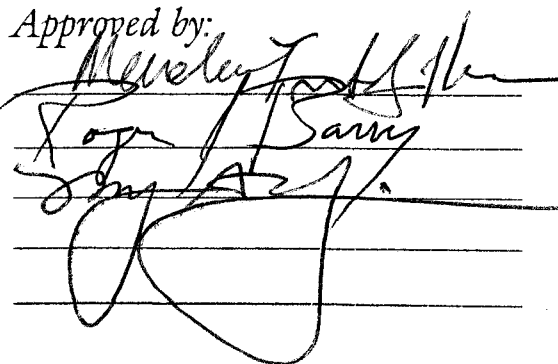


UNIVERSITY OF CINCINNATI

JUNE 9, 2003

I, SNEHAL JAGDALE,
hereby submit this as part of the requirements for the degree of:
MASTER OF COMMUNITY PLANNING
in SCHOOL OF PLANNING, DAAP
It is entitled VISUAL ANALYSIS OF MOUNT ADAMS:
A QUALITATIVE APPROACH.

Approved by:


Visual Analysis of Mount Adams: A Qualitative Approach

A thesis submitted to the
Division of Research and Advanced Studies
Of the University of Cincinnati

In partial fulfillment of the
Requirements for the degree of

MASTER OF COMMUNITY PLANNING

In the School of Planning
Of the college of Design, Architecture, Art and Planning
2003

By

Snehal Jagdale

B.Arch, Dr. D.Y. Patil College of Architecture, Navi Mumbai, University of Mumbai,
1999.

Committee Members:

Chair: Prof. Menelaos Triantafillou

Faulty Member: Dr. Mahyar Arefi

Reader: Dr. Roger Barry

UMI Number: EP26312

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI[®]

UMI Microform EP26312

Copyright 2009 by ProQuest LLC.

All rights reserved. This microform edition is protected against unauthorized copying under Title 17, United States Code.

ProQuest LLC
789 E. Eisenhower Parkway
PO Box 1346
Ann Arbor, MI 48106-1346

ABSTRACT

The neighborhood of Mount Adams in Cincinnati is one of the most affluent areas of the city and has a character because of its uneven topography and closely packed built environment. Constraint of the natural form and the adaptation of built form to it have provided the neighborhood with a distinct visual identity. This thesis attempts to identify different aspects of the visual character of the neighborhood, which are a resultant of the interrelation of the natural form with the built form.

Regulatory tools such as land use and design guidelines are responsible for molding and protecting the visual characteristics of an area. They act as preservation tool for existing characters and a guide for new developments. This thesis also examines various regulatory tools applicable to Mount Adams and specifically their role in influencing the character of new development in a manner that complies with the existing, natural and manmade visual attributes of Mount Adams.

The thesis would comprise of studies, which scrutinizes elements of visual characteristics in Mount Adams. Spatial evolution studies identifies forces responsible for sequential changes and resultant present characteristics of the neighborhood, while viewshed analysis identifies physical components most visible from other strategic location of the city as well as important viewing points within the neighborhood. A study of legibility and serial vision recognizes areas and elements important for visual identity. Indigenous physical components and their interrelationship that contributes to present visual

characters of the neighborhood are identified through a detailed study of the natural and the built environment.

The thesis puts forth suggestions to recognize components important for visual character of the neighborhood and the necessity to incorporate them in the regulatory tools for their protection.

ACKNOWLEDGEMENT

This thesis has given me a chance to recognize and develop my own capabilities but the task was impossible to achieve without the support and encouragement of the people who always stood by my side. First of all, I would like to thank my Chair, Professor Menelaos Triantafillou, for guiding me through out the process, keeping me on track and giving me a push whenever I needed it the most. His encouragement and support exceeds far beyond this particular thesis. I wish to thank Dr. Mahyar Arefi for his valuable suggestions, Dr. Roger Barry for keeping me on schedule and Mr. Steve Briggs from Community Planning Department, City of Cincinnati for his information about different regulatory documents.

I would also like to thank my friends; Kanchana Ganeshan for reviewing my thesis cover to cover and giving me valuable comments and Deepika Andavarapu for her friendship and support. My Dad, grandma, brother and in-laws for continuous encouragement, love, blessings and their faith in me. And of course, my husband Milind Surve, with whom, everything appears possible.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION.....	4
CHAPTER 2- NEIGHBORHOOD OF MOUNT ADAMS: AN OVERVIEW	8
CHAPTER 3- PROBLEM STATEMENT	11
CHAPTER 4- LITERATURE REVIEW	16
4A. Natural forms	16
4B. Spatial Evolution	17
4C. Visual Interpretation	18
4C i) Viewshed	19
4C ii) Serial Vision	20
4C iii) Legibility	20
4D. Built Form.....	21
4D i) Levels of built form	21
4D ii) Figure Ground.....	23
4D iii) Buildings and Streets.....	24
CHAPTER 5- METHODOLOGY.....	31
ANALYSIS	34
5A. Natural Form.....	34
5A i) Topography.....	34
5A ii) Vegetation.....	38
5B. Spatial Evolution	42
5B i) Historical Events: leading to growth and changes in Mount Adams.....	42
5B iii) Visual Character Evolution.....	52
5C. Visual Interpretation	55
5C i) Viewshed Analysis.....	56
5C ii) Serial Vision	73
5C iii) Legibility	87
5D. Built forms	93
5D i) Figure Ground.....	104
5D ii) Street Sections:	104
5D iii) Streetscapes	105
CHAPTER 6- FINDINGS AND RECOMMENDATIONS	108
6A. Visual Character	108
6B. Developable Land.....	111
6C. Existing Design Guidelines	111
RECOMMENDATIONS.....	113
BIBLIOGRAPHY	115
Sources	117

LIST OF ILLUSTRATIONS

Illustration 1: Location of Mount Adams	8
Illustration 2: Neighborhood of Mount Adams	10
Illustration 3: Existing Elevation of Mount Adams	35
Illustration 4: Existing Slopes of Mount Adams	37
Illustration 5: Existing Vegetation at Mount Adams	39
Illustration 6: Panoramic view of Mount Adams from downtown Cincinnati	40
Illustration 7: Conclusions of Natural Form	41
Illustration 8: View of Mount Adams at different periods	45
Illustration 9: Early Structures of Mount Adams	46
Illustration 10: Mount Adams in 1940's	47
Illustration 11: Mount Adams in 1950's	48
Illustration 12: Mount Adams in 1960's	49
Illustration 13: Mount Adams in 1970's-80's	50
Illustration 14: Mount Adams in 1980's	51
Illustration 15: Historically Important Features	54
Illustration 16: Viewsheds from Important Locations Around Mount Adams	58
Illustration 17: Panoramic Views	59
Illustration 18: Panoramic Views	60
Illustration 19: Panoramic Views	61
Illustration 20: Visibility of Mount Adams	62
Illustration 21: Interplay of Natural and Built Form	63
Illustration 22: Important Viewing Points of Mount Adams	66
Illustration 23: Viewing Points	68
Illustration 24: Viewing Points 3 & 4	70
Illustration 25: Viewing Points 5 & 6	70
Illustration 26: Viewing Points 7 & 8	71
Illustration 27: Viewing Points 9 & 10	72
Illustration 28: Serial Vision along Pavilion Street	75
Illustration 29: Serial Vision along St. Gregory Street	76
Illustration 30: Serial Vision along Paradrome Street	77
Illustration 31: Serial Vision along Hatch Street	78
Illustration 32: Serial Vision along Belvedere Street and Fuller Street	79
Illustration 33: Serial Vision along Ida Street	80
Illustration 34: Serial Vision along Hill Street	81
Illustration 35: Serial Vision along Baum Street	82
Illustration 36: Serial Vision along Oregon Street	83
Illustration 37: Four Types of Districts in Mount Adams	90
Illustration 38: Legibility	91
Illustration 39: Landmarks at Mount Adams	92
Illustration 40: Type of Streets in each district	94
Illustration 41: Built form elements in Plan	98
Illustration 42: Built form elements in section and elevation	99

Illustration 43: Figure Ground of Streets	101
Illustration 44: Street Sections	102
Illustration 45: Streetscapes	103
Illustration 46: Elements of Visual Character in Mount Adams	110

LIST OF TABLES

Table 1: Flow Chart of Procedures	15
Table 2: Procedure for Methodology	33

CHAPTER 1: INTRODUCTION

The visual character of an urban neighborhood is an incessant phenomenon. It evolves over a period and undergoes continuous transformation with changing time and needs. Ecology, economy, social changes, political forces, historic trends, technological changes are some of the influencing factors which transform an urban neighborhood physically and this transformation is reflected in its appearance. In other words, visual character is a reflection of history, culture, economy, and social environment of an urban area and it conveys a visual message through its appearance. Thus, visual character is not just related to the aesthetics, but is an important indicator of community's culture and the lifestyle of the people residing in that area.

A well-maintained visual character improves the appearance of an urban neighborhood, thus improving the experience of the users and attracting people and commerce. It also reflects a good economy and a healthy social structure. On the other hand, a neighborhood with a poor visual appearance is an indication of its deterioration and decay. Today, communities and governments are conscious of the appearance and the term 'aesthetics' appears in numerous federal and local guidelines for development projects. Developers face considerable pressure from authorities and citizens about maintaining and providing improved visual qualities of developments, and their potential impacts on the visual character of a neighborhood (Wrenn, 1980; 3).

Visual character contributes to the creation an overall visual statement of the urban neighborhood. It is experienced as an integrated whole and not as a series of separate objects. The experience of a neighborhood's visual environment is based on various spatial elements and their interrelationship that together form a pattern. Spatial elements that contribute to the pattern are natural form and built form (Schauman, 1980; 4). This pattern differs from region to region depending upon the variation in natural landscape and development adaptive to it. Thus, visual characters have local identity and are distinct for every neighborhood.

Natural and built forms are spatial elements articulating identity of an urban neighborhood. The term natural form includes topography, water bodies and vegetation where as the term built form implies to human interventions on the natural form. The key components of built form are; streets, pavements and buildings (Thiis-Evensen, 1999). In an urban setting, the two spatial elements are modified and are adaptive to each other. Natural forms are sometimes modified to accommodate built form (i.e. constructions of road on a sloping hillside) and built forms are guided or restricted by natural forms (i.e. construction of half levels and basements on a sloping site). The two spatial elements are also interdependent, which is an important aspect of the visual character of an area and according to William G. E. Blair, it can be described in four terms: dominance, scale, diversity and continuity. Components of spatial elements can be visually dominating because of its position or contrast with the surrounding. Scale is the size relationship between a component and its surrounding. Diversity can be created by number, variety and intermixing of various components. Continuity is the uninterrupted flow of

components and its relationship with the immediately connected surrounding (Blair, 1980; 10). Both the spatial elements i.e. the natural form and the built form undergo a continuous evolution and modification because of constant change thus altering and reforming the visual character of an urban neighborhood.

The importance of spatial elements in an urban neighborhood and their contribution to visual character depends on the degree to which the neighborhood is visible from prime locations within the city. Components of spatial elements that are most visible are important, as they are the communicators of the visual character of the neighborhood. Thus identification of important viewsheds, which is the surface area most visible from prime locations in the city, is essential (Blair, 1980; 7).

Visual character involves influencing visual attributes and is a reflection of various aspects of a community. The local government through design guidelines directly or indirectly regulates visual character. These are the basic tools that the local government use that intentionally or unintentionally shape the visual character of urban neighborhood. Beside this basic tool, more specialized tools like urban design plans and environmental quality overlay districts, also play an important part in contributing to the visible character of an area by manipulating the natural and the built form.

This thesis aims at studying various aspects of the visual character for the urban neighborhood of Mount Adams at Cincinnati. It will investigate spatial elements in detail

along with important viewsheds of the neighborhood. Later it will investigate the role design guidelines and other tools have in preserving and controlling the spatial elements.

CHAPTER 2- NEIGHBORHOOD OF MOUNT ADAMS: AN OVERVIEW

Mount Adams, a residential neighborhood with an approximate area of 149 acres, occupies a small part at the southeast side of Cincinnati (Illustration: 1). Interstate highway 71 is located on its eastern side, which separates the neighborhood from Central Business District (CBD) of the city. Ohio River banks on the west of Mount Adams but the boundaries of the neighborhood does not form the bank of the river as the two are separated by small portion of neighborhood of East End. Mount Adams has a hilly terrain and higher altitude than the CBD and the neighborhood of East End and hence it enjoys scenic views of the river and the downtown. Mount Adams is also visible from the City of Covington, located on the other side of the river and through I-71. Mount Adams lies on the southern side of Eden Park, which is home to Cincinnati Art Museum and Krohn Conservatory.

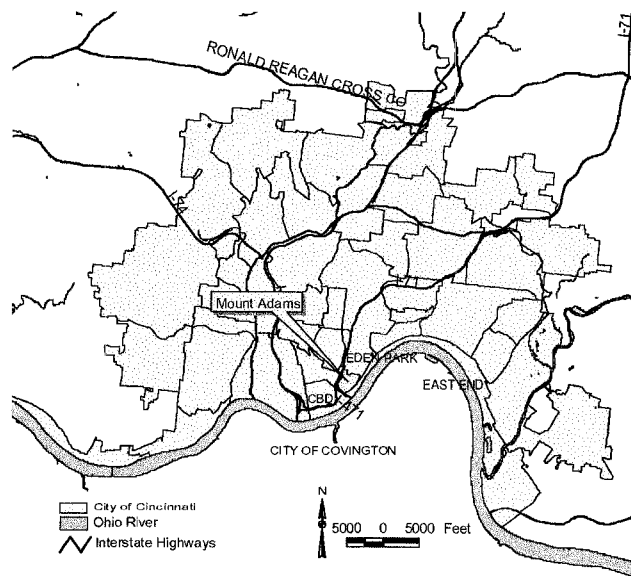


Illustration 1: Location of Mount Adams

Mount Adams occupies a prime location in the City, with close proximity to downtown, interstate highway and Eden Park, and enjoys breath taking scenic views of Ohio River. These factors along with its historic urban fabric, its high life and its bohemian character contribute to the popularity of the neighborhood. It also has well maintained residential areas with small lots and compact development pattern due to topographical constraints (Illustration: 2). The Neighborhood business district located on St. Gregory Street is a vibrant area with variety of art and craft stores, restaurants and bars. Mount Adams has highest per capita income in the city and high real estate values. The average cost of homes sold in the year 1998 was \$335,231 as compared to downtown, Cincinnati that was \$131,418 (Cincinnatihome, 2003). Total population of the neighborhood is 1,514, with 839 of male population and 675 females (US census, 2000). It has a predominantly white population, which forms 94.1 percent of the total population. African Americans forms 4.3 percent of population and the rest contribute to 1.6 percent of the total population (Cincinnatihome, 2003). Median age of the residents in the neighborhood ranges from 30-40 years. Total number of households in the neighborhood is 1001, out of which households which are owner occupied are 330 and rest 671 are rented (US census, 2000). Thus, the neighborhood has dominance of high income, white and young resident population.

Mount Adams has interesting visual characters due to its topography and unique housing stock. Its image of a livable community has evolved over the years. It is highly visible from the surroundings and is a preferred choice for residence.

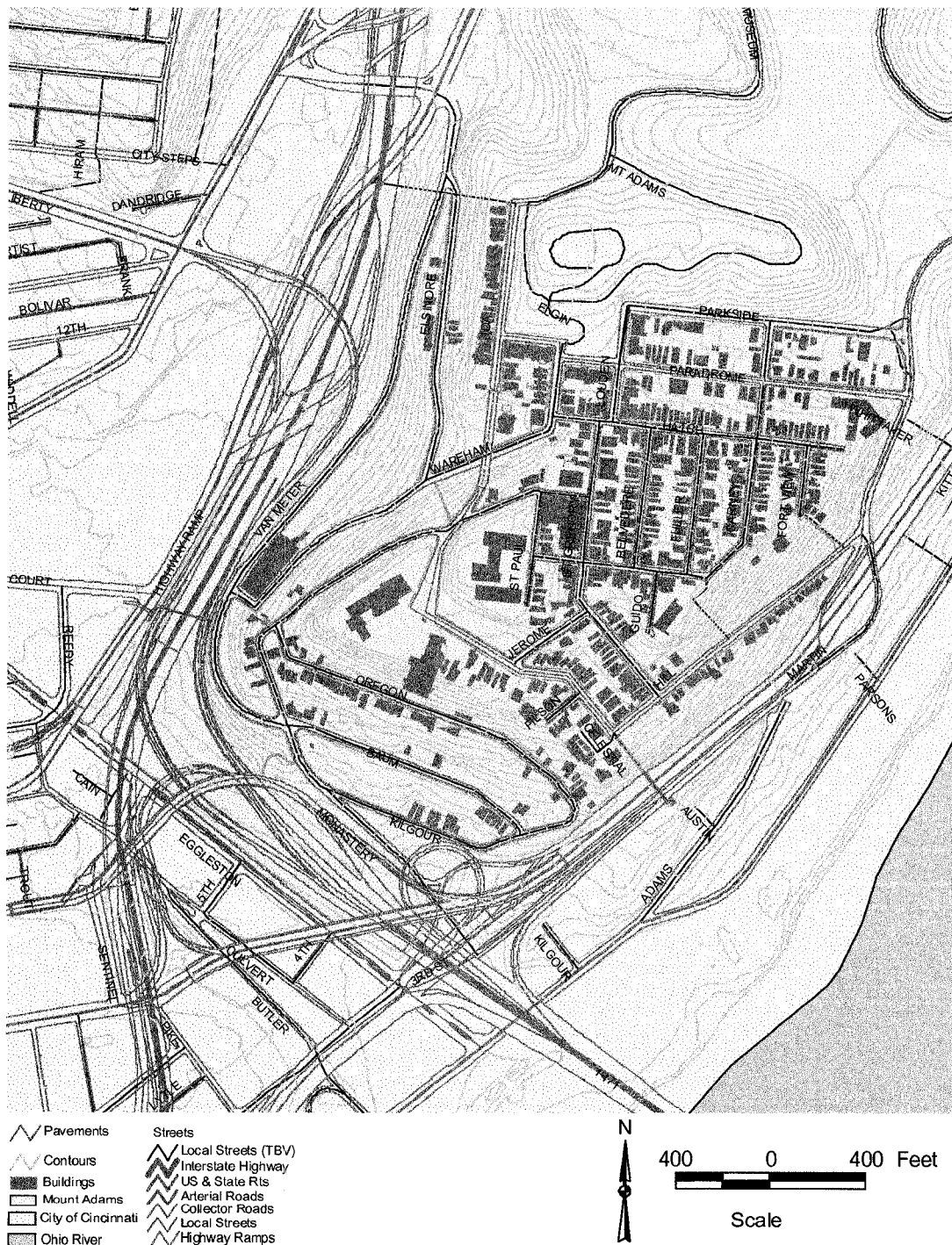


Illustration 2: Neighborhood of Mount Adams

CHAPTER 3- PROBLEM STATEMENT

Regulatory tools and urban design plans are used to control development and guide changes in any urban neighborhood. Various plans, studies, and documents have been prepared for Cincinnati's hillside in general and for Mount Adams in specific, in order to guide and regulate development.

Some of the earliest noteworthy documents are '*Cincinnati Hillside: The Evolution of Environmental Quality Zoning*' published in March 1980 and '*A Hillside Protection Strategy for Greater Cincinnati*', a three volume set published in 1991. The former is a document sponsored by Woman's City Club of Cincinnati, a supporter of responsible hillside development, promoted protective and no development on Cincinnati's hillsides. It also captures the story about evolution and adoption of environmental quality districts as new legislation in Cincinnati. The later is a set of guidelines and development criteria for hillside development, prepared by Board of Trustees of the Hillside Trust along with their professional staff and consultants. The document was used to increase awareness among local municipalities in order to guide hillside development in their areas. Due to enormous size and comprehensive nature of the document, communities felt the need to pick and choose the most appropriate guidelines applicable to their own locality. These were some of the earliest and general steps towards maintaining the Cincinnati hillside's stability and character and monitoring development.

Urban design plans targeting specific areas and problems of Mount Adams have been drafted earlier. The '*Mount Adams Urban Design Plan*' prepared in 1981 by office of Architecture and Urban Design, Department of Development, City of Cincinnati, was drafted with a singular purpose of improving the business districts in Mt. Adams urban streetscape. Sidewalk treatments, street tree placement, lighting, and bench improvement were proposed and implemented. The plan also included facade improvement suggestions for properties in neighborhood business district. The plan was a prelude for having an environmental quality urban design district adopted, but the idea eventually faded as the area was already under existing hillside district. Another plan, '*Mt. Adams Hillside: Urban Design and Renewal Plan*' prepared in 1990 by the Office of Architecture and Urban Design, a section of the division of Architecture and Facility Management, Department of Public Works of Cincinnati. It was prepared on behalf of the Mt. Adams Civic Association, the Department of Neighborhood Housing and Conservation and the Engineering Division of Public Works Department. The document was focused on lower western areas of Mount Adams i.e. along Oregon, Baum, Kilgour and Monastery Street in order to resolve the issue of vacant land. Since that time, some of the vacant land has been developed and some remained undeveloped due to restrictive easements of highways.

Most of the documents and plans discussed above, currently qualify as only reference documents and their value has been significantly reduced or non-existent as the plans have already achieved their specific goals. The only documents that are currently used to guide new developments are '*Cincinnati Hillsides Development Guidelines*' prepared in

1975 also known as the '*General Guidelines and Specific Guidelines (Ord. No. 467-1978, 11/15/78)*' and '*Environmental Quality District Development Guidelines.*' The Cincinnati Institute prepared the document for the City Planning Commission, City of Cincinnati, OH. The documents are regulatory, zoning documents and serve as the primary documents used for design review for new construction in Mount Adams, Cincinnati.

The efforts to recognize and preserve the unique character of Cincinnati's hillside and Mount Adams have started very early and the current guidelines are responsible to control future development and changes in Mount Adams. They are also responsible for protecting and maintaining existing character of Mount Adams. However, one key concern is with how well do these guidelines identify and address the important factors that contribute to the visual character of Mount Adams. Specifically, how do they address the nature of built form and natural form characteristics? How far do they contribute to maintaining and enhancing the present character of the neighborhood? New and infill projects in the neighborhood are guided by the regulatory tools. How effective are the regulatory tools to guide new infill development to be visually compatible with Mount Adam's character? Are the regulations rigid or flexible for new development? Do these regulations have scope for innovation and new ideas for development? These are few of the key issues concerned with this thesis.

The following chapters will attempt to answer the above questions through a systematic analysis of the visual character of Mount Adams. The study attempts to identify the key

aspects that contribute to the Mount Adam's visual character and then revisiting the current guidelines to find out how far these aspects are addressed and protected. The study takes qualitative approaches to distinguish most elements, which when combined, holistically provide strong visual identity to Mount Adams. The different aspects of the study are; evolution of its visual character over the years and major events that lead to the present character; identification of viewsheds of the neighborhood from the surrounding prime locations and also principle viewing points of the neighborhood which provide important views of the surrounding. A detail analysis of spatial elements will identify prominent components of natural and built forms and characteristics of the components unique to the neighborhood. The literature review investigates writing of different authors that helped derive a methodology for the study. Most of the analysis will be based on the methods and concepts learned through literature review, which investigates the writings of different authors that helps derive a methodology for the study. The last chapter offers the conclusions based on the result of analysis and discussions of the existing design guidelines of Mount Adams to identify how effectively they address and protect existing visual character and regulating new development.

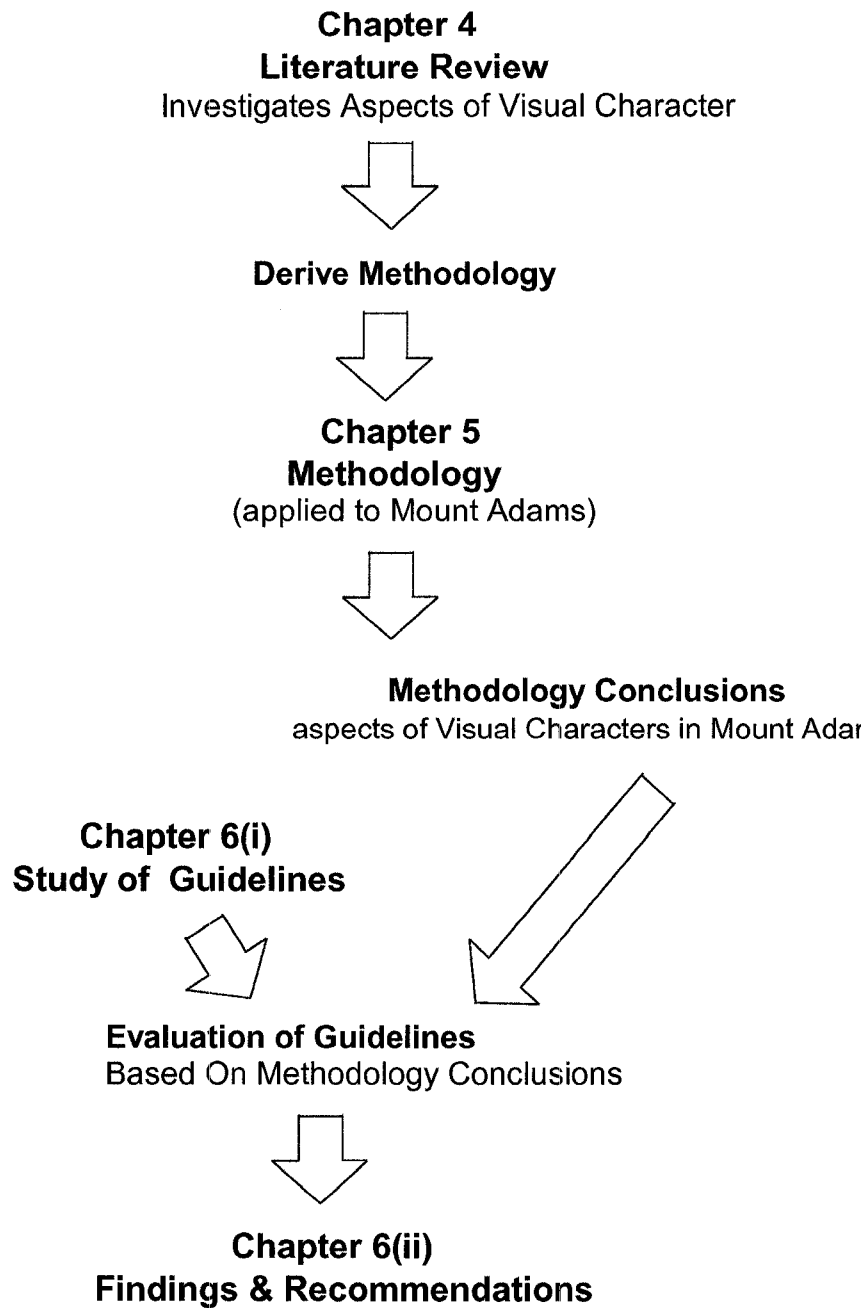


Table 1: Flow Chart of Procedures

CHAPTER 4- LITERATURE REVIEW

This chapter focuses on literature related to different aspects of visual character for an urban area dealing with spatial evolution of visual character, visibility in terms of viewshed, legibility of character and natural and built components of visual character, and their interrelationship. The chapter investigates writings of different authors for particular terms, definitions and methods of analysis that has been carried out earlier on the topic. This will help further for deriving a methodology in analyzing Mount Adams. Different authors use various terminologies for describing concepts related to visual character; a table at the end of this chapter summarizes the writings of these authors under few common terms, which are used in later chapters. This chapter consists of different sections and each section examines a particular aspect of visual character.

4A. Natural forms

According to Lynch, land characters are basic element of a region and they are different from ecology. They are more related to topography, water, and vegetation. The pleasant land characters should be conserved because of their unique, fragile or especially desirable and natural sensuous characters. Identification of land character or *natural form* is important not only for conservation, but also for setting district guidelines for development (Lynch, 1976; 106).

A study at Martha's Vineyard, Massachusetts in the 1970's describes a method for identifying developable and non-developable land in the area by adopting visual methods of analysis to outline a visual zoning map. In the study, maps of three basic components were prepared from aerial photographs and field surveys namely: vegetation density, topographic closure and visual complexity. In order to map vegetation density, different vegetation types according to their visual density were identified, some of the important general categories are; wooded areas, open plains and settlement areas. Topographic closure refers to the zones of Vineyard that ranges from most accessible to least accessible. For this type of study, topography maps and slope analysis will be effective. Visual complexity refers to the amount and clarity of visual information in natural and artificial landscape, which viewers were asked to sort and evaluate. This study is similar to the legibility study of the area by Kevin Lynch, referred later in the chapter (Looking at vine yard in Jacobs, 1969 and Lynch, 1976).

4B. Spatial Evolution

According to Forster Nbudisi, visible features reflect culture of its inhabitants. Natural landscapes change over time as humans mold natural processes, sometimes in tune with the natural process, and at other times altering them (Nbudisi, 2002). Urban landscapes when compared to rural landscapes, change dramatically and at a faster pace as communities try to cope with the issues of growth, change and quality of life within its own context. The change is reflected in its landscape by different patterns formed by visual elements such as natural and built landscapes (Schauman, 1980; 4). According to

Eduardo E. Lozano, process of *growth* and *change* reflects the dynamic effects of time in urban areas. *Growth* can be characterized as qualitative when new function is added to the system; like new construction or urbanization of rural area. *Growth* can be large or marginal, positive or negative and could reflect increase or decrease in urban activities and population. It may or may not have large physical implications. On the other hand, *changes* in the urban area have physical implications and are noticeable in terms of aging, repair, rebuilding, reuse, abandonment and many others. Some of the changes are caused by effects of time and others by socioeconomic reasons or land use alterations. Most of the *changes* are related to urban ecology causing long term social and land-use changes like; suburbanization, migration, and rehabilitation. *Growth* and *changes* are caused by various reasons such as technology, culture, new values and development of the urban culture over time (Lozano, 1990; 88-93). The study of *growth* and *changes* helps in better understanding of an urban area in terms of its past problems and issues, leading to the current patterns.

4C. Visual Interpretation

This section identifies methods and techniques to collect and decipher visual information from the physical character of an urban area. It has three subsections; viewshed, serial view and legibility.

4C i) Viewshed

Authors Richard Hedman and Andrew Jaszewski stress on the importance of a city skyline by stating that ‘the external image a city presents to the world is the signature by which it is known. Like handwriting, a city’s skyline conveys significant information about its nature’ (Hedman, 1984; 105). A good view of an urban area from a distance, creates a sense of pride among its residents and there may be little practical use of attracting visitors (Hedman, 1984; 105). Skyline of an area is determined by its underlying landform, modified by the size, scale and pattern of development. The aggregate form of buildings takes on the form of the land and the overall building is more exposed and viewed in the hilly areas against the flat areas (Hedman, 1984; 106). Thus, hills have a great influence on the visual environment and a looming mountainside is strong enough visually to sustain the contrast of buildings shapes that contradict the landform as well as the fine scale approach that follow the land (Hedman, 1984; 109).

Kevin Lynch in his book ‘Managing the Sense of a Region’ describes various techniques and methods to recognize visual environment of an area. The author discusses visibility of an area from important locations and accurately maps the *viewshed*, or visible areas. Method employed, as described by Lynch, is as follows; ‘There are some simple ways of analyzing what can be seen at a distance. The principle viewing points of a region can be identified, and the angle and depth of possible views from each point can be shown on a map’ (Lynch, 1976; 98). This technique facilitates in dividing area into ‘seen’ and ‘unseen’ parts to describe its visibility from surrounding areas and identifying sections of the city that have a richer connection to the natural settings than others (Lynch, 1976;

140,142). Technique also helps identification of *viewpoints* in the neighborhood, which are accessible, cherished by public and provide good views of the surroundings (Lynch, 1976; 99). The method described, identifies prominent features, which are important for skyline of the area and visible repeatedly from many locations. It also aids identification of sites where new developments should be restricted/ prohibited from intruding into a prominent view.

4C ii) Serial Vision

The authors depict visual experience of an urban area at varying scales. According to Gordon Cullen, urban area is an art of relationship between elements like buildings, trees, nature and so on. If one passes through the area at a uniform speed, different elements are revealed according to their placements and scale. This according to author is '*serial vision*' and it has two elements of 'emerging view' and 'existing view'. The serial view reveals the 'drama' of an urban area (Cullen, 1961; 8-12). The study of serial view helps in grasping the fabric of the area in terms of arrangement of elements. It helps in identifying roles of topography in providing unique experience to users.

4C iii) Legibility

Kevin Lynch emphasizes on *legibility* and clarity of a cityscape in dealing with physical elements that are well formed, distinct, remarkable and eye-catching. He broadly identifies five physical elements, which are important for legibility of an urban area. The elements are paths, edges, districts, nodes and landmarks. Paths are channel of movements, which are linear in character, whereas edges are also linear elements but they

act as boundaries between two phases or linear break in continuity. Edges can be barriers or they can relate and join two regions. Districts are two-dimensional extents having some identifying characters. Nodes are strategic spots in an area with intensive foci; it can be a junction or concentration while landmarks are point references and well defined physical objects (Lynch, 1960). According to Lynch, an area with high legibility evokes a strong image of the environment, particularly an area that is well formed, distinct and remarkable, invites the eye to greater attention and participation (Lynch, 1960; 10). Thus, a legibility study will help identify elements that are distinct and important for the image of the area

4D. Built Form

Different authors carry out study of urban area at varying scale. Authors have categorized urban area into various levels of manmade features and some have carried more detailed analysis of studying building forms, street form and their interrelationship. This section studies the various levels of built form, and details of built form in terms of building and streets.

4D i) Levels of built form

According to M.R.G. Conzen, a geographic character of a town, morphologically, finds expression in the physiognomy or townscape, which is a combination of town plan, pattern of building forms and pattern of land use (Conzen, 1960; 3). All the three factors are interrelated in the townscape but small areas cannot be expected to show all the

phenomena that characterize the morphology of townscape (Conzen, 1960; 3). Cozen defines town plan, with respect to manmade features, as the topographical arrangement of an urban built-up area in three distinct complexes of plan elements: *streets* and their arrangement in a *street-system*; *plots* and their aggregation in *street-blocks*; and *buildings* and their arrangements or *block-plans*. Cozen refers to *streets* as open space reserved for the use of surface traffic and the arrangements of the streets as *street-system*. The areas within the town plan unoccupied by streets and bounded wholly or partially by street-lines are the *street blocks*. Each street block consists of contiguous land parcels or a single land parcel, physically defined by boundaries called *plots*. The arrangement of plot boundaries is called the *plot pattern* or *plot series* when they are placed in a single row abutting a road. *Block plan* of a building is the area occupied by the building. The three elements, according to Cozen, appear in different combinations in different urban areas and they gain their uniqueness because of different site circumstances (Cozen, 1960; 4-5). A study of the pattern of the built form brings out full morphological detail and diversity of urban built-up area (Conzen, 1960; 4). Various authors refer to the same terms defined or mentioned by Cozen through differently, for example, parcel boundaries are also referred as parcel lines instead of plots and block plans are referred as building footprints. Study of blocks, and arrangement of buildings and will help in understanding the layout and pattern of the urban areas and identification of arrangements typical to the area.

4D ii) Figure Ground

The pattern of the urban area can also be studied by figure ground analysis. Roger Trancik in his figure ground theory defines the relative land coverage of buildings as solid mass 'figures' to open voids 'ground'. The predominant 'field' of solid and voids creates urban pattern known as the fabric of the area. According to Trancik, figure ground analysis is a powerful tool for identifying the textures and patterns of urban fabric and problems associated with its spatial order. It leads to a two-dimensional conception of a space (Trancik, 1986; 97). According to Wayne Copper, figure ground expands the scope of attention from single space and buildings to the structures of the entire urban area. It also provides a preliminary stage of urban analysis by isolating and generalizing the patterns of buildings and spaces into fields and zones (Copper, 1983). Figure ground studies can help identify a hierarchy in pattern set up by application of two basic principles: domination or gradation. A single building by its mass alone and its precise location within the town structure can set up domination. Similar case may be cited for dominant voids as well. Dominance of the object also depends on its surrounding and subordinate spaces or objects (Copper, 1983; 48). In gradation format, elaborate ranking system is applied and size and direction of a series along with degree of enclosures are graded to produce a distinct hierarchy. Hierarchy may or may not exist in an area (Copper, 1983; 48).

4D iii) Buildings and Streets

Thomas Thiis-Evensen has carried out a more detailed analysis of the built form in his study of 'esthetic planning' and has further categorized built form as buildings and streets. *Buildings* form spaces in between, which translate as streets and squares. Three main characteristics of buildings in cityscapes are *figures*; which fills the space and guide movements, *modulations*; which defines in-between spaces vertically as well as horizontally and *surfaces*, which by its sides and openings articulates and delineates in-between spaces (Thiis-Evensen, 1999). According to Richard Hedman and Andrew Jaszewski, if design features of a building are too simple and bland, a viewer may not bother with careful examination of the detail. People enjoy reexamination of a familiar area at multiple visual levels and derive new visual relationships. According to authors, "if a building or group of buildings is to work on a day-to-day basic, a certain simplicity and boldness of features and form is needed to facilitate comprehension of the larger composition and a degree of complexity and subtlety also is needed to renew the interest of the regular viewer" (Hedman, 1984; 57). A few special buildings in an area, having contrast with surrounding, can provide accent and focus but if all the buildings seek to contrast, the result is chaos (Hedman, 1984; 11). If the structures are well insulated from each other due to their location or foliage, design variation may occur without damage of the character (Hedman, 1984; 13). At the same time, in an area having heritage of well-designed buildings and neighborhoods, new structures should respect the positive qualities, scale and character of the existing environment and contribute to the overall impression of unity (Hedman, 1984; 9). According to authors, the building need not ape the stylistic mannerisms of its neighbors to support the visual unity of the area but it

should share certain fundamental characteristics with them (Hedman, 1984; 9). While introducing a new structure, identifiable patterns having good design quality, of the neighboring buildings, should be reinforced wherever possible and new elements having strong linkages with the neighboring buildings can be introduced (Hedman, 1984; 13). Hedman and Jaszewski, have demonstrated methods of studying existing design elements which can serve as important linkage in absorbing new structure in the area (Hedman, 1984; 14). They are:

- Building Silhouette
- Spacing between building
- Setbacks from property line
- Massing of built form
- Location and treatment of entry way

According to Thiis-Evensen, *Streets* guide movement and lead from one place to another. There are four different types of streets identified by Thiis-Evenson. *Cutting streets*, whose façade on either side is more or less consistent and it accentuates forward movement. Goal Streets, which accentuates to an endpoint or a goal and the shape of the goal determines if street stops/ divert/ concentrates or continues forward. *Border Street*, whose longitudinal walls differ from one another and is mostly found in between two areas. *Sequence Street* divides the space into rhythmic sequence by contractions or expansion, height variations or openings and the focus of the street shifts in outward direction in competition with main forward movement (Thiis-Evensen, 1999). Richard Hedman and Andrew Jaszewski suggest that, if the walls or buildings just abutting the

streets are low in relation to the width of the streets, then the street does not provide a sense of unification and hence human vision, which affects the perception of street space and scale (Hedman, 1984; 57). If the ratio between street wall height and width is more, i.e. if the street is broader, a human eye cannot perceive the entire space at a time and the user tends to experience the space as a sequence of smaller spaces. Whereas, if the ratio is less, the top of the building is no longer visible without adjusting to the angle of the head and such street walls might not allow penetration of light to street level. According to authors, the ratio of 1:2 between street wall heights and street width is minimum desirable ratio for good street spatial definition (Hedman, 1984; 58-59).

Summary of literature review

This section summarizes important aspects of visual character resulting from the above discussion. Specific terms have been derived from the chapter will further be used in the methodology for investigating different aspects of visual character of Mount Adams. Each of the term mentioned below is does not necessarily feature in the writings of different authors but are derived or supported by concepts discussed above.

Terms	Authors/ Case Studies	Definition/ Concepts
Natural form	Kevin Lynch	- Basic elements of region are topography, water and vegetation.
	Martha's Vine Yard	- Basic components identified: <i>Vegetation density</i> (wooded areas, open plains and

settlements), *topographic closure*

(topography and slope).

Conclusions

The study identifies important natural elements for conservation and setting guidelines for development.

Spatial Evolution

Forster Nbudisi

- Visible character reflect culture of its inhabitants.

Sally Schauman

- Change is reflected in the pattern of natural and built form.

Eduardo E. Lozano

- Process of *growth* and *change* reflects the dynamic effects of time in urban areas.

- *Growth* occurs when new functions are added to the system, can be marginal or large. It may or may not have physical implications.

- *Change* is caused by effect of time or other reasons and has physical implications.

Conclusions

The study helps in better understanding of an area in terms of its past problems and issues, leading to the current patterns.

Visual interpretation

Viewshed

- | | |
|----------------|---|
| Richard Hedman | - Skyline of an area is determined by its underlying landform, modified by the size, scale and pattern of development. |
| Kevin Lynch | - Mapping the area into 'seen' and 'unseen' parts to describe its visibility from surrounding areas.

- Identifying viewing points in the neighborhood; accessible and cherished by neighborhood. |

Conclusions

The study identifies features important for the skyline of the area and identifies sites where new development should be restricted/prohibited from intruding into prominent view.

Serial Vision

- | | |
|---------------|--|
| Gordon Collen | - It is the placement and scale of an area as perceived, when one walks through it at uniform speed.

- It has two elements: emerging views and existing views and which reveals the drama of an urban area. |
|---------------|--|

Conclusions

The study will help in grasping the fabric of the area in terms of arrangement of the elements, scale and views.

<u>Legibility</u>	Kevin Lynch	- Clarity of cityscape with physical elements - Five physical elements are: paths, edges, districts, nodes and landmarks.
-------------------	-------------	--

<i>Conclusions</i>	The study will help in identifying elements that are distinct and important for the image of the area	
--------------------	---	--

Built form

<u>Streets</u>	M.R.G. Conzen	- Streets are open spaces reserved for the use of surface traffic and they are arranged in a pattern.
	Thiis-Evensen	- Streets guide the movement and lead from one place to another and have three elements; plan, walls and floor. - There are four types of street plans; cutting streets, goal streets, border streets and sequence street.
	Richard Hedman	- The ratio between street wall height and width is important, a ratio of 1:2 is minimum desirable for good spatial definition.

<u>Figure Ground</u>	Roger Trancik	- Field of solid and void creates urban pattern - Tool for identifying the textures and patterns of urban fabric and problems associated with its spatial order. - It identifies the basic principles of domination, gradation, and hierarchy of pattern.
<u>Buildings</u>	M.R.G. Conzen	-Block plan (building footprint) is an area occupied by the building on ground.
	Thiis-Evensen	- Modulation is the space in between the buildings. - Surfaces of the buildings having openings
	Richard Hedman	- Design elements that provide important linkage in absorbing new structures are: building silhouette, space in between building, setbacks from property lines, massing of buildings, location and treatment of entry way.
<i>Conclusions</i>	The study will help in identifying different built form elements and their distinct pattern typical to Mount Adams	

CHAPTER 5- METHODOLOGY

Qualitative research techniques are used in this thesis for studying aspects of visual characters of Mount Adams. According to Paul Leedy, in qualitative research techniques we collect numerous forms of data and examining them from various angles to construct a rich and meaningful picture of a complex multifaceted situation. The research technique involves in-depth analysis of a particular phenomenon along with its complexities and it is studied in its natural settings (Leedy, 2001). The research can focus on a particular single case because of its uniqueness and exceptional qualities but then the results can not be generalized. This particular type of qualitative research design is termed as 'Case study' by Leedy. The method of this type of research involves; data collection, data analysis and research report. Collecting extensive data through observations, documents, past records, audiovisual material like photographs and onsite surveys are the first steps of the research technique. The collected data is then analyzed by organizing, categorizing, interpretation, identifying patterns and by drawing conclusions. According to Leedy, the research report should contain rationale for studying the case, detail description of data and patterns found along with unbiased account of the facts (Leedy, 2001).

PROCEDURE

The methodology is based on the information and understanding gained through literature review on various aspects of visual character. The method thus derived, is partly based on similar studies carried out earlier by different authors/ agencies and partly based on personal impressions, observations and interpretation of available information. The

methodology, seeks to understand aspects of Mount Adams's visual character in terms of key elements of *natural form*, *spatial evolution* for growth and changes, *visual interpretation* of selected viewshed, serial views and legibility, key elements of *built form* and their interrelationship.

Natural forms aim at understanding current form for topography, slopes and vegetation. This section will help us identify characteristics of undeveloped area in Mount Adams in terms of its elevation differences, types of slopes and nature of vegetation. *Spatial evolution* aims at studying growth and changes in the visual character of Mount Adams that has lead to current form. This section will identify important historic sites or structures and areas of neighborhood that have undergone major changes in the past and require future considerations. *Visual Interpretation* is carried out in three parts: Viewshed analysis, serial view and legibility. Viewshed analysis aims at identifying physical components most visible from other strategic location of Cincinnati and surrounding areas, as well as important viewing points within Mount Adams. Serial view identifies various spatial arrangements of physical components within the neighborhood of Mount Adams and its contribution in visual character, where as, legibility will identify five physical components namely edges, paths, boundaries, districts and landmarks in Mount Adams. Based on the study of legibility, different areas will be demarcated to carry out study of built form. *Built form* section will analyze spatial arrangement of various elements of built form in detail for demarcated areas. The study will focus on type of streets, pattern and dimensions of streets and pavements, sizes of buildings along with

their heights, details, silhouette, massing and materials. Interrelation elements like steps and retaining walls will be captured which are unique to the area.

Following table lists various sections involved in this chapter along with brief description of elements of visual character covered under each section and expected observations from each section.

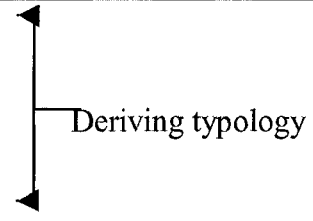
	Sections	Description of elements	Character Identified
1	Natural form	Topography	Identify High/ Medium/ Low elevation areas
		Slopes	Very steep/ steep/ gentle and flat lands
		Vegetation	Wooded/ scattered vegetation/ open land/ settlements
2	Spatial Evolution	growth and changes	Important historic sites/ structures/ areas
3	Viewshed	Looking in	visible/ not-visible areas
		Looking Out	Viewing point
	Serial Vision		spatial arrangements
	Legibility		Identifying nodes, districts, paths, edges and focal point
4	Built form	Streets Buildings Relation of built & natural form	

Table 2: Procedure for Methodology

ANALYSIS

5A. Natural Form

Natural form of Mount Adams, as seen today, is a result of continuous alterations and modifications of original form to accommodate ever changing and developing built form. Mount Adams being one of the most popular areas for development, its natural form has undergone alterations but at the same time, it has also played a major role in molding built form. A study of natural form will help in understanding constrain on built form as well as identify key features important for visual character of the area. This section investigates different aspects of natural form in Mount Adams.

5A i) Topography

Topography is the basic character of any region and provides ground conditions for built form. Some of the important physical attributes of topography are elevation and slope. Elevation is related to height where as slopes are related to steepness or flatness of land. In Mount Adams, topography has played major role in molding the present character.

a) Elevation:

The following map shows existing elevation at Mount Adams and darker colors in the map represent higher elevation where as each line represent a rise of two feet in elevation (Illustration 3).

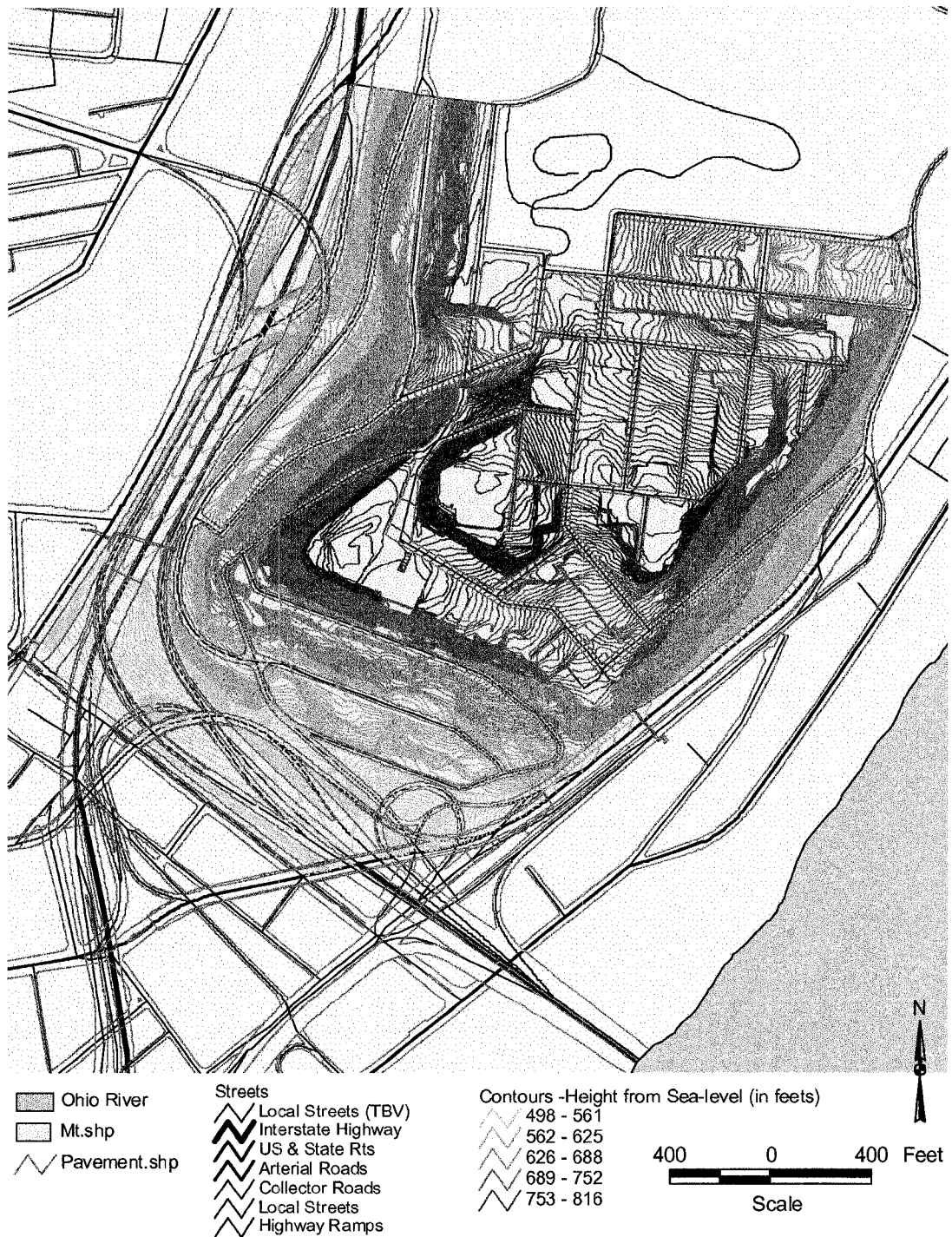


Illustration 3: Existing Elevation of Mount Adams

Most of the southwestern and northwestern edges of Mount Adams lies at lowest elevation where as the northern part is at higher elevation. Because of higher elevation, the northern part it is bound to have more visibility from surrounding low-lying areas and at the same time, it will have better view of the surroundings. Thus these areas are more important for development. Similarly parts of Mount Adams at lower elevation will have lesser visibility from surrounding areas and they are secondary choice for development.

b) Slope:

Steep slopes pose restriction on construction. Highways are restricted to 4-5 percent slope, major roads have 10 percent slope where as driveways can be constructed on 15 percent slopes. Flat lands are preferred areas for construction but with improved technology and innovative designs, construction is possible on steeper lands but at relatively higher costs. Slopes for Mount Adams are expressed in percentage in following map where higher percentage represents steeper slopes (Illustration 4).

Areas on the foot of the mountain on southwestern edge and northwestern edges of the neighborhood have almost flat lands and have been used for some of the main interstate highways. The northern side of Mount Adams has larger areas of flat lands as compared to any other parts and this land has been used for neighborhood business district and some of the important institutional buildings. Most of the parts in Mount Adams have steep slopes but in spite of the topographic difficulty, almost entire neighborhood has been developed, with flat areas having denser developments than steep areas.

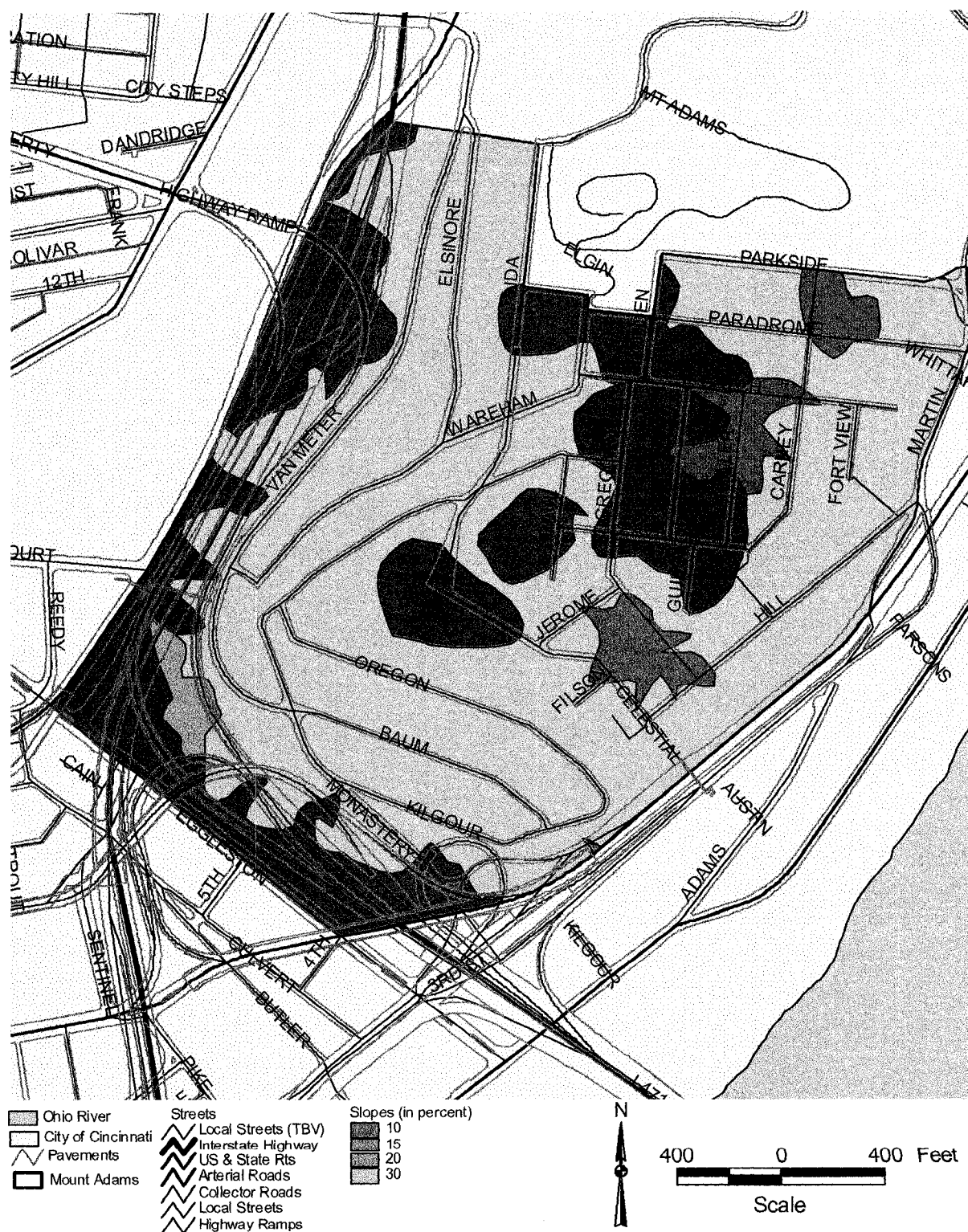


Illustration 4: Existing Slopes of Mount Adams

5A ii) Vegetation

Mount Adams has abundant vegetation that is a predominant expression of its silhouette when viewed from a distance. It softens built form and forms an important visual character. For the study, location of vegetation types were identified through aerial photograph and Geographic Information System (GIS) was used as a tool to draw polygons around similar vegetation types. Three distinguished vegetation types recognized through the study are wooded areas, scattered vegetation and open grasslands (Illustration: 5).

Mount Adams has fragmented vegetation due to intervening built form. Heavily wooded areas are only along the steep topography and lower elevation where construction is difficult, mostly along southeastern and northwestern directions. Small patches of scattered vegetation can be spotted all over Mount Adams along leftover un-built areas and in backyards of few houses. Open grasslands are mostly concentrated along southwestern and northwestern sides in between highway ramps. The area is kept deliberately clear of trees for visibility of motorists on the highways.

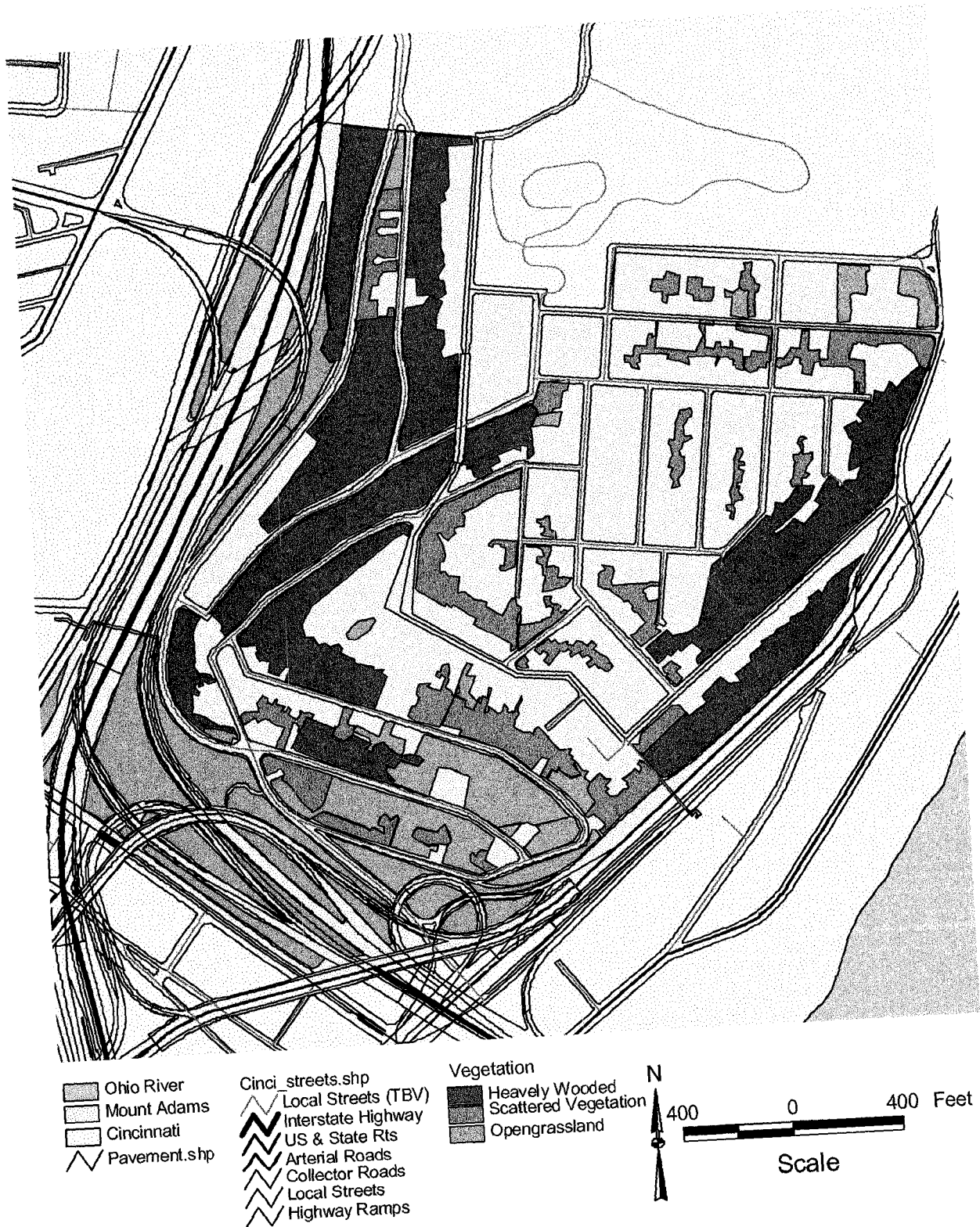


Illustration 5: Existing Vegetation at Mount Adams

Conclusions:

The elevation of Mount Adams rises from northwestern and southwestern areas towards northern side that has relatively larger areas of flat land. Thus, the natural form of Mount Adams is in the shape of mountain with relatively flattop, flat foothills and steep areas in between. The steep areas are wooded, the top has scattered vegetation where as the foothills has open grassland and accordingly the top flat areas have denser built form where as the steep areas have some built form and foothills mostly has interstate highways and ramps (Illustration 7). This pattern of natural form is strikingly noticed when Mount Adams is viewed from a distance (Illustration 6).



Illustration 6: Panoramic view of Mount Adams from downtown Cincinnati

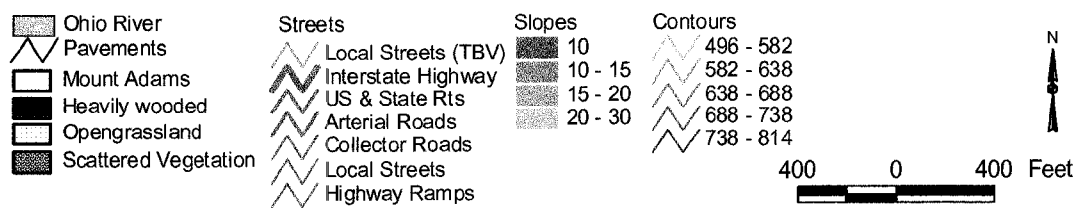
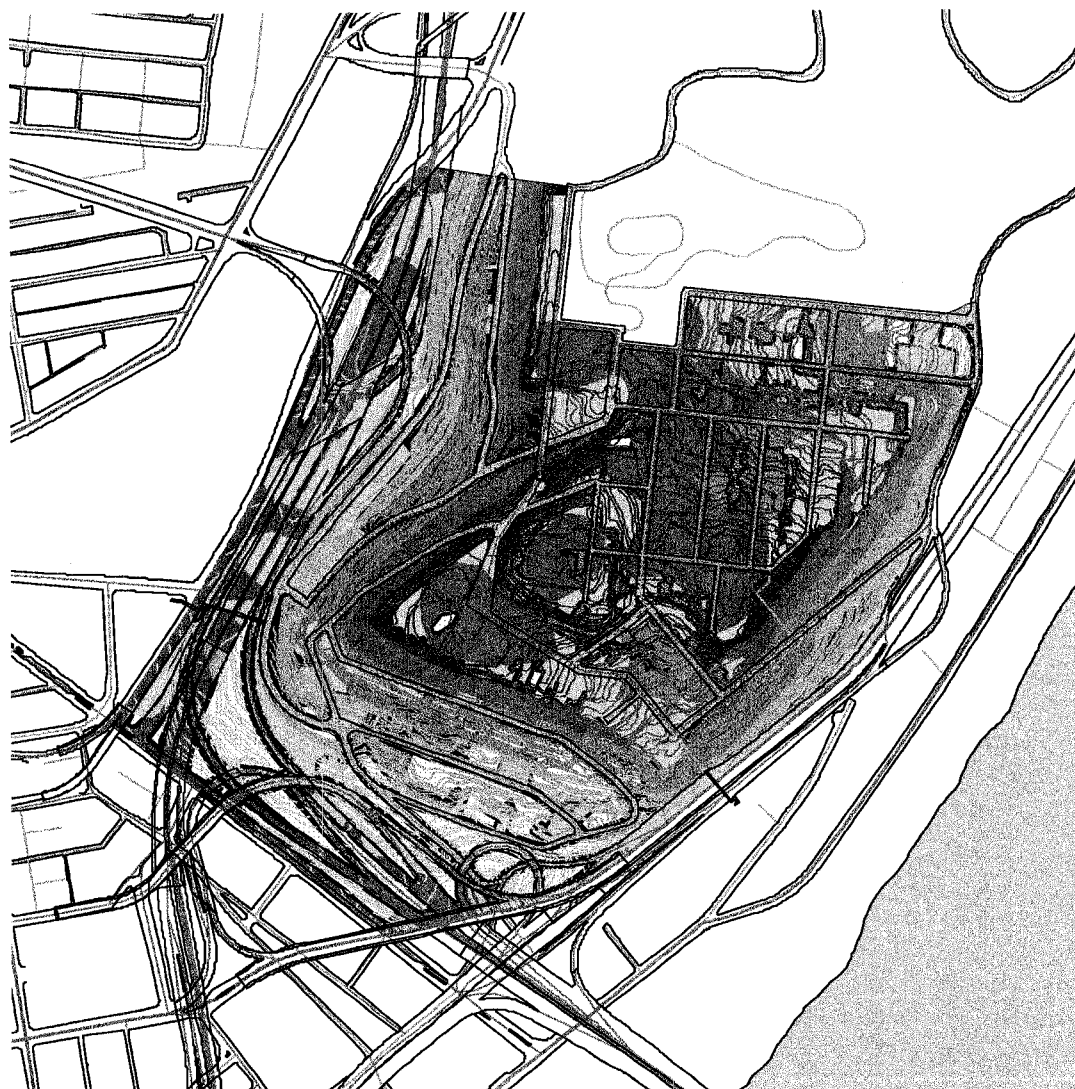


Illustration 7: Conclusions of Natural Form

5B. Spatial Evolution

The section investigates spatial evolution in built form of Mount Adams which has changed natural form significantly over a period and also scrutinizes how the constraints of natural form has given rise to current built form of the neighborhood. This section lists the important events that lead to growth and changes in Mount Adams in chronological order followed by series of illustrations (Illustration 8-14) showing changes in the character of Mount Adams in different decades. It analyzes *visual character evolution* of Mount Adams in different periods and recognizes historically significant structures and areas.

5B i) Historical Events: leading to growth and changes in Mount Adams

Prior to 1793	Hillside of present Mount Adams regarded as wasteland and remained undeveloped.
1793	Road built by Reverend James Kemper to access his log cabin located at present Kemper Lane (first signs of development).
1849	Firework factory started on Celestial Street (later replaced by Rookwood Pottery).
1860	Immaculate Conception Church, accessed through steep of St. Gregory Street (Still stands on St. Gregory Street)
1873	Holy Cross Monastery Church (razed as it was declared unsafe by city building inspectors).

1874 Mount Adams incline built from Lock Street to Celestial Street (important link between downtown and Mount Adams and it carried passengers as well as freights).

As a result: 1870's-1890's - Building boom in Mount Adams and the hill became home

- for lower middle- income families working in downtown
- Small businesses and institutional buildings sprung at the intersection of St. Gregory Street and Pavilion Street.
- 1876- Entertainment establishments like Highland house on Celestial Street (razed in 1895 due to decreasing patronage).
- 1902- Sterling Cut Glass Company established on the site of Highland house.
- 1880- Rookwood Pottery on Celestial Street (closed in 1931).
- 1890- Pilgrim Presbyterian Church completed on St. Paul's Street.

Late 1800's Basin area became increasingly populated and had high pollution level due to increasing manufacturing activities

- Mount Adams became home to middle-income workers.

1920 Availability of automobiles

- 1931- New Ida Bridge constructed replacing old steel and wooden bridge
- 1948- Incline closed due to decreased passengers

- 1940- Mount Adams a stable neighborhood, most of land already constructed and population was white, lower middle-income catholic families.

Mid 1950's Suburbanization

- Young residents moved to suburbs, owner occupancy decreased and most of small businesses closed.
- Young professionals started moving to Mount Adams and renovated and remodeled houses thus improving appearance of neighborhood.
- 1965- Apartment building (24 story high) named Highland towers constructed.
- New bars and restaurants opened
- Neighborhood became home to upper-income young professionals.

1973-74 Land slides along Kiolgour and Baum Street due to construction of I-71

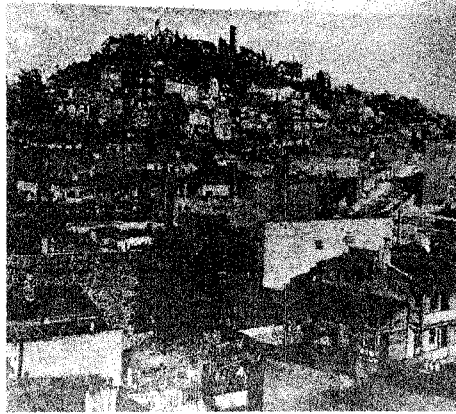
1980-84 Another landslide along Martin Drive

- Forced the razing of 13-27 houses in the area
- Areas incorporated in Environmental Quality District
- 1982- \$25 Million spent on project for building retaining walls along Kilgour, Baum Street and Martin Drive.

1981 Parking scarcity in Mount Adams

- 1981- Urban Design plan drafted for neighborhood.

View of Mount Adams 1866
(source: Enquirer May 14, 1991)



**View of Mount Adams Late 1800's
after opening of the incline**
(source: Cincinnati Historical Society)

**View of Mount Adams 1920's
with advent of automobiles**
(source: Cincinnati Historical Society)

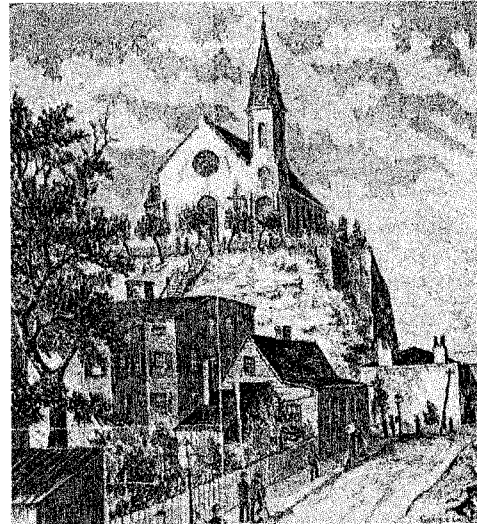


**View of Mount Adams 1936
when most part of Mount Adams was built**
(source: Enquirer Nov 15, 1936)

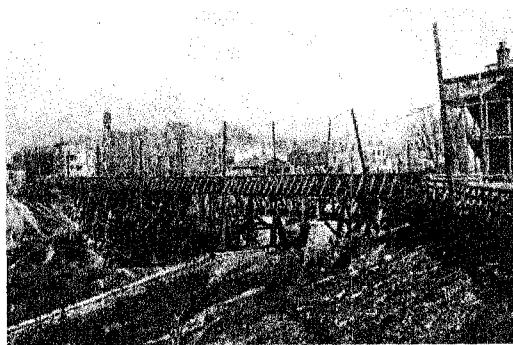
Illustration 8: View of Mount Adams at different periods



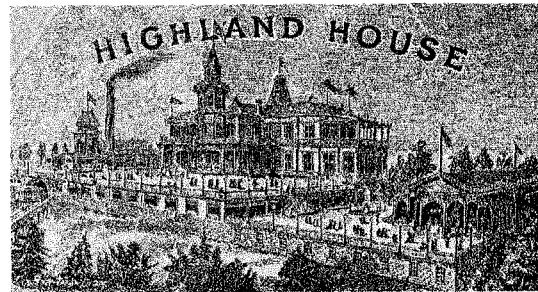
Ida Street 1929
(source: Cincinnati Historical Society)



Immaculate Conception Church 18
(source: Graphic history of Mount Adams, 19



View of Old Bridge on Ida Street 1920's
(source: Cincinnati Historical Society)

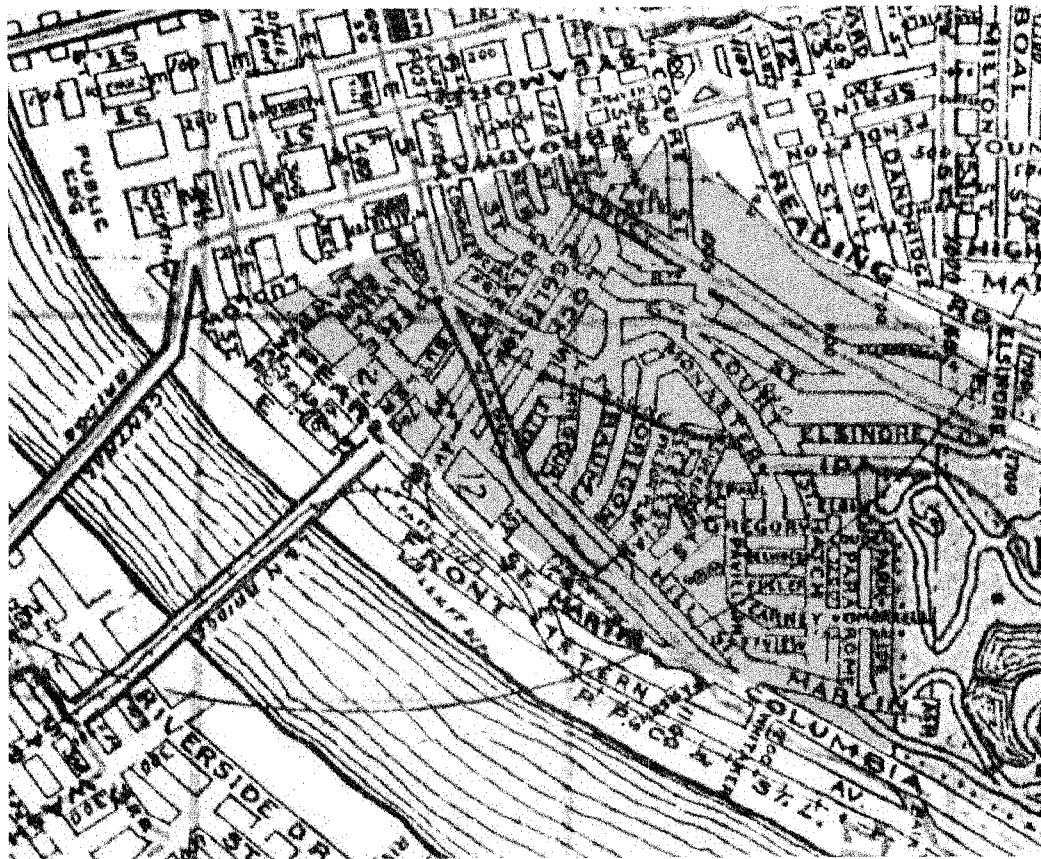


Highland House 1876-1895
(source: Cincinnati Historical Society)



Rookwood Pottery- 1880-1931
(source: Graphic history of Mount Adams, 1931)

Illustration 9: Early Structures of Mount Adams

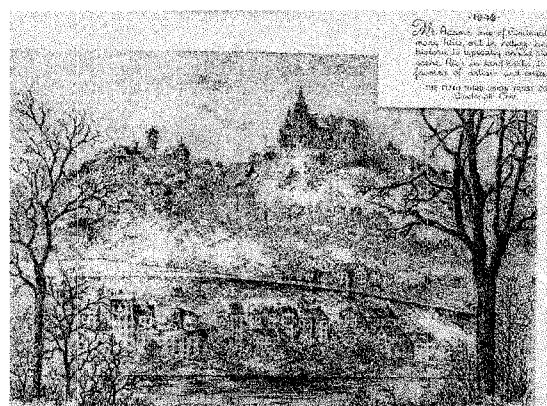
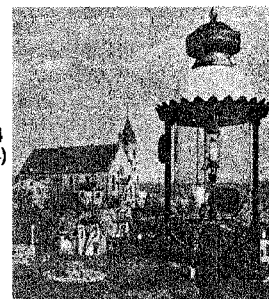


Map of Mount Adams 1944
(source: The A.C. Wagner Co. 1944)



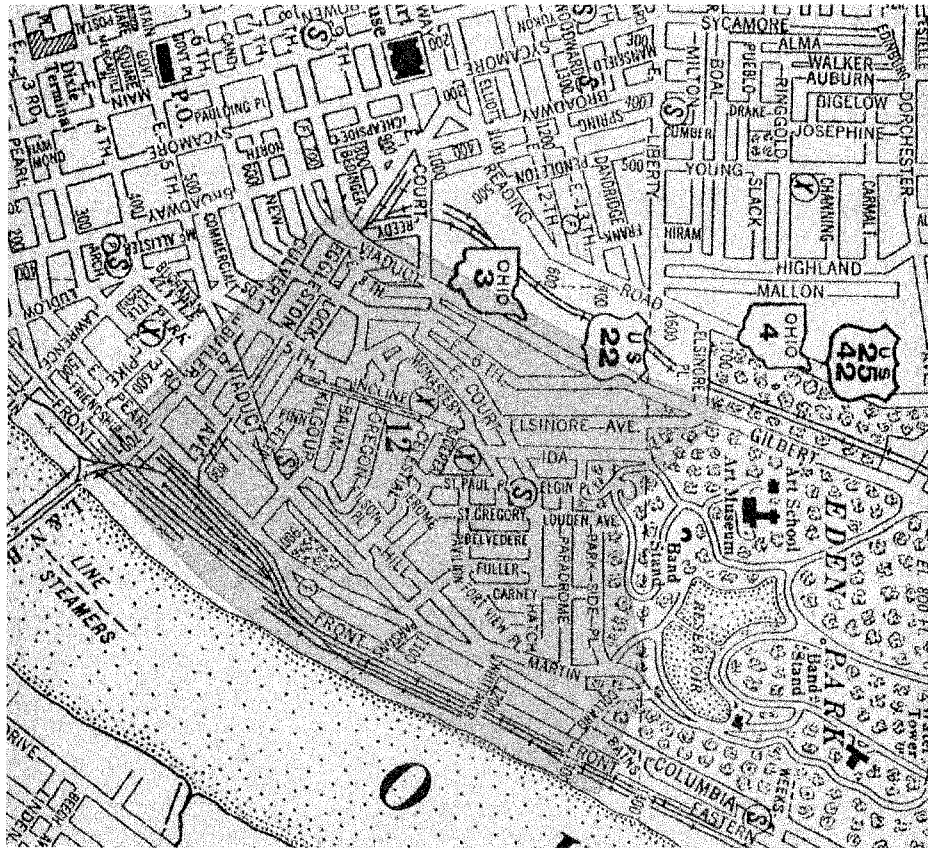
Typical house of the neighborhood-1945
(source: Cincinnati historic library)

Gas street lamps of 1944
(source: Enquirer July 9, 1944)



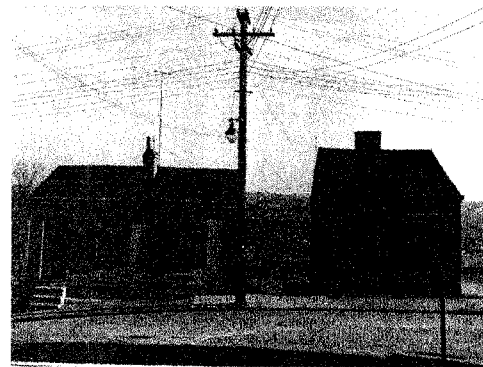
View of Mount Adams 1946
(source: The fifth third union trust co. 1946)

Illustration 10: Mount Adams in 1940's



Map of Mount Adams 1950
(source: George F. Cram co. Inc, Indiana)

Typical housing in 1950's
(source: Cincinnati historic library;
picture by Samuel Wilson)



**Poor housing conditions;
Hunt Street in 1958**
(source: Cincinnati historic library;
picture by Harry Hartman, 1958)

Illustration 11: Mount Adams in 1950's



**Highland towers;
Celestial Street, 1969**
(source: Cincinnati historic library;
picture by Unknown, 1969)



**Improved Streetscape;
Hatch Street 1969**
(source: Cincinnati historic library;
picture by Unknown, 1969)

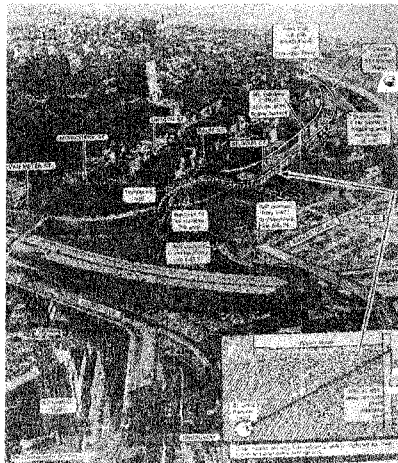


**Modern construction;
Jerome Street, 1969**
(source: Cincinnati historic library;
picture by Unknown, 1969)

Illustration 12: Mount Adams in 1960's



Map of Mount Adams 1974
(source: Metropolitan Topography Survey, 1974)



Proposed retaining wall along Kilgour Street
(source: Cincinnati Enquirer, June 22, 1980)

Baum Street in 1983
(source: Enquirer Magazine, May 29, 1983)

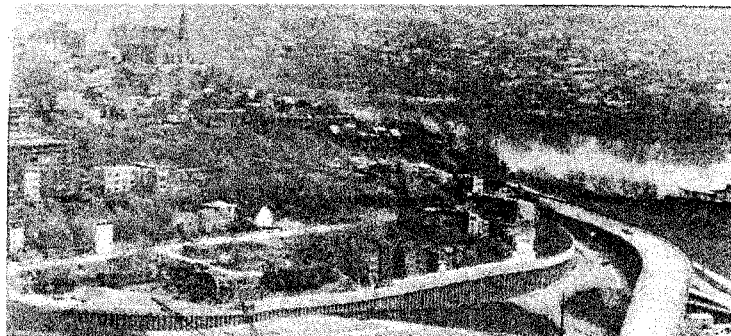
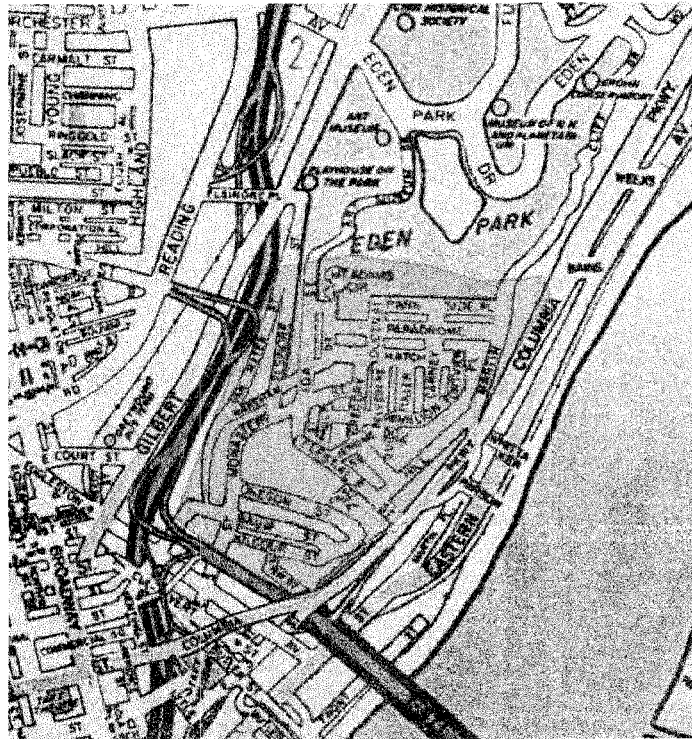
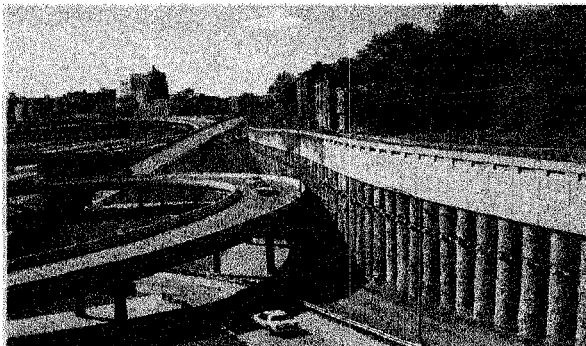


Illustration 13: Mount Adams in 1970's-80's



Map of Mount Adams 1974
(source: Metropolitan Topography Survey, 1974)



Proposed retaining wall along Kilgour Street
(source: Giglierano, 1988)

**Congested neighborhood,
1980's**
(source: Giglierano, 1988)

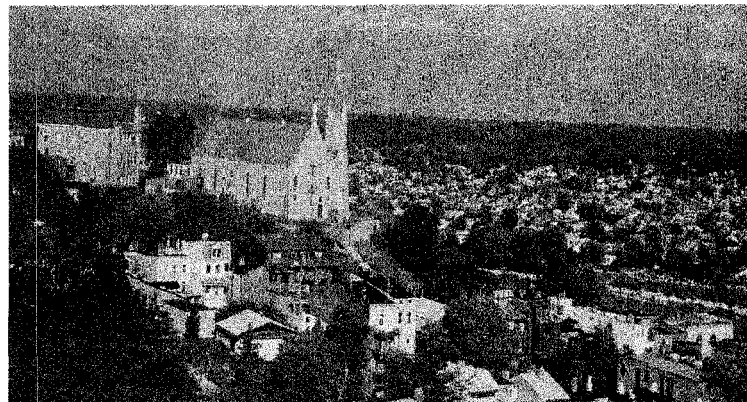


Illustration 14: Mount Adams in 1980's

5B iii) Visual Character Evolution

Visual elements of the neighborhood started changing since introduction of the first built form in late 1700's. Drastic transformation in character of neighborhood from rustic natural landscape to more urbanized development took place, with the advent of incline in late 1800's, leading to building boom and migration of huge number of population to neighborhood from congested basin area of the city. Developable land was scarce in the neighborhood because of steep slopes and hence to take maximum advantage of available land, parcels were narrow and closely packed. Since the available natural conditions and parcel configuration was most suitable to residential development, neighborhood mostly remained dominated by single and multifamily houses with very few institutional or industrial buildings. Compact residential character of neighborhood took shape between late 1800 to mid 1900's.

By 1950's, housing quality was deteriorating and the neighborhood was losing population as people migrated to the suburbs for larger lots and more open spaces. However, the period was temporary for Mount Adams, as new generation of population with a different social status inhabited the neighborhood again. Affluent young professionals replaced lower middle-income population and as a result, building conditions improved, neighborhood business district had many trendy uses and a highest residential building in the neighborhood was constructed. Quality of built form improved tremendously during 1960's and neighborhood gained recognition as one of the popular areas of the city.

Land slides in 1970's and 1980's, during the construction of highways, was a result of constant neglect and overexploitation of natural form of the area. The event led to attention and awareness of authorities towards the sensitivity of natural form. Remedial measures of constructing retaining wall introduced an imposing character of built form on the edges of neighborhood.

Conclusions

Present visual characters are a result of various events and changes that has left their marks on the neighborhood. Accessibility through steep roads, sharp and defined edges of retaining walls, dominance of residential land use and compact arrangement of buildings along roadsides with narrow parcel lines are some of the present characters that developed as a response to natural constrains and earlier events that took place in the neighborhood of Mount Adams. Along with these characters some structures and constructions, which symbolizes important historical event are still present in Mount Adams, these are important historical remains, which needs special recognition and preservation, as they are *historically important features* of visual character. Following illustration, maps historically important buildings and areas that has suffered landslides earlier and requires special consideration in future (Illustration: 15).

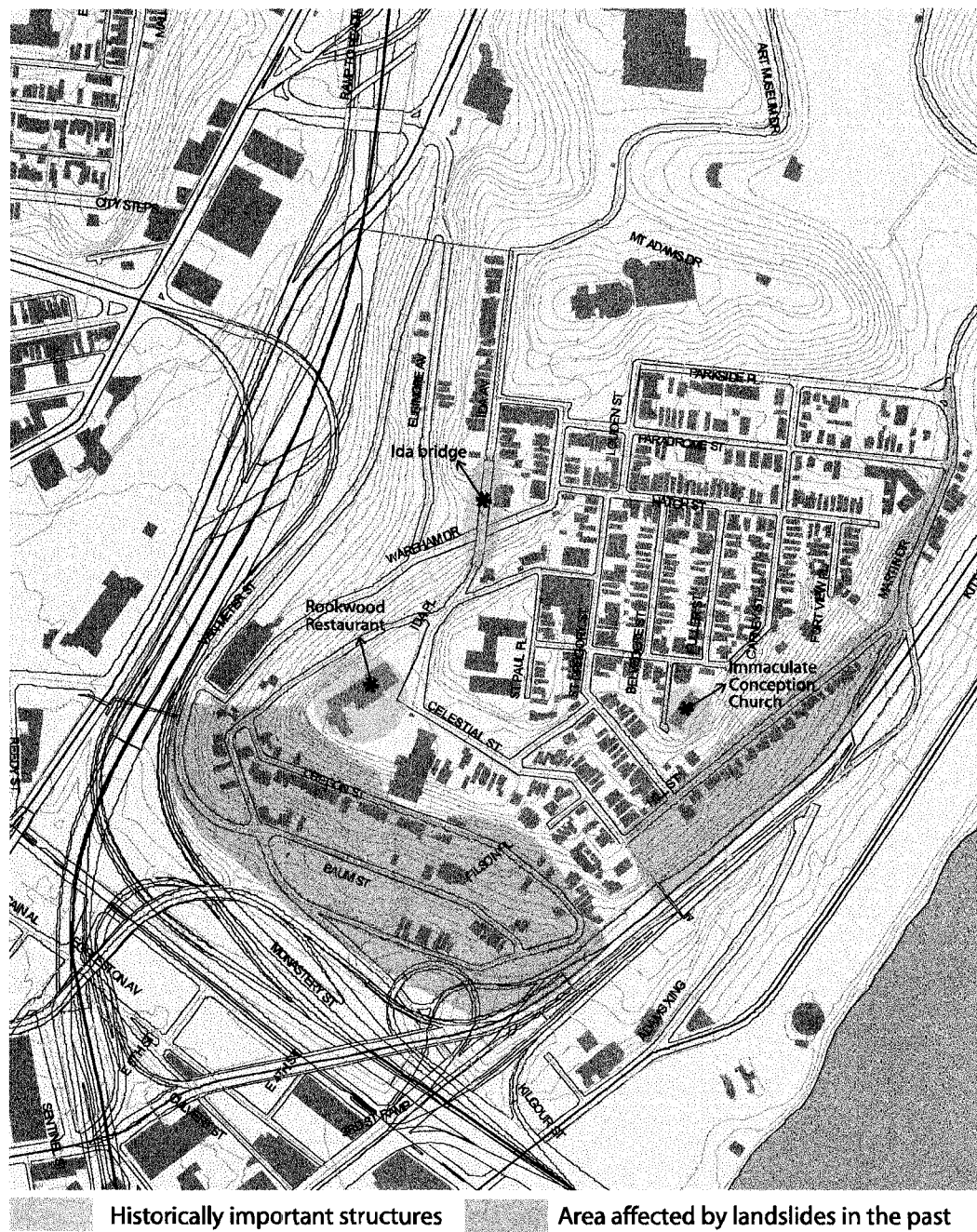


Illustration 15: Historically Important Features

5C. Visual Interpretation

This section interprets the first hand visual experience or the visual image offered by Mount Adams to the visitors, residents and passer-bys, who experience the neighborhood on daily bases or glance at it from a distance. The study, based on personal observation, identifies areas that are most visible, most striking, and forms a general impression about the visual character of the neighborhood. The method used in this section are based on well established techniques, used to carry out similar studies and are published in the books of authors like Kevin Lynch and Gordon Collen. The section has three main subsections: *viewshed analysis*, *serial views* and *legibility*. *Viewshed* analysis is divided in two parts: looking ‘in’ Mount Adams and looking ‘out’ of Mount Adams. First part, based on observation of the neighborhood from a distance, identifies key elements and areas of Mount Adams most visible to a distant observer and the second part identifies important viewing points in Mount Adams that provides a view of surroundings to the residents and visitors in the neighborhood. The second subsection of *Serial views* takes a walking trip into the neighborhood to identify spatial arrangement of Mount Adams and captures experience of a pedestrian in the area through photographs along different parts of neighborhood. Based on these two subsections, the third subsection of *legibility*, identifies five physical elements of paths, edges, districts, nodes and landmarks in Mount Adams.

5C i) Viewshed Analysis

a) *Looking 'in' Mount Adams*

Mount Adams being a vast area and located on a higher altitude is visible from number of locations like from a street, from a building or even from a window. It is impossible to identify every location that provides a view of the neighborhood. Since public places and roads are most accessible and have maximum number of users and observers, views of neighborhood from these areas are most important for creating first impression about the neighborhood. In order to recognize parts of the neighborhood most visible from the surrounding areas, view sheds from six important public locations, situated around the neighborhood were identified and visible parts of the neighborhood from the particular location were mapped (Illustration 16). Views from any locations are unpredictable because of uneven topography and varying heights of buildings thus a panoramic view along with maps from each location helps in better understanding of the view sheds (Illustration 17-19). Different areas in Mount Adams are marked on the map and categorized as areas that are *most visible* from multiple chosen locations along with the areas that are *visible* from at least one of the chosen location and the areas that are *not visible* from any of the chosen locations (Illustration 20).

The six public locations chosen of this study are as follows;

- Eden Park- A Public Park, located on the northern side of the neighborhood, with Krohn Conservatory and Cincinnati Art museum, frequented by many visitors.
- Eastern Avenue- State Highway-50, frequented by many motorists on daily basis and located on NE direction of Mount Adams.

- Bellevue- It is located on the other side of the Ohio River on SE side of Mount Adams and has many restaurants and recreational area, an entertainment destination for many visitors from Kentucky and Cincinnati.
- Sawyer Park- A public park, located on the SE side of Mount Adams along Ohio River has many visitors during warm seasons.
- Intersection of 5th and Egelston- Located on the Western side of Mount Adams is a part of downtown Cincinnati and has access from interstate 71.
- Intersection of Reading Road and Pendelton Street- Located on the NE side of Mount Adams is also a part of downtown Cincinnati.

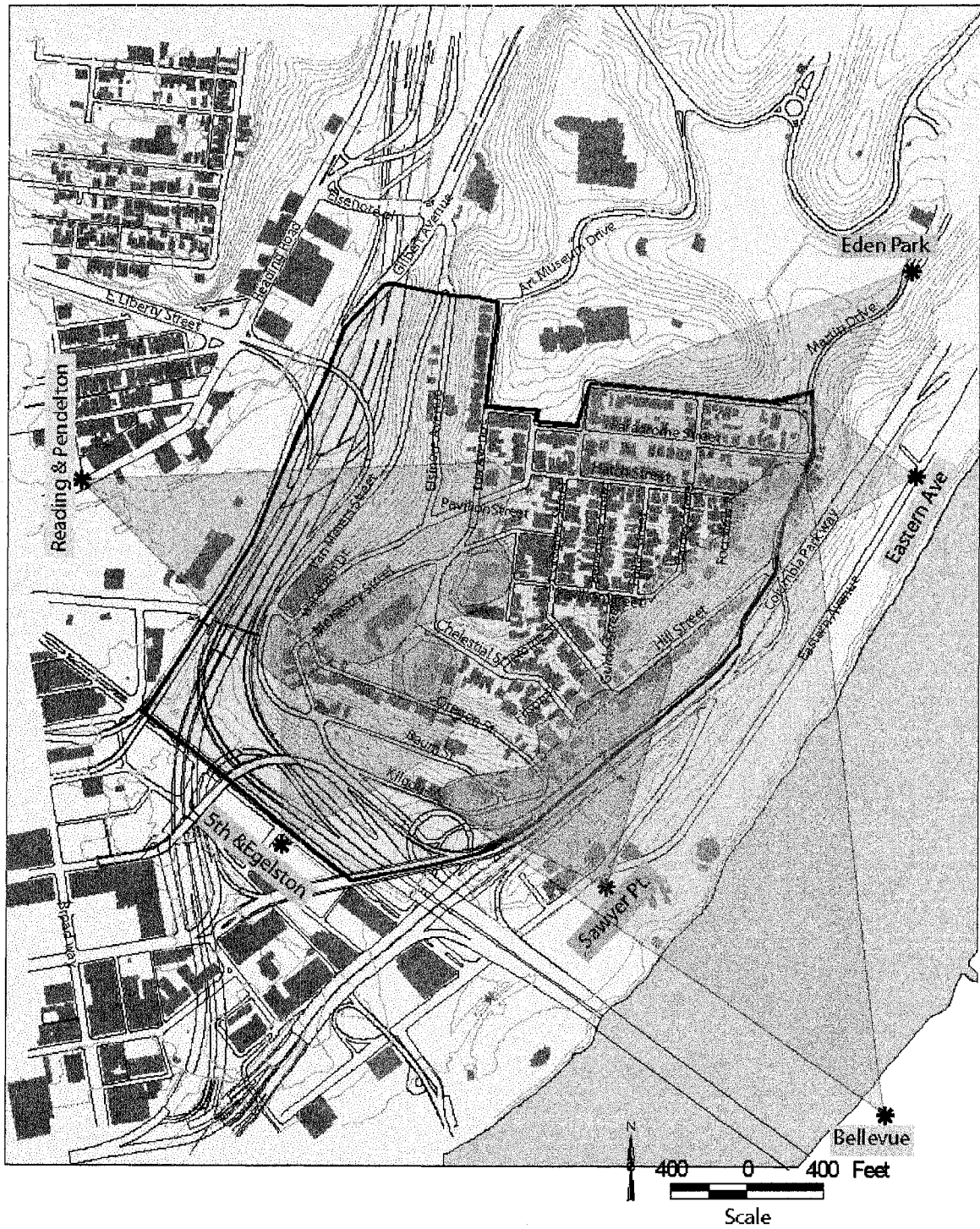
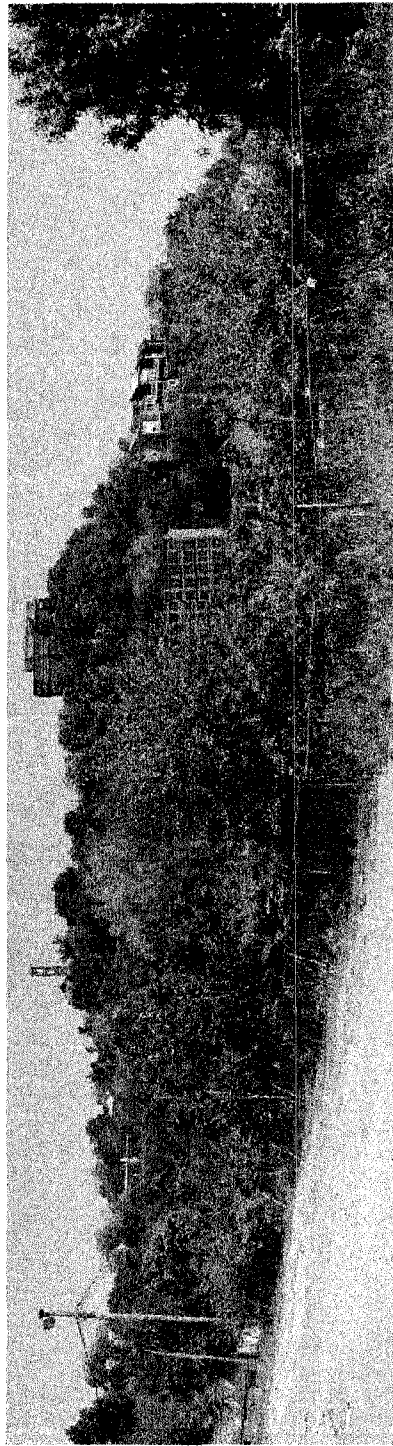


Illustration 16: Viewsheds from Important Locations Around Mount Adams



Panaromic View of Mount Adams from the intersection of Reading Road and Pendolton Street

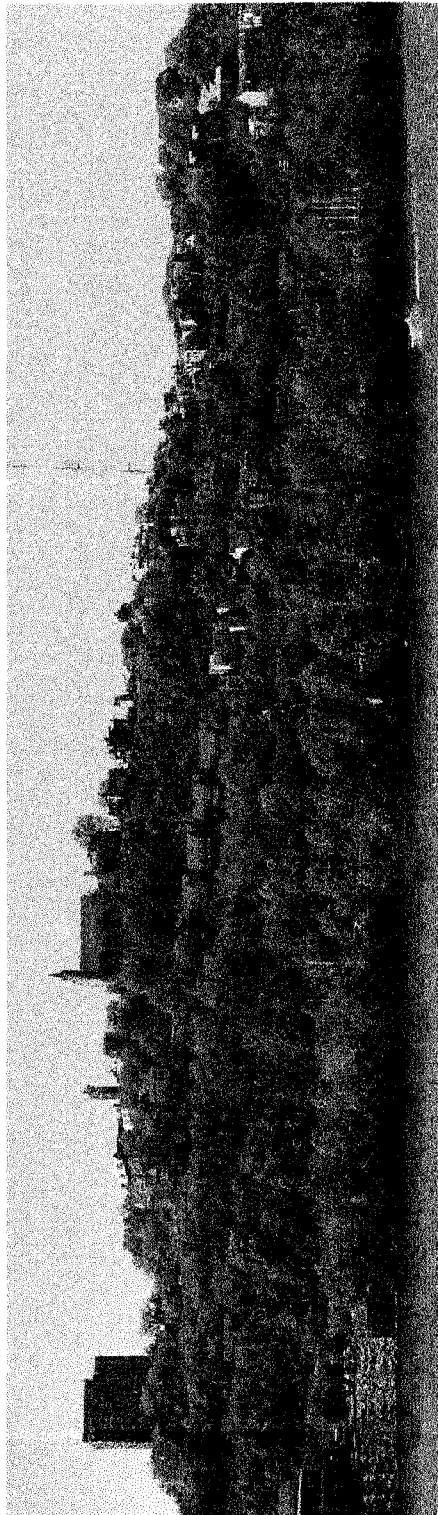


Panaromic View of Mount Adams from the intersection of Egelston Road and Fifth Street

Illustration 17: Panoramic Views



Panoromic view of Mount Adams from Sawyer Point



Panoromic view of Mount Adams from Bellevue

Illustration 18: Panoramic Views



View of Mount Adams from Eastern Avenue



View of Mount Adams from Eden Park

Illustration 19: Panoramic Views

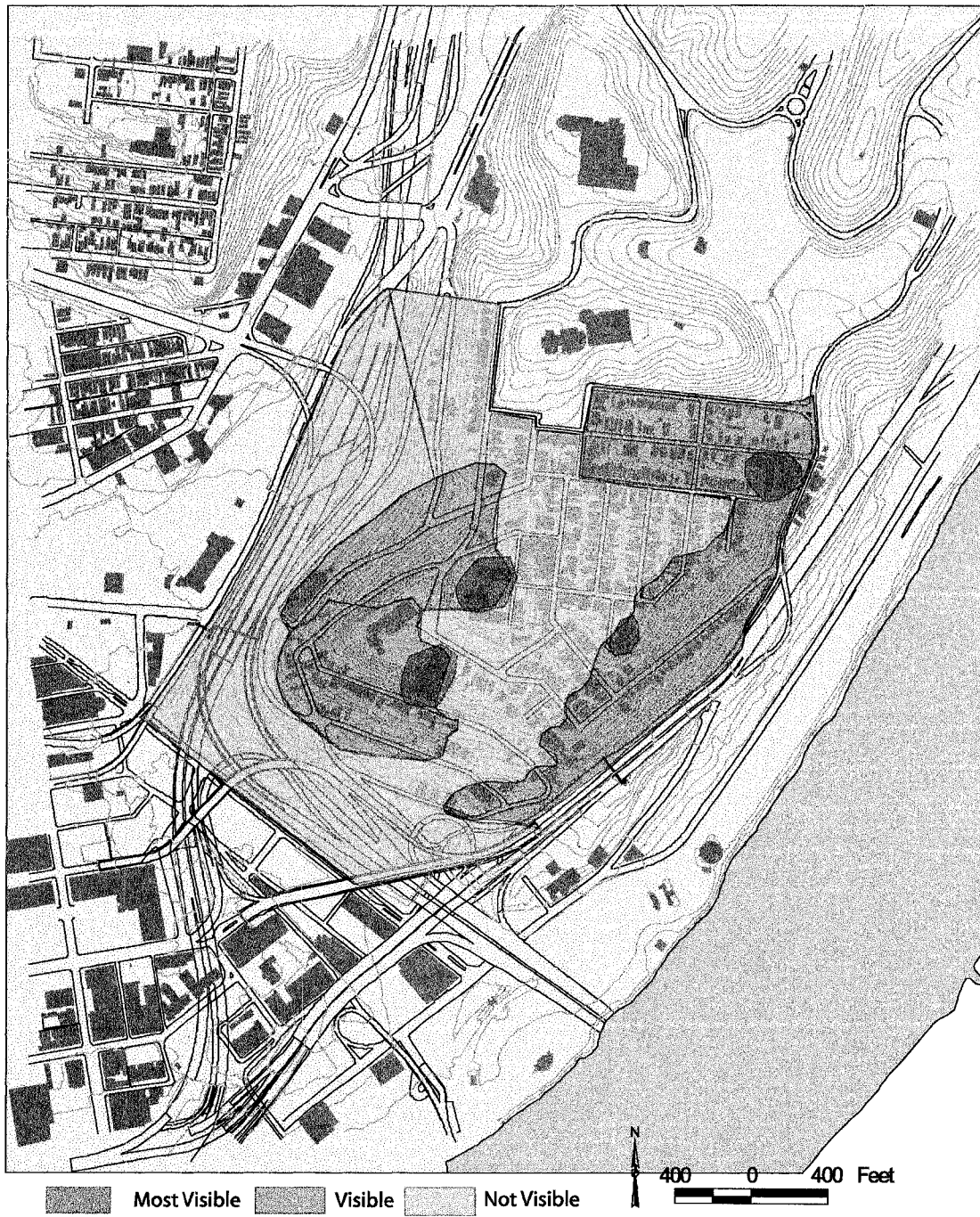


Illustration 20: Visibility of Mount Adams

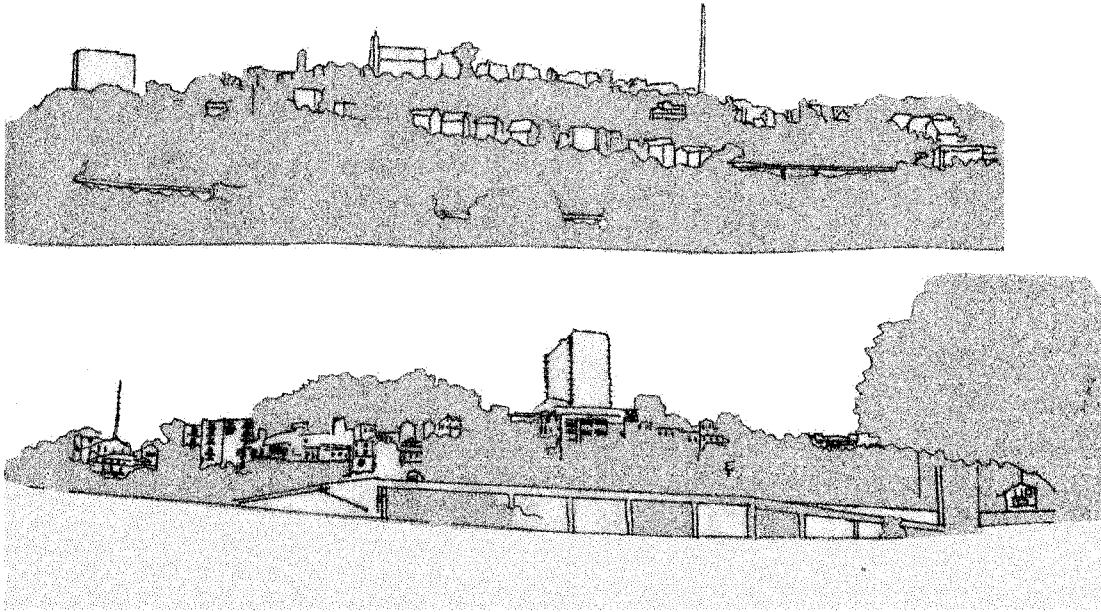


Illustration 21: Interplay of Natural and Built Form

Conclusions

The tall structures situated on higher altitudes are most visible part of the neighborhood. Highland towers residential building located on Celestial Street, Pilgrim chapel located on St. Paul Street, Immaculate Conception church at Guido Street and residential building at Paradrome Street are *most visible* structures from the chosen locations. Where as, the topography and structures located on Northeast and Southwest side of neighborhood along Hill Street, Paradrome Street, Hatch Street and partly on Carney Streets are some of the *visible* areas of the neighborhood. Similarly, parts of neighborhood located along Van Meters Street, Wareham drive, Monastery Street, some parts of Baum Street, Oregon Street, Kilgour Street and Ida Avenue are *visible* areas. Where as rest of the neighborhood is *not visible* from the surrounding areas.

The structures and areas of Mount Adams that are *most visible* and *visible* from surrounding area are very important elements of visual character as they form a visual image of the neighborhood. These areas and structures are communicators of Mount Adams and convey a visual message about the character of the Mount Adams. Since the identified *most visible* and *visible* areas play an important role in portraying the image of Mount Adams and are representatives of Mount Adams visual character, they require special protection and attention in regulatory tools. Development in these areas can alter the appearance of the Mount Adams as perceived from surrounding regions and hence these areas should be monitored more strictly and any undesirable or non-coherent alteration in the panoramic view should be prohibited.

Views of Mount Adams are a composition of natural and built forms. The complex interplay of the two elements forms the interesting composition of undulating topography, vegetation silhouette and building popping out in-between (Illustration 21). The balance between the natural and built form in view sheds are important character of Mount Adam's appearance from a distance and hence major alteration in topography, vegetation and built forms should be prohibited.

b) Looking 'out' from Mount Adams

Mount Adams, being located on a higher altitude, enjoys scenic views of the surrounding areas. Panoramic views are visible from many private areas of Mount Adams (like: from a residence or a roof top) but the points or locations that are accessible by public and provide good views of the surroundings are important viewing points of the

neighborhood. This part of the section identifies important viewing points of the neighborhood that are accessible to public and provides pleasant panoramic views of surroundings. Following illustrations delineates the location of these viewing points in Mount Adams and also provides panoramic view from each point (Illustration 22, 23-27).

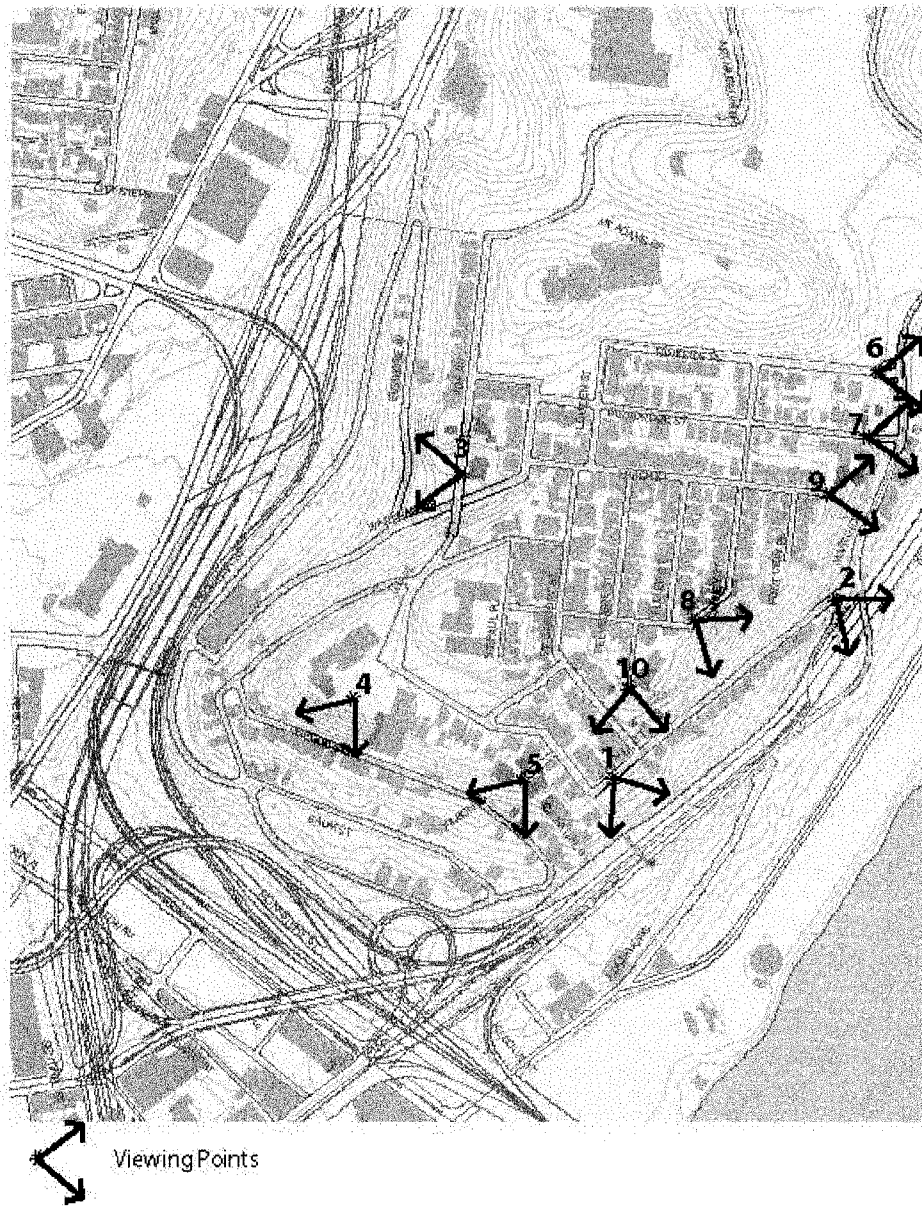
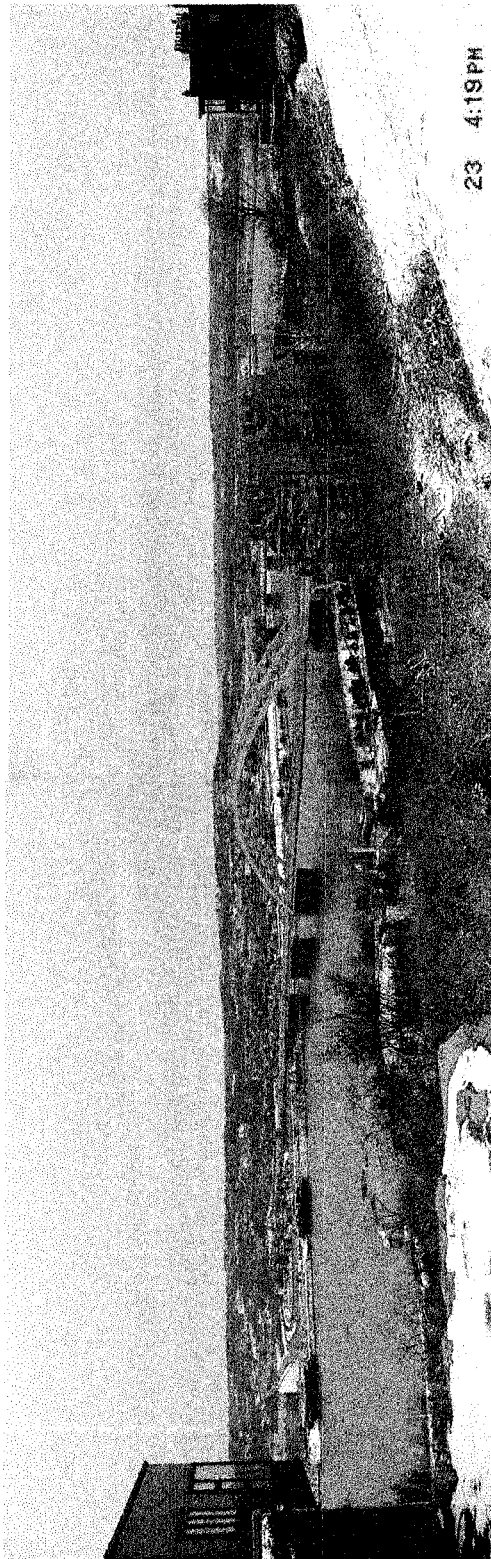
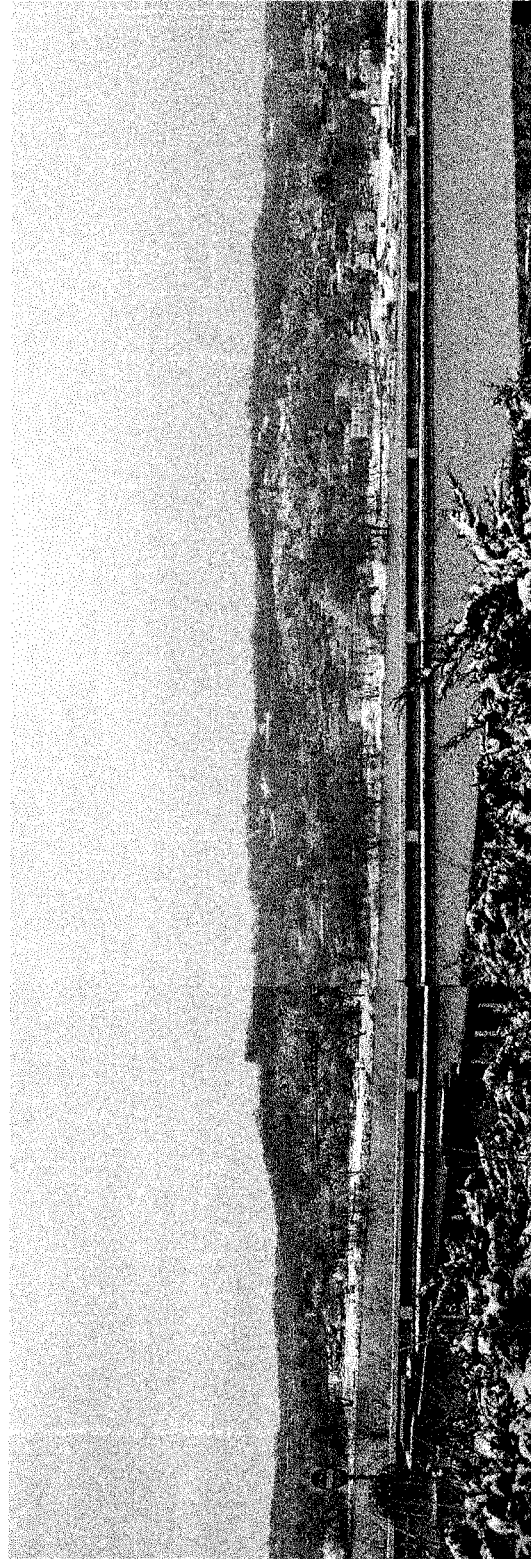


Illustration 22: Important Viewing Points of Mount Adams

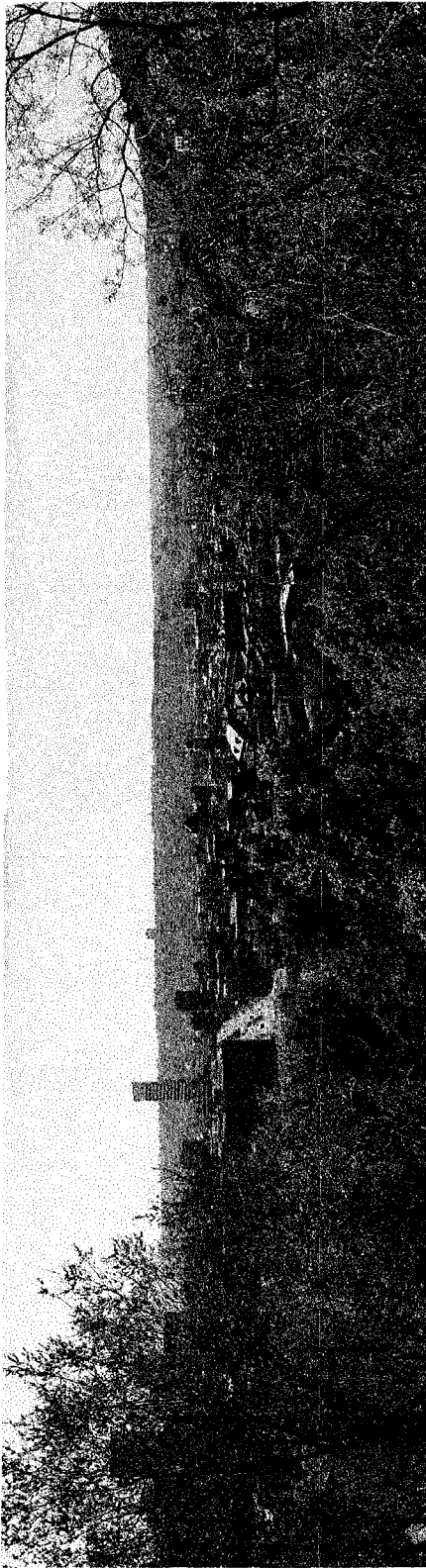


Viewing Point 1- Panoromic View from Hill Street

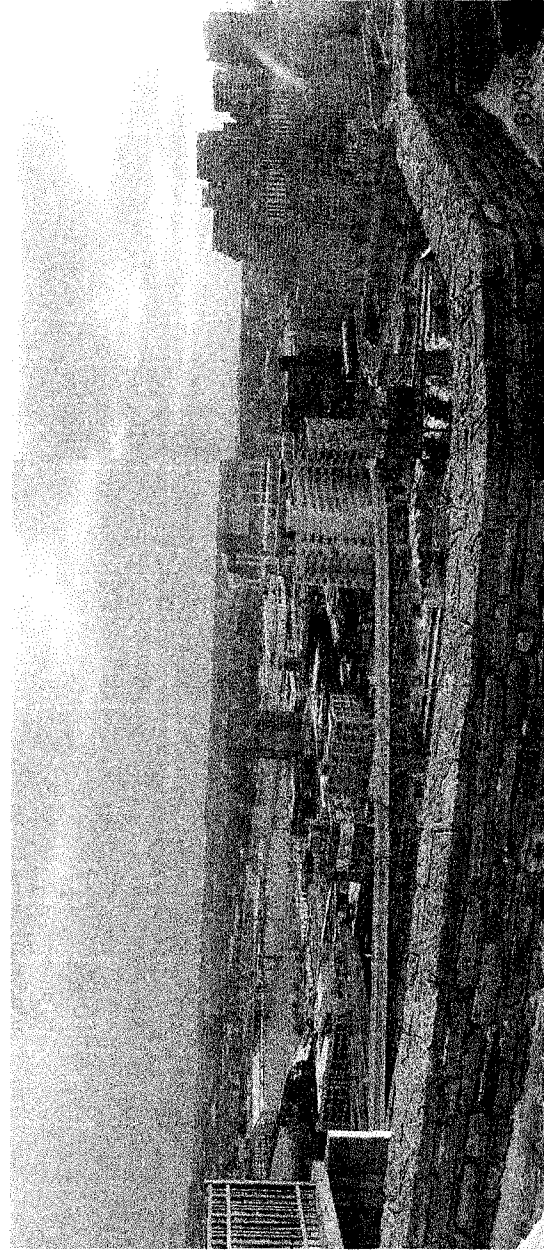


Viewing Point 2- Panoromic View from Hill Street

Illustration 23: Viewing Points



Viewing Point 3- Panoromic View from Ida Street Bridge



Viewing Point 4- Panoromic View from Chelestial Street

Illustration 24: Viewing Points 3 & 4

Viewing Point 5- Panoromic view from Filson Pike

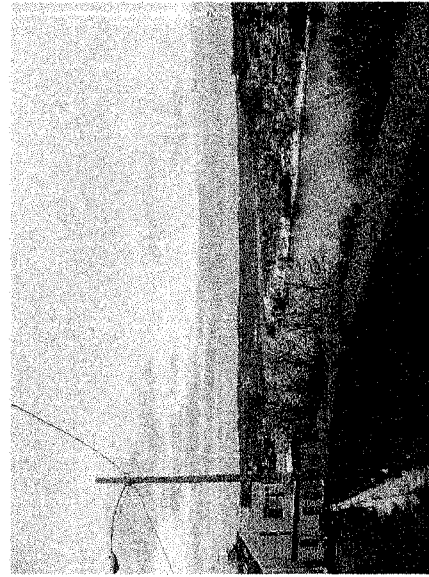


Viewing Point 6- Panoromic view from Park Street

Illustration 25: Viewing Points 5 & 6



Viewing Point 7- Paradrone Street



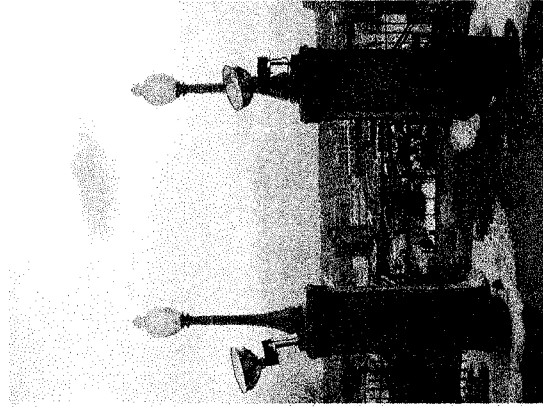
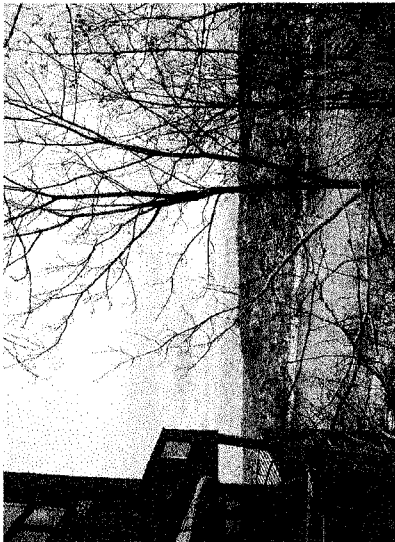
Viewing Point 8- Carney Street



Illustration 26: Viewing Points 7 & 8



Viewing Point 9- Hatch Street



Viewing Point 9- Guido Street

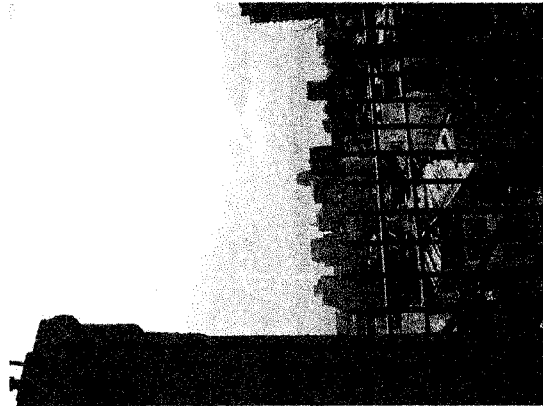


Illustration 27: Viewing Points 9 &10

Viewing points identified through above illustrations are important character of the neighborhood as one can catch a glimpse of surrounding areas from these points. The viewing point helps in orientation and establishes a visual connection of a viewer in Mount Adams with the surrounding. These points lie in public areas and are accessible to community and hence they are important to be identified in regulatory tools in order to prevent new development from intruding into the public viewing points. Despite the potential of these areas as public viewing points, none of these locations have been maintained or developed as viewing points with facilities like viewing deck or benches. The viewing points can be turned into important public areas by providing appropriate public facilities and protecting the views from these points by prohibiting /restricting development along its viewsheds.

5C ii) Serial Vision

This section aims at identifying spatial arrangement of elements in different areas of Mount Adams. The interpretation of this section is based on personal impression and the area can be perceived in different ways by different observers. The section specially investigates scale, proportion, placement of elements and immerging views as one walks along the streets of Mount Adams.

Following streets are covered under this section: Paradrome Street, Hatch Street, St. Gregory Street, Pavilion Street, Belvedere Street, Fullar Street, Hill Street, Ida Avenue, Oregon Street and Baum Street. Series of Illustrations (Illustration 28-36) given below marks the study area on map, direction of walk on the street and pictures taken onsite

providing a general profile of the area followed by a brief description of observation for each street. Observations describes following aspects of street:

- Uses of the street i.e. residential, commercial or mixed use.
- Parts of the street, where uses or nature of street shows drastic change.
- Approximate height of structures on the street and width of road in order to relate to human proportions.
- Placement of structures along the street and presence of sidewalks.
- Views at the end of vista or emerging views.
- Overall impression.

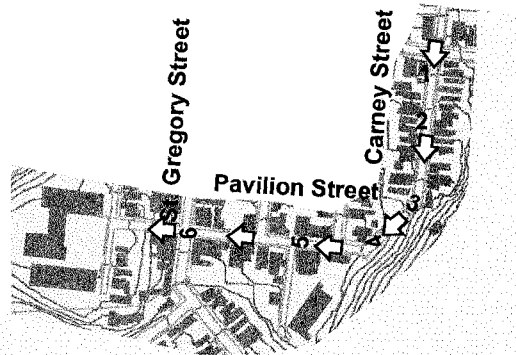
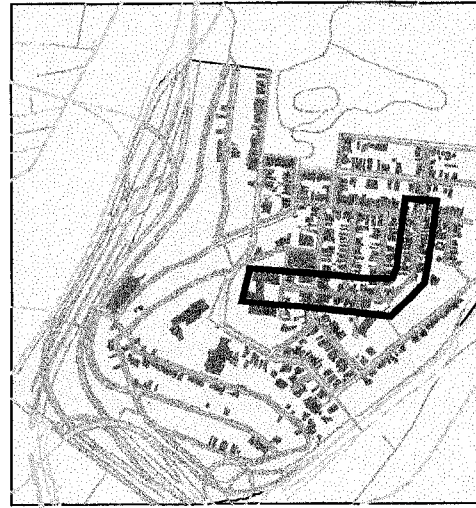
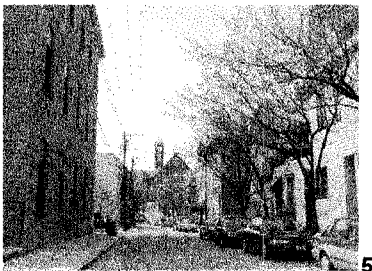


Illustration 28: Serial Vision along Pavilion Street



1



2



3



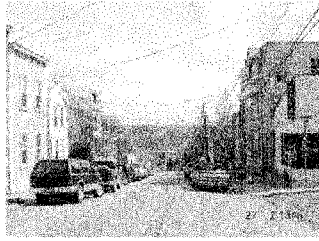
4



5



6



7



8

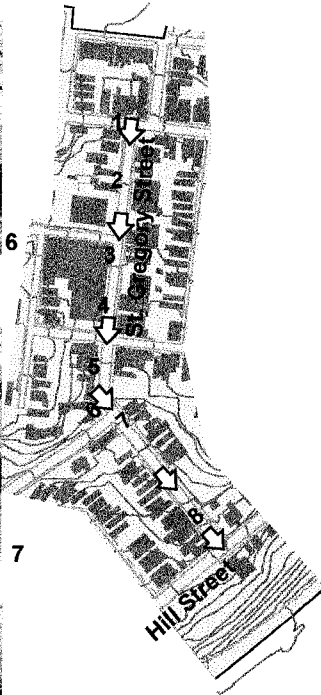
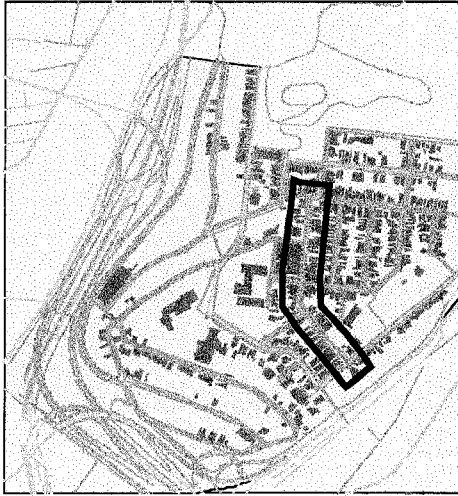
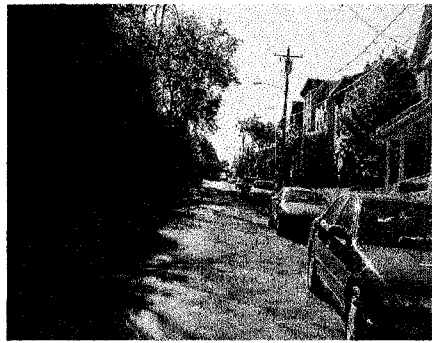


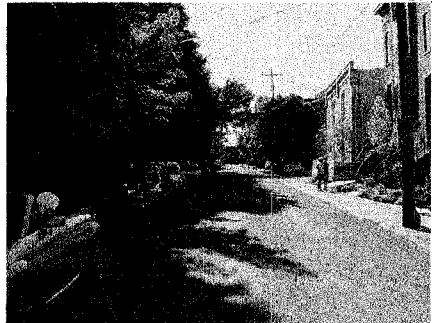
Illustration29: Serial Vision along St. Gregory Street



1



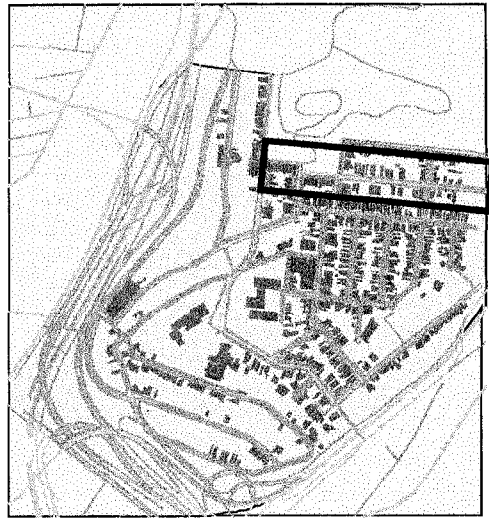
2



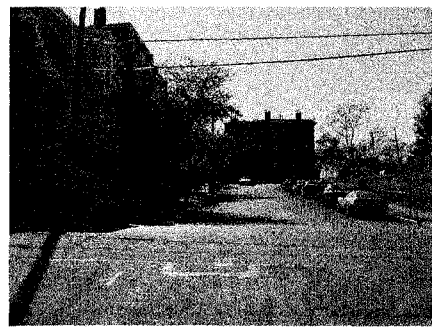
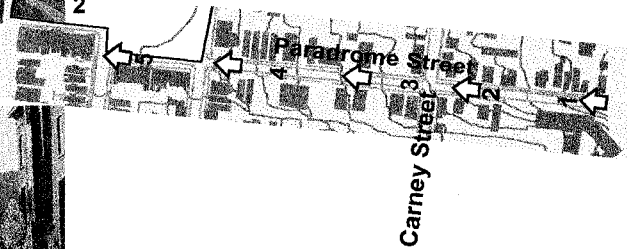
3



4



KEY MAP



5

Illustration30: Serial Vision along Paradrome Street

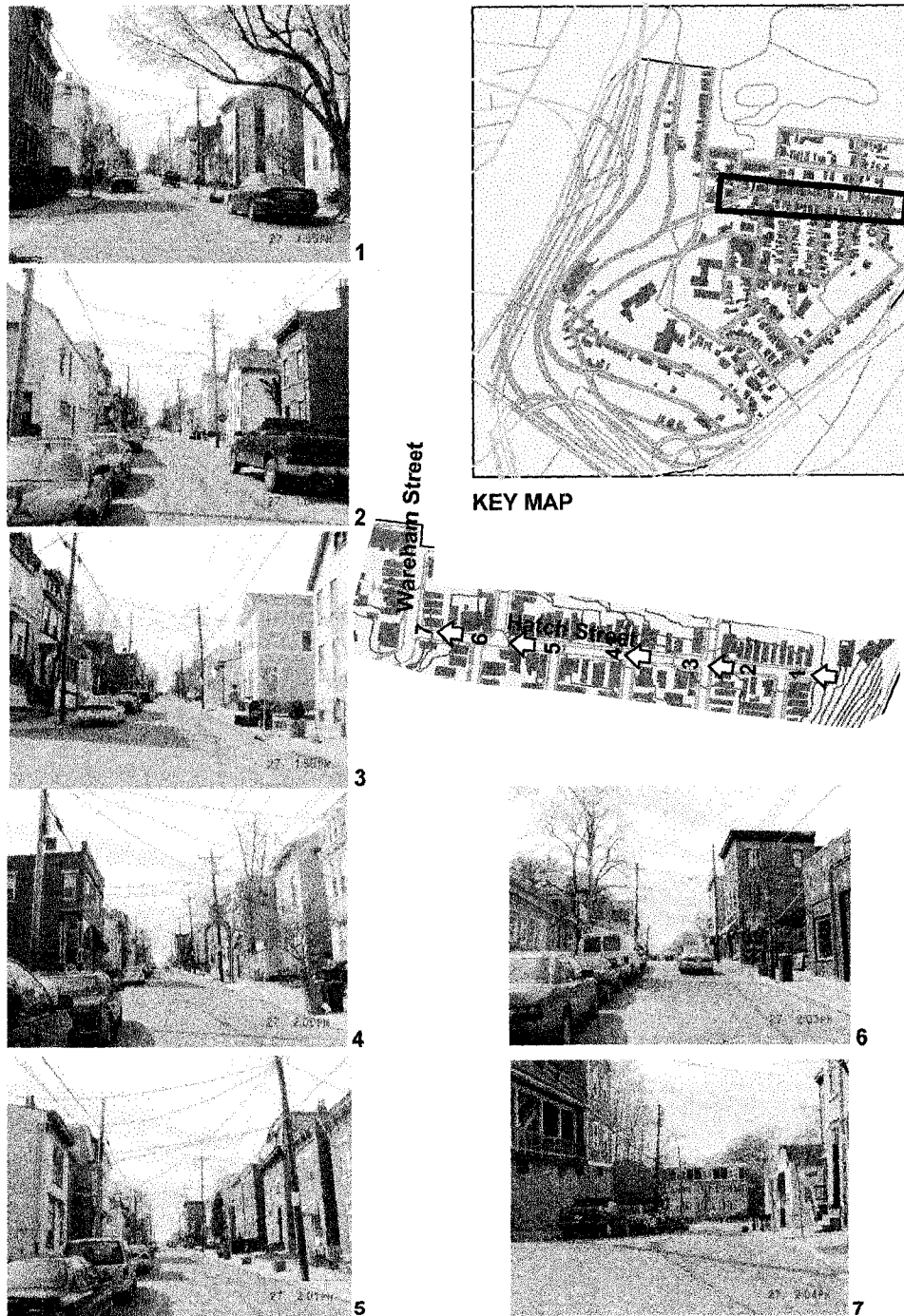


Illustration 31: Serial Vision along Hatch Street



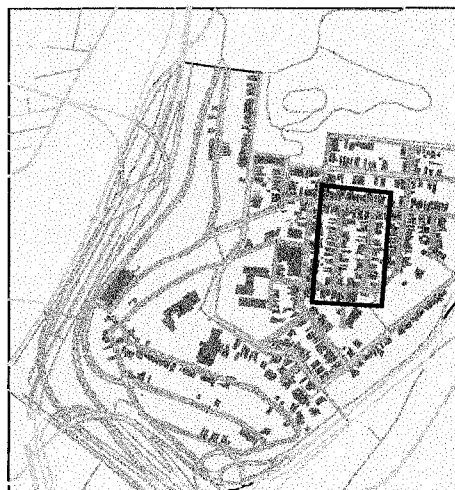
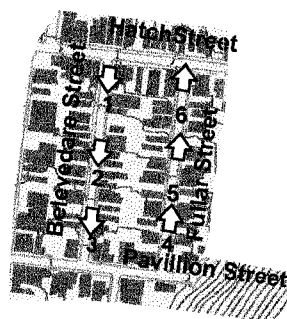
1



2



3



KEY MAP



4

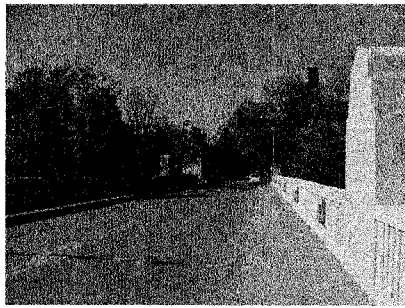


5

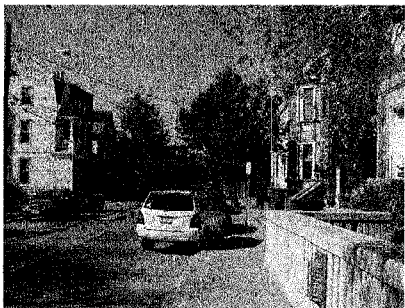


6

Illustration 32: Serial Vision along Belvedere Street and Fuller Street



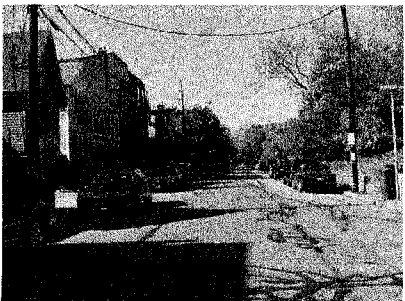
1



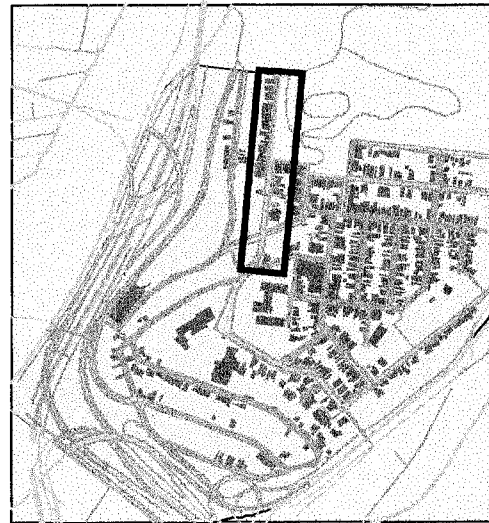
2



3



4



KEY MAP



6

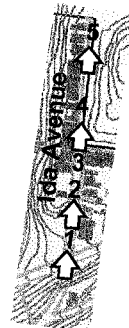


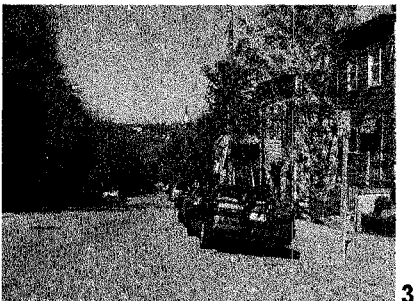
Illustration 33: Serial Vision along Ida Street



1



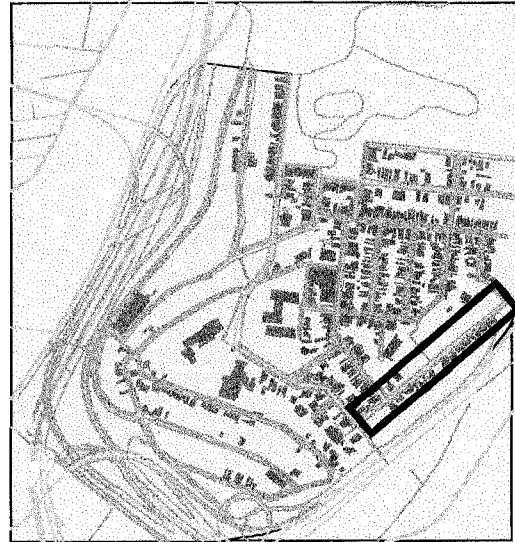
2



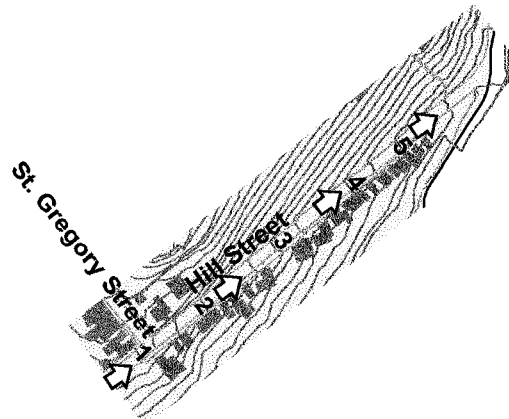
3



4

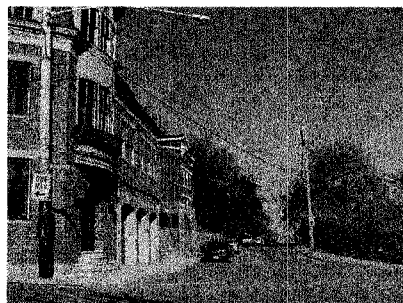


KEY MAP

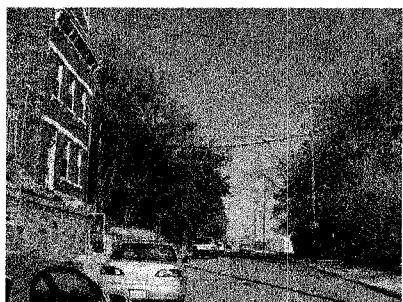


5

Illustration 34: Serial Vision along Hill Street



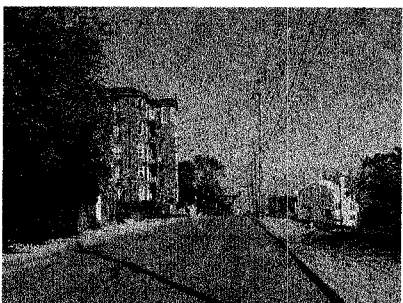
1



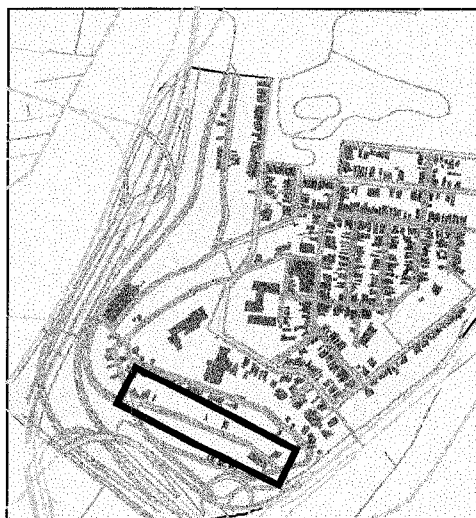
2



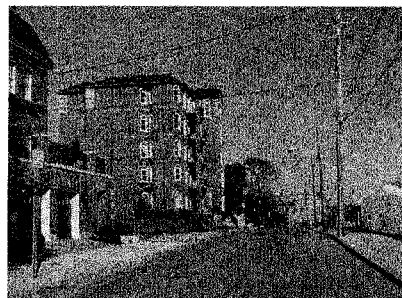
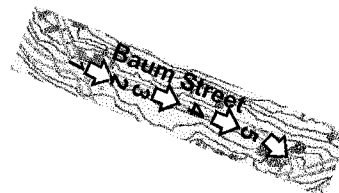
3



4



KEY MAP



5

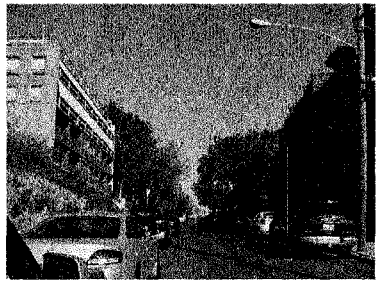
Illustration 35: Serial Vision along Baum Street



1



2



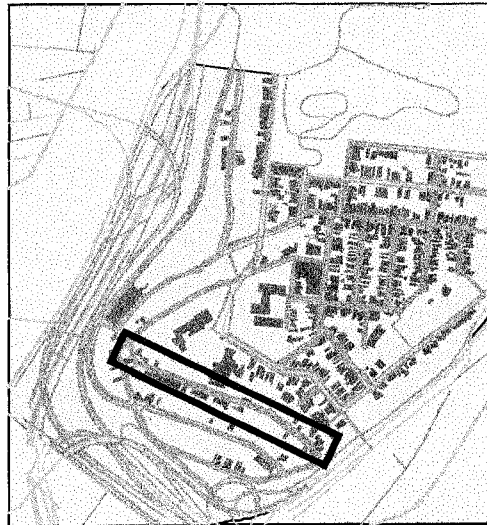
3



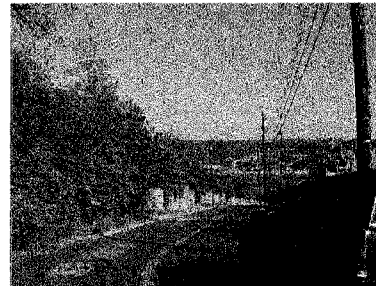
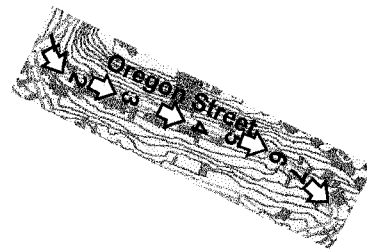
4



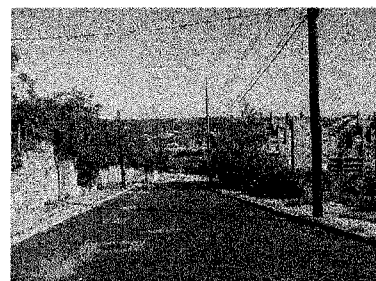
5



KEY MAP



6



7

Illustration 36: Serial Vision along Oregon Street

Uses:

St. Gregory Street has small businesses on both sides of the streets but it only extends for one block and most of the structures after the intersection of Pavilion Street are residential. Some of the prominent churches in Mount Adams are Immaculate Conception Church and Pilgrim Presbyterian Church on St. Paul Street and St. Gregory Street respectively, which is also visible from Pavilion Street. Rest of the neighborhood has mostly residential structures that are two or three storey high.

Change:

St. Gregory and Pavilion Street change drastically in character at the intersection of two streets because of change in use from commercial to residential. Commercial area at ground level has shop fronts, canopies and signage. Structures in this area are also higher than residential buildings. Ida Street changes from an open bridge to well-integrated residential area. Oregon Street changes from narrow and secured residential area to open area with steep topography, on one side to almost vacant area with retaining walls. Baum Street similarly shows fragmented development on both ends of the street and vacant land and retaining walls in between. Hill Street has well integrated small residential structures on one side of the street that abruptly opens into unprotected viewing point (identified in earlier studies of viewing points). Paradrome Street has structures on its both sides and the street opens up with retaining wall on one side and structures on other.

Scale:

Overall, Mount Adams has structures and spaces in relation to human proportions. The average height of structures varies from 15'-40' with few exceptions of high-rise

residential buildings (such as Highland height residential building on Celestial Street and few other buildings on Baum and Oregon Street) and churches. The width of the streets varies from 30'-40' and pavement width is 5'-7' average. Thus, overall proportion between the width of the street and height of structures on the street is approximately 1:2 to 1:1 that provides a feeling of enclosure. However, this proportion is valid only if the both the sides of the street have a vertical surface of wall, structure, trees or sloping hillside. Baum Street and Oregon Street have few sections of streets that do not have such vertical surface and such areas fails to provide a feeling of enclosure. Intersection of St. Gregory Street and Pavilion Street has a wider pavement followed by open dining area but buildings on all sides surround the overall space. The width of the space is about 80' with features like retaining walls and concrete steps having height of 3-5 feet proportional to human scale.

Placement:

Most of the structures in Mount Adams are closely packed along the streets and placed abutting the sidewalks with little or no front yard. Residential structures along Ida Avenue, Paradrome Street, Hill Street, Hatch Streets and some residential portion of St. Gregory Street and Pavilion Street have small front yards or flower bed areas. Commercial area of St. Gregory Street has some buildings with setbacks and the area is used for open-air dinning or parking. Due to difficult topography, some portions of land along the streets are undeveloped. Small pockets of undeveloped lands are found on Pavilion Street, Paradrome Street and St. Gregory Street. Few streets like Hill Street,

parts of Ida Street and Paradrome Street have development on only one side of the street due to steep slopes. Streets like Oregon Street and Baum Street have fragmented development along its sides although the area has no topographical constraints.

Views:

Elevation of the street changes at many places and accordingly building heights appears to vary in view although overall height of the structures remains same. Most of the buildings are adaptive to topography and have half basements, retaining walls and steps. Some structures are revealed in a dramatic fashion and one is propelled in forward direction to gain a full view. Portions of some streets like Pavilion Street and Ida Bridge are open to outside views and are protected by railings while others are unprotected, like portions of Hill Street and many areas of Oregon and Baum Street. Most of the streets have structures at the end of road or where the vista of view terminates, but very few among them are significant structures, for example, Immaculate Conception Church at the bend of Pavilion Street and Pilgrim Presbyterian Church. Streets like Ida Avenue, Oregon Street and Baum Street has no structure at the end of the street.

Overall Impression:

Topography has imposed severe constraints on the arrangement of built form elements in Mount Adams. In spite of that, Mount Adams has dense and well-integrated development with little or no land left for further growth. Narrow lots, closely packed structures,

buildings and streets well adaptive to the existing topography are the current character of Mount Adams. Although the streets are laid in grid pattern on relatively flatter areas, they do not appear monotonous due to immerging views and vistas. Most areas of Mount Adams provides good pedestrian environment due to placement of structures along both sides of streets, presence of sidewalks, existing scale of built form and varied but unified elevations of the structures along the street (for example: Pavilion Street, Fuller Street and Hatch Street). Some areas have structures on only one side of the street due to topographical constrains (for example: Hill Street and Parkside Street) and others show very fragmented development specially the southwestern parts of Mount Adams (for example: Oregon Street and Baum Street). The neighborhood business district has different character due to attractive shop fronts (for example: St. Gregory Street) and some monumental structures like churches provide a good focal point to a pedestrian.

5C iii) Legibility

This section demarcates similar areas based on their spatial arrangement (as identified in serial vision) in the form of districts and identifies other legible elements like edges, nodes, paths and focal points in Mount Adams (Illustration 38) . Identification of elements is based on studies conducted in earlier sections and on personal interpretation.

Edges: Topography and built elements have formed strong edges in Mount Adams. Steep and inaccessible slopes have formed edges along northern side and southwestern side where as retaining walls and highways have defined the edges along eastern side, southern and western side of Mount Adams (Illustration 38).

Nodes: Intersection of St. Gregory Street and Pavilion Street of neighborhood business district forms the node in Mount Adams due to concentration of commercial activities and aesthetic qualities of built form at the intersection.

Paths: Paths identified in Mount Adams are the roads that have maximum vehicular and pedestrian traffic and which also provides an entrance to the neighborhood. Ida street followed by Celestial Street, Hill street, Martin Drive and Parkside Streets are main vehicular paths where as St. Gregory Street is a pedestrian path.

Focal Points: Structures that either have monumental scale, aesthetic quality, historical importance or are placed on important locations are identified as focal points. The important focal points of Mount Adams are; Immaculate Conception Church at Guido Street, Pilgrim Presbyterian Church on St. Paul's Street, Rookwood Pottery at Celestial Street, Highland towers at Celestial Street and Commercial structure at the height of St. Gregory and Pavilion Street (Illustration 39).

Districts: Four districts are identified in Mount Adams based on uses and spatial arrangement (Illustration 37). They are:

- Inner commercial: Neighborhood business district located at St. Gregory Street.
- Core residential: These are the areas located mostly on the northern side and have closely packed residential structures on both sides of street i.e. at Paradrome

Street, Belvedere Street, Fuller Street, Carney Street and parts of Pavilion Street, Hatch Street, Celestial Street and St. Gregory Street.

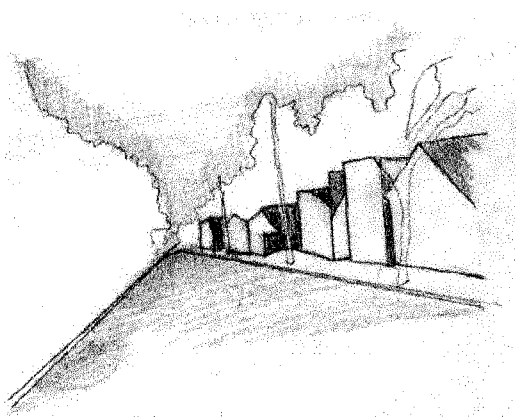
- Fringe residential: These are the areas with residential structures on one side of the street and un-developed area on the other side i.e. Hill Street, Ida Street and Park Street.
- Fragmented residential: These areas does not have continuous structures along the street and the development is fragmented along both sides of street i.e. Baum Street, Oregon Street and Ellsinore Avenue.



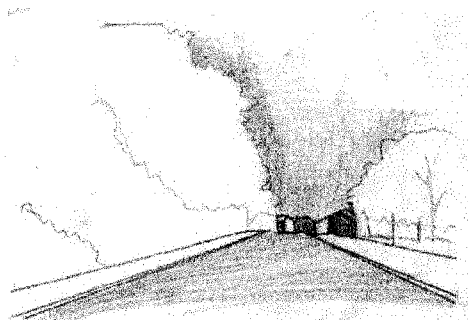
Core Residential District



Inner Commercial District



Fringe Residential District



Fragmented District

Illustration 37: Four Types of Districts in Mount Adams

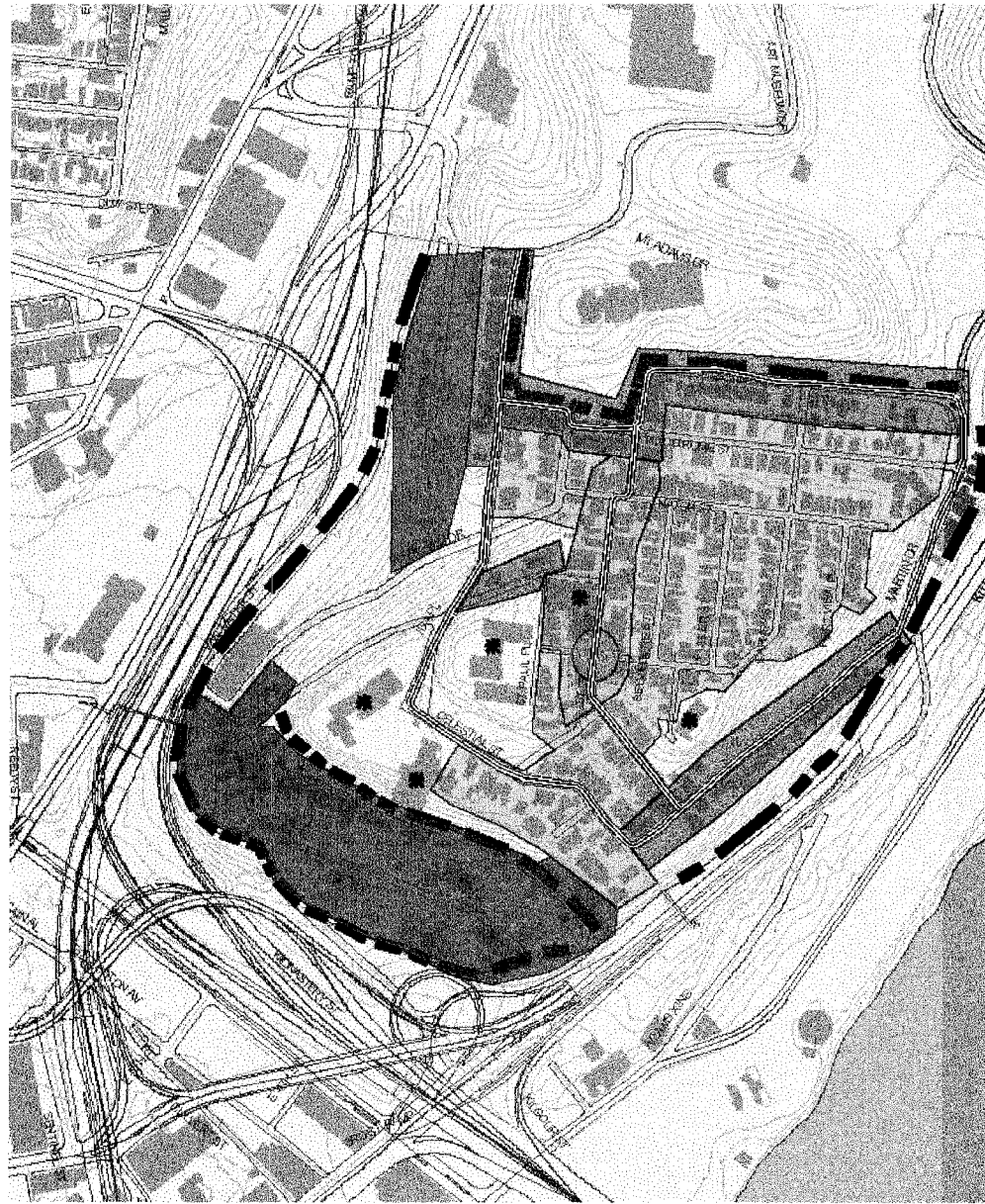
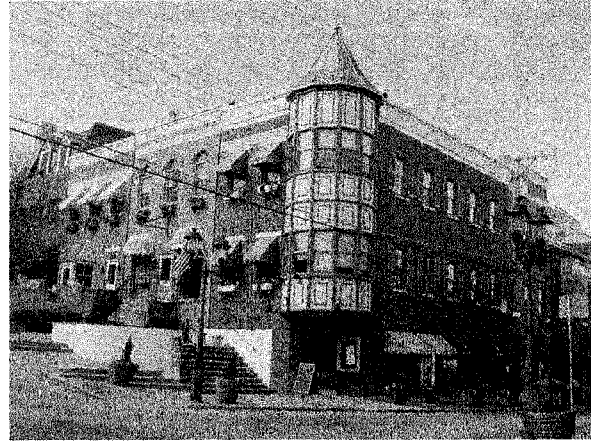


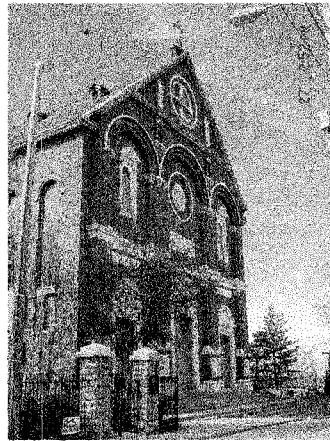
Illustration 38: Legibility



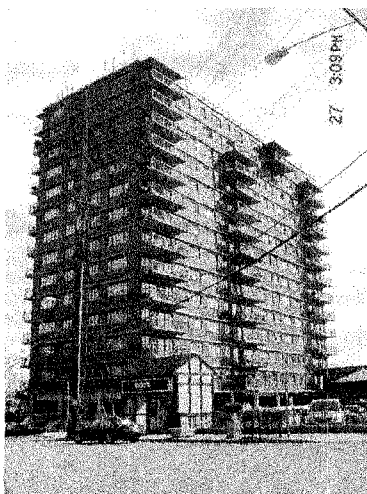
Immaculate Conception Church
Guido Street



Commercial Structure
St. Gregory Street



Pilgrim Presbyterian Church
St. Paul's Street



Highland Towers
Chelestial Street



Rookwood Restaurant
Chelestial Street

Illustration 39: Landmarks at Mount Adams

5D. Built forms

This section investigates the elements of built form along with their arrangement and proportion in different districts, identified in earlier section. Types of streets in each district are designated and a sample area or a set of buildings along each type of street in each district are studied in detail for different elements of built form. The detail study is a careful investigation of plan, section, and elevation of each sample area and the study is demonstrated in form of sketches, photographs and a comparative analysis.

The four types of districts identified in Mount Adams are: Inner commercial, core residential, fringe residential and fragmented residential. Out of which the first three are completely developed where as the last one i.e. fragmented residential is in transition stage and is still developing. Some undeveloped areas can be spotted in ‘fragment residential area’ and it’s difficult to speculate type of development in the area. Thus the built form study of this section only concentrates on the three completely developed districts of Mount Adams which has firmly established character and are studied to identify typical built form character.

The three districts of Mount Adams has three types of streets, as classified by Thiis-Evensen. They are: goal street, cutting street and border street. There is no sequential street as identified by Thiis-Evensen in Mount Adams. Fringe residential district mostly has border streets such as Ida Street, Hill Street, Parkside Street, where as core commercial district has a goal street such as Paradrome Street leading towards Pilgrim Presbyterian Church and a cutting street such as St. Gregory Street. Core residential area

also has goal street such as Carney Street leading towards viewing point 8 as identified earlier and four cutting streets such as Fuller Street, Belvedere Street, part of Paradrome Street and Hatch Street (Illustration: 40).

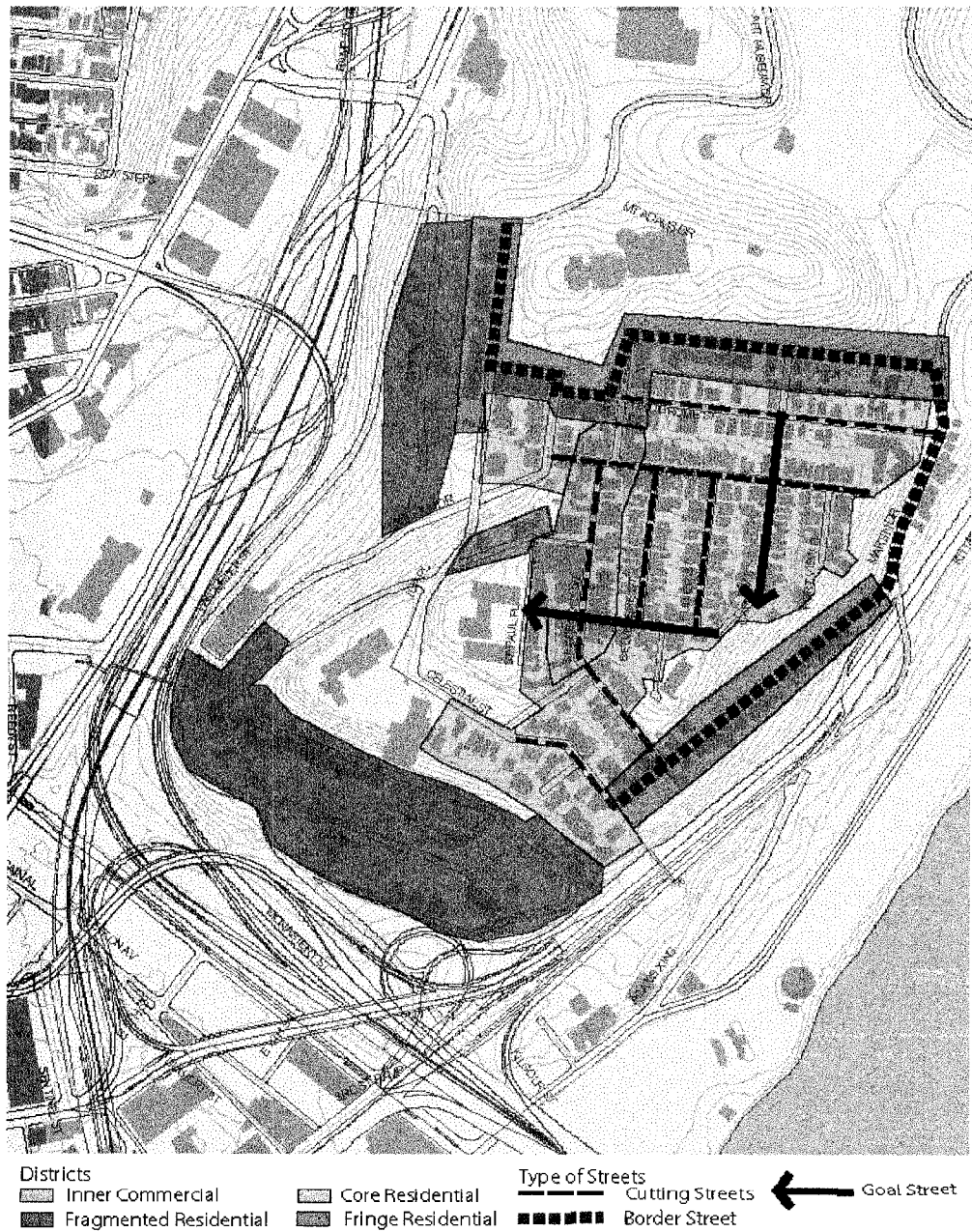


Illustration 40: Type of Streets in each district

One sample area from each type of street in each district is studied for following typical characteristics (Illustration- 41 & 42):

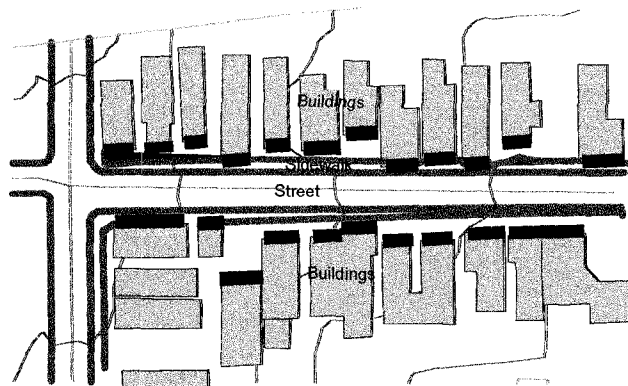
- *Street frontage* – It is the surface of building directly exposed to the street. Some buildings have wider frontage than others. If the street frontages of buildings are narrow, more buildings are accommodated along the length of street and it also contributes to the variety of streetscape.
- *Spacing in-between building*- The buildings along the street may be closely placed with minimum/no spacing between them or they might be placed at a distance from each other. Narrow spacing of buildings along the street provides a sense of continuity and compactness to the street.
- *Setbacks from sidewalk*- Structures with front yards or parking spaces are placed further inside a parcel away from sidewalks and streets where as in the absence of a front yard or parking space, the structure directly abuts a sidewalk. The structures along the sidewalks are the walls of the streets and their placement affects the feeling of enclosure along the street.
- *Road width*- The width of the road determines number of traffic lanes on a road, which in turn determines the amount of traffic along a street. Main streets are wider in width than small neighborhood streets. Width of the street along with sidewalk widths, heights, and setbacks of the building along the street determine the horizontal to vertical proportion of the streets which in turn is responsible to feeling of enclosure along the street for a pedestrian or a motorist.

- *Sidewalk width*- Sidewalks are provided to encourage pedestrian movement and ensure the safety of pedestrians. Presence and width of sidewalks determines the nature of pedestrian traffic along the street.
- *Height of building*- It forms the walls of the street. The height of the buildings as perceived from the street depends largely on the slope of the street. Building appears to be smaller when placed on down slope of a street.
- *Number of floors*- Height of building along with positioning of windows, doors, and cornice is related to number of levels of a building. Similarity in number of floors for buildings on the same street plays an important role in linking the buildings even if it is not rigidly applied.
- *Building Silhouette*- It is the skyline of the buildings and is characterized by heights of building and types of roofs.
- *Massing and setbacks of buildings*: The arrangement of different elevational elements along with niches and protrusions forms the interesting massing elements on building facades.
- *Location and treatment of entry way*: Location and treatment of entry ways of buildings along a street are important parts of streetscapes and forms linkages between different buildings along the street.
- *Doors and Windows*: Similar proportions of doors and windows are an important linkage element although they might be composed differently.
- *Building material*: Use of common building materials along a street ensures harmony between different buildings

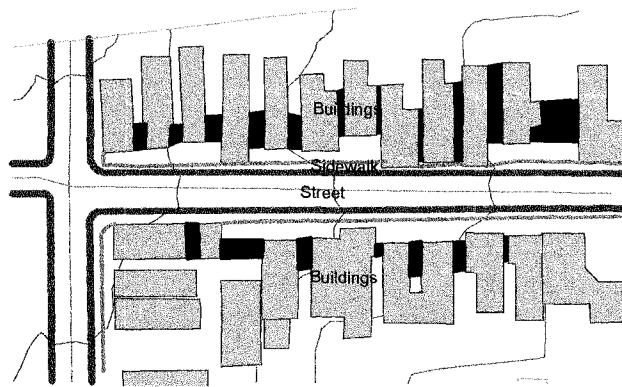
- *Details:* Wood moldings, cornices, brackets are some of the façade details.

Complexity and richness of details enhance the monumental effects of the buildings.

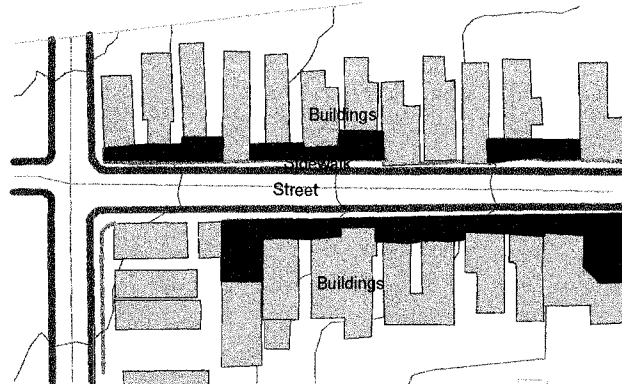
Retaining walls and steps: It is an important character of the buildings in Mount Adams and appears frequently on streetscape due to uneven topography and inclination of streets. The study will characterize its material and placement.



■ Street Frontage



■ Space between buildings



■ Setbacks from Sidewalks

Illustration 41: Built form elements in Plan

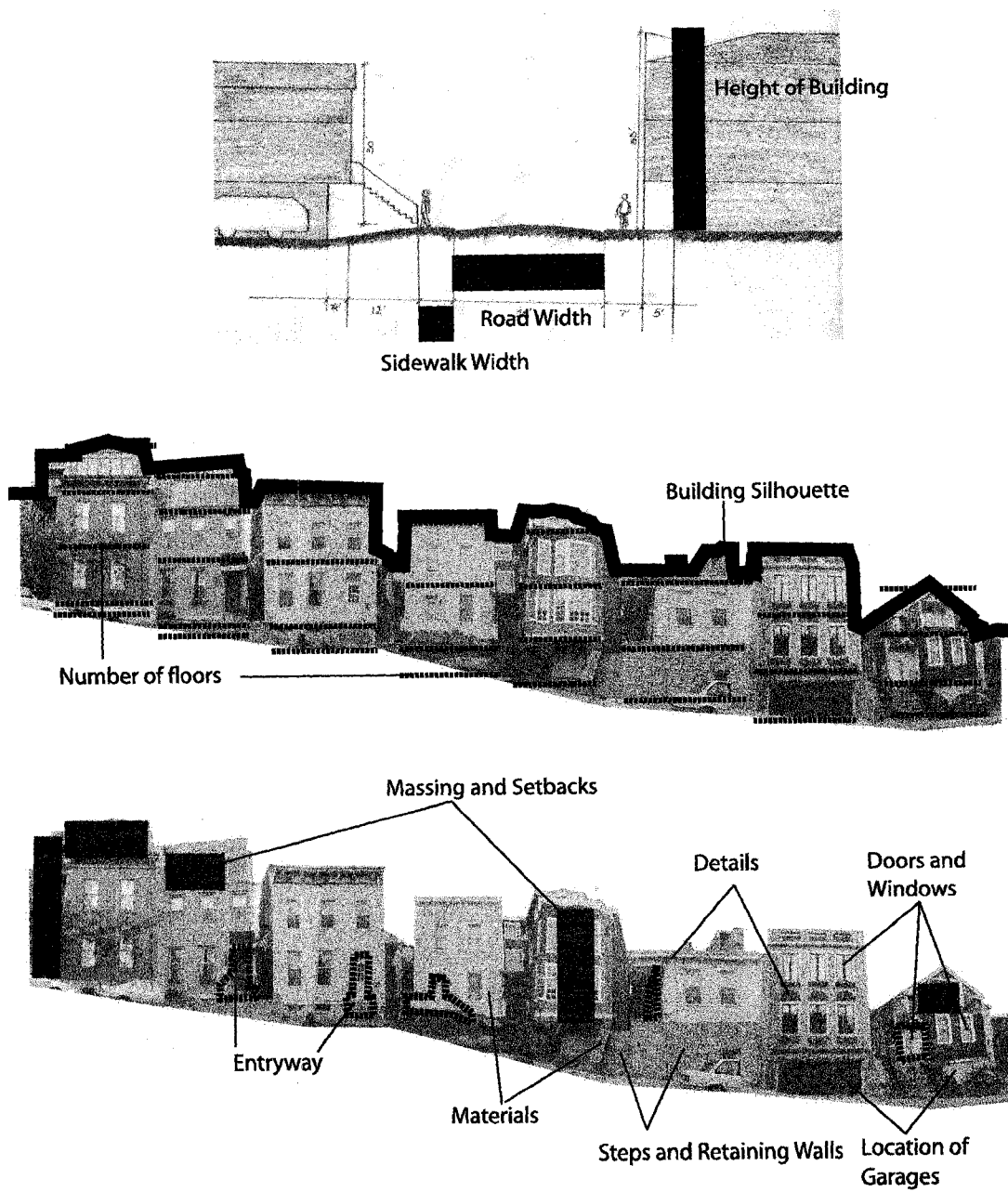


Illustration 42: Built form elements in section and elevation

Five different types of streets from each districts having typical character of the district are as follows (Illustration 43):

Carney Street: Goal Street in Core residential district

Belvedere Street: Cutting Street in Core residential district

St. Gregory Street: Cutting Street in Inner commercial district

Ida Street: Border Street in Fringe Residential district

Hill Street: Border Street in Fringe Residential district

Although Ida Street and Hill Street are both border streets from fringe residential district, both the streets has different character as Hill Street has steeper inclination than Ida Street, which is comparatively flat.

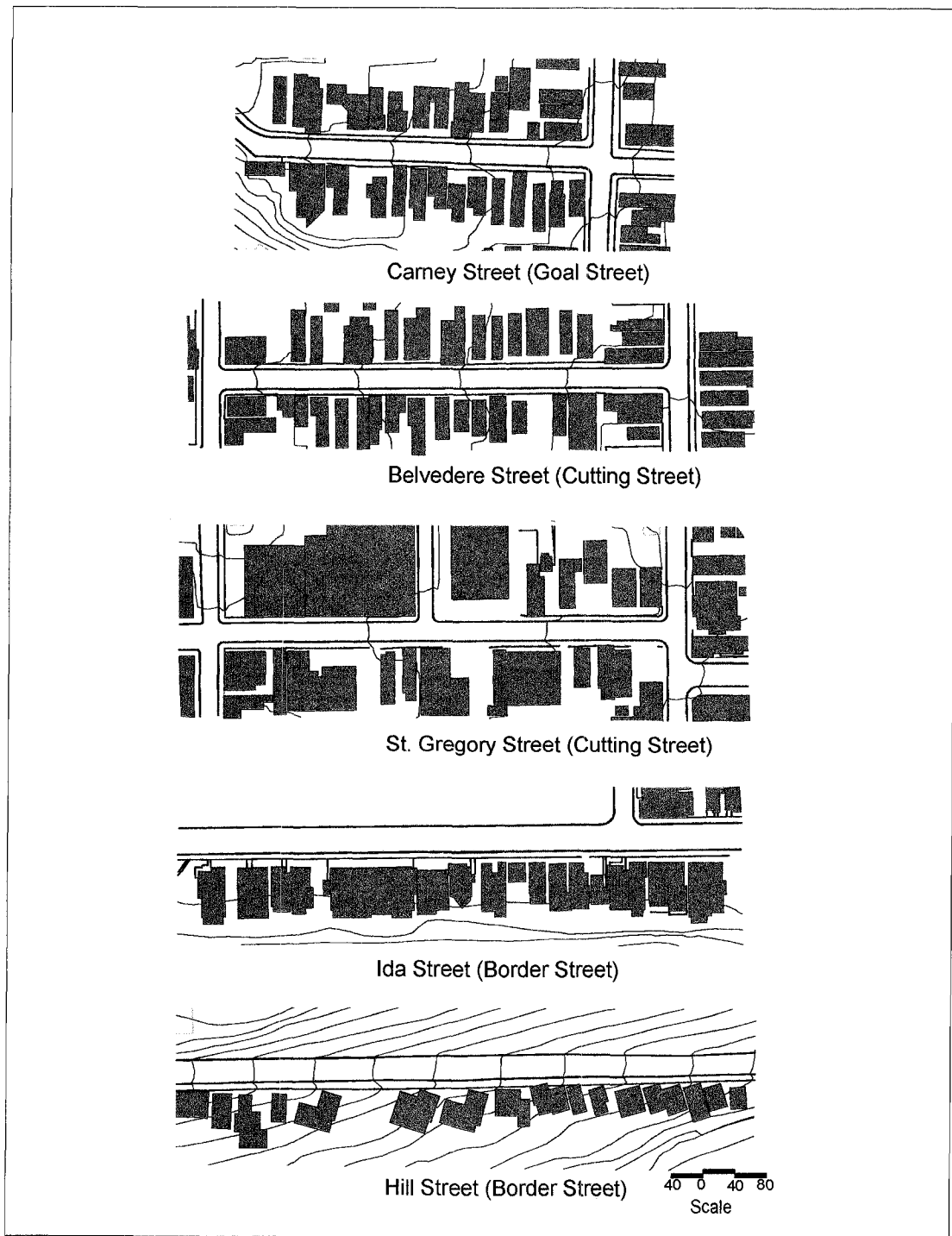


Illustration 43: Figure Ground of Streets

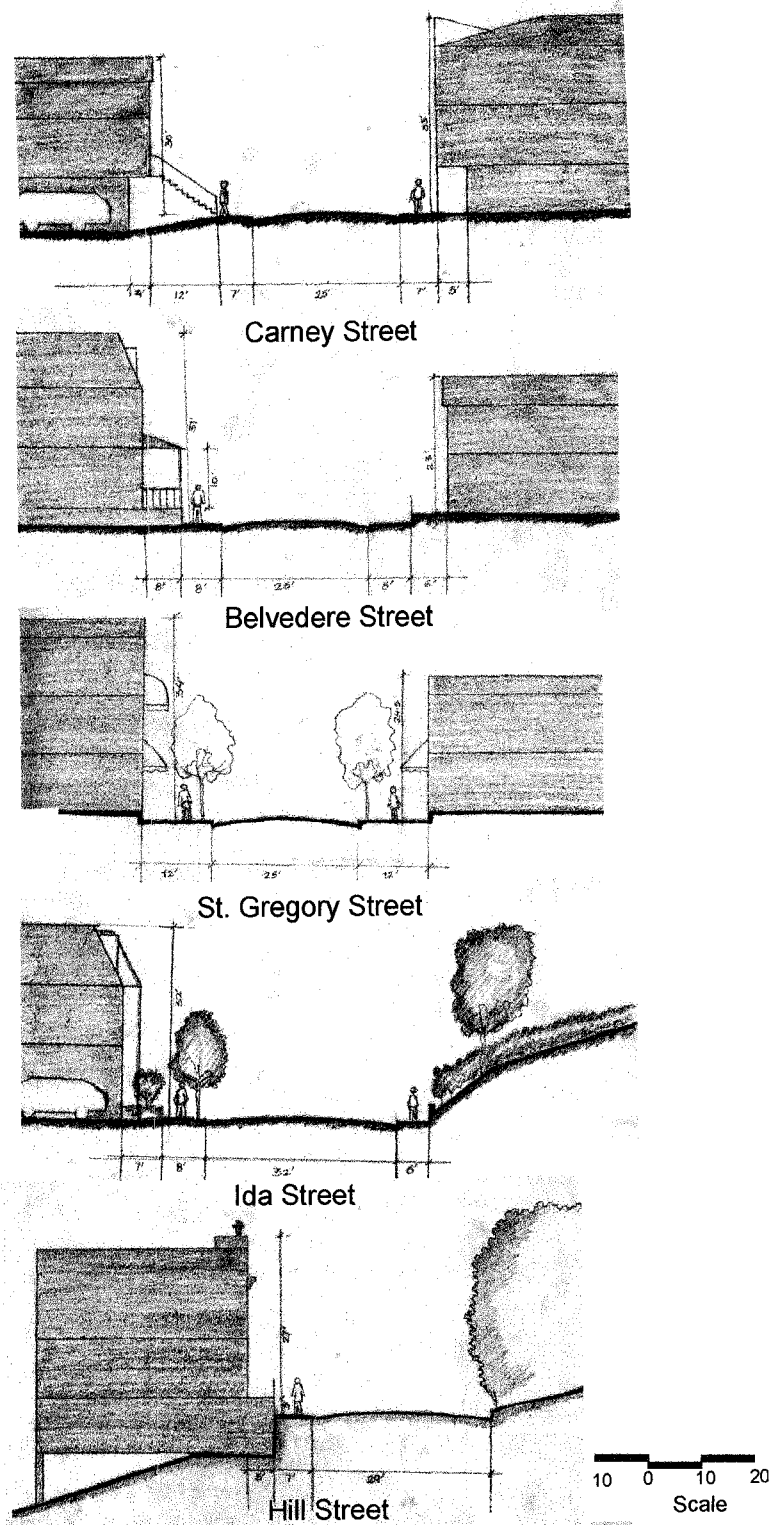
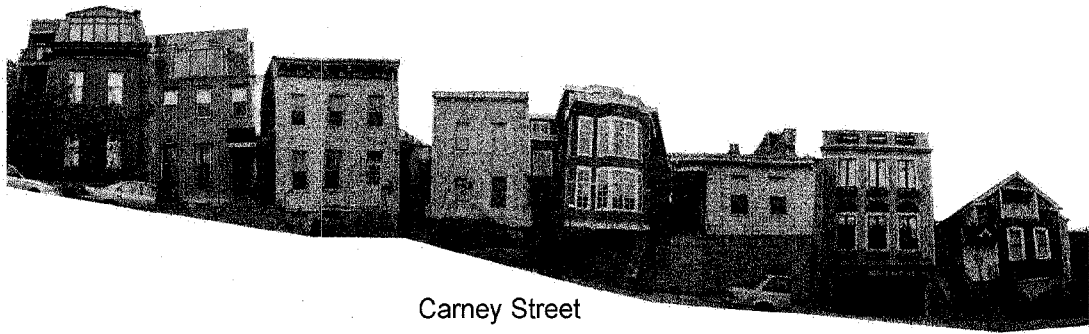


Illustration 44: Street Sections



Carney Street



Belvedere Street



St. Gregory Street



Ida Street



Hill Street

Illustration 45: Streetscapes

Following are the observations for the elements of built form along different streets:

5D i) Figure Ground

Street frontage: Residential street frontages are narrower than that of commercial street frontage. Mostly the buildings are perpendicular to the street except on Hill Street where, buildings are placed perpendicular to contour lines and not exactly perpendicular to the street. Some of the corner building of Carney and Belvedere Streets have wider street frontage as they face the perpendicular street (Illustration 43).

Space in-between buildings: It varies between no-space to small-space, but yet buildings are compactly placed along the street and the in-between spaces are mostly used for parking, green spaces, access to back of buildings or for light and ventilation of the building. The large in-between space at Hill Street is due to topographical constraints in the area (Illustration 43).

Setbacks from sidewalks: It varies from no setbacks to small setbacks. At St. Gregory Street, the set backs are used as open air dining spaces and in residential areas, the setbacks are used for flower beds or front yards. The set backs at Mount Adams are very small due to topographical constraints (Illustration 43).

5D ii) Street Sections:

Sidewalk width: It is consistent through out the residential areas of Mount Adams, ranging from 7' to 8' wide. St. Gregory Street has wider sidewalk of 12' because of commercial nature of the street. Some streets have trees along the sidewalk (Illustration 44).

Road width: Similar to sidewalk width, the road width is also consistent and ranges from 25' to 32'. Ida Street and Hill Streets are some of the widest streets, since they are the entry points to Mount Adams. St. Gregory is also just 25' feet wide (Illustration 44).

Heights of buildings: The heights of buildings in Mount Adams range from 14' to 34'. The tallest buildings are located along St. Gregory Street (Illustration 44).

5D iii) Streetscapes

Number of floors: Number of floors ranges from 1 to 3.5 levels. Some of the residential buildings have half basements or garages on ground level and houses on upper levels. Commercial buildings have shop fronts on ground level and residential or commercial areas on upper levels (Illustration 45).

Building Silhouette: It is characterized flat roofs, sloping roofs, varying heights, and rooftop chimneys. The Silhouette line in Mount Adams usually follows the slope of the street, especially at Carney Street and Hill Street, due to uniformity in building heights (Illustration 45).

Massing and setbacks of buildings: It is characterized by bay windows, protruding balconies, colonnaded porches and windows popping out of sloping roofs. Some of the buildings along the street have the massing characters and they appear randomly along the streets (Illustration 45).

Entry way: Most of the entryways are facing the street while some of the buildings are approached from the side of the buildings. Entries are marked by colonnaded porches, steps leading up to the door and railing along the steps. In commercial district, entry way are usually covered with canopy and marked with sign boards (Illustration 45).

Doors and Windows: The windows and doors rectangular placed vertically and are almost of the uniform size for residential districts with some exception of bay windows. The garage doors in residential areas are wider and are usually at the lowest levels in new residential buildings and absent in the older buildings. The upper levels of commercial district have similar windows as that of residential districts but the shop fronts have wider windows having glass surface which serves as display windows (Illustration 45).

Building material: Common building material in Mount Adams is wood, stone, and bricks. Stone and bricks are mostly exposed where as the wood is painted in different colors. Windows are glass windows with wooden framing whereas; the doors are wooden in residential district and a combination of glass and wood in commercial district. Sloping roofs have roof tiles of different colors (Illustration 45).

Details: Most common detail in Mount Adams is the cornice on top part of the elevation of building, which appears in different colors and shapes. Wrought iron railings, flower beds along the windows, intermediate cornice to break the floor height are some of the other details in residential district. Colorful canopies and sign boards are characteristic details of commercial district (Illustration 45).

Retaining walls and steps: The retaining walls are mostly at the base of buildings near sidewalks which represent half basements or garages and they are made usually of stone. Steps appears in front of entry way and the number of steps varies depending on the level of entry. The steps are usually concrete with wrought iron or stone wall railings (Illustration 45).

Conclusions for built form:

There is a diverse pattern in the placement of buildings. The character of narrow and closely placed buildings with small or no setbacks and in-between space is common among all the streets, which provides a sense of harmony and variety to the streetscapes of Mount Adams.

The sidewalk width and road width is almost consistent through out the neighborhood with few streets slightly wider than others. Building heights also fall in a typical range and ratio between height and width of streetscape varies between ranges of 1:1 to 1:2. (Height here is the height of buildings along the street and width is the combined width of street, sidewalks, and setbacks).

The buildings have common elements and uniformity in elevation but they are not identical. Each building is different because of varied combination of common elements and presence of some unique elements. The variety and unpredictability of streetscape elevation is characteristic of Mount Adams streets.

CHAPTER 6- FINDINGS AND RECOMMENDATIONS

Based on the analysis, three specific findings have been recognized with regards to existing visual character, opportunities of future development, and the nature of existing design guidelines.

6A. Visual Character

The visual character of Mount Adams is a composition of various indigenous elements. The elements are arranged in various combinations in different parts of the neighborhood to provide it with a unique visual identity. The combination of these elements is not distinctly different from each other but has a harmonious relationship which gives the neighborhood homogeneity rather than monotony. These elements and their arrangement are the unique aspects of visual character, which need to be recognized and preserved.

The elements identified through visual analysis of Mount Adams are listed below. A fuller explanation of their importance was given in previous chapters.

- **NATURAL FORM**

Topography – Elevation, Slope

Vegetation – Wooded, Scattered, Grassland

- **SPATIAL EVOLUTION**

Historically Important Structures Symbols of regional history

Sensitive Areas Areas prone to natural disaster earlier

- **VISUAL INTERPRETATION**

View Sheds-	Looking In (<i>Highly-visible / visible / not visible areas, Interplay of natural and built form</i>) Looking Out (<i>Viewing Points</i>)
Serial Vision-	Uses, Change, Scale, Placement, Views
Legibility-	Edges, Paths, Nodes, Focal Points, Districts

- **BUILT FORM**

Figure Ground-	Street frontage, In-between spaces, Setbacks
Street Section-	Sidewalk width, Road width, Height of building
Streetscapes-	Number of floors, Building Silhouette, Massing, Entry, Doors and Windows, Material, Details, Retaining walls and steps

The following illustration provides an overview of all the elements of Mount Adam's visual character as identified through different sections of analysis (Illustration 46).

ANALYSIS

Elements o Visual Characters Identified in MOUNT ADAMS

		
Elevation	Slope	Wooded Scattered Grassland
Topography		Vegetation

Natural Form

	
Historically Important Structure	Sensitive Areas

Spatial Evolution

		
Visible Areas	Intensity of natural & built form	Viewing Points
Looking In	Looking Out	

Viewshed

Use	Change	Scale	Placement	Views
-----	--------	-------	-----------	-------

Serial Vision

Edges	Paths	Nodes	Focal Points	Districts
-------	-------	-------	--------------	-----------

Legibility

Visual Interpretation

Street Frontage	In-between space	Setbacks
-----------------	------------------	----------

Figure Ground

Side Walk width	Road Width	Building Height
-----------------	------------	-----------------

Street Section

Floors	Silhouette	Massing	Entry	Windows	Material	Detail
--------	------------	---------	-------	---------	----------	--------

Streetscape

Built Form

Illustration 46: Elements of Visual Character in Mount Adams

6B. Developable Land

Currently, most parts of Mount Adams are developed and undeveloped areas are either due to natural constraints or have easement rights. The development opportunities in the neighborhood are restricted to a certain extent of infill developments, by replacing some old buildings, or in fragmented residential areas, as identified in the analysis, along Baum, Oregon, Kilgour, Ellsinore and Van Meter Street. Some parts of fragmented residential areas are under easement rights and may remain undeveloped or undergo some development in future.

Mount Adams, having high real estate values and being a preferred choice of residence, is likely to have new infill developments in future which may occur in areas that are major contributors to the visual character of the neighborhood. Thus in order to protect the current visual identity and guide new development, some regulations are necessary that will provide comprehensive guidance to preserving the existing characters and incorporate them in new developments.

6C. Existing Design Guidelines

Design guidelines which are currently used for design review for new construction in Mount Adams are '*Cincinnati Hillsides Development Guidelines*' prepared in 1975 also known as the '*General Guidelines and Specific Guidelines (Ord. No. 467-1978, 11/15/78)*'. The guidelines were incorporated in the ordinance, creating an Environmental Quality District (EQ-HS # 4) in December 1975 covering south and western part of

Mount Adams. The ordinance, along with the guideline document, has six specific guidelines and 49 general guidelines which discuss some key issues related to visual character. The guidelines were prepared to provide a general awareness towards Cincinnati's hill side development. It was a product of years of research, group interviews of preferences, expert opinions, field surveys, and photographic documentation. The 61-page document almost summarized most of the general aspects of Cincinnati's hillside development and is well presented through brief descriptions and sketches. The guidelines address the following issues related to visual characters:

- Scale of building
- Plan of building
- Topography
- Vegetation pattern
- Natural and built relationship
- Natural boundaries of Mount Adams
- Fitting buildings into terrain
- Vistas
- Street width
- Views of Mount Adams from outside
- Roof tops
- Viewing points
- Landmarks
- Environmentally sensitive areas
- Architectural styles
- Colors

In Cincinnati, each hillside has unique characteristics. Over the years some of these hillsides have undergone change due to tremendous development while others are still developing. Hillside like Mount Adams, which has high real estate value and strong visual character, are more vulnerable to change due to development and needs preservation efforts. Thus, specific guidelines are required, laid particularly for Mount Adams and which address and protect the current visual characters of Mount Adams along with guiding new development to enhance and positively contribute to the neighborhood.

RECOMMENDATIONS

The current design guidelines were adopted as ordinance in 1978. However, after the adoption of these guidelines, extensive research in the field of visual analysis has contributed to the prevailing knowledge about visual character. More recent knowledge needs to be incorporated as design guidelines. The current guidelines, though comprehensive, are very general in terms of implementation. Considering the unique character of Mount Adams, these guidelines should incorporate more site-specific recommendations, based on the available research, to regulate development. In addition, the application of the guidelines during the project review process should be able to make a strong determination of the cumulative impact of development projects on the overall visual characters.

Based on the visual analysis done in the previous sections, following are the most critical issues that need to be incorporated as key recommendations in the guidelines:

- Restriction on demolition and/or alteration of historically important structures either by recognizing them as historic buildings or incorporated historic districts.
- Protecting key views from identified viewing locations by regulating development through the use of visual easements as per the study of *viewsheds* and *viewing points* of Kevin Lynch.
- Protecting areas that are included in the viewsheds visible from outside of Mount Adams, as identified in the study.
- Protecting the existing vegetation and topography in a way that through project review and visual simulations, balance can be achieved between the natural elements and built form.
- Protecting vistas along the streets of Mount Adams by controlling building heights and terminal development.
- Protecting identified landmarks, paths, nodes and edges in the neighborhood that contributes to the integrity of Mount Adams as per Kevin Lynch's definition of legibility.
- Maintain variety in architectural style while regulating scale and proportions of built form.

The proposed recommendations cover only the key aspects of the visual character of Mount Adams as identified through the analysis. Further research is recommended to develop more site-specific regulations.

BIBLIOGRAPHY

- Adams, Edward. *Suburbs: Mt. Adams*. Mt. Adams Gazette, Vol.3 No.11, December 1978.
- Alexander, Christopher, Sara Ishikawa, Murray Silverstein, Max Jacobson, Ingrid Fiksdahl-King, Shlomo Angel. *A Pattern Language: Towns, Buildings, Construction*. New York, Oxford University Press, 1977.
- Arnheim, Rudolf. *Art and Visual Perception: A Psychology of the Creative Eye*. Berkeley, University of California Press, 1974.
- _____. *The Dynamics of Architectural Form*. Berkeley, University of California Press, 1977.
- Blair, G. E. William. *Urban Visual Resources*. Urban Land Institute, June 1980.
- Cincinnatihome.org: available from http://www.cincinnatiusa.org/pdf/pop/city_pop.pdf accessed on 13 November 2002.
- City of Cincinnati. *Mt. Adams Hillside; Urban Design and Renewal Plan*. May 21, 1990.
- Conger, Thomas. *Mount Adams, Cincinnati, Ohio: An Intra-Urban Regional Test*. MA dissertation, University of Cincinnati, 1964.
- _____. *Alnwick, Northumberland: A Study in Town-Plan Analysis*. The Institute of British Geographers. 1960
- Cullen, Gordon. *The Concise Townscape*. New York, Van Nostrand Reinhold, 1971.
- Department of City Planning. *The Visual Environment of Los Angeles*. Los Angeles, California, April 1971.
- Department of development. The office of Architecture and Urban Design. *Mount Adams Urban Design Plan*. April 1981.
- Forster, Ndubisi. *Managing Change in the Landscape: A Synthesis of Approaches for Ecological Planning*. Landscape Journal, Volume 21, Number 1. 2002.
- Giglierano, Geoffery. *The Bicentennial Guide to Greater Cincinnati*. The Cincinnati Historical Society. 1988
- Hedman, Richard, Andrew Jaszewski. *Fundamentals of Urban Design*. American

- Planning Association, 1984.
- Institute of Government Research, University of Cincinnati. *Cincinnati Hillsides: The Evolution of the Environmental Quality Zoning*. Citizen awareness, March 1980.
- Jakle John. *The visual elements of landscape*. The university of Massachusetts press, Amherst. 1987.
- Jacobs Peter, Douglas Way. *Visual Analysis of Landscape Development*. Graduate School of Design. Harvard University, 1969.
- Leedy, Paul. *Practical Research: Planning and Design*. Prentice-Hall, Inc. 2001.
- Lozano, Eduardo. *Community Design and Culture of the City*. Cambridge University Press. 1990.
- Ludwig, Charles. *Mt. Adams Residents Dedicate Beautiful New Ida Street Bridge*. Times Star. September 17, 1931.
- Lynch, Kevin. *The image of the City*. Cambridge, Mass., Technology Press, 1960.
- _____. *A theory of Good City Form*. Cambridge, Massachusetts and London and England, 1981.
- Mugeraner, Robert. "Interpretations on Behalf of Place." State University of New York Press, Buffalo, N.Y., 1994.
- Nasar, Jack L. *The evaluative image of the city*. Sage Publications, 1998.
- Rapoport, Amos. *The Meaning of the built Environment: A Nonverbal Communication Approach*. Beverly Hills, Sage Publications, 1982.
- Schauman, Sally. *Urban Visual Resources*. Urban Land Institute, June 1980.
- Southworth, Michael, Owens P. Peter. *The evolving Metropolis; studies of community, neighborhood, and street form at the urban edge*. APA Journal. Summer 1993.
- The City Planning Commission, Cincinnati. *Urban Design and Development Principles and General Guidelines for the Cincinnati Hillsides*. City of Cincinnati. 1975.
- The Hillside Trust. *A Hillside Protection Strategy for Greater Cincinnati: Development Guidelines for Greater Cincinnati's Hillsides*. The hillside trust. 1991.
- Thiis-Evensen, Thomas. *Archetypes of Urbanism: A Method of the Esthetic Design of Cities*. Oslo, Scandinavian University Press. 1999.
- Turabian, Kate L. *A Manual for Writers of Term papers, Theses, and Dissertations*. Chicago: University of

Chicago Press, 1987.

Webber M.M., John W. Dyckman, Donald L. Foley, Albert Z. Guttenberg, William L.C.

Wheaton, Catherine Bauer Wurster. *Explorations into Urban Structure*. University of

Pennsylvania Press, 1964.

WTA Guide to Cincinnati. *Cincinnati: A Guide to the Queen City and its Neighborhoods*. The Cincinnati

Historic Society, Cincinnati, Ohio, 1987.

Wrenn, Douglas. *Urban Visual Resources*. Urban Land Institute. June 1980.

Sources

For Historic maps and Photographs-

Public Library of Hamilton County: Government and Documentation department.

Cincinnati Historical Society Library, Cincinnati.

Current Maps of Mount Adams

Cincinnati Area Geographic Information System, 1995. data accessed through School of Planning,

University of Cincinnati, OH.

Current Photographs of Mount Adams

On-site Surveys by Author.