

THE RELATIONSHIP BETWEEN DESIGNED URBAN ENVIRONMENTS AND
SKATEBOARDING IN DOWNTOWN
FORT WORTH

By

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ABSTRACT

THE RELATIONSHIP BETWEEN DESIGNED URBAN ENVIRONMENTS AND
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Cities are a collection of designed environments. In turn, these environments consist of parts that vary in scale from districts to light fixtures. The design of outdoor urban environments is a dynamic and collaborative process of arranging these parts to create places with purpose. Evidence of this can be found in the numerous professions that participate in the design of urban environments (Eckbo, 1964). Such is the case in the city of Fort Worth, Texas. With many participants, often unilaterally, contributing to

the design of built urban environments, not all of the ensuing results are intentional. The objective of this research is to better understand designed urban environments and their unintended functions by studying physical elements of that environment in relation to the unintended result of skateboarding.

Skateboarders utilize various physical elements of urban design located in their environments that were designed for purposes other than skateboarding. This study identifies and documents the basic physical elements and corresponding contextual environments in the Central Business District of downtown Fort Worth. It then identifies which of these elements and environments show evidence of skateboarding in the study area. The study area was selected for the diverse contextual land-uses consisting of municipal, commercial, educational, residential and industrial type uses in public, semi-private and private space. There is also a tremendous diversity of users and residents in this area ranging from public housing tenants to private condominiums and town homes and from hot dog cart vendors to corporate executives.

Primary research methods are drawn from evaluative studies in landscape architecture. Techniques modeled after post-occupancy evaluations of Marcus and Francis (1998), as well as case study methods as put forth by Francis (2001), provide objective perspectives that are used to document and analyze the physical elements and contextual land-uses within the study area in downtown Fort Worth. Passive observation and behavioral trace documentation techniques are also utilized to acquire data. This data was then translated into Geographic Information Systems for analysis. This study concludes with identifying the physical elements of urban design and contextual land-

uses that encourage skateboarding, along with strategies for design professionals to increase the vitality and spirit of place present in urban environments.

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CHAPTER 1

INTRODUCTION

This chapter introduces the relationship of designed outdoor urban environments and skateboarding. Questions are posed about that relationship and their corresponding impacts. The significance and limitations of the questions being asked, in the context of the Central Business District of downtown Fort Worth, Texas, are also discussed. A brief overview of the related research on this topic is then presented, followed by a closing summary.

Skateboarders have developed a unique and enhanced relationship with the urban environment. Skateboarders experience elements of urban design in ways that pedestrians or passengers in other vehicles do not. The skateboard is an urban all-terrain vehicle that allows the skateboarder to navigate seamlessly between streets and sidewalks as well as parks and plazas. Although this specific relationship was not intended, it has resulted in a level of intimacy between this specific unaccounted for group of users and the designed urban environment. While designers intentionally strive to create intimate relationships and experiences between other users and urban environments, skateboarding is unique in the sense that the skateboarder is able to create and recreate space:

Architecture, like all other cultural objects, is not made just once, but is made and remade over and over again each time it is represented through another

medium, each time its surroundings change, each time different people experience it (Borden, 1996, p.5).

By utilizing the potential of their surroundings, and reusing the various parts of their environment, skateboarders are able to generate new and distinctive experiences in the same place. For example, multiple skateboard tricks may be performed on a single common physical element of urban design, such as a bench. Each trick attempted creates a different experience for the skateboarder even though the bench itself never changes. The result is a special relationship with the built environment that merits investigation.

1.1 Background

Central Business Districts (CBD) of cities continue to densify and bring more people to the city, increasing urban complexity. This systemic and complicated environment continues to evolve as urbanites participate in a living experiment. While expanses of pavement have taken the place of open fields for more than a century, it was the mind of a child that realized a new way to experience these contemporary urban landscapes beyond that for which they were intended (Weyland, 2002). What began as an inadvertent result of suburban development, skateboarding has entrenched itself in the urban environments of cities around the world. The city of Fort Worth is no exception.

1.2 Purpose

Skateboarders interact with space and the city in a way that design professionals such as urban designers, planners, engineers, architects or landscape architects did not intend. For example, designers expect benches to be sat upon and handrails to be used

for safety in navigating stairs. Skateboarders see these things as opportunities to jump over, slide down or otherwise manipulate as they perform maneuvers. Through the compilation of such elements, in close proximity to each other, design professionals continue to create “massive cement playgrounds with unlimited potential (Weyland, 2002, p.8)” for skateboarders in the CBDs of cities. The questions fundamental to this research are:

- What physical elements and characteristics of designed urban environments are found in the Central Business District of downtown Fort Worth?
- Which of those physical elements and characteristics of designed urban environments show evidence of skateboarding?
- What contextual environmental influences surrounding these physical elements facilitate skateboarding?
- Can these qualities be refined into urban design principles and strategies that increase the quality and intimacy of the relationship between designed urban environments and other users?

Skateboarding has evolved into a way of life located somewhere between an artistic self expression and sport. The result is a very personal relationship between the physical surroundings and this specific user group. “These are my streets. I know every crack of every sidewalk down here (Borden, 2001, p.121).” Creating personal relationships between users and their environments is a goal of designers as they

attempt to create place, but this goal is not commonly achieved with general users of urban environments:

... skaters interweave their own composition of time into that of regular temporal patterns, such as waging a fast assault on a handrail outside a bank, adding a speeding skateboard to the slower pattern of those walking on the sidewalk (“skating past all the business-suit lames that slog gloomily down the sidewalk, barely lifting their feet, like they’re kicking shit with every step),” or staying longer in an urban plaza as others hurry through (Borden, 2001, p.19).

The freedom and mobility associated with skateboarding allows the skateboarder to continually interpret and experience the same environment differently. In answering these research questions, this study examines and identifies the influence of urban environments on skateboarders and the skateboarding that takes place in those environments.

1.3 Significance and Limitations

The significance of the relationship between skateboarding and the built urban environment stems from the longevity of skateboarding as an urban activity. Skateboarding itself enjoys an estimated forty million practitioners worldwide (Borden, 2001, back cover) with eighty percent of those considering themselves “street skaters” (Borden, 2001, 182) or those who skateboard on physical elements in cities that were not intended for their use. The popularity of skateboarding when compared to other similar endeavors such as in-line skating or freestyle bicycle riding is also noteworthy.

Fort Worth was selected for this study because of proximity and it is one of the most populous cities in the country (Census, 2000), thereby containing common elements of physical urban environments. Due to limitations of this research such as time and available data gatherers, this study concentrates on a small portion of Fort

Worth. The selected portion of the CBD was identified in particular for its rich and diverse existing urban fabric including commercial, residential, municipal, educational and industrial land-uses.

With more than ten museums, performance halls, theaters, symphony, and ballet, the community of Fort Worth has invested mainly in upper class cultural conventions located primarily outside of the CBD. This has resulted in neglected investment for improved public downtown spaces. Evidence of this can be found in the CBD itself as apparent in Sundance Square. Centrally located downtown and functioning as a primary event venue, this site is an asphalt parking lot that gets shut down for special occasions.

Another limitation is the lack of existing research on the relationship of skateboarding and the built urban environment. As a result, skateboarding itself becomes the primary source of information. Skateboarding has documented itself through magazines and skateboard videos. The resultant archive of information, although not scholarly, provides tremendous opportunity and an in-depth view of skateboarding. Borden (2001) illustrates this point further:

Their [the skateboarders] agenda is not then the external agenda of the intellectual academic or careerist reporter, but the internal agenda of the intellectually active proponent. For this reason, I have not attempted to undertake a series of interviews or questionnaires with skateboarders, but rather have relied on what they saw fit to say and publish at the time (p.5).

For similar reasons this research does not attempt to embark on a series of interviews, but instead relies on the behavioral traces and other physical evidences of skateboarding that are found in the CBD of downtown Fort Worth. Behavioral traces and other

physical evidences of skateboarding include paint scuffs, wheel marks, and chipped corners found on benches, ledges and other surfaces used by skateboarders.

Lack of existing research also dictates the need for a method to study the relationships of unintentional results and the surroundings in which they occur. The methods of this research are modeled after evaluative studies in landscape architecture that include behavioral trace documentation, post-occupancy evaluations and case studies. The work of Marcus and C. Francis (1998) established the model for the analysis, and the work of M. Francis (1999) was also synthesized with it to increase objectivity.

Through these tools, this study identified basic physical elements and contextual environments in the identified portion of the CBD in Fort Worth that skateboarders utilize. The diverse nature of land-uses consisting of municipal, commercial, educational, residential and industrial-type uses in public, semi-private and private space established favorable conditions for skateboarding to occur. There was also a tremendous diversity of users and residents of this area ranging from tourists to business people and from public housing tenants to private condominiums and town homes. This created a variety of user groups that permanently reside in the study area.

1.4 Overview

Following the introduction, this research begins with a literature review of what elements of urban environmental design are important to cities. Perspectives of how various design professionals evaluate urban environmental design follow. Included in this analysis are architects, planners, professionals involved from the social sciences

and landscape architects. While this is not an exhaustive list of those who participate in the design of cities, this list does provide an extensive amount of literature from which to begin. More importantly, it provides multiple vantage points to view results of the built urban environment which were not intended; in particular, skateboarding.

A summary of skateboarding follows. This brief overview of skateboarding focuses on major innovations of the skateboard itself. The evolution of skateboarding has allowed it to continue to adapt to cities over the years and has made more of the city accessible to skateboarders. This section provides insight into how skateboarders interpret their physical environment and how skateboarding has been able to continue despite fierce opposition.

The research methods used to carry out this study are then presented in detail. Modeled after post-occupancy evaluations and case studies, the extrapolated method facilitates an objective quantitative manner to study the relationship of skateboarders and the designed urban environment. This section is followed by the research itself and resultant fieldwork. Findings are then presented, conclusions are drawn, and suggestions for additional research are provided.

1.5 Terms and Definitions

The following definitions are based on the literature reviewed and adjusted as necessary due to their relationships and the limitations of this research:

Art--public display of a statue, memorial or other object with a primarily aesthetic function (Gage, 1975).

Bank--abruptly sloped pavement to allow a change in level for functional and aesthetic purposes (Gage, 1975).

Bollard--vertical barriers used to define, protect and accent areas without impeding pedestrian traffic (Gage, 1975).

Bench--seating for more than one person (Gage, 1975).

Buit-in--seating area physically integrated into the built environment (Gage, 1975).

Chair--seating for a single person (Gage, 1975).

Commercial Contextual Land-use--primary or the majority of street frontage commercially oriented (Alexander, 1964; Eckbo, 1964; Simonds, 1998).

Deck--laminated wood portion of a skateboard that is ridden upon by skateboarders (Wingate, 2003).

Educational Contextual Land-use--primary or the majority of street frontage educationally oriented (Alexander, 1964; Eckbo, 1964; Jacobs, 1961; Simonds, 1998).

Fences--running continuous vertical element for defining property, guiding and protecting pedestrians and preventing intruders (Gage, 1975).

Gaps--the space from one surfaces to another; space often devoid of pavement or contains additional obstacles to be jumped over (Border, 2001).

Grind--the act of scraping the trucks or axles of a skateboard across another surface (Wingate, 2003).

Industrial Contextual Land-use--primary or the majority of street frontage industrially oriented or for the purposes of this study, parking facilities (Alexander, 1964; Eckbo, 1964; Jacobs, 1961; Simonds, 1998).

Loading Dock--an elevated platform constructed for the purpose of unloading vehicles (Gage, 1975).

Municipal Contextual Land-use--primary or the majority of street frontage municipally oriented (Alexander, 1964; Eckbo, 1964; Jacobs, 1961; Simonds, 1998).

Park--contextual land-use environment transition area, most reprieve from the street, presence of nature that additionally softens transitions to street use in a welcoming fashion (Eckbo, 1964; Simonds, 1998)

Planters--artificial growing environment within a container or a contained built area, most appropriately located where plants cannot be grown naturally (Gage, 1975).

Plaza--contextual land-use environment transition area, offers reprieve from the street, it is a regimented and with little or no nature (Ching, 1996; Simonds, 1998)

Private Space--designated restricted access by a fence, sign or other means (Whyte, 1980; Simonds, 1998).

Public Space--open to anyone, not privately owned (Whyte, 1980; Simonds, 1998).

Rails--running continuous vertical element for defining property, guiding and protecting pedestrians; typical height varies from 30"-38" (Gage, 1975).

Ramps--an inclined surface to enable pedestrians to get from one level to another (Gage, 1975).

Residential Contextual Land-use--primary or the majority of street frontage is residentially oriented (Alexander, 1964; Eckbo, 1964; Jacobs, 1961; Simonds, 1998).

Seating Areas--collection of chairs, benches and or built in seating area in any combination there of (Gage, 1975).

Semi-public Space--accessible but privately owned (Whyte, 1980; Simonds, 1998).

Signs--graphic symbols providing orientation through graphics and type face (Gage, 1975).

Slide--the act of sliding across another surface on the wooden deck portion of a skateboard (Wingate, 2003).

Slopes--a sustained inclined surface (Gage, 1975).

Street--contextual land-use environment transition area, little solace for users as they moves from environment to environment (Lynch, 1960; Simonds, 1998)

Street Skating--skateboarding in cities on physical elements that were not intended for skateboard use (Borden, 2001).

Street Lighting--one of the more dominant elements affecting the character of the street (for the purposes of this research all fixed outdoor fixtures contributing to the ambient illumination of the contextual environment were included) (Gage, 1975).

Steps--a sequence of stairs that enable pedestrians to get from one level to another (Gage, 1975).

Threshold Relationship--the transitional relationship of pedestrians passing from one environment to another (Ching, 1996; Simonds, 1998)

Trucks--metal axle and steering apparatus that connects wheels to a skateboard (Wingate, 2003).

Trash Receptacles--containers intended for the collection of litter and waste (Gage, 1975).

Urban Environment--a construction of space or spaces, including the physical and contextual elements, found within a city (Alexander, 1964; Eckbo, 1964; Simonds, 1998).

Walls--physical barriers to define visual space, provide visual or physical barriers (this includes retaining walls) (Gage, 1975).

1.6 Summary

Skateboarding is a byproduct of built space or spaces, including the physical and contextual elements that are found within a city and create outdoor urban environments. This unplanned result has evolved into a world-wide phenomenon and culture. As the city of Fort Worth continues to grow, it unintentionally continues to create an atmosphere that encourages skateboarding. Analyzing the physical elements frequented by skateboarders and their contextual surrounding environments provides a better understanding of the intimate relationship between skateboarders and place is gained. Insights into the influences of design upon general users of those environments are also achieved. In doing so, opportunities to encourage activities that also promote physical

activity, personal expression, creativity, and an enhanced relationship with the urban environment is presented for designers to aid in the success of creating place.

CHAPTER 2

LITERATURE REVIEW

This chapter focuses on urban design literature regarding measured or measurable experiences of those who use urban spaces. This literature suggests that the combination of urban spaces, physical elements and contextual environments combine to create designed urban environments (Simonds, 1998). This chapter reviews literature related to urban design from architecture, planning, social sciences and landscape architecture. These professions contribute various perspectives of urban environments, the uses of those environments and the users of those environments. Literature regarding evaluation techniques designed urban environments is then examined. The chapter concludes with an examination of literature pertaining to skateboarding.

2.1 Existing Literature

There is little existing literature about designed urban environments that are used by skateboarders or the relationships between skateboarders and their environments. Therefore, broader literature influencing the design of urban environments is used. For example, the act of skateboarding involves movement and transportation; therefore, literature concerning movement and transportation in urban environments was reviewed. Skateboard maneuvers engage architectural elements, so literature pertaining to architectural elements in urban environments was also reviewed.

Skateboarders use the same urban environments that other people use even though these environments are not designed for skateboard use. This provides a common ground between general users and skateboarders. Lynch (1960) refers to those who experience urban design as an audience, noting that the experience of the audience is directly related to the attention put forth by the audience:

A highly developed art of urban design is linked to the creation of a critical and attentive audience. If art and audience grow together, then our cities will be a source of daily enjoyment to the millions of their inhabitants (Lynch, p. 120).

Skateboarders are a critical and attentive audience because as skateboarders move through an urban space, they make connections with the urban environment that are more than visual. For example, there is the click-clack sound of a skateboard rolling down the sidewalk, and there are the vibrations from the wheels rolling over a textured surface. Thus skateboarding is a multi-sensory engagement that includes sight, sound and touch. This relationship is further clarified by Borden (2001):

Being a skateboarder means that you have some kind of enhanced experience of life. You don't just walk through space, without learning anything about it, or without having a kind of relationship with where you are – through the medium of a skateboard... you can actually inter-act with the world around you. This is something rare in this synthetic world of plastic and concrete (p. 200).

In this way, skateboarders are fully engaging in a rich urban experience.

2.2 Relevant Architecture Literature Review

Architecture is inherent to urban design (Hedman, 1984). Architects desire to create more than space, rather place. This emphasis is described as follows:

A place is a space which has a distinct character. Since ancient times the genius loci, or spirit of place, has been recognized as the concrete reality man has to face and come to terms with in his daily life. Architecture means to visualize

the genius loci and the task of the architect is to create meaningful places where he helps man to dwell (Norberg-Schultz, 1979, p. 5).

Strong relationships between users and their environment bring meaning to place. These relationships develop primarily through the visual linkages that architecture creates, with the goal of a unified urban impression (Hedman, 1984). Architects identify the components of urban design as physical in nature and thus, as stated by Hedman, (1984) “functions of architecture (p. 6)”. Architects begin with individual buildings and expand outward until a collection of buildings create space become part of an urban environment. Additional architectural elements are found in the exterior environments surrounding buildings. The occupants of the buildings create the context of outdoor environments. For example, if a building is a school full of teachers and students it creates an educational contextual environment, or if it is an industrial building full of employees, it creates an industrial contextual environment. However, buildings themselves are the basic components to the visual image of cities. Buildings visually affect the image of a city through context and contrast, beautification and recreation, spatial definition, and general urban form (Hedman, 1984).

Utilizing an inside-out approach to establish these connections, many architects prioritize physical characteristics of the individual building over the relationship with surrounding buildings in typical modernist fashion (Gindroz, 2003). These characteristics include texture, materials, doorways, windows and decorations (Hedman, 1984). Combinations of these elements strengthen the visual relationships of buildings to each other and begin to unify streets. As these patterns continue from street to street, neighborhoods and districts also become visually identifiable.

Urban street furnishings were also considered architectural elements and addressed later in the landscape architecture section of the literature review. These components contribute to the context and contrast, the spatial definition, as well as the urban form in the city (Hedman, 1984).

2.3 Relevant Planning Literature Review

Planning literature informs the scope of what is urban design. New urbanism is one perspective of modern day planning. The Charter of New Urbanism has directly widened this perspective and created a link from a broad scale down to the scale of a single building. This section distills the Charter of the New Urbanism via the various scales presented. The role of the public and the development of frameworks in planning are also discussed (Duany, 2003; Gindroz, 2003).

The charter begins with macro elements that pertain to a region, metropolis, city and town in large scale economic, geographic, cultural, and environmental ways. These driving forces direct the occurrence of development. As development occurs it is disseminated into neighborhoods, districts and corridors. These elements encourage citizen participation as they become a more manageable scale and literally closer to home. The charter concludes with fundamentals such as historic preservation, safety, transportation, and relates them to blocks, streets and buildings. While the charter makes mention of social and economic problems, it returns to the foundation of a physical framework as the main solution to city problems (CNU, 2001). Framework plans guide the direction of growth rather than dictating it. This approach facilitates healthy growth.

Architects interact with urban design from a building-specific or a site-specific scale. Planners start with a much larger scale. These plans start at a regional level and are structured in a hierarchical manner through reductions in scale to neighborhoods and districts, all the way down to blocks, streets and finally buildings (Gindroz, 2003). Overall the Charter of the New Urbanism suggests twenty-seven steps or principles with the intent of making better places. Essential principles pertaining to the built urban environment respect pedestrian use and encourage walking (CNU, 2001).

Design as it pertains to planning “is a broad-based public process (Gindroz, 2003, p. 18)”. This participatory part of planning extends through all stages of the process and is essential:

Environmental design frequently involves making choices between the needs and values of different groups. These choices are especially pronounced in open space design where the values of different ... user groups are frequently in direct conflict (Francis, 1988, p. 67).

Different user groups utilize the same space differently. This was due to divergent needs, perceptions, and activities (Freeman, 2002). As “skateboarders challenge existing notions of use rights as they pertain to public space (Freeman, 2002, p. 297)” planners have become intermediaries in the discussion.

Framework plans address this issue through flexibility, meaning that these plans create a scaffold to offer and support direction rather than determine it. This allows the accommodation of a variety of inputs and changing conditions (Gindroz, 2003). These varying inputs and conditions further determine the contextual environment of urban landscapes. For example as Gindroz states “At the largest scales, frameworks provide the basis for building hamlets, villages, towns and cities. At the smaller scale – that is,

with cities and towns – they are the parks and street networks of a neighborhood or district (2003, p. 29).”

2.4 Relevant Social Science Literature Review

Literature pertinent to urban design also comes from observations based on the impacts of urban environments on humans. Precedent literature such as Jacobs (1961) is critical in nature because she was not content with conditions of modern cities. The Kaplan and Kaplan (1998) approach the interaction of people and their environments in an ethereal manner focusing upon how designed environments make people feel. Social sciences such as psychology and sociology offer insights into the impact of urban environments on the human condition.

2.4.1 A Critical View

Jacobs was one of the scholars in the broader literature that was critical about the planning of the modern city. Her criticism on city planning in the mid 20th century continues to resonate and impact urban design. Jacobs also included the world of academia in her chastisement. Jacobs preferred a “real life (p. 4)” analysis of what works and what does not work in great cities as compared to the theories and postulates of academia. A key characteristic of her conclusions was diversity. She explored the role of diversity as it related to the physical form of a city through the variety and core influences of culture, economics, and time (Jacobs, 1961). According to Jacobs (1961) diversity within these core influences is essential to successful urban environments.

Jacobs (1961) defers to the physical sciences for the type of problem that applies directly to cities and their users. The process of addressing these types of problems is

evolutionary in nature, progressing from the ability to deal with “problems of simplicity”, to the ability to deal with “problems of disorganized complexity” and finally the ability to deal with “problems of organized complexity (Jacobs, 1961, p. 431).” All three steps of this evolution are necessary in order to adequately comprehend the economically and socially collaborative relationship required for successful diversity in cities (Jacobs, 1961). According to Jacobs (1961), cities are a problem of organized complexity, and how things look and how things function are impossible to separate from each other. Therefore, planning primarily how a city should look is limited without knowing how a city works on a broader scale.

While skateboarders do impact the aesthetics of places, they also contribute to cities economically and culturally. According to Jacobs (1961), the factors affecting cities that take precedence in the success of urban design depends primarily on social and economic intricacies. These intricacies create the foundation of character for cities. The primary elements for facilitating these factors as described by Jacobs (1961) include sidewalks, neighborhood parks and neighborhoods.

2.4.2 An Ethereal View

Kaplan and Kaplan (1998) take a less tangible approach to environmental design by directly addressing topics such topics as mystery and understanding. Kaplan and Kaplan make use of a preference framework in order to create an understanding-and-exploration framework. This is used study users experience in designed environments (Kaplan and Kaplan, 1998).

	<u>UNDERSTANDING</u>	<u>EXPLORATION</u>
<u>2-D</u>	Coherence	Complexity
<u>3-D</u>	Legibility	Mystery

Figure 2.1 Preference Matrix (Kaplan and Kaplan, 1998, p.13)

While originally based on relationships with the natural environment, “Concrete has become humanity’s natural habitat, and this is what skateboarders utilize in a way no other group does (Weyland, 2002, p. 6)” and thus applicable to the built urban environment as well.

The four interdependent environmental aspects of coherence, complexity, legibility and mystery apply directly to urban design (Figure 2.1). Movement is essential to the urban experience (Lynch, 1960). The multi-dimensional aspect of the matrix implies movement. Accordingly, an image is two-dimensional until the viewer moves through it, at which point it becomes three-dimensional (Kaplan, 1998). “As these components operate jointly, they have a substantial impact on how people feel in a space (Kaplan, 1998, p.16).” This matrix is similar to perceptions of skateboarders and what they seek in an urban environment. Borden (2001) defers to Lefebvre in regards to a skateboarder’s relationship to the urban as:

...a mental and social form, that of simultaneity, of gathering, of convergence, of encounter (or rather, encounters). It is a quality born from quantities (spaces, objects, products). It is a difference, or rather, an ensemble of differences... the urban could present itself as signifiers whose signifieds we are presently looking for (p.217).

As multiple opportunities for understanding and exploration are provided by designers, the quality of the experience of the user is increased. Users who are able to enhance

these values of social form, simultaneity, gathering, convergence, and encounters beyond their initial intention, are further able to improve the quality of experience in designed urban environments.

2.5 Relevant Landscape Architecture Literature Review

The design of urban environments is the result of a collaborative effort. As such, a reciprocated perspective is useful in studying these environments. Lynch illustrates this with his work as related to cities. It is from here that Eckbo (1964), a landscape architect, makes the connection from urban design to landscape design [landscape architecture]:

By seeking out, even in a limited research, the forms and elements in existing cities which produce clear and lasting responses, he [Lynch] points the way toward urban design of a truly organic quality. Similar concepts are relevant to landscape design... (Eckbo, 1964, p.19).

Eckbo further addresses architecture, planning, and the social sciences with regard to urban design from the perspective of a landscape architect. This is done by focusing on interrelationships that create community form, “Community form results from community design (Eckbo, 1964, p.178).

Portions of many professions involved with the design of urban environments intersect within landscape architecture. The American Society of Landscape Architects (ASLA) defines their practice as follows: “Landscape architecture encompasses the analysis, planning, design, management, and stewardship of the natural and built environments (ASLA, 2008).” Physical elements of architecture and planning, as well as less tangible elements such as the complexity of socio-economic influences work together in a systemic fashion. While many professions contribute to the design of

urban environments in a unique or singular fashion, landscape architects approach design in a systemic, holistic manner that encompasses aspects of many specialties.

The culmination of these influences brings additional depth and insight into complex design issues and the quality of place:

The quality of place a city offers can be summed up as an interrelated set of experiences... Quality of place does not occur automatically; rather it is an ongoing dynamic process involving the coming together of several different aspects of a community (Florida, 2002, p. 232).

Sound and thorough design solutions are able to extend through all parts of an urban environment and be consistent from a macro-design scale down to the design of “color, texture, and detail [that] all affect the quality of space enclosure (Eckbo, 1964, p. 25).”

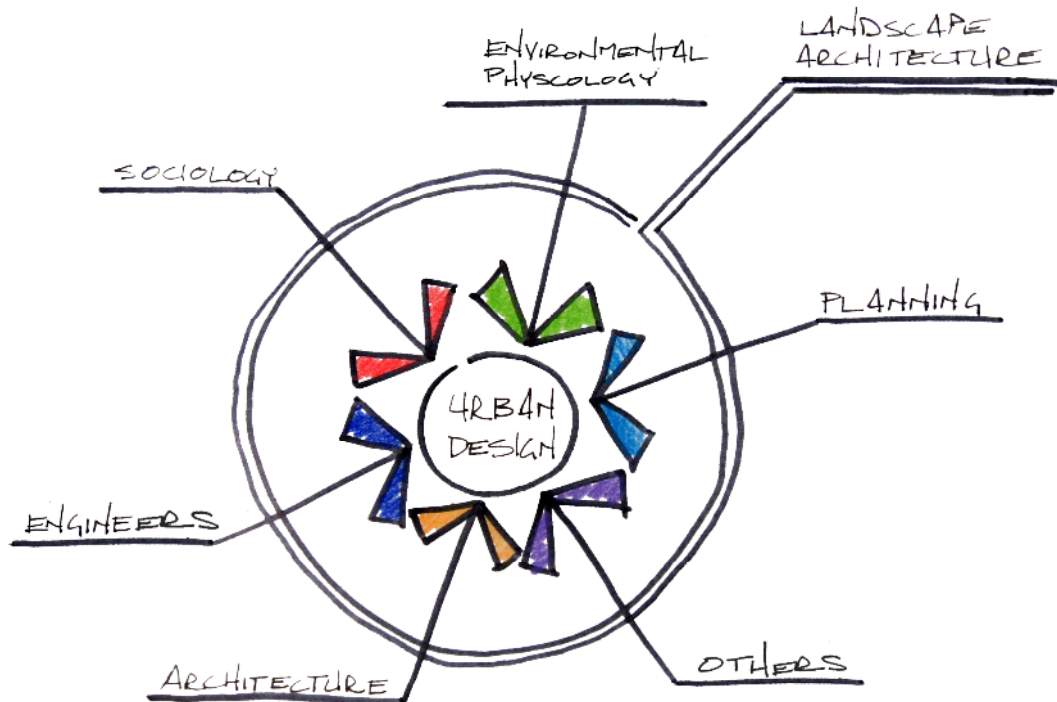


Figure 2.2 Relationship of Landscape Architecture to Urban Design

Some of these details include architectural site furnishings or street furniture. Being trained in both passive and participatory site observation and analysis techniques, a landscape architect is effective and versatile in establishing the physical context of the site. Additional training and experience allow further insights to the social elements of the site and the users.

2.6 Physical Elements of Designed Urban Environments

The basic parts of urban environments include everything from buildings and infrastructure to street lighting, seating areas, trash receptacles, signs, bollards, and planters (Gage, 1975). When street furniture is related to main components of pedestrian environments, a more coherent and complex place begins to come forward. Pedestrian related elements exist in addition to the before-mentioned elements. These include steps, ramps, banks, slopes, walls, fences and rails (Gage, 1975). The primary role of these elements is to facilitate pedestrian movement.

The Americans with Disabilities Act Accessibility Guidelines (2002) increased the presence of pedestrian related elements such as ramps and handrails. Borden (2001) presents this impact on skateboarding:

For example, a handrail is a highly functional object; both the time and nature of its use are fully programmed. If there is a meaning at all in a handrail, then it is directly related to function: that of safety. The surprise of the skateboarder's reuse of the handrail—ollie-ing up onto the rail, and sliding down its length sideways, weighted perilously on the skateboard deck as it at once balances and moves along the fulcrum line of the metal bar—is that it targets something to do with safety, with everyday security, and turns it into an object of risk, where previously it was precisely risk that was being erased. The whole logic of the handrail is turned on its head. More usually, however, such an object has no apparent history or wider cultural or social meaning outside of the use for which it is intentionally designed and provided. In place or on top of this absence, skateboarding inscribes a new meaning; where previously there was only the

most banal of uses, skateboarders create not just a change of use but an ex novo act. The “meaning” of the skateboard move, then, in part takes its power and vitality from its coming out of the blue, an unexpected and sudden eruption of meaning where society had previously been content to say nothing (p.185).

While there is very limited literature concerning these relationships between skateboarders and their environments, keen insight is gained into the perspective of skateboarders and their interpretations of urban environments through the evaluation of those relationships.

2.7 Methods of Evaluating Urban Environments

Primary research methods for this study are drawn from evaluative studies in landscape architecture. Post-occupancy evaluations (POE) and case studies lend themselves to the study of multiple users and a specific site. This section examines contributing literature pertaining to these two methods of analysis.

2.7.1 Post-occupancy Evaluation

POE techniques were originally developed for the study of existing buildings (Preiser, 1989). The purpose of these evaluations was to research how buildings were used. As interest in the interaction of users and their environments outside of buildings has increased, the evaluations have evolved and been adapted to provide similar insights into outdoor environments. Investigations into built projects, inside or out, provide evidence of the outcomes of design decisions that were made prior to the construction of the project.

Marcus (1998) defines POEs in terms of outdoor environment as follows, “Post-occupancy evaluation is the process of evaluating buildings [or outdoor spaces] in a systematic and rigorous manner after they have been built and occupied for some time

(p. 345).” There are many potential degrees of detail to which a designed environment can be evaluated. The systematic nature of POE facilitates the investigation of an individual site as well as multiple sites.

A component of subjectivity is also part of the POE process. Researchers are encouraged to “really be” in the site and document their own personal feelings as they experience the site (Marcus, 1998). Techniques from both POE and case study methods were merged and utilized in order to keep an impartial view during the research. The comparative aspects of POEs are also important tools used to identify consistencies and test whether findings are typical or not (Marcus, 1998).

Mapping techniques of the POE process offer information on the study area. These include mapping surrounding sub-areas, additional behavior traces and intended activities of the area (Marcus, 1998). Illustration of surrounding environments also contributes to the understanding of the essence of what makes various activities possible in an area.

Looking beyond aesthetics, POE techniques encourage insights into the interaction of people and form. This interaction results in the actual function of a place. As methodical as this form of study may be, the simple framework of the process allows researchers to “pick and mix” basic components (HEFCE, 2006). This is possible through the multi-faceted approach that POEs utilize. Many facets may not be applicable to all sites, neither are all facets applicable to all users, as is the case with skateboarders.

2.7.2 Case Studies

While POEs are partial to design and construction professions, case studies have an established history as a research method in law, business, medicine, engineering, sociology, psychology, economics, public policy and the design professions, including landscape architecture (Francis, 1999). As a result, the definitions and methods of application for case studies are quite varied and wide ranging. Regardless of the methods selected, in case studies related to the social or natural sciences, the researcher tries diligently to:

...not disturb the ordinary activity of the case, not to test, not even to interview, if we can get the information we want by discrete observation or examination of records. We try hard to understand how the actors, the people being studied, see things... the qualitative researcher tries to preserve the *multiple realities*, the different and even contradictory views of what is happening (Stake, 1995, p. 12).

In doing so, the objectivity of the study remains genuine. Objectivity also aids in the legitimization process of the case study as scientific research when coupled with peer review and publishing.

The work of Francis relates the implementation of case studies specifically to the practice of landscape architecture. The importance of objectivity is echoed in the design of the case study. Francis provides the following definition for the use of case studies in landscape architecture, “A case study is a well-documented and systematic examination of the process, decision-making and outcomes of a project, which is undertaken for the purpose of informing future practice, policy, theory, and/ or education (Francis, 1999, p. 2).” Francis also stated that case study methodology developed by the social and natural sciences is of particular value to landscape

architects. This idea leads researchers to the purpose of case studies as established by the natural sciences as being particularization and not generalization (Stake, 1995). Particularization of urban environments is an important part of this research.

2.8 Skateboarding

There is a certain mystique about skateboarding that has been capturing imaginations for over five decades. The available literature regarding skateboarding is primarily historical or documentary in nature. This section of the thesis begins with literature tracing the roots of modern day skateboarding. The evolution of modern skateboarding is then addressed as it intertwines with the innovation of the skateboard itself. Literature regarding the motivation for these innovations, as well as ensuing results, is also used to gain insight into how skateboarders experience urban environments.

2.8.1 A Brief History of Skateboarding

Surfing had a profound influence on skateboarding, from standing sideways on



Figure 2.3 Homemade Scooter

the board to the idea of using transportation as a transcendent search of the unknown. Mechanically, scooters of the early 1920s-1950s were the archetypes of the future skateboard (Weyland, 2002).

These simple forms of transportation were inspired by the expanses of pavement that were surrounding children in the city. Wheels provided a sense of freedom and a control in the midst of all parts of the city that were beyond their influence. The majority of the scooters were homemade and typically consisted of one dismantled metal roller skate that was then reattached to the bottom of a two-by-four or other scrap piece of wood.

These parts made up the three basic components of what would become the skateboard (Wingate, 2003). First is the wooden plank, or deck. The deck is the horizontal component upon which a rider stands when skateboarding. The second component is the wheels. Wheels ultimately connect the rider to the ground and play a primary role in limitations, as well as the potential of the skateboard. The third components are the axles. Axles connect wheels to the deck and later come to be known as trucks. An empty crate was then attached to the top along with a handle to hang on to.

2.8.1.1 Letting Go

There is no documentation of who the first person to take the handles off the homemade scooters. There is, however, a general consensus that it started in the 1950s (Brooke, 2005). Aspiring daredevils challenged the pavement that surrounded them in a

way that was never expected and had never been done before. Steel wheels would stop suddenly on cracks or pebbles that may be in the road and promptly eject the passenger. The typically rough and sketchy ride, along with a limited ability to steer, created opportunity for innovation. Capitalizing on that opportunity, toy companies began to make the first commercially produced skateboards. The Humco 5-ply, the Sport Flite and the Roller Derby, were among the first available (Borden, 2001). With these innovations began what is considered the first wave of skateboarding that lasted from 1959 to 1965 (Brooke, 2005). During this time, boards were shaped and ridden like surf boards, maintaining ties with surfing.



Figure 2.4 Humco 5-ply

In 1965, over 50 million boards had been sold in a three year period, and by the fall of 1965, the first wave of skateboarding suddenly died. “Bad publicity didn’t kill skating but the lack of technical advancement, combined with injuries and the fickleness of the passions of American youth, laid it low (Weyland, 2002, p. 43).”

Cities had also begun to ban skateboarding because of the rising number of injuries as the result of pedestrian conflicts (Brooke, 2005).

2.8.1.2 Second Time Around

The second wave of skateboarding started in 1973 and lasted until 1980 (Brooke, 2005). The driving force of the second wave was improvement in the skateboard itself. The biggest improvement was made by applying “a discovery to the skateboard’s most sensitive point-where it met the ground (Weyland, 2002, p. 34).” Urethane wheels were designed, marketed, sold, and most importantly, cast molded and perfectly round. This created real traction that lasted longer, rolled smoother and faster than anything before. Within two years, sealed precision bearings were introduced, allowing the wheel to spin faster and smoother on a wider variety of terrain (Brooke, 2005).

Decks, or boards, also became specialized for different disciplines of skateboarding such as downhill, slalom, freestyle, and pool riding (Brooke, 2005). Two other major improvements were grip tape, basically mild sandpaper applied to the top of the board to improve traction, and a kick tail, added to the end of the deck. This could be used to leverage the board and perform tricks and navigate terrain more effectively.

It was during the second wave that skateboarding began to separate itself from surfing. Skateboard technology allowed increasingly radical maneuvers to be performed by riders. Skateboard parks were constructed around the country, and physical limitations of what was considered possible on a skateboard were being

shattered. The second wave lasted until the end of 1970's and ended abruptly. By the early 1980's, almost all skateparks in the country had been demolished (Brooke, 2005).

2.8.1.3 The Third Wave

With skate parks gone, skateboarding took to the streets in a new aggressive way that began the third wave of skateboarding in the mid-1980s. Cities inspired a new style of skateboarding. Streets of cities provided a sanctuary that would not be demolished. Municipalities saw it differently. Cities had begun to pass ordinances restricting skateboarding as early as the 1960's (Borden, 2001). Measures taken against skateboarding had a much greater impact than simply toys being taken away from unruly children. These actions legitimized skateboarding by authorities acknowledging and attempting to control the activity. Despite various phases of popularity, skateboarding has continued to grow and impact the urban environment. These additional impacts included monetary, social, legal and physical ramifications.

2.9 Ramifications of Skateboarding

Skateboarding continued to face many challenges despite being a popular international multi-billion dollar industry (Borden, 2001; Weyland, 2002). These challenges influenced the physical elements and designed urban environments that are frequented by skateboarders. They include monetary ramifications, social ramifications, legal ramifications and physical ramifications. An example of each of these is examined in the following section.

2.9.1 Monetary Ramifications

In 2000, the City of Philadelphia banned skateboarding. This was a result of the intense skateboard use at a public plaza named Love Park. Love Park had become a “world famous icon” for youth culture (Howell, 2005). Home to several professional skateboarders, the park was regularly featured in skateboard magazines, videos, and even video games. The ban on skateboarding generated a heated debate. The city argued:

In fiscal year 1998, the City spent approximately \$3,100 to repair damage to the park’s granite pavers that was caused by skateboarders...In addition, according to Fairmont Park officials, the City may have to spend approximately \$50,000 in the near future to repair granite capping in the park damaged by skateboarders (Howell, 2005, p. 35).

When these estimates were made public and skateboarders said they could raise the money to cover the damages, the estimates were then revised to \$100,000 a year (Howell, 2005). The skateboarders later returned to the city council with a pledge for \$1 million dollars a year over the next ten years from the skateboard shoe manufacturer DC, if skateboarders were allowed to return to Love Park (Howell, 2005). The skateboarders and the money were both denied by council. A spokeswoman for the mayor said:

We had been talking to this group, and those talks have been terminated. We gave them an opportunity to fully and fairly air their issues. But we just don’t see skateboarding in LOVE Park (Anderson, 2004).

LOVE Park was renovated with the intent to make it unskateable by design. This only resulted in bad design such as awkward street furniture placement that was sited to obstruct skateboarders rather than contribute to the quality of the place. What actually

made it unskateable were the \$300 fines and the 24-hour police presence (Howell, 2005).

2.9.2 Social Ramifications

Medical associations and journals were among the first to alert skateboarders about the dangers of skateboarding:

In no other individual recreational sport has one seen such a high morbidity as skateboard-riding!

The data we have collected should alert parents and responsible authorities to potential damage and bodily harm that skateboard-riding can inflict. Precautionary measures must be taken (AAP, Hawaii Chapter, 1976).

Skateboarding was no longer an innocent toy that was fun and safe. It had officially become hazardous to the youth of America and to pedestrians and other users of urban open space. Parent groups, educators, local and national government authorities were also influenced by the alarm sounded by the medical profession. As a result skateboarding became regulated through legislation.

2.9.3 Legal Ramifications

In 1977, the country of Norway passed national legislation prohibiting skateboarding. It was not until 1989 that only heavily regulated and monitored skateboarding was made legal again (Rule, 1989). In 1979, Americans for Democratic Action, a major liberal lobbying organization, formally presented a petition to United States Consumer Product Safety Commission (USCPSC) to ban manufacturing and sale of skateboards in the United States. The USCPSC voted to deny the petition due to increased consumer use of safety products and skateboard parks (USCSPC, 1979).

Although skateboarding continues to be illegal in many places, the growth in popularity continues. Senator Bill Morrow of the California State Senate recently stated, “It’s time we stopped discriminating against skateboarders, marginalizing participants in what has become a dominant cultural activity (Teasdale, 2006).”

While skateboarding is a dominant cultural activity in California, it continues to be discriminated against and marginalized in Texas and the majority of the country. For example, Texas ranks second in population only to California, yet Texas was tied with Wisconsin for tenth place in the number of skateparks in the state. The 47 skateparks equal approximately one fourth of the 200 skateparks in California (Skateboard, 2002). Part of this large discrepancy comes from the legal classification of skateboarding. It was not until the late 1990s that skateboarding was first classified as a hazardous activity. This classification meant that participants in the activity accepted the risks and cannot sue if they are injured while doing it at a public facility. As a result, proliferations of public and private skateboard parks were built again in California, and other states followed.

Skate parks are a common attempt to curtail street skating. “Breaking the pattern of street skating has proven difficult, considering that nearly 25 years of aggressive criminalization has failed to register much impact (Dahlgren, 2006).” The city of Fort Worth, with an estimated population of 686,850, has no public skateboard parks. Despite years of discussion on the topic, it has failed to become a reality. The only place for skateboarders to skate is in the urban environments of the city.

2.9.4 Physical Ramifications

Skateboarders maximize their experience by utilizing the physical environment around them. While skateboarders tend to take runs through cities, moving from obstacle to obstacle, it is also not uncommon for a skateboarder to spend hours skateboarding on a single, otherwise mundane object such as a single parking block. The physical form of a parking block is usually a six foot long block of concrete that is approximately six inches wide and six inches tall.

The primary function of a parking block is to define a place to park a vehicle. A skateboarder takes this otherwise functionless object and performs countless maneuvers and variations of maneuvers while sliding across or jumping over the same block creating a new and unique experience each time before moving on to the next object.

As skills increase, so does the dexterity of the skateboarder in changing environments. From a parking block, a skateboarder may progress to a bench or planter to learn new skills and reapply old ones. Approaching a granite planter, a skateboarder may notice pretty flowers, but more than likely thoughts of how that planter may be manipulated with a skateboard take precedence. This thought process continues to occur with skateboarders whether they have their skateboard or not (Borden, 2001).

2.10 Skateboarding Today

The act of skateboarding is one of adaptability and expression. Today the average skateboarder may be under the age of 18 years old (ASD, 2002), but the age spectrum of participants is broadening. Consistent trends around the nation are large numbers of skateboarders over the age of 30 (Burg, 2007). Professional skateboarders

well into their 40s and 50s continue to actively skateboard as interest in the activity continues to grow (Hawk, 2000; Blackwelder, 2002).

As size and diversity of this specific user group increases, design professionals know even less of the relationship between skateboarders and the city. This is because “Skaters create their own fun on the periphery of mass culture. Sewers, streets, malls, curbs and a million other concrete constructions have been put to new uses (Lowboy, 1982, p. 25).” This is in part because skateboarding is commonly associated with the toy of a child. Common assumptions of skateboarders as “punk kids” and “vandals” become even less valid. None of these new uses were originally intended to occur. They are the result of a chance relationship developed between skateboarders and the city.

2.11 Design and Skateboarding

Even though skateboarding was unintended by the designers of urban environments, the chance outcome of skateboarding has grown to an estimated 16,000,000 skateboarders in the United States (IASC, 2004) and over 40,000,000 worldwide (Borden, 2001). Freedom associated with skateboarding gives the skateboarder the opportunity to interpret and experience the urban environment differently than common users. This may be done simply by variations in speed or by the type of skateboard maneuvers executed in that environment. Either method allows the skateboarder to be creative through the continued creation and recreation of space.

Despite such wide-ranging influences affecting urban design, it can be stated that those who participate in design of urban environments never intended the effects

that skateboarding has had on modern built urban environments. Yet skateboarding and skateboarders have grown and continue to evolve with urban environments. Richards (2005) explains further, “We shape our communities; and, by design or by default, they indeed shape us (p. 7).” Design professionals continue to have tremendous impacts on skateboarding through design decisions affecting urban environment. Following chapters of this thesis document this relationship between skateboarding and the urban environment.

CHAPTER 3

RESEARCH METHODS

There is little existing academic research on skateboarding and even less on the actual components of cities that skateboarders regularly use in urban environments (Borden, 2001). This research investigates designed urban environments by identifying the physical elements and contextual environments that make urban space. The research methods, based on post-occupancy evaluations and case studies, are followed to provide a point of beginning from which the techniques explained in this chapter are modeled.

3.1 Site Selection and Application

Site selection was the first step in this scholarly investigation. A portion of the Central Business District (CBD) of downtown Fort Worth was identified for this study based on size, diversity of land-uses, proximity to the researcher, and it contained all of the elements needed to conduct the study as identified from the literature review. These included street lighting, seating areas, trash receptacles, signs, bollards, planters, steps, ramps, banks, slopes, walls, fences, rails and other elements such as art (Gage, 1975). For the purposes of this study, the area of the CBD was defined by the Trinity River to the north, Henderson Street to the west, Third Street to the south and the train tracks of the Intermodal Transit Center and Amtrak station to the east (Figure 3.1).

The study area is a diverse and dynamic part of downtown Fort Worth providing evidence of a vital and vibrant CBD of which it is a part. Additional factors considered in the selection of this area were existing prominent works of urban design and public space such as Heritage Park, designed by Lawrence Halprin. These considerations increased the variety and quality of the elements in the study area. This area of downtown is also home to many corporations which provided established private and semi-public space as a counterpart to the public and semi-public spaces further increasing the diversity and use of elements and environments.

Public institutions have a strong presence in this area as well, with many official county buildings including the Tarrant County Jail, Fort Worth Public Library, and the



Figure 3.1 The Study Area of the Central Business District in Downtown Fort Worth

Fort Worth Police Station as well as the future home of a Tarrant County College Campus that will bring additional users to the study area in the future.

The presence of private residences also contributes to the diversity of the study area. Areas of public housing, apartments, townhomes and condominiums represent a diverse permanent population to make use of the urban environment (Duany, 2003). Many commercial ventures also contribute to the cosmopolitan nature of the downtown area. These include restaurants and taverns that stay remain open late into the evening and encourage nightlife in the area along with nearby entertainment. This is important because in between these anchors additional spaces that are public, semi-public, or private in nature supplied with users at various times throughout the day and night.

Preliminary observations of these spaces provided evidence of street elements and environments that attracted skateboarders even though the spaces were not designed for skateboarders. This was verified by a significant number of identifiable skateboard behavioral traces including paint scuffs and scratches on rails, wax residue on ledges and chipped edges on planters and walls.

3.2 Application of Study Methods

Observation methods and data collection techniques are modeled after post-occupancy evaluations (POE), and the research process is informed by the case study approach. The synthesis of these methods allowed the identification and documentation of which urban elements and environments were encouraging skateboarding in a selected urban setting. This also created tangible data to measure physical elements of

urban design as compared to physical elements of urban design that are skateboarded upon.

First, the existing built urban environment was recorded photographically and individual physical elements recorded with systematic site visits were documented on

Existence	Present	Quantity	Skated
	Elements		
Street Lighting			
Seating Areas			
Chair			
Bench			
Built-In			
Trash Receptacles			
Signs			
Bollards			
Planters			
0--1'			
1--2'			
2'+			
Steps			
1--3			
4--6			
7--9			
10+			
Ramps			
Banks			
0--30			
30--60			
60--90			
Slopes			
Walls			
0--3'			
3'--6'			
6'+			
Fences			
Rails			
Stairs 1--3			
Stairs 4--6			
Stairs 7--9			
Stairs 10+			
No Stairs			
Other			
Gaps			
Loading Docs			
Art			
Environment			
Private Space			
Semi-public Space			
Public Space			
Commercial			
Industrial			
Municipal			
Educational			
Street			
Plaza			
Park			
Other			

Figure 3.2 Element and Environment Matrix

the element and environment matrix (Figure 3.2). Physical elements of urban environments identified from the literature review included street lighting, seating areas of chairs, benches, built-in seating, trash receptacles, signs, planters, steps, ramps, banks, slopes, walls, fences and rails (Gage, 1975). From these elements, a matrix was constructed to identify their presence in the study area (see Figure 3.2).

The elements that showed behavioral traces of skateboard activity during the preliminary investigation of the study area were deemed as used to skateboarders. These elements were further deconstructed to gain additional insight into what physical elements encourage skateboarding. This was done according to size, such as planters from 0 to 1.0', 1.0' to 2.0', and greater than 2.0', as well as steps from 1-3 steps, 4-6 steps, 7-9 steps and 10+ steps, banks ranged from 0-30 degrees, 30-60 degrees and 60-90 degrees, walls were documented from 0 to 3.0', 3.0' to 6.0', and greater than 6.0', rails followed steps accordingly, 1-3 steps, 4-6 steps, 7-9 steps, 10+ steps and rails with no steps present. Additional miscellaneous elements of urban design such as gaps, loading docks and art were recorded under the "other" category. These elements were assembled into a matrix with the y-axis containing the elements and environments from the literature and the x-axis documenting their existence and whether or not they were used by skateboarders.

Behavioral traces were also recorded in the Element and Environment Matrix. Skateboards leave physical evidence upon the surfaces that have been used for skateboarding. Skateboarders roll over, slide the wooden portions across and grind the metal axels of their skateboards on various surfaces in the process of negotiating their

environment. If the skateboard does not readily slide or grind the object without modification of the intended surface, skateboarders apply wax to lubricate the surfaces of the physical elements. Wax is a distinctive characteristic of skateboard use that leaves a dark residue on the surfaces to which it is applied. Other identifiable characteristics include the streaking or scratching of paint, the wearing down and chipping of edges, wheel streaks and the use of crack fillers such as “Bondo” or other agents used to smooth out surfaces or approaches to the desired element that is to be skated. These additional behavioral traces were recorded as they were observed in conjunction with the physical elements.

The study area was then configured into 57 polygon areas recorded in ArcGIS

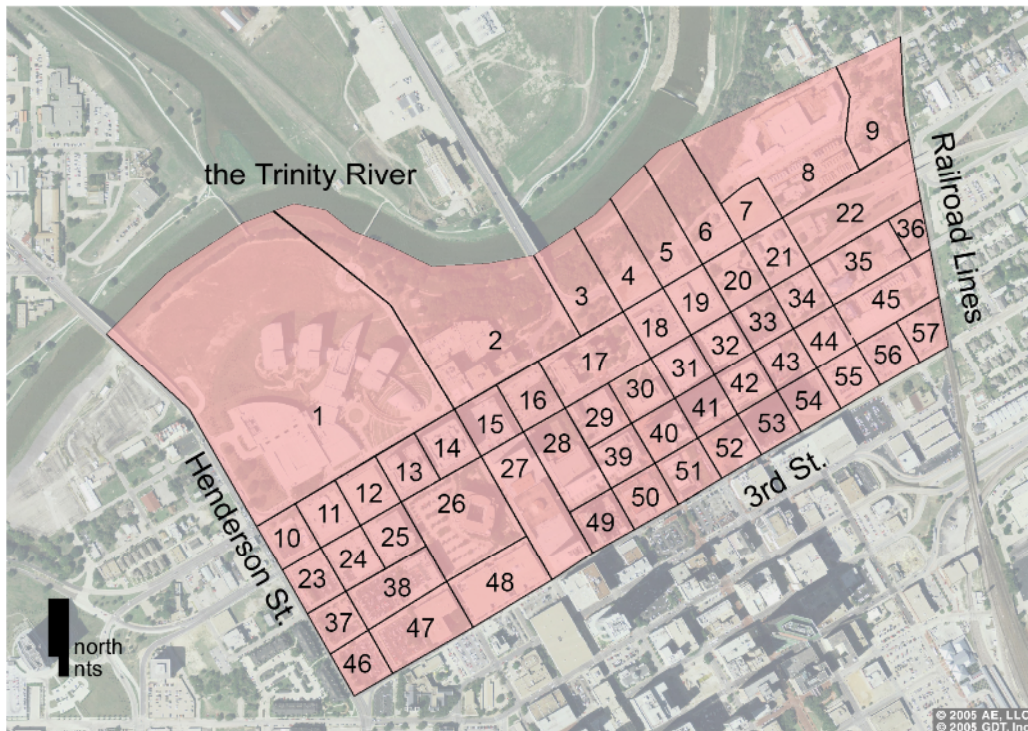


Figure 3.3 Numbered Polygon Areas

9.2, a Geographic Information System (GIS) as illustrated in Figure 3.3. The objective was to record and associate urban design features and contextual land-use. Boundary lines of individual configured polygon areas were located in the middle of streets to capture all elements and environments under the assumption that there would be no elements or skateboarding occurring in the middle of the road. All results were then entered into spreadsheets and associated with their corresponding polygon shape in ArcGIS 9.2. Integration of POE and case study techniques allowed the researcher to individualize and itemize the physical urban elements and their contextual environments.

Outdoor spaces for the purposes of this study were identified as public, semi-public and private. Public space was open to all users, it includes spaces such as the sidewalks, parks and streets were present in every environment. Semi-public space was accessible to most users but privately owned. A corporate plaza would be an example of semi-public space. Private space identified by a fence, sign or a security guard restricting access were also identified.

The total study area represented approximately 200 acres of Fort Worth's northwest Central Business District. During the study, it was learned that existing land-use data did not adequately reflect what was actually occurring in the identified study area. For example, the public housing was found to be located in "Light Industrial" zoning.

Due to the scope of this study, the various land-use categories were simplified to commercial, industrial, municipal, residential and educational contextual land-uses.

These were determined from the literature review and by the dominant street level uses or proposed future uses of delineated polygon areas. These determinations were made to better understand real life of the study area (Jacobs, 1961). While mixed-use developments were present in this study area, they primarily integrated vertically into the various portions of the study area. At street level the character of each polygon area was decidedly municipal, residential, commercial, educational or industrial. Because this research focused on the street level data, therefore mixed-use was not considered as a contextual land-use environment for this specific purpose.

Additional contextual environmental aspects addressed in this research were threshold relationships. Threshold relationships describe how pedestrians transitioned from environment to environment in the CBD study area. These thresholds were identified simply as street, plaza, park or other and perhaps best defined as the welcome users of those environments receive during transition from one environment to another. The street offered little solace for users as they transition from environment to environment. The plaza offered reprieve from the street, it was regimented and with little or no nature or welcome. Parks introduced a presence of nature that softened the transition from the street to other urban uses.

Data collection itself took place during daylight hours on multiple weekends and afternoons until all sections in the study area were recorded. A binder with fifty seven copies of the detailed element and environment matrices (Figure 3.2) and a digital camera were the main tools used in the research process. The investigation of each individual polygon area began by circling the perimeter of the defined area on foot to

document as much of the physical elements as possible that were visible from the perimeter of that area. The interior of the area was then entered as was legally possible. Freedom to access urban environments was determined by signs, fences and security guards.

As physical elements and contextual characteristics were identified, their presence was documented in the matrix corresponding with that geographic area. Due to the scale of the task and lack of additional resources, exact locations of individual physical elements were not documented. However, photos were then taken of unique elements in each polygon area. Elements showing signs of skateboarding were also inventoried and photographed.

When the study area was completely documented, the data was entered and quantified in spreadsheets that corresponded with the associated polygon area. The individual elements were then isolated and shapefiles for individual elements were created to facilitate analysis. Photos were also organized into numbered folders that corresponded with associated polygon area. Due to the large number of photos taken, the photos were not associated with the corresponding shapefiles in a GIS environment.

3.3 Supporting Data

Documentation of the physical urban elements and contextual environments, verification of the findings was sought. Review of visual archives provided 20 skateboard videos. The names of twenty skateboard videos were placed in a hat and five names of videos were selected for viewing. Those five videos were then searched on the internet for movie clips of at least three minutes in length. As each video clip

was viewed, a tally of the physical elements of urban design that were used by skateboarders in the video segment was documented in the Physical Element Matrix (see Figure 3.4).

The degree of detail attempted to be assessed was adjusted to compensate for the challenging camera angles, fast pace of the videos and unfamiliarity of the researcher with the elements and environments presented in the videos. Elements of chairs, benches, and built-in seating areas were simplified to seating areas. Dimensional distinctions were also simplified and noted as only the element itself. Contextual environmental distinctions were completely removed as the researcher was not familiar with the locations of the videos. If multiple skateboarders utilized the same element more than once, it received one tally mark. If a similar element was found in multiple locations it received multiple tally marks.

Elements and Environments of Urban Design that Encourage Skateboarding	
Videos	Elements
This is Skateboarding (Emerica)	Street Lighting
Kids in Emerica (Emerica)	Seating Areas
In Bloom (Transworld)	Trash Receptacles
First Love (Transworld)	Signs
Sorry (Flip)	Bollards
Really Sorry (Flip)	Planters
Misled Youth (Zero)	Steps
Thrill of It All (Zero)	Ramps
New Blood (Zero)	Banks
The Fast Forward Flick (Fast Forward)	Slopes
Virtual Reality (Plan B)	Walls
What If (Blind)	Fences
Baker 2G (Baker)	Rails
Baker 3 (Baker)	Other
Welcome to Hell (Toy Machine)	
Shorty's How to go Pro (Shorty's)	
Bag of Suck (Enjoy)	
The Search for Animal Chin (Powell Peralta)	
Ban This (Powell Peralta)	
The Beginning (Birdhouse)	

Figure 3.4 Video Physical Element Matrix

For example, if, over the length of the video clip, ten skateboarders were shown skating the same bench in the same plaza, then bench and plaza would each receive one tally mark. On the other hand, if, over the length of the video clip, ten skateboarders skate ten benches in ten different plazas, then benches would each receive ten tally marks.

3.4 Summary

The structured nature of this study is a principal component to this research in order to effectively evaluate such a large study area for a specific user group. The field of landscape architecture lends itself to the application of a synthesized research methodology. It is precisely a comprehensive vantage point that is needed to critically observe the many physical elements and environmental factors that create designed environments.

This study identifies the physical elements and characteristics of designed urban environments that encourage skateboard use. By associating the contextual environmental influences with physical elements that help facilitate the activity of skateboarding, qualities of urban design are identified, extrapolated and refined into detailed data that represents a creative use of outdoor urban space. As stated by Richards (2005), “The field of landscape architecture, informed by the physical sciences, geography, sociology, psychology, art and design, offers a good, comprehensive vantage point from which to observe and draw conclusions on city places (p. 20).” The next chapter explores the findings from this vantage point in greater detail.

CHAPTER 4

FINDINGS

This chapter begins with a description of the execution of the research. The description is followed by the overall findings of the study. The overall findings are then categorized and divided by their contextual land-uses and discussed in detail.

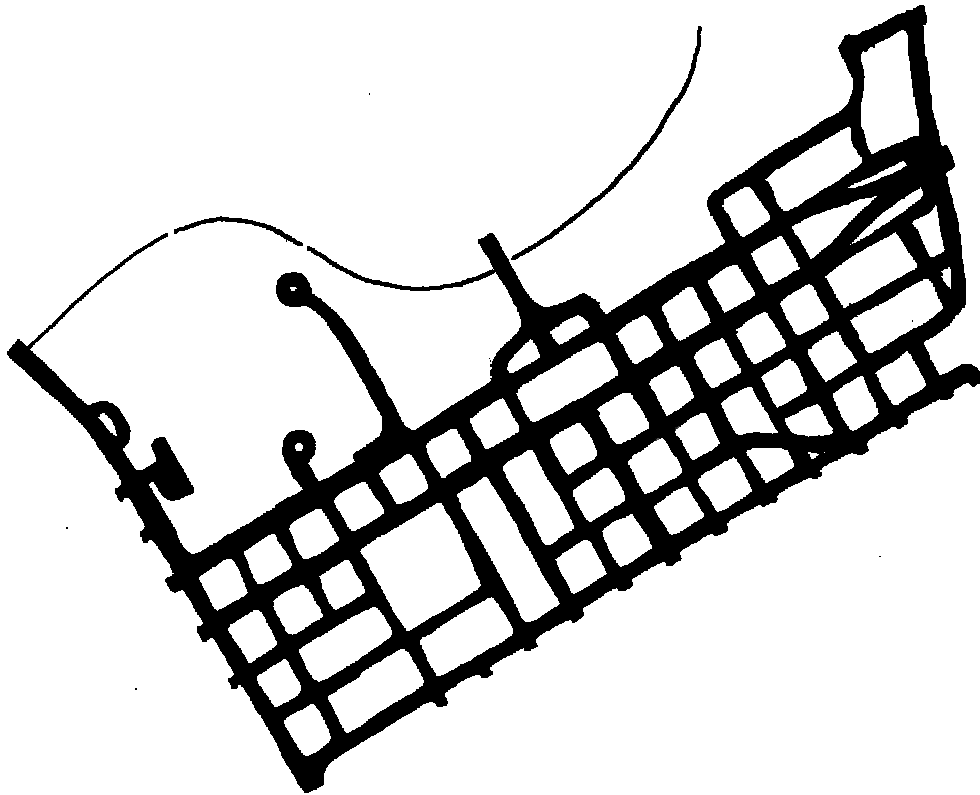


Figure 4.1 General Street Layout of Study Area

The study area consists of traditional urban form consisting of smaller and larger city blocks based on a grid structure overlooking the Trinity River to the north as shown

in Figure 4.1. This makes for an easily walkable downtown environment. The architectural form of the study area is dense with established open space for views and general pedestrian comfort as illustrated in Figure 4.2. However, some portions of open



Figure 4.2 Architectural Form of Study Area

space are not pedestrian friendly because they are dedicated to surface parking. These parking areas are included in the industrial environments category.

The physical elements of urban design present in each environment are then identified. Once recognized, each of the following section details which elements are present in the recognized contextual land-use environment and which of those elements are used by skateboarders. The chapter concludes with a summary of the physical elements skated and their corresponding environments.

4.1 Overview of the Study Area

The two hundred acres of the Central Business District consists of a diverse set of uses and has many physical elements of urban design. The contextual land-uses in the study area are classified into five separate categories with their primary land-use determining their classification. These classifications include municipal, residential, commercial, educational and industrial contextual land-uses.



Figure 4.3 Contextual Land-uses

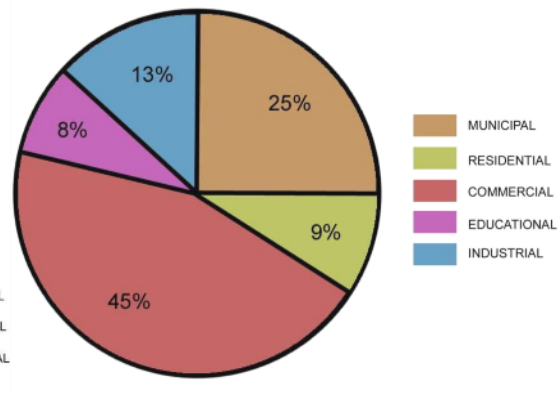


Figure 4.4 Percentages of Each Contextual Land-use

The percent of study area that each land-use environment occurring is illustrated in Figure 4.4 Area Percentages of Land-uses. This distribution is the basis for the quantitative analysis of the elements and contextual environments. A commercial use was the primary land-use, followed by municipal uses with industrial, educational and residential land-uses making up the remaining third of the study area.

Allocation of collective physical elements of urban design proportionally follows a similar pattern established by the area percentages of land-uses as illustrated in Figure 4.5. This pattern suggests that as the area of a designed urban environment

increases, the number of physical elements of urban design in that environment also increase.

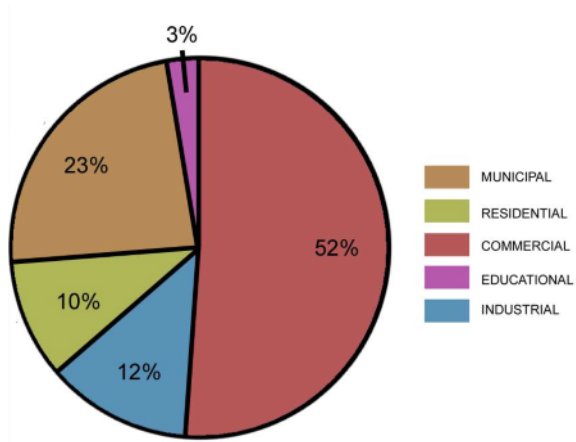


Figure 4.5 Percentages of Collective Physical Elements of Urban Design in Corresponding Contextual Land-uses

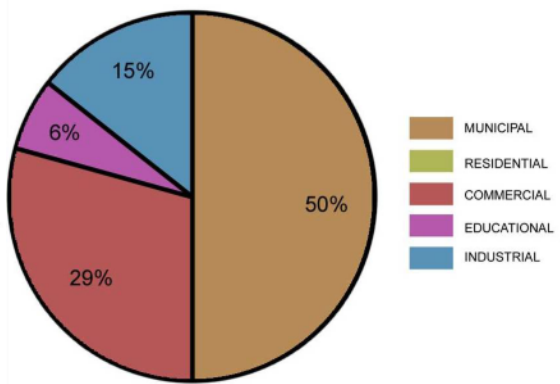


Figure 4.6 Percentages of Skated Collective Physical Elements of Urban Design in Corresponding Contextual Land-uses

This pattern was not the same for the collective skated physical elements of urban design and their corresponding land-use (see Figure 4.6). This comparison illustrates that the distribution of physical elements of urban design do not necessarily correlate with the distribution of skated physical elements of urban design. As illustrated, while more physical elements of urban design were documented in commercial contextual environments, more physical elements of urban design showed evidence of skateboarding in municipal contextual environments. Analysis of this point is discussed in the concluding analysis chapter of this research. Figure 4.6 also shows that there was no evidence of elements skated in residential environments.

4.2 Findings Regarding Municipal Contextual Land-use

The municipal areas identified in the CBD area of downtown Fort Worth make up twenty five percent of the total study area or approximately 50 acres. These areas include the Fort Worth police station, a fire station, county offices, county justice facilities, public parks and the Fort Worth Public Library. The study area also has the largest variety of public, semi-public and private spaces as well as street, park and plaza presence.

While municipal uses did not make largest contextual environment use, as shown in Figure 4.4, it did contain the most physical elements of urban design used by skateboarders. Physical elements and the corresponding quantity of elements present in municipal contextual environments are illustrated in Figure 4.7.

This data illustrates the large number of lights and signs present in municipal areas. There were also larger numbers of trash receptacles, bollards and rails without stairs. Benches and planters were also prominent along with rails down stairs. Often a single set of stairs would have two, three or even four handrails depending on the width of the stairs.

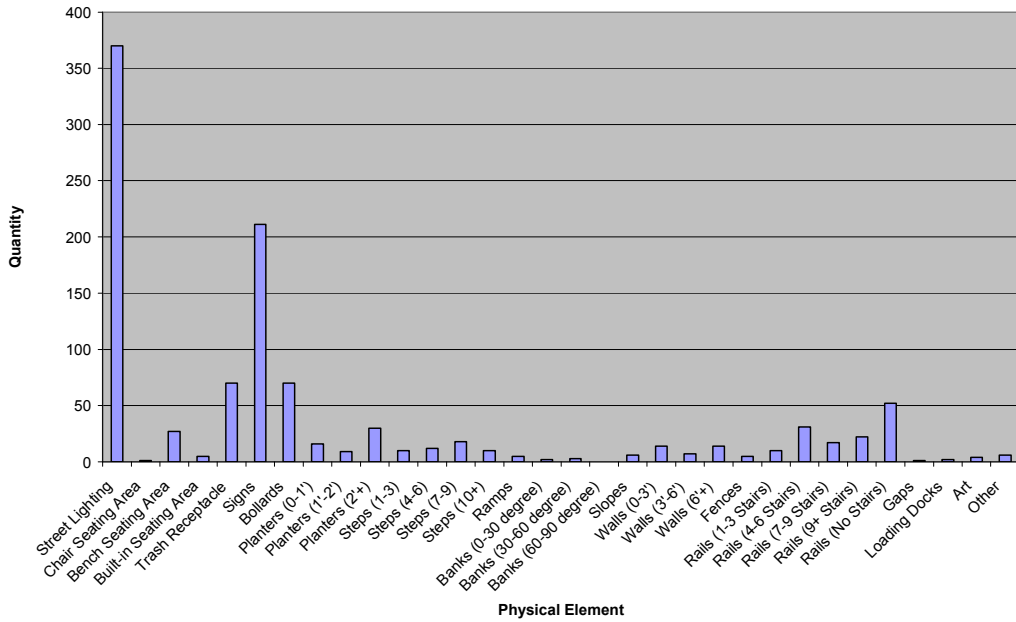


Figure 4.7 Physical Elements of Urban Design Present in Municipal Contextual Land-use

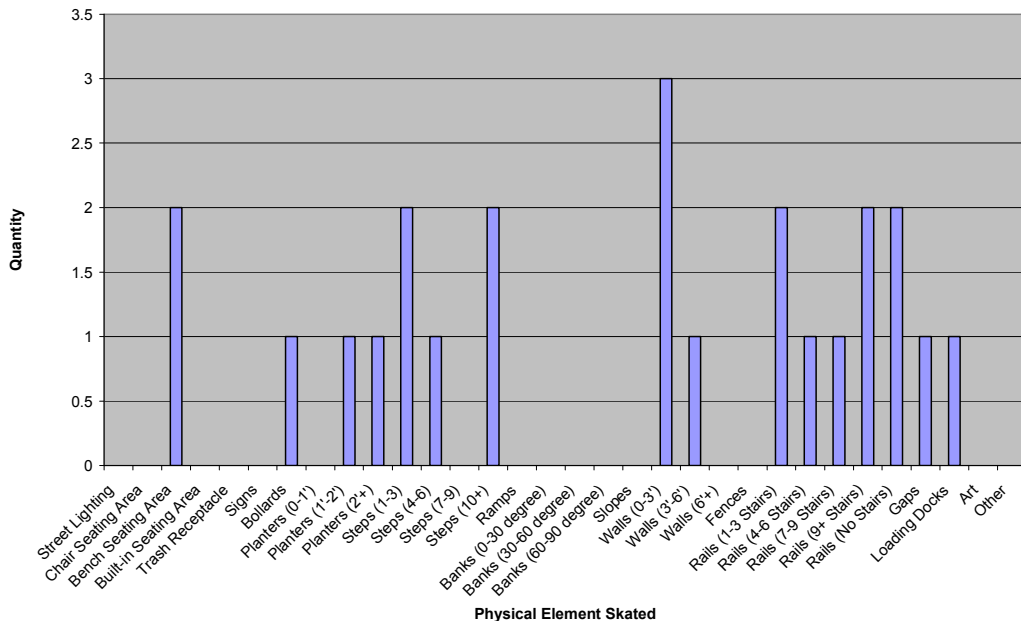


Figure 4.8 Physical Elements with Behavioral Trace Indications of Skateboard Use in Municipal Contextual Land-use



Figure 4.9 Wax on Seating Area at Heritage Park (Block 3)

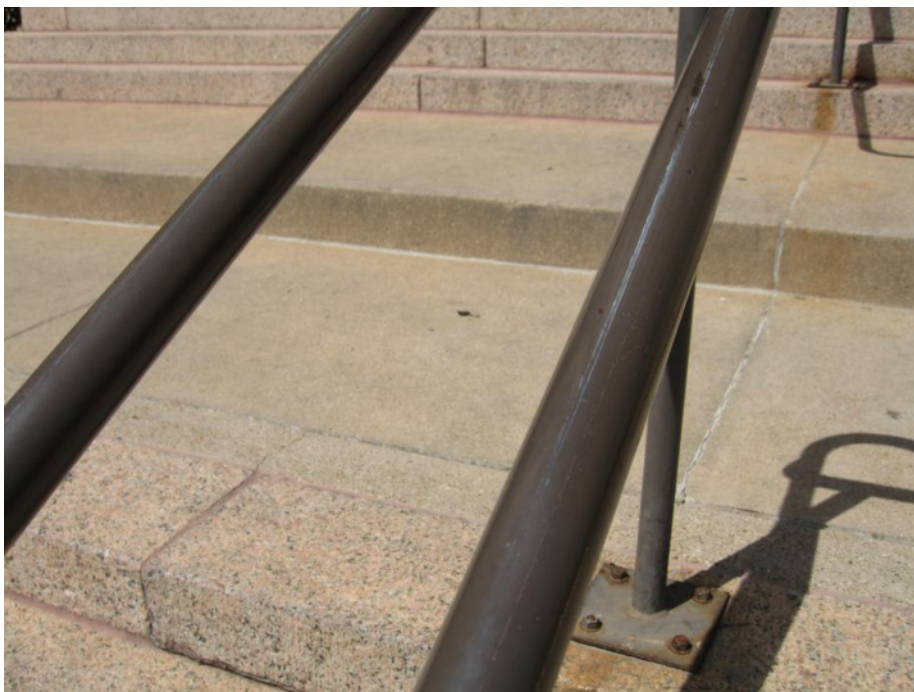


Figure 4.10 Paint Streaks on a Handrail at the Courthouse (Block 3)

4.2.1 The Presence of Skateboarding in Municipal Contextual Land-use

The presence of skateboarding in these environments was identified on multiple elements including rails, walls and benches. This was done by recognizing the behavioral traces of wax located on the edge of various elements as well as paint streaks, wheel streaks and chipped edges of various elements. Examples of the elements identified are illustrated in Figure 4.10. This graph shows that walls ranging from zero to three feet to be the element used the most in this environment. This is despite larger quantities of other physical urban design elements that were also present in this environment.

4.3 Findings Regarding Residential Contextual Land-use

Residential areas identified in the CBD study area of downtown Fort Worth make up the smallest portion of the study area at nine percent of the total study area or approximately eighteen acres. These areas consisted of public housing, rental units, condominiums and town homes. A similar small proportion of approximately ten percent of the total elements of urban design were present in residential areas. These physical elements are illustrated in Figure 4.11.

This graph illustrates large numbers of lighting and signs. There were also larger quantities of one to three steps, trash receptacles, benches, fences and some handrails. The following images are some examples of these elements. None of these elements showed evidence of skateboarding despite similarities to other areas in the types of physical elements that were present. This was also the only environment that did not show any evidence of skateboarding despite a large amount of semi-public and

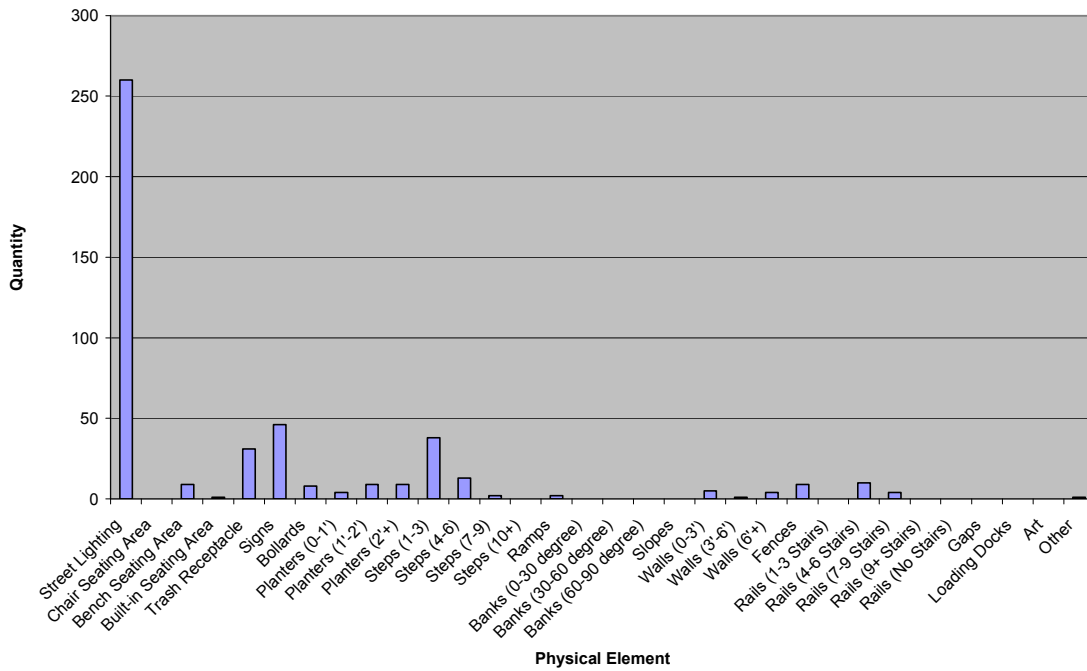


Figure 4.11 Physical Elements of Urban Design Present in Residential Land-use



Figure 4.12 Physical Elements in a Residential Contextual Land-use (Block 8)



Figure 4.13 Sign Located in Residential Environment (Block 8)

park-like space. Signs asking for respect (see Figure 4.13) rather than saying not to do something were only found in residential contextual land-uses.

4.4 Findings Regarding Commercial Contextual Land-use

Commercial areas identified in the CBD area of downtown Fort Worth make up the largest portion of the study area or approximately 90 acres. These areas consisted of corporate campuses, retail, hotels and restaurants, and other related uses. Semi-public and private areas dominated these environments along with street and plaza-type thresholds. Physical elements of these environments are illustrated in Figure 4.14.

The numbers of physical elements of urban design present in the commercial environments make up more than half of the total physical elements of urban design documented in the study area. Lighting and signage continue to be the most numerous

elements documented. Seating areas, bollards, planters and trash receptacles also have a strong presence.

4.4.1 The Presence of Skateboarding in Commercial Contextual Land-use

Despite having more elements of urban design present in these areas, less evidence of skateboarding was found than in municipal areas. Fourteen elements with behavioral traces of skateboarding were found compared to twenty four instances in municipal areas.



Figure 4.14 Radio Shack Commercial Plaza (Block 1)



Figure 4.15 Outdoor Commercial Eating Area (Block 50)

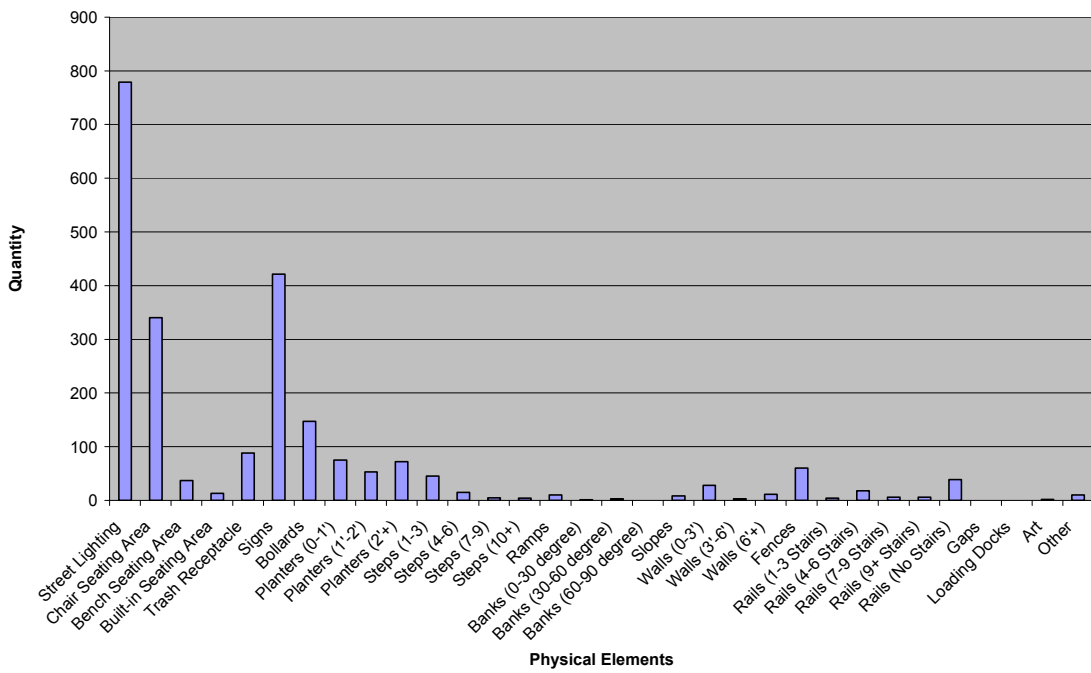


Figure 4.16 Physical Elements of Urban Design Present in Commercial Land-use

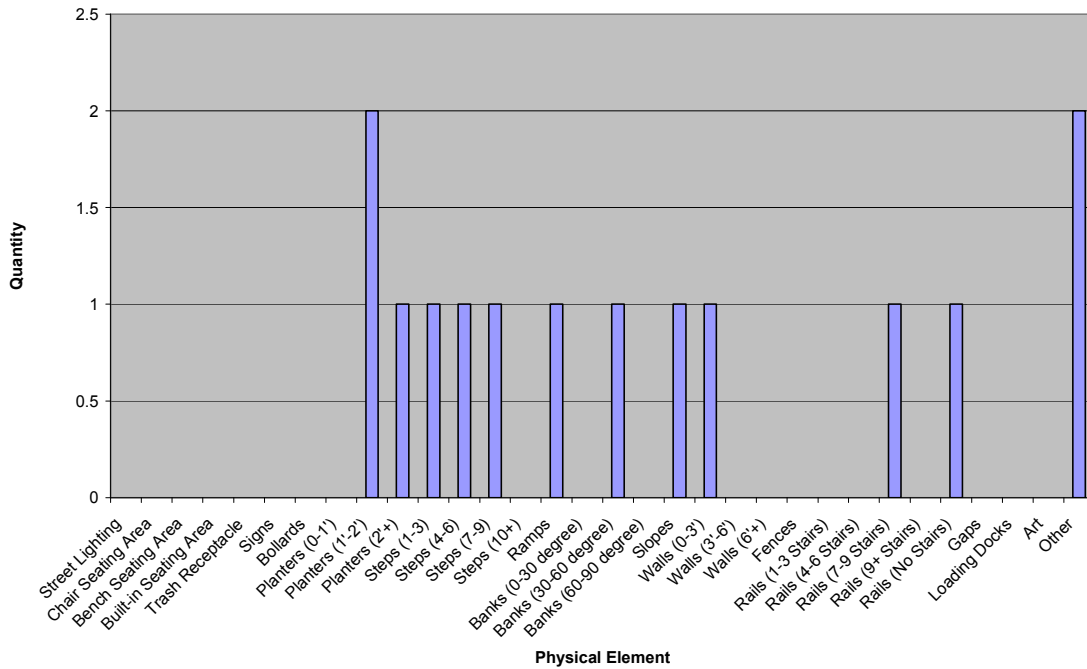


Figure 4.17 Physical Elements with Behavioral Trace Indications of Skateboard Use in Commercial Contextual Land-use

Planters and other obstacles such as utility boxes were skated in greater quantity in commercial environments. Various numbers of steps, ramps, walls and rails were also skated. No seating areas showed evidence of being skated in commercial areas. This finding differed in light of the proportional increase of seating areas as compared to the municipal environments that had less seating areas but were still skated upon. Figures 4.18 and 4.19 are examples of skated physical elements in commercial environments.



Figure 4.18 Utility Box Used by Skateboarders in a Commercial Environment (Block 1)



Figure 4.19 Stairs and Handrails Skated in a Commercial Environment (Block 52)

4.5 Findings Regarding Educational Contextual Land-use

Educational areas identified in the CBD area of downtown Fort Worth were the smallest portions of the study area consisting of approximately 16 acres. These areas included schools and religious facilities. During the time this study took place the majority of the educational contextual land-use environment was under heavy construction. Completion of the new construction is anticipated to have a substantial impact on the findings presented.

Physical elements common to other environments were also present in the educational contextual land-uses. These are illustrated in Figure 4.20. While lights and signs continue to dominate the environment, bollards and fences also have a stronger presence as compared to the other environments studied.

4.5.1 The Presence of Skateboarding in Commercial Contextual Land-use

Even though the educational environment was the smallest area with the least amount of physical elements of urban design, there were still signs of skateboarding present. These findings are illustrated below in Figure 4.21. These elements were stairs and handrails. These elements were the most consistently skated physical element of urban design. A typical handrail and smaller set of stairs is illustrated in Figure 4.22. Figure 4.23 is a detail image of the skated handrail.

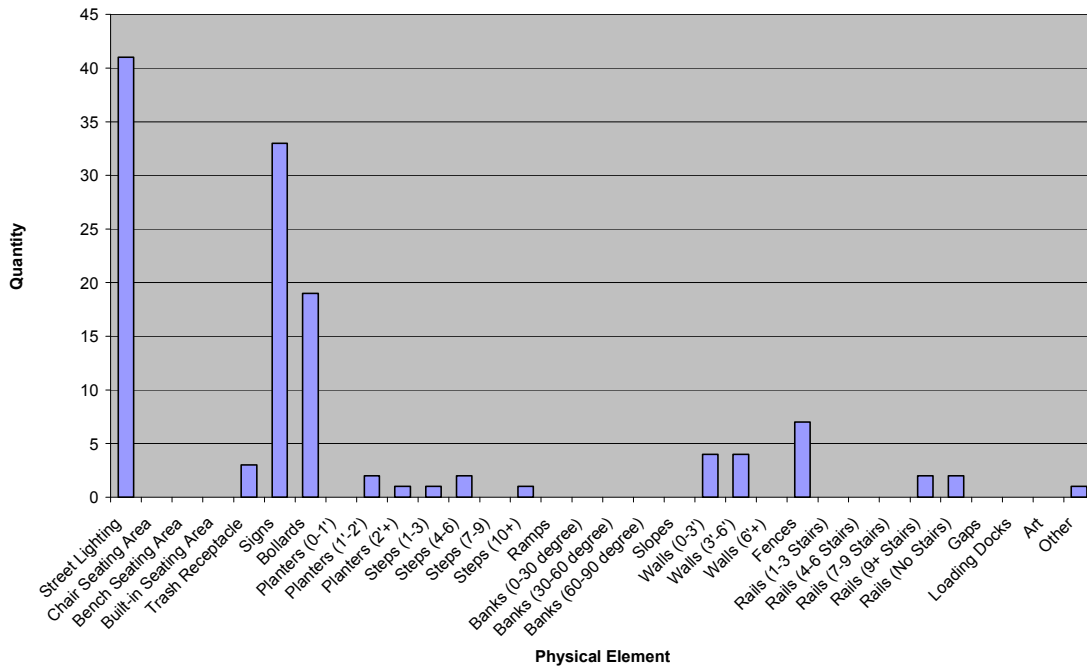


Figure 4.20 Physical Elements of Urban Design Present in Educational Contextual Land-use

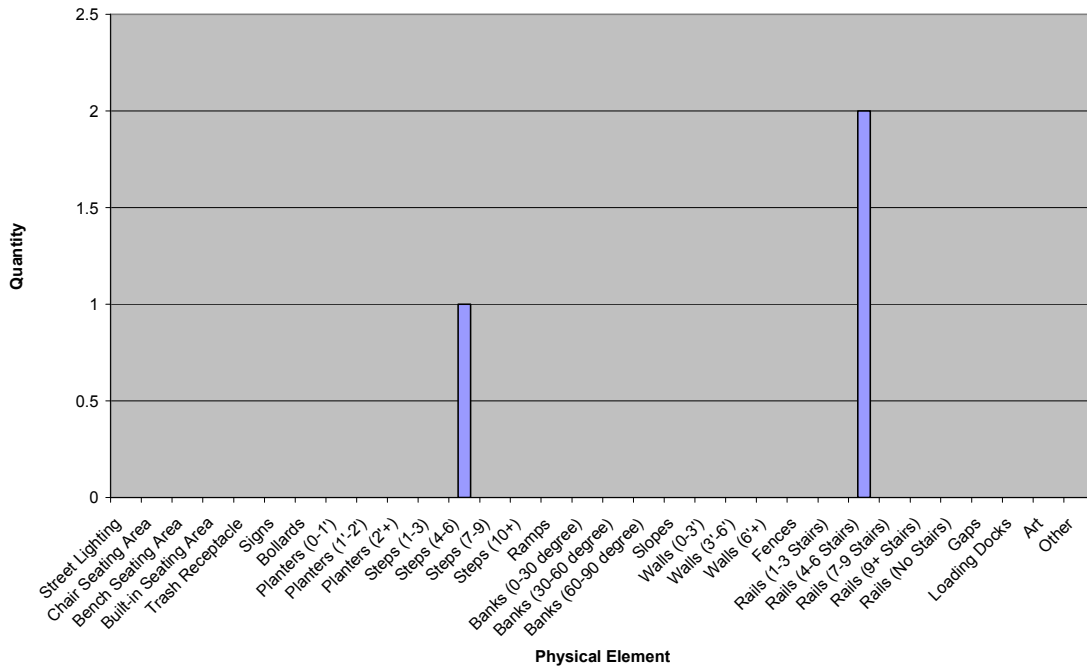


Figure 4.21 Physical Elements with Behavioral Trace Indications of Skateboard Use in Educational Contextual Land-use



Figure 4.22 Stairs and Handrails in Educational Environment (Block 37)



Figure 4.23 Detail of Skated Handrail (Block 37)

4.6 Findings Regarding Industrial Contextual Land-use

The industrial areas identified in the CBD area of downtown Fort Worth are what may be considered as the least pedestrian-friendly environment of the study area. This portion of the study area consists of approximately 26 acres. These areas are made up of industrial buildings, warehouses and parking lots. Parking lots are associated with industrial contextual land-uses because the majority of parking lots within the study area are located adjacent to them. Physical elements of urban design present in this area are represented in Figure 4.24.

This was the only environment in which lighting was not the dominant element in the contextual environment. Signs are the most prominent element in this environment. Trash receptacles and bollards are also prominent elements. Images of this environment such as Figure 4.24 illustrate the context of the area. Additional distinguishing characteristics of this environment are the general lack of vegetation. While vegetation is not addressed specifically in this study, it was a glaring aspect of the industrial contextual land-uses. Pedestrian activity was also noticeably absent in this environment.



Figure 4.24 Industrial Contextual Environment (Block 55)

4.6.1 Presence of Skateboarding in Industrial Contextual Land-use

Steps and rails continue to be skated in this environment as in the other environments, with gaps and loading docks showing evidence of skateboarding that was not found as prevalent elsewhere. These findings are illustrated in Figure 4.26. Figures 4.27 and 4.28 that follow are representative of the elements that show evidence of skateboarding.

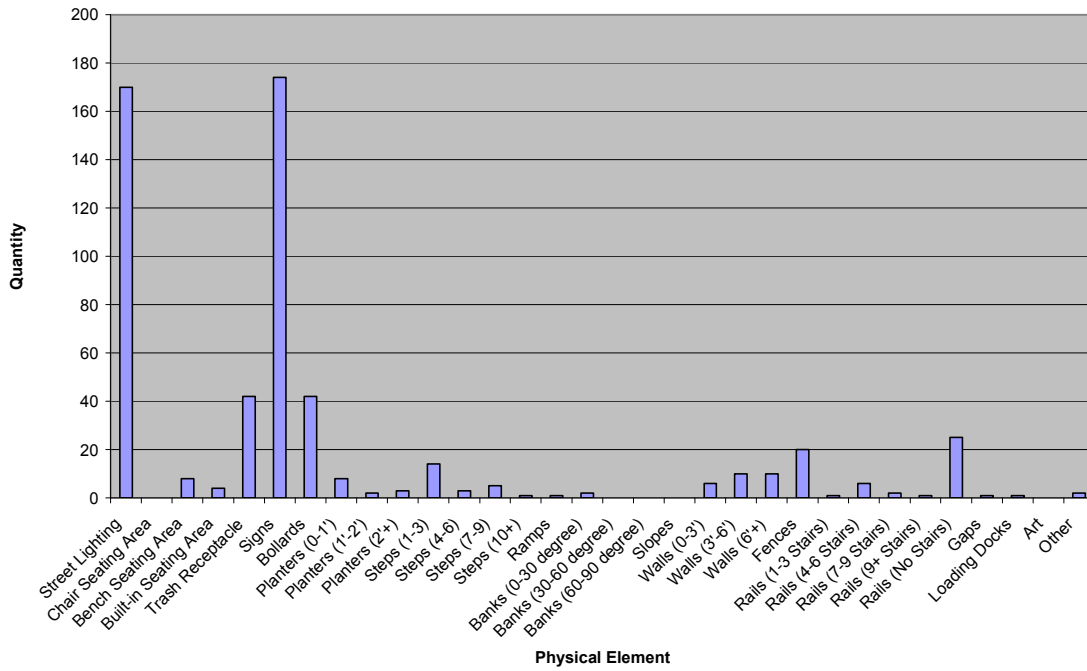


Figure 4.25 Physical Elements of Urban Design Present in Industrial Contextual Land-use

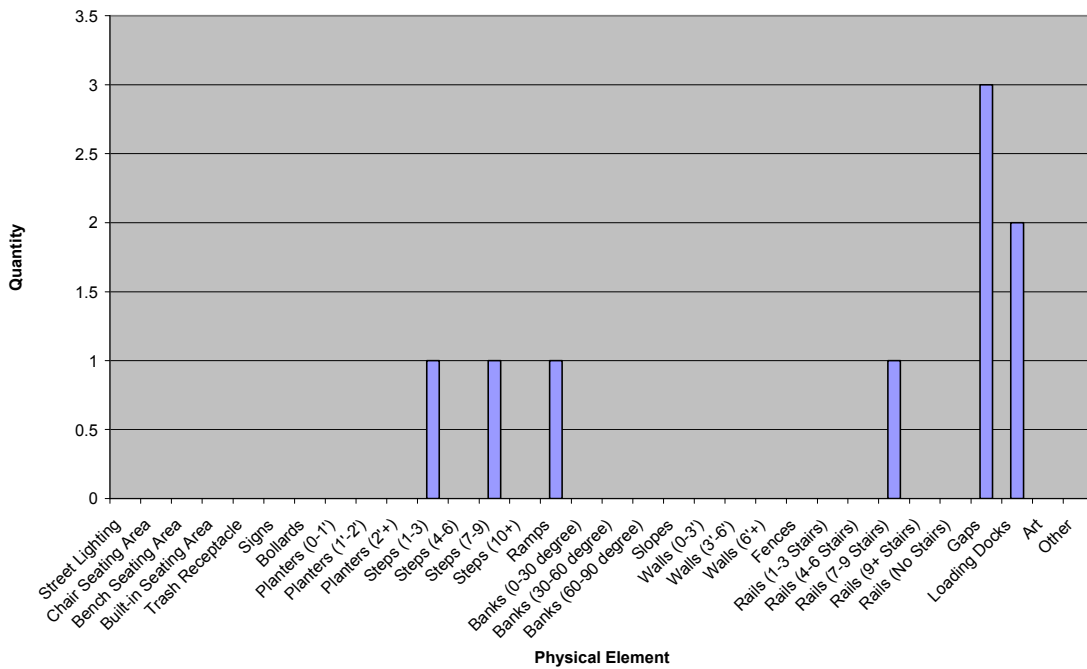


Figure 4.26 Physical Elements with Behavioral Trace Indications of Skateboard Use in Industrial Contextual Land-use



Figure 4.27 A Gap Located in the Industrial Environment (Block 44)



Figure 4.28 Steps and Loading Dock Used by Skateboarders in Industrial Environment (Block 45)

4.7 Summary of the Field Research Findings

Tremendous diversity is found in the physical elements of urban design present in the study area of the central business district of downtown Fort Worth. The quantity of elements in an individual polygon area did not correlate with increased quantities of elements skated. Despite having similar physical elements of urban design present in residential areas of downtown Fort Worth, there was not any evidence of skateboarding in the residential contextual land-uses. These findings suggest contextual environments may have an influence on whether a physical element of urban design is skated on more than the elements themselves.

There were forty nine examples of physical evidence of skateboarding documented in the entire study area. A summary of the overall documented elements

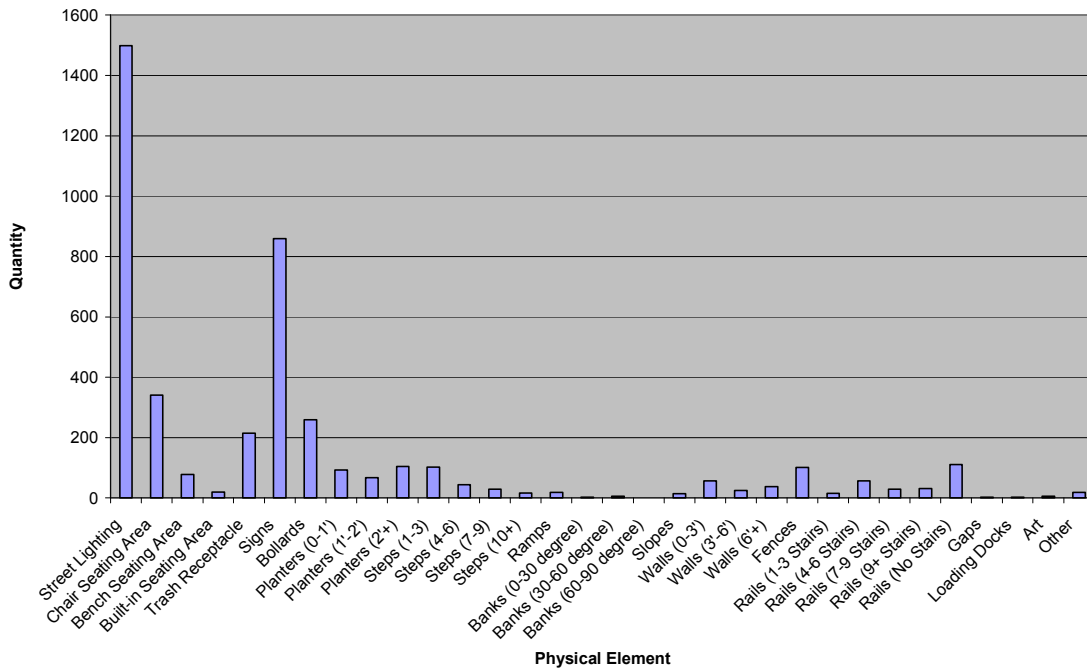


Figure 4.29 Detailed Overall Physical Elements of Urban Design

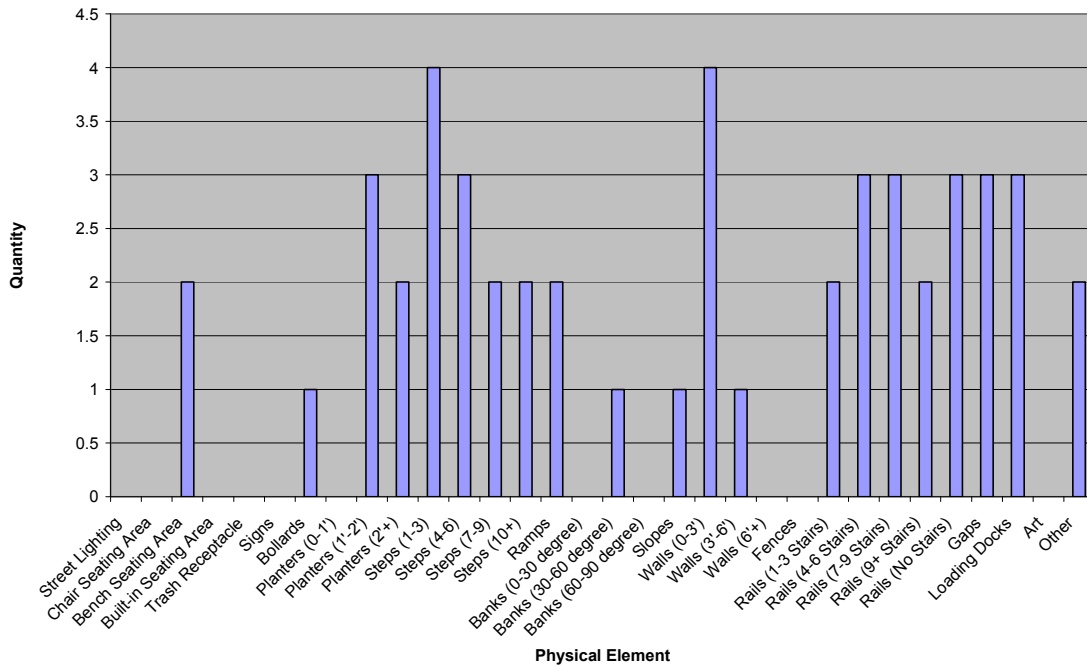


Figure 4.30 Detailed Overall Physical Elements with Behavioral Trace Indications of Skateboard Use

are illustrated in figure 4.29 and the overall elements skated is illustrated in Figure 4.30. Figure 4.30 illustrates the wide range of elements that skateboarders utilize in the act of skateboarding. This graph also shows that walls 0-3' and 1-3 steps were the elements most frequented by skateboarders. Contextually, evidence of skateboarding was found in the environments that did not have full-time occupants or owners of the environments living on site. This included municipal and commercial land-uses as well as industrial and educational land-uses.

4.7.1 Visual Archive Findings

The five randomly selected video clips were from the videos “The Fast Forward Flick” produced by a chain of skateboard shops named Fast Forward; “Really Sorry” produced by a skateboard manufacturer Flip; “Thrill of it All” and “Misled Youth” both

produced by skateboard manufacturer Zero; and “First Love” produced by the skateboard magazine Transworld Skateboarding.

Contextual land-uses in videos are difficult to identify due to the unfamiliarity of the researcher with the sites viewed in the video and therefore not included in this part of the research. The physical element matrices are also simplified to base elements without size distinction for this same purpose. However, it is evident that the environments captured from examination of the video clips were located in cities around the country and the world. The data collected in the overall physical element matrix (see Figure 4.29) is also simplified (see Figure 4.30) in order to facilitate analysis. The specific findings from the video are comparable to the findings of the field research. The videos support popularity of steps, rails and low wall-type features as being physical elements most often skated. This information is presented in Figure 4.31.

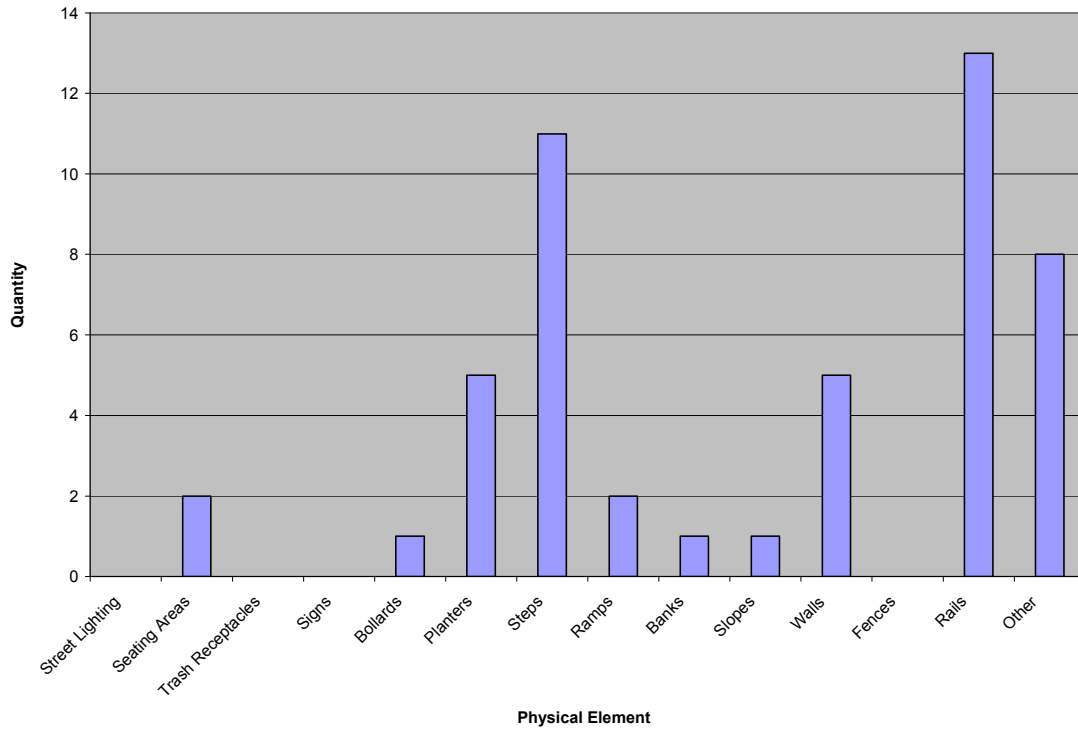


Figure 4.31 Simplified Overall Physical Elements with Behavioral Trace Indications of Skateboard Use in the Study Area

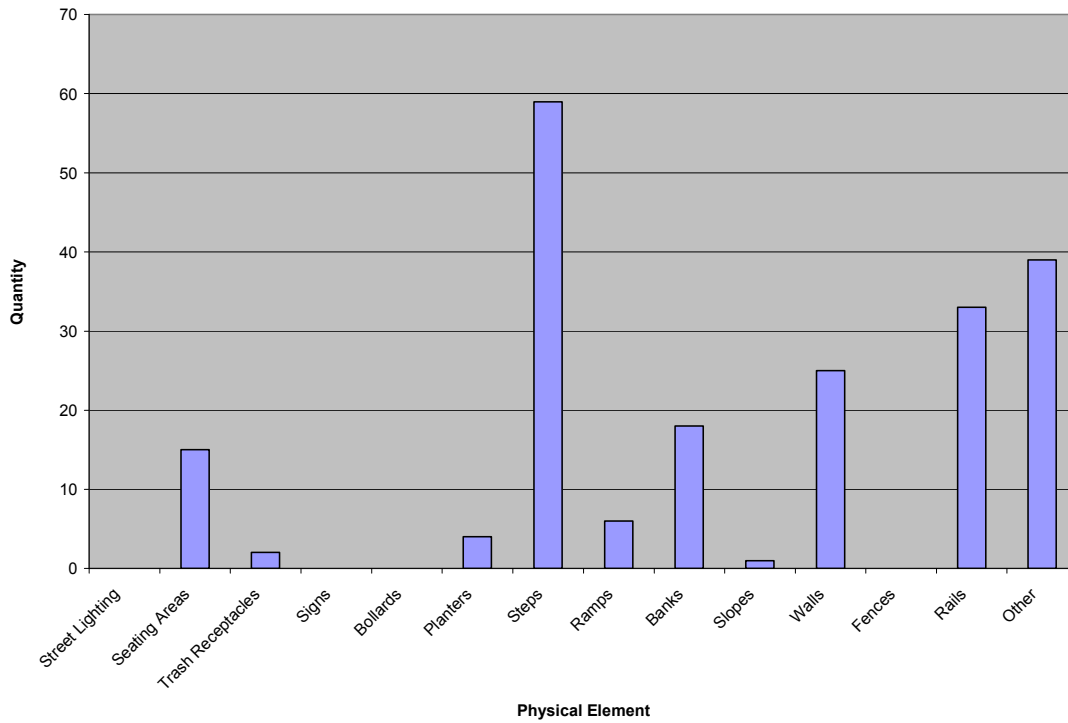


Figure 4.32 Overall Physical Elements with Documented Skateboard Use in Video Segments

4.8 Summary

In this study, skateboarders seem to favor low walls, rails, stairs, and benches in municipal contextual land-uses. Although land-use types were not clear in the videos, the video findings reinforced the preferences of the physical urban elements by skateboarders found in the study area. Despite having similar physical elements of urban design, skateboarders did not skate those elements in residential contextual land-uses. Municipal land-use areas showed the greatest use by skateboarders. The final chapter in this research draws conclusions from these findings.

CHAPTER 5

IMPLICATIONS OF THE STUDY

Physical details of the built environment are often designed by architects, engineers and landscape architects. The larger scale contextual environments are often organized and influenced by planners, social sciences and other stakeholders. Despite these various parts often being designed unilaterally, collectively they create a complex system that is continually evolving. This complexity is illustrated in Figure 5.1. Each

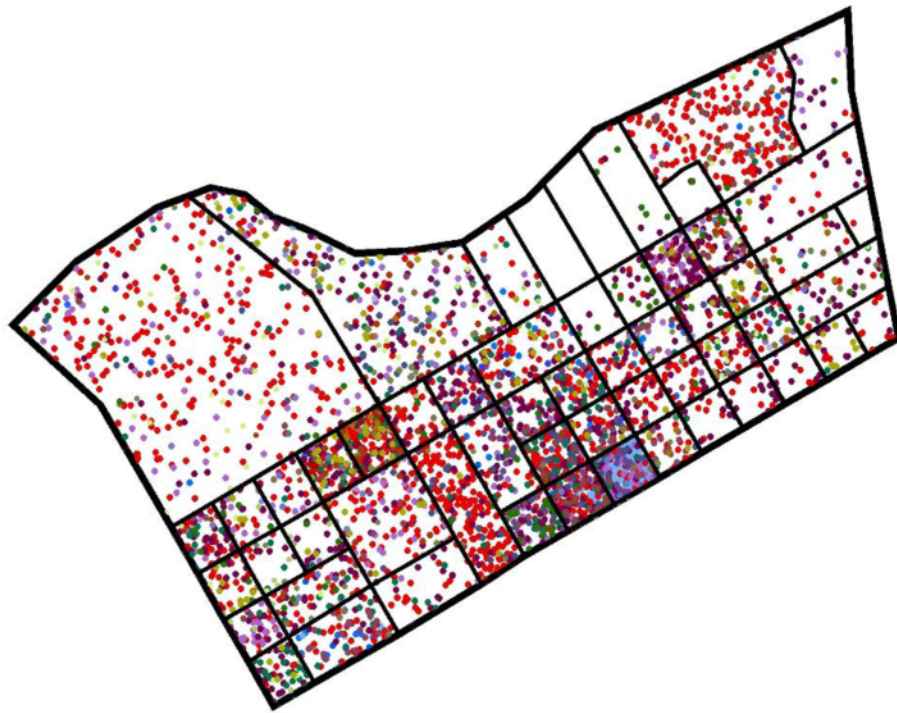


Figure 5.1 Physical element population distributions

dot represents a different physical element of urban design. Designs are intended to produce particular results or play a certain role such as creating place and a comfortable environment in which users can live, work and play.

Through this process of urban evolution, unintended results have also occurred. Skateboarding continues to survive and grow in built urban environments. The intimate relationship between skateboarders and the urban environment offers many lessons for professionals involved with the design of those built urban environments. By studying the physical elements of the built urban environment these lessons begin to present themselves.



Figure 5.2 Skateboarder Utilizing his Environment (Block 28)

5.1 Lessons Learned

The study of the relationship between urban environments and skateboarders resulted in the following insights that contribute to the intimacy of that relationship.

- Context: In the case of skateboarders, contextual environment has a greater influence on the uses and users than physical elements of urban design. This was illustrated in areas of downtown Fort Worth that have similar physical elements, yet the contextual environment determined whether or not it was utilized by skateboarders. This was the case when comparing residential land-use areas and educational land-use areas.



Figure 5.3 Proportional Physical Element Diversity

- Diversity: In the case of Fort Worth CBD, increased diversity of physical elements of urban design correlated with the number of physical elements that are skated. This is illustrated in Figure 5.3. The proportions of this diversity encourage uses that may or may not take place in that environment. For example, as documented in the research, a variety of walls, planters and benches ranging from zero to three feet encourages skateboarders; while elements greater than three feet in height do not. Greater physical and contextual diversity of designed urban environments creates more opportunities for use of that environment.
- Presence: When the sites and places in downtown Fort Worth are not intended for people to be present in some capacity at all times (as in a municipal environment where the assumed primary use hours are often 9:00 A.M. to 5:00 P.M.) other uses occur during the off hours. The desirability of these unintended uses is influenced by the presence or visibility of the environment in question by other users.
- Recycled-use: Urban design is limited by fully programmed purposes that impede the potential of complex relationships of which they are a part. This happens when programmed purposes are achieved and then quarantined to ensure continued achievement of the specific purpose. Doing so effectively neuters the future potential of the design by limiting it to the designed programmed purpose. Skateboarders are antagonists to these attempts at urban sterilization. By recycling physical urban elements time and time again, they are creating and recreating a new experience each time the designs are skateboarded upon.

This raises the question, can designers intentionally do something similar and design physical elements that can be recycled and create new experiences for multiple users time and time again. The answer is yes. For example, as Whyte pointed out, something as simple as moveable seating in a park (Whyte, 2004) allows for impromptu seating arrangements that can change from day to day. This simple potential creates a vitality that allows designs to breathe, grow and evolve instead of remaining stagnant urban environments.

5.2 Conclusion

This research concludes that basic physical elements of urban design are consistently found in various types of contextual land-uses in the case of Fort Worth CBD. Whether or not physical elements were utilized by skateboarders depended more on the contextual environments these elements were located in, rather than the elements themselves.

Unintended uses of these environments, such as skateboarding, offer unique insights and perspectives into built urban environments. These insights offer more comprehensive information pertaining to various parts utilized by designers to create built urban environments. Incorporating context, diversity, presence and recycled-use into physical elements of urban design and their contextual environments allows spaces to become better places that can be utilized and experienced anew for the users of today and tomorrow.

The built urban environment is a complex system made up of many parts. It is important to understand those parts as designers continue to tinker with their

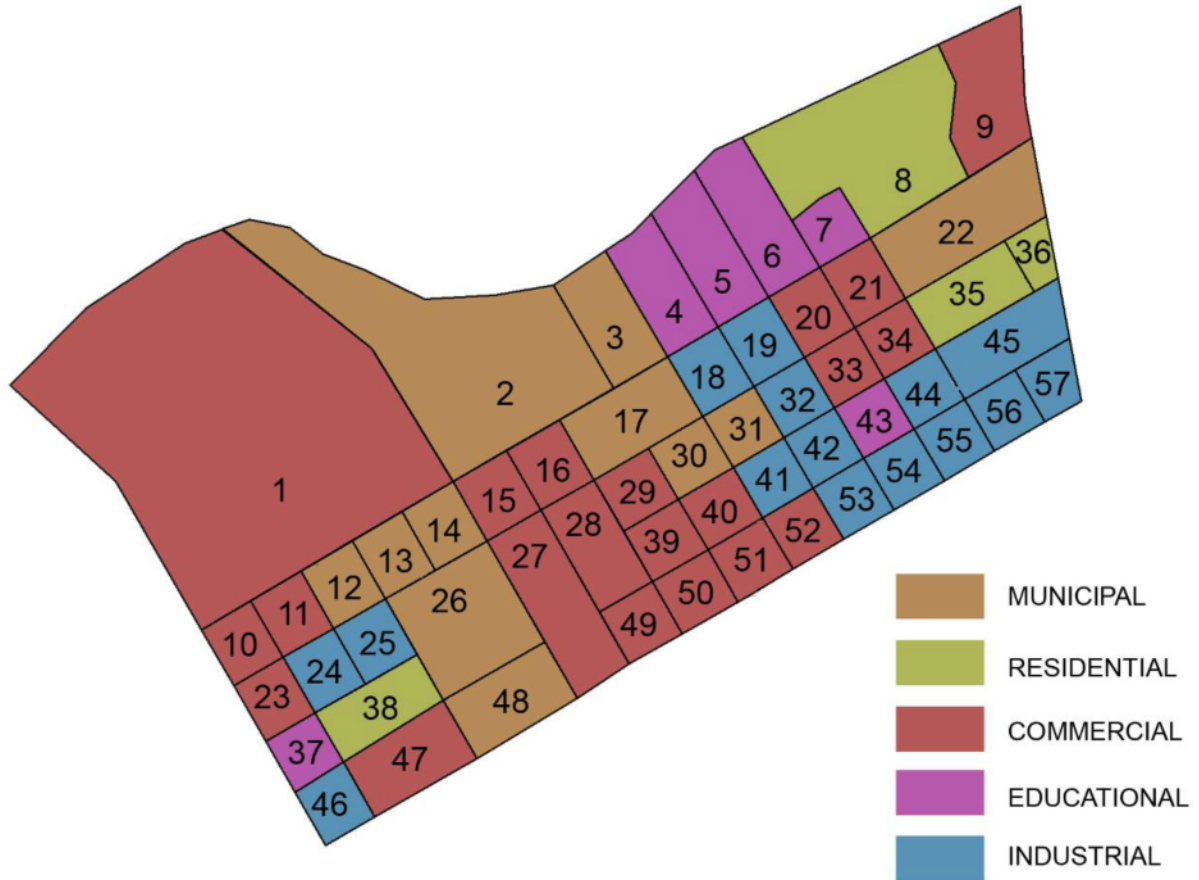
composition. These parts directly affect the quality and success of the environments which designers create. As these parts continue to be manipulated, landscape architects are in a unique position to address these parts of urban systems holistically. With training in the macro elements and micro details of design, landscape architects can continue to participate objectively and effectively in urban discussions.

5.3 Opportunities for Future Research

Skateboarding is an unintended consequence of urban environmental design. There is much to be learned from something that began inadvertently and has grown into a world wide culture and a multi-billion dollar industry. Opportunities for future research include:

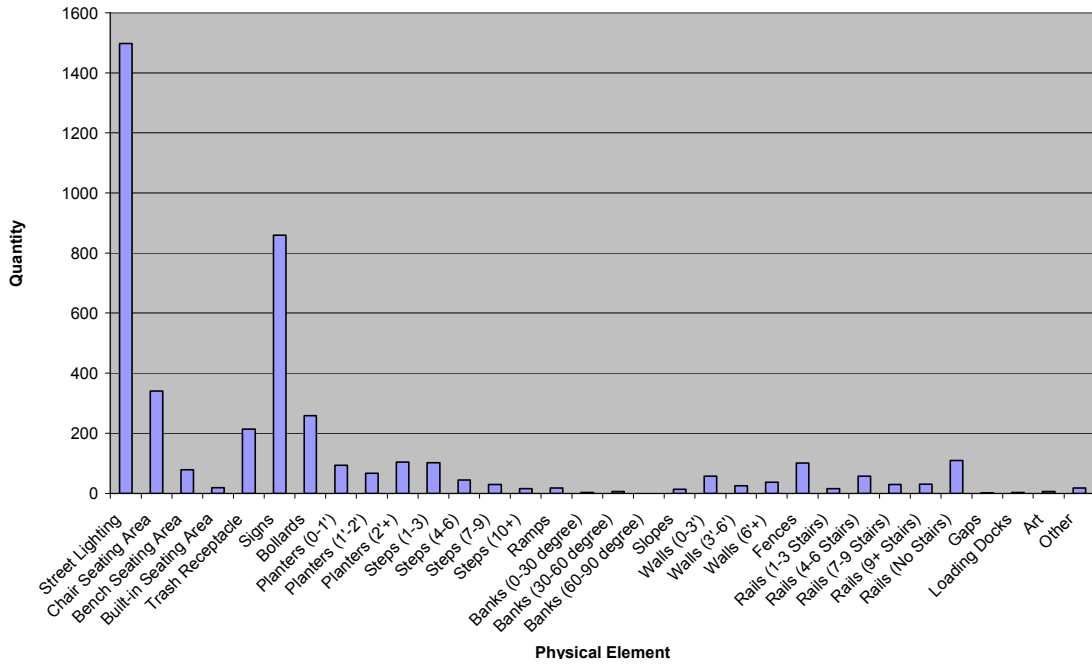
- Why do skateboarders skate on the physical elements of urban design that have been recorded in this study?
- What deters skateboarders from utilizing certain physical elements of urban design?
- What other unintended uses have evolved from built urban environments and what can be learned from them?
- Can skateboarding coexist with other urban uses in light of liability, safety and private property issues?

APPENDIX A
SAMPLE DATA

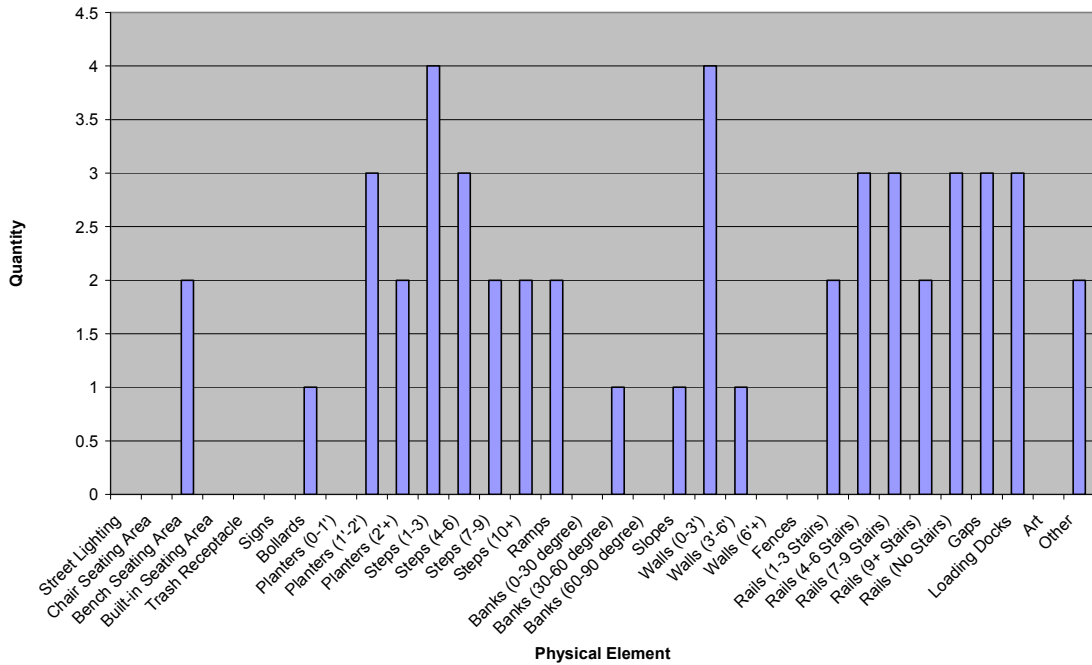


Study Area Key

Appendix A is a sample representation of the data collected during this study. Associated bar graphs of the physical elements with behavioral trace indications of skateboard use in their corresponding block area along with graphs of the elements skated in that area are found prior to the collection of images from each area.

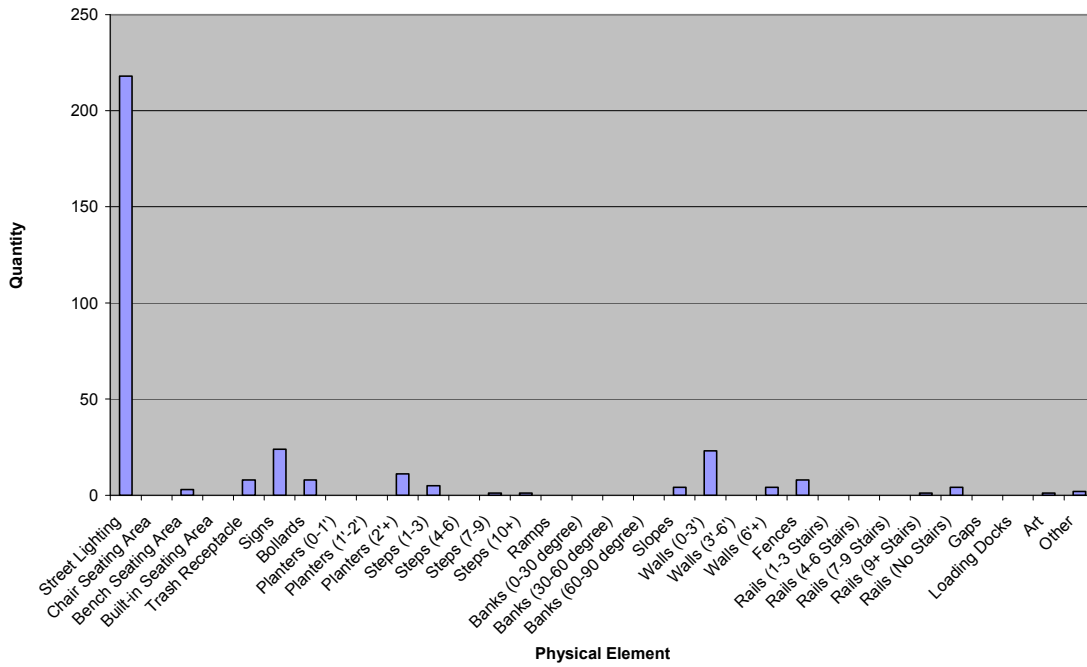


Overall Physical Elements of Urban Design Present in Study Area

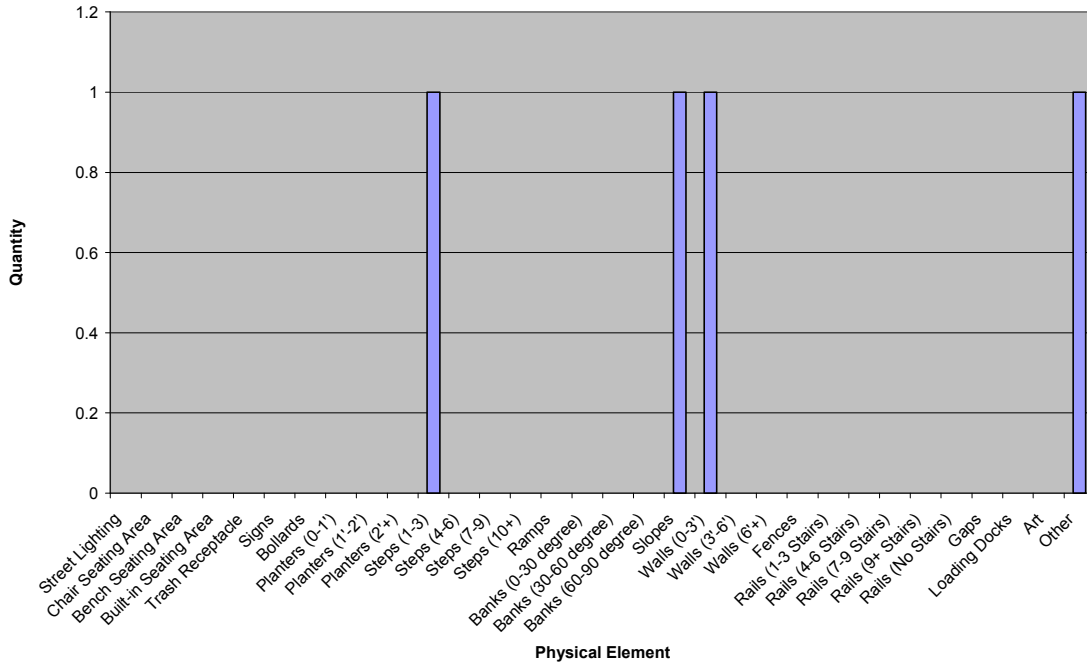


Overall Physical Elements with Behavioral Trace Indications of Skateboard Study Area

Block Area 1, Commercial Contextual Environment Data Sample

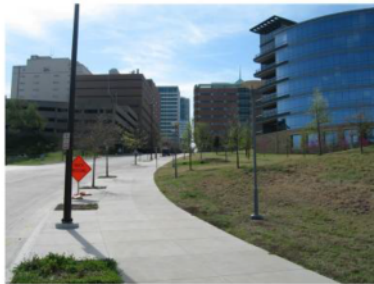


Physical Elements of Urban Design Present in Block Area 1



Physical Elements with Behavioral Trace Indications of Skateboard Use in Block Area 1

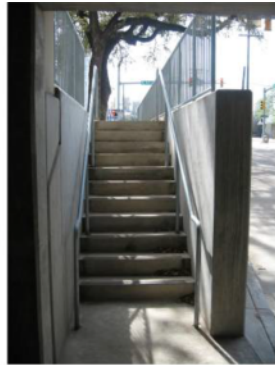
Area 1 Images



Area 1 Images (Cont.)



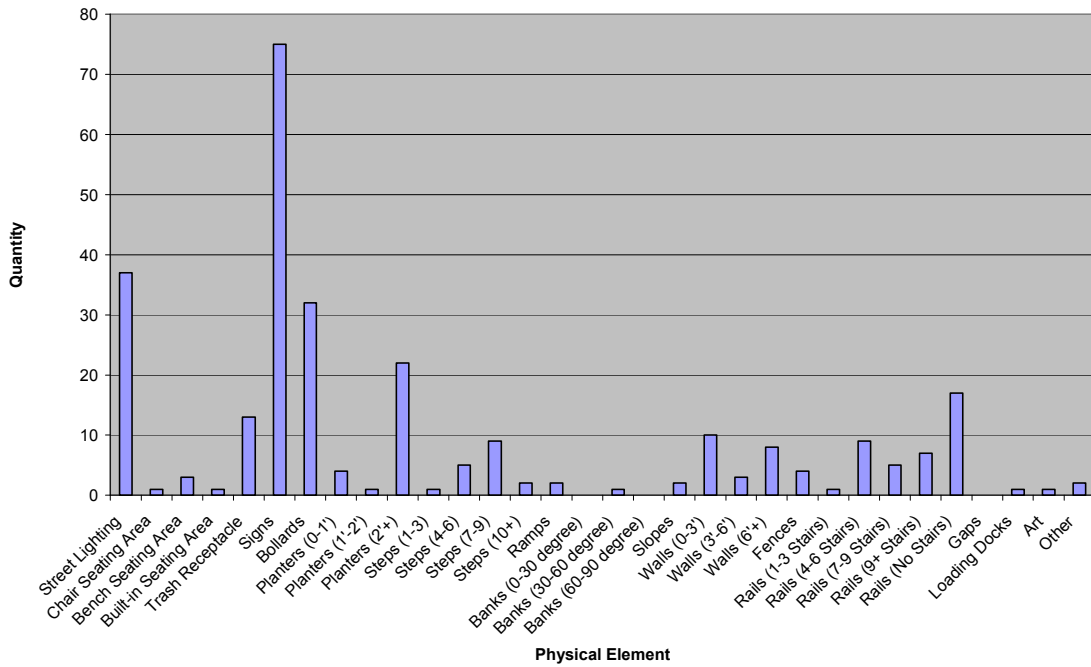
Area 1 Images (Cont.)



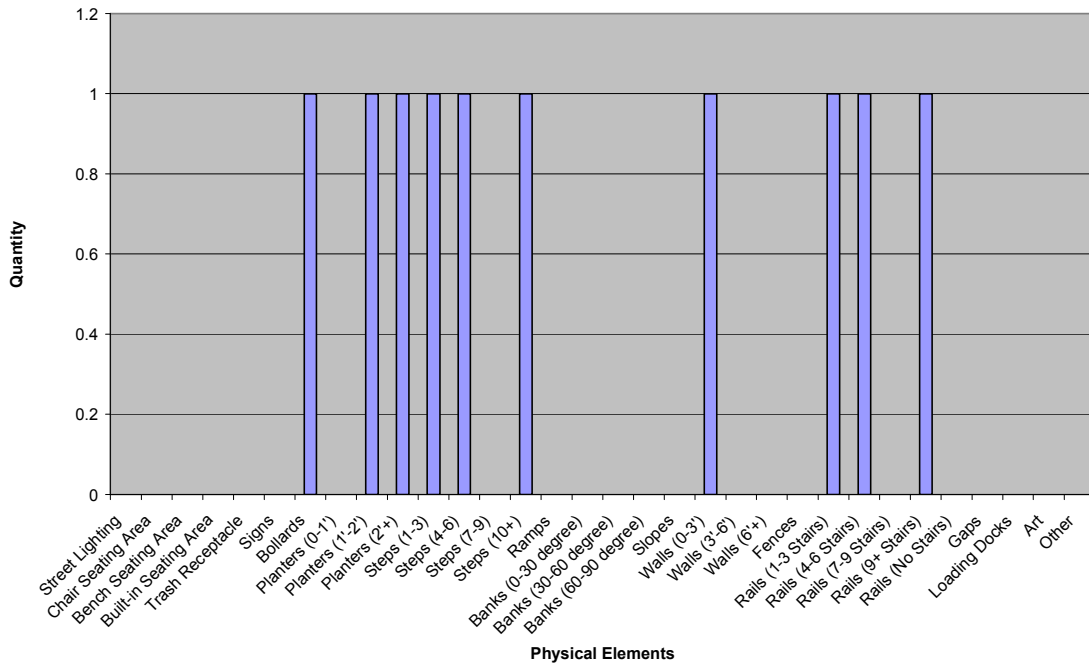
Area 1 Images (Cont.)



Block Area 2, Municipal Contextual Environment Data Sample

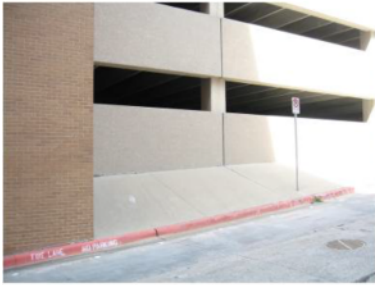


Physical Elements of Urban Design Present in Block Area 2



Physical Elements with Behavioral Trace Indications of Skateboard Use in Block Area 2

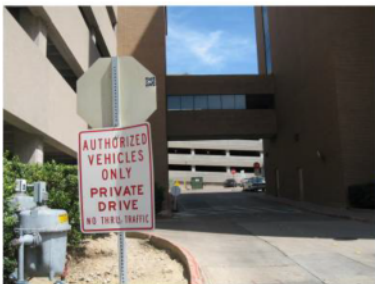
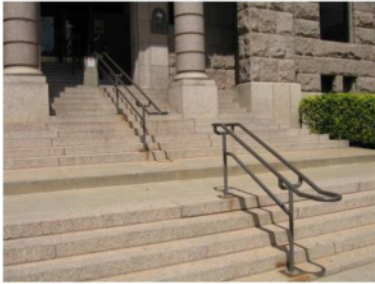
Area 2 Images



Area 2 Images (Cont.)



Area 2 Images (Cont.)



Area 2 Images (Cont.)



Area 2 Images (Cont.)



Area 2 Images (Cont.)



Area 2 Images (Cont.)



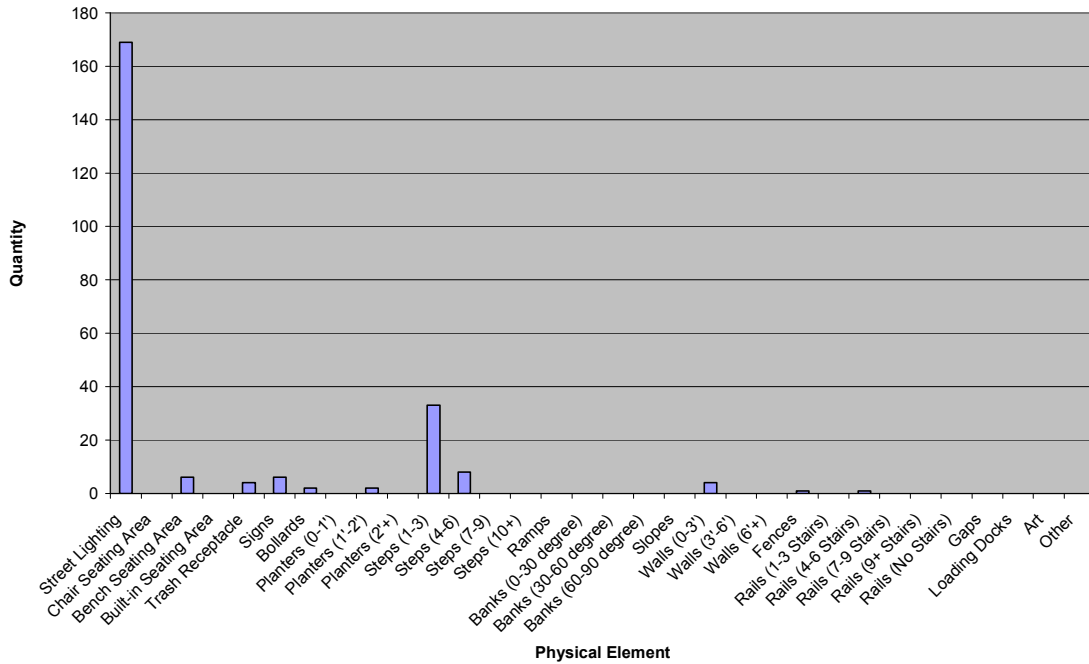
Area 2 Images (Cont.)



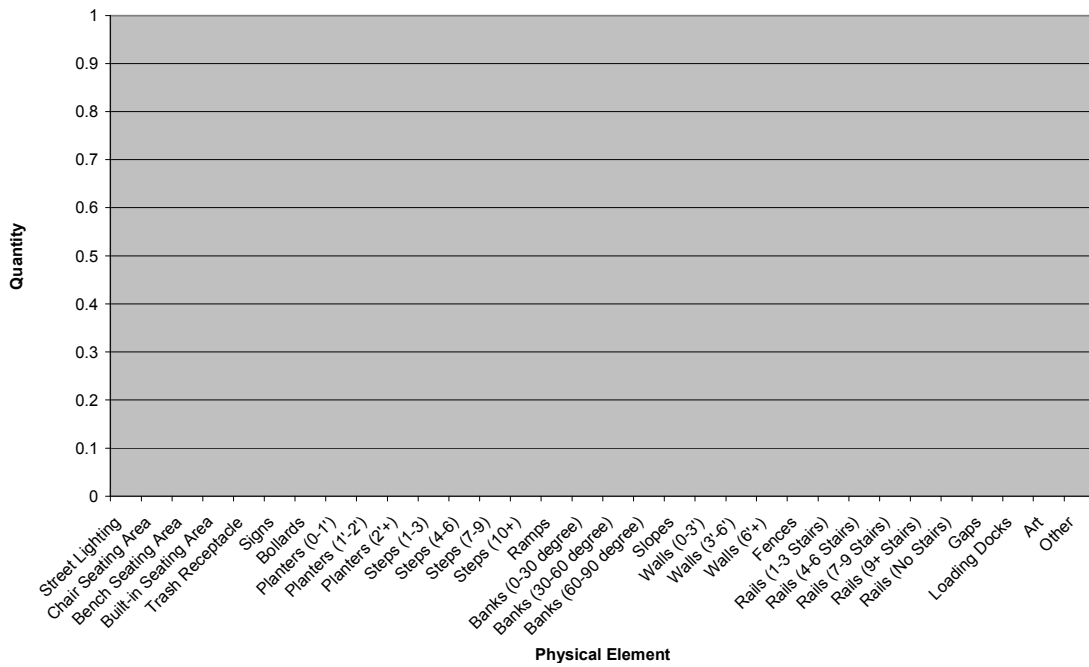
Area 2 Images (Cont.)



Block Area 8, Residential Contextual Environment Data Sample



Physical Elements of Urban Design Present in Block Area 8



Physical Elements with Behavioral Trace Indications of Skateboard Use in Block Area 8

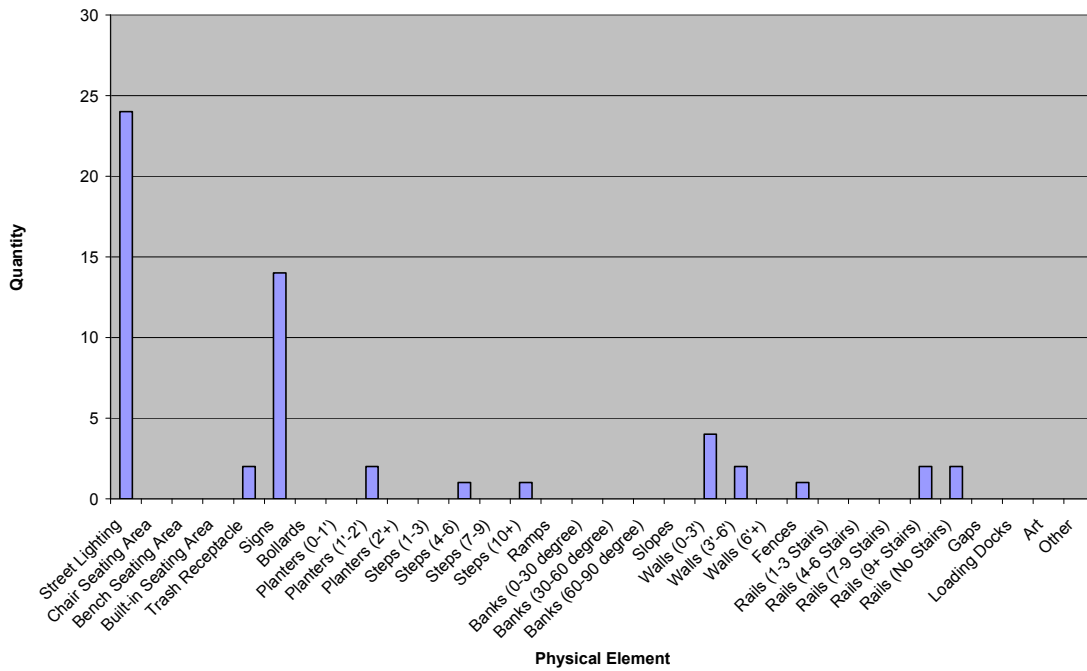
Area 8 Images



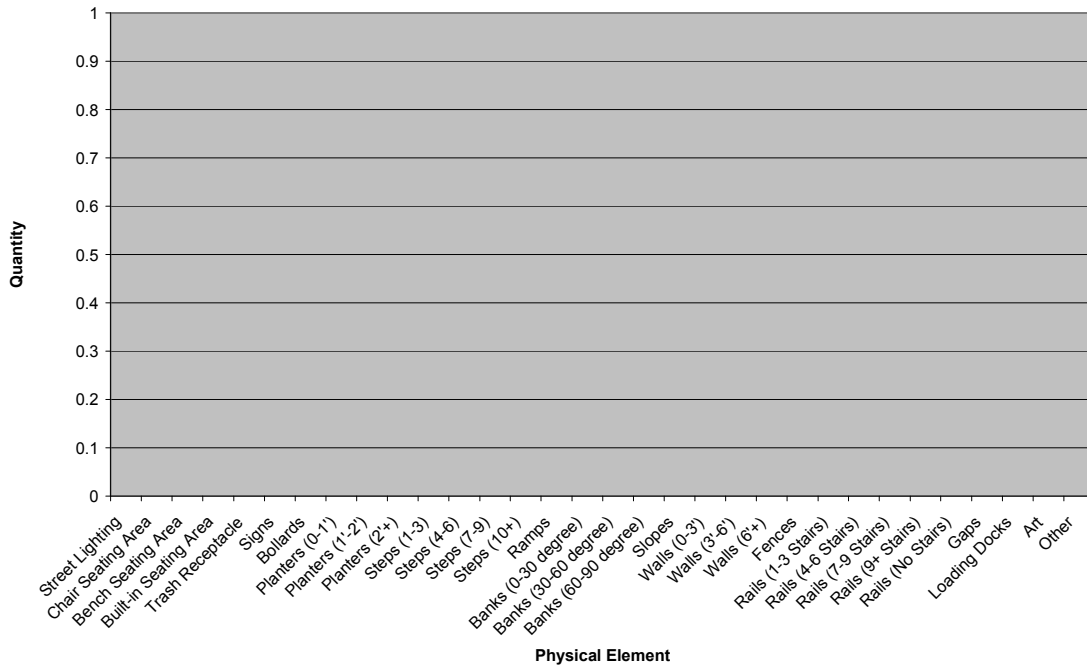
Area 8 Images (Cont.)



Block Area 43, Educational Contextual Environment Data Sample



Physical Elements of Urban Design Present in Block Area 43

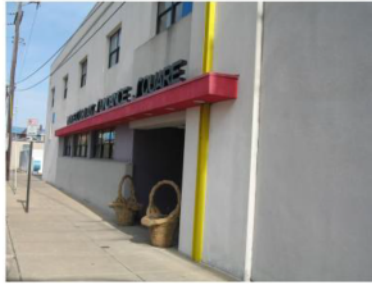


Physical Elements with Behavioral Trace Indications of Skateboard Use in Block Area 43

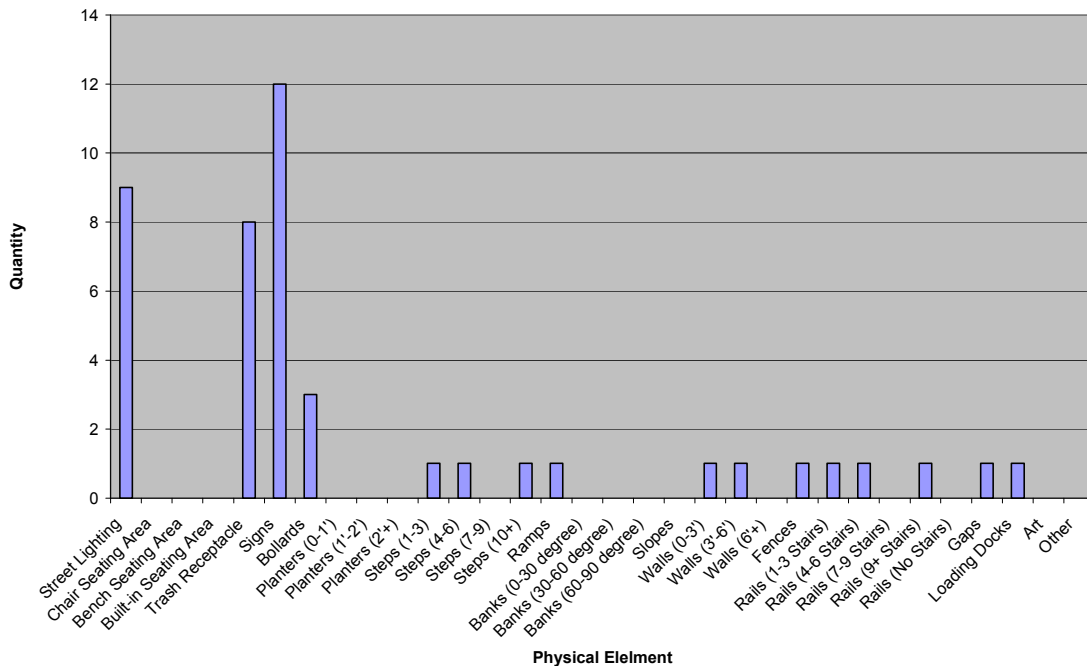
Area 43 Images



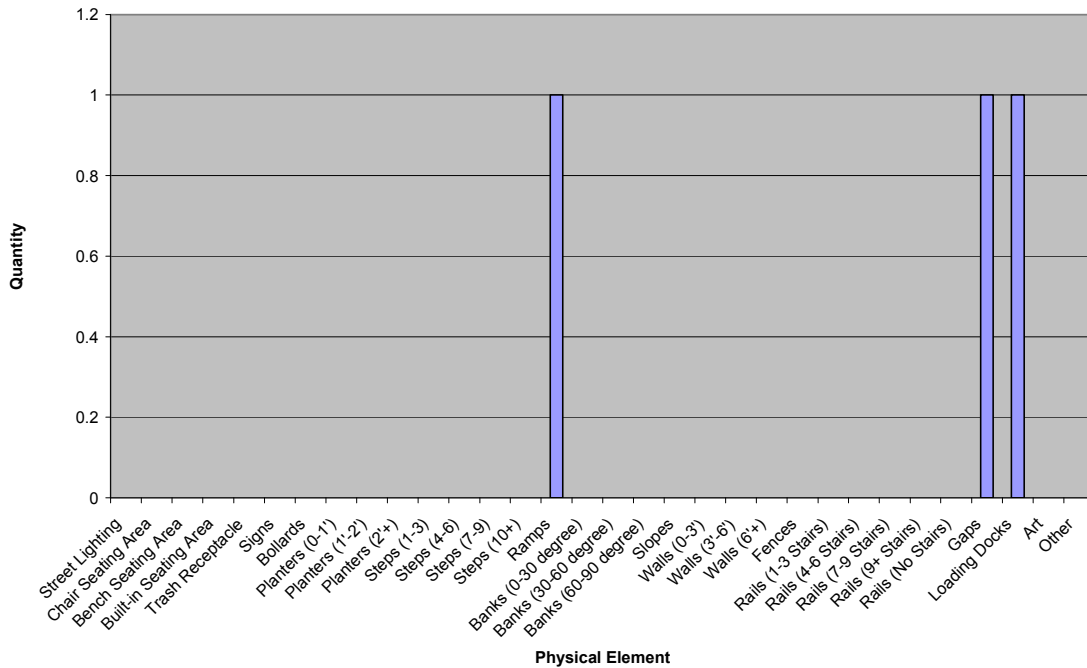
Area 43 Images (Cont.)



Block Area 44, Industrial Contextual Environment Data Sample



Physical Elements of Urban Design Present in Block Area 44



Physical Elements with Behavioral Trace Indications of Skateboard Use in Block Area 44

Area 44 Images



APPENDIX B
VISUAL ARCHIVE SOURCE DATA

Review of visual archives provided 20 skateboard videos. The names of twenty skateboard videos were placed in a hat and five names of videos were selected for data acquisition. Those five videos were then searched on the internet for movie clips of at least three minutes in length. As each video clip was viewed, a tally of the physical elements of urban design that were used by skateboarders in the video segment was documented in the Physical Element Matrix. The five selected clips included the following:

Fast Forward. “The Fast Forward Flick”, <http://video.google.com/videoplay?docid=6862605181137436865&q=the+fast+forward+flick&total=17&start=0&num=10&so=0&type=search&plindex=0&hl=en>: Minutes 2-5 viewed. April 11th, 2008

Sorry. “Real Sorry”, http://www.geevideos.com/watch/2910079214/tom-pennys-part-remixed_really-sorry: Length 3:30. April 11th, 2008

Transworld Skateboarding. “First Love”, <http://video.google.com/videoplay?docid=6145333760526214770&q=first+love%2C+transworld&total=28&start=0&num=10&so=0&type=search&plindex=2&hl=en>: Length of clip 3:55. April 11th, 2008

Zero. “Thrill of It All” <http://www.geevideos.com/watch/2306642921/skate-video-zero-thrill-of-it-all-full/>; Minutes viewed 3-6. April 11th, 2008

Zero. “Misled Youth” <http://video.google.com/videoplay?docid=7513523313007969560&q=misled+youth%2C+zero&total=3&start=0&num=10&so=0&type=search&plindex=0&hl=en>: Minutes viewed 3:30-6:30. April 11th, 2008

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