concentrated (half or more of the area is devoted to institutional use) and further development would be permitted or perhaps encouraged.

4. Areas where institutional controls are not applicable.

The institutional growth management map provides an indication of where concentration/dispersal regulations of the type proposed here would be prone to prohibit or permit new institutional development. Such a map could be updated regularly and maintained as part of the institutional review process. It would not be an official zoning map overlay, however, because the boundaries of the four areas would be changed by factors exogenous to the formal zoning amendment procedure.

Exemptions for Neighborhood Serving Uses

Most institutional uses have at least some negative impacts in residential areas. These impacts are related to their use characteristics, size and locational frequency. Some institutional uses, however, have few negative impacts even when they occupy a significant proportion of a neighborhood area and may, in fact, have met positive benefits for residential environments. These uses are often neighborhood-serving uses and should be exempt from locational restriction. Exempt uses might include parks, playgrounds, tot lots and cemeteries. Certain residentially oriented institutional uses such as rectories might also be exempted. These uses should not be prohibited if their development at a given location would exceed the concentration threshold for the impact area. Furthermore, the prior existence of some of these neighborhood institutions should not negatively affect the locational viability of a neighborhood area to other institutional uses.

Institutional Scale

A significant problem in classifying activities for use restriction is that the size of a particular type of use may vary tremendously. A place of worship may have only a few members or several hundred. Thus the impact of the presence of such a use in the neighborhood increases as its scale changes. No mechanism to control for size differences has been proposed for the concentration/dispersion aspect of the growth management strategy. To do so would further complicate that regulatory process. The solution to the problem of large scale lies in the use compatibility matrix and the table of use regulations. A use type which is generally desirable in residential neighborhoods,

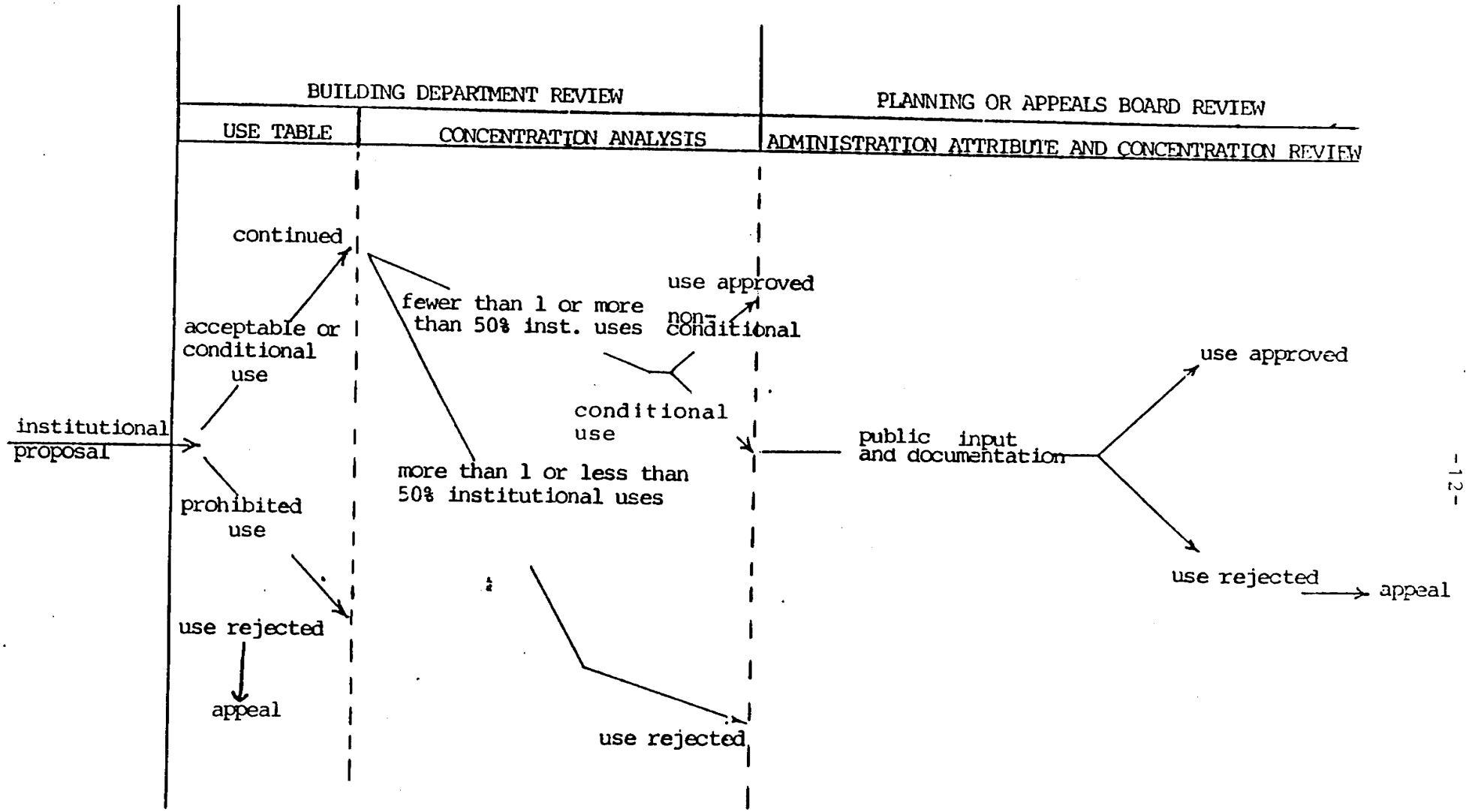
but which could have very high instant peak or total daily populations could be treated in one of two ways in the use regulations. First the use type could be designated as a conditionally permitted use and each proposal for such use would be evaluated on its own merits and on the capabilities of the proposed location. Alternatively, the table of use regulations could subdivide that use type into two or more categories based on size classifications or intensity levels, those categories being determined based on the intensity of other uses permitted in the neighborhood.

ADMINISTERING THE GROWTH MANAGEMENT PROCESS

The review of proposed institutional uses in Residence A-1, A-2, B and C-1 zoned neighborhoods would include both administrative and discretionary procedures. Application for development (whether for new construction or conversion of a new building) would be submitted to the Building Department. In that office the revised table of use regulations in the Zoning Ordinance would be consulted. The zoning enforcement officer would make a determination if the use is allowed, prohibited or requires a special permit. If it is a prohibited use, the applicant is so informed and no further review need be done unless a petition for a use variance is filed with the Board of Appeals.

If the use is allowed or conditionally permitted, the second ministerial step would be performed. The zoning enforcement officer would consult the master institutional land use map and the institutional growth management map to determine whether development at the proposed site would violate the concentration limits. If the site is available for development and the use permitted in the use table, then the appropriate permits would be granted. If the proposed use would exceed the concentration limit, it would be rejected unless 50% or more of the area is devoted to institutional use.

If the site is developable under the concentration restrictions but the use is conditionally allowed, the application would be submitted to a special permit granting authority (either the Planning Board or the Board of Zoning Appeals) for review and decision. In reviewing applications, the Board would utilize the various institutional management tools such as the use evaluation matrix. Public input and staff review of the proposal and site would document extenuating circumstances or site specific conditions which could not be ascertained from the basic management tools. The decision tree on the following page summarizes this process.


BUILDING DEPARTMENT REVIEW
PLANNING OR APPEALS BOARD REVIEW
USE TABLE
CONCENTRATION ANALYSIS
ADMINISTRATION ATTRIBUTE AND CONCENTRATION REVIEW
institutional proposal
acceptable or conditional use
prohibited use
continued
use rejected
appeal
fewer than 1 or more than 50% inst. uses
more than 1 or less than 50% institutional uses
use approved non-conditional
conditional use
use rejected
public input and documentation
use approved
use rejected
appeal

SUMMARY AND NEXT STEPS

The strategy presented here is intended to lead to the adoption of new zoning controls to manage institutional expansion in Cambridge's low density residential neighborhoods. These controls should create a predictable and consistent process for regulating development proposals. It should be fair and flexible for neighborhoods and institutions. It allows limited expansion of compatible institutional uses in areas which are relatively "underdeveloped" institutionally. It allows concentrated development in locations where institutions are already a principal activity. It prohibits expansion in many predominantly residential areas which already have above average institutional development intensity. Finally, the strategy provides a procedure by which institutions and neighborhood inhabitants may foresee the municipal response to future pressure for institutional expansion in the Residence A-1, A-2, B and C-1 areas.

The next major step in the process of implementing Chapter 565 will be to draft a zoning ordinance amendment to formally establish regulations of the type suggested here. Prior to filing a petition we would like to have some public discussion of, and perhaps to develop a consensus for, the basic approach to the management strategy. If the basic thrust of this two tier system of regulations (use control and concentration/dispersion control) is acceptable, then the various management tools proposed in this report may be adjusted to improve; modify or "fine tune" the strategy.

Several possible adjustments are listed below:

1. Institutional use categorization: add or subtract uses, combine uses, further subdivide listed use categories.

2. Institutional use matrix: adjust uses for certain attributes; weigh some attributes more heavily than others.

3. Develop intensity of use restrictions for allowed or conditionally allowed institutional uses.

4. Change the 50% institutional threshold for neighborhood impact areas.

5. Change the definition of neighborhood impact area. Define it in terms of block areas rather than radial distances.

6. Change the set of uses excluded from the concentration/dispersion analysis.

7. Update institutional land use and growth management maps.

8. Create different concentration or use standards for new development at the borders between Ch. 565 districts and outside areas which are extensive institutionally occupied areas.

APPENDIX A

PROPOSED INSTITUTIONAL LAND USE CLASSIFICATION

A. RELIGIOUS USES

1. Place of worship (includes church, chapel, synagogue, meeting house, gospel hall, meditation center)
2. Rectory, parsonage
3. Religious oriented student activity center
4. Convent, monastery, other non-family accommodations
5. Church affiliated recreation center, parish club house
6. Other religious use (includes reading rooms ancillary church school, religious information center, office of a religious organization not elsewhere classified)

B. EDUCATIONAL USES

1. Primary and Secondary Education
   a. Pre-school, kindergarten or day care center
      (i) Public
      (ii) Private
   b. Primary school
      (i) Public
      (ii) Private
   c. Secondary school (includes public, parochial and private preparatory schools)
      (i) Public
      (ii) Private
2. Higher Education (post-secondary schools, colleges, universities, and professional schools)
   a. Administrative offices
   b. Departmental, program and faculty offices
   c. Teaching facilities (classroom buildings, lecture halls)
   d. Research facilities
      (i) Laboratories or similar facilities customarily devoted to chemical, biological, electromagnetic, or nuclear research
      (ii) Other physical science research
      (iii) Social or appliced sciences research

e. Library

f. Family residential facilities
   (i) Faculty and staff housing
   (ii) Married student housing

g. Group residential and related facilities
   (i) Dormitories
   (ii) Fraternities and sororities
   (iii) Dining halls, canteens and similar eating facilities

h. Athletic facilities

i. Museum

j. Theater, concert hall, auditorium

3. Vocational Schools

4. Other Schools

5. Independent Non-Commercial Research Facilities (not university affiliated)

   a. Research institute or center including laboratories or similar facilities which customarily perform chemical, biological, electromagnetic, nuclear or other physical science research

   b. Private Library

   c. Other Non-commercial Research

C. HEALTH CARE FACILITIES

1. Hospital

2. Infirmary

3. Nursing home, convalescent home

4. Clinic not affiliated with any other institution

5. Clinic affiliated with a hospital or accredited university medical school

6. Clinic affiliated with a community center

7. Other out-patient care facilities

D. SOCIAL SERVICES FACILITIES

1. Social service center (facility primarily providing counseling, information and referral services).

2. Multi-purpose community center (facility providing a broad range of social service, recreational and educational programs)

3. Community Residences

E. GOVERNMENTAL USES

1. Federal, State and County government facilities

2. Municipal government facilities

   a. Administrative office

   b. Fire station, police station

   c. Library

   d. Municipal service facilities (water supply and distribution, waste disposal, road maintenance and other public works)

   e. Open Space and recreation facilities

      (i) Tot lots

      (ii) Playgrounds

      (iii) Parks

      (iv) Other recreation areas

F. OTHER INSTITUTIONAL USES

1. Club, lodge, or similar facility of a civic, social or fraternal organization

2. Museum, non-commercial gallery

3. Non-commercial recreation facilities

4. Cemetery

5. Community oriented cultural and ethnic heritage appreciation facilities

6. Institutional use not elsewhere classified

APPENDIX B

A. Intensity of Use

1. Peak instant population
2. Total daily population
3. Average daily population
4. Daily auto generation

B. Nature of Use

1. Hours of use
2. Temporal use pattern
3. Degree of outdoor activity
4. Existing use restrictions

C. User Characteristics

1. Age characteristics
2. Diversity
3. Residential living arrangements

D. Parcel Physical Characteristics

1. Existing zoning restrictions
2. Customary building form
3. Site plan compatibility with residential setting
4. Signs
5. External lighting

E. Activity Impacts

1. Noise generation
2. Communication interference
3. Hazardous activities/controlled substances
4. External lighting
5. Inducement to loitering
6. Other nuisance
7. Off-street parking demand
8. Waste disposal requirements
9. Special property maintenance requirements
10. Special security needs
11. Delivery/disbursement demands
12. Activity likely to occupy and displace existing residential units

F. General Implications for Neighborhood Change

1. Impact on residential property values
2. Propensity for attracting other non-residential uses or activities
3. Accessibility to neighborhood residents
4. Enhancement of residential desirability

Revised Strategy for Managing Institutional Expansion

Cambridge Community Development Department (January, 1981)

CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT
City Hall Annex - Inman & Broadway - Cambridge, Mass. 02139

498-9034

REVISED STRATEGY FOR MANAGING INSTITUTIONAL EXPANSION

January 1981

In October the Community Development Department proposed a regulatory system for implementing Cambridge's institutional control home rule legislation (Chapter 565 of the Acts of 1979, as amended). That legislation empowers the City to regulate and restrict the use of land or structures for religious or educational purposes within all residentially zoned districts which require a lot area of one thousand two hundred square feet or more per dwelling unit. Under the current zoning, institutional use controls would apply to the Residence A-1, A-2, B and C-1 districts. These four districts cover 49% of the City. Up until now the City has been able to regulate the height, bulk, setbacks, etc. of structures used for religious or educational purposes but not the fundamental use or location of those structures.

PURPOSE OF INSTITUTIONAL HOME RULE LEGISLATION

Chapter 565 does not attempt to address all the myriad problems created by a strong institutional presence in Cambridge. The purpose of the legislation, as expressed in the City Council order petitioning the General Court, was to mitigate or eliminate the physical problems created by institutional expansion in low density residential neighborhoods. These problems include demolition and conversion of residences, development of uses which generate more traffic, development of uses which utilize buildings and land differently from low density residential uses, and intrusions on the integrity of the existing built environment and the quality of life in residential neighborhoods.

INITIAL GROWTH MANAGEMENT PROPOSAL

Chapter 565 was conceived with greatest concern for the seemingly limitless expansion of the largest Cambridge institutions and for the rapid proliferation of smaller institutions in some portions of residential neighborhoods. The strategy developed over a year's time by the Community Development Department addressed these problems and the development of all categories of institutional use throughout neighborhoods subject to Chapter 565 protection. Under this proposal, institutional use and location in the four affected zoning districts would be controlled by amending the zoning ordinance. New use regulations would be determined by the degree of compatability of each institutional use with customary residential activities in low density neighborhoods. Locations for institutional expansion or development would be determined by defined saturation levels for institutional presence in each class of district. The strategy was described and demon-

strated in a series of documents prepared by the Community Development Department.*

REVIEW PROCESS

Since October, these documents have been reviewed by an ad hoc committee comprising representatives of institutions and neighborhoods impacted by institutional expansion. Four meetings were held to discuss and modify the proposed strategy.** During this period, the Community Development staff tested the strategy by applying the proposed controls to real and hypothetical institutional development situations.

FINDINGS FOR MODIFYING MANAGEMENT STRATEGY

This review and evaluation process has resulted in several changes to the proposed institutional management strategy. These changes will be reflected in the draft zoning regulations which will soon be prepared. The modifications in the management strategy are based on the following findings and recommendations:

1. FINDING - The regulatory system originally proposed was not sufficiently sensitive to the loss of residential units due to institutional demolition and conversion.
   RECOMMENDATION - Greater weight should be given to this consequence of institutional expansion. Net reductions in the size and quality of the housing stock should be avoided. Any housing lost due to demolition or conversion should be replaced in kind.

2. FINDING - Many aspects of the conceptual proposal, if turned into hard and fast standards in zoning regulations, would create an unreasonably inflexible system that would frequently produce undesirable results (from the point of view of both neighborhoods and institutions).
   RECOMMENDATION - The majority of institutional use categories should be conditionally allowed with only very compatible uses allowed as-of-right and very incompatible uses prohibited.

*1. "Institutional Inventory" (September 1980; revised November 1980)
2. "Proposed Strategy for Managing Institutional Expansion" (October 1980)
3. "Institutional Land Use Evaluation Attributes" (October 1, 1980)
4. "Use Evaluation Matrix" (October 15, 1980)
5. "Use Evaluation and Designation" (October 15, 1980)
6. "City-wide Institutional Property Map," 1"=400' (November 1980)
7. "Institutional Concentration Management Map", 1"=400' (November 1980)

**One or more of these meetings were attended by representatives of the Agassiz Neighborhood, the City Council, Harvard University, the Harvard Square Defense Fund, Lesley College, MIT, the Mid-Cambridge Association, Neighborhood Nine Association, the Neighborhood Ten Association, and the Riverside-Cambridgeport Community Corporation. Several others in the community have received copies of the documents.

3. FINDING - While it is appropriate for the management strategy to deal with the full range of institutions which exist or may locate in Cambridge, the proposed institutional growth management system did not address the differences between large and small institutions.
RECOMMENDATION - Expansion of existing institutions with extensive contiguous land holdings should be dealt with differently from the discrete acquisition and development by smaller organizations.

4. FINDING - The original strategy did not restrict future growth of the institutional concentration areas. As the proposal was presented, growth within such areas would result in continual institutioal incursion into residential areas.
RECOMMENDATION - Limits on incremental expansion of institutional concentration areas should be established.

5. FINDING - The initial strategy did not establish institutional growth limitation boundaries around those institutions with extensive contiguous property holdings.
RECOMMENDATION - Such boundaries should be drawn and ten factors should be considered in drawing these boundary lines:

a) the overall pattern of existing institutional use within the city;

b) the amount of institutional use within any given block;

c) distance from the center of a contiguous institutional area;

d) the shape and extent of an "institutional appendage" (finger of institutional use extending into a neighborhood) or of a residential interstice;

e) topographic changes between institutional and non-institutional areas;

f) street pattern;

g) traffic carrying capacity of streets at or near institutional edges;

h) the hardness or softness of an institutional edge (amount of institutional use along a block face);

i) amount and type of residential uses in a block or along a street face;

j) type of existing institutional uses in an edge or fringe area;

k) configuration of zoning boundaries (Ch. 565 protection district vs. others).

6. FINDING - The existing land use pattern, particularly the spatial distribution of institutions is of greater significance than the location of zoning district lines in drawing institutional boundary lines.

RECOMMENDATION - For purposes of initiating the new institutional regulations, existing zoning boundaries should be taken as given. Any changes from a Chapter 565 affected district to a non-affected district (or vice versa) should be done after the basic institutional use controls are in place. Such map changes should be part of negotiated institutional expansion or restriction efforts in particular neighborhoods.

7. FINDING - The quality of institutional development along the residential edges of extensive institutional areas is critical for how the two different types of land use activity coexist in a neighborhood. Physical interface problems of these edges, particularly where the Residence C-1 and C-3 districts abut, will require special urban design considerations.
RECOMMENDATION - New buffer or transition zones shoud be created in the future and special design restrictions should be made conditions for institutional development at certain locations within the Chapter 565 districts.

REVISED STRATEGY

The proposed strategy for managing institutional development in the Residence A-1, A-2, B and C-1 districts should be revised based on the above findings and recommendations. A zoning petition reflecting this revised strategy should soon be prepared. The petition would consist of the following:

1. An institutional overlay district would be created on the zoning map. All areas consisting of five acres or more contiguous land ownership and occupancy by a single institution would be included within this district. This would include but not be limited to Harvard, MIT, Radcliffe and Lesley campuses, Cambridge Hospital, Mt. Auburn Hospital, Youville Hospital, the Buckingham, Browne and Nichols and Shady Hill School campuses at Coolidge Hill and the Immaculate Conception and Matignon Schools. This overlay district would cover land both inside and outside Chapter 565 districts for purposes of logical definition. However, any use regulations drafted for this overlay district would apply only to locations within the four Chapter 565 districts.

2. The institutional portion of the table of use regulations would be revised to contain the institutional land use classification proposed in Appendix A October 1980 report and to reflect the evaluation of use designations in the October 15, 1980 memo as revised.

3. Institutional development (conversion or new construction) on lots located within the institutional overlay districts and principally occupied by institutional activity or other permitted non-residential activity would be allowed as-of-right for some use categories and require a special permit for others.