

PEDESTRIAN CORRIDORS IN DOWNTOWN DALLAS, TEXAS
AND THEIR IMPLICATIONS ON THE MOVEMENT
OF DOWNTOWN RESIDENTS

by

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ABSTRACT

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The City of Dallas has embarked upon an aggressive economic redevelopment effort in the downtown area. Economic goals of this redevelopment effort are closely tied to and dependent upon a critical mass of downtown residents. The target number of residents is 10,000 by 2015 (City of Dallas Office of Economic Development 2005.) However, the urban form of downtown Dallas is a vehicle-oriented network of streets. Although downtown residency numbers have climbed from only 896 (excluding institutionalized persons) to 2,277 in the decade between 1990 and 2000 (Census.gov) and was estimated by the metropolitan planning organization to be 5,646 in 2005, no study has documented the location and travel mode choices of these residents. However,

recent planning efforts have created physical pathways for pedestrian movement in the Main Street area.

Using concepts pioneered by landscape ecology, a wildlife behavior model theory, and surveys of downtown residents and key decision makers, patches and corridors utilized by downtown residents were mapped and analyzed. A new network of corridors was also recommended to better connect the patches identified in the study. In addition to the current land uses and activities, future nodes of activity were predicted along the corridors. These new were nodes predicted based on accessory activity attracted by the presence of large numbers of pedestrians.

An active street life is generally understood to be a desirable quality in attracting redevelopment to downtown areas. This study found that the lack of existing pedestrian corridors connecting patches of downtown activity inhibited pedestrian activity and promoted vehicular options, thus decreasing an active street life. The connection of patches within the habitat of downtown residents through designated corridors is applicable to any large urban centers with downtown populations. However, to be effective, the process of identifying patches relevant to populations must be conducted prior to corridor implementation and public entities, such as city planning and zoning regulations, must recognize and support creation of these corridors.

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CHAPTER 1

INTRODUCTION

1.1 Research Objective and Questions

The objective of this research was to investigate pedestrian patterns in downtown Dallas to understand how patches of urban activity utilized by downtown residents are connected, or not. Understanding what those patches of activity are and how they are connected can influence future urban design in relation to the pedestrian allowing a focus on needs of the downtown resident. In the context of urban residency, patches of urban activity exist where residents live, gather, play or engage in utilitarian activities of life such as dining, shopping or dog walking. The questions investigated include: How does urban form, expressed as the presence or lack of pedestrian corridors, impact travel choices and pedestrian routes of downtown residents? What changes to the existing urban form of downtown Dallas could create pedestrian corridors as defined by landscape ecology?

1.2 Definition of Terms

In order to understand the presented research and analysis, it is necessary to achieve a common agreement as to the meaning of terms. Below are generally accepted explanations of each relevant term.

Central Business District. The Central Business District (CBD) of Dallas is the land area bounded by Woodall Rogers Freeway on the north, IH 45 and Central

Expressway to the east, IH 30 on the south and IH 35E on the west. The Census Bureau classifies the area in 1990 and 2000 as contained by census tracts 17.01, 21, 31.01 and 32.01.

Corridor. Corridors are spaces of land that are typically linear in nature that differ from the adjacent land of both sides (Forman 1995). Corridors serve important functions by acting as a conduit for the movement of objects from one location to another (Forman 1995).

Downtown Dallas. Downtown Dallas is the central portion of urban Dallas, Texas. Traditionally, the term downtown was only applied to the area considered within the CBD. However, in recent years, the definition of downtown has evolved to include many neighborhoods once considered adjacent to downtown. **DOWNTOWN**DALLAS, Incorporated, a non-profit organization created to promote development and investment in downtown Dallas, describes downtown as the Arts District, Cedars, Deep Ellum, Farmers Market, Government/Convention Center District, Main Street District, the Trinity/Design District, West End Historic District, Victory Park, and portions of Uptown.

Habitat. Habitat is the area wherein all the needs of a population are satisfied (Anderson, Beiswenger and Purdom 1993). Habitat differs based on the type of populations considered. For example, dense bottom-land hardwood forests are considered habitat for plants such as trees and animal species such as the birds and rodents while inland lakes are habitat for freshwater mussels, fish and waterfowl.

Key Informants. Key informants are those persons with special knowledge of a subject. These informants provide a researcher with a deep understanding of a subject and can direct the researcher to new sources of information or other informants (Taylor and Bogdan 1998).

Landscape Ecology: Landscape ecology is a sub-discipline of ecology and geography that addresses how spatial variation in the landscape affects ecological processes such as the distribution and flow of energy, materials and individuals in the environment. Landscape ecological studies attempt to define the interactions between organisms and their immediate environments (Reunanen 2001).

Matrix. The matrix is the “background ecological system” of a landscape (Forman 1995). When viewed from an aerial photograph, the matrix makes up the largest element within a landscape.

Network. A network is an interconnected system of corridors (Forman 1995). In addition to connecting corridors within a matrix, networks often enclose patches determining their size and shape (Forman 1995). For example, a street network surrounds blocks of buildings which are patches. The amount of space between the streets determines the size of the building block.

Patch. As it relates to landscape ecology, the patch is defined as a relatively homogeneous area that differs from its surroundings (Forman 1995). In an ecological setting, patches may serve as habitat for a particular species. In the urban setting, a park where people congregate during lunchtime could be described as a patch.

1.3 Limitations of Research

This research sought to understand how residential pedestrians use and travel through downtown Dallas. However, many factors, other than urban design related factors, determine the choice of downtown residents to walk along the streets and whether or not people choose to become residents of downtown. A complete liturgy of these reasons was not addressed in the scope of this research. Reasons people choose not to live in the CBD, as well as the skybridge/tunnel system and its impact on pedestrian movement, was not addressed. Even the definition of downtown Dallas presented some debate that was not discussed.

Two related barriers to the choice of downtown Dallas for residency, and downtown areas in general, not discussed are the perception of violent crime in dense urban areas and the presence of the homeless and panhandlers (Greenblatt 2006), described as “undesireables” by Whyte (1980). The inability of the available housing stock within the CBD to meet current housing preferences such as affordability, spaciousness and privacy (Stead and Hoppenbrouwer 2004) also limits the choice of downtown residency for many. The final common factor against residing in downtown Dallas is the perceived disadvantages of raising children in downtown areas such as the lack of open space and concentration of pollution (Stead and Hoppenbrouwer 2004).

The downtown skybridge/tunnel system is a network of interconnected tunnels and skybridge walkways that connect many of downtown’s office towers and hotels. The system hosts a variety of restaurants, retail outlets and service providers that cater to downtown Dallas’ daytime workforce. The posted hours of operation for this

pedestrian way are from 6 a.m. to 6 p.m. on weekdays. The majority of businesses located within the system are open from 10:30 a.m. until 3:30 p.m. with the exception of numerous coffee shops and fast food outlets which open as early as 6 a.m. and close at 5 p.m. Due to the timeframe of operation for the skybridge/tunnel system, residents that do not work within downtown Dallas do not have the opportunity to utilize the system. For these reasons, the skybridge/tunnel system does not impact pedestrian movements of residents in a significant way.

An in depth discussion relating to the definition of downtown Dallas was not undertaken as a part of this research. Many current planning studies present the entire area shown in figure 1-1 as the area considered downtown Dallas. This research only examined pedestrian movements within the area contained by the freeway loop, commonly referred to as the CBD, because of themes presented in the results of resident surveys completed during the research project. Responses from residents excluded the neighborhoods shaded in purple in figure 1-1 from the area considered as a “walkable” distance by downtown residents. Because the research objective focused on pedestrian patterns, areas not within walking distance, were beyond of the scope of the research questions.

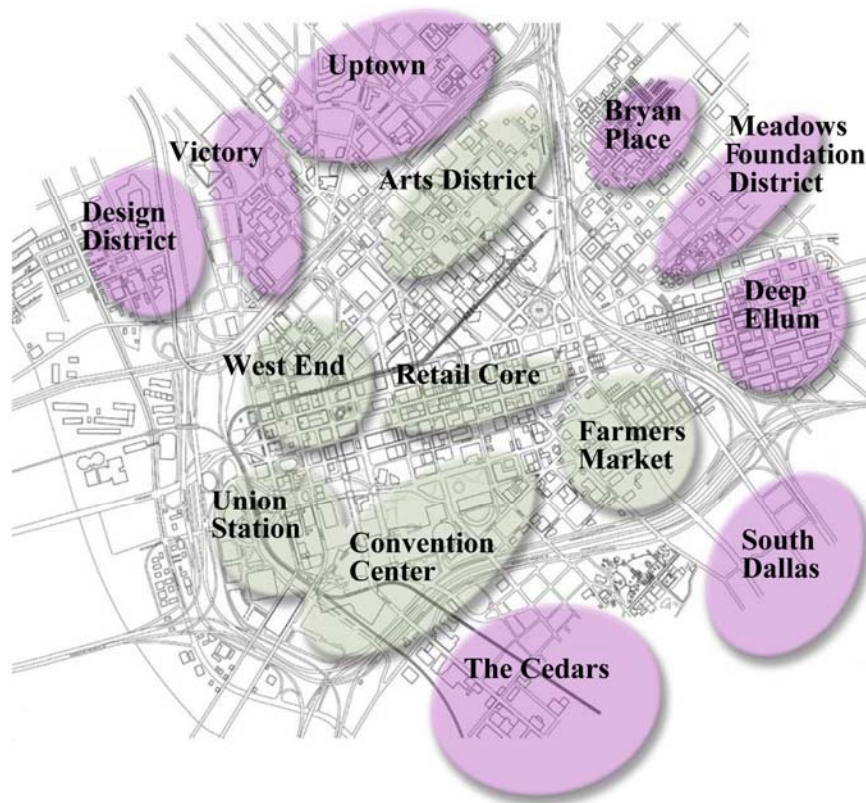


Figure 1-1. Districts Within Downtown Dallas (City of Dallas 2005)

1.4 Summary

Pedestrian patterns of residents in downtown Dallas are influenced by the location of residential buildings and the other places downtown residents utilize as a part of everyday life. Corridors connecting these patches could be incorporated into future design decisions relating to the areas used by pedestrians. While residents are the focus group of the research, the myriad reasons people choose not to reside in downtown areas was not addressed. Likewise, the travel patterns of office workers within the skyway/tunnel system of the CBD were also not addressed. The final limitation of the research involved the definition of downtown Dallas. The methods,

analysis and conclusions presented deal only with the area bounded by the freeway loop, traditionally referred to as the Dallas CBD.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

A review of existing research and literature of relevant subjects was conducted during the development of this research. Continued reference to existing literature also provided explanations and context in which to view research findings. A review of the literature regarding landscape ecology and pedestrian behaviors was fundamental to development of the research objectives and questions presented in this thesis. Also, a review of the existing plans for future development of the CBD provided context from which to understand the existing urban form.

2.2 Landscape Ecology

Landscape ecology is a thoroughly established method of evaluating landscape based on aerial photography (Forman 1995). Taylor (2002) observes that many scientific concepts developed in one field of science are being applied to other fields, often inappropriately. He further suggests that by linking concepts formulated in hard science to concepts in fields such as design, the inadvertent misuse of quasi-science can be avoided (Taylor 2002). Landscape ecology and landscape architecture, in its role of urban design, are two concepts that lend themselves to linkage through their emphasis on the landscape and form. These concepts complement one another because at the root of landscape ecology is the evaluation of spatial relationships. In terms of urban design,

landscape architecture attempts to define and shape the spatial relationships between required elements of the built environment, creating spaces for the interaction of humans in an urban system.

Landscape ecology, as a process of evaluation, was first employed by Carl Troll, a German geographer in 1939 (Troll 1939). He developed the basic terminology and many early concepts of landscape ecology. His work focused on studies of interactions between environment and vegetation. Landscape ecology was the process of using aerial photographs to identify and interpret those interactions (Troll 1939).

Landscape ecology looks at how spatial structure affects organism abundance at the landscape level, as well as the behavior and functioning of the landscape as a whole (Turner 1989). This includes the study of the spatial pattern, the internal order of a landscape, and the ways in which organisms utilize the order of that landscape (Turner 1989). The study of an element's shape and form within the landscape as they are specified by the design and architecture of a landscapes is also included within the field of landscape ecology (Allaby 1998). Likewise, landscape architecture is concerned with form of elements within a landscape in order to achieve the desired function.

During the design process, many early concepts are represented with a plan view drawing of the spatial relationships between elements of the design, essentially an aerial view of a future landscape. The plan view drawing represents the pattern and order of the built environment. By applying principals described in landscape ecology, designers can predict how the elements may be used based on form and relative

location. For example, paths will function as corridors between destinations such as a parking area and the interior space of a building.

When designing a large-scale landscape, or certain elements within a large scale landscape, an understanding of the uses of existing elements can be gathered by referring to existing data, such as aerial photography. In a design exercise, these observations are typically made in the site evaluation stage. Universal between the typical application of landscape ecology and landscape architecture is that the relationship between parts is dependent on function, not definition. A high rise apartment building is a habitat for humans, just as a dense forest canopy is a habitat for a particular species of bird because both function as habitat. Both of these places can be described as patches. Corridors, in any landscape, function as conduits allowing movement of objects from one place to another. Kunstler (1996) defined corridors as elements that:

form boundaries between neighborhoods, both connecting and defining them. Corridors can incorporate natural features like streams or canyons. They can take the form of parks, natural preserves, travel corridor, rail road lines, or some integral combination of all these things (p. 116).

Corridors, as described by Kunstler, are not functional parts of the urban landscape. Instead they serve as boundaries and barriers to free movement of users. Corridors, which serve as conduits, are determined by their function instead of by their form or location as Kunstler describes above. For instance, a stream where Alaskan Salmon travel from the Pacific Ocean to their natal pools to spawn future generations is

a corridor. In the same manner, the length of sidewalk between an office building and a lunch destination, where salmon may be served, is a corridor for an office worker.

2.3 Residency in Downtown Environments

A simple internet search on the terms “downtown residents” produced a long list of cities in the process of reinventing downtown areas by luring residents to renovated office buildings and infill developments. A common argument to draw residents to downtown residential units is an improved quality of life provided by the proximity of services, restaurants, shopping and the workplace. William Dietrich, writing for the Seattle Times, described living downtown as, “Superior to suburbia. More freedom from the car. More natural exercise, walking instead of driving. More freedom from yard work. Less space to heat, less house to paint, less garage to fill with junk,” implying that living downtown provides a simpler, higher quality way of life that promotes health and leisure time. In the Comprehensive Transportation Plan for the Dallas CBD, City of Dallas staff defined quality of life as, “People enjoying the things they want to do, being safe and comfortable while doing them, and ultimately feeling glad they can enjoy their pursuits in Dallas” (City of Dallas 2005). Transportation to destinations for enjoyment is considered necessary to promote a “vibrant mix of uses” deemed necessary for creating a sense of quality of life for those utilizing the CBD (City of Dallas 2005). Many planning efforts have been undertaken by the City of Dallas and interested parties to attempt to promote future conditions within the CBD that add to the area’s vibrancy and renewal.

Strategic Engagement: Dallas' Economic Development Plan, completed in 2005 by the City of Dallas Office of Economic Development (OED), has as its stated goal, to make Dallas a diverse, vibrant, urban City (City of Dallas OED 2005). The focus was to create redevelopment centered around dense residential projects connected to office and retail developments (City of Dallas OED 2005). This plan recognized the importance of connecting the residential redevelopment projects with other downtown uses. The plan promoted an increase of urban housing through the conversion of vacant or underutilized office structures into residential units. The plan's stated goal for the number of downtown residential housing units was 10,000 units by 2015 (City of Dallas OED 2005). The argument for a significant presence of residents in the CBD was to create a, "critical mass so that market forces begin to drive sustainability and expansion" (City of Dallas OED 2005). More residents would lead to more retail and restaurant activity that would in turn produce a stronger market for office real estate within the CBD.

A scheme for connecting residential housing to other uses in downtown was presented by the Comprehensive Transportation Plan for the Dallas Central Business District was completed in June 2005. Conceived as a far-reaching strategic plan, the plan included strategies for vehicular traffic and pedestrian traffic. Based on information produced by a computer transportation model and land use analysis, a classification of downtown streets was created. Conversions of one-way streets to two-way streets were suggested, as well as modifications to streets such as street closures, the removal of freeway overpasses and extensions of other streets. The plan also

included a recommended pedestrian way system and a plan for a jogging trail around the Central Business District (CBD) as initially suggested in the Emerald Bracelet Report (figure 2-1).



Figure 2-1. Emerald Bracelet Report Master Illustrative Plan (Good Fulton and Farrell Architects 2005)

The Emerald Bracelet Report (2005) conceived of a bicycle and pedestrian trail to circumnavigate the CBD utilizing publicly owned land for most of its route. The route generally followed the perimeter of the freeway loop and utilized parkland, excess right-of-way owned by the Texas Department of Transportation and other land owned by the City of Dallas. The concept for a trail system surrounding the CBD was penned by the Inside the Loop Committee appointed by Dallas Mayor Laura Miller in 2002. The Belo Corporation, through The Dallas Foundation, funded an in-depth study of the Emerald Bracelet concept performed by the architecture firm of Good Fulton and Farrell. The primary users of the trail system were envisioned as residents of the CBD and the nearby surrounding neighborhoods, especially residents of the Farmers' Market district. The purpose of the trail as a 5.2 mile circuit jogging path for "downtown residents, office workers and visitors" (Good Fulton and Farrell 2005) did not address the transportation needs contained in the research questions of connectivity and urban form. Recreation needs are satisfied by the circuit nature of the proposed trail system because it only addresses areas on the periphery of the CBD, not interior circulation between areas frequented by downtown residents.

2.4 Pedestrian Activity Considerations

Walkability is one appeal made to attract residents to downtown areas. However, what about walking makes it desirable. Why should walking be promoted? Kunsler (1996) makes an emotional validation for the value of walking:

Walking allows a person to visit many different types of shops –thereby promoting small scale, locally owned businesses, which, in turn, promote manifold civic benefits from the support of local institutions to the physical care

taking of the street. Walking down the street promotes casual socializing. Pedestrians make streets safer by their mere presence in numbers. Finally, walking down the street is spiritually elevating.

When neighborhoods are used by pedestrians, a much finer scale of detailing inevitably occurs. Building facades become more richly ornamented and interesting. Little gardens and window boxes appear. Shop windows create a continuity of visual spectacle, as do outdoor cafes, both for walkers and the sitters. There is much to engage the eye and the heart. In such a setting, we feel more completely human. This is not trivial (p. 126).

Walking, as described by Kunstler, provided not only transportation but a transportation experience that supports the local economy, increases safety, and improves the human condition by creating friendships, beauty and interest in ones surroundings. The most recent comprehensive plan for the City of Dallas, entitled forward!Dallas, also saw walking as an experience and described the ideal pedestrian way as street sidewalks that:

pulsate with activity and encourage rich, exciting urban interrelations. Street cafes, vendors, musicians and tourists enliven these streets while coordinated signage address the needs of pedestrians and travelers, whether they are residents, local office workers or visitors to downtown. Street furniture, light standards, bicycle racks and information kiosks should be strategically located while awnings, arcades and trees will provide shade from the hot Texas sun. Wide sidewalks allow people to comfortably walk abreast or sit outside to enjoy a leisurely meal.

In order to achieve such an environment, forward!Dallas (2006) suggested that, “parking lots lining the streets, buildings with large set backs, or buildings with no windows facing the street alienate pedestrians rather than invite them to enjoy the space.” Much emphasis was given to the character of the streetscape and design elements to include when building sidewalks, but no mention of the connectivity of those streetscapes was made. However, if the often promoted promise of downtown

living's ability to create, "opportunities for '*greener*' *transport modes*" including walking can be fulfilled, the city must provide the infrastructure to walk to desired destinations (Stead and Hoppenbrouwer 2004).

Certain corridors within the CBD have been created for pedestrian-only traffic. They include: Stone Street Gardens, Main Street Alley, Browder Street Mall, AT&T Plaza and 1600 Bryan (figure 2-2). These corridors do not create a network and are not interconnected; however, they do function to shorten the blocks within downtown in relation to pedestrian access. The existing land uses within the CBD provided the current destinations and originations for pedestrians within the CBD area. Land use data provided a context from which to interpret placement of these existing pedestrian-only corridors and the types of patches their construction connected. Figure 2-3 shows land uses in the CBD in 2007.

The Downtown Parks Master Plan, completed in June 2004 by the City of Dallas Park and Recreation Department (PARC), recognized that downtown is currently not a pedestrian friendly place due to the building heights, amount of paving, lack of open space and "people spaces that don't make sense for a pedestrian-oriented downtown" (City of Dallas PARC 2004). The plan was developed to analyze the CBD for potential park sites to achieve a network of public spaces (City of Dallas PARC 2004) that would create a connected series of green spaces in the downtown area and created a more pedestrian friendly environment. The resulting suggestions included

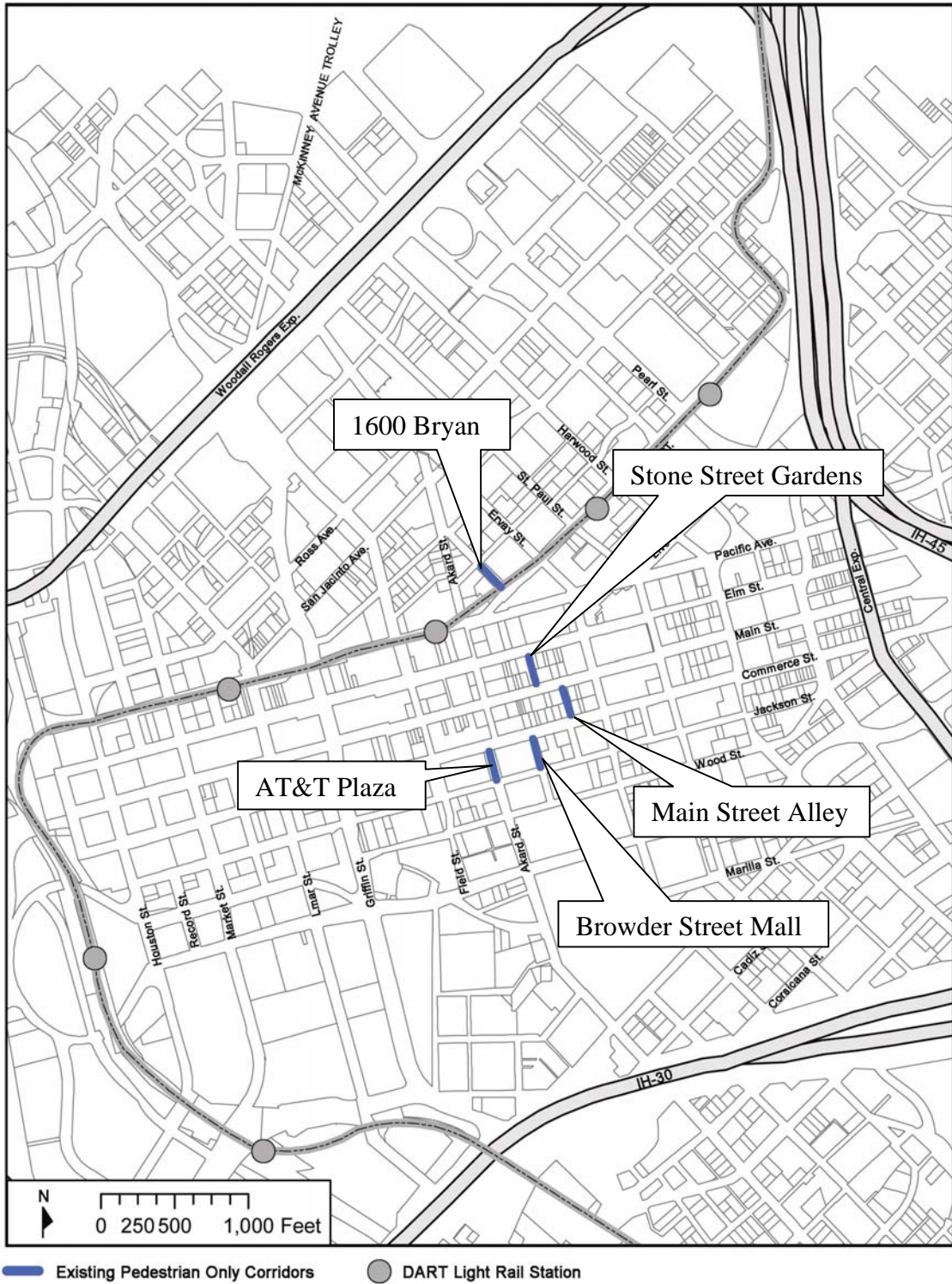


Figure 2-2. Existing Pedestrian-only Corridors in the CBD

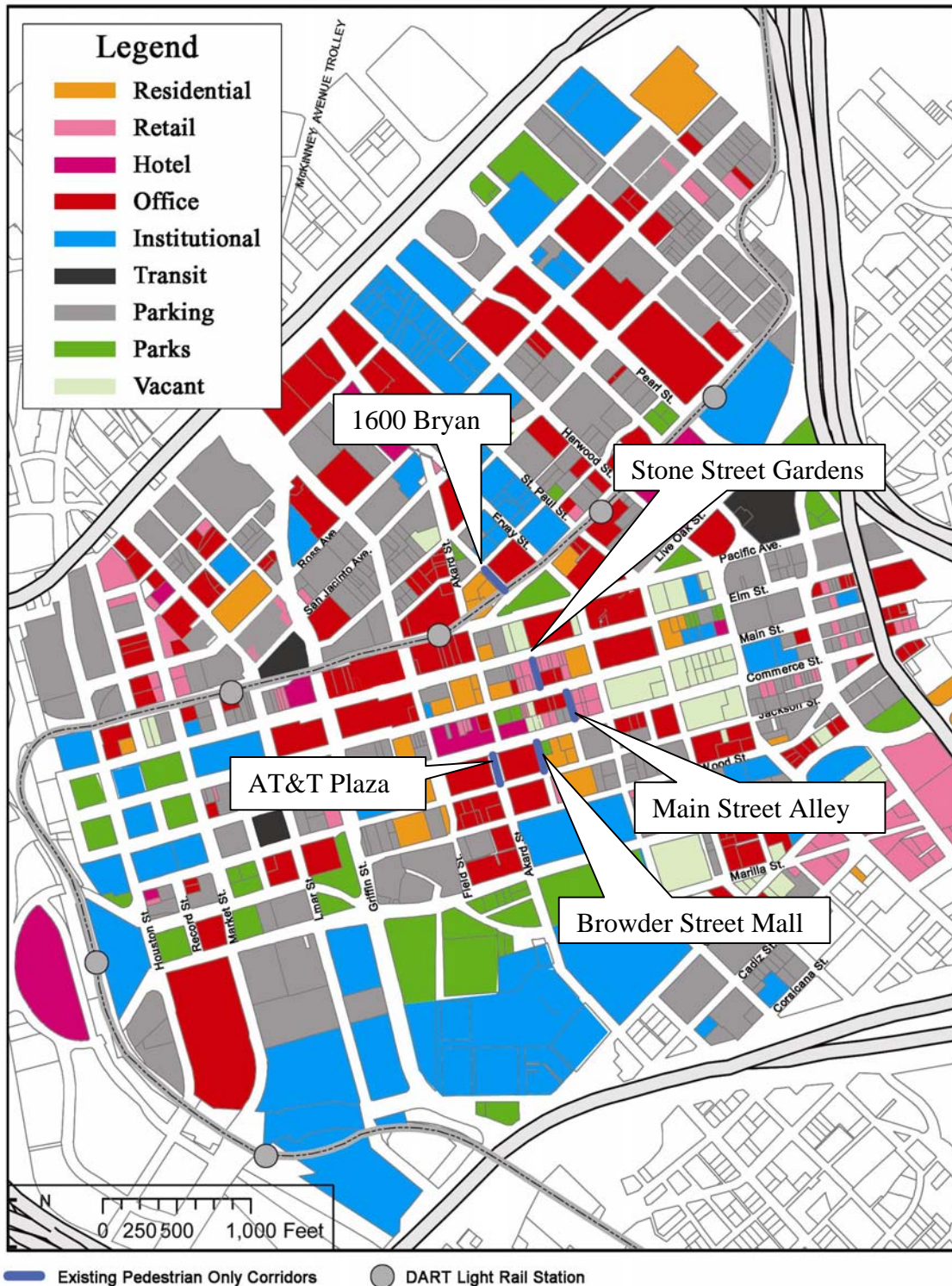


Figure 2-3. 2007 Land Use

eighteen new parks to serve the CBD in various ways. Passive and active recreation areas, as well as gateway and edge parks celebrating entry into downtown were envisioned. Of the eighteen suggested parks, three were considered priorities for activating open spaces downtown due to their potential to promote the redevelopment of certain areas of downtown. These three parks were referred to as core parks. The master plan included conceptual design and programming for these three core parks. The economic impact of the core parks in terms of expected private capital investment into nearby areas of the CBD was estimated at \$110-120 million for Belo Gardens, \$250-275 million for Main Street Garden, and \$80-100 million for Pacific Plaza (City of Dallas PARD 2004). The plan concludes that building the core parks would create open space for residents to use and economic benefits through increased development attracted by the parks.

2.5 Guidelines for Pedestrian Corridors in Dense Urban Areas

The literature suggested that pedestrian decisions are influenced by factors ranging from which route provides the shortest distance between points (Zacharias 2001; Frank and Engelke 2001) and the perceived safety of those paths (Frank and Engelke 2001; Handy 1996; Clark and Dornfeld 1994; Eubanks-Ahrens 1987; Tolley 1993; Wynne 1992). According to findings from previous studies, the following guidelines for creating corridors, physical connections between patches, should be considered:

- Connections to transit nodes (Zacharias 2001; Frank and Engelke 2001)

- Centrally located pathways with many interconnections (Zacharias 2001; Southworth and Owens 1993; Frank et al. 2000)
- Simple paths with few decision points and endpoints within sight (Zacharias 2001)
- Clustering of functionally interrelated land uses (creating patches) along corridors to create interest and provide additional destinations (Curtin University of Technology and City of Perth 2005).
- Perceived safety through lighting and traffic calming (Frank and Engelke 2001; Handy 1996; Clark and Dornfeld 1994; Eubanks-Ahrens 1987; Tolley 1993; Wynne 1992). Current planning documents for Dallas note that, “Security and safety is essential to the quality of life we strive for downtown” (City of Dallas 2005). Safety relates to both crime and protection from vehicular traffic. One form of traffic calming that increases perceived safety is parallel parking along the street that create a physical barrier, and a psychological buffer, for pedestrians utilizing sidewalks (Kunstler 1996).

2.6 Summary

Techniques and terminology pioneered in the practice of landscape ecology are useful for landscape architects when identifying relationships between parts of the landscape during the design process. Urban design especially can benefit from the use of landscape ecology techniques due to the large areas typically addressed in urban design and an evaluation of the existing sites of urban design projects. Areas such as the CBD, which have goals for redevelopment, require extensive planning to ensure project

success. Redevelopment goals, often tied to terms such as vibrancy and walkability, rely on pedestrian activity as a key strategy for energized city center areas that attract additional investment.

Within the CBD, several pedestrian focused connections exist and land uses provide attractions for downtown pedestrians. Several characteristics of ideal pedestrian connections were identified in the existing literature. Many of these characteristics related to the layout of corridors in relation to other corridors and the process of reaching a destination along a corridor, such as by using transit or the number of decisions along a route. Other characteristics focused on the physical form of the corridors and adjacent parcels.

CHAPTER 3

RESEARCH METHODS

3.1 Introduction

Qualitative research methods were employed during the study to discover pedestrian behaviors and ways residents travel through the CBD. According to Taylor and Bogdan (1998), qualitative research methods require flexibility throughout the research process. However, a general “road map” was determined prior to entering the field for use in planning and the approval process established by the university Office of Research Compliance. Methods used during research included resident surveys, interviews of key informants and decision makers in relation to downtown urban form, observation of pedestrian behaviors and physical evaluations of the existing urban uses within the CBD. Resident surveys provided data used to establish resident behaviors and travel patterns. Key informant interviews created a greater understanding of the reasons behind current development and future development in the CBD. Finally, pedestrian observation produced a greater understanding of pedestrian behaviors in relation to the existing transportation infrastructure in the CBD.

3.2 Resident Surveys

The purpose of these surveys was to verify the presence of ‘patches’ used by downtown residents by asking residents where they go and how they get there. In order to achieve a representative sampling of residents of the CBD, six residential buildings

(see table 3-1) were selected based on their locations. Residents from each building were surveyed. An effort was made to include buildings located in all of the districts within the CBD as shown in figure 3-1. Both owner and renter occupied buildings were selected. Permission to conduct the survey was obtained from the homeowners' association or building management by contacting the organizations by telephone and submitting a copy of the survey instrument to the decision maker by e-mail or in person. Nine buildings were contacted with only six granting permission.

Table 3-1. Residential Buildings Surveyed

Property	Address	# of units	Type
1900 Elm [Titché-Goettinger]	1900 Elm Street	129 units	renter occupied
Interurban Building	1500 Jackson Street	134 units	renter occupied
Gables Republic Tower	350 N. Ervay Street	215 units	renter occupied
The Metropolitan	1200 Main Street	275 units	owner occupied
509 Elm	509 Elm Street	29 units	owner occupied
Mosaic	300 N. Akard Street	432 units	renter occupied
<i>Properties That Refused Entry</i>			
1505 Elm	1505 Elm Street	67	owner occupied
1001 Ross	1001 Ross Avenue	204	renter occupied
Residences at Jackson	1300 Jackson	8	owner occupied

Because survey questions contained no identifying information of the resident, the research methodology qualified for exempt review from the Institutional Review Board (IRB) in the Office of Research Integrity and Compliance for the University of Texas at Arlington. The purpose of the IRB review of the research methodology was to protect the safety and welfare of human subjects participating in the research. In order to fulfill IRB review requirements, copies of the research purpose, methodology, survey

instruments, and recruitment scripts were submitted in advance of any research activities. Research began only after IRB approval was obtained.

Residents were approached in the building lobbies between the hours of 5 p.m. and 8 p.m. on various weeknights over a two-week period. A simple hello, and an explanation of the purpose of the survey convinced all but one person approached to participate. The one person that refused did so due to the fact they were in the process of walking three dogs and the animals were very eager to reach the outside.

Questions during the brief resident survey included (see appendix A for the survey instrument):

1. What places do you travel to by walking?
2. What places do you travel to by car
3. When you choose to travel to a downtown destination, what influences your decision of whether to walk or drive?
4. What do you see as the biggest difficulty in walking downtown?
5. Have you tried to walk somewhere, but found it impractical?

Although the same procedures were followed at each building, the research method did not prove effective for the 509 Elm condominium building. No residents of the building passed through the lobby area during the survey period. Therefore, no responses were obtained from that survey location. The final number of survey responses included five responses from five different residential buildings, resulting in a total of 25 responses.

The size of the survey sample for each building was determined by the researcher's ability to predict the responses after only a few surveys were completed. No new information was obtained, a point that Taylor and Bogden (1998) refer to as "theoretical saturation." Residents of a building tend to share certain characteristics that attracted them to a building as a lifestyle choice; therefore, those residents typically exhibit similar behaviors. These similarities created a situation where responses to the survey questions became predictable after two or three respondents. Completion of five surveys allowed for a general understanding of the typical behaviors and created a margin for anomalous respondents not to skew the results.

Because qualitative research aims at understanding behaviors more than creating a mathematical approach to proving or disproving a theory, as quantitative research aims, the actual number of respondents is not significant. However, there must be enough information to establish themes and concepts from the data (Taylor and Bogdan 1998). The geographic distribution of data collected during research was more significant than the total number of respondents due to the relationship between walking behaviors and distance for the average pedestrian.

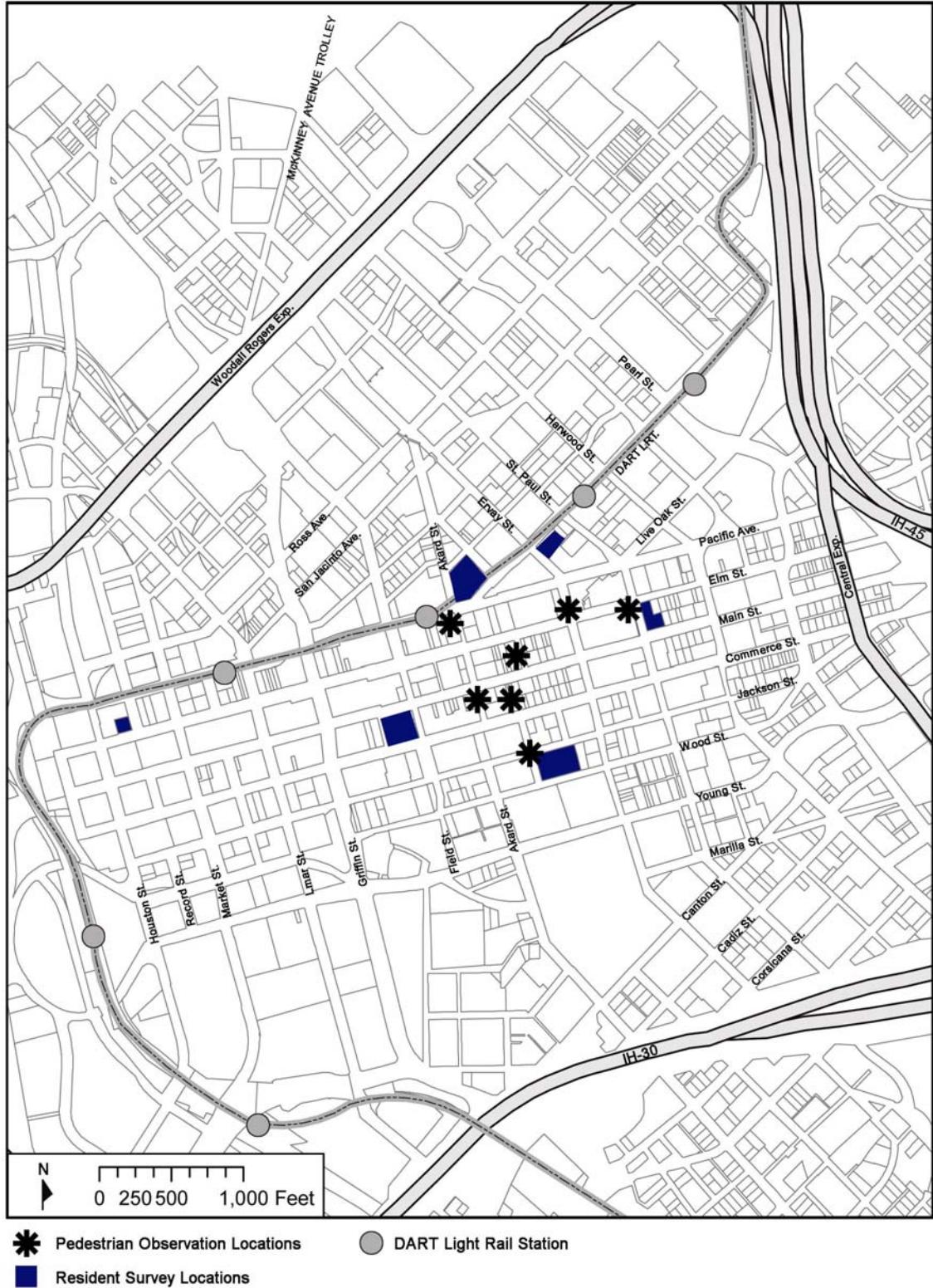


Figure 3-1. Resident Survey and Pedestrian Observation Locations

3.3 Key Informant Interviews

The purpose of the key informant surveys was to determine where patches may occur in the future. In order to map future patches, information not yet published in business journals or city council briefings was required. Interviews sought information regarding future land uses with an emphasis on areas targeted for residential building projects and open space in the CBD.

The method for these surveys included personal interviews with three distinctly different types of key informant. The first type of interviewee consisted of staff at the City of Dallas Park and Recreation Department and the Office of Economic Development Department. Willis Winters, Assistant Director, Park and Recreation and Dorcy Clark, Senior Downtown Coordinator were interviewed.

The second type of interviewee was Paul Lindenburger, Director of Operations, **DOWNTOWNDALLAS**, Inc. a non-profit downtown improvement related organization. Mr. Lindenburger differed from City of Dallas staff in that he has no authority to determine downtown improvements. However, due to the activities of **DOWNTOWNDALLAS**, Inc. he has much influence over activities and developments in downtown.

The final interviewee was a significant developer of downtown residential projects, Ted Hamilton, Hamilton Properties. Hamilton Properties created the Davis Building in 2003, DP& L Flats in 2005 and Mosaic in 2007. Each of these projects were renovations of office buildings located in the CBD to serve as high-rise apartment buildings. The Davis building created 183 units along Main Street, DP&L added 154

apartment units to Commerce Street and Mosaic transformed two vacant office buildings into more than 400 luxury apartment units on Akard Street.

Questions for this group consisted of the following:

1. Where are new residential projects planned in the CBD?
2. What planning efforts are ongoing to consider pedestrian movement through the CBD?
3. Where are new park and open space projects planned in the CBD? What is the programming for those spaces?
4. What are key components for urban project success?
5. How are pedestrian movements incorporated into the project's planning efforts?

3.4 Observation

Observations of pedestrian behaviors in the CBD were carried out to verify data collected in resident surveys. Observation served to justify applying the destinations mentioned by surveyed residents to residents as a whole. Observations provided verification that locations mentioned in surveys were visited by numerous patrons. The presence of many people, instead of relatively few, established that a location served the needs of the population of downtown, as a habitat would do. Observation also assisted with understanding how pedestrians currently used the infrastructure of the CBD. Were many people traveling across city blocks in the north-south direction or along blocks in the east-west direction?

Eight hours of observation were completed near locations (see figure 3-1) identified in resident interviews. Observations were conducted in one-hour increments

so that observer fatigue would not influence the accuracy of pedestrian counts. Diógenes, Greene-Roesel, Arnold, & Ragland (2007) found that field observer fatigue may contribute to an average error of 15 percent when compared to other methods such as video observation. Eight hours of observation provided a range of times and days including weekdays and weekend mornings and afternoons (see table 3-2).

Table 3-2. Observation Locations and Times

Location	Time/date
Stone Street	Wed, Oct. 24 6:15-7:15 p.m.
Main Street @ St. Paul	Saturday, Oct. 27 10:30-11:30 a.m.
Jackson @ Browder Street Mall	Saturday, Oct. 27 2:15-3:15 p.m.
Pegasus Park	Saturday, Oct. 27, 8-9 p.m.
Akard Street @ DART rail station	Sunday, Oct. 28, 3-4 p.m.
Akard Street @ Main Street	Sunday, Oct. 28, 4:30-5:30 p.m.
Jackson @ Browder Street Mall	Sunday, Oct. 28, 5:30-6:30 p.m.
Ervay Street @ Main Street	Monday, Nov. 5 6:15-7:15 p.m.

Observation times attempted to exclude office worker pedestrians from counts. Surveys were conducted after 6 p.m. on weekdays and throughout the day on weekends. Weekday evenings were observed after 6 p.m. because the skybridge/tunnel system is officially closed by that time. After 6 p.m. pedestrians moving through downtown are assumed to primarily utilize the above ground street network and are therefore observable. Pedestrians were observed on both Saturdays and Sundays.

Table 3.2 lists the locations and times of each observation period. For each count, people approaching an intersection or passing through a street from any directions were counted. Each trip was counted, so if a pedestrian crossed the intersection more than once during the one-hour shift, they were counted more than once. Patrolling policemen because they were not in transit from one place to another.

Likewise, children with parents were not counted because they had no choice in their route decision. Figures 3-2 and 3-3 show photographs of the areas where pedestrians were observed.



Figure 3-2. Akard Street at Main Street Observation Area

3.5 Physical Evaluations of The CBD

Physical evaluations of the CBD included mapping patches and corridors in the CBD by observing the existing built environment from the pedestrian perspective. Mapping included the current transportation structure for automobiles and pedestrians, as well as current and planned land uses. The initial mapping (see figure 2-3) was created using publicly available geographic information system (GIS) data. Data included the location of certain elements and information describing those elements.



Figure 3-3. Ervay Street at Main Street Observation Area

Road maps, land use areas, and transit routes formed the basemap for the CBD. Existing land use data, created in 2005 by the North Central Texas Council of Governments, were layered over aerial photography of the downtown area to create the initial maps. Existing land uses were verified by going to the address of a building and observing the current building condition. Several building uses were changed from office uses to vacant uses or residential uses based on in person observation. Direct observation of buildings, streets and parking lots served to verify and correct the data on the basemap.

3.6 Mapping Patches and Corridors in The CBD

Surveys, interviews and observation data were used to update the land use mapping by editing the map and descriptive data using GIS software. The resulting land use map reflected the expected conditions in 2015. This expected land use data formed the basis for the determination of patches within the CBD.

Resident survey data identified where downtown residents reported walking and driving to from their buildings of residence. Responses were recorded using one map per interview, allowing the interviewee to draw directly on the map. Response data were then drawn into the basemap and the number of responses for each location recorded in the GIS attribute table, a data file associated with specific map features. Locations that were reported by more than 10 percent of respondents were considered to be valid patches for downtown residents and formed the basis for a patch map. Survey responses were collected in a qualitative, descriptive manner and not intended for quantitative analysis. Locations reported by only a few residents, less than 10 percent, were not considered patches. Such locations did not satisfy the definition of habitat and therefore was not considered a patch.

For determining future patches, all residential projects to be built were considered patches and were added to the patch map because these locations would serve the need of shelter for future residential populations. Other patches added to the mapping as a result of key informant interviews were the downtown core parks currently were under development: Belo Gardens, Main Street Gardens and Pacific

Plaza. These parks were designed to serve recreation and social interaction needs of current and future residents of the CBD.

CHAPTER 4

DATA ANALYSIS

4.1 Introduction

The results of resident surveys, key informant interview and pedestrian observation are detailed in this chapter. Resident surveys included responses from 25 CBD residents, each of whom were either leaving or returning to their homes through the building lobby during the weekday evening hours. Key informant interviews were conducted during standard office hours and included city staff, non-profit planning organization staff and a developer involved in CBD projects. Pedestrian observation was conducted for a total of eight hours within the travel corridors reported by residents during the resident surveys.

4.2 Resident Surveys

Each resident reported numerous locations either walked or driven to within the CBD. Some responses were specific, such as a building or restaurant name, while others were general areas of activity. Each location reported is listed in table 4-1, along with the number of times that answer occurred. The percentages listed in the table were arrived at by dividing the total number of responses for a location by the total number of survey respondents. Table 4-2 reports the same information for locations that respondents indicated they drove to, instead of walking. Two locations, McDonalds and Urban

Market, appear in both tables because respondents reported they both walked and drove to these locations.

Table 4-1. Resident Survey Responses for Walking

Location walked to	Percentage of residents reporting this location
restaurants on Main Street	52%
Urban Market	44%
work	36%
CVS Pharmacy	32%
restaurants on Elm Street	28%
restaurants (not specific)	28%
Stone Street Gardens	20%
Neiman Marcus	16%
Stephen Pyle's Restaurant	12%
Post Office	12%
Iron Cactus/Pegasus Park	12%
Magnolia Hotel	8%
trolley stop to Uptown	8%
Dallas Museum of Art	8%
Nasher Sculpture Center	8%
locations in Deep Ellum	8%
bars/clubs	8%
McDonalds	4%
24-hour Fitness	4%
St. Paul LRT Station	4%
local bus stop	4%
West End	4%
American Airlines Center	4%
other residential buildings	4%
El Centro	4%
First Baptist Church	4%

Table 4-2. Resident Survey Responses for Driving

Locations driven to	Percentage of residents reporting this location
Urban Market	20%
McDonalds	12%
Uptown	12%
West End	8%
Deep Ellum	4%

Table 4-2. continued

Dallas Museum of Art	4%
Farmers Market	4%
Blockbuster	4%
drive through bank	4%

During the survey, respondents were asked to explain the reason they chose to drive or walk to a particular location. Responses were fairly consistent and included the following reasons:

1. In route to another destination
2. Distance too far
3. Catch a cab when I've drunk too much to walk
4. Safety
5. Time/in a hurry
6. Weather
7. Parking at destination is a hassle/exiting residential parking garage is a hassle
8. Equipment or cargo to carry

The last two questions asked during the survey related to the experience of walking in downtown. The majority of residents had few if any problems with their walking experiences. However, some residents reported difficulties in walking that included panhandlers/homeless people, weather, safety concerns, and sidewalk condition or construction.

4.3 Key Informant Interviews

The purpose of interviewing the selected key informants was to understand the current planning climate in the CBD and future projects that may influence travel

behaviors of downtown residents. In order to provide a timeframe of usefulness for the results presented by the research, it was determined that analyzing current conditions only would not provide lasting results in a city where the development environment is constantly changing. Information about projects in multiple stages of development was not readily available through published articles or City Council minutes. Therefore, key decision makers were sought out to provide relevant information. These interviews also served to provide understanding of current development plans and the ways in which those plans were formed. Key findings that related to planning and future developments downtown are presented below. A summary of each interview and the specific answers to each question can be found in Appendix B.

Mr. Willis Winters, Assistant Director, City of Dallas Park and Recreation reported information supplementing the Downtown Parks Master Plan developed in 2004. Mr. Winters confirmed that the Belo Garden, Main Street Garden, Pacific Plaza and Woodall Rogers Deck Park are all expected to be complete prior to 2015. He also explained that the Ervay Plaza park listed in the master plan, has no formal plans and may not occur prior to 2015. Mr. Winters explained that the programming of each core park is designed to be unique. Belo Gardens is conceived to be a passive park with quiet restful spaces, plenty of shade and greenery and trees, while Main Street Gardens is seen as an active space with a large array of programmed activities and Pacific Plaza is considered an active space for very large, citywide events. Mr. Winters also explained that the reason for the type of programming of each park was based on the potential the

park could produce for economic redevelopment efforts for the properties near the parks.

Ms. Dorcy Clark, Senior Downtown Coordinator, City of Dallas Office of Economic Development, Downtown Initiatives helped identify planned residential projects downtown and explained the history of several ongoing projects, such as the Main Street pedestrian crosswalk project and Main Street Alley project. Figure 4-1 shows the current and future residential buildings indicated by during the interview. Ms. Clark also explained the city staff position on affordable housing and the project development process when working with the City of Dallas.

Paul Lindenberger, Director of Operations, **DOWNTOWNDALLAS**, explained details of numerous pedestrian related projects currently underway in the CBD and how **DOWNTOWNDALLAS** is involved in the project process. Mr. Lindenberger described the initiation, development process and funding sources for the Main Street pedestrian crosswalk project that is currently underway. He also provided details about the North-South Street Pedestrian improvement project currently underway by the City of Dallas and the Elm Street Streetscape project being completed by **DOWNTOWNDALLAS**. An explanation of the funding sources and development process for each project was also given. Mr. Lindenberger also detailed the way that **DOWNTOWNDALLAS** is involved in supporting the development of projects in the CBD.

Ted Hamilton, Hamilton Properties, has been involved in numerous residential projects in the CBD, including the David Building, DP&L Flats and Mosaic. These



Figure 4-1. Current and Future Residential Buildings

projects are downtown residential apartment developments in renovated commercial buildings. Mr. Hamilton described two of his current projects, both renovations for hotel uses, and described his experiences with working on his previous downtown projects. A great deal of the interview focused on the building's relationship with the street and pedestrian environment in downtown. Mr. Hamilton also expressed his opinion of the importance of street level retail and restaurants in activating the street. Hamilton Properties is currently in the process of investing in a restaurant project at Mosaic in order to better establish a vibrant street at the front door of their project.

4.4 Observation

Observation of existing pedestrian behaviors was conducted during eight one-hour long observation periods. Each observation location (see table 4-3) was selected as a result of responses collected during the resident surveys. The observation locations allowed for counts of pedestrians on sidewalks adjacent to vehicular streets, as well as pedestrian-only corridors, such as Browder Street Mall located between Commerce and Jackson streets. The direction of pedestrian travel determined whether a particular pedestrian was counted during an observation period. This allowed pedestrian origins and destinations to be predicted.

Much of the recorded activity occurred on weekends; however, the two observed weekdays represent high levels of pedestrian activity. The weather was not an obstacle to pedestrian activity at any of the times observed.

4.5 Mapping Results

Patches were identified based on information gathered during resident surveys, key informant interviews, the literature review and direct observation. These areas were then mapped using GIS. Figure 4-2 graphically depicts these patches.

Table 4-3. Observation Results

Location	Direction of travel	Persons counted	Weather	Time/date
Stone Street	N-S	97	Fair/breezy	Wed, Oct. 24 6:15-7:15 p.m.
Main Street @ St. Paul	E-W	35	Cool/sunny	Saturday, Oct. 27 10:30-11:30 a.m.
Jackson @ Browder Street Mall	N-S	64	fair/sunny	Saturday, Oct. 27 2:15-3:15 p.m.
Pegasus Park	N-S	53	Cool/ dark	Saturday, Oct. 27, 8-9 p.m.
Akard Street @ DART rail station	N-S	92	Warm/breezy	Sunday, Oct. 28, 3-4 p.m.
Akard Street @ Main Street	N-S	136	Warm and breezy	Sunday, Oct. 28, 4:30-5:30 p.m.
Jackson @ Browder Street Mall	N-S	124	Cool/sunny	Sunday, Oct. 28, 5:30-6:30 p.m.
Ervay Street @ Main Street	N-S	202	Fair/dusk to dark	Monday, Nov. 5 6:15-7:15 p.m.



Figure 4-2. Current and Future Patches for CBD Residents

CHAPTER 5

DISCUSSION OF FINDINGS AND CONCLUSION

5.1 Introduction

By conducting in person surveys of downtown residents, the resulting patches represent the actual places where residents perform the everyday tasks of living, working or playing. Considered patches, if these locations are reached by walking, they are served by corridors. When corridors are made accessible to a wide variety of residents, thereby concentrating activity along certain pedestrian corridors, those corridors become valuable tools for directing investment and development. Higher numbers of pedestrians along certain corridors also have the potential to increase safety, or perceived safety, along those corridors, making them accessible to a greater number of users at more diverse times of day.

5.2 Patches

The patches identified during resident surveys were presented in figure 4-2. These patches included current and future residential buildings, as well as non-residential patches. Landscape ecology language describe patches by their characteristics of size, shape, relationship to other patches and edge form; however, these characteristics are all considered pertinent due to their impact on the habitat potential of the patch (Dramstad, Olson and Forman 1996). The primary purpose of a patch is to provide habitat. Defined as an area where the needs of a population are met, habitat for humans would provide the needs of food, shelter and clothing, as well as

social needs. Not every location listed by a survey respondent was considered a patch. Only locations used regularly by many people, not those seldom visited by only a few, were considered to meet the needs of a population, as opposed to isolated individuals.

Some of the identified future residential patches are buildings that are currently under construction while others are in the early planning stages. Each of the future patches are expected to be open and functioning as residential buildings before 2015. Residential patches are considered different from the surrounding matrix of paving and buildings because their use is different from those buildings in terms of the impact on users lives and the times of day. Residential buildings are considered in use the entire day, seven days a week. Office buildings are only occupied during the typical work day, Monday through Friday.

Non-residential patches include restaurants frequented by downtown residents, retail locations and open spaces. The non-residential patches portrayed on the figure 4-2 were primarily made up of restaurants. No single work place elicited enough responses to be considered a patch. Previous research has determined that only 40 percent of downtown residents work within downtown, the remaining 60 percent of residents drive or take transit to work (Lindenberger 2007).

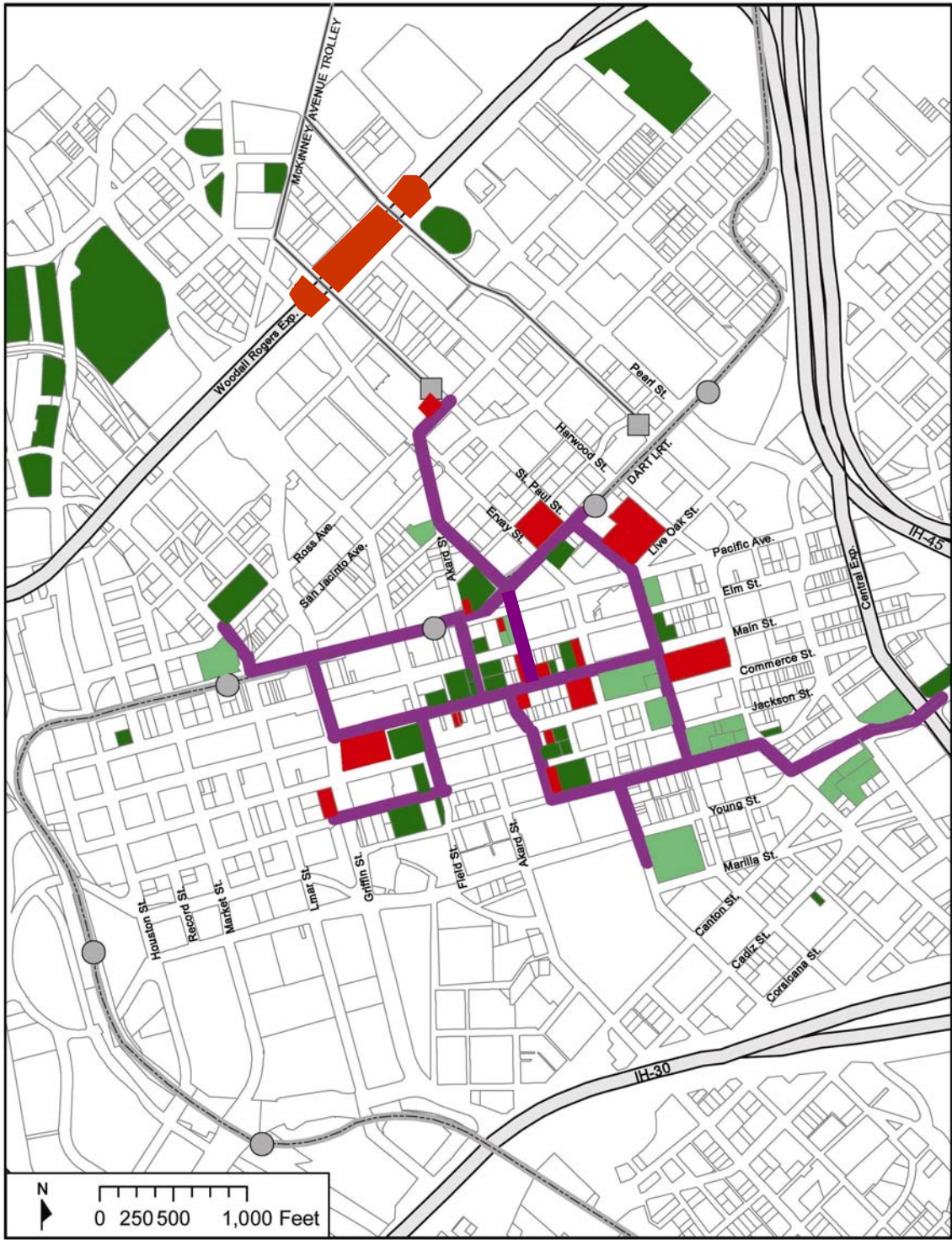
5.3 Corridors

By their nature, corridors connect activity centers, or patches, within the matrix. Linkages between habitat patches allow for a flow of energy between patches. In the human context, this energy can be understood as time and money. For wildlife, the degree of connectivity (lack of breaks) in a corridor determine how well members of a

population flow along that corridor (Dramstad, Olson and Forman 1996). Similarly, within urban environments, paths which are uninterrupted by obstacles allow free movement of people.

Some of the existing pedestrian-only corridors in the CBD function as corridors, connecting habitat patches. Main Street Alley, for instance, connects the Interurban garage to the Wilson Building Annex, a renovated retail building that currently houses seven residential units. Although intended also to serve as a patch by providing approximately 4,000 square feet of retail space, Main Street Alley serves the needs of residents by providing a more direct route to a parking garage. Browder Street Mall connects residents along Main Street who live in the Davis Building, Kirby Building and Wilson Buildings, to Urban Market, via the Magnolia Hotel/Pegasus Park portal. Once residents pass through the portal, they can continue across Commerce Street and into Browder Street Mall to reach Urban Market. The Magnolia Hotel/Pegasus Park portal also serves to connect DP&L Flats residents with a dog walking area, Pegasus Park, and access to restaurants and retail along Main Street.

Even with these existing corridors, many patches presented in figure 4-2 are disconnected from recognizable pedestrian corridors within the CBD. Figure 5-1 illustrates how those patches can be connected through a system of linked corridors. Connections to transit are integral parts of the corridor network. Some patches, such as the Woodall Rogers Park and residential developments in the Arts District, are considered by survey respondents as too far to walk from the core residential and retail areas of Main Street District and Central City District. However, using transit to reach



- Proposed Pedestrian Corridors
- Patches
- DART Light Rail Station
- MATA Station (present and future)

Figure 5-1. Proposed Pedestrian Corridors Within the Dallas CBD

those destinations would be a reasonable alternative, especially once the McKinney Avenue Trolley extension noted during the key informant interviews are completed. Dallas Area Rapid Transit light rail lines would also provide easy access to neighborhoods currently seen as outside of downtown, such as Victory Park, Uptown and the Cedars. Uptown and the Cedars are currently served by regular transit service and have light rail stations. Victory Park is not currently served by regular light rail service, although a station is built within this neighborhood. The existing station is only served by transit service when events such as concerts or sports events are held at American Airlines Center, the anchor around which Victory Park was built.

During the observation period, the highest occurrences of pedestrians were located on both the sidewalk system and pedestrian-only corridors. Akard Street at Main Street, Jackson Street at the Browder Street Mall and Ervay Street at Main Street were all locations where the dominant pedestrian flows occurred in the north-south direction. These three locations were better understood when overlaid onto the existing land use map (figure 5-2).

Several of the existing pedestrian-only corridors are a part of the network presented in figure 5-1. Two specific projects which could connect those existing corridors into a network are an extension of the Browder Street Mall into Pegasus Park and an extension of Stone Street Gardens across Elm Street utilizing a portion of 1600 Pacific, a vacant building with residential redevelopment plans.

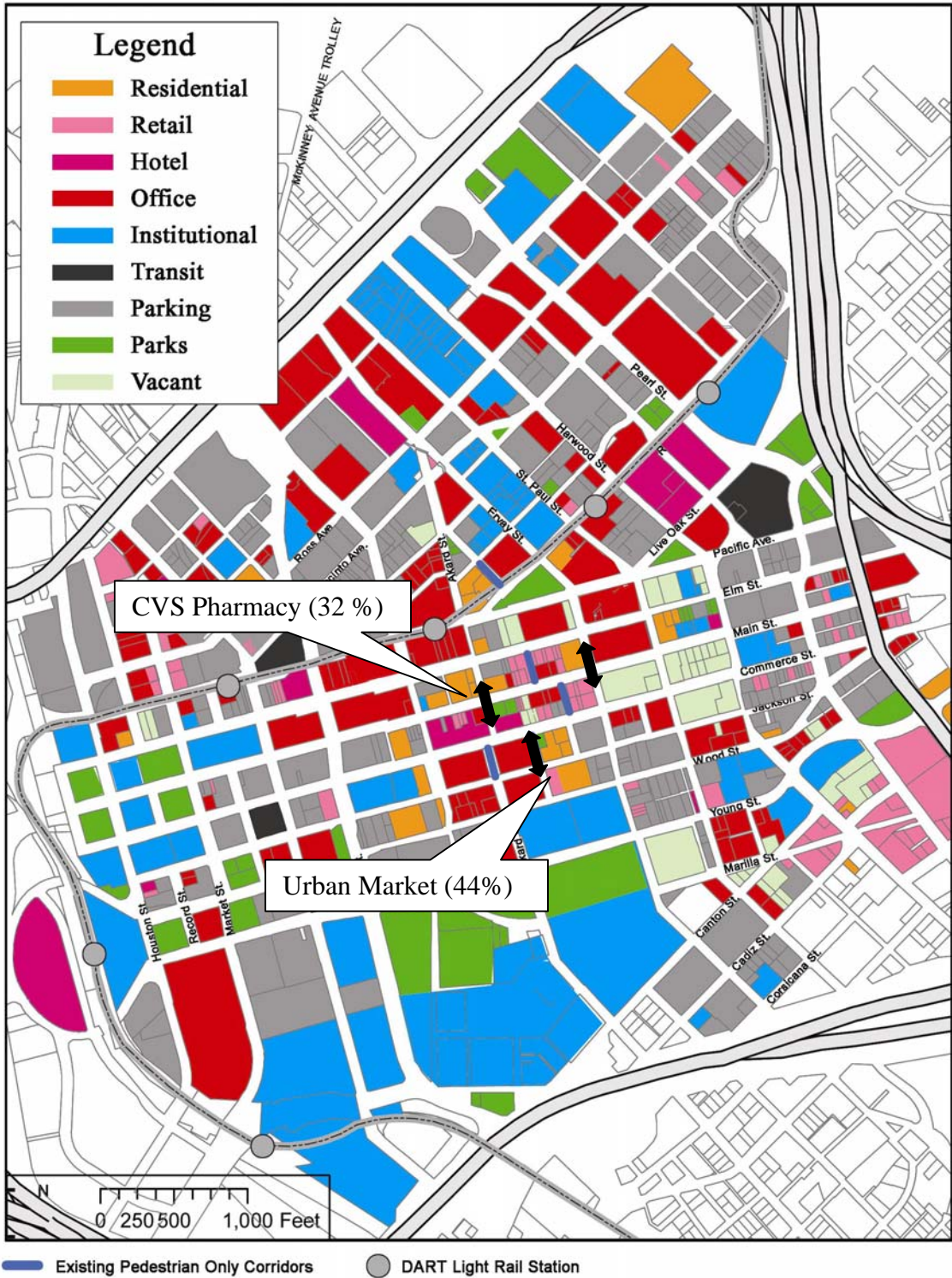


Figure 5-2. Pedestrian Observation Results in the Land Use Context

Figure 5-3 shows the existing view from Browder Street Mall across Commerce Street. The buildings located at the termination of the view are vacant. Pegasus Plaza lies just beyond. By demolishing the vacant building on the left in the figure, a direct connection to Pegasus Park would be created. Decision making would then be simplified due to a direct visual connection between Urban Market and Main Street.



Figure 5-3. View North from Browder Street Mall

An extension of Stone Street Gardens could be achieved by utilizing an existing drive and parking area that passes through 1600 Pacific. This drive area is directly across Elm Street from and is presently connected to Stone Street Gardens by a pedestrian crosswalk with a crossing light. Figure 5-4 shows the view from Stone Street Gardens across Elm Street and into the drive area. Built in 1965, 1600 Pacific was also

known as the LTV Tower. Redevelopment plans for the current owners, Lockett Capital Group, have been published by BGO Architects. Because the building is slated for future redevelopment, the opportunity exists to convert this current parking alley into pedestrian friendly passageway through welcoming design.



Figure 5-4. View from 1600 Pacific to Stone Street Gardens

A theme that emerged from interviews with Dorcy Clark and Ted Hamilton was that downtown projects have been designed in response to what a developer wanted for their particular project without a consideration of the dynamic interaction of adjacent buildings and land uses within the fabric of downtown. Designers responded to the clients' specific design program needs, without consideration for the dynamic of related

uses. In one instance, Main Street Alley, the corridor was seen as a patch or destination in itself. However, in order to be a patch, there must be a strong enough use or project to attract consumers and a way to reach the destination. Therefore, the retail and office space created adjacent to the pathway remain vacant.

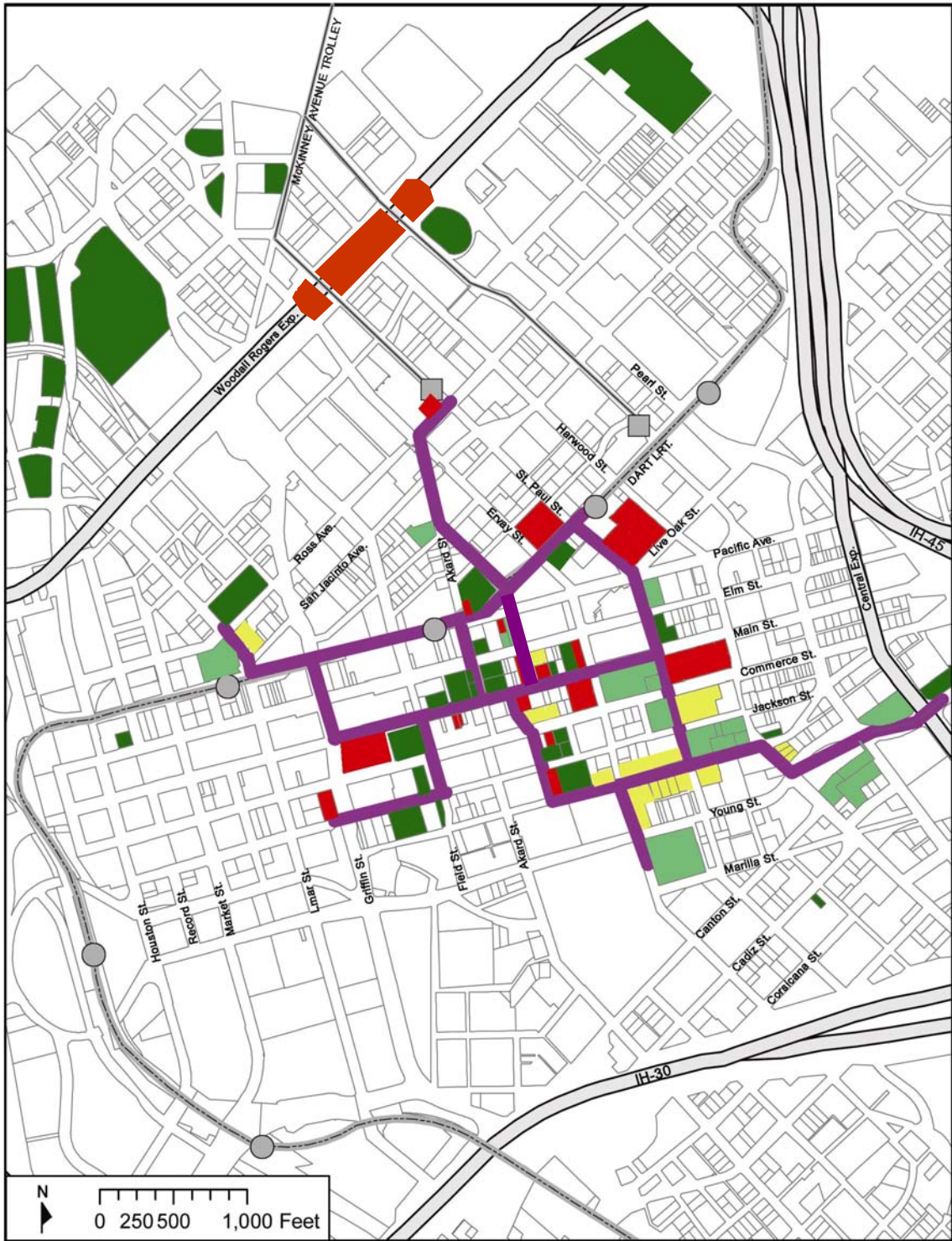
This type of project is described by Hester (1974) as “design against people” where decisions are made by the elite with little or no concern for the needs of the user. Hester further describes a process of “design with the people” where user direction and different points of view are considered and collaborative, group decision-making is promoted. Hester notes that, “Only by presenting the various viewpoints can the unique needs of local, diverse interests be incorporated into the community development process and reflected in the design of socially suitable neighborhood space” (p. 55). Although Hester was directly addressing the design of neighborhood space, the CBD became a neighborhood for the people who reside there when the first residential building was opened. The created ways of traveling through downtown should be considered just as relevant to downtown residents as bike trails and other community amenities are to suburban residents.

Kaplan and Kaplan (1998) make the bold statement that their research, “. . . and the research of others have made one fact all too clear: Environments are designed and modified every day in ways that fail to support people’s needs and requirements.” The Main Street Alley and the Main Street Crosswalk projects were two such designs. The design philosophy employed in them was to mandate how the public will use the space instead of investigating the needs of the public and creating a space that fulfills those

needs. Determining patches prior to creating the corridors, so that corridors connect patches, reflects this design philosophy.

5.4 Impact of Corridors

The creation of corridors that connect patches would concentrate pedestrian activities within the network by providing less complicated paths requiring fewer decisions by users. Existing research in the field of transportation planning demonstrates that pedestrians have the tendency to choose the path with the fewest decisions (Zacharias 2001). The concentration of pedestrians would then create incentives for businesses that depend on a high level of exposure for the attraction of patrons, such as restaurants, salons and merchandise retailing. According to Nancy Hormann, executive director of the Downtown Dallas Partnership, “Retail relies on foot traffic” (Dallas Business Journal 2003). Figure 5-5 specifies areas along the proposed pedestrian corridor network that are available for redevelopment. These areas are currently surface parking lots, vacant buildings or businesses not dependant on foot traffic such as office space. Promotion of development along these corridors could be achieved by City of Dallas policies and planning tools such as TIF funding agreements, form-based zoning application within development zones and concentrated investment of infrastructure improvements along the corridors. Developers of future projects could benefit from and reinforce the concentration of pedestrians along the corridors by orienting entrances to developments along the corridors. The perception of safety created by higher levels of foot traffic can also benefit developers of residential projects



- Proposed Pedestrian Corridors
- DART Light Rail Station
- Potential Redevelopment Areas
- Patches
- MATA Station (present and future)

Figure 5-5. Potential Nodes for Retail Development

by presenting a safer environment to potential residents. Whyte (1980) describes the presence of undesirables by saying, “It is the empty places they prefer.” By creating higher levels of foot traffic, the presence of “winos” and derelicts, thus influencing the perception of safety. By making places attractive to “desirable” pedestrians, the undesirable group is deterred.

5.5 Conclusion

Although landscape ecology is a varied field with its own development path, adapting techniques and concepts employed in the description and understanding of elements within the landscape is a valuable resource that should be employed by urban designers and landscape architects. Designing circulation systems with a full understanding of the needs of the users of those systems creates a success of design that is only proven by the ultimate client, the system user. Residential pedestrians in the CBD currently utilize the sidewalk system and several pedestrian-only corridors to travel between residential buildings and restaurant and retail locations, patches considered human habitat. Incorporating those users into a design process “with the people” by considering the locations residential pedestrians actually travel to would provide a balanced design approach and results that have far reaching impacts on the CBD by concentrating pedestrian flows.

5.6 Topics for Future Research

Future research regarding the connection of patches within a highly urbanized area should focus on the patches themselves and additional user groups of those areas. Specifically, a number of questions to guide future research have emerged. How much

impact does attraction power or the quality of a destination have on willingness to walk to the destination? Also, will people walk further if the place they are going is better? A diverse range of users are present within urban areas, such as office workers, sanitation services and tourists. Each of these groups have unique needs while functioning within downtown environments, such as parking connectivity, service area access and wayfinding signage, respectively. How can corridors fulfill these needs while providing isolation or connectivity to the remainder of the pedestrian network?

Other transportation considerations relating to the attractiveness of downtown as a residential center based could be analyzed, such as the CBD's interconnections with greater Dallas provided by Dallas Area Rapid Transit. The hub-and-spoke configuration of the transit system creates a high degree of connectivity to and from the downtown area. How does this connectivity impact the quality of life created by transportation choice for downtown residents? Could transportation choice be seen as a reason to choose downtown living instead of suburban living or even residency within the downtown near neighborhoods such as Uptown and Victory Park?

Many considerations of urban design are thought to affect walking behaviors within urban areas. How does the intersecting grid of the CBD promote or inhibit pedestrian movement? Are the multiple views created by the intersection points of the two grids used to benefit visual connectivity? In what ways can that connectivity be created and what would be the impact of such connectivity? How does street proportion relating to widths, building setbacks and building heights affect desire to walk?

Additional research could also address how other concepts considered useful for wildlife management, such as habitat fragmentation, can be applied to urban design. Habitat fragmentation for the urban resident is apparent presently in the CBD as evidenced by the reluctance of residents of 501 Elm to use the pedestrian network of sidewalks to reach destinations for living and playing within downtown. The remoteness of these residents is unique. Does their remoteness influence their behavior or do other factors influence the way they use downtown?

5.7 Summary

Patches in the CBD were determined based on reported use by residents. Corridors were located in order to connect these patches and create a network that conformed to established knowledge regarding pedestrian behavior. Some existing corridors serve the current residential population of the CBD and were incorporated into the proposed pedestrian corridor network. Suggestions were made to extend Stone Street Gardens and Browder Street Mall into primary connecting features of the proposed network. Other existing corridors were designed without consideration for user needs. These projects were conceived to fulfill the requirements of a specific project without considering the context and impact on pedestrian use of the CBD infrastructure. Considering an interconnected pedestrian network during the design process could benefit pedestrians, developers and the vitality of CBD street life by creating a concentration of foot-traffic along the corridor network.

Additional research questions that have emerged to further support or explain downtown pedestrian activity could focus on patches, connections to transit, other user

groups, and the shape of the street grid. Additional research could address how other ecology based concepts, such as habitat fragmentation, affect pedestrian behaviors.

APPENDIX A

SURVEY INSTRUMENT

Oral Interview Questions for Downtown Residents

1. What places do you travel to by walking?
2. What places do you travel to by car?
3. When you choose to travel to a downtown destination, what influences your decision of whether to walk or drive?
4. What do you see as the biggest difficulty in walking downtown?
5. Have you tried to walk somewhere, but found it impractical?

Oral Interview Questions for Key Informants

Each interview will consist of these open ended primary questions; as well as one or more follow up questions shaped by the initial answers.

1. Where are new residential projects planned in downtown Dallas?
2. What planning efforts are ongoing to consider pedestrian movement through downtown Dallas?
3. Where are new park and open space projects planned in downtown Dallas?
What is the programming for those spaces?
4. What are key components to urban project success?
5. How are pedestrian movements incorporated into the project's planning efforts?

APPENDIX B

RESIDENT SURVEY RESPONSES

Table B-1. Resident Survey Responses by Building

Site	Locations walked to	Locations driven to	Decision factors	Difficulties
1900 Elm [Titcher-Goettinger]	AIA meetings Restaurants on Main St. Urban Market Post Office 1717 Main St. Restaurants Nieman Marcus Bars around town 24 hour fitness St. Paul DART Station CVS pharmacy Enchiladas on Elm St.	Urban Market McDonalds West End	In route to another destination Distance too far	Carrying bags of groceries Construction Pavement quality Safety – violence Pan handlers weather
InterUrban Building	City Tavern Sol’s Taco Lounge – 2626 Commerce [Deep Ellum] R-Bar McDonalds Local bus stop Urban Market Nieman Marcus Post Office Work @ Akard & Young Restaurants on Elm Restaurants West End Ten Sports Bar Stone Street Gardens CVS Pharmacy Tommy’s Market on Elm St. American Airlines Center Other residential buildings where friends live Magnolia Hotel for cab	Bike to West End FedEx at Ross and Ervay	Not drive due to parking hassle at destination Catch a cab when I’ve drunk too much to walk Distance too far	Homeless/panhandlers Not all corners are ADA compliant, therefore trips must be planned in advance Aquarium area not easy to navigate Safety – violence Safety - traffic

	stand Iron Cactus			
Gables Republic Tower	Dog walking Cancer Survivor's Park Nasher Sculpture Garden Dallas Museum of Art Nieman Marcus Work at 400 S. Akard Liquor store on Main St. Central Library (work) Pearl, 2038 Commerce St. Ross/St. Paul (work) Stone Street Gardens Restaurants Urban Market Press Box Grill Trolley Stop @ DMA Tower Club, 1601 Elm St. Porte de Roma	Urban Market Uptown McDonalds Central Library (work) Deep Ellum	Safety Distance too far Weather Time/in a hurry Not drive due to parking hassle at origin Effort, it is easier to drive	Homeless/pan handlers Sidewalks not convenient Waiting for walk lights Closed sidewalks due to construction Central grid not consistent
Metropolitan	CVS Pharmacy Field @ Main (work) Stone Street Gardens Pegasus Park Alphus Hotel (work) Neiman Marcus Restaurants on Main St. 311 S. Akard (work) Urban Market Starbucks @ Magnolia Hotel Chase Bank building (work) Iron Cactus City Tavern restaurants	Urban Market Farmers' Market Blockbuster Video	Catch a cab when I've drunk too much to walk In route to another destination Distance too far	Homeless/ panhandlers Construction Violence
509 Elm	n/a	n/a	n/a	n/a
Mosaic	Lamar @ McKinney (work)	Lamar @ McKinney	Weather In route to	Tunnel access is often blocked or

	Restaurants on Main St. El Centro Restaurants CVS Pharmacy Trolley Stop @ DMA Urban Market First Baptist Church Fuse Stephen Pyles Restaurant City Tavern Iron Cactus Stone Street Gardens Press Box Grill Dog walking Restaurants on Elm St. Harwood @ San Jacinto (work)	(work)	another destination Equipment or cargo to carry Don't drive to avoid paying for parking Taking a cab is sometimes easier Time of day	closed or elevators/ escalators are broken Homeless/panhandlers Violence south of Jackson and east of Ervay especially or anywhere south of DP&L lofts
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APPENDIX C

KEY INFORMANT INTERVIEW RESPONSES

Willis Winters, City of Dallas Park and Recreation

Q1. Where are new park and open space projects planned in downtown Dallas? What is the programming for those spaces?

Three core parks are currently in the development process: Belo Gardens, Main Street Gardens and Pacific Plaza. The programming of each is designed to be unique. Belo Gardens is conceived to be a passive park with quiet restful spaces, plenty of shade and greenery and trees. Main Street Gardens is seen as an active space with a large array of programmed activities such as concessions, covered seating areas, larger fountains, two separate areas for stage performances, a dog park and a children's play area. It will include many different elements to draw people into the park. There will be garden shelters along Main Street that will provide covered seating areas for working, studying or just visiting. Pacific Plaza is seen as an active space for citywide celebrations, festivals and events. Main Street Gardens differs because it is an active park made of many smaller spaces, while Pacific Plaza can accommodate large events. However, many of the events envisioned to take place at Pacific Plaza will potentially occur at the Woodall Rogers deck park because of the greater availability of parking and it's connectivity with Uptown and the Arts District.

Q2. Why was each park programmed in the way it is?

Main Street Garden's location was seen as more appropriate for the active programming because of it's location as a generator for economic development. Belo didn't have the same need because it already has development on three sides. The

redevelopment potential of this site was limited. The passive space could better serve the workers in the existing office buildings surround the site.

Q3. What is the timing for the core parks?

Main Street Gardens has funding for design and construction. Demolition at the site is complete and design development is well underway. Construction should begin in the 3rd or 4th quarter of 2008 and be complete in 2010. Belo Gardens is also funded for design and construction and should also start construction in late 2008. A recent delay occurred due to the discovery of contamination on the site. The park is expected to open in 2010. Pacific Plaza has funding for land acquisition and the master planning effort. Currently, the City has acquired about 70 percent of the needed land. It will be about one to two years before the land is acquired. Funding for construction has not yet been secured. It could come from naming rights for Pacific Plaza, naming rights for Main Street Gardens or the next bond program in 2010.

Ervay Plaza is also mentioned in the Downtown Parks Master Plan. It is currently being promoted by a prominent Dallas architect who is trying to generate support for the demolition of 211 Ervay [a vacant high-rise building currently on the site]. One estimate for the demolition cost is \$3 million. A computer model of downtown with and without this building is being developed by HKS. Peter Stewart, Executive Director of the Center for World Thanksgiving [Thanksgiving Square] supports incorporating the space into the open space network of Dallas. However, no formal plans for a park exist at this time.

Q4. How was pedestrian movement incorporated into planning efforts?

Each park is seen as a destination that will attract pedestrian movement towards the space. They are their own draw. Ervay Plaza is the only one that, due to its size, is very suited to serve as a pass through for pedestrian traffic. The parks themselves spur pedestrian activity and promote a more active street life in downtown.

Dorcy Clark, Senior Downtown Coordinator,

City of Dallas Office of Economic Development, Downtown Initiatives

Q1. Where are new residential projects planned in downtown Dallas?

The popularized goal of 10,000 residents by 2010 may not be attainable, but 2006 to 2007 produced a significant amount of residential units in downtown. And 2008 will see more open. In 2006, Gables Republic Tower opened 215 units. 2007 saw the addition of the Metropolitan (275 units), the Third Rail Lofts (xx units) and Mosaic (432 units). In 2008, the Mercantile (225 units) and Mercantile new construction (150 units) projects will open. Conceived projects include:

- 1600 Pacific – renovation facing Elm at Stone Street. May be ~300 units with an affordable housing component
- Tower Petroleum – 1907 Elm to be redeveloped into a hotel and 1900 Pacific to house about 130 units. May be complete in 2011.
- Butler Brothers Building – 500 S. Ervay to be redeveloped into about 400 residential condo units. This building does not qualify individually for historic property tax credits, but the City is assisting in having a district around the

building designated as a historically significant area. The City Council has approved \$15 million in subsidies, plus tax abatements on a separate project to support the developer [Bisno Development Company].

- Atmos Energy Complex – four separate buildings
- Continental Building – by same developer as Mercantile Bank Project
- Statler Hilton/Grande Hotel – Vacant since 2001, no specific plans exist for this project; however, its proximity to Main Street Gardens promotes a desire for future renovation. The building has several challenges including the fact that it’s parking garage was demolished to make room for Main Street Gardens and it has a floorplate which presents a challenge for other uses.

Affordable housing in the project can be a requirement of loans from City, as it was for the Davis Building, Kirby Building, 1900 Elm (the Titcher-Goettinger Building). However, once those loans are paid back, the City has no rights to enforce affordable housing requirements. City staff currently promotes the idea of including such a regulation in a downtown TIF district, but it cannot become a burden to developers who need to be able to make a project financially rewarding.

Q2. What planning efforts are ongoing to consider pedestrian movement through downtown Dallas?

The North-South streetscape project is a major effort at this time. We’ve found that people won’t walk by “nothingness” to get to where they want to go. So our challenge is deciding where to invest, in making a nice environment by improving the

streetscape, or by subsidizing rents for retail tenants to occupy currently vacant spaces thereby creating a retail destination?

The Main Street Alley project is focused on pedestrian movements. The City condemned the property and created access through the block. The project created a shorter block and easier access to the parking garage on Commerce Street. The concept was the developer's and was funded by the city through bond funds and the TIF district. The developer managed the design and construction process.

A centralized valet parking system project is underway for Main Street. The idea is that patrons could drop their car at any valet stand and pick it up at any other valet stand. Although support for the concept seemed strong, implementation has presented some challenges and controversy.

Joule hotel developer instigated the Main Street crosswalk project because the original crosswalk conflicted with their valet/drop-off main entrance. The City's public works department investigated the addition of blinking cross walk lights but decided against them because in examples of where they had been implemented they didn't prove effective.

Q3. What are key components to urban project success?

It is key to have responsible and knowledgeable developers who can get and keep financing. Partnering with the City is also essential to project success. The easy projects, low lying fruit, are gone. They were all challenges, but now the remaining projects have even greater challenges.

Q4. How was pedestrian movement incorporated into planning efforts?

The streetscape design around the building is the primary way pedestrian movements are considered. The streetscape must activate the street. Design is done by the developers and approved by the city. Streetscape elements are often eligible for City assisted funding.

Paul Lindenberger, Director of Operations, DOWNTOWN DALLAS

Q1. What planning efforts are ongoing to consider pedestrian movement through downtown Dallas?

The Joule [Urban Resort, Hotel Elan] developer kicked off the Main Street pedestrian project. Their valet area would have conflicted with the existing pedestrian crosswalk located in line with Stone Street. They provided two new crosswalks and other visual elements. Street bulbs were part of the project, as well as landscaping, to try to achieve traffic calming. The developer led the charge on planning and design. Construction was paid for by a public/private partnership between the city and developer, I believe it was a 60% developer-40% city split.

Other downtown streetscape projects have been paid for by bond funds. Current projects are wrapping up the 2003 bond funds and the 2006 bond projects are just beginning. I believe that the 2003 bond projects are the North/South Streetscape Improvements on Field, Akard, Ervay, St. Paul and Harwood. Phase I of this project included the blocks from Young to the light rail line and it is 99.5% complete. Phase II is underway now and includes the blocks from the light rail line to Ross Avenue. They are replacing the sidewalks, adding pedestrian scale lighting, which I feel is the #1 improvement, landscaping enhancements and other amenities such as trash cans,

benches and street trees. The 2006 bond funds will include a Main Street streetscape project from Harwood to Good Latimer. This project will extend the look and elements of the current Main Street streetscape that exists from Griffin to Harwood. Also, a second Main Street project will occur from Market Street to Griffin that will include traffic signal improvements, crosswalks and some lighting. Other improvements with 2006 bond funds will include a Convention Center connection project along Griffin to the West End, from Young to Main Street.

DOWNTOWNDALLAS is leading a project to improve the streetscape on Elm Street between Field Street and Ervay Street. It included street and pedestrian lighting, sidewalks and landscaping. We were able to spearhead this project and get it completed for a lower cost than the city estimates. We'll be reimbursed by 2006 Bond money. We are able to do the project for about 1 million, as opposed to the 1.7 million estimate. This allows us to complete 3 blocks of improvements instead of just 2 blocks. The project is underway now. Survey is complete and the design is beginning. Construction is anticipated to begin after the shopping season, in early 2008. Construction should take about 8-12 weeks to complete.

DOWNTOWNDALLAS saw this project as a priority because of the concentration of vacant buildings along Elm. We hope to promote reinvestment by building owners and to attract tenants to the vacant retail spaces. This project has a sense of urgency about it and **DOWNTOWN**DALLAS wants to make it happen as soon as possible, instead of waiting for the availability of bond funding.

Other projects that are not specifically pedestrian, but will help people get around in downtown without a car include the Downtown Streetcar project. We are working with DART, NCTCOG and the City. Three conceptual routes have been developed to serve the Main Street core area. There is also a planned extension of the McKinney Avenue Trolley (MATA) that is funded along Olive Street to connect to the Pearl Street DART Station. In the future, a loop is envisioned to connect this extension with the current end of the line stop near the Dallas Museum of Art on St. Paul. Other future extensions include a loop that would extend as far as Main Street Garden and another to the Farmer's Market. A second downtown LRT mall is also in the planning stages by DART and would help connectivity within downtown.

Q2. Where are new park and open space projects planned in downtown Dallas? What is the programming for those spaces?

As an organization, **DOWNTOWNDALLAS** supported the creation of the Downtown Parks Master Plan with funding and participation. Construction on Belo Garden is scheduled to begin in early 2008 and completed by late 2008. Main Street Garden is on a parallel timeframe because the City has an agreement with the developers of the Mercantile Bank project. These two projects plan to open simultaneously. The Pegasus Charter School is now located in the University Center building [near Main Street Garden] and should benefit greatly from having a park across the street. Many of the events that **DOWNTOWNDALLAS** produces are anticipated to occur at Main Street Gardens once it is complete. It should be a daytime destination to relax and have lunch. Evening events are also important because the park is seen as a amenity for social interaction of downtown residents and visitors.

The Woodall Rogers park is scheduled to begin in early 2008 and should be complete in 2011. This is a longer timeframe because the project is much more complicated. It will contain a dog park, tot lot, outdoor dining and cocktails in the park in the evening, a band shell for events and schools to use. There is a goal to have the park programmed at least 12 hours per day.

The Griffin Street park is not as far along as the other core parks. About 80% of the land has been assembled, but it won't start until 2009. This park is envisioned as the big gathering place for city events. It is larger and will have greater open areas for large gatherings.

DOWNTOWNDALLAS is constantly looking for gaps in downtown to provide for pedestrian improvements. I see lighting as the most important element that can be provided in providing a 18-7 activity city. Nighttime activities are key to energizing the City.

Q3. What are key components to urban project success?

Making sure the project, no matter how small or big, fits within its context in the urban setting. It should connect with next door and with what is happening six blocks down. You must get all the major players together to make sure everyone is on the same page. **DOWNTOWN**DALLAS' role is to connect the public and private entities to make sure the right people have the right contacts for the task they're trying to accomplish. Working with the City, with every department, is very important. Successful projects must offer clean, safe, livable, workable environments for office workers, residents and visitors. They must consider benefits for all users.

Q4. How was pedestrian movement incorporated into planning efforts?

It depends on the project. In building rehabilitation projects, there is an internal focus on the building. In streetscape projects, pedestrian movement is the first thought. It is very important to developers, though, because the “front door/back yard” of their building provides the first impression. Clean, neat and safe is the focus for the front door to a development.

Q5. How does DOWNTOWNDALLAS interact with the project process.

We work as an umbrella organization for downtown. We know about or are involved with everything going on, whether it is in process, could happen or has happened. Interested parties usually contact us early in the process for help identifying locations for projects or to suggest uses for certain properties. We then often help them present projects to the City. Other times, developers begin projects on their own. The benefit we provide developers is that we are a resource for information. Developers will call us with their issues and we can guide them to the right people to find the solutions or the correct agency contacts. **DOWNTOWNDALLAS** also fulfills an advocacy role. We speak out on issues that affect quality of life in downtown Dallas, such as the Trinity River “Vote NO” campaign. Another example is a downtown project where the developer wants to put an LCD type screen on the side of their building to create that, “Times Square,” feeling. We’re helping them with the sign ordinance amendment that would allow for such a sign. Also, about six months ago we worked with the City Council, police department and others to help with the pan handling ordinance. We

initially saw it as a pilot program for downtown, but the City Council decided to expand it to all of Dallas. “What is good for downtown is good for the city.”

For the first 48 years of **DOWNTOWN**DALLAS’ existence, we focused on the area within the downtown loop. About two years ago, we realized that the adjacent neighborhoods had a great impact on what was happening in downtown and downtown impacted those neighborhoods. Victory Park, Uptown, Deep Ellum, the Cedars, Baylor and South Side are all important parts of our thinking and planning.

Ted Hamilton, Hamilton Properties

Q1. Where are new residential projects planned in downtown Dallas?

Hamilton Properties has two new projects in the works, neither of which is residential. Both are hotel projects. The Santa Fe IV building will be a 182-room hotel. The former Ramada, just south of I-30, will also be renovated. Both projects should start construction in the next six months.

Q2. What planning efforts are ongoing to consider pedestrian movement through downtown Dallas?

Projects such as the North-South streetscape project are very significant. Hamilton Properties has focused on projects in downtown Dallas because it is one of the remaining unique areas in the city. It has retained much of its “non-homogeneous” character and the buildings relationship to the street. The relationship between the buildings and the streetscape is essential.

Q3. What are key components to urban project success?

Ground level retail is desirable and required to qualify for subsidies from the City. Hamilton Properties feels it [street level retail] is so important that we are investing in restaurants in our projects, such as Scene, to create vibrancy for the street. A thriving retail environment will come in the future.

Q5. How was pedestrian movement incorporated into planning efforts?

Typically in renovation projects, the “front door” is predetermined by the original architecture of the building. However, at Mosaic, there was an opportunity to create a new garage entry that embraced the street. This decision was very early in the planning process. That is generally the case, as opposed to the attitudes of development in the 1980s that saw each development with a “fortress” mentality. Context influences a plan, but doesn’t determine it. For instance, Mosaic is very close to the LRT station, but we feel like the Davis has just as much benefit from the LRT location, even though it is two blocks away.

For our I-30 hotel development, street improvements on Akard are very important because they’ll provide the connection to the convention center that will draw patrons to the hotel.

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