SLIM DOWNtown

Reducing Obesity Through Community Redevelopment

Patterns of Place-Making to Increase Walking and Bicycling

Susanne Siepl-Coates

This is the first in a set of two volumes documenting the results of the project SLIM DOWNtown: Reducing Obesity Through Community Redevelopment.

Volume I	Patterns of Place-Making to Increase Walking and Bicycling *slimdowntown.net*	Susanne Siepl-Coates
Volume II	Walking and Bicycling in Downtown Redevelopment: Learning From Best Practices	Madlen Simon

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SLIM DOWNtown

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Volume I

Patterns of Place-Making to Increase Walking and Bicycling

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Introduction

There is a growing awareness about the public health crisis of obesity that is currently facing the United States and other industrialized nations. Nearly one third of Americans is obese and another third is overweight. Lack of physical activity has been identified as contributing significantly to this epidemic. Today, the majority of American citizens lead a sedentary lifestyle that involves sitting all day at work, watching television, working on the computer, and commuting to work by car instead of walking. People have come to depend on the automobile as a mode of transportation so much that the lack of pedestrian- and bicycle-friendly development has, until recently, been of little concern. Our communities reflect this dependence by catering almost exclusively to the motorist: many urban and, especially, suburban streets are now designed to allow for the convenient and uninterrupted flow of traffic that moves between residential neighborhoods and the shopping and office districts of our decentralized cities, while vast tracts of land are being used as parking lots to store the resting vehicles. These and related characteristics of the contemporary city have serious impacts on the environment: vehicular congestion, lack of good air quality, wasteful use of real estate resources, and water pollution - not to mention the excessive use of non-renewable fossil fuels which contributes significantly to global warming.

In recent years, public health officials have pointed to another serious issue: the lack of sufficient physical activity in our everyday lives has been implicated in the general decrease in public health. According to the Center for Disease Control the prevalence of overweight and obesity has increased sharply for both adults and children since the mid-seventies.[1] A 2003–2004 National Health and Nutrition Examination Surveys (NHANES) shows that among adults aged 20–74 years the prevalence of obesity increased from 15.0%, as measured in a 1976–1980 survey, to 32.9% (CDC 2003-2004). The same survey indicates that for children aged 2–5 years, the prevalence of people with overweight increased from 5.0% to 13.9%; for those aged 6–11 years, there was an increase from 6.5% to 18.8%; and for those aged 12–19 years, prevalence increased from 5.0% to 17.4%. These increasing rates raise concern because of their implications for Americans' overall health. Being overweight or obese increases the risk of many diseases and health conditions, including cardiovascular disease, type 2 diabetes, depression, and even certain cancers.

While there are a variety of factors at the root of overweight and obesity, including poor diet and genetics, the relationship between the built environment and public health has recently emerged as a theme in the debate over the obesity problem in the United States. Our cities, neighborhoods, work

places and homes have a major influence on how we live our lives. People walk and bicycle much less today than they used to even thirty years ago. An increasing number of health officials suggests that contemporary cities not only inhibit many types of physical activity, but that they actually place barriers to active lifestyles, thereby contributing greatly to the nation's current health crisis.

Thus several questions arise: firstly, what specifically are the main barriers for walking and bicycling in the typical urban setting; and secondly, what kinds of changes to the built environment might lead to a significant reduction of such health problems as obesity. And more broadly: would people lead more active lives if the built environment would encourage and support such intentions? If the urban environment were designed with pedestrians and bicyclists in mind, would recreational and utilitarian walking and bicycling become more popular, increasing the amount of daily physical activity of citizens and, thus, counteracting the current obesity-related health crisis? More and more medical experts are now making the case that pedestrian- and bicycle-friendly environments would indeed support people in their efforts to integrate physical activity into their daily lives. It will take much more research over long periods of time to answer these general questions.

Manhattan, Kansas, may not have problems as severe as many larger and more populous metropolitan areas, but there is no doubt about the fact that even in this small college town people are now highly dependent on their automobiles. While Manhattan has retained a pedestrian-friendly and bikable atmosphere in its older neighborhoods and its downtown core, even here the automobile has become dominant. We take access by car so for granted that we tend not to notice the barriers that this convenience imposes on pedestrians, bicyclists and those members of the community who are to young, too frail or too poor to drive a car.

Given Manhattan's rather typical urban development history, the on-going downtown redevelopment efforts, with their impending significant modifications to the downtown fabric, present a welcome opportunity to study the impact of the urban built environment on everyday physical activity. It also seems that the urban core of Manhattan, Kansas, can serve as a case study to examine in detail the issues that present barriers for active lifestyles and to identify urban design characteristics that would enhance possibilities for walking and bicycling as everyday modes of transportation in the downtown area and the community as a whole.

History and Purpose of the Project

This project came into being when in 2004 the Kansas-based *Sunflower Foundation: Health Care for Kansans* sent out a Request for Proposals entitled: Promoting Physical Activity (and Healthy Eating) to Reduce the Prevalence of Obesity in Kansas.[2] With its mission of serving as a catalyst for improving the health of Kansans, the Sunflower Foundation looks at health broadly by characterizing it as "an optimal state of well-being - physical, emotional and social."[3]

The timing for the proposal requests could not have been better. The City of Manhattan, Kansas, had just begun a redevelopment process for its downtown area to enhance economic development, improve traffic patterns, and build new housing, retail and civic structures. It seemed possible to bring to this process design ideas focused on walking and bicycling as viable modes of transportation, thereby increasing everyday utilitarian physical activity and, in turn, reducing obesity. A grant proposal was developed that was aimed at creating a set of guidelines for architectural and urban design interventions as an 'overlay' to be superimposed on the already stated goals and intentions of the redevelopment efforts.

Study of the relationships between the built environment and physical activity is a relatively new field of inquiry that is increasingly gaining attention by health care professionals, urban designers and planners, researchers in a wide range of disciplines, as well as the media. Many factors are involved in creating pedestrian- and bicycle-friendly environments, including political and economic ones. While comprehensive studies about the built environment and medical outcomes are few, there is now a significant body of research to suggest that various attributes of the built environment have a direct impact on physical activity for both transportation as well as leisure purposes (Sallis and Kerr). Thus the potential exists to achieve a significant increase of utilitarian and recreational walking and bicycling in the Manhattan downtown area and along specific routes that connect the downtown area with other desirable destinations in Manhattan including City Park, the Linear Trail, KSU, schools and residential neighborhoods.

While the intention of the grant is to formulate a vision for the future of the city that would benefit all citizens of Manhattan, special attention was given to disenfranchised populations, including children and adolescents, seniors and people with low incomes.

Project Goals

The Sunflower Foundation's Request for Proposals 04-120 indicated that proposals were to focus on "creating and supporting systems that ensure individuals are successful in establishing and maintaining a healthy and active lifestyle". Recognizing "that choice is at the center of behavior change and that cultural, social and physical environments may present barriers to making healthy choices", the Foundation invited "innovative proposals that enable people to make sustainable healthy choices by increasing opportunities for and removing barriers to regular physical activity...".[4]

Given this context, the main goal of this project is to contribute to a more walkable and bikable Manhattan, Kansas. The means for achieving this goal is a set of design guidelines. Each guideline proposes an architectural or urban design intervention that, if implemented, can contribute to significantly increasing opportunities for recreational and utilitarian walking and bicycling. Pointing to the specific barriers that tend to impede such physical activity on an everyday basis, the proposed urban design interventions are intended to improve the streetscape in downtown Manhattan as well as along routes that connect the downtown area with other desirable destinations in and around Manhattan.

Manhattan's redevelopment project, still in its planning stages when the RFP was published, seemed to offer unique opportunities to create an environment specifically designed with pedestrians and bicyclists in mind. The redevelopment efforts, as expressed in stated intentions (Downtown Tomorrow; Manhattan Urban Area Comprehensive Plan; Bicycle Master Plan) and in *Design Guidelines for Downtown Redevelopment*, already included plans for the enhancement of traffic patterns as well as the creation of new retail, housing, entertainment and hospitality opportunities in the downtown area, all attributes that can contribute to environments conducive to walking and bicycling. However, it appeared that much more than was proposed at the time could be done, at a variety of scales, to further encourage physical activity. Rather than proposing to alter existing plans, the intention of this project was to expand and refine aspects of these existing plans.

Efforts of this nature, that resulted in downtown settings with an accessible, pleasant and safe transportation network, have been shown to be successful in a variety of urban settings in the United States by enticing people to increasingly engage in walking and bicycling (Calthorpe 1993; Myers and Gearin).

To achieve the goal of increased walking and bicycling in a society that is largely 'addicted'

to vehicular transportation even for short trips requires significant changes in the design of the built environment that encourage and support complementary changes in lifestyle. Toward this end, this document can help raise awareness among the actors involved in the redevelopment efforts, including the developer, city staff and elected officials, leaders and members of civic organizations as well as interested members of the general public about the impact of the urban environment on physical activity.

An increased understanding of the relationships between the built environment and people's physical health has the potential: to support individuals in taking personal responsibility for their health and motivating them to increasingly engage in walking and bicycling as an everyday physical activity; to motivate activist individuals and civic organizations to influence political processes in order to bring about design changes in neighborhoods and the downtown; to encourage city staff, developers and property owners to consider the health and well-being of friends and neighbors when embarking on development projects of all kinds and; to inspire elected city officials to adopt the design guidelines as policy for creating a healthy and sustainable City of Manhattan.

When the redevelopment project is completed, which is expected in 2012, it is likely that increased numbers of people will either reside or conduct business in downtown, suggesting that an even larger population group than currently exists will be able to enjoy a more pedestrian- and bicycle-friendly downtown environment. With attitudes among the general public about utilitarian walking and bicycling changing over time, it is quite possible that retail stores and other businesses located in the redeveloped downtown will experience increased profitability and that the city, therefore, will sustain higher tax revenues.

Project Outcomes

As was proposed in the grant application, the project has resulted in two tangible outcomes: a set of design guidelines, presented in the form of a hard copy document and a website, aimed at accomplishing the goal of contributing to making Manhattan a more walkable and bikable community.

Illustrated with photos and diagrams, the design guidelines are presented in the form of a pattern language.[5] They offer suggestions about how to make the urban environment in Manhattan, Kansas, safer and more attractive to walkers and bicyclists. Taking selected content from the hard copy version of the pattern language, the goal for the website is to more broadly disseminate the design guidelines as standards for the physical improve-

ment of the pedestrian realm in order to encourage walking and bicycling not only in Manhattan, Kansas, but in other communities as well.

The *SLIM DOWNtown* project is the first such endeavor to study and describe the needs of bicyclists and pedestrians in Manhattan and within the State of Kansas. It is hoped that the design patterns will be adopted as policy and implemented in Manhattan, Kansas. Furthermore, in doing so, it is hoped that the City of Manhattan will become a role model for other cities and towns in Kansas and beyond for successful implementation of architectural and urban design changes aimed at encouraging physical activity as an attractive alternative to obesity.

Downtown Manhattan Redevelopment

Manhattan's original plat shows a highly walkable grid system of streets and residential blocks, stretching over approximately a square mile, and evenly interspersed with several public squares for schools and other civic institutions as well as the Fair Grounds, today the location of City Park, roughly in the middle. Most streets were sixty feet wide. Blocks measuring 315-by-400 feet accommodated 50-by-150 feet lots as well as 15 foot-wide alleys running in east-west direction. Occupying a site in the northwestern part of town, the campus is well connected to its adjacent neighborhoods to the east (Cultural Resources Survey 34-35).

As the city grew past its original boundaries, development patterns were allowed to follow those that were already spreading all across the country coincident with the automobile becoming the preferred means of transportation. People moved to new neighborhoods at the edges of town, the gridded street layout began to erode and sidewalks to disappear; individual lot sizes increased, spreading out residential districts; instead of integrating shopping, work and education into residential settings, land uses became segregated and spread out, often located along major interchanges where they can only be reached by car.

Today Manhattan, Kansas is a community with a population just above 50,000. It is located 120 miles west of Kansas City and is surrounded by seemingly endless grasslands in all directions. The city serves as a regional center for government, education, trade, health care, entertainment, and communication. Contributing significantly to the quality of life in Manhattan are: the feel of a small college town surrounding the K-State campus; traditional neighborhoods with tree-lined streets and; a historic downtown with many locally owned shops. Downtown Manhattan is characterized by many beautiful historic buildings, which, as "reminders of the past", not only illustrate the history of the city itself, but also define the culture of the community and create a strong "sense of place" specific to this community.

Manhattan went through its first redevelopment phase in the early 1980s when the Town Center Mall was built on a prominent downtown site on axis with Poyntz Avenue, Manhattan's Main Street. The current redevelopment efforts began in 2003 when a large steel and pipe company announced its relocation from a prime site just north of the historic downtown. At the time, there was concern that the land would be purchased and developed in a manner not coincident with the city's ideas for growth. Thus, the city put in place a process to guide the future development in a controlled way. The city selected the regional development firm Dial Realty to work with local architects Bowman Bowman Novick Inc. and the Dallas office of RTKL to create a conceptual master plan for the sites in question.

The master plan that was adopted by the city proposed the creation of three "vibrant downtown districts": first, the **North District** with some small-scale mixed-use development and a strip mall development with its typical vast parking lot as well as a few townhouses facing the neighborhood to the west; second, the **South District** with mixed-use development consisting of a hotel and conference center, a few restaurants and small shops, a *Prairie Discovery Center* and possibly a movie theater; and third, a revitalized **Downtown Core District** with its strong urban character, small locally owned shops and several historic buildings interspersed into the existing fabric of buildings.

Work on the design guidelines presented in this document started after the redevelopment process was well underway. Initial efforts included speaking with city staff about the ideas and intentions behind the grant and the proposed redevelopment. Several documents completed by the city in advance of the redevelopment efforts stated clear support for a pedestrian-friendly and bikable Manhattan (Manhattan Urban Area Comprehensive Plan, Downtown Tomorrow, Bicycle Master Plan). The city's *Design Guidelines for Downtown Redevelopment* include language that strongly supports walkability and bikability. However, very little was in place at the time to actually accomplish such lofty goals. Early in the process, after a presentation about the *SLIM DOWNtown* project on 13 September 2005, Manhattan's city commissioners voted to support walkability and bikability in the downtown redevelopment area Manhattan, thus giving the project a welcome boost and the encouragement to continue to work closely with all the actors involved with the downtown redevelopment.[6]

The design guidelines in this document are written by a professor of architecture at Kansas State University. It was obvious from the very beginning that questions of how to design a community that supports physical activity and good public health must, of necessity, go beyond the design of the physical environment and include considerations of the social, cultural and economic life of the city.

While architecture and urban design do play a significant role in shaping the built environment, it became clear very quickly that a wide range of other disciplines must be involved with the description and analysis of the predicament between urban design and public health as well as with the development of ideas for positive interventions to counteract this crisis.

Thus, in addition to studying the city's various plan documents and the main textbooks about relevant subject matters, the literature review focused on scholarly journals in a wide range of disciplines, including medicine, public health, urban planning and urban design, landscape architecture, kinesiology, sociology, and urban geography.

The Pattern-Language Approach

In order to most effectively communicate the content of the design guidelines they are presented in the form of a pattern language. In 1977, educator, scholar and architect Christopher Alexander and his collaborators published *A Pattern Language* as the first of a two-volume set of books that also includes *The Timeless Way of Building.* Volume one focuses on the language for designing, building and planning, the second offers theory and instruction for the use of the language.

Alexander's pattern language approach was chosen for this study because it lends itself admirably as the structure for communicating a set of guidelines the purpose of which is to inform, provide the basis for discussion, and allow for change to individual guidelines over time, while simultaneously providing a vision and a holistic framework for a city determined to promote everyday walking and bicycling as viable modes of transportation.[7]

The environment as repeating patterns of relationship

It is typically understood that an urban environment is comprised of constituent parts or elements, such as residential buildings, schools, churches, parks, streets, intersections, sidewalks, crosswalks, trees, and so forth. In contrast, Alexander argues that it is not so much the individual parts that contribute to a well-functioning and attractive city but rather it is the repeating patterns of relationship between and among them that ensure a high quality of the built environment.

For example, instead of declaring that elements such as sidewalks are required to promote walking, it is more useful to consider both the character of the sidewalk and its appropriate relationships to the street, adjacent buildings, street trees, lighting fixtures and street furnishings. Thus a walkable

surface along the blank walls of an internally focused grocery store, which overlooks a vast parking lot, and is devoid of inviting street furnishings or shade-giving trees will do little to entice people to walk. If, however, one follows Alexander's way of thinking and arranges the elements 'appropriately' or 'accurately' in relationship to other elements, it is more likely that the activities of daily life, such as walking or bicycling, can be accommodated pleasurably and without conflict. For instance, it is likely that people will engage in walking in traditional shopping districts where sidewalks are lined by welcoming store fronts of small to mid-scale retail stores on one side and shade-giving trees on the other to create a buffer to the street. In such environments walking is not only convenient but it also offers enjoyable and pleasant experiences.

The majority of our contemporary urban environments have been shaped by 'forces', which are generated by requirements for the convenient and unimpeded movement of the automobile. Today, many people take for granted an environment in which they can drive everywhere, even for short distances. Many people do not mind that our cities are spread out so much because with our cars we can quickly get from here to there along streets generously scaled and consciously designed for the efficient flow of vehicular traffic. And let us not even mention the large amounts of urban space given over to parked cars. Unfortunately, other 'forces' such as people's need for everyday physical activity, social interaction in the public realm and cultural exchange in urban settings have been ignored. It is the 'forces' that support recreational and utilitarian walking and bicycling through urban design interventions to which this document aims to call attention.

A pattern

Based on a configuration that closely follows the structure developed by Christopher Alexander and his colleagues, this document consists of a set of seventy-seven design guidelines expressed in the form of patterns. Each pattern begins with a title that is intended to evoke the image of a tangible three-dimensional entity or setting. Just by reading the titles an image should appear in the reader's mind of the kind of place Manhattan can be in the future.

To the side, in the margins, a brief note to the side explains how this particular pattern contributes to completing or refining other larger-scale patterns. Below the title, a bolded statement asserts the essence of a problem: how a certain characteristic of the built environment tends to create a barrier to everyday walking and bicycling. This assertion is followed by a discussion that helps to clarify the

issues or ‘forces’ relevant to the topic and offers evidence to develop an argument for the creation of an urban environment with characteristics more amenable to pedestrians and bicyclists. Occasionally, this section includes examples of solutions other communities have implemented in order to address the stated problem.

At the end of each pattern there is another bolded statement, which offers a general design proposal to solve the problem stated at the beginning of the pattern. Next to this statement, which always takes the form of an instruction, is a brief note, which ties this pattern to other patterns “which are needed to complete this pattern, to embellish it, to fill it out” (Alexander et al. p. xi).

By offering a general design proposal, each pattern articulates a “tacit consensus” on what constitutes a “good solution” (King 1993). Typically, the “solution” describes how functional (or other) problems can be resolved through the design of an urban or architectural setting. By connecting place and human experience in this way, the proposed “solution” can be inspected by individuals and groups and, if necessary, modified. As a whole, the structure of relationships among the patterns contributes directly to creating places rich in architectural detail, places whose milieu is life enhancing and whose ambiance induces positive and memorable human experiences.

While a few patterns have been adapted from Alexander’s *A Pattern Language*, such as ‘Positive Outdoor Space’, most patterns have been newly written for the purpose of this project.

A tool for education and implementation

During the past few decades many communities have recognized the benefits and advantages of creating pedestrian- and bicycle-friendly environments, most notably Seattle, Washington, Portland, Oregon and Boulder, Colorado. These and other cities have done much to improve their streetscapes, develop trails and establish programs to promote walking and bicycling. Many of these cities now have standards in place that provide the basis for the design of walkable and bikable urban streets. Without a doubt, many of these policies and plan documents could be modified for use in Manhattan, Kansas.

For this project a different approach was chosen with the goal of going beyond the limitations of the typical plan documents. Instead of the relatively static character typical of documents containing explicit design standards, the pattern language approach, with its clearly stated problems, evidence and articulated arguments, references to relevant examples, illustrations, and concise design suggestions, provides a holistic and highly generative framework for the implementation of urban design

interventions to promote walking and bicycling as viable modes of transportation.

A pattern language is a complex structure of discrete yet interconnected patterns of relationship that, taken as a whole, provide “the basis for a body of knowledge and a world of discourse” (King 1993) while also offering the opportunity to serve as a tool that facilitates the sharing of ideas and the debate of relevant issues in order to arrive at a shared understanding about desired design directions.

A conscious attempt was made to avoid, as much as possible, professional and technical terminology. Instead, the narrative quality of the writing is intended to support people with different backgrounds in understanding the arguments laid out here, engage them in deliberations of the pros and cons, and empower them to participate in the political processes necessary to bring about changes in their neighborhoods and downtowns.

The structure of the patterns invites people to not just accept specific design standards unquestioningly, but - by offering reasons why a specific design solution is recommended - it helps them to gain an understanding of the various relevant issues. By thus engaging the reader in informed deliberation about the pros and cons of the presented argument and by connecting individual patterns to other larger and smaller-scale patterns, this document provides a holistic framework that,if implemented and followed, could lead to the transformation of Manhattan toward a city in which planning, urban design and architectural decisions are guided by the notion that walking and bicycling are desirable modes of transportation as well as important activities of a healthy way of life.

The pattern language approach seems to lend itself particularly well to the design of urban environments which by default is a process involving many people and constituents. Thus this document makes a contribution not only to the otherwise rather extensive literature on pattern language theory but also offers a novel approach creating a citywide plan to promote utilitarian physical activity.

Patterns for Manhattan

Drawing from stated original intentions for the redevelopment as well as from knowledge gained through review of relevant literatures across a broad range of disciplines, the design guidelines, or patterns, for Manhattan build upon both the existing context and the proposed master plan. They are organized into six groups:

Growing City in the Flint Hills
Traditional Residential Neighborhoods
Grid of Urban Streets
Vibrant Downtown Districts
3rd and 4th Street Loop
Poyntz Avenue Promenade

Each title is deliberately chosen to suggest a design idea that already has either explicitly or implicitly been expressed as desirable to promote utilitarian walking and bicycling in downtown Manhattan. Recognizing that streets and sidewalks for walking and bicycling are intimately connected with the design of buildings that shape the urban space of the public realm, **Growing City in the Flint Hills** establishes the context, building upon many of the already existing characteristics and amenities in this particular midwestern college town.

Manhattan's **Traditional Residential Neighborhoods** present perhaps the best aspects of compact development and evidences the many qualities, amenities and local destinations that encourage everyday walking and bicycling.

Since the **Grid of Urban Streets** has enormous potential for high connectivity as well as for safe and convenient travel, the city grid should extend through the downtown redevelopment area, thus equitably accommodating all modes of transportation, including walking and bicycling for citizens of all ages and abilities.

The master plan proposes three **Vibrant Downtown Districts**, each one with its own distinct character, yet all tied together functionally and aesthetically. Shared ideas about materiality, scale, ornamentation of facades, the ubiquitous presence of display windows allowing views into stores, places to rest under shade-giving trees, landscaping and so on play an important role in creating lively and attractive settings that in turn tend to draw to the downtown citizens and visitors who contribute to the social, cultural and economic life of the city.

While many east-west running streets potentially lead into the downtown districts, the two main north-south running streets affected by the redevelopment can be understood as the **Third and Fourth Street Loop**, which helps to bind the three districts together and allows pleasurable pedestrian and bicycle movement back and forth between the enhanced downtown core and its two newly developed neighboring districts.

Located in the downtown core, **Poyntz Avenue Promenade** is the city's celebrated main street. It draws people who enjoy the enhanced and widened realms for pedestrians and bicyclists, perhaps the urban street space visually narrowed through an additional row of shade trees, the inviting storefront windows, cafes and restaurants, and the sense belonging that stems from the carefully renovated historic setting, altogether communicat-

ing, without a doubt, that this place is the heart of Manhattan Kansas.

The *SLIM DOWNtown* set of pattern language-based design guidelines, drawn from the review of relevant literatures across a broad range of disciplines, builds upon both the existing Manhattan context and the proposed downtown redevelopment plans. A densely layered fabric of patterns can promote healthful living by contributing directly to creating settings that are attractive to, and structured for the use of, slow-moving pedestrians and bicyclists: places rich in architectural detail, places whose milieu is life-enhancing and whose ambiance induces positive and memorable human experiences.

It is hoped that many citizens, including city staff, elected officials and design professionals in Manhattan will find these guidelines thought provoking and inspiring. Hopefully these patterns will provide many insights about how the built environment can promote utilitarian physical activity while creating a shared vision of a place in which people take walking and bicycling for granted as part of a pleasurable and healthy way of life. Hopefully, the patterns will stimulate and inform a debate that is focused on place making for the larger good and the physical, social, mental and emotional health, of individual persons as well as that of the community as a whole.

Footnotes

1 According to the Centers for Disease Control and Prevention, overweight and obesity are both labels for ranges of weight that are greater than what is generally considered healthy for a given height. Being overweight is defined as having a body mass index of 25.0 to 29.9; obesity is defined as having a body mass index of 30.0 or higher.

2 Sunflower Foundation: Health Care for Kansans. 2004. Request for Proposals RFP 04-102: Promoting Physical Activity and Healthy Eating to Reduce the Prevalence of Obesity in Kansas.

3 Ibid.

4 Ibid.

5 In reference to A Pattern Language, Christopher Alexander et al., 1977.

6 Design Guidelines for Downtown Redevelopment. The Poyntz Avenue District. page 2-2. Text by Susanne Siepl-Coates and Madlen Simon.

7 This, according to Alexander, is similar to traditional societies where language-like systems were employed to help generate beautiful environments in which the repeating patterns created unity and coherence while the individual expressions of the built form created variety and diversity (Alexander et al.).

I 1 Growing City in the Flinthills

2 Public Realm

3 Positive Outdoor Space

4 Streets as Urban Spaces

5 Historic District

6 Main Street

7 City Park

8 Town and Gown

9 Elders Everywhere

10 Children in the City

11 Aggieville Shopping District

12 Linear Trail Park

Growing City in the Flinthills

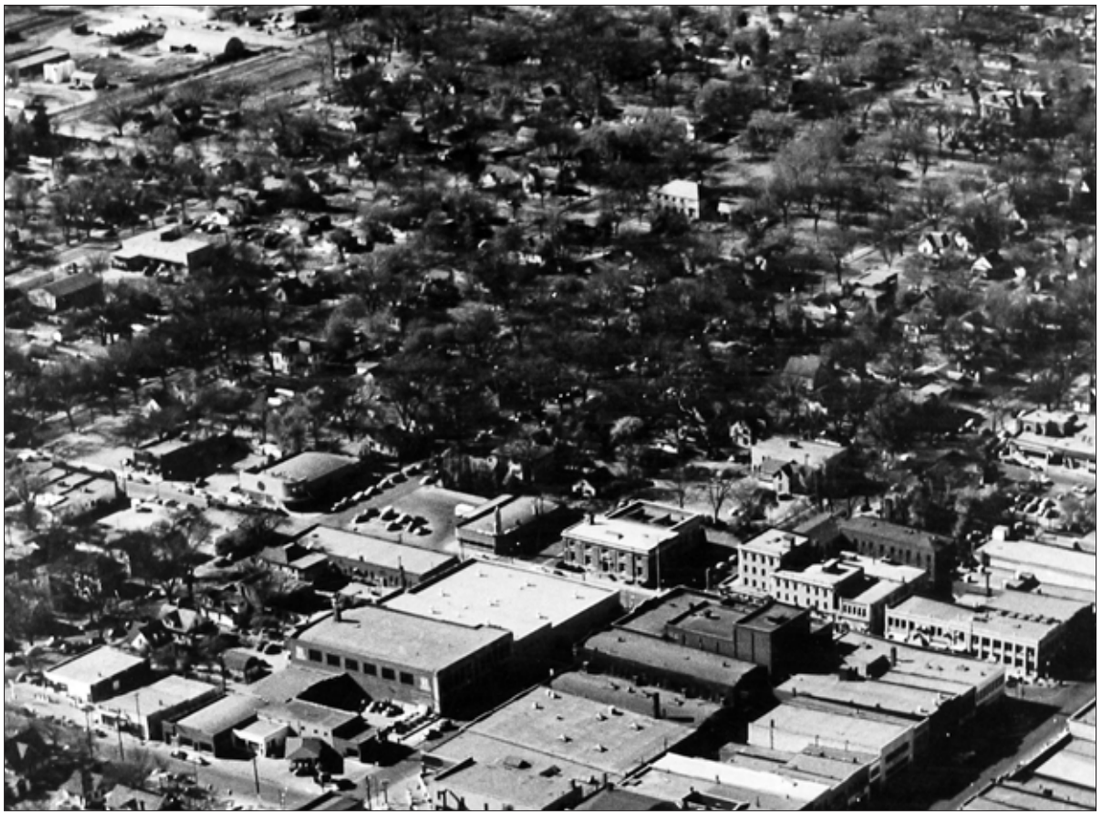
City of Manhattan, Kansas

Without a balance between environmental, economic and social components the health of the community and its residents cannot be achieved.

Founded as a small agricultural community, Manhattan, Kansas, is a classic college town nestled into an eroded valley in the Flint Hills just west of where the Big Blue River meets the Kansas River. Founded in 1855 by settlers from the East Coast who - after their steamboat had run aground due to low water levels - joined an already existing group of abolitionist pioneers and named their small settlement after Manhattan, New York, reflecting its historical linkage with New York City, home to the investors of the steamboat's expedition. Manhattan, also known as the "Little Apple", quickly developed into a center for trade, education and government.

Manhattan is located 120 miles west of Kansas City, a little less than ten miles north of Interstate I-70. Replacing Ogden, Manhattan has been the county seat of Riley County since 1858 and now serves a three-county, 200,000-population regional area as a leader in education, trade, health care, entertainment, and communication. The community of Manhattan itself encompasses approximately eighteen square miles and has a current population of just above 50,000.

One of the original settlers, Issac T. Goodnow, founded what is now known as Kansas State University whose campus is well integrated into the city. Lying on the western outskirts of Manhattan, the military base Fort Riley has a strong presence with growing economic and social influences on the city of Manhattan as the Fort is increasing its military population, the 1st Infantry Division, also known as the *Big Red One*.



Downtown Manhattan, Kansas

Riley County Historical Society

Postcard of Manhattan

As the City of Manhattan is growing in population, demands for development become more pressing: prairie pastures and farmlands are rapidly turned into housing subdivisions and commercial developments, disregarding Manhattan's historical character as a small agricultural community and college town in the Great Plains region.

The 2003 Manhattan Urban Area Comprehensive Plan (MUACP), adopted as the official policy guide for future development and land use decisions, emphasizes the health of the community and citizens' quality of life in one sentence, not only affirming both as vital aspects of the city's growth but also suggestion that they are intimately tied to one another.

Contributing to the quality of life in Manhattan are various characteristics and attractions, including the feel of a small college town with the campus and the adjacent student-dominated shopping district called Aggieville. Traditional neighborhoods cluster around a historic downtown with many locally-owned shops as well as the Town Center Mall where a wide variety of dining and entertainment options are offered. Strong elementary and secondary educational institutions flourish as well as a range of high quality healthcare providers and medial facilities. The town supports various venues for the visual and performing arts. The seemingly endless grasslands surround Manhattan in all directions with a big sky and abundant sunshine throughout the year.

As for recreation, the community has several public parks, sports fields, public and private golf courses, the American Zoo and Aquarium Association-accredited Sunset Zoo, and thirteen miles of Linear Trail within city limits as well as the Konza Prairie Tallgrass Preserve just to the south and Tuttle Creek Reservoir with 15,000 acres of boating, water-skiing, fishing and public hunting land at a short distance to the north.

Include consideration of the cultural, economic and social environments of the community in order to improve the physical health of Manhattan's citizens through everyday utilitarian walking and bicycling.

Growth Vision:
An economically vital community which provides employment and income opportunities to its residents and financial support for quality of life programs; a caring community which offers its residents equal opportunity to seek a higher quality of life; and a community which recognizes the importance of conserving and enhancing its natural environment.

Manhattan Urban Area
Comprehensive Plan 1

The following patterns further characterize Manhattan, KS as a Growing City in the Flinthills:

Traditional Residential Neighborhoods
Grid of Urban Streets
Vibrant Downtown Districts

Public Realm

The pattern
Growing City in the Flint Hills
is further articulated by
this pattern.

Bryant Park, New York City BBN Inc.

It is hard to design a space that will not attract people. What is remarkable is how often this has been accomplished.

Whyte
www.pps.org/info/placemakingtools/placemakers/wwhyte

If left unattended, the public realm can not adequately perform the roles it has successfully played in the past, including providing places for social interaction, shopping, and channels of movement.

The public realm is defined by those open spaces in an urban setting where people successfully interact with one another outside of their private homes. The renowned urban design consultant Jan Gehl argues that the public realm in cities has traditionally performed three roles: as a place to meet other people socially, as a market place for transactions and as a channel of movement (Montgomery 88).

Today, these three aspects still carry meaning for the public realm function in desirable ways, but rarely do all aspects happen in one space: to meet someone socially, we may drive to a restaurant or coffee shop; to find a market place, we may have to drive to a supermarket or mall; our channels of movement are roads, streets and squares, and we travel those channels by car, because it is often our only option.

Or is it? Certainly, the layout of many big cities is supports the unobstructed movement of the automobile, particularly in the Midwest. Sadly, much of the public realm has now been given over to moving or parked vehicles. In this evolution, the aspects of social interaction and exchange of goods and services have been so much reduced that they hardly exist any more.

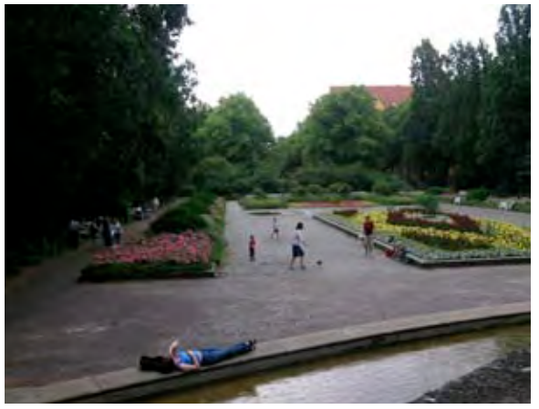
In Manhattan as well as in other cities, this does not have to be the case. Community redevelopment provides many opportunities to incorporate into the fabric of the downtown area clearly demarcated and well-shaped public squares, plazas, sidewalks wide enough to linger, even small pocket parks where community members can engage all aspects of public urban life: dining at a sidewalk cafe, shopping at the Farmers Market, sitting on a bench and watching the world go by, finding a shaded spot near the water fountain after the bike ride, taking the kids out to play in and around the fountain.

Fountain in Hannover, Germany Susanne Siepl-Coates

As far as the public realm as movement space is concerned, traveling from one destination to another may be difficult or impossible if the route was designed with little but the convenience for vehicular traffic in mind. As long as pedestrian and bicycle traffic play only a minor role in the minds of planners, the car will continue to dominate the public realm. But if buildings along streets visually capture people's interest, if sidewalks become wider and bike lanes clearly marked, if public spaces are within a reasonable distance of each other, and if there are many other people strolling or bicycling about, why shouldn't these public realms support people who have the laudable ambition of leading an active, healthy lifestyle by walking or bicycling around town?

It is not always just the distance between two destinations that makes it easy to walk or bike between them. If there is much visual stimulation, a bench to rest, shelter from the intensity of the summer sun, then even a long distance between destinations seems short enough to embark on the journey.

The public realm can promote at least some physical exercise by drawing otherwise sedentary people out of their homes. This may particularly



Public park Berlin, Germany Gary Coates

important for the well-being of elderly or poor persons. A sign that this has been accomplished may be people merely milling about in such spaces. "… good public spaces are characterized by the presence of people staying or lingering when they have no pressing reason to keep them there." (Montgomery 87) We must provide "space for public social life to take place in all its forms ... diversity, street-life, and activity" (Montgomery 88).

Revitalize the public realm so that it encourages active participation in the life of the city by pedestrians, bicyclists and vehicles alike.

Public realm… provides space for public sociallife to take place in all its forms… diversity, street-life, and activity.

Montgomery 88

Proposed Manhattan Downtown Redevelopment BBN Inc.

The following patterns help to enhance the Public Realm:
Positive Outdoor Space
Streets as Urban Spaces
Grid of Urban Streets
Vibrant Downtown Districts
Linked Plazas and Public Squares
Third and Fourth Street Loop
Poyntz Avenue Promenade

Positive Outdoor Space

The pattern
Public Realm
is further articulated by this pattern.

Outdoor spaces will generally not be used when they appear to be "left-over" between buildings.

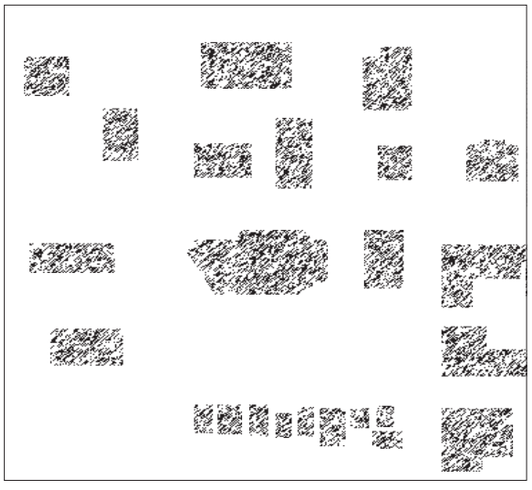
In his highly acclaimed book "A Pattern Language", architect-educator Christopher Alexander distinguishes two kinds of outdoor spaces: negative and positive spaces. Outdoor spaces are negative when it is difficult to determine their boundaries to the degree that their shape lacks definition, "the residue left behind when buildings - which are generally viewed as positive - are placed on the land" (Alexander 518).

While Manhattan has many positive outdoor spaces, perhaps most clearly evidenced by the downtown portion of Poyntz Avenue, there are unfortunately too many negative outdoor spaces where old buildings were removed from the urban fabric and replaced by parking lots.

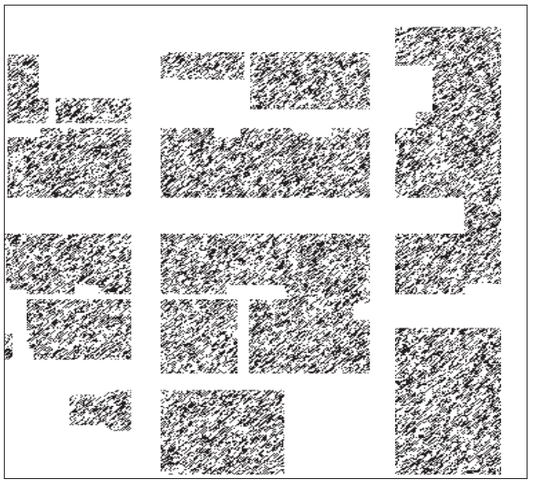
On the other hand, outdoor spaces are positive when they are shaped as distinctly as the buildings that surround them. While typically not completely enclosed, positive spaces tend to have a strong sense of containment. Citing various studies to support his assertion, Alexander suggests that "people feel comfortable in spaces which are positive and use these spaces; people feel relatively uncomfortable in spaces which are left-over or negative and such spaces tend to remain unused" (Alexander 519).

At first glance, the discussion about *Positive Outdoor Space* may appear somewhat obscure. However, spatial clarity is perhaps the most important characteristic when it comes to urban design. "In other words ... it is the spaces in the city which should receive the attention of the designers. This theory of urban design places emphasis on the outdoor rooms and corridors of the city; they are the volumes to be designed and the buildings are merely two-dimensional enclosures - the walls of the spaces" (Moughton 81).

In fact, non-motorized community members such as children, the elderly, pedestrians and bicyclists experience badly designed urban spaces much more negatively than occupants of cars, who are protected from the potentially threatening urban environment by a steel armor and have the ability to move quickly when danger looms. Such negative experiences include a generally low and/or dispersed flow rate of pedestrians (Zacharias 4); fear of victimization due to the perception of lack of ownership, lack of maintenance and lack of surveillance (Loukaitou-Sideris 220); negative sensory experiences arising from a perceived



Negative Outdoor Spaces
building edges that create negative, leftover space



Positive Outdoor Spaces
building edges that create clearly shaped urban outdoor spaces

Positive Outdoor Space BBN Inc.

sense of danger associated with complex and concealed pathways beyond the field of vision (Zacharias 10); and reduced ability for way-finding because a clear systems of 'decision points' is lacking (Zacharias 13).

Particularly at night, the lack of spatial clarity combined with limited or no lighting can quickly lead to a sense of feeling lost, unsafe, and unprotected, inviting crime or the perception of it.

This topic is given so much attention because the majority of urban outdoor spaces make up the public realm, the place where community members shop and conduct business, where citizens interact socially, tourists mingle, and- in short - people create and participate in urban life.

If the public realm is important to the community, it must be designed with particular care to support users' perception of safety. Urban planners have studied this phenomenon and found that - if surrounded by building (ideally with windows at ground level such as shops and housing) -outdoor space tends to be perceived as having surveillance and a sense of personal safety prevails. Streets and other spaces in the public realm should be designed in a way to increase such 'natural' surveillance to increase pedestrian traffic (Loukairtou-Sideris 220). Spatial differentiation eases the moving pedestrians' ability to understand the layout and order of the city, and such easy comprehension of outdoor spaces contributes to ease of way finding and orientation (Zacharias 10).

Furthermore, a visually ordered, stimulating outdoor space is important in making the initial decision to visit (Zacharias 12) and, because such signs of public activity are attractive to others (Zacharias 11), enticing more people to join in. Once open spaces are given over to pedestrian use they develop social character over time (Zacharias 12).

Shape buildings, building elements, hedges, rows of trees and even arcaded walks to define each outdoor space until it becomes an entity with a positive quality that can be given a name, such as 'street', 'plaza', 'alley' or 'square'.

The following patterns offer suggestions how to create Positive Outdoor Spaces:

Tree-Lined Streets
Shielded Off-Street Parking
Buildings Edging the Sidewalks
Linked Plazas and Public Squares

Streets as Urban Spaces

The patterns
Public Realm
Positive Outdoor Space
are further articulated by this pattern.

A city cannot function if streets do not significantly support city life - the planned and spontaneous interactions of citizens.

Streets are the main components of any urban environment. When thinking about streets we tend to imagine them as two-dimensional linear "corridors" consisting of lanes for vehicular traffic and parking stalls. This modern view of the street as merely a tool for the movement of motorized traffic contradicts centuries of thought on the purposes of streets: to provide the physical setting and context for city life to occur. Manhattan's most significant urban space is undoubtedly Poyntz Avenue between the Town Center Mall and Fifth Street. Citizens recognize this part of town as the core of the city's downtown, they single it out as the most identifiable part of Manhattan, and they are proud of it. It is instructive to realize that most, if not all, postcards of Manhattan show images of this section of Poyntz Avenue.

Street lacking urban quality Jacob Strobl

Urban spaces are realms for the use of all citizens and all modes of transportation. Studies show that streets designed to be shared by automobiles, bicycles and pedestrians alike, with multiple services and interesting things to look at, will increase incidental and transportation related walking and biking, by creating a positive environment.

Urban spaces do not only appear in the form of streets and sidewalks but also as plazas and squares. Furthermore, urban spaces are not only part of downtown areas, but also of traditional residential neighborhoods. An uninterrupted row of buildings along the sides, tree canopies arching over the sidewalks and other three-dimensional

...streets with strong character encourage community interaction along them.

Antupit, Gray, and Woods 111


Pedestrian street in Rinteln, Germany Susanne Siepl-Coates

We have to rediscover "... the social, environmental and technical value of pedestrian mixed-use communities, fully using existing infrastructures, including "main streets" ... and re-capturing indoor-outdoor relationships."

Loftness 1

Attraction on an urban street Gary Coates

demarcations are arranged to create a well-defined three-dimensional volume based on the human scale. Not only do they give form to one's desire to walk and bicycle. In fact they strongly promote utilitarian walking and bicycling.

The key to a popular urban space is the diversity and experiential richness that often comes about in mixed-use areas but does not typically exist along streets that serve as transportation routes only. Street activities, such as shop fronts and coffee shops, create additional appeal and attract people. "The presence of other people, signs, awnings, and furnishings are important motivating factors in the exploration of street environments that are unknown to the visitor" (Zacharias 13).

Designed with the pedestrian in mind, urban streets are experienced at a human pace, permitting an appreciation of the aesthetic properties and urban elements of a space, such as shop windows, signs, planters, benches, pavement, etc. Because pedestrians and cyclists move slowly under their own power, they are able to process a great deal of detail in the environment. Safety is perceived when sidewalks are full of people and traffic is slow. Thus people tend to feel sheltered and protected within the urban space as they go about their business.

While urban streets are part of the city's larger transportation network, their primary purpose is to provide settings for social activity in order to support city life, which is comprised of both the planned and spontaneous interactions of citizens. This, in turn, contributes to a sense of social cohesion and community identity. It is through inhabiting urban spaces that citizens can experience themselves as members of the larger community and that visitors acquire a feel for the character of the town and its citizenry.

In the downtown area of Manhattan, promote utilitarian walking and bicycling by shaping the main streets into urban spaces that offer people continuous attractions and places to meet and gather, and that give the city a sense of community identity.

The following patterns offer suggestions how to create Streets as Urban Spaces**:**
Main Street
Aggieville Shopping District
Grid of Urban Streets
Buildings Edging the Sidewalks
Linked Plazas and Public Squares
Curbs and Gutters
Poyntz Avenue Promenade
Shopping Street

Historic District

The pattern
Public Realm
is further articulated by
this pattern.

Poyntz Avenue Riley County Historical Society

Cities that do not celebrate their historic core can easily miss out on unique opportunities to create a vibrant downtown that is attractive to pedestrians and bicyclists.

Manhattan's citizens have appreciated their historic downtown for a long while. More than three decades ago the downtown area was first established as an Historic District' to recognize and "safeguard downtown Manhattan's historical, cultural, aesthetic and architectural heritage" (Manhattan's Historic Landmarks and Districts 1). In fact, individuals are more likely to be physically active if there are areas that are architecturally interesting and aesthetically pleasing to look at (Saelens, Sallis and Frank; Giles-Corti and Donovan).

With changes in historic preservation and funding programs, a survey of buildings in the area was conducted in 2004 - finding that there is a "sufficient number of late nineteenth and early to mid-twentieth century commercial buildings" within the limits of this former district to "meet the National Register architectural integrity criteria and have significant associations with the patterns of commercial development of Manhattan as well as the evolution of commercial architecture in the City" (Cultural Resources Survey 156).

Bounded by Humboldt Street on the north, North Third Street on the east, Houston Street on the west, and 6th Street on the west, and featuring Poyntz Avenue in the center, the area contains an assortment of high style commercial and vernacular architecture, the survey states that "as a group, their setting, design, materials, and workmanship convey feelings and provide associations with the evolution of the City's commercial and government centers" (Cultural Resources Survey 156). After a lengthy application process involving city, state and federal levels, the National Park Service recently designated the downtown as a Historic District.

Historic Downtown

The physical appearance of its buildings and streetscapes reflects the community's vitality and economic health.

Cultural Resources Survey 7

In contrast to typical commercial developments in sprawling suburbs with their often unremarkable and mundane buildings, the Downtown Historic District is characterized by a distinctive atmosphere created by the types of buildings that make up the district, their respective relationships to one another, building and paving materials, as well as ornaments and plantings. The downtown area retains many unique buildings that contribute to Manhattan's special sense of place. Protecting and enhancing the district's appearance acknowledges the value of the district as an attraction to Manhattan's citizens, visitors and tourists.

To make such an historic district viable requires bringing people into the downtown by offering "increased opportunities for people to live, work, shop and be entertained in the downtown" (Downtown Tomorrow 23). Since people need reasons to go places, physical improvements to the environment must go hand-in-hand with economic improvements to attract citizens, visitors and tourists to the district, such as a small-scale mix of retail, office, housing, hospitality, and entertainment options.
Recognizing the role of historic preservation and rehabilitation in strengthening local economies, the State of Kansas and the federal government "provide incentives to encourage rehabilitation of historic buildings" to owners of properties listed in the National Register of Historic Places (Cultural Resources Survey 8). In order to encourage and support much needed investment, property owners interested in renovating buildings located within the district are eligible for state tax credits. Rehabilitation of historic properties does not only benefit individuals by increasing the value to their property, it also benefits adjacent property owners and nearby businesses due to public investments and enhanced activities it will bring with it.

People in the streets attract more people. Thus, instead of catering primarily to motorists, the district should take the transportation needs of pedestrians and bicyclists into account.

Walking and bicycling slowly through the Downtown Historic District, people can enjoy not only its physical attributes, but also appreciate and connect with times past, discover and explore sensory experiences, enjoy and contribute to the social atmosphere of urban life. By bringing more people into this area, the downtown becomes more attractive to local business owners. In turn business owners can add life to the downtown by bringing new shops and restaurants into the area, which, in turn, will contribute to creating an environment full of life for the public to share.

Support the rehabilitation and adaptive reuse of properties within the Downtown Historic District, while also enhancing the transportation infrastructure that is geared toward pedestrians and cyclists.

It is significant that the cities doing best by their downtowns are the ones doing best at historic preservation and reuse.

Whyte 9

The value of rehabilitated properties in a city's historic core increases more rapidly than the real estate market in the larger community.

Cultural Resources Survey 7

Manhattan, KS Train Depot Riley County Historical Society

The following patterns offer suggestions how to create Historic Distric:
Main Street
Aggieville Shopping District
Traditional Residential Neighborhoods
Grid of Urban Streets
Interconnected Destinations
Landmarks
Brick Streets and Sidewalks

Main Street

The patterns
Public Realm
Positive Outdoor Space
Streets as Urban Spaces
are further articulated by this pattern.

Purple Pride Parade, Poyntz Avenue David Sim

A main street only contributes to the vibrancy of urban life if it gathers along it some of the city's civic, educational and religious buildings as well as many small locally owned retail shops.

The widest street in the downtown area, Poyntz Avenue is - without doubt - Manhattan's Main Street, extending for about three miles on an East/West axis and connecting the Manhattan High School West campus on one end with the historic downtown commercial hub on the other.

When hearing about commercial hubs, many people think of strip malls. Strip malls typically consist of stores, strung together in a row and surrounded by large parking lots. A strip mall in the Midwest will generally have the same look and feel as a strip mall on the coasts. In most cases a strip mall can be conveniently accessed by cars only while pedestrians and bicyclists are left to fend for themselves. Although strip malls may have their place in the economic life of a city, they lack character and attachment to their locale: nothing about their design contributes to a community's sense of place. Communities intended to draw pedestrians or bicyclists to their commercial districts must have more than economics in mind, or these districts will be bland and uninteresting.

Established during the 1970s by the National Trust for Historic Preservation, the Main Street program assists communities throughout the nation to restore prosperity and vitality to traditional downtowns by combining historic preservation with economic development. Members of the business community understand that all citizens have a stake in the future of downtown. Thus, Manhattan was one of the first five cities to join the Kansas Main Street program in 1985 to identify the resources of the community, facilitate revitalization of the downtown core and spur economic development while capitalizing on the city's history.

Main streets are important to the economic vitality of a community because they tend to be ideal locations for locally owned businesses, keeping profits in town, supporting local families and ensuring a good economic foundation for the city tomorrow.

Poyntz Avenue continues to be the most significant urban street in Manhattan for a number of reasons. Not only does it provide direct access to the historic commercial district from many of the older neighborhoods, but it also is lined by many of the city's civic institutions, such as the Riley County Courthouse, the Public Library and City Hall; by stately religious structures, notable financial institutions, the Manhattan Arts Center, the former Middle School buildings, which now houses the East Campus of the Manhattan High School and, not least importantly, City Park. These significant buildings and amenities give Poyntz Avenue an air of grandeur and significance within Manhattan's urban fabric.

Poyntz Avenue lost much of its significance as an arterial for vehicular traffic when the Town Center Mall was built, but it has since gained significance as an urban street for the movement of non-motorized traffic. The relatively close spatial proximity of destinations along Poyntz Avenue, combined with only moderate vehicular traffic volume, offers diverse opportunities for citizens living in the neighborhoods along the Poyntz corridor to walk or bicycle safely, either to run errands: return a book to the Public Library, sit down with a cup of coffee at the sidewalk cafe downtown and get some fresh vegetables on the way home; or for recreational purposes: instead of strolling around City Park three times, walk from the Arts Center to downtown and back.

Perhaps even more importantly, many high school students move along Poyntz Avenue on their way to and from school or to get lunch in Aggieville. These students might choose to walk or bicycle if Poyntz Avenue were more user-friendly and possibly offered commodities such as places to eat, shop or hang out with friends, especially those not yet old enough to drive themselves. This would increase not only physical activity among the youth but also increase community interaction and safety by putting more "eyes on the street" and by decreasing the volume of vehicular traffic around the schools.

As many other main streets that were laid out in the mid-19th century to accommodate turning radii of horse-drawn wagons, Poyntz Avenue is wider than it has to be to for today's vehicular traffic volume. In fact, since through-traffic was blocked due to the construction of the Town Center Mall and fast-moving vehicular traffic was diverted to Fort Riley Boulevard, traffic volume on Poyntz Avenue has been noticeably reduced. Already quite safe for walking and bicycling, safety along Poyntz Avenue for pedestrians and bicyclists of all ages could be significantly increased by narrowing the width of the street from five to three lanes, thus reducing vehicular traffic volume and speed, while widening the sidewalks and creating bicycle lanes in both directions. It will not take much to modify Poyntz Avenue so that Manhattan's Main Street can be enlivened by physically active citizens of all ages.

Strengthen the role of Poyntz Avenue as Manhattan's Main Street by increasing locally owned retail stores downtown and by supporting non-motorized traffic through the widening of sidewalks and additions of clearly marked bicycle lanes.

Poyntz Avenue Downtown Manhattan Inc.

In Kansas Main Street cities, community leaders are working to revitalize their downtowns – restoring economic vitality and pride to the heart of the community. Downtowns are reclaiming their positions, not just as viable business districts, but as centers of the community, offering a quality atmosphere to shop, work, invest, and live.

Kansas Main Street

The following patterns offer suggestions how to support Main Street:
Mix of Uses
Living Above Stores
Parking in Front of Stores
Attractions on Both Sides of the Street
Shopping Street

City Park

The patterns
Growing City in the Flint Hills
Public Realm
Positive Outdoor Space
are further articulated by this pattern.

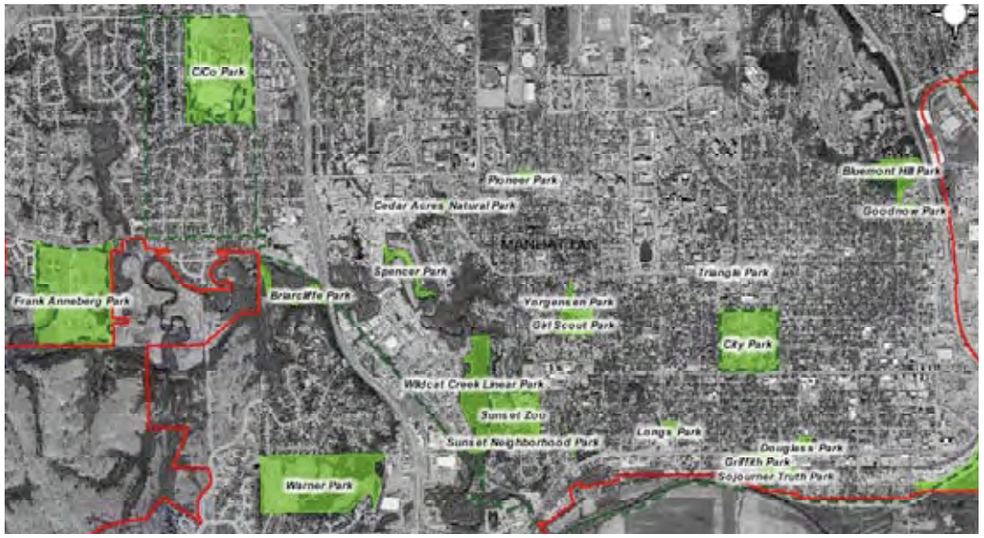
Urban environments without public green spaces fail to address community members' basic need for close-by outdoor activities.

City Park is centrally located in the east central part of town along Poyntz Avenue. It was established in 1857, only two years after the founding of Manhattan, probably as the earliest park of the community. Today one can only marvel at the prudence and vision of Manhattan's founding fathers for setting aside a 45-acre site to create a people's park so close to downtown. Today, a century and a half later, City Park continues to meet the needs and demands of a growing community, drawing people not only from the surrounding neighborhoods, but also from other parts of town.

Parks are highly valued and much-appreciated amenities for urban living, because they contribute to the quality of life of citizens young and old, rich and poor, student and businesswoman. In keeping with the philosophy of the Recreation Division of the Manhattan Parks and Recreation Department, "to provide and create affordable, recreational, cultural, educational, and leisure opportunities to benefit and enhance the lives of all citizens in the community" (Manhattan Profile 1), Manhattan owns and maintains twenty-one parks totaling 1,000 acres. The parks are scattered throughout the community and offer a wide range of facilities to meet the community's leisure and recreation needs, including Warner Park in the southwestern part of town, at almost 100 acres a mostly undeveloped open space with naturalized wooded areas and native prairie lands, to Sojourner Truth Park in the southeastern part of town which, at just below 3 acres, offers a playground, basketball court and picnic shelter.

Given its location within the city and its stature as the "gem of Manhattan's park system", City Park offers places for formal and informal gathering where individuals can see themselves as members of the larger community and where the community's sense of unity can be strengthened. Research shows that the presence of desirable elements within the park can attract individuals from a broader area. A surveys of parents indicated that

Proposed redevelopment of City Park — Manhattan Recreation Study



Parks within Manhattan city limits gis.rileycountyks.gov

they would travel a greater distance to a park if it had water attractions, shade, swings and a clean appearance (Tucker, Gilliland and Irwin).

Currently, City Park is scheduled for an upgrade in response to the growing demands on this high-use facility. The proposed changes will continue to allow people to enjoy the park both in passive, quiet ways and through vigorous activities by offering both small-scaled intimate realms as well as open fields for activities that bring the community together: picnic tables and benches for a family meal away from home, picnic shelters for larger gatherings, tennis courts, basketball and sand volleyball courts, ball diamonds, a playground, a formal rose garden, an outdoor stage and public restrooms. During the winter, one of the shelters is converted into an ice rink, while during summer months, citizens are drawn to the community's largest public pool and to the outdoor stage with its nationally recognized Arts in the Park program, an outdoor evening entertainment series. And the one-mile long multi-use trail along the perimeter makes this a park that offers something for everyone.

Due to the foresight of Parks and Recreation Department officials, City Park is embedded in a larger city-wide system of parks that include various neighborhood parks and even smaller pocket parks. While City Park offers a wide range of opportunities for physical activity within, it is important to promote safe access to, and connectivity among, parks through walking and bicycling. The perceived requirement for vehicular access to the park may well be balanced if well-maintained wide sidewalks and clearly marked bike lanes and racks encourage the use of non-motorized means to get to the park and get physical exercise even before reaching the park.

Contribute to increasing the physical health of the community by improving easily accessible open green spaces for all levels of physical activity in centrally located City Park.


City Park Jacob Strobl

The following patterns further characterize City Park:
Elderly Everywhere
Children in the City
Flow-Through Circulation
Interconnected Destinations
Sitting Places
Pools of Light

Town and Gown

The pattern
Growing City in the Flint Hills
is further articulated by
this pattern.

Varney's during KSU event Harald Meyer

When the traffic to and from campus is dominated by fast-moving vehicles, pedestrians and bicyclists lose out.

The character of Manhattan is strongly influenced by Kansas State University. Founded in 1858 as Bluemont Central College, K-State became the nation's first land-grant institutions in 1863. Since then, the university has grown from 53 students in the first year of operation to over 23,000 students, representing all 50 states and over 90 countries. Today K-State offers a broad range of educational and research facilities on its urban core campus of 315 acres. It is anticipated that student enrollment will continue to increase through 2010 (Manhattan Area Transportation Strategy B-8).

The city is also home to Manhattan Christian College and Manhattan Area Technical College, which were established in 1927 and 1965 respectively, and, though smaller than K-State, draw their own numbers of students to the area (Manhattan Profile 1).

Given the central location of Kansas State University within the urban fabric, Manhattan has the feel of a small college town. The close relationship between 'town and gown' can be observed in a variety of ways. For example, while the university offers some on-campus housing, including the newly built Jardine Terrace housing complex, many students occupy the regular housing stock, especially in the vicinity of Kansas State University and Manhattan Christian College. Recreational services provided by the KSU campus increase the opportunities for leisure time physical activity, both for students and the surrounding community. A recent study showed that college students who live closer to exercise facilities increased the amount of time they spend being physically active (Reed and Phillips).

Despite the fact that a substantial portion of students lives within only a one-mile radius of the K-State campus and that parking on campus is limited, the car continues to be the preferred mode of transportation. During the academic year, members of the campus community driving back

Southeast entrance to KSU campus Jacob Strobl

and forth between campus and their homes, Aggieville, and other destination, dominate vehicular traffic patterns and contribute significantly to the high traffic volume.

In 1994, the City of Manhattan annexed the campus to better address and coordinate issues of relevance to both constituencies. A committee regularly reviews projects and programs that are deemed to be of mutual benefit to both the city and the university. As one of these efforts K-State and the city jointly commissioned a Bicycle Master Plan, completed in 2000, to provide policy and design guidance for the provision of bicycle facilities and infrastructure modifications.

The grid of public streets surrounding the university allows easy vehicular access to the campus. One of the most highly traveled thoroughfares, Anderson Avenue at the south edge of campus, is the primary east-west arterial street in the city and a notoriously difficult street for bicycling. Collector streets line the other three sides of the core campus: North Manhattan Avenue, Claflin Street and Denison Avenue. As can expected, the streets surrounding the campus are characterized by large traffic volume, at times seriously impeding safe and convenient pedestrian and bicycle access to the campus. Thus, all four streets surrounding the campus present serious obstacles to pedestrians crossing back and forth between the town and gown realms, and a bike lane is marked only along one of the four streets, North Manhattan Avenue. Even on campus, there are only a few designated bike paths, and not all buildings have bike racks located nearby. As with many other campuses, finding available parking can be difficult, which provides the city and university with the opportunity to promote active commuting to campus, decreasing traffic congestion and easing parking problems.

While traffic lights and marked crosswalks to increase the safety of non-motorized travelers have been installed along the perimeter of campus, pedestrians and bicyclists remain less protected participants in everyday traffic compared to vehicles.

Widening streets is not a solution to making traffic safer as the recent broadening of Anderson Avenue from four narrow to five wide lanes has shown. Often such “upgraded” roadways “simply encourage the driver to take greater risks ... in exchange for the benefit of faster traveling time” (Traffic Calming 12). Furthermore, the perception of a safe roadway can “lull the driver into a new sense of security. Vigilance, concentration and attentiveness wane” (Traffic Calming 12). Accidents that do happen tend to result in more severe injuries.

Enhance pedestrian and bicycle movement along the edges of campus by implementing traffic calming measures to “force drivers to drive at speeds and in a manner which are below the safety limit of the care and the road” (Traffic Calming 12).


Campus edge near Aggieville Jacob Strobl

The following patterns offer suggestions how to support Town and Gown:
Aggieville Shopping District
Calmed Vehicular Traffic
Interconnected Destinations
Transit Routes
Sidewalks and Walkways
Bike Lanes and Paths
Poyntz Avenue Promenade

Elders Everywhere

The patterns
Public Realm
Streets as Urban Spaces
are further articulated by this pattern.

A walking path without barriers Susanne Siepl-Coates

Urban spaces that are not designed inclusively limit access to the city for older and disabled citizens.

Demographically, the elderly are the fastest growing group in the United States today. Census figures indicate that in 2005 more than 12% of the population was over the age of 65, and this number is expected to grow rapidly as the baby boomer generation ages (State and County Quick Facts 1).

While Manhattan is a thriving small town with a multitude of events and activities that can be enjoyed by citizens of all ages, many elderly persons feel that they are not firm enough to safely venture out of their homes on their own. Too frequently, cities inhibit the movement of the elderly, whether through neglect of the older parts of town or poor design of the new. Rough, poorly maintained sidewalks that are a mere nuisance for young people in good health, are hazardous for the elderly who are not as limber as they once were and may be more likely to stumble and fall. The greater the difficulty in navigating the streets or sidewalks, the more the elderly are likely to feel they are confined to their homes, thereby succumbing to a potentially harmful sedentary lifestyle.

Research has shown that regular physical activity is of particular importance to the aging body because it can contribute to countering many possible physical and mental health problems(American College of Sports Medicine). Rates of physical activity decline significantly with age, especially among women (Centers for Disease Control Prevention “U.S. Physical Activity Statistics: 2005 State Demographic Data Comparison”), resulting in a greater decline in many age related changes including strength, endurance and flexibility.

Elderly persons can be affected by any number of normal age-related health problems, including decreased physical capabilities (such as reduced muscle and bone mass or diminished visual auditory acuity) and weakened mental capabilities (dementia, memory loss and slowed reaction time) (Frank, Engelke, and Schmid 87).

Outdoor spaces that invite elderly people to walk or bicycle can provide pleasant and pragmatic settings to increase their physical activity thus potentially delaying or countering health problems (Frank, Engelke, and Schmid 87). For example, older women who live closer to a walking trail or path, as well as having multiple destinations to walk to are more likely to be active (King et al.).

The National Blueprint on Aging outlines several initiatives to increase regular physical activity participation among older adults and includes several community level and environmental strategies (Robert Wood Johnson Foundation). Physical activity has psychological benefits, too. “For treatment of relatively mild cases of anxiety and depression, physical activity is as effective as the most commonly prescribed medications. It is dishonest to tell our citizens to walk, job, or bicycle when there is no safe or welcoming place to pursue these ‘life-saving’ activities” (Jackson 3).

The concept of "Active Aging" describes the desire and ability of older adults to integrate physical activity into daily routines, such as walking for transportation, exercise, or pleasure" (Michael, Green, and Farquhar 734). In order for this concept to work, however, the built environment that the elderly inhabit must provide opportunities for the safe navigation of their surroundings. A study of ethnically diverse older women cited the importance of safety and the presence of sidewalks to promote physical activity participation (Wilcox et al.).

A study on ten neighborhoods in Portland, Oregon offers insight into what elderly residents (~69 in age) themselves would like to see in their neighborhoods: local shopping and services within walking distance, safe walking routes, aesthetically pleasing quality of neighborhoods, and adequate public transportation (Michael, Green, and Farquhar 735-6). The implementation of these ideas has the potential to encourage physical activity of the elderly and to support an independent lifestyle.

Designing cities and neighborhoods that can be accessed and enjoyed by the elderly can be a complex task. It is particularly critical for the elderly to get around town without risking injury. One of the guiding principles in the Charter of the Congress of the New Urbanism is that "many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young." Studies have also shown that having place to stop and rest along the way is important for seniors (Michael, Green, Farquhar 737). Well-maintained vegetation and other positive distractions will make the walking experience more enjoyable.

Street intersections and crosswalks can potentially be daunting obstacles for elderly and disabled people. Much can be done through considerate design to include the elderly as equal participants in daily activities of urban life: smooth, wide sidewalks at a safe distance from the street; curb ramps to overcome level changes clearly marked crosswalks to give pedestrians the right of way; bulb-outs to reduce the width of the street and slow vehicular traffic; and pedestrian refuge islands to shorten the distance between "safe zones". Decreasing or eliminating the stress of crossing a heavily traveled street and providing places of rest for those who may tire quickly from walking are minimum requirements for safe walking routes.

Public transportation is another vital aspect of a city that welcomes its aging population. Even in cities that are perfectly walkable, some amenities will be too far away to be reached on foot, even for persons in perfect health. Public transportation systems can offer support particularly for those persons who do not own a car or are no longer able to drive themselves. It is worth noting that children and adolescents would also benefit from public transportation. Designing inclusively will allow the maximum number of users to enjoy the built environment and increase their quality of life.

As part of the downtown redevelopment efforts take into account the specific needs of elderly persons as they relate to physical activity by providing safe and easily navigable urban spaces.

Elders observing street life Susanne Siepl-Coates

The following patterns offer suggestions how to support Elders Everywhere:

Neighborhood Stores and Services
Web of Safe Transportation for All
Calmed Vehicular Traffic
Interconnected Destinations
Transit Routes
Tree-Lined Streets
Sidewalks and Walkways
Pocket Parks
Sitting Places
Pools of Light
Curb Ramps

Children in the City

The patterns
Public Realm
Streets as Urban Spaces
are further articulated by this pattern.

"In a world built around the automobile, children are at a distinct disadvantage" (Frank, Engelke, and Schmid 80).

Based on the 2000 Census, children (seventeen years and younger) make up a quarter of the general population. When contemplating the experience of children in the city, it is easy to think of them as a 'disadvantaged group' because so much of the urban environment does not take the needs of children into consideration. Small in size and relatively inexperienced, children soon discover that cities are full of obstacles to safe play and deterrents to movement from one destination to another. "Children are either completely reliant on parents for transportation to many destinations or they are limited to a highly restricted spatial realm consisting of a small number of destinations that are readily and safely accessible by non-motorized means" (Frank, Engelke, & Schmid 80).

Regular physical activity is perhaps even more important for children than it is for adults. Rates of obesity for children have increased rapidly in the last 30 years. Data from the National Health and Nutrition Examination Survey revealed that in 2004, 17.1% of US children and adolescents were overweight. Obesity trends tended to be more prevalent in children from ethnic minority groups, and among older children (Ogden et al.). These patterns mirror patterns in physical activity participation, with children from ethnic minority groups and older children engaging in less physical activity (Centers for Disease Control Prevention "Youth Risk Behavior Surveillance System").

Research has shown that the origins of some chronic diseases, including heart disease and osteoporosis, can be found in early childhood (Strong et al.) and that childhood obesity frequently translates into adulthood obesity (Freedman et al. 712). While eating habits clearly play an important role in this serious public health problem of childhood obesity, it is now thought that regular physical activity during childhood may reduce the chances to develop obesity and cardiovascular disease with all its related side effects in later years (Hayman et al).

The habits of a physically active lifestyle will be more naturally adopted if children are raised in an environment where these habits are emphasized. Studies have shown that increased green space and water, the presence of sports fields, and the availability of recreational facilities is associated with greater physical activity (de Vries et al.; Sal-

Children's bike lot near school — Gary Coates

Children playing in the city Susanne Siepl-Coates

lis and Glanz; Mota et al.). For younger children, physical activity is greater when there are places nearby for vigorous play, and time spent outside is a strong predictor of engaging in physical activity (Sallis and Glanz; Sallis, Prochaska and Taylor). Another researcher found that "time spent outdoors was a strong positive correlate for physical activity" (McMillan 447). By designing a city that encourages children to spend time playing and exploring outside, we are promoting healthy lifestyles.

Children need places in the city that cater to their particular needs. "One study found that children with more outdoor places near home were more physically active" (McMillan 447). Frequent and easily accessible parks and playgrounds can entice children to play safely. Play is crucial for childhood development. Through play, a child learns and develops motor skills, decision making abilities, and social skills. Play areas for children in the city should support these functions by providing challenging yet safe environments. The *Play for All Guidelines* suggest that "Play areas should provide highly challenging settings with many different events... without exposing children to unnecessary hazards… A hazard is something a child does not see; a challenge is a risk the child can see and chooses to undertake or not" (Play for All Guidelines 10).

City Park in Manhattan is one such place which children of all ages can be physically active in non-structured ways: in the public swimming pool during the summers or on the ice rink during the winter, and almost all year round on the playground or on small play fields for sports or games.

Smaller play areas for children could also be incorporated into downtown Manhattan. Children are frequent users of this environment too. The Boys and Girls Club of Manhattan, for example, has been given a piece of land at 5th and Pierre by the city for their new facilities (Wright 1). Small playgrounds or parks for children could be integrated into the downtown area for children to use on their way to or from the Boys and Girls Club or even on their own time.

Create a series of safe havens for children in parks, but also near the public library or on school or church grounds, where they can play, relatively free of rules, in creative and imaginative ways, with other children and adults.

The following patterns offer suggestions how to support Children in the City:

Traditional Residential Neighborhoods
Neighborhood Schools
Safe Routes to and from School
Walking School Bus and Bus Stops
Edible School Yards
Web of Safe Transportation for All
Calmed Vehicular Traffic
Sidewalks and Walkways
Bike Lanes and Paths
Eyes on the Street

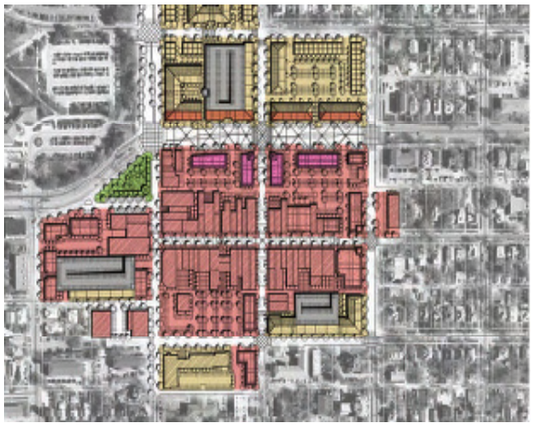
Aggieville Shopping District

The patterns
Public Realm
Positive Outdoor Space
Streets as Urban Spaces
Town and Gown
are further articulated by this pattern.

Aggieville Shopping District Jacob Strobl

If physical and functional barriers prevent pedestrians and bicyclists from reaching and moving through Aggieville safely and conveniently, the district's role as an attractive destination is significantly reduced.

Aggieville is recognized as one of the oldest retail districts in Kansas. Located between residential neighborhoods and the Kansas State University campus, Aggieville offers a variety of unique retail shops, restaurants, bars and small service businesses that cater primarily to college students while also serving the general population, including high school students.



Aggieville Shopping District Campus Edge Plan

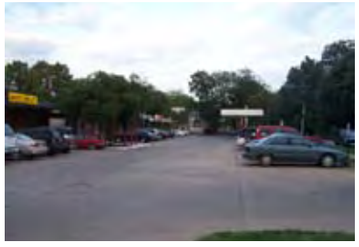
The Aggieville Business District is bounded by streets that carry large volumes of vehicular traffic, particularly Bluemont Avenue, an arterial to the north, significantly disrupting easy walking and bicycling circulation into and out of the district. This problem is exacerbated by the intersection of Bluemont and North Manhattan Avenues immediately northeast of the district, a location where high volume vehicular traffic coincides with the main pedestrian circulation route between the district and the campus.

Comprised of five blocks, Aggieville's mixed-use development is part of the grid of urban streets. In contrast to most other shopping areas in town, the district maintains a distinctly urban character. Along a two-block length of Moro Street and its adjacent cross streets continuous storefronts invite window-shopping in a pleasant walkable setting. Restaurants, coffee shops and bars, some with outdoor seating, dwelling units above the commercial ground floors, and a small park contribute to a strong sense of place and thus a memorable and lively shopping district.

However, the edges of the district lack the coherent quality by which much of the district's center is characterized. Commercial buildings are set back

Building defining the edge Jacob Strobl

from the street with parking lots in front, creating the association of a strip mall rather than an urban business district. Rather than being occupied with mixed-use buildings that would expand the pattern of continuous storefronts and increase the economic viability of the district, empty lots are used as surface parking lots. While Aggieville merchants may see the availability of near-by parking as a high priority for the success of their businesses, large open-spaced surface parking lots do little, if anything, to promote a pleasant environment for pedestrians and bicyclists.



Negative Outdoor Space JS

Increase the attractiveness of Aggieville as a destination for pedestrians and bicyclists by strengthening the character of its edges as integral parts of a cohesive and identifiable district and by emphasizing pedestrian and bicycling connections to its adjacent neighborhoods, the campus and the downtown districts.

The following patterns offer suggestions how to enhance Aggieville:

Neighborhood Stores and Services
Calmed Vehicular Traffic
Interconnected Destinations
Mix of Uses
Buildings Edging the Sidewalks
Living Above Stores
Attractions on Both Sides of the Street
Shopping Street

Linear Trail Park

The pattern
Growing City in the Flint Hills
is further articulated by
this pattern.

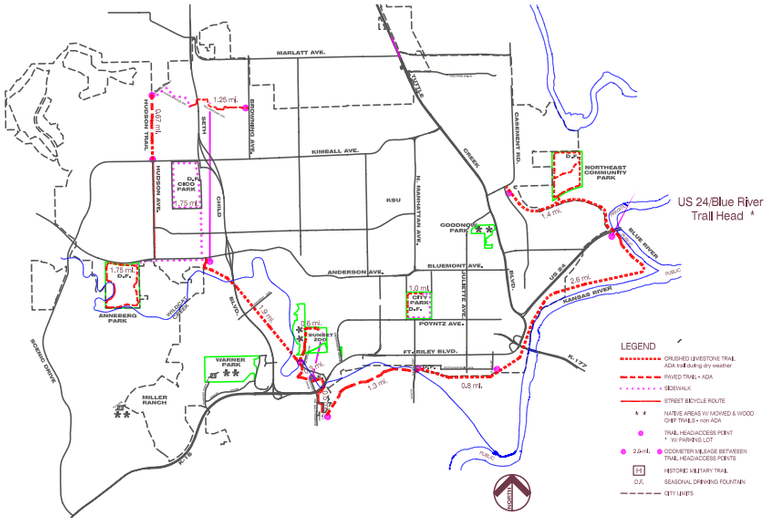
View from trail Carmen Simon

If restricted to the network of streets, the safe movement of pedestrians and bicyclists is considerably limited.

Totaling a distance of more than 15 miles, the Linear Trail provides several trail heads in the eastern, southern and western parts of Manhattan, offering a safe and convenient venue for recreational and utilitarian walking and bicycling. The routing of the Linear Trail is designed to take advantage of existing open green spaces away from heavy vehicular traffic with some sections of the trail making use of an abandoned rail corridor.

Along the way, the trail offers a combination of attractive urban and rural scenery, thus offering its many users not only a good physical work-out, but also a pleasurable experience that changes seasonally in the course of the year: it passes the Candlewood Shopping Center, winds its way along Wildcat Creek, hugs the agricultural fields of Hunter's Island and the wooded hills near Anneberg Park, and runs on top of the levee from where it affords distant views across the flood plains of the Blue and Kansas Rivers. Living within close proximity of a trail is positively associated with physical activity for many groups of individuals. Individuals who perceive the trail to be easy to access are much more likely to make use of it (Merom et all.; Troped et al.). A cost/benefit analysis of bike/pedestrian trails in Nebraska showed that every dollar invested in trails led to $2.94 in direct medical benefits, showing that investment in trails has public health benefit (Wang et al.).

Much of the Linear Trail surface is concrete, accommodating bicyclists and people alike. A number of water stops and benches are available. In several strategic locations, the trail intersects with the regular street system, thus offering its users good connectivity between neighborhoods, commercial areas, schools and parks.



Linear Trail Map Linear Park Master Plan, Phase II

View from trail Carmen Simon

Trail marker Carmen Simon

Plans are already in place to complete the Linear Trail across the northern parts of the city. As part of its recommendations for routing and design, the 1998 Linear Park Master Plan, Phase II calls for "linkages to school sites, commercial areas, and places of special interest in and around the city" to accommodate the needs of school children and adults who want to bicycle and walk instead of drive to their respective destinations.

The plan also calls for secondary "neighborhood loops" to complement the primary route, laid out in such a way that users can enjoy views of the beautiful scenery of the Flint Hills landscape. These secondary loops include an extension from the Big Blue River Area to Tuttle Creek, a route along the Blue River through the Northview area, a route from the Top of the World north to Tuttle Creek Reservoir and routes through Colbert Hills, thus providing convenient and safe access routes to many additional destinations. (Linear Park Master Plan, Phase II).

Along the Linear Trail and other routes dedicated to non-motorized vehicles provide opportunities for both utilitarian and recreational physical activities while increasing the options for safe and pleasurable transportation, particularly for those who do not have access to a car.

The following patterns offer suggestions how to create Linear Trail:

Paths and Trails Reaching Out
Interconnected Destinations
Bike Lanes and Paths
Riverside Park
Rails to Trails

II 1 Traditional Residential Neighborhoods

2 Neighborhood Stores and Services

3 Neighborhood Greens

4 Neighborhood Schools

5 Safe Routes to and from School

6 'Walking School Bus' and Bus Stops

7 Edible School Yards

8 Flow-Through Circulation

9 Paths and Trails Reaching Out

Traditional Residential Neighborhoods

The patterns
Growing City in the Flint Hills
Public Realm
are further articulated by
this pattern.

Traditional houses Riley County Historical Society

Pedestrians are the catalyst which makes the essential qualities of communities meaningful ...

Calthorpe 17

Designed for the convenience of the car, contemporary suburban neighborhoods seriously inhibit utilitarian walking and bicycling.

Until the arrival of the automobile, urban neighborhoods were designed to be walkable. Neighborhood shops and services, sometimes even light industrial businesses, were in close proximity to housing. Children walked to school and everyday needs were easily satisfied by walking or bicycling just a short distance.

As it turned out, the compact living conditions led to problems. “The very conditions that made the industrial city a highly walkable place, including its concentration of people, its mixing of uses, and its high density of buildings, came to be blamed - not quite accurately, as research eventually showed - for creating the conditions in which epidemics could occur” (Frank, Engelke, and Schmid 2). Thus, ideas for the decentralized, zoned city were born: compact neighborhoods turned into spread-out suburbs, characterized by detached single-family homes surrounded by vast expanses of lawn, with different uses separated from one another.

In most suburban neighborhoods, sidewalks together with front porches have completely disappeared. Wide curvilinear streets with homes set far back on the lot generously accommodate motorized travel, often at the expense of the casual pedestrian or bicyclist and a sense of neighborly community. Furthermore, persons who either are not yet old enough, or too old, to drive a car or who do not own a car, are at a disadvantage because their needs for convenient, safe and pleasurable walking environments are not met.

But even for the able bodied, walking along such streets is often unpleasant at best, because there is little to attract a pedestrian’s attention or to support the interaction with neighbors. In the worst-case scenario, pedestrians and bicyclist feel so alienated from their surroundings that they perceived walking and bicycling as unsafe, avoiding venturing out, choosing to lead a sedentary lifestyle instead. Studies have shown that people are less likely to walk and bicycle if they do not feel comfortable or safe. “Perceived risk and fear can constrain an individual’s behavior and lead to inactivity and sedentary lifestyles, which may result in poor health” (Loukaitou-Sidaris 220). These fears may be related to traffic and the danger of being struck by a vehicle or to possible criminal behavior in the area – both factors which can be

Traditional neighborhood Kristina Nelson

controlled to a large degree by the design of the built environment. “A 1994 U.S. Department of Transportation survey found that half of the respondents would walk or walk more if there were safe pathways and crime was not a consideration” (Loukaitou-Sidaris 220).

In contrast, older residential neighborhoods with traditional streets tend to be favored because they tend to be scaled more to the pedestrian and less to the automobile, making the streets and sidewalks in these areas more walkable and safer.

The charm of Manhattan’s older residential neighborhoods rests largely on the fact that their layout follows traditional settlement patterns. Amenities such as a gridded street system that ensures high connectivity as well as the availability of a variety of housing with schools, churches, parks and sometimes even stores and services close-by, reduce the need for utilitarian cross-town vehicle trips and make walking and bicycling attractive and desirable.

The streets in Manhattan’s older neighborhood are lined with trees that help to define the public realm and that provide comforting shade during the hot summer months. Houses with front porches and front yards are placed far enough away from the street to ensure privacy and close enough to the sidewalk to promote chance interaction with passers-by and encourage relationships with neighbors. Not only are such neighborhoods perceived to be more friendly environments for its residents but they are also more pleasant and livable for people in general. They are also perceived to be safe because they have the quality that Jane Jacobs describes as ‘eyes on the street’, “the self-perpetuating phenomenon in which the more are out on the street, the safer it will be - and the safer the streets, the more people will venture out” (Schmitz and Scully 26).

Safety is of particular significance for children who, even at a young age, should be able to explore their immediate neighborhood. “The degree to which children can develop autonomy is influenced strongly by the degree to which their neighborhoods and their cities are safely accessible by foot, bicycle and public transportation” (Lennard 38).

The residential neighborhoods immediately adjacent to downtown Manhattan have experienced decline in past years. The redevelopment efforts offer a multitude of opportunities to refurbish and strengthen these residential settings and to capitalize on their proximity to shopping, entertainment and other community amenities. The downtown area itself is poised to offer desirable urban housing options, including apartments and condominiums that cannot be found in other parts of the city. “The downtown is particularly suitable for the special housing needs of those who have limited mobility, and need to be close to a broad range of services” (Downtown Tomorrow 10).

Strengthen existing neighborhoods, particularly those adjacent to the downtown area, with traditional amenities such as compactly arranged homes with front porches, pedestrian friendly walkways and slowed vehicular traffic, to promote easy accessibility for all population groups through recreational and utilitarian walking and bicycling.

Newer neighborhood Kristina Nelson

Traditional Neighborhood Carrie Mertes

The following patterns offer suggestions how to enhance Traditional Residential Neighborhoods:
Tree-Lined Streets
Sidewalks and Walkways
Alleys in Back
Eyes on the Street

Neighborhood Stores and Services

The patterns
Public Realm
Streets as Urban Spaces
Traditional Residential Neighborhoods
are further articulated by this pattern.

A neighborhood grocery store Carrie Mertes

Retail stores and other businesses cannot easily be reached on foot or by bicycle if they are located along an arterial street at the edge of town.

...in residential neighborhoods that include a logical mix of uses, residents can walk to school, to the library, to the post office, or to dinner at a neighborhood restaurant.

Schmitz and Scully 23

Zoning codes require the separation of commercial and residential land uses. Thus new commercial areas, particularly those in the sprawling parts of town, tend to be developed at some distance from residential growth. Designed for the driving customer, they are conveniently connected to high-volume traffic ways, sport large signs to announce their brand from afar, and offer plenty of parking spaces just outside the front door. Furthermore, to get from one commercial area to the next one often requires a return to the busy arterial to gain access, even if they are adjacent to one another. Clearly, these are not shopping places for pedestrians and bicyclists.

While outlying commercial districts may be necessary, there continues to be a need for stores and services conveniently located and in walking and cycling distance within residential neighborhoods.

Smaller stores sprinkled throughout residential neighborhoods may not have the variety of goods that one can expect in the larger stores along the arterials, but they are certainly closer, more accessible, less of a hassle, and perfectly capable of satisfying many of one's daily needs. To quickly get that one ingredient that's missing to complete the recipe or to pick up the obligatory daily half-gallon of milk, local stores are perfect. The 2003 Manhattan Urban Area Comprehensive Plan specifically addresses the need for "neighborhood commercial centers". While the plan recognizes that neighborhood centers vary in scale and location, it states that "Smaller centers with limited uses may be appropriate in a residential area ..." and continues that "Smaller, limited use centers may be fully integrated into the surrounding neighborhood and can be accessed primarily by pedestrian and bicycle" (Manhattan Urban Area Comprehensive Plan 4-13).

A recent poll of adults showed that walking behavior is closely associated with distances to retail and grocery stores, market, restaurants, and density of one's parcel (Moudon et al.). Other studies have shown a close response relationship with stores and services - the more destinations within close

Large scale store BBN Inc.

Neighborhood shopping district BBN Inc.

The neighborhood center serves as the focal point for walkable neighborhoods. .... They are places to gather, spend time, and to meet with your neighbors.

City Exploring 'Walkable Neighborhoods" 2

proximity of a person's residence, the greater amount of walking they engage in (McCormack, Giles-Corti and Bulsara).

Given that on a daily basis individuals average about four trips, of which 45% are taken "for family and personal reasons such as shopping and running errands" (Highlights of the 2001 National Household Travel Survey 1), then conveniently located neighborhood stores and services in walking or cycling distance could greatly reduce the number of trips, promoting the health of the environment along with that of the general public.

Drawing people out of their homes and into the neighborhood will also increase the potential for social interaction, contributing to a strengthened sense of community. Additionally, successful locally owned stores also contribute to the economic health of the community by keeping money in the city where people are spending it. Ray's Apple Market, Yi's Oriental Market and People's Grocery demonstrate this point convincingly.

To encourage travel with means other then one's personal vehicle, the Bicycle Master Plan suggests that the City of Manhattan consider changes to development ordinances and land use with the goal that "over 70% of the population reside within one mile of neighborhood retail opportunities, such as grocery stores, dry cleaners, and similar establishments. This goal will minimize urban sprawl and prevent total dependency on the automobile by creating trips of short length, thereby making bicycling and walking viable alternatives" (Bicycle Master Plan 44).

Manhattan's Community Development Department is currently exploring ways of encouraging the development of 'walkable neighborhoods', recognizing that neighborhood centers play an important role to make such neighborhoods work and suggesting that they are more than just 'stores', but buildings with a mix of uses constructed in scale and character with other buildings in the surrounding neighborhood and reminiscent of traditional 'Main Street' shopping districts.

Emphasizing that neighborhood centers are designed focusing on pedestrians, wide pedestrian walkways in front of buildings are to provide opportunities for outdoor seating and dining, while display windows and entry areas on the ground floor are to create an inviting atmosphere for the pedestrian and encourage window shopping.

Encourage the integration of retail stores and other compatible services into new and established neighborhoods where such businesses are easily accessible to pedestrians and bicyclists.

The following patterns offer suggestions how to support Neighborhood Stores and Services:

Sidewalks and Walkways
Bike Lanes & Paths
Mix of Uses
Buildings Edging the Sidewalks
Parking in Front of Stores
Convenient Bike Racks

Neighborhood Greens

The patterns
Positive Outdoor Space
City Park
Elders Everywhere
Children in the City
are further articulated by this pattern.

Entry into Manhattan Public Library Mike Sinclair

Neighborhoods without public green spaces are more likely to promote a sedentary lifestyle.

Long before inactive lifestyles created a public health crisis in the United States, Manhattan's founding fathers had the foresight to designate land as 'public squares' for the use of parks and school grounds around which the new settlement would grow and which would continue to serve the community in the future. This decision was made because it was the right thing to do for the good of the community. Still belonging to the 'public' even today, such properties cannot be used for any functions that exclude the general public. Thus such 'public squares' lend themselves for use as neighborhood parks. One such site, the block bordered by Juliette, Colorado, Houston and 6th Streets, could significantly benefit and stabilize the surrounding neighborhood if its function as a public park would be enhanced.

Proximity of parks is a strong predictor of physical activity. Studies have shown that people living within ½ mile of a park are more likely to use it (Saelens, Sallis and Frank; Duncan, Spence and Mummery). Neighborhood parks, small to mid sized green space that can easily be accessed by residents of the adjacent neighborhoods, play a vital role in Manhattan's park system. Residents in several older neighborhoods have enjoyed the benefits of their parks for many years. The 1992 Comprehensive Parks Master Plan lists the development of neighborhood parks together with an increase in number and usability of Manhattan's green space and natural area parks as priorities. While City Park offers special amenities to the community as a whole, such as a swimming pool, neighborhood parks provide smaller residential areas with public green space, eliminating long distances between home and park that might be a barrier for people who may be less mobile due to physical and economic disadvantages, including children and the elderly.

In order for a neighborhood park to function properly, it needs to be located within walking distance, ideally not more than one-quarter mile away from potential users' homes. Public streets on two sides should border the park to ensure visibility into the park and confer a sense of safety for the park's users. "Good community planning utilizes open space and green areas as defining elements, edges, so to speak, of areas or districts, which provides a sense of movement and transition between them. This not only gives a sense of rhythm and delineation, it enhances the feeling of being in a separate locality, a distinct corner of the world, as it were" (Portersfield and Hall 172).

A park located within an urban environment, visited by a lot of patrons, is beneficial in that it increases the safety of the park and provides positive role models for people of all ages and ethnic groups to emulate (Bedimo-Rung).

Parks, even very small ones, sprinkled intermittently among houses, promote active lifestyles by offering opportunities for recreation. A recent study with adolescent girls found that living near parks was associated with greater physical activity outside of school time an important factor considering the sharp decline in physical activity through adolescence for girls (Cohen et al.).

At play in neighborhood park Gary Coates

The size of a park is not as important as its ability to accommodate the needs of diverse populations, offering playgrounds, basket ball hoops, small lawns and playing fields for the young, and boccia courts, chess games and even community gardens for adults. Sitting places adjacent to these active areas would ensure that persons with more passive interests have a comfortable place from which to enjoy the action, which would promote multigenerational experiences and social interaction with neighbors and friends.

Not only do neighborhood parks provide amenities that entice people to venture out on foot and engage in physical activity, but they can also be connecting links to other parks within the system, allowing for an even deeper level of social interaction with the surrounding neighborhoods and the city as a whole. “Integrating these spaces into residential neighborhoods, and allowing them to serve as bridges to commercial and other residential areas, gives residents a place to gather and encourages them to be more active” (Schmitz and Scully 47).

Beyond physical and social benefits, parks add greatly to the ecological and economic qualities of urban environments. Turning unused or underused open spaces into vibrant public places and parks has great impact not only on the well being of people but also on the health of the natural environment. For example, the Wisconsin-based ‘Urban Open Space Foundation’, a non-profit organization, has helped communities with such projects, demonstrating that by employing concepts of good urban design and sound stewardship, community parks can be strategically integrated into existing built environments to improve flood control, water quality and storm water management while also spurring neighborhood reinvestment.

Develop unused and underused urban sites into neighborhood parks that can be reached on foot or by bicycle to increase opportunities for active recreation, observation of activities as well as social interaction.

Neighborhood park, Charleston Susanne Siepl-Coates

The following patterns offer suggestions how to create Neighborhood Greens:

Flow-Through Circulation
Linked Plazas and Public Spaces
Pocket Parks
Patches of Prairie
Sitting Places
Riverside Park

Neighborhood Schools

The pattern
Children in the City
is further articulated by
this pattern.

Young children cannot walk or bike to school if the school is too far away from home.

This statement should not be surprising. From 1969 to 2001, the average distance between homes and schools has increased based on national data (McDonald). This change most likely accounts for more than half of the decline in active transportation to school. Current data suggests that about 13% of students walk or bike to school in 2001 compared to 40.7% in 1969. Furthermore, as people have become more car-dependent over the past decades, traffic has increased while roads and streets have become increasingly hazardous to pedestrians and bicyclists and thus even less conducive to walking and biking.

Along with the phenomenon of increased and denser traffic, even on some local streets, some communities, including Manhattan, have recently experienced a decrease in population, forcing School Districts to make tough decision about school closings and/or consolidations. Luckily, in Manhattan the trend reversed itself and elementary schools that seemed slated for closing will remain open while another school, closed for several years, has reopened for the 2007-2008 school year.

Built in the early part of the 20th century, Manhattan elementary schools were distributed throughout the various neighborhoods of city, easily reachable from children's homes. It appears that citizens took great pride in their schools, as reflected in the well-executed and beautifully detailed stone construction of the school buildings and their extensive adjacent schoolyards. Today, these schools are still functioning as vital learning environments, making their neighborhoods attractive and livable to families with young children. Adding to the quality of life in these neighborhoods is the opportunity that children can walk or bicycle to school.
The benefits of elementary school, pre-schools, kindergartens and other educational institutions for young children within walking distance are numerous. First and foremost, walking and bicycling decrease the chances of childhood obesity, type II diabetes, and other health problems. Reduced numbers of car trips to school and back equal reduced pollution and toxin emissions that contribute to the global warming problem. Fewer cars delivering or picking up children also make for a safer environment around the school building itself. Furthermore, children are exposed to a broader range of experiences giving them a more diverse view of the world. Parents have more time in the morning and are potentially less stressed. And of course, walking can increase neighborly interaction and help bring the community together.

The promotion of bicycling and walking to school provides an opportunity to address safety. Every year, about 25,000 child pedestrians are injured by motor vehicles. Reducing the risk of injury includes teaching children pedestrian and bicycle skills. It also means reminding drivers to watch for others using the road. Hazardous conditions along routes to school need to be identified and fixed (Walk to School 1).

While rates of active commuting to school have declined steadily over the past 30 years, studies show that neighborhood streets with good connectivity around the school enhance the rates of walking and biking to school (Timperio et al.). Clearly, the physical infrastructure of neighborhoods plays an important role to make walking and bicycling to and from school even possible in the first place. First and foremost, there need to be elementary schools, pre-schools, and kindergartens in as many neighborhoods as possible. The shorter the distance is between home and school, the more

Children Walking to School Gary Coates

Neighborhood Schools near downtown Manhattan gis.rileycountyks.gov

likely it is that a child can be walked to school by a parent or other responsible adult.

Reducing the speed limit on streets near schools increases the safety for all who are walking and biking in those areas. Thus vehicular traffic in areas where children regularly traverse must be slowed. Street crossings in particular should be made as safe as possible. Crosswalks should be clearly marked with paint and signs. Curb extensions of various types can be used to narrow lanes, creating a shorter distance for children to have to cross, while also slowing vehicular traffic. Narrowing traffic lanes increases motorist caution and causes drivers to slow down.

School zone Susanne Siepl-Coates

Around the school building itself, sufficient signage is a must. This may include brightly colored pedestrian crossing signs or lowering of the speed limit around school zones. Clear pavement markings indicate crosswalks and no-parking zones.

In addition to demanding well-designed streets and sidewalks, people of the community should be encouraged to help as crossing guards or student safety patrols, teaching children to cross streets at marked crossings. Having adults escorting children across the street increases vehicular awareness of their presence and also encourages children to cross in groups and with someone watching out for them. Organizations such as the *Partnership for Walkable America* and the *National Center for Safe Routes to School* sponsor activities to promote safer streets for children and provide resources for communities to start taking steps to make people more aware of these issues.

Ensure a dense distribution of small-scale educational facilities for young children throughout all neighborhoods in the city and encourage walking to school accompanied by adults by creating safe paths of travel for them.

Walking or bicycling to school, a phenomenon that used to be a ritual for children, is now a rare occurrence.

Frank, Engelke, and Schmid 80

The following patterns offer suggestions how to support Neighborhood Schools:

Safe Routes to and from School

'Walking School Bus' and Bus Stops

Safe Routes to and from School

The patterns
Traditional Residential Neighborhoods
Neighborhood Schools
are further articulated by this pattern.

Children will not be encouraged to walk or bike to school if neighborhoods and streets are perceived as dangerous.

Over the past decades, changes in transportation patterns have shown an increase in volume and speed of traffic volume. This has had a particularly significant effect on children and their ability to walk or bicycle to school.

Parents continue to express their concern, both imagined and real, that streets are not safe for their kids to use by themselves. It comes as no surprise that parents prefer to drive their children to and from school rather than worrying about their safety walking and cycling on their own. This response by parents has led to more congestion caused by cars on the streets and circling around schools, leaving the children who do walk or bike at even more of a risk, such as increased pedestrian and bicyclist collisions with automobiles (Transportation Research Board 2002).

The seemingly benign and well-intentioned choice of parents to chauffeur their children has several additional downsides: opportunities during children's formative years to experience people and the built environment of their community remain limited, reducing person-to-person contact, community awareness and involvement; and children are missing out on adapting to a healthy lifestyle early in life. If they walked or biked to and from school, children could get at least some required daily physical exercise.

One of the first well-documented initiatives for encouraging active transportation is the *Marin County Safe Routes to School Program*, instituted in Marin County, California in 2000. After schools made positive changes to improve the safety of routes, there was a 64% increase in walking to school and a 114% increase in biking to school (Staunton, Hubsmith and Kallins). Many of the successes in Marin County led to statewide legislation providing funding for safety improvements, sidewalks and bicycle paths, and also increased active commuting to school across the state (Boarnet et al.).

School Children
http://www.vonsalza.com/bridlemile/saferoutes.html

Convinced by the outcomes of these efforts, the Kansas Department of Transportation developed the *Kansas Safe Routes to School* program, making available funding from the Federal Highway Administration "to public authorities, school districts, and non-profit associations for projects or activities that will make walking and bicycling to school safe, enjoyable and routine" (Kansas Safe Routes to School 1).

Many more cities, in collaboration with School Districts, would be well advised to institute strategies for implementation of a local *Safe Routes to School* program similar to those already in place in many communities nationwide. The *National Center for Safe Routes to School* offers a centralized resource of information on how to start and sustain such a program as well as many other resources for training and technical assistance (Safe Routes 1).

The more students walk and bike to school, the fewer the number of cars creating pollution in our neighborhoods and congestion around our schools. Additionally, encouraging children to walk or bike to school is supporting them in staying active and physically fit in a very practical way, giving them the foundation to a healthy lifestyle that they will be likely to maintain as adults.

Designate 'safe routes to school' by integrating existing school safety programs with targeted sidewalk and crossing improvements.

The following patterns offer suggestions how to create Safe Routes to and from School:
Walking School Bus and Bus Stop
Web of Safe Transportation for All
Calmed Vehicular Traffic
Traffic Signals for Pedestrians and Bicyclists
Sidewalks and Walkways
Bike Lanes and Paths
Marked Crosswalks

‘Walking School Bus’ and Bus Stops

The patterns **Children in the City** **Neighborhood Schools** are further articulated by this pattern.

Children Walking to School http://www.vonsalza.com/bridlemile/saferoutes.html

Not only do children get to walk to school in a safe environment, they also learn good road sense. Better traffic awareness gives kids more independence.

The Walking School Bus 3

It may not be safe for young children to walk to school on their own.

The rates of active transportation to school have been declining over the past 3 decades, with approximately 13% of children walking or biking to school in 2001 (McDonald). Some of the most commonly cited barriers to walking or biking to school include crime danger and heavy traffic (Barriers to Children Walking and Biking to School -United States, 1999).

Primarily in response to concerns about the health and safety of their youngest citizens, some communities have worked with parents and adult volunteers to establish ‘walking school busses’ with the goal to increase physical activity for both the children and adults without jeopardizing safety.

The ‘walking school bus’ is a buddy system for children walking to school in small groups under the supervision of one or several adults along designated safe routes, instead of being driven. It is a program that involves a virtual bus consisting of a small group of children ‘riders’, escorted by one adult as ‘driver’ in front and another one as ‘conductor’ in back. Every morning the ‘bus’ meets at a prearranged time and place, even making stops along the way to pick up more students.

The purpose of walking school busses is to promote alternatives to parents driving their children to school while assuring increased safety. Furthermore, the walking school bus decreases the dependence on cars and the number of vehicles on the road, therefore reducing pollution and encouraging healthy, physical activity as an every day part of a child’s routine. It also promotes a strong sense of community. Volunteers from the community, parents of the children or engaged neighbors lend a watchful eye by assisting the walking bus on their way to school based on an agreed-upon rotating schedule. As an additional benefit, this program provides the children with an active adult role model, which is linked to increased youth physical activity.

'Walking School Bus' stop Susanne Siepl-Coates

For children old enough to ride their bikes to school, virtual 'cycling school trains' have been established in some towns. Both of these approaches of getting to getting to and from school teach young children about transportation choices and traffic safety rules.

'Bus stops' are strategically placed throughout residential neighborhoods. Signage along the way and at crosswalks helps direct the kids towards school and enforces safety. Because of this, the path is likely to become a popular walking route for other community members.

In addition to being designated gathering places, the 'bus stops' can serve multiple other neighborhood functions as well. If properly designed 'bus stops' can be quite versatile, even doubling as pocket parks offering a casual sitting place with a park bench under a tree, pavement laid out to invite a game of hopscotch, or a small play area for kids.

In 2006, Shawnee was the first city in Kansas to apply for funding to establish 'walking school bus' initiatives at two elementary schools during the 2007-2008 school year. At a different school, St Peter's School in Kansas City, Missouri, participation in the walking school bus program almost doubled within one year, going from 44 students in the fall of 2005 to 84 students in the spring of 2006. The school's parent coordinator said: "It's really a no-brainer when you see how well this program works. You think, 'Why aren't more people doing this?'" (Shawnee 1).

As an initiative between the city and the school district, institute 'Walking School Bus' or 'Cycling School Train' programs for kindergarten and elementary school children and, along the way, designate strategically-located pick up points, or 'bus stops', with shade trees and benches creating sitting places that can serve all population groups.

Children walking to school Gary Coates

In real life, only from the ordinary adults of the city sidewalks do children learn-if they learn at all-the first fundamental of successful city life: People must take a modicum of public responsibility for each other even if they have not ties to each other.

Jacobs 82

I think parents see their vehicles as safe. They can drive their kids to school and see them walk into the building. Our school is trying to communicate that there are other ways to be safe which are much healthier and are environmentally friendly at the same time.

Kathy Cowan, in How to Organize a Walking/ Cycling School Bus 5

The following patterns offer suggestions how to support 'Walking School Bus' and Bus Stops:

Tree-Lined Streets
Calmed Vehicular Traffic
Traffic Signals for Pedestrians and Bicyclists
Sidewalks and Walkways
Bike Lanes and Paths
Marked Crosswalks
Sitting Places

Edible School Yards

The patterns
Children in the City
Neighborhood Greens
Neighborhood Schools
are further articulated by this pattern.

Entrance to the Edible School Yard, Berkeley, CA, Stephanie Rolley

Fast food values are pervasive, especially in poor communities, and often where they least belong.

Waters 2

School children are less likely to be knowledgeable about healthy nutrition if they are not involved in the planting and harvesting of food.

Much has been said in the media as well as in popular and scholarly publications about the contribution of school lunches to the obesity problem among children and adolescents. Typically, highly processed foods, sugary treats and soft drinks are consumed in a casual and hasty manner. Alice Waters, award-wining chef, author and underwriter of the Berkeley *Edible Schoolyard* project in California suggests that public education should offer alternatives to the fast-food message permeating our culture by teaching school children how food is grown, where it comes from, and how leftovers are composted or recycled (Waters 2).

Fresh produce can be grown locally by citizens, providing a healthy food alternative as well as an outdoor activity. Gardens encourage walking in urban areas contributing to a scenic landscape as well as promoting physical activity. Speaking about the relationship between physical activity and good nutrition as essential elements to prevent chronic disease and obesity, Kansas State University associate professor Candice Shoemaker whose research revolves around gardening for health in school settings states “Gardening can help meet the moderate-intensity physical activity recommendations, as well a offer fresh, nutritious produce for good nutrition habits” (Hall 1).

The rising costs of energy and fresh produce were the two major influences that began the community gardening movement in the 1970s, mainly in metropolitan areas. It began with a mere 20 programs through the *American Community Gardening Association* (ACGA), but has grown today to 550 (Bradley 1). More recently a concern for open spaces in urban areas has further increased the growth rate of community gardening.

Community gardens in the United States are typically 5’x5’ to 25’x25’ plots of land that may be either purchased or rented from the city for the purpose of growing vegetables, flowers, or other plants. These small gardens have the potential to beautify the city with green plants while producing healthy foods. Gardening is an outdoor activity that increases physical fitness and encourages community interaction.

Of course not all community gardens are officially registered with the ACGA. The Manhattan Community Gardens are sponsored by the University for Mankind Community Learning Center. Located just to the south of the Union Pacific Railroad tracks, the gardens were established in 1974 and the land was zoned as green space for twenty years. The gardens are still there today. Sixty plots were planted the first year, with donations of water, fertilizer, and seeds coming from the City, local nurseries, and a bank, respectively. The plots are rented annually for a small fee to cover costs (The Manhattan Community Garden 1). Today, the gardens have grown to include 161 plots and a Children's Garden. Planting more small community gardens near the downtown area would preserve open spaces as green spaces while inviting physical activity.

Gardens could also easily be planted on the grounds of neighborhood schools. Intervention studies have shown that developing and maintaining gardens on school yards is shown to be associated with increases in physical activity as well as improved fruit and vegetable intake (Hermann et al.; Graham and Zidenberg-Cherr).

When adults and children work together on gardens, children learn from the knowledge and experience of their elders in a safe, supervised atmosphere that pulls the community together. Some communities have already begun to put this idea into practice. The *Edible Schoolyard* at Martin Luther King Junior Middle School in Berkeley, California, for example, provides urban public school students with a one-acre organic garden and a kitchen classroom. Using food systems as a unifying concept, students learn how to grow, harvest, and prepare nutritious seasonal produce (Waters 2). Experiences in the kitchen and garden foster a better understanding of how the natural world sustains us, and promote the environmental and social well being of the school community. Gardens on school grounds also create activity during afternoons and evenings in an environment that might otherwise be deserted, increasing "eyes on the street" and neighborhood safety.

Integrate gardens into school grounds to provide opportunities for children and adolescents to be physically active and to learn about nutrition and healthy foods.

Inside the Edible School Yard Stephanie Rolley

The following pattern offers suggestions how to create Edible School Yards:
Pocket Parks

Flow-Through Circulation

The patterns
Elders Everywhere
Children in the City
are further articulated by this pattern.

Manhattan grid Riley County Historical Society

Patterns of sprawl Susanne Siepl-Coates

Large-scale developments may be easily accessible to vehicular traffic in a roundabout kind of way, but they can be serious barriers for pedestrians and bicyclists.

Today's cities typically provide easy access for motorists to practically all destinations. The same arterial roads that will quickly take drivers almost anywhere they desire to go, often to suburban malls, can be serious barriers for pedestrians and bicyclists, even if their neighborhood is directly adjacent to the mall, if they are forced to share and cross that arterial road way.

In contrast, the traditional grid layout of city streets and alleyways allows multiple paths of travel to the same destination. People tend to engage in utilitarian walking and bicycling more frequently if the paths to their destinations take the most direct route. If this is not the case, people will be inclined to drive to their destinations. "… the important thing is that the streets be continuous and create continuous thoroughfare… continuous side streets as part of a grid make an excellent path for cyclists" (Sucher 72).

People, who use bicycles or their own two feet to navigate the city, are typically inclined to choose the shortest distance to a destination. This is most easily accomplished if the city is laid out in a grid, which is considered to be a network high in connectivity. "... the greater the number of intersections over a given area, the more direct a route is likely to be from any randomly selected destination to any other" (Frank, Engelke, and Schmid 118).

However, there are instances when the city grid is interrupted, for example by developments that are based on suburban design principles or by large urban interventions such as the construction of the Town Center Mall.

In contrast to gridded city streets whose purpose is to offer the highest-possible connectivity between destinations, suburban developments are usually accessible only by wide and busy arterial streets. They also tend to be self-contained, their internal layout intended to discourage cars from passing through unless the destination lies within. Such neighborhoods with their unpredictably curving streets that can suddenly change direction or end unexpectedly in cul-de-sacs tend to be confusing and disorienting. The relatively low number of intersections between such streets suggests that they are low in connectivity.

While often touted to be safe, this suburban layout unfortunately creates many problems for pedestrians and bicyclists, and in particular for children. First and foremost, there may not be any sidewalks or bike paths, and thus pedestrians and bicyclists are pushed into the same roadway that is used by cars. Secondly, if forced to move along long and winding roads the distance traveled is likely to be significantly longer than it would be if the neighborhood were gridded.

Clearly, the grid layout is more practical. "If pedestrians minimize their effort measured as time or distance, then in a network of multiple choices, they will choose the shortest path. Grid street

Existing research on adult walking behavior and urban design suggests that the accessibility of the pedestrian infrastructure…is associated with walking behavior.

McMillan 442

Continuous flow-through pedestrian traffic Gary Coates

layouts and broad open spaces offer more possibilities for path minimization than systems that limit path choice" (Zacharias 10).

Accessibility and flexibility are the two most desirable traits for pedestrian and cyclist traffic in the city, and the grid allows for both. Because the streets run generally parallel or perpendicular to one another, a person is able to plan a path of travel without knowing every street intimately. The wealth of choices presented by the grid layout offers not only great flexibility, but also accessibility to the maximum number of locations. In a grid layout, a person can pick and choose their route based on destination or starting point or even just an interest in changing things a bit from the norm.

Generally speaking, the gridded central portion of Manhattan is easy to navigate for all modes of transportation. But even grid systems are not safe from problems. Urban renewal or redevelopment projects can occasionally have effects that are detrimental to pedestrian and bicycle movement. In downtown Manhattan, the construction of the Town Center Mall during the early 1980s had a significant impact on flow-through traffic, eliminating the possibility for vehicular traffic across town along the east-west corridor of Poyntz Avenue. Pedestrians still have the option of walking through the mall in order to access the Poyntz Avenue shopping district from the parking lot to the east of the mall, while vehicles and bicyclists are forced to travel a great detour to reach the same destination.

As another consequence of the mall construction, vehicular traffic was rerouted along several arterials, such as Fort Riley and Tuttle Creek Boulevards. Because they are intended to move high volumes of vehicular traffic efficiently, both boulevards do not offer traffic lights and cross walks at every intersection with the city grid. Thus they pose great barriers for pedestrians and bicyclists who want to access the mall or downtown from the far side of the arterial, and obstruct good connectivity for pedestrians and bicyclists.

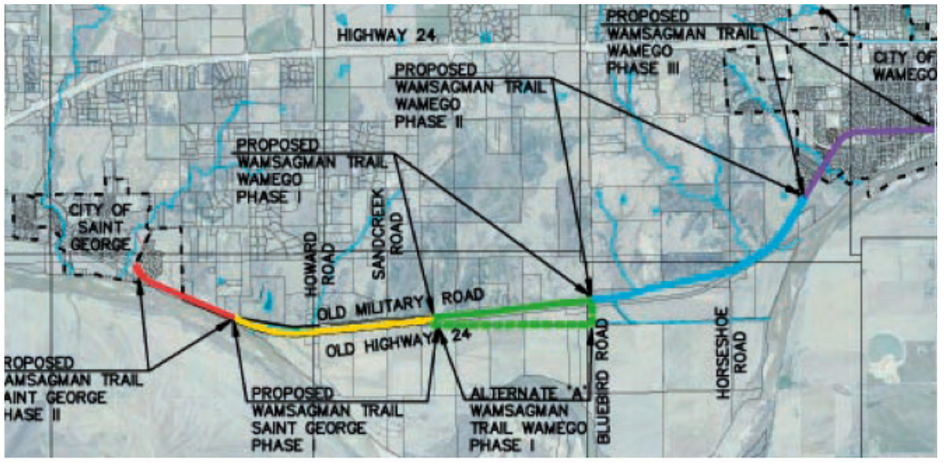
Wherever the regular city grid is blocked for vehicular traffic, for example by large structures or parking lots, provide thoroughfares for pedestrians and bicyclist along grid lines to offer the most direct access to a destination beyond.

The following patterns offer suggestions how to create Flow-Through Circulation:

Web of Safe Transportation for All
Interconnected Destinations
Sidewalks and Walkways
Bike Lanes and Paths
Bollards

Paths and Trails Reaching Out

The patterns
Growing City in the Flint Hills
Linear Trail Park
are further articulated by
this pattern.



Paths and trails near Manhattan www.ecodevo.com/documents/WAMSAGMANbrochure2007

Bicyclists will not be able to reach destinations outside of town without a network of paths and trails.

Downtown Manhattan is easily accessible to pedestrians and bicyclists who live in the older neighborhoods through the gridded street system. However, it is highly inaccessible for bicyclists who live at the edges, or even outside, of town. Several residential areas, such as the Northview, Stagg Hill and Cico Park neighborhoods, are isolated from the core area by major high speed and high-volume arterial streets that act as barriers, including Tuttle Creek and Fort Riley Boulevards. Such arterial streets prove to be intimidating to cross on foot or on a bike, yet it is necessary to traverse them to reach many destinations of choice.

Variation in planting material Carmen Simon

Most, if not all, of these arterial streets are under the jurisdiction of the Kansas Department of Transportation (KDOT), which controls the configurations of these streets and the use of traffic control devices. KDOT discourages pedestrian and bicycle activity along and across these corridors, which creates challenging problems when attempting to create pedestrian- and bicycle- friendly environments. Perhaps the most complicated of these challenges is to provide safe and convenient bicycle and pedestrian access into the city from the east.

The Bicycle Master Plan for Kansas State University and Manhattan recommends that a comprehensive network of bicycle routes and facilities be created for the city - “intended to cross barriers and connect neighborhoods and various areas of the city and university.” (Bicycle Master Plan 60) A system of designated spoke-like bicycle routes is to be created to extend not only throughout the city but also beyond city limits. Ideally, many of these routes would be constructed as multi-use trails or as bike paths separate from roadways. Thus, in addition to offering health benefits for cyclists and

Various seating elements along trail Carmen Simon

Hiking trail Carmen Simon

runners, trails and bike paths also contribute to preserving and making accessible open space or greenway corridors along rivers, streams or even abandoned railroad lines.

Possibilities exist to connect the city with outlying destinations in all directions. First and foremost, designated north/south and east/west cross-town connections should be established, for example:

- Anderson Avenue can become a signed shared bicycle route west of the Linear Trail to support the popular ride to Keats;
- 14th and 17th Streets already connects easily with South Manhattan Avenue thus providing access to the Linear Trail and beyond to Hunters Island, often the popular destination of bike rides;
- Kimball Avenue west of Seth Childs Road can become a designated bike route to connect to Scenic Drive and beyond.

The Linear Trail plays an important role in this network because it increases accessibility by providing many opportunities to connect these outward-reaching spokes with one another.

Create a safe and accessible network of bicycle paths and trails that connects the city with outlying destinations, thus increasing possibilities for people to ride their bikes for recreational as well as utilitarian purposes, such as cycling to work, to school, and even to shop.

The following patterns offer suggestion how to create Paths and Trails Reaching Out:
Interconnected Destinations
Riverside Park
Rails to Trails

III 1 Grid of Urban Streets

2 Web of Safe Transportation for All

3 Calmed Vehicular Traffic

4 Interconnected Destinations

5 Traffic Signals for Bicyclists and Pedestrians

6 Transit Routes

7 Tree-Lined Streets

8 Sidewalks and Walkways

9 Bike Lanes and Paths

10 Shielded Off-Street Parking

11 Alleys in Back

12 Marked Crosswalks

13 Pedestrian Refuge Islands

Grid of Urban Streets

The patterns
Public Realm
Streets as Urban Spaces
Aggieville Shopping District
Traditional Residential Neighborhoods
are further articulated by this pattern.

Manhattan's grid Riley County Historical Society

Suburban street layouts impede walking as a mode of transportation SSC

Irregular suburban street patterns limit the choices of connecting one destination with another.

Street networks influence trip route and mode choice through the ways in which trip origins and destinations are connected.

Frank, Engelke, and Schmid 118

While some US cities, such as Boston and Philadelphia, have districts with irregular street layouts, the design of most American cities is based on the grid, an approach initiated by the Romans as their expanding empire led to the founding of new military camps. In fact, orthogonal grids are perhaps the most defining characteristic of American cities.

Discontent with the traditional grid layout of streets began after the Industrial Revolution. "The condemnation of the grid in the United States was at least in part the result of the fact that the grid happened to be the prevailing street pattern during a period in history of extreme disenchantment with all aspects of the city" (Frank, Engelke, and Schmid 125). The Industrial Revolution lead to an increased number of people living in cities - so much increased, in fact, that it became more than the cities could bear. Overcrowding and unsanitary conditions caused disease to spread quickly across urban areas. The city became associated with foul conditions and sicknesses, and the public began looking for new ideas about living in cities. " ... at the end of the century, reformers were associating the grid with many of the social and economic ills that plagued American cities. In their view, the monotony of the grid gave little attention to the open space needs of urban populations, fostered substandard housing, and allowed too little light and fresh air into the city ... the grid stamped a rigid geometry onto undulating landscapes" (Frank, Engelke, and Schmid 124).

As American cities grew rapidly during the second half of the 20th century, urban designers and planners frequently abandoned the street grid in favor of various 'pseudo-organic' curvilinear street patterns that we have now come to identify as synonymous with suburban development. These street patterns are typically organized hierarchically in response to automobile traffic volume, from high-speed arterial roads designed for high-volume vehicular traffic, with few amenities for pedestrians and bicyclists, to local residential streets that often loop back on themselves or end in cul-de-sacs in order to ensure low vehicular traffic volume. While such neighborhood streets may be thought to be safe for children, they increase trip length and decrease the number of available routes to get from one place to another. Furthermore, high-volume and high-speed traffic along the arterials

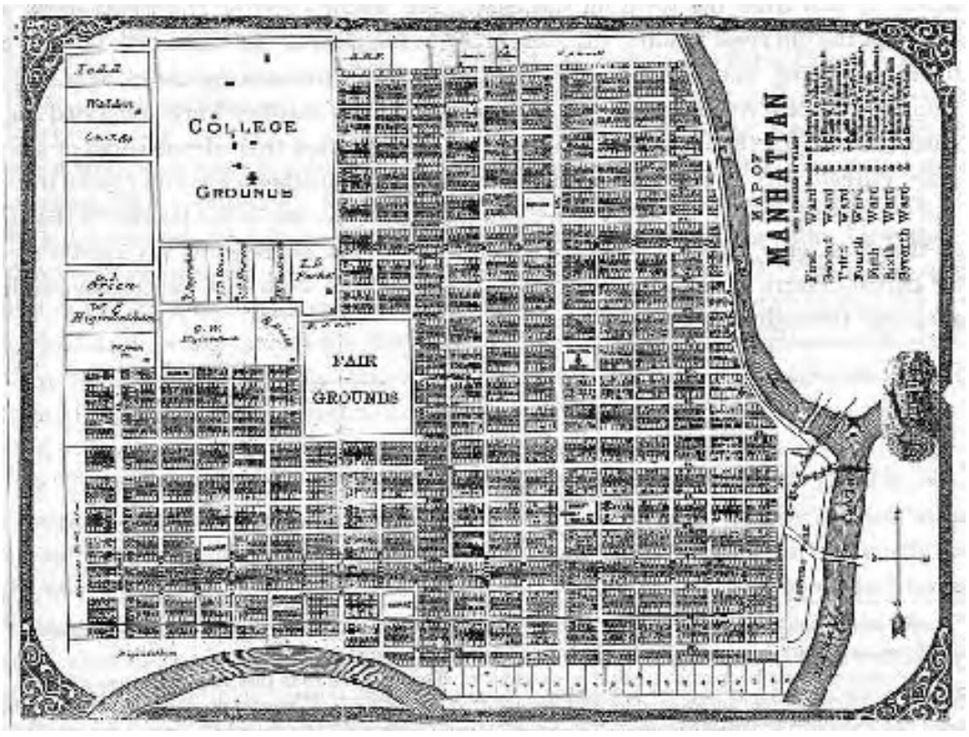
makes pedestrian and bicycle movement highly unpleasant and unsafe.

Fortunately, the Manhattan street grid consists primarily of local and collector streets. Dividing the city into relatively small blocks, local streets provide for the distribution of traffic within activity areas and offer direct access to properties in the older sections of the city. Collector streets, such as portions of Fremont and 4th Streets as well as Manhattan Avenue, provide for the movement of vehicles between arterial and local streets. Several arterial streets, such as Fort Riley Boulevard, Anderson and Bluemont Avenues as well as Tuttle Creek Boulevard provide a high degree of mobility for vehicles, but create dangerous conditions to pedestrians and bicycles (Manhattan Area Transportation Strategy 4-6).

The benefits of gridded city streets are again being recognized. Grid street networks have been found to increase participation in walking and biking, and individuals living in areas with grid streets tend to take more trip by walking or biking rather than by car (Greenwald and Boarnet; Frank and Pivo).

Furthermore, compared to suburban street layouts, gridded cities have proportionately more street area per square foot of private property and their network of streets is more extensive (Moudon et al.). The grid is advantageous to both vehicular and pedestrian traffic: it is easy to navigate, as street alignment is predictable; it makes way finding easy by allowing for a plethora of options; it distributes cars more evenly than a hierarchically ordered street system; and pedestrians can access more places bordering their neighborhood than the newly standard communities with only one entrance.

Whenever possible, retain gridded street layouts because they rationalize the transportation network at the city scale and offer the largest number of choices and the shortest distances between destinations.



Manhattan, KS circa 1885 Riley County Historical Society

The following patterns help to enhance the Grid of Urban Streets:

Web of Safe Transportation for All
Interconnected Destinations
Linked Plazas and Squares
Third and Fourth Street Loop
Poyntz Avenue Promenade
Urban Mall at the Heart

Web of Safe Transportation for All

The patterns
Streets as Urban Spaces
Elders Everywhere
Children in the City
Safe Routes to and from School
Flow-Through Circulation
Grid of Urban Streets
are further articulated by this pattern.

Narrow street with well-maintained sidewalks Gary Coates

… there will remain a requirement for people to travel by car. All of this means that car travel must be accommodated within cities, but not allowed to dominate or impose.

Montgomery 111

Multiple transportation options strengthen pedestrian-oriented development.

Schmitz and Scully 26

The streets of our cities and towns ought to be for everyone, whether young or old, motorist or bicyclist, walker of wheelchair user, bus rider or shopkeeper.

www.completestreets.org

Typical street design standards are created for the convenience of automobile traffic and almost to the exclusion of pedestrians and bicyclists.

As people have come to depend more and more on their cars as their primary source of transportation, street design standards have been modified to accommodate motorists almost exclusively. In too many instances, crosswalks, bike lanes and even sidewalks have been viewed as undesirable, because of their inherent 'side effect' of interrupting the smooth flow of vehicular traffic.

If the goal is to increase walking and bicycling as a mode of transportation, the design and layout of city streets can no longer respond primarily to the needs of motorists and guarantee smooth uninterrupted traffic flow for the moving car and immediate parking spots for the car at rest. Rather, city streets must be designed to equitably accommodate all groups of people and all modes of travel.

Clearly, no one would suggest that motorists be excluded from urban streets. Rather, a successful network of transportation routes would be accessible to all by accommodating all modes of transportation conveniently, effectively, pleasurably and safely, including travel by public transit. If pedestrians and bicyclists have the same rights as motorized vehicles to access city streets, the potential for increased utilitarian physical activity is greatly increased.

Toward this goal, a broad-based group of advocates and professionals has founded the 'National Complete Streets Coalition'. This coalition has been working to urge planners, engineers and designers to build transportation networks that welcome all citizens in communities across the country to 'complete streets' by incorporating elements such as sidewalks, bike lanes, crosswalks, medians and pedestrian signals into the design of urban streets.

Safety issues and driver behavior are the greatest concern for pedestrians and cyclists and serves a barrier to active commuting (Pucher and Dijkstra). 'Incomplete' streets are also a top concern for people who walk or bike according to a national

survey indicating that a lack of useable sidewalks and bikeways prevented physical activity participation (U.S. Department of Transportation Bureau of Transportation Statistics).

Looking at streets designed with pedestrians and bicyclists in mind increases the safety of all traffic participants. Not only do 'complete streets' reduce car crashes but, as the National Complete Streets Coalition points out, they also significantly reduce pedestrian risk. Another study cites by the coalition found that 43 percent of people with safe places to walk within 10 minutes of home met the activity levels recommended by public health experts compared to just 27 percent of people without safe places. Additionally, the coalition suggests that the integration of pedestrian-friendly traffic elements into the initial design pf projects makes fiscal sense compared to the expenses of retrofitting latter (www.completestreets.org).

Traffic calming measures can contribute to making streets safer for children and the elderly. Existing sidewalks should be maintained in such a way that everyone can easily navigate them on foot. Rough, cracked, or rundown sidewalks might force children and the elderly onto the smoother street surface instead, thereby endangering them. New street design should always include consideration of needs of pedestrians and bicyclists. Generously designed and well-maintained sidewalks and bike lanes can protect people from busy car traffic and encourage them to use such paths for utilitarian travel as well as exercise.

Block length and street width both affect the user's perception of travel. Shorter blocks are easier to navigate and provide a higher tolerance for error, should the user become confused. Narrower streets make drivers slow down and become morecautious. This increases drivers' chances of noticing children who may be traveling on the streets or sidewalks and gives them a longer reaction time, should one be in the path of the other.

Finally, in urban areas targeted toward pedestrian users it is of particular importance that public transit be implemented. Bus or light rail systems allow a majority of citizens to abandon their dependence on the car and promote utilitarian walking in order to reach the transit stop. Public transit is not only an affordable means of transportation for all but it is also a way to allow physically or economically disadvantaged users to reach a destination in safety. Frank, Engelke, and Schmid make a strong case when they point out that the most disadvantaged people suffer the most in environments built exclusively around the needs of motorists. "The combined effect of being poor and either very young or very old, for example, is profound; these individuals suffer the most from the barriers created by environments built without their needs in mind" (Frank, Engelke, and Schmid 97).

This street favors vehicular traffic Kristina Nelson

Environments that encourage utilitarian physical activity are also those environments that will present the fewest barriers to the members of disadvantaged groups.

Frank, Engelke, and Schmid 98

Street designs that allows heavy traffic volumes and high vehicle speeds, for example tend to produce more accidents involving child pedestrians.

Roberts et al. 93

Complete city streets by integrating sidewalks, bike lanes, frequent crosswalks, refuge medians and other streetscape elements into the transportation network to provide pedestrians and bicyclists safe access to many different destinations.

The following patterns help to enhance the Web of Safe Transportation:

Calmed Traffic
Sidewalks and Walkways
Bike Lanes and Paths
Traffic Signals for Pedestrians and Bicyclists
Alleys in Back
Marked Crosswalks
Pedestrian Refuge Islands
Bulb-Outs
Curb Radius Reductions

Calmed Vehicular Traffic

The patterns
Elders Everywhere
Children in the City
Web of Safe Transportation for All
are further articulated by this pattern.

Roundabout helps to slow traffic Gary Coates

Traffic calming is a holistic, integrated traffic planning approach based on common sense which seeks to maximize mobility while creating a more livable city by reducing the undesirable side effects of that mobility.

CART 17

Case studies of the effect of traffic calming on pedestrian and bicycle travel in Northern Europe have shown that it increases biking and walking, slows vehicular traffic, and decreases pedestrian accidents.

Loukaitou-Sideris 227

Maintaining lower speeds allow drivers to be more aware of their surroundings.

Burden 5

Fast-moving vehicular traffic prevents citizens from the enjoyment of walking, bicycling, playing and interacting socially with others in urban streets.

People do not like to live, walk, or travel on streets that are dominated by heavy traffic, because they are unsafe, loud, air polluting, socially disruptive and often visually unattractive. In fact, urban streets are not the exclusive domains of the automobile. Rather, urban streets are important public spaces for a wide range of community functions in addition to transportation, including commerce, recreation and social interaction. They must regain their fundamentally pedestrian-based function not through the elimination of automobile traffic but through calming of automobile traffic.

Traffic calming was first introduced in the late 1960s when residents of the Dutch City of Delft fought cut-through traffic in their neighborhoods by turning them into ‘woonerven’ or ‘living yards’. Over time this grassroots movement influenced local governments in other Northern European countries to institute traffic calming principles in cities, towns and on intercity highways during the 1980s. Similarly, in the U.S., a version of traffic calming was practiced as early as the late 1960s and early 1970s in a few forward-thinking communities, but a substantive study on traffic calming was not completed until 1999 (www.trafficcalming.org/history.html) .

Perhaps the most compelling idea behind traffic calming is the notion that all residents, regardless of age, financial status or social standing, have equal rights to share in the mobility provided by the network of streets. Certain disadvantaged groups could benefit the most from calmed traffic speed. Older adults and individuals with disabilities or physical limitations who generally walk at a slower pace need more time to cross a street or intersection. Children, too, often walk at a slower pace compared with adults and are more likely to be distracted and step into traffic. A slowed rate of traffic could help motorists spot pedestrians and reduce the likelihood of an accident.

If one subscribes to the notion of equity for all modes of transportation then an over-emphasis on vehicular traffic discriminates against a significant section of society, the members of which are

forced, or choose, to use other means of transportation. Stina Sandels, a world authority on children and road accidents, frames the problem this way: “Even the best road safety education cannot adapt a child to modern traffic, so the traffic has to be adapted to the child” (CART 19).

Of course, the goal is not to eliminate traffic but to tame it. One way to tame traffic in the city is to reduce the speed of vehicles. Slowed traffic will lead to fewer accidents, less noise and reduced fumes, allowing pedestrians and bicyclists to navigate easily and to enjoy the public realm without fear of injury. Accidents that do happen tend to be less severe (CART 18).

David Sucher is one of many authors to suggest that vehicle speeds can best be reduced through innovative approaches to street design. “Ninety years after the first speeding regulations, and who knows how many speeding tickets later, many of us still exceed the posted limits. We do it because the roads are designed to allow us to do so. There is a natural speed for any given road configuration. Many roads are marked 30 miles per hour and yet are designed to be driven comfortably at 55 mph because of sight lines, lane width, and shallow curves. Design will win out. More police will not. Redesign the roads to make better use of our natural inclination to drive as quickly- or as slowly- as the road design itself suggests” (Sucher 69).

Change in paving slows traffic Gary Coates

The famous Danish urban design consultant and researcher Jan Gehl goes a step further by suggesting that slow traffic means lively cities. “If the speed of movement is reduced from 60 to 6 kilometers per hour (35 to 3.5 mph), the number of people on the streets will appear to be ten times greater, because each person will be within visual range ten times longer” (Gehl 79).

Another advocate of traffic calming, Dan Burden, proposes that many five-lane roadways (two lanes in each direction plus one center turn lane) could be redesigned to have two travel lanes, a landscaped median, and bike paths and on-street parking on both sides – and “still handle the traffic

Crosswalks call the driver’s attention to pedestrians Susanne Siepl-Coates

At Ball State University, wide brick crosswalks slow vehicular traffic David Watts

load, but it will do so at slower speeds; the road will be safer for motorists as well as for pedestrians and bicyclists, and it will be more attractive. … Furthermore, slower speeds can actually decrease travel times. At higher speeds, the distances between cars increase, which decreases the volume of cars on a stretch of roadway while creating pockets of stop-and-go traffic" (Schmitz and Scully 40). The redesign of many roadways in Manhattan could benefit the motorist and most importantly the pedestrian by making their experience safer and more enjoyable.

Vehicular traffic can be slowed through the strategic introduction of street design measures, such as bulb-outs, pedestrian refuge islands, and changes in surface materials. In Greenville, North Carolina, a street was visually narrowed by adding pavement markings, resulting in slowing traffic by 7 mph (Burden 8). Traffic speeds were reduced by 10 mph on Grandview Avenue in University Place, Washington by the addition of curbs, sidewalks, bike lanes, trees, medians, and a roundabout.

The new design for McKinley Avenue, a major thoroughfare on the Ball State University campus in Muncie, Indiana, recently won two state awards (2006 Engineering Excellence Merit Award and 2006 Indiana Partnership for Highway Quality Achievement Award) for its traffic calming impact: flanked by wide sidewalks two lanes of traffic are separated by a landscaped median that is just as wide as one lane of traffic and acts as a pedestrian refuge island. Frequent pedestrian crosswalks are paved in brick across the otherwise asphalted roadway, calling the pedestrian to the driver's attention and suggesting the pedestrian's right of way (2006 Brick Architectural Awards).

Based on traffic studies conducted in many countries, including the United States, traffic calming has led to many positive outcomes, including greater safety for drivers, pedestrians, cyclists and children playing in the streets; narrower street spaces that can move the same number of people; reduction of vehicle speed up to 50% while increasing journey time by only 11% (because there is less stop-start driving); decrease in noise and pollution up to 50%; and an increased vitality of community life (CART 20).

Reduce vehicle speeds on city streets through the use of design measures that affect the psychological feel of the street and in turn increase safety, mobility and quality of life for all citizens.

The following patterns help to support Calmed Vehicular Traffic:

Traffic Signals for Pedestrians and Bicyclists
Tree-Lined Streets
Marked Crosswalks
Pedestrian Refuge Islands
Variations in Paving Materials
Bulb-Outs
Curbs and Gutters
Curb Radius Reductions
Bollards

Interconnected Destinations

The patterns
Growing City in the Flint Hills
Town and Gown
Flow-Through Circulation
Paths and Trails Reaching Out
Grid of Urban Streets
Web of Safe Transportation for All
are further articulated by this pattern.

Park connected to shopping district Susanne Siepl-Coates

If destinations are not conveniently located within walking or bicycling distance and interconnected by a network of sidewalks and bike paths, people will use their cars to travel around town.

The more attractive a destination, the more it is frequented by people. Destinations that attract people to congregate include shopping districts, schools, parks and civic institutions. Such destinations tend to be active, brimming with other people; richly textured, yet fine-grained to keep one's interest; offering a wide range of sensory experiences that will invite people to stay, explore and enjoy the setting. The places people tend to avoid are vast parking lots and high-speed streets, unless people are in cars.

Individuals are more likely to walk or bike if there are attractive destinations nearby. Given that the traditional grid layout of city streets with their sidewalks and alleyways offers the largest number of travel paths to reach such destinations, persons who want to walk or bicycle would be greatly supported if attractive destinations were located in relatively close proximity to the center of town rather than spread out along arterials or otherwise dispersed all over town. Grid street networks can create the most direct routes, reducing distances and traffic speed, and thus make walking easier (Frank and Pivo).

On occasion it may be called for to block off a street section or a public square to eliminate vehicle access, for example with bollards. Such measures are occasionally taken on a temporary basis to create the place for a special occasion, such as a Farmers Market, a parade or another public event. That way pedestrians and bicyclists are afforded direct and safe access to the destination in a public realm dedicated to walking and cycling. Even in neighborhoods and districts that are not designed on a grid pedestrians and bicyclists can gain, for example when there are walkways or shortcuts

To create places that encourage and facilitate pedestrian activity, a number of elements must be in place:…Destinations must be reachable and interconnected by means of a continuous network of safe, convenient, comfortable, and interesting sidewalks and paths.

Schmitz and Scully 16

Zona Rosa, Kansas City Gary Coates

Proposed downtown Arts District with many destinations BBN Inc.

between cul-de-sacs that allow children to play safely beyond their immediate home territory.

While some researchers suggest that short distances between destinations increases the likelihood that people travel on foot or by bicycle - a reasonable position that is held intuitively by many people - one can also hold the point of view that distance does not matter much if the trip itself is pleasurable and safe. Walking a certain distance along a well maintained, lively shopping street in an historic district will be perceived by most people as much shorter than a walk through a vast parking lot, even if it is the same distance.

Randall Crane, a professor at the University of California at Los Angeles, looks at the issue from yet another point of view, weighing benefits against costs. “The cost of a trip consists of those things that add hassles to one’s day or burdens one’s pocket book: the amount of time it takes to travel, the amount of traffic that might be encountered along the journey, and how much money the trip might require. The choice to drive, take transit, walk, or bicycle is therefore viewed as a function of one’s preferences for a particular mode plus the cost of the different modes relative to one another” (Frank, Schmid, and Engelke 108). Perhaps the predicted imminent and possibly radical increase in gas prices will play a major role in this equation, pushing the cost for motorized traffic so high that the costs related to walking and bicycling will appear easily bearable.

Create a dense network of desirable destinations and make the connecting paths between them safe, convenient and pleasurable so that people are motivated to walk and bicycle more and drive less.

Establishing a network of short blocks can set off a chain of events, all of which serve to make places even more walkable. For example, when it is possible to walk from home to office, to shop, to restaurant with ease, more people will walk, and they are more likely to patronize businesses along the way, improving the viability of those businesses.

Schmitz and Scully 29

… the important thing is that the streets be continuous and create continuous thoroughfare… continuous side streets as part of a grid make an excellent path for cyclists.

Sucher 72

The following patterns help to enhance Interconnected Destinations:
Transit Routes
Sidewalks and Walkways
Bike Lanes and Paths
Linked Plazas and Public Squares
Third and Fourth Street Loop
Urban Mall at the Heart

Traffic Signals for Bicyclists and Pedestrians

The patterns
Elders Everywhere
Children in the City
Safe Routes To and From School
Web of Safe Transportation
Calmed Vehicular Traffic
are further articulated by this pattern.

Pedestrian signals in Jefferson City — Gary Coates

... physical activity is as effective as the most commonly prescribed medications. It is dishonest to tell our citizens to walk, jog, or bicycle when there is no safe or welcoming place to pursue these life-saving *activities.*

Jackson 3

Along collector and arterial streets, busy intersections without signals for pedestrians and bicyclists make access to certain parts of town inconvenient and unsafe, if not impossible, for those who choose to walk or bicycle.

There is a tendency among traffic planners to focus on issues related to vehicular travel while ignoring foot or bicycle trips or treating them as 'left-over' trips (Porter 57). Along busy collector and arterial streets, the safety, access and mobility of pedestrians and bicyclists is severely compromised when motorists are enabled to comfortably drive at 45 mph while traffic signals allowing bicyclists and pedestrians to cross such arterials safely are almost non-existent. Under these circumstances the arterials, which by their very nature present obstacles for pedestrians and bicyclists, become insurmountable barriers that are best avoided. Statistics indicate that pedestrians die 83% of the time when hit by cars going 40 to 45 mph, a jump from a 50% chance of sustaining a fatal injury at 30 mph (Burden 1999, 25).

Arterials present one of the biggest obstacles for pedestrian and bicycle movement. Controlled by public agencies, the design standards for arterial streets are intended to efficiently accommodate long-distance trips by car. Toward this goal, arterial streets are characterized by long stretches of uninterrupted high-speed roadways, few intersections that might disrupt traffic flow, and at least four lanes of traffic that can expand to six when turning lanes are added.

Arterials almost complete a full circle around Manhattan, making it very convenient for motorists to get from one end of town to the other quickly and conveniently. However, not only have strip shopping centers sprung up along these arterials, they also cut through residential neighborhoods requiring that they be crossable by bicyclists if not also pedestrians.

While arterial design standards prohibit pedestrian and bicycle traffic along the roadway, traffic lights must guarantee that pedestrians and bicyclists can safely cross arterials at intersections in order to reach their desired destinations. Thus, non-motorists crossing arterials should never have to rely upon traffic signals intended for vehicular traffic only. Rather, non-motorists should always have their own set of signals to assign them the right-of-way long enough to cross an intersection. In Manhattan, this would include crossing Anderson/Bluemont, Fort Riley, and Tuttle Creek

Rd., to allow pedestrians a safe arrival not only to downtown, but to special destinations such as Linear Park, Target, Wal-Mart, or just around town in general.

While they may be most urgently needed for safety reasons along arterial and collector streets, pedestrian- and bicyclist-oriented traffic signals may have the most impact on increased walking and bicycling when located throughout the city. In urban districts, where traffic tends to be denser, and particularly near areas with many older adults (e.g. Seniors Center), it is beneficial to install signals that are slightly longer than normal, allowing individuals with limited abilities or a slower gait to cross safely. Pedestrian signals with an accompanying auditory signal can increase safety for those with visual impairments, and also increase awareness of pedestrians for motorists while signals with symbols instead of words will ensure that persons with limited English reading skills or younger children will be able to understand the directions.

Safety is increased when traffic signals for pedestrians and bicyclists are coordinated with vehicular traffic signals, thus maintaining efficient traffic flow while providing occasional gaps in traffic flow to allow pedestrians and bicyclists adequate crossing time - approximately 3 – 3 ½ feet per second. In order to further increase safety along busy streets, 'standard' pedestrian signal timing which allows motorists to turn right across the pedestrian's path should be replaced by exclusive pedestrian intervals which stop traffic in all directions, reducing accidents involving pedestrians by 50% (Burden 45).

Because only a small portion of pedestrians activates conventional push-button devices, 'intelligent' systems should be installed. Particularly where non-motorists are expected only occasionally, pedestrians signals should be controlled by microwave or infrared pedestrian detectors, which automatically activate the red light for vehicles and walk signal when pedestrians approach, stopping traffic only when needed (Burden 45).

Along heavily traveled roadways install automatically controlled traffic signals that give pedestrians and bicyclists exclusive rights to cross safely with all motorists stopped.

Pedestrian Signals

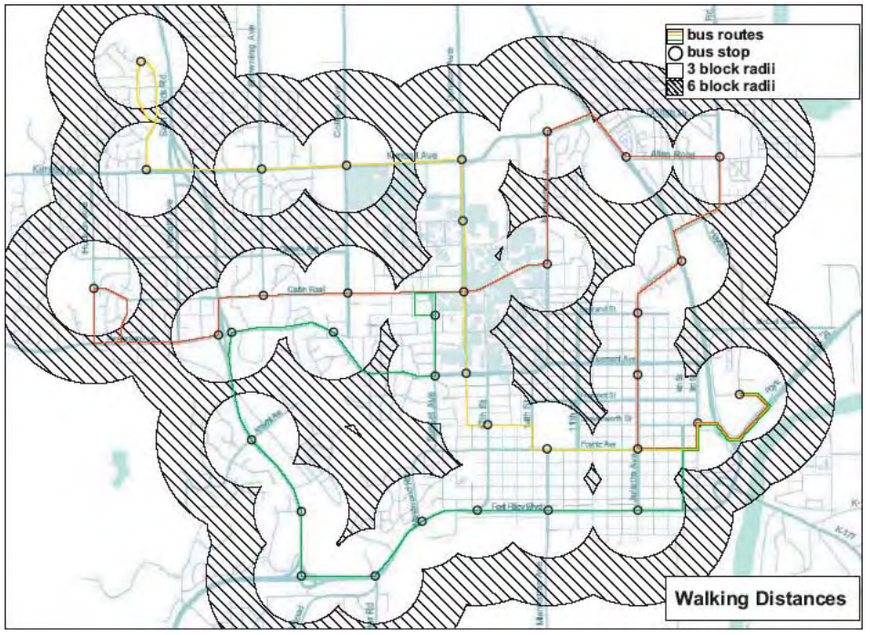
Betsy Pribula

The following patterns offers suggestions where to install Traffic Signals for Bicyclists and Pedestrians:

Sidewalks and Walkways
Bike Lanes and Paths
Marked Crosswalks
Raised Crosswalks and Intersections
Bulb-Outs

Transit Routes

The patterns
Town and Gown
Elders Everywhere
Web of Safe Transportation
Interconnectetd Destinations
are further articulated by this pattern.



Proposed map of Manhattan bus routes and stops Amanda Sullivan

Multiple transportation options strengthen pedestrian-oriented development.

Schmitz and Scully 26

Some destinations cannot feasibly be reached by foot or bicycle alone.

Even in a relatively small town like Manhattan, Kansas, distances between some destinations will always remain too great to be traveled without the aid of a vehicle. A public transit system can offer an alternative to individual vehicular dependence while providing mobility for those persons without private means of travel, including the elderly, persons with disabilities, low income families, university students and adolescents without a driver's license.

Currently, several providers operate busses in Manhattan to accommodate the transportation needs of some disadvantaged population groups. Mostly, the bus services are facilitated through various agencies or church groups, including the Riley County Aging Transportation Agency (ATA), serving mostly the elderly and the disabled with a 24-hour advance reservation; the Health Department, serving persons in need of medical services and limited incomes; and the Manhattan Taxi Coupon Service that serves approximately 1600 low income clients every month. Other citizen groups in need of transportation include adults and children living at the Manhattan Emergency Shelter and in units administered by the Manhattan Housing Authority for whom no buses are available.

But the need for public transit goes much beyond the aforementioned population groups. With gasoline prices rising dramatically, many people may want to switch from driving their vehicles to other less expensive modes of transportation, and the bicycle may not always be appropriate. Thus the development of a bus or light rail system should be addressed sooner than later.

The close link between public transit and physical activity is significant. A recent survey in New York City found that the density of bus stops and subway stops was significantly associated with a lower body mass index (Rundle et al.). Nationwide, taking public transportation is associated with increased walking behavior, as the number of transit trips increases, the number of walking trips also increase (Hu and Reuscher).

Lawrence Frank and his co-authors point out that transit and walking or bicycling are modes of transportation that are ideally suited for one another (Frank, Engelke, and Schmid 131). Before one can use a transit system one has to get to the transit station. While in many bigger cities commuters may use a car to get to a transit station, in Manhattan this destination is likely to be reached on foot or by bike.

Once one gets off the transit system at the other end, one still has to reach one's final destination. Unless the bus has a bike rack making it possible to transport not only passengers but also their bicycles, at least one, if not both, of those trip segments has to be made on foot. It is hoped that, once a transit system is well integrated into the City of Manhattan, riders can chose to be much less dependent of the car than they are currently.

Toward this goal, the City of Manhattan adopted the "Manhattan Area Transportation Strategy: Connecting to 2020" in 2001, a document which looks at long-range transportation options for Manhattan, exploring preliminary ideas for two different types of public transportation systems. The first was a general public demand response service, which would follow a general route, but stop to pick up passengers who called and requested service along the way. The second is a fixed route service that operates on a stricter time schedule and has fixed points at which to stop.

A year later, the city received another document called the "Transit Implementation Plan" in which the possibilities of the realization of a public transportation system were studied by the city and the TranSystems Corporation. The Transit Implementation Plan outlines a fixed, three-route transit system for the city- two which service the city in general and one specifically for Kansas State University. Although the steps necessary for implementing a bus system in Manhattan were clearly outlined, no system exists at this time.

With these two documents in place, and with the population above 50.000, making the community eligible for federal funding, Manhattan is well poised to embark on establishing a transit system. Public transportation could significantly increase

Accessible public transportation Gary Coates

Bus stop on urban street Susanne Siepl-Coates

community interaction and connection while decreasing pollution of the environment caused by cars. Elders and youth (who may not be capable of driving themselves) could still get out and about and access the city without risking their own safety. Some people may be able to use transit to get to work, and college students could get to campus (and back, or to other parts of town) without having to fight for parking spaces.

Frequently not all citizens are immediately supportive when the introduction of a public transportation system is proposed. However, there is a tendency to recognize the benefits once the system has been in place for a while, as the case of Salt Lake City illustrates. “When we put in the first line of light rail in the Salt Lake City area, there was greater opposition to that than anything I can remember in politics: the cost, the contention that it’s outdated technology, that people won’t give up their cars to ride it. We don’t hear that any more, because it’s been immensely successful. It’s been so successful -- and this is one of those cases of success breeding more success -- communities that were adamantly opposed to light rail before the first line was ever built are now clamoring for it in their neighborhoods” (Roberts 1).

In shopping districts targeted toward pedestrian users, such as the downtown Manhattan area, it is of particular importance that multi-modal means of transportation be implemented. Allowing all three types of users (motorists, bicyclists, and pedestrians) to reach the area in safety maximizes the number of users of the space. The benefits of a transit system are numerous and have already been acknowledged by the city.

Implement an effective public transportation system in Manhattan to promote walking as a viable mode of transportation and to improve the mobility of pedestrians and bicyclists.

The following patterns help to enhance Transit Routes:
Sitting Places
Public Signs and Markers
Street Furnishings and Public Restrooms

Tree-Lined Streets

The patterns
Streets as Urban Spaces
Traditional Residential Neighborhoods
Calmed Vehicular Traffic
are further articulated by this pattern.

The tree-lined street with urban character Susanne Siepl-Coates

Broad streets with limited tree cover do not feel as secure and comfortable as narrower streets that are lined with buildings and that offer enough trees to provide a canopy overhead.

Schmitz and Scully 42

Streets without trees lack character, are uninviting places for pedestrians, and encourage drivers to speed.

Most streets in urban settings are designed to serve a mix of activities, including the safe and convenient movement of pedestrians, bicyclists, vehicles and possibly even public transit. Each of these user groups has different demands of the street which, given their frequently contrasting needs and desires, can easily lead to conflict. Unfortunately, vehicular transportation modes win out in this conflict all too often.

Streets, intended purely for the unimpeded flow of vehicular traffic, tend to be designed with building set far back from the street, with wide view corridors and with no 'obstacles' obstructing the flow of cars and trucks. Designed from a single-minded point of view, such streets tend to be inhabited by few pedestrians and bicyclists who typically experience such streets as too stark and open for comfort and too wide and unprotected for safety. Even vehicles tend to drive through them quickly.

A high comfort level of pedestrians and bicyclists is crucial to encouraging non-motorist use of streets. Tree lined streets play a significant role in this regard. Trees planted along city streets have five major benefits over treeless streets: first, they enhance its appearance by beautifying the street and creating street identity; secondly, they provide functional advantage of shade, slowing traffic, and creating a pedestrian scaled space; thirdly, they help define the edges of streets and neighborhoods; fourth, they influence a driver's behavior; and lastly, trees help to keep the air clean.

Aesthetically, trees have always been one of the simplest, natural means to enhance any environment. Trees add to the character of a street and provide many amenities. "Trees provide shade, shelter, and a connection with nature. Ideally, native, long-lived, low-maintenance species that grow to the appropriate height for the space should be selected" (Schmitz and Scully 48). As the seasons change, so does the appearance of the trees, giving an ever-changing atmosphere to the street. In the spring and summer, they offer greenery and perhaps even flowers or fragrance. In the fall, the leaves turn colors, and in the winter the bare trunk and branches line the street like natural sculptures. Large trees with their beauty and character can act as an "attractive canopy over the street" (Seattle

Manual) and draw pedestrians and bicyclists to engage in physical activity. It has been suggested that the best 'pavement material' for sidewalks is the dappled shade from mature trees lining the streets (Schmitz and Scully 37).

Perhaps more important than aesthetics is the aspect of the functionality trees provide. The most obvious quality is that of natural shelter, protecting pedestrians and bicyclists who would otherwise be exposed to the elements by providing shade from the heat of the sun, serving as a windbreak and as a natural umbrella against the rain. "Physical comfort in relation to climatic conditions has a definite and measurable impact on aggregate behavior in public walking" (Zacharias 11).

Trees have a major impact on the perception of street spaces: they provide height to the street and offer a sense of enclosure, both of which in turn provide a feeling of safety and comfort. Pedestrians and bicyclists, in particular, experience tree canopies as a lowered "ceilings" that reduce the infinitely open space of the sky above to one of more intimate and human scale.

Trees along sidewalk Susanne Siepl-Coates

Trees planted in regular intervals can define edges between various street functions by creating a natural plane between them. For example, trees planted between the street and sidewalk create visual as well as physical separation between pedestrians and cars, encouraging each user group to stay in their designated area while also creating a barrier that protects pedestrians from being hit by cars. Furthermore, regularly planted trees allow motorists to gauge their speed.

Planting trees at the edge of a corridor can physically narrow existing street spaces. But even without actually reducing the width of a street, tree-lined streets create the illusion of a narrower street space, causing drivers to be more cautious and thus slowing traffic. At slow speeds drivers are more aware of their surroundings and can react to potential dangers, a point powerfully made by Dan Burden.

Trees help to narrow the street Susanne Siepl-Coates

Trees, like all green plants, are the lungs of the earth because they consume carbon dioxide and produce oxygen, which they release into the atmosphere. Thus trees make possible the existence of all living beings, which, by contrast, inhale oxygen and expel carbon dioxide. In addition, trees literally clean the air by collecting dust and purifying the air of all kinds of loose particles. An increase in vegetation also helps decrease the heat island effect, absorbing the sun's heat rather then radiating it back into the city. In an age when air pollution is an increasing problem, planting trees is a small yet significant step in the right direction.

Much of Manhattan's beautiful character comes from the city's many tree-lined streets. Community members recognized a long time ago that trees contribute greatly to making the city an enjoyable place in which to live: for three decades Manhattan has been certified as a Tree City USA, a program sponsored by The National Arbor Day Foundation in cooperation with the USDA Forest Service that emphasizes the planting and care of tress in communities all across the nation.

Line all streets with trees to create visually well-defined spaces that attract pedestrians and bicyclists while slowing vehicular traffic.

Space defined by row of trees Susanne Siepl-Coates

The following patterns offer suggestions how to create Tree-Lined Streets:
Sidewalks and Walkways
Linked Plazas and Squares
Sitting Places
Poyntz Avenue Promenade

Sidewalks and Walkways

The patterns
Streets as Urban Spaces
Elders Everywhere
Children in the City
Safe Routes to and from School
Grid of Urban Spaces
Web of Safe Transportation for All
Calmed Vehicular Traffic
Tree-Lined Streets
are further articulated by this pattern.

This sidewalk is accessible for all people BBN Inc.

Restore human legs as a means of travel. Pedestrians rely on food for fuel and need no special parking facilities.

Mumford
www.thinkexist.com/quotes/lewis_mumford/2.html

Sidewalks should always be placed on both sides of the street.

Burden 33

Without sidewalks and walkways, public rights-of-way are inaccessible to pedestrians, including children and people with disabilities.

Sidewalks are the backbone of the pedestrian transportation network. When sidewalks are not available, pedestrians are forced to share the street with motorists, access to public transportation is restricted, and children might not have safe play areas.

Sidewalks and walkways mark the pedestrian realm and reduce the incidence of pedestrian collisions and injuries. Accessible sidewalks and walkways should be part of every new street construction in order to offer persons on foot, in wheelchairs and possibly even on bicycles connectivity between places within the boundaries of their neighborhood and beyond and to link pedestrian routes to public transportation stops.

Though a standard sidewalk is five feet wide, in some cases sidewalks will need to be wider, particularly in areas of heavy pedestrian traffic. Sucher suggests that it may be “ideal for the path to be wide enough for two groups to pass each other without awkward rearrangements to interrupt the conversation” (Sucher 31).

Pedestrians tend to be most attracted to streets through which they can navigate safely and easily without worries about feeling crowded or unsafe. A green zone landscaped with ground cover, trees and shrubs provides a buffer between pedestrians and vehicular traffic reassuring one’s sense of safety while walking. This is particularly important to children and frail persons.

Regularly trimmed trees should be appropriately placed so that they shade sidewalks during day and do not conflict with illumination at night (Zelinka and Brennan 99).

Wide sidewalk allows for many pedestrians BBN Inc.

While it is a property owner's responsibility, the city should make it a priority to keep the maintenance level of sidewalks high. When sidewalks fall into disrepair, pedestrians may elect to forego walking, choosing instead to stay at home or take another mode of transportation. In either case, the discontinued use will be detrimental to public spaces targeted for pedestrians.

It is also important to remember that a sidewalk that may technically be usable to a healthy young individual may be entirely unusable for an elderly or disabled person or even for a parent with a stroller. "At a minimum, the provision of a physical infrastructure for pedestrianism (sidewalks, pedestrian paths and over passes, crosswalks) is a necessary but no sufficient pre-condition for walking. "Even with traffic speeds of 15-20 mph, children, seniors and people with disabilities cannot walk safely without sidewalks" (Burden 1999, 33). Keeping sidewalks well maintained and clean of obstructions is important for the avoidance of tripping and falling accidents" (Loukaitou-Sideris 227).
In Manhattan, the grid layout of the streets in the older parts of town has sidewalks connecting neighborhoods together. Many of the newer neighborhoods do not. Future redevelopment of Manhattan should include sidewalks so that new areas can be accessible not only to cars, but also to bicycles and pedestrians.

Ensure that attractive sidewalks and walkways line both sides of all streets in order to provide the highest possible connectivity for persons, including children and the elderly, who move through the city on foot.

The following patterns help to enhance Sidewalks and Walkways:
Marked Crosswalks
Buildings Edging the Sidewalk
Sitting Places
Sidewalk Cafes
Brick Streets and Sidewalks

Bike Lanes and Paths

The patterns
Town and Gown
Linear Trail Park
Safe Routes to and from School
Flow-Through Circulation
Paths and Trails Reaching Out
Web of Safe Transportation for All
Calmed Vehicular Traffic
Interconnected Destinations
are further articulated by this pattern.

Multiple means of transportation Susanne Siepl-Coates

If there are no specially marked bike lanes and paths, the bicycle is less likely to be used as a mode of transportation.

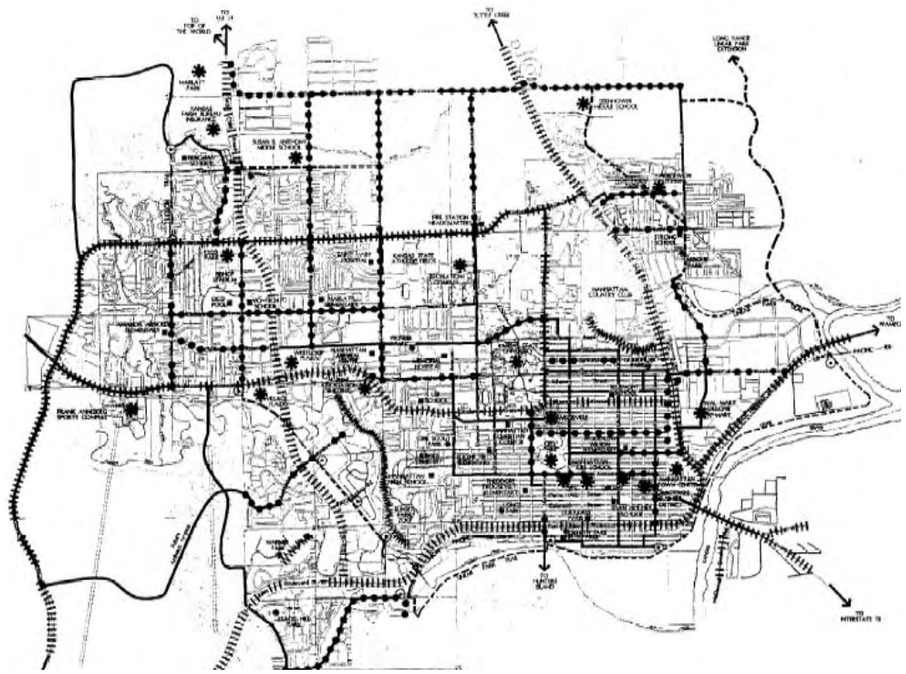
Especially in a college town like Manhattan, bicycling is a lot more than recreation. A growing number of people, not only students, are realizing that bicycling can have utilitarian benefits. "Worldwide, bicycle sales have grown more rapidly than automobile sales in the past two decades to the extent that currently the number of new bicycles produced is now three times the number of new automobiles" (Kansas Department of Transportation 3-2).

As is typical for most American communities, however, Manhattan's street system is designed to favor cars over people: the current street standards are based on engineering practices to accommodate the unimpeded flow of vehicular traffic, not to support pedestrian and bicycle movement. Adequate circulation paths must be in place for bicyclists just as they are in place for the motorists. It is not only about providing services for bicyclists but about "transportation planning for livable communities" (Bicycle Master Plan 3).

Distinguishing between two common transportation corridors, the Bicycle Master Plan for Kansas State University and Manhattan, Kansas defines bicycle lanes as portions of the roadway designated for the use of bicycles, while bicycle paths are defined as physically separated rights of way for the exclusive use of bicyclists and pedestrians.

…The bike is far more than a recreational toy or exercise vehicle. It is a vital element of the transportation system.

De Leuw 4

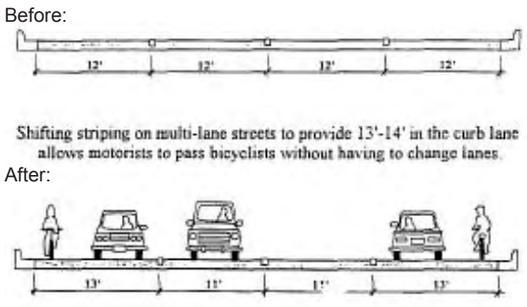


City bicycle plan Manhattan Bicycle Master Plan

Clearly marked bicycle path Susanne Siepl-Coates

The plan recognizes the need for bicycle-friendly policies and design standards by stating: “People drive cars. People ride bikes. And people walk. The transportation system should therefore be balanced to provide people with an opportunity to choose how they would like to get around for different trips” (Bicycle Master Plan 3).

Rather than retro-fitting automobile-dominated corridors, which often leads to conflicts at intersections and curb cuts, the Bicycle Master plan suggests the adoption of new street standards to accommodate on-street bicycle paths: “By modifying the cross section standards ... bicycle



Shifting stripes to widen curb lanes

Clearly marked bicycle path Susanne Siepl-Coates

accommodation may be cost effectively added to new development within those corridors where most needed” (Bicycle Master Plan 38).

Safety is the most important issue when planning bicycle lanes and paths. In 2005, 784 bicyclists were killed and an additional 45,000 were injured in accidents in the U.S. This number could be dramatically reduced if proper safety measures were in place. The first safety measure is to designate lanes and paths for bicyclists which may require a philosophical shift from a view of pedestrians and bicyclists as ‘equal participants’ in, rather than ‘obstacles’ to, smooth traffic flow.

This point is supported by the fact that in European countries, rates of cycling as mode of transportation are nearly three times the rates in the United States, yet deaths from cycling within the United States is far greater compared with Europe, nearly three times as high (Pucher and Dijkstra).

On roadways, motorists typically occupy the innermost lanes, bicyclists the middle lanes, and pedestrians the outermost lanes (see diagram below). To increase safety, actual and perceived, movement corridors for pedestrians, bicyclists, and motorists should be separated by relative speed: the speed of the motorist will dictate the degree of separation necessary between the vehicle lanes and bicycle lanes. These zones can be differentiated through striping (least effective), painting the

Highly visible bicycle lanes Susanne Siepl-Coates

entire lane, changes in pavement patterns, landscaping separations, and/or a change in elevation (see examples below).

Although distinguishing bike lanes from vehicle lanes is important, it is even more important to carefully consider the layout of these lanes at intersections. Studies show that more accidents happen where vehicles intersect with bicycles than when they are both heading in the same direction. From July 1985 to June 1989, Diana Lewiston analyzed all police reports of bicycle accidents in Palo Alto California. Bicycle accidents at intersections accounted for 233 of 314 (74%) bicycle-motor vehicle collisions (Wachtel 30). “Predominance of intersection accidents reflects the higher overall traffic activity levels there, increased decision options and the fact that motor vehicle and cycle paths must necessarily cross at the intersections” (De Leuw 27). This increased risk at intersections can be dealt with by continuing the striations or by an offset pathway crossing. Adequate lighting must also be placed wherever bicyclist and motorist interaction is likely to occur.

Besides safety, land-use patterns and accessibility of the path, also determine the use of bike lanes. As the distance between destinations increases, use will decrease. Similarly, paths that are laid out inefficiently may still be used for recreational purposes but are unlikely candidates for utilitarian riding. Adequate bicycle storage at common destinations will also increase use.

Adopt new design standards for the city’s major streets, including collectors and arterials, to accommodate safe, accessible and efficient travel through on-street bicycle lanes or signed shared-use roadways.

All streets in the City of Manhattan should be accessible to bicycle traffic.

Bicycle Master Plan 27

The following patterns help to enhance Bike Lanes and Paths:
Alleys in Back
Convenient Bike Racks
Riverside Park
Rails to Trails

Shielded Off-Street Parking

The patterns
Public Realm
Positive Outdoor Space
are further articulated by this pattern.

Large, open parking lots in the downtown do nothing to entice pedestrians to stroll and window-shop.

Zoning ordinances addressing required off-street parking were first introduced in the 1930s to deal with parking shortages along the curbs of urban shopping streets. As vehicle ownership exploded and shopping districts expanded, new businesses moving in were required to provide ample on-site parking. Today, parking demand is defined as the peak accumulation of parked vehicles generated by a particular land use. Typically, the floor area of a building is used to determine the necessary number of parking stalls required to meet its parking demands - often leading to parking lots larger than the foot print of the building they serve but hardly ever filled to capacity other than on two or three day per year.

As downtown is developing, there appears to be general agreement among business owners that additional long-term parking is needed (Manhattan Area Transportation Strategy 4-31): parking is seen as a major component to attract shoppers and thus to the economic success of the district.

Parking is desirable in most locations, but you can have too much of a good thing. The principle that "the dose makes the poison" applies perfectly to parking.

Shoup 13

Shielded parking lot Susanne Siepl-Coates

You don't know what you've got till it's gone. They paved paradise and put up a parking lot.

Joni Mitchell

While large surface parking lots cater to the convenience of motorists they do nothing for pedestrians and bicyclists. Such parking lots dominate the streetscape and are barriers for those who prefer to walk or bicycle. This is a serious problem when considering that people, not cars, are the primary users of downtown spaces and businesses: people shop and dine downtown, not cars.

The larger the surface parking lots become, the more the urban destinations spread out, making it less and less desirable to walk downtown. Large surface parking lots in front of, or between, buildings take away from a positive walking experience, detract from the architectural character and detail of the building and diminish a coherent sense of place. Parking should be available but not dominate the streetscape.

In support of this point, Donald Shoup, professor of urban planning and author of the book *The High Cost of Free Parking*, quotes William H. Whyte, a widely respected urban design and planning consultant and close observer of urban street life, who wrote in 1988: "In some American cities, so much of the center has been cleared to make way for parking that there is more parking than city. Some cities, such as Topeka, Kansas, have gone so far as to reach a tipping point. If they clear away more of what's left, there would not be much reason to go there and park" (Shoup 131).

In cities like Manhattan, Kansas, where land has traditionally been plentiful and relatively inexpensive, the availability of plentiful 'free' surface parking within, or close to, downtown retail shops and businesses is taken for granted. In fact, over the decades, the city and county have acquired properties and made the land available for 'free' surface parking.

However, so-called 'free' surface parking is not actually free. Rather, the cost of the land and its upkeep as a parking lot is distributed to everyone. "We unknowingly support our cars with almost

Parking shielded by change in elevation Susanne Siepl-Coates

every commercial transaction we make because a small share of the money changing hands pays for the parking. ... We don't pay for parking as motorists, but in all our other roles - as consumers, investors, workers, residents, and taxpayers - and we pay a high price. Even people who don't drive a car have to pay for 'free' parking" (Shoup 2).

Shoup goes on to argue that 'free' parking distorts people's travel choices. If people had to pay market prices for the land they occupy with their parked car they would most likely decide to make at least some of their short distance trips by walking, cycling, or public transport. "Free parking is an invitation to drive wherever we go" (Shoup 9).

Where surface parking is needed, the lot and particularly its edges should be made attractive to encourage people to walk between destinations rather then choose drive to the next destination. As parking demand rises, the need for a more intense use of such sites may require the construction of parking garages.

Provide off-street surface parking only in small, metered lots, ideally in the back of buildings. Keep frontage to the surrounding city streets to a minimum and visually shield that frontage with sitting walls, low hedges and other plant materials to create a pleasurable and inviting experience for pedestrians to stroll and bicyclists to ride.

Shielded parking along street Susanne Siepl-Coates

The average car spends about 95 percent of its life parked."

Shoup 6

The following patterns offer suggestions how to create Shielded Off-Street Parking:

Legible Boundaries and Gateways
Patches of Prairie
Store-Wrapped Parking Garages
Planted Swales

Alleys in Back

The patterns
Flow-Through Circulation
Web of Safe Transportation for All
Shielded Off-Street Parking
are further articulated by this pattern.

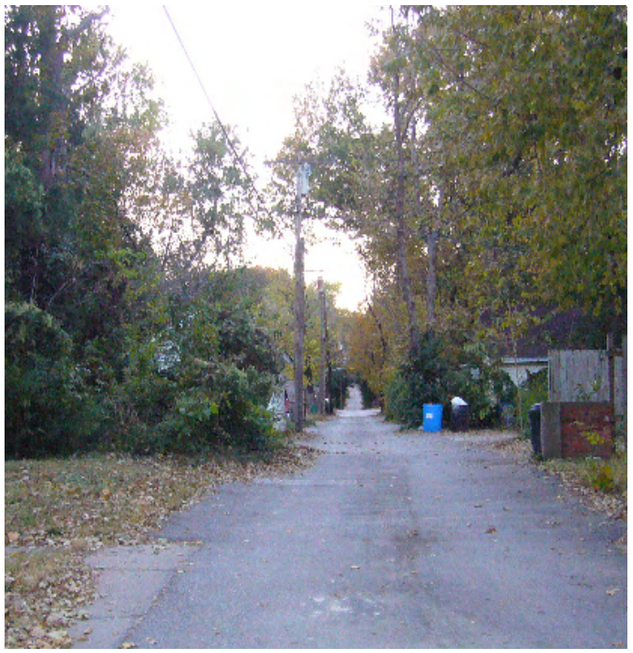
Homes with alleys in back to access garages do not require curb cuts Betsy Pribula

Without alleys, transportation options are much reduced, not just for pedestrians and bicyclists, but also for vehicles.

In Manhattan, Kansas, alleys play an important role in the transportation system. Typically oriented in an east-west direction, they cut though the middle of city blocks in the central areas of town and are primarily used to gain access to garages and trash-cans located at the backs of residential properties. In the downtown core, the alleys in the 300 and 400 blocks just north and south of Poyntz Avenue have a particularly significant role to play to service the businesses along the city's main street and to help connecting the North and South Districts to the Central Core District.

Despite their crucial contributions to the efficiency and effectiveness of Manhattan's street network, alleys are not mentioned in the 1997 Bicycle Master Plan nor in the 2000 study 'Manhattan Area Transportation Strategy: Connecting to 2020.' Unfortunately, many alleys are in varying states of disrepair. Often, utility lines are draped precariously overhead. Many alleys have uninviting blank walls, while badly maintained surfaces and poorly illuminated pathways discourage through-traffic.

Alleys in back Harald Meyer



Residential Alley in Manhattan Betsy Pribula

Homes without alleys require curb cuts BP

If well designed and maintained, alleys can be attractive places for automobiles, bicyclists, pedestrians and property owners. In residential neighborhoods alleys can be used as 'back doors' where people park their cars and bicycles, garden, play, and informally converse with their neighbors. Downtown alleys provide not only convenient delivery access to offices, retail stores and restaurants, they also allow for limited short-term parking as well as for entry passages to parking facilities. Additionally, alleys offer opportunities for interior retail spaces to extend outward and draw people in through a secondary entrance. Some stores may even offer their employees small informal places for lunch breaks or quick rests during work hours.

In alleys, motorized vehicles, bicycles and pedestrians share the same space - there are typically no sidewalks or bike lanes. With the creative use of a variety of paving materials many users of an alley and their potential needs can be safely and beautifully accommodated. Adequate lighting at night, proper signage, surveillance through windows or with cameras and proper maintenance will all help to attract pedestrians and bicyclists who want to avoid busy streets or make a short cut between destinations (Zelinka and Brennan 136).

With the addition of dwelling units and increased density, alleys can even take on the character of the British 'mews', alley-like narrow streets that originally housed private stables but have now been adapted to modern-day life. By placing the more mundane functions of urbanity at the back, the fronts of buildings can face the street in more formal and welcoming ways.

Upgrade alleyways throughout the community so that they can be used as a secondary realm of circulation, presenting pedestrians and bicyclists with alternative routes between destinations while offering a more informal atmosphere than the streets.

Build with alleys: let cars use the servants' entrance

Sucher 89

The following pattern helps to enhance Alleys in Back:
Variations in Paving Materials

Marked Crosswalks

The patterns
Elders Everywhere
Children in the City
Safe Routes to and from School
Traffic Signals for Bicyclists and Pedestrians
Sidewalks and Walkways
are further articulated by this pattern.

Clearly defined crosswalk with change in paving material — Susanne Siepl-Coates

Crosswalks should be visible, where they are not obscured by parked cars or signs.

FHWA Course 15

Streets without marked crosswalks increase pedestrians' risk of injury.

As people came to depend more and more on cars as their primary means of transportation, streets were designed to accommodate motorists almost exclusively. Crosswalks and other elements of the street were viewed as detrimental to smooth traffic flow, because their presence has the 'inconvenient' side effect of slowing traffic.

It is imperative that pedestrians can navigate streets safely if they are to be encouraged to use them for walking. Street intersections without marked crosswalks can create ambiguity: motorists do not expect pedestrians crossing the street, and pedestrians cannot be sure if motorists see them. This dramatically increases the risk of harm to pedestrians.

Well-marked crosswalks should be established along main pedestrian routes, in locations convenient for pedestrians. Not only will well-marked crosswalks provide motorists with a reasonable expectation of where pedestrians might cross a roadway. The presence of such crosswalks is also likely to increase pedestrian safety, which in turn is a strong predictor of greater walking behavior (Committee on Physical Activity, Health Transportation and Land Use).

Enforcement of crosswalk ordinances should also be a focus of attention. Motorists, who fail to yield to pedestrians in crosswalks, stop in crosswalks at intersections, or park on crosswalks should be penalized.

Crosswalks can be marked in a number of ways. Most important are the markings on the street itself, usually lines in a straight or ladder pattern, but there are other more creative and often times more effectives ways to alert motorists of a cross walk, such as "to raise intersections slightly and to use different pavers… to distinguish the crosswalks

Marked crosswalk by change in paving material Susanne Siepl-Coates

visually and contextually for drivers" (Schmitz and Scully 42).

Recently, many cities, including Manhattan, have begun to provide mid-block crossings to save pedestrians the trouble of walking to the end of a block and to decrease jay walking. Sufficiently illuminating the crosswalks with good lighting is essential for increased safety at night or on days with poor visibility. As a benefit to pedestrians, frequent crosswalks keep motorists from picking up speed the way they would on longer unobstructed stretches of roadway.

Clearly marked crosswalk Andrea Pardo

"A crosswalk is considered to be an extension of the sidewalk, whether it is marked or not" (Zeeger 1). This indicates that the crosswalk is a pedestrian zone allocated specifically for pedestrian traffic.

Alterations to curbs can also increase motorist awareness of pedestrians. Using curb extensions or bulb-outs and adding pedestrian refuge islands, for example, narrow the width of the street at intersections, slowing automobile traffic and shortening the crossing distance for pedestrians. This is especially important for the very young and the elderly who may need more time to cross the street.

Mark crosswalks in a variety of ways: with various paving materials, street lights, signs, raised cross walks, etc., in order to increase the safety of pedestrians.

The following patterns help to enhance Marked Crosswalks:
Variations in Paving Materials
Raised Crossings and Intersections
Curb Ramps

Pedestrian Refuge Islands

The patterns
Elders Everywhere
Children in the City
Safe Routes to and from School
Calmed Vehicular Traffic
are further articulated by this pattern.

Crossing a wide street with heavy traffic volume can be a daunting and intimidating undertaking to pedestrians, particularly to children, the elderly and other persons with limited abilities.

Crossing a busy arterial or collector street on foot can be tricky and dangerous. Arterial streets like Tuttle Creek and Fort Riley Boulevards, Kimball Avenue, Seth Childs Road and parts of Anderson Avenue are daunting to navigate for motorists, let alone to cross for pedestrians. Streets with multiple lanes may support the flow of vehicular traffic, but they also tend to encourage drivers to increase their speed, creating a serious hazard for pedestrians. In fact, far too many motorists are not watching out for pedestrians when their field of vision is unobstructed along major thoroughfares.

Marked crosswalks, stop signs, and traffic lights can help manage the plight of pedestrians somewhat by imposing rules to slow down or stop vehicle traffic. Yet they cannot be placed everywhere where pedestrians are moved to cross a street.

Pedestrian refuge islands are striped or raised areas in the middle of wide streets, separating traffic traveling in opposite directions. They serve as a safe haven for those individuals who tire quickly from walking and thus need additional time to cross a wide street, including older adults, persons who use assistance devices and children. They contribute to increased public safety by allowing pedestrians "to cross one half of the roadway, with a safe place to stop before crossing the second half of the roadway" (Seattle Manual). In this way, pedestrians can assess one flow of traffic at a time and then, while safely positioned on the "island", make a better assessment about the safety of crossing further.

Pedestrian refuge islands can also be used to narrow the vehicular roadway thus slowing motor traffic while offering opportunities to beautify the streetscape. In addition to serving the functional purpose of offering refuge, the planting of trees, low-growing shrubs and or grasses and even flowering ground covers narrows a driver's vision, causing him/her to slow down while also improving the street character in a place which would otherwise be left merely as the concrete or asphalt of the roadway.

Pedestrian refuge islands can be a beneficial addition to many collector and arterial streets that are divided into five lanes - two in each direction and one turning lane. Dividing the street with an "island" would make crossing the street less daunting and create an environment more conducive to pedestrian and even bicycle use.

Create raised pedestrian refuge islands in the center of busy arterial and collector streets to promote safe and pleasant movement on foot.

Pedestrian Refuge Island Susanne Siepl-Coates

The following patterns help to enhance Pedestrian Refuge Islands:
Patches of Prairie
Variations in Paving Materials
Curbs and Gutters
Curb and Ramps

IV 1 Vibrant Downtown Districts

2 Mix of Uses

3 Buildings Edging the Sidewalks

4 Landmarks

5 Eyes on the Street

6 Housing Choices

7 Linked Plazas and Public Squares

8 Living Above Stores

9 Downtown Athletic Club

10 Farmers Market

11 Pocket Parks

12 Legible District Boundaries and Gateways

13 Art in the Public Realm

14 Street Furnishings and Public Restrooms

15 Variations in Paving Materials

16 Patches of Prairie

17 Raised Crossings and Intersections

18 Sitting Places

19 Parking in Front of Stores

20 Convenient Bike Racks

21 Night Life

22 Pools of Light

23 Public Signs and Markers

Vibrant Downtown Districts

The patterns
Public Realm
Positive Outdoor Space
Streets as Urban Spaces
Historic District
Main Street
are further articulated by this pattern.

Poyntz Avenue Riley County Historical Society

"Unappetizing" features such as blank walls and edges of parking lots along major downtown streets do not entice pedestrians and bicyclists to walk or bicycle. Not designing walkable and bikable places in and around downtown today may mean giving up the potentials for "stability and vitality of downtown Manhattan as the regional commercial, office, governmental and cultural center for the city and surrounding region" in the future.
Downtown Tomorrow 1

For most of the 20th century, the urban cores of towns and cities experienced a decline in population and job opportunities. Similar to so many other places across the United States, Manhattan, Kansas, experienced significant growth of suburban residential and strip mall development. During the late 1970s and early 1980s the community made "visionary decisions ... to commit to the redevelopment of the Manhattan Downtown" (Downtown Tomorrow 9). Perhaps the most significant step toward creating a vibrant downtown occurred when the city entered into a private/public partnership to construct Manhattan Town Center Mall, a regional shopping mall located downtown. However, for many years the city was not able to attract the reinvestment necessary to maintain and improve the historic downtown shopping district and the surrounding older neighborhoods as much as it had hoped.

When a large industrial steel company moved out of the area, opportunities arose to increase the value not only of this site to the north but also of underused urban land to the south of the central core for profitable development. In conjunction with the Manhattan Area Chamber of Commerce, the City of Manhattan embarked on an ambitious redevelopment effort to enhance the downtown neighborhoods and associated retail/commercial district.

Making use of sections 12-1770 through 12-1780d of the Kansas Statutes, which provide a means for cities to finance public development and redevelopment costs with incremental real estate taxes and other revenues, the City of Manhattan decided to work towards continued growth in its urban core to "promote, stimulate and develop the general and economic welfare of the State of Kansas and its communities and to assist in the development and redevelopment of eligible areas within and without a city thereby promoting the general welfare of the citizens of this state…".

The current downtown redevelopment efforts are intended to create three urban districts, each with its own character yet linked by a cohesive identity. First and foremost the 'Poyntz Avenue' or 'Central District', generally consisting of the rights-of-way of 3rd and 4th Streets between Leavenworth Street on the north, and Pierre Street on the south, will

Signs and lights on Poyntz Avenue BBN Inc.

consist of upgrading and infilling the existing urban fabric, improving the existing streets, streetscape and landscaping;

The 'Tuttle Creek' or 'North District', located south of Bluemont Avenue, east of 4th Street, west of Tuttle Creek Boulevard, and north of Leavenworth Street, is intended to be a mixed-use development consisting of mid-sized retail stores and restaurants with a regional draw; a residential mix of town homes, condominiums, and apartments, as well as a significant amount of office space.

The 'Arts' or 'South District', located south of Pierre Street, east of 4th Street, west and north of Fort Riley Boulevard, is envisioned as a mixed-use development with residential units, small to mid-size retail stores, offices, restaurants, a combined hotel and conference center, and civic space.
Reaffirming the importance of the downtown area for the image and long-term physical, economic and social well-being of the community, the city is again involved in a major endeavor to increase the vitality and vibrancy to the larger downtown area.

These efforts coincide with nation-wide indications that "long-term population/job migration and inner-neighborhood disinvestment trends are turning around" (Porter 117). In fact, more and more people are rediscovering the attractions of urban locations and the benefits of living and shopping downtown. Picking up on this trend, the Manhattan Area Chamber of Commerce started a program to draw retired people to the city two years ago. Included among several advertised amenities are 'a small town feel', 'unique shopping and restaurants', and 'a place that belongs on a postcard' (Manhattan, Kansas 34-35). Hopefully, once the redevelopment efforts are completed, these characteristics will still apply to the district as a whole.

Think of the new districts as modifications of the traditional downtown core - adapted to fit the city's current needs. Concentrate community destinations in compact developments: retail, commercial, entertainment, and residential uses well integrated with public open spaces. Connect the three districts in ways that attract walking and bicycling and guarantee the safe flow of pedestrians and bicycles through the districts, provide opportunities for people to meet casually, and offer places for the kinds of social interactions that bind communities together.

Downtown Manhattan - As home to city and county government, professional offices, specialty retail, fine restaurants, entertainment and recreational activities it provides a unique lifestyle for the many that choose to live in its safe pedestrian environment.

Excerpt, DMI VISION 2009 Statement

The following patterns further characterize Manhattan, KS as a Vibrant Downtown Districts:

Mix of Uses
Buildings Edging the Sidewalks
Parking in Front of Stores
Attractions on Both Sides of the Street
Store-Wrapped Parking Garages

Mix of Uses

The patterns
Public Realm
Streets as Urban Spaces
Main Street
Vibrant Downtown Districts
are further articulated by this pattern.

Apartments above retail space BBN Inc.

Particularly since WWII it has been planning dogma to separate uses. […] To a point, separation of conflicting uses makes sense. But taken to an extreme it has led to vast monocultures of uses.

Sucher 22

Zoning that separates different yet compatible functions of urban life from one another contributes to making cities dull and lifeless.

Today decentralized and dispersed land uses and automobile-dependent transportation networks characterize cities, large and small, across the nation. Politicians, planners and other professionals worked hard during the first half of the twentieth century to turn crowded, polluted, noisy and dangerous industrial era cities of the nineteenth century into well-organized, safe, and efficient cities of the modern era. In fact, it was the concern for public health that led to the introduction of zoning regulations and eventually the sprawling and car-dominated urban environments we take for granted today.

With respect to physical activity patterns, mixed-use development has its greatest relevance at smaller scales.

Frank, Engelke, and Schmid 146

Land use patterns, one aspect of zoning regulations, play an important role when it comes to the promotion of utilitarian physical activity. The proximity between different land uses, such as housing and shopping, between trip origin and destination, depends largely on the arrangement of buildings and other physical features. If the destination is in close proximity and easily accessible, it is likely that people choose to walk or bicycle to reach it. Studies have shown that older adults, especially women are more likely to be active if they have more destinations to walk to (W. C. King et al.).

The term ‘mixed-use’ typically refers to the intertwining of different yet compatible uses, such as retail and residential. Perhaps the most easily recognizable example of a mixed-use setting is the apartment unit above a small retail store. Such intertwining of uses, characteristic of older residential neighborhoods and traditional shopping districts, often has symbiotic outcomes for the uses involved: it is beneficial to all parties involved.

A significant body of research suggests that compact mixed-use developments have a powerful effect on physical activity (Southworth; Corbett and Velazquez). “As distance is an important barrier to non-motorized travel, mixing uses is believed to be an important strategy for increasing travel on foot and bicycle” (Frank, Engelke, and Schmid 143).

The more finely grained the district in terms of physical structures and uses, the more destinations there are nearby and the more opportunities exist to run errands on foot or by bicycle.

By allowing, and even encouraging, mixed-use development, cities can support the creation of places of greater density and variety, increasing the number and diversity of people attracted to the area, and therefore increasing the economic value of the land. Residents of such a multi-use district have the benefit of being close to the stores, restaurants, recreational facilities and services that

meet their everyday needs, cutting down on money spent on gas to drive and on time spent in the car traveling. Consequently, fewer pollutants will be emitted from automobiles leading to a healthier and more sustainable environment.

Mixed-use districts make it possible for some people to live in the vicinity of their employment, so that they can walk or bike to work. Mixed-use districts also increase opportunities for a diversity of people to meet casually, to run into friends and acquaintances, as people walk to their favorite lunch spots or run an errand, thus strengthening the sense of community. More people and watchful eyes on the street for more hours of the day can contribute to reduce or eliminate crime in the area. “Making people feel safe in the street means, in turn, a preference for mixed uses in buildings and for a concentration of residents in the city centre. However, the eyes-on-the-street hypothesis is not simply about feelings of safety. It is also about reducing the actual opportunities for crime in the street (Jacobs 42).” (Goodchild 82).

Many people continue to associate myths and stigmas with compact, mixed-use development.

Apartments above retail in Aggieville BBN Inc.

However, many communities have been successful in creating attractive mix-used districts with the “basic goals being to create a convenient, safe and livable environment, to assure the compatibility of buildings and uses with adjacent development, and to create an attractive, functional, and distinctive place” (Porter 27).

Revisit zoning regulations with the goal to institute finely grained new mixed-use districts while strengthening existing ones.

We need to think more of neighborhoods and less of subdivisions, more of interaction and less of screening, more of access and less of restriction; in short, more of community and less of sprawl.

Porterfield and Hall 166

Apartments above a restaurant, downtown Manhattan Riley County Historical Society

The following patterns offer suggestions to support the Mix of Uses:

Living Above Stores
Downtown Athletic Club
Farmers Market
Third and Fourth Street Loop
Attractions on Both Sides of the Street
Store-Wrapped Parking Garages
Poyntz Avenue Promenade
Shopping Street

Buildings Edging the Sidewalks

The patterns
Positive Outdoor Space
Streets as Urban Spaces
Neighborhood Stores and Services
are further articulated by this pattern.

Stores fronting sidewalks BBN Inc.

Suburban building setback requirements rob us of the enclosure and scale.

Porterfield and Hall 93

"Building setbacks from the street, originally invented to protect the public welfare by giving every building light and air, have actually helped greatly to destroy the street as a social space."

Alexander et al. 593

Generally, when buildings are set back from the sidewalk, as is typical in many suburbs, they communicate that its inhabitants are not interested in what is happening on the street. Similarly, in urban shopping districts, when buildings with retail businesses on the main floor, even those with enticing storefront windows, are set back from the sidewalk, and thus the flow of pedestrian traffic, store owners communicate that they are not interested in participating in the life of the street. The case is worse if there is a parking lot between the sidewalk and the building. In those instances, there is no urban life at all. Not surprisingly, in such districts street activities tend to be limited to vehicular traffic moving by.

Far beyond their roles as elements of the transportation network, urban streets and squares have enormous importance for the social life of a community. But only certain kinds of streets attract citizens to conduct business, pedestrians to stroll along and window-shop, linger and rest to chat with a friend, meet an acquaintance by chance, or sit in a sidewalk cafe and observe the street scene.

It has already been stated in Positive Outdoor Space that people tend to be drawn to outdoor spaces that are well shaped by buildings, rows or trees and other three-dimensional elements. In the urban settings the spatial quality of outdoor realms is particularly crucial: buildings that edge the sidewalk define the public realm of the street while providing a sense of enclosure and protection without a sense of confinement.

It is building fronts that create the street space. It is the ground floor activities behind the building fronts that generate the potential for street life, and it is the character and quality of the building fronts that imbue the street with an ambiance conducive to walking. Thus it is important to shape the street space with carefully detailed buildings that provide an edge to the street. Since pedestrians move at a slow speed, they are in a position to notice and

Buildings edging pedestrian street Susanne Siepl-Coates

Buildings edging a sidewalk Susanne Siepl-Coates

A restaurant with a window facing the street BBN Inc.

enjoy building details and ornaments or to view into a store and observe fellow citizens going about their business.

Similar to the downtown districts of many other small cities, Manhattan's downtown was conceived and built as a tight, well-defined district with many finely detailed and beautifully ornamented limestone and brick buildings that abut the sidewalk. Images depicting Poyntz Avenue at the turn of the 20th century show how busy and full of life downtown was at that time.

Retail stores, restaurants and other businesses still occupy the main floor, while offices and even apartments occupy a number of second floor spaces, all uses that bring people out onto the sidewalk where they contribute to, and participate in, urban life. Such a compact, mixed-use center of activity encourages walking, creating the critical mass of people to generate pedestrian activity and thus opportunities for the kinds of social interactions that bind the members of a community together.

The Bicycle Master Plan offers another argument related to setbacks. "Reducing building setbacks not only eliminates the need to ride or walk through a sea of parking, but also has the added benefit of helping to slow traffic on the street, because roadways appear to be narrower when buildings and tree plantings are placed within a driver's field of vision" (Bicycle Master Plan 45-46).

In the downtown districts as well as in other urban commercial districts such as Aggieville, require buildings to be sited right up to the sidewalk in order to contribute to the creation of a well-defined street space.

Build to the sidewalk… it channels pedestrian movements and forces people into closer proximity where they may bump into each other and act neighborly.

Sucher 47

The following patterns offer suggestions how to develop Buildings Edging the Sidewalks:

Eyes on the Street
Third and Fourth Street Loop
Attractions on Both Sides of the Street
Store-Wrapped Parking Garages
Poyntz Avenue Promenade
Shopping Street

Landmarks

The patterns
Public Realm
Historic District
are further articulated by this pattern.

The historic Warham Hotel and Theater BBN Inc.

A city without landmarks lacks the character and sense of place that entices pedestrians and bicyclists to actively participate in urban life.

Manhattan is a town with many beautiful historic buildings that serve as monuments to the memory of former times. Standing alone or in ensembles, historic structures contribute to defining the culture of the community and creating a " sense of place" specific to Manhattan, Kansas. Such "reminders of the past" illustrate not only the history of the city itself, but exemplify architectural development in the region throughout the decades.

Many cities that lack tangible connection to the past are working hard to establish pseudo-historic structures or districts, typically without long-lasting success. In contrast, cities that value and celebrate their cultural heritage are highly desirable places to live and to visit, which in turn benefits the community economically. It is no big secret that "people tend to seek out historic settings because they offer quality craftsmanship and materials, create variety, and encourage human interaction in a familiar context" (Cultural Resources Survey 7). In fact, studies have shown that most individuals prefer to be active in areas that are visually appealing and interesting, and furthermore, living near areas that are aesthetically pleasing is associated with more walking and biking (Giles-Corti and Donovan, 2002).

... preservation has proven utilitarian value as a tool for economic development and environmental stewardship.

Cultural Resources Survey 7

Landmarks do not have to be historic in nature - they can be created today to be appreciated by generations to come. As the city grows and changes in typical patterns, there is a great danger that development in the downtown area, if primarily driven by economic interests, can lead to a characterless, soulless “Everywhere, USA” of which there are already too many all over the Midwest region. Instead, if individuals and/or the community have the will to invest into significant structures, community growth and change can be an “opportunity to strengthen and enrich the City’s visual character and to enhance the quality of life already appreciated by many residents and visitors” (Cultural Resources Survey 6).

Manhattan’s downtown core has enormous potential for the creation of an economically viable and attractive setting. In fact, as has been demonstrated in many communities nationwide, by investing in the old structures the community can capitalize on already existing assets. The combination of restoring and rehabilitating historic buildings, in conjunction with the design of quality new buildings on empty or underused lots, can be a catalyst to attract other commercial ventures to the community, which in turn will enhance the economic vitality of the community (Manhattan Urban Area Comprehensive Plan 4-10).

Seven Dolors Catholic Church BBN Inc.

Memorial in public realm Susanne Siepl-Coates

In conjunction with the development of sensitive infill structures and new construction, consider the inclusion of elements significant enough to serve as landmarks now and in the future.

The loss of elements that historically defined the core of the community significantly impacts the City’s identity - its unique attributes that distinguish it from other communities in the region.

Cultural Resources Survey 6

The following patterns offer suggestions how to create Landmarks:

Legible District Boundaries and Gateways
Art in the Public Realm
Time and Temperature

Eyes on the Street

The patterns
Streets as Urban Spaces
Mix of Uses
Building Edging the Sidewalk
are further articulated by this pattern.

Mother walking with children BBN Inc.

"Empty streets and desolate public spaces generate fear and provide opportunities for criminal acts to go unnoticed" (Loukaitou-Sideris 225).

Most suburban city development incorporates vast amounts of land, the majority of which goes to spaces between buildings, often large-scale parking lots. Such areas are characterized by low population density and desolate areas. In such places, no one is around to take note of suspicious or threatening behavior. As a consequence, people may begin to avoid these areas more and an unhealthy cycle begins.

The term "eyes on the street" was coined by Jane Jacobs in her book *The Death and Life of Great American Cities* to describe the phenomenon whereby streets become safer when there are people around to observe the activities that go on there. The characteristics of a built environment have the power to attract or repel people from using it and therefore play an important role in making streetscapes safe. "Many of the same design characteristics that bring people to a place will also discourage criminal activity" (Schmitz and Scully 26).

Limiting blind spots where people could hide, and designing homes and businesses with casual street surveillance, for example, will discourage criminal activities from taking place in that area. Jacobs also argues for the revitalization of inner-city and downtown areas and against the continuation of suburban sprawl if downtown areas were reworked, given definition and character, and planned with a mix of residential and commercial uses, people would come to have a sense of pride and belonging and be present to watch out for potential criminals and act as a deterrent. They would have their "eyes on the street."

Inspired by Jacob's concept, architect Oscar Newman sought to apply "eyes on the street" to his public housing designs (Zelinka and Brennan 19). His experiences led him to conclude that there were three main advantages to designing with "eyes on the street":

Surveillance. If architecture and urban design work together to create spaces that maximize visibility, people will be less likely to commit criminal acts in them. This can be done through strategic location of paths and plazas in relation to buildings, window placement, and good lighting.

Access control. Neighborhoods or private areas should have distinct entrances that can be easily seen by a large number of people. This should deter most criminals from entering in the first place, and leave those who do enter no excuse of ignorance for their presence.

Territoriality. Spaces with individual and definable character create a sense of pride of location in people. Architecture and design elements should encourage this sort of distinction and give people a reason to care about and control what goes on in their neighborhood (Zelinka and Brennan 21).

The design orientation of buildings with windows facing the street can increase natural surveillance by neighbors. In mixed-use and commercial areas, design can improve opportunities for surveillance by introducing storefronts facing the sidewalk.

Loukaitou-Sideris 225

One of the most effective methods of creating "eyes on the street" is through mixed use. "… characteristics of well-planned retail and entertainment districts…Stores do not turn their backs to the street, but have front doors that open onto the sidewalks" (Schmitz and Scully 30).

Feeling safe from crime is a positive correlate of physical activity for many individuals, especially older adults and women (Trost et al.; A. C. King et al.; Wilcox, Castro et al.). By combining housing with retail and offices, an "automatic security system" has been installed. People living in such areas enter and exit buildings that someone will observe at all times, not just during the 8 to 5 business hours. Buildings that edge the sidewalks and minimize blind spots between them rid the area of dark shadows or potential hiding places that cause the perception of safety to decrease. Providing quality lighting makes "eyes on the street" effective at night when criminal activity may be more likely to occur.

Promote safety through the built environment by implementing design elements that allow natural surveillance of the streetscape.

Store fronts opening onto the street BBN Inc.

The following patterns offer suggestions how to create Eyes on the Street:

Housing Choices
Living Above Stores
Sitting Places
Night Life
Pools of Light
Attractions on Both Sides of the Street

Housing Choices

The patterns
Elders Everywhere
Mix of Uses
Eyes on the Street
are further articulated by this pattern.

Avalon Building, Manhattan BBN Inc.

Improving and stabilizing housing in existing downtown neighborhoods, and identifying and creating opportunities for new housing, is considered a high priority.

Downtown Tomorrow 24

An inadequate amount of housing in and immediately adjacent to the core area will result in 'abandoned' downtown streets and plazas, particularly at night.

Since the early 20th century people and jobs have tended to migrate out of city centers, leaving many urban downtowns and older neighborhoods to fall into a slow but steady decline. There is now a sense that this trend is reversing itself as more and more people once again recognize the attractions and benefits of urban locations.

Recent studies addressing development issues in Manhattan, Kansas, have come to the conclusion that one major key element to downtown revitalization is housing (Manhattan Urban Area Comprehensive Plan 1).

The need for housing types other than the typical one-family household for mother, father and two children is a reflection of the increased diversity of American society. Non-traditional household types including single persons, dual-income adults without children, single parents with children, and groups of unrelated adults, have emerged (Porter 68).

There are many people who desire to live in the downtown. The compact form of the downtown area as well as easy access to a wide range of stores and services makes the core area particularly attractive to so-called 'empty-nesters', active people who are looking to reduce the responsibilities of maintaining a large house and yard; young professionals who want to live close to work and are not yet ready to take on the responsibilities of maintaining property; the elderly; as well as persons with limited access to transportation.

Recognizing, and building on, the new trend to retire to a college town, the Manhattan Area Chamber of Commerce recently initiated 'Retire to the Flint Hills', a program directed toward out-of-town alumni nearing retirement age.

Integrating residential with compatible commercial and office uses is supported by various organizations that address issues related to sustainable urban design, including the Smart Growth Network. Established in 1996, the Smart Growth Network concentrates on environmentally responsible development of cities while exploring ways to boost the economy, protect the environment, and enhance community vitality (Smart Growth Network 1).

Rentable apartments on Poyntz Avenue Downtown Manhattan Inc.

Proponents of 'smart growth' suggest that a mix of housing choices, including affordable housing, is one essential means to increasing the economic vitality and livability of cities. These choices may include loft apartments above retail stores, townhouses and apartment buildings, rental and owned units, new infill development and restoration of existing buildings. "A finer-grain mix of housing styles and prices, community by community, can create more successful, sustainable communities as well as accommodate a fuller range of community and regional housing needs" (Porter 72). Offering housing options that are attractive to people with a broad range in age, income, or family status can promote the diversity in population that is desirable for the vibrancy of the downtown area.

Increased housing in Manhattan's downtown and its adjacent areas can lead to the establishment of 'urban' neighborhoods consisting mostly of "medium to high density residential row houses, townhouses and apartments. Live/work units are also accommodated within this district. Buildings are placed close to the sidewalk, while off-street parking is located to the rear or side of the building" (City Exploring 'Walkable Neighborhoods' 3).

Such 'urban neighborhoods' can serve as a transition between the downtown and the lower density family-oriented neighborhoods. A higher density of residents in and around downtown is likely to bring more people into stores and restaurants and enhance urban street life, thus contributing to the economic and social well-being of the community.

Encourage the development of housing options in and around downtown to entice diverse groups of people to live in Manhattan's core area.

By making room for appealing choices for people at different stages of their lives, it allows neighborhoods to grow old gracefully.

Porter 72

The following patterns offer suggestions how to enhance Housing Choices:

Living Above Stores
Attractions on Both Sides of the Street

Linked Plazas and Public Squares

The patterns
Public Realm
Positive Outdoor Space
Elders Everywhere
Neighborhood Greens
Flow-Through Circulation
Interconnected Destinations
are further articulated by this pattern.

Downtown redevelopment, linked plazas and public squares BBN Inc.

People sit where there are places to sit.

Whyte 2B

Pedestrians and bicyclists are more likely to quickly pass through downtown areas if there are no plazas or public squares in which to linger.

People are a sign of life. Plazas and public squares are not for cars or motor traffic, but for those who wish to rest or stop to talk when walking or biking from one location to another. It is critical that these spaces be designed to suit pedestrian needs. Otherwise, they will become abandoned and useless. Plazas and squares must be linked to pedestrian flows of traffic in such a way that they are inviting places which draw people in. A series of plazas along a pedestrian route might look like a necklace, with the paths acting as the chain, and the plazas and squares as the gems strung upon it. Connectivity is critical.

Open spaces provide links not only between neighborhoods and public districts, but also between people. In his book, Urban Open Space, Mark Francis lists four “ingredients” to successful open spaces (Francis 14).

- *Accessibility*. For a place to serve as a link, it must be something that people of all abilities can make use of.
- *Activities*. Whether an open space is a plaza or a park, it should encourage people to use it for celebration, show, meetings (planned or spontaneous), and other occurrences involving groups of people.
- *Comfort*. Comfort includes not only the citizen’s basic right to safety but also the general attractiveness and cleanliness of the area that make it more enjoyable.
- *Sociability*. People should be encouraged to interact on a variety of level through design.

Section, linked plazas and public squares BBN Inc.

In his book *The Social Life of Small Urban Spaces* Willian H. Whyte describes that, at a more pragmatic level, certain additional aspects consistently contribute to successful public places.

- *Location near a high traffic area*. People will stop in plazas to rest if they are on their way. Rarely will they go out of their way to look for such a place.
- *Sunlight*. "Put public space in the sun…if you would like a public plaza to be used, place it on a side of the building where it will receive sunlight." (Sucher 29)
- *Vegetation*. Adding trees, shrubs, or flowers to a public square beautifies the space and adds a sense of comfort to those relaxing there.
- *Protection from the elements*. Although people like the sun, on hot days they will wish to shade. On rainy days, they will want some place to be dry. On windy days, they will want shelter from the wind. Public space should be flexible enough to accommodate all these needs.
- *Seating* (both movable and stationary). Stationary seating may be of the traditional park bench variety or ledges or sides of planters. Movable seating is valuable as well. It allows people to put seating where they want it and arrange it according to their group size.
- *Food*. Food is a basic need that people will look for when they stop to enjoy a space.

In addition to the elements a public plaza or square can offer within, they also offer something to look at. "An active park or square is also an amenity for those who don't stop but who walk by and see the activity. It becomes part of the scenery that make walking fun" (Schmitz and Scully 49). In *Creating Walkable Places* Schmitz and Scully also mention how public parks can deter vandalism and other criminal acts by offering an active place, one that is not just 'left over'.

Another positive attribute of plazas and squares is that they can act as a buffer between parking and pedestrian realms. Through use of landscape and/or architectural elements, vehicle parking can be screened. With an active beautiful place to look at and be in, people are more willing to walk farther so it is easier to screen parking because only the bare minimum square footage of parking is needed in high density areas.

Link public plazas and squares (even parks) with pedestrian-friendly sidewalks and bike lanes so that they become a necklace of amenities for those who walk and bicycle.

The most successful public spaces are those that are active; provide ample and comfortable seating; offer protection from extremes of sun, wind, and temperature; and connect seamlessly to the street but still maintain edges and definition.

Schmitz and Scully 47

Well-designed public spaces are the corner stone of livable communities. And the essence of community is human connection: a sense of belonging to an identifiable place and to an active public realm.

Schmitz and Scully 47

Green spaces in Manhattan BBN Inc.

The following patterns offer suggestions how to create Linked Plazas and Public Squares:

Pocket Parks
Legible District Boundaries and Gateways
Street Furnishings and Public Restrooms
Variations in Paving Materials
Sitting Places
Town Center Plaza
Outdoor Fireplaces and Barbeque Pits

Living Above Stores

The patterns
Vibrant Downtown Districts
Mix of Uses
Eyes on the Street
Housing Choices
are further articulated by this pattern.

Business districts tend to become desolate places after business hours.

In mixed-use districts residential uses can most easily be accommodated in separate buildings, because it is "cost effective, minimizes potential conflicts, reduces building and fire code requirements, and is easier to finance" (Schmitz and Scully 35).

However, in downtown Manhattan there are several historically significant buildings with retail stores on the ground floor and unused spaces above. Recently, a few downtown property owners have successfully converted such unused spaces into attractive and highly desirable apartment spaces, thus setting examples for others to follow. In fact, 'living above stores' has gained favor in many cities as a particular form of urban living. "Once regarded as unmarketable, 'residential over retail' has become a highly successful development form ..." (Schmitz and Scully 36).

From an economic standpoint, property owners and renters both benefit from the vertical combination of commercial and residential spaces on downtown areas. When residences or offices are located above retail shops, residents and employees of the upper level spaces help to support the retailers on the ground floor while, at the same time, the shops make the offices and residences more attractive by becoming on-site amenities (Schmitz and Scully 28). Those living above the shops have easy access to the amenities provided by the store; and those who own the store benefit from the virtually guaranteed customers. And, should the owner of the shop and the resident be the same person, that person benefits from close proximity between home and work.

Providing housing above stores is also a security measure. "People living in…any type of property, can control crime and anti-social behavior in two distinct ways. Either they can actively intervene, notably through reporting the incident to the police or to someone else. Or they can deter crime passively merely by their presence" (Goodchild 85). Streets that are deserted at night can easily invite vandals since no one is watching. If the downtown houses only office and retail spaces that are closed between 5 PM and 8 AM, this leaves a substantial portion of time in which no one is on the street to observe possible bad behavior.

Mixed use development in a public setting BBN Inc.

Commercial districts that do not include housing or have housing nearby become dead zones after business hours and on weekends, and have limited economic success.

Schmitz and Scully 35

Proposal for living above stores Katie Harms

Housing above stores provides, quite literally, what Jane Jacobs called 'eyes on the street.' If cities were designed so that there is potentially always someone watching the street, even after stores close, the chances of pranks or criminal activity taking place are diminished. If criminal activity does occur, there is likely someone nearby to notice. "The provision of housing over shops does indeed increase the level of public surveillance in town and city centres and makes access to commercial property more difficult for offenders" (Goodchild, 88).

Living above stores, downtown Manhattan BBN Inc.

More housing downtown provides incentives for more shops and restaurants to locate in the area to support the larger numbers of more people living so close. With more residents living downtown, there will be more pedestrian activity after regular business hours than there is without housing, with people walking home from work, from a restaurant or from a night out at the movies.

One successful example of 'housing above stores' is the Wareham building on Poyntz Avenue, which was once the Wareham Hotel. Consisting of a variety of attractive small apartments above *Harry's Uptown Fine Dining Restaurant*, the building is active at all times, day and night. Many Wareham occupants dine at Harry's, contributing to keeping the restaurant busy. One can presume that there is a need for such housing in Manhattan since there does not seem to be a problem finding renters for the apartments. More housing, of this and many other types, is what the downtown needs to invite a vibrant atmosphere, day and night.

Support housing above stores in the downtown core to make use of desirable floor space; to create increased pedestrian traffic after normal business hours; and to provide natural surveillance.

The following patterns offer suggestions how to support Living Above Stores:
Night Life
Attractions on Both Sides of the Street

Downtown Athletic Club

The patterns
Neighborhood Stores and Services
Mix of Uses
Eyes on the Street
Housing Choices
Living Above Stores
are further articulated by this pattern.

Physically active residents Adam Hutschreider

Still standing after two World Wars, Manhattan's Community House serves as a strong testament to the significance of a community gathering place.

www.ci.manhattan.ks.us

The absence of a downtown athletic facility can have a negative impact on the exercise behavior of people working and living downtown.

A recreational facility that is easily accessible to downtown residents and employees can have a definite impact on people's increased physical activity levels.

The existing Community Building located at the intersection of 4th and Humboldt Streets could provide this exercise opportunity for downtown Manhattan. Listed in the National Register of Historic Places, this brick structure has a history as a recreation center and could be renovated to serve as the future downtown athletic gym.

The Community Building was built in 1917 to serve as a place of refuge and relaxation for soldiers during World Wars I and II. Soldiers, their families and friends were able to engage in a variety of activities, including playing billiards, reading magazines, or attending music concerts, dances, and other events several times a week.

Actually, it seems that the Community Building has had a significant impact on the well being of other communities. "Featured on the cover of *The American City* magazine after it was built, the creation of the structure encouraged the government to disburse $4 million to other cities to encourage construction of their own Community Buildings" (www.ci.manhattan.ks.us/DocumentView.asp?DID=2747).

The renovated Community Building could provide exercise spaces and programs for persons of all ages. The elderly and current residents will especially benefit from this facility. Currently, there is not a recreational facility that is located directly in downtown, Manhattan, KS.

Recreational facilities and athletic gyms provide an opportunity for planned, formal or structured exercise, compared with transportation or occupational physical activity. Many studies have shown greater convenience and closer proximity of athletic gyms and recreational facilities is associated with greater use and increased overall physical activity participation. A study of San Diego, CA residents looked at the distance between homes and athletic facilities in relationship to frequency of exercise. Easy access to the exercise facility was one factor in a person's decision to exercise or not

Sign directing pedestrians Susanne Siepl-Coates

(Sallis 1). The study showed that people who were regular exercisers were significantly more likely to live near indoor exercise facilities than were people who were sedentary. Easy access played an important role in fitting exercise into a person's regular schedule.

Another study showed that younger adults will travel greater distances to facilities compared with older adults, and people of lower socioeconomic status will also travel greater distances to facilities (McCormack et al.). This is troublesome in that older adults and those with lower incomes may not have the resources to travel greater distances and therefore may not be able to take advantage of facilities if they are a greater distance from their residences.


Downtown community center Betsy Pribula

"Exercise facilities serve as visual stimuli that could cue exercise behavior. Facilities close to one's home will be seen often and may repeatedly bring exercise to one's attention. People in and around the facility who appear to be exercisers may strengthen the impact of the stimulus by making exercise appear to be the social norm. Thus, proximal facilities can provide numerous role models for exercise" (Sallis 2). "Nearby facilities reduce some of the barriers associated with exercise" (Sallis 2). The ability to walk to such a facility would eliminate such things as stress from traffic and length of time to reach a gym, thus resulting in a person who is more likely to exercise.

The restoration and refurbishment of the Community Building as an athletic facility could bring many benefits to the citizens of Manhattan. Downtown residents of all ages and employees of downtown businesses would be able to easily access this gym by walking or bicycling. Furthermore, this facility could not only serve athletic, but also social functions such as meetings and gatherings of community groups.

Mercy Regional Health Center currently operates two very successful fitness centers, one located on the east, the other on the west side of town. They are open to the general public promoting a healthier lifestyle for all ages. The City of Manhattan, which is the owner of the Community Building on 4th and Humboldt Streets, could form a partnership with Mercy Regional Health Center to make this athletic gym a reality.

Refurbish the Community Building into a downtown athletic gym to enhance the exercise habits of the many residents and employees who live and work within walking distance of this historic structure.

The following patterns offer suggestions how to support Downtown Athletic Club:
Convenient Bike Racks
Night Life

Farmers Market

The patterns
Public Realm
Positive Outdoor Space
Vibrant Downtown Districts
are further articulated by this pattern.

Shoppers at a farmers market Gary Coates

Cities that rely solely on supermarkets for food limit citizens' choices for access to fresh and locally grown fruits and vegetables.

Early versions of downtown redevelopment plans included ideas for a permanent structure to accommodate the Manhattan Farmers Market and to serve as a terminus to the south end of Third Street. The market was to play a significant role in generating citizens' support for the idea of creating a "Healthy Manhattan", with health referring not only to the physical health, but also to the social well-being of the community and its individual members. Clearly, a Farmers market has the potential to draw people into the downtown area, to help advance the principles of healthy food consumption, to create a setting for informal sociability, and to foster among the citizens of Manhattan a strong sense of community.

A farmers market can promote physical health by providing the community with locally grown vegetables, fruits and dairy products and by educating the public on the importance of healthy nutrition. Local and regional food production and marketing possibilities can have many secondary benefits as well, for example the development of food production systems that effectively balance profitability with quality of life and land stewardship ideals. Shoppers can be educated about old and new crops, their nutritional value and how to prepare meals with them. Producers of food and city people can get to know each other, underscoring the notion that we are not just consumers, but also neighbors.

Farmers markets placed in the downtown area near residential neighborhoods may not have the immense variety of other large grocery stores, but they are certainly more accessible than most supermarkets and it is less of a hassle to reach them. Farmers markets provide healthier choices when it comes to selecting food. Trips to the market can provide consumers with better quality products, better prices, a social atmosphere, and direct contact with the farmer or producer of the product.

Successful farmers markets also improve the community by keeping money circulating locally. Since the products are sold directly to the consumer, the prices are quite competitive. Some farmers' markets also offer coupons or vouchers especially for low-income families or women and children. Additionally, the markets may offer discounts and information about providing healthy food for the family (Bachmann 1).

Fruit and vegetable stand Susanne Siepl-Coates

Produce at local market Gary Coates

Conveniently located markets can give people a reason for walking and biking. Farmers markets should be located in the downtown area or within the residential neighborhoods to be easily accessible to large amounts of people. In contrast to the large supermarkets on the edge of town, the farmers' markets will encourage pedestrian and bicyclist use. While the markets support healthy nutrition with their products, they will also persuade users to get out and exercise.

Bringing the community together through a farmers market can have positive impact on the members of the community, producers and consumers alike. One consumer states, "This is my social life" (Bachmann 1). Constantly providing an open area to engage with others can be a powerful method for uniting the community. This attitude is what makes a farmers market a necessity within the downtown area. The market can create a festive atmosphere, increasing social interaction by drawing people out of their homes and into their neighborhood. All of the characteristics of a farmers market can promote a healthy lifestyle by uniting the community through education and exercise.

Incorporate into the downtown area a designated public square to accommodate regularly scheduled Farmers Markets.

The following patterns offer suggestions how to support Farmers Market:

Legible District Boundaries and Gateways
Street Furnishings and Public Restrooms
Sitting Places
Convenient Bike Racks
Third and Fourth Street Loop
Attractions on Both Sides of the Street

Pocket Parks

The patterns
City Park
Elders Everywhere
Children in the City
Neighborhood Greens
Eyes on the Street
are further articulated by this pattern.

Paley Park, NYC BBN Inc.

We must provide facilities for recreation, rest and relaxation that are available to all citizens in every walk of life .... We must, in particular, consider the pressing need of the low-income families...

Seymour 3

For such parks to contribute effectively to city life, they must be readily available"

Seymour 3

The following patterns offer suggestions how to enhance Pocket Parks:
Patches of Prairie
Sitting Places
Pools of Light

Underutilized open spaces in the city contribute little to encourage physical activity.

Pocket parks, also called vest-pocket parks, are small green spaces within the city, sometimes only the size of a house lot. They are typically interspersed into the urban fabric, where they can serve the needs of the surrounding population, such as offering a place of respite to elderly persons taking a stroll, furnishing a relaxing lunch spot for downtown employees, or providing a convenient play area for young children. Having green outdoor spaces within 1/8 mile of one's residence has been shown to increase walking and biking for leisure time activity (Wendel-Vos et al.). Ideally, pocket parks are located within easy walking or biking distance from one another thus encouraging user not only to walk over from their home or work place but continuing on for a short stroll for a little physical exercise.

In one study of pocket parks, landscape architect Alison Blake states that pocket parks "contribute effectively to city life if they are readily available" (Blake 1). Blake suggests several ways in which pocket parks can contribute to a healthier environment. When pocket parks are conveniently located throughout a community it is likely that they will be used on a regular basis as part of people's everyday routines. People can walk rather than drive to them, thus reducing the amount of pollution being emitted by their cars and helping to preserve natural resources such as oil. Furthermore, pocket parks tend to have permeable surfaces that help to manage storm water and enhance water quality as well as plantings that contribute to ameliorate the microclimate by providing shade and coolness during hot summer months. And even a little bit of greenery will invite birds, butterflies and other small animals.

It has been shown that proximity to parks and green space is positively associated with physical activity for youth and adults of all ages. Thus establishing small yet frequent parks within the urban fabric will increase opportunities for leisure time physical activity.

In the Manhattan, Kansas, downtown area, pocket parks can easily be created by transforming underutilized green spaces, such as the lawn in front of the Public Library. Pocket parks should be located in places already frequented by many people such as at street corners, near school grounds and in close proximity to shopping destinations. In order to live up to their full potential, pocket parks must be in close proximity to the users they serve. Ideally they are connected directly to other greenways that are easily accessible to pedestrians and bicyclists.

By creating many pocket parks it becomes possible to lower the demands on the large city park, which can offer more specific and unique functions such as public pools and ball fields.

Strategically integrate a network of readily available pocket parks into the downtown area in order to achieve positive effects on the social, ecological and economic health of the city as well as on the physical health of its citizens.

Legible District Boundaries and Gateways

The patterns
Public Realm
Positive Outdoor Space
Historic District
Landmarks
are further articulated by this pattern.

Gateway to KSU campus Jacob Strobl

Without boundaries and gateways, the distinction between different districts and neighborhood cannot be made.

In the planning of Manhattan's downtown redevelopment, three distinct districts were created, all of which have a very different character from one another and from their surrounding neighborhoods. When entering a district or neighborhood, the change from one setting to another should be evident because of the presence of physical structures, such as low walls, gateways, and other markers. Such boundaries may not only exist between two public realms, but also between private and public realms, such as between sidewalks (public spaces) and front yards (private spaces). Towns and districts are more welcoming and can be more easily visualized if they have identifiable boundaries, such as gateways that connect the various districts (Schmitz and Scully 38).

Boundaries can be established between public and private spaces through physical barriers like walls and fences or through the presence of special elements such as a vertical marker. In some cases, such as a residential neighborhood that borders a large grocery store and parking lot, taller, less penetrable, and very literal boundaries may be desirable. This instance would require a physical barrier in the form of a tall wall or hedge or row of trees, which would be a good solution for blocking sounds of cars and preventing small children from endangering themselves. In other cases, shorter fences or shrubs or even a change in pavement level may adequately communicate visual separation between areas without being literally impos-

Good fences make good neighbors.

Robert Frost, Mending Wall

Gateway to a shopping district, Aspen, Colorado BBN Inc.

Gateway to a shopping district Gary Coates

sible to pass through. Changes in design elements refer to things such as changes in pavement or signage that indicate a change of location through a change in the built environment.

According to authors Zelinka and Brennan, “gateways and entries serve as the first impression” when entering a specific neighborhood or district, offering some form of identity or sense of place at the entrance (Zelinka and Brennan 62). When the formal identity of a location does not flow through the whole region, visitors to the site can become disoriented and confused. The minimum opening for a gateway should be 2.6 ft. (Gibbons 120).

Gateways are also welcoming and recognizable meeting places for pedestrians. They are “among the most important factors in generating desired movement patterns” within districts (Zacharias 7). For this reason, “gates should provide pedestrians and other passers-by with a positive impression through the creative use of color, ornamentation, and materials” (Zelinka and Brennan 124).

“Gateways may be a combination of street narrowing, medians, signs, arches over the roadway, roundabouts, or other identifiable feature. Gateways send a clear message to motorists that they have reached a specific place and must reduce speeds” (Burden 30).

Gateways must work in such a way that they create some sort of boundary between the various districts within the city. Boundaries and gateways can work together with public art and landmarks to identify areas and create clearly defined districts that any user can understand and navigate. If the boundaries and gateways are truly successful, children should know the city “as well as the backs of their hands” (Schmitz and Scully 39).

Mark the transition from one district or neighborhood to another with legible boundaries and gateways to support the orientation of pedestrians and bicyclists.

The following patterns offer suggestions how to create Legible District Boundaries and Gateways:
Art in the Public Realm
Variations in Paving Materials
Public Signs and Markers
Brick Streets and Sidewalks

Art in the Public Realm

The patterns
Public Realm
City Park
are further articulated by this pattern.

It is necessary to cultivate a sense for beauty.

Christopher Day 25

With art and decoration we personalize our built environment beyond what we need for bare function.

Sucher 195

The lack of art in the public realm leads to mundane environments that remain unattractive to pedestrians and bicyclists.

A number of cities in Kansas, including Wichita and Lawrence, are are well-known for, and proud of, the display of public art in their community. Typically, the term public art refers to artfully executed objects such as fountains, sculptures and other monuments placed in the public realm, usually outside, and thus accessible to all. On many occasions, beautifully designed and richly detailed buildings can also be regarded as public art - or at least as contributing to the experience of an aesthetically pleasing setting.

Public art is different from the art we may find in a gallery or museum. Public art should be something that can be understood and appreciated by the general public. Ideally, public art objects are integrated into the public realm so that they are easily accessible by pedestrians. Fountains are popular objects because they are not only nice to look at but their sound can be soothing. The coolness of water can be so pleasurable on hot summer days that fountains should invite people to touch and feel the water. Why not design fountains that encourage children to play with water safely or to wade and splash in it? If there are shade trees and sitting places nearby, such a fountain may well become a regular destination for many members of the community, young and old.

Johnny Kaw, City Park Zadalew/ Flickr.com

Public art can add variety and interest to a streetscape or emphasize something unique to the community, as does the 30-foot-tall sculpture of Johnny Kaw in City Park.

Urban planning consultant and author William Whyte points out that sculpture and other art in public places can have strong social effects. “People are drawn to sculpture, and drawn through it: they stand under it, beside it; they touch it; they talk about it” (Whyte 96). A popular sculpture can become a meeting place. Public art in the form of statues or commemorative plaques can evoke memories of people or events past, connecting passers-by to the history of the place and giving it meaning.

Perhaps the most well-known public art installation at the urban scale is the Cow Parade, which occurred in New York and Chicago during 1999 and moved to Kansas City in 2000. Life-sized fiberglass cows were creatively painted by artists of the host cities and subsequently set up in public areas around the city. At the end of the exhibit, cows were auctioned off and proceeds donated to charity. The cow parade worked as public art because non-artists easily understood it. While it lasted, the display of painted cows created a great deal of excitement and delight in the community, it allowed local artists to exhibit their work for free, and at the end it benefited charities.

A cow parade may not be appropriate for Manhattan, Kansas, but the principles it exemplifies could be applied in some instances. The desire to see the cows up close and to participate in this special event brought many pedestrians out into the streets, walking from one cow to the next.
Public art may contribute to an increased sense of safety because its presence suggests that someone cares about this place. For example, in an attempt to curb graffiti and vandalism the Canadian city of Halifax, Nova Scotia, commissioned local artists to paint the normally drab neighborhood electrical boxes with scenes to fit in with the surrounding environment.
Furthermore, just by being present, a sculpture

Foutain inviting physical activity Carrie Mertes

may invite additional activities, such as a street musician performing, thus in turn attracting more people to linger for a while.

Public art can be temporary. A changing display of public art could act as a public art gallery, where people would come from time to time to see the new artwork in Manhattan, Kansas. Some college campuses across the nation rotate smaller sculptural works on and off the grounds, creating refreshing variety and novelty in the landscape. Similarly, temporary exhibits of works created by local artists and art students could be rotated in downtown district.

Sculpture in a public space Gary Coates

In addition to aesthetic properties and a sense of identity, public art can also serve as a landmark to assist with way finding. People may or may not remember the names of the streets that form an intersection, but a distinctive artistic feature is likely to stand out in an individual's memory. A large blank wall can be covered with a mural, and at perhaps the smallest scale, the ground surfaces of the city can be used as a 'canvas', too: manhole covers can show a map of downtown.

Public art is not confined to the visual arts, but includes the performing arts as well. There are numerous destinations in the older parts of Manhattan within walking and cycling distance from the surrounding neighborhoods, including the Arts in the Park concert series which offers a variety of performances for young and old on weekend evening during the summer months at no charge.

Integrate art and artistic decorations into public realms to express the community's vision, distinguish districts, provide points of interest, encourage social interaction, and strengthen the sense of place.

Public art and decoration .... remind us that we are not entirely alone. ... The important part of public art in public spaces is its larger message: some person, some individual, has passed this way before and has put some of his or her life, time, and attention into making what we see before us. Public art contributes to the process of place making.

Sucher 195

The inclusion of public art and historical and other landmarks helps give an area a distinctive identity. Public art and landmark features also provide points of interest and opportunities for social interaction.

Schmitz and Scully 25

The following patterns offer suggestions how to create Art in the Public Realm:
Street Furnishings
Public Signs and Markers
Time and Temperature

Street Furnishings and Public Restrooms

The patterns
Public Realm
Streets as Urban Spaces
Elders Everywhere
Vibrant Downtown Districts
Linked Plazas and Squares
are further articulated by this pattern.

It is unlikely that pedestrians will linger in the public realm if their needs and desires are not supported by a variety of street furnishings and other amenities.

The most obvious sign of a well-designed public urban space is the presence of people. If offered no amenities to stay, people tend to wander off and seek a more comfortable location. People tend to linger in the public realm wherever there are convenient and pleasant places to do so and when they can be passively or actively engaged in the setting. This includes places to sit and observe other people or happenings.

To be pedestrian-friendly, downtown streets should provide a variety of street furnishings, such as benches, trash and recycling receptacles, news-paper boxes, signs, drinking fountains, kiosks and even bus shelters. Such elements humanize the street if the size, scale and ornamentation of street furnishings are consistent with the character of the historic district within which they are placed.

Some street furnishings serve the biological needs of people, such as drinking fountains and restrooms. If a city is designed with sidewalks and bike paths that extend into other parts of the city, it is important for people to be able to remain hydrated while enjoying the space to which they have traveled. Public restrooms save pedestrians 'on the go' from the inconvenience of having to find a store or restaurant with a restroom only intended for those who are employees or patrons of their business. For this reason many cities have found creative and attractive ways to incorporate public restrooms into their urban streetscapes. Even if the facilities are modest, their existence is likely to have considerable positive effects on the walking and shopping patterns of many people, particularly the older ones (Whyte 78).

Other street furnishings help people to keeps things clean. If not provided with receptacles to dispose of trash, the ground is more likely to become littered. Bags for pet waste have already been implemented in Manhattan's City Park with great success. Asking pet owners to clean up after

What attracts people most … is other people.

Whyte 19

Benches that provide a good view of surrounding activities are used more than benches with less or no view of others.

Gehl 29

"Natural" furniture, Battery Park, New York City Gary Coates

Street Furnishing BBN Inc.

Public restrooms, Berlin, Germany

Public restrooms Susanne Siepl-Coates

their pets and then providing them with receptacles to dispose of the waste makes it more likely that people will comply and that the city will be a cleaner place for all.

Street furnishings that are provided as a convenience add to people's comfort level. The placement of benches is particularly important. Not only do benches and other sitting places offer pedestrians and bicyclists a break from physical activity but they also a place to enjoy the scenery or the company of an acquaintance.

Kiosks provide a central location for people to find a map of the area, local events that are going on, or other general information about the city without having to ask another person. A large public clock can serve the multiple purposes of relieving the stress of not knowing the time, providing visual interest and character to the street, and serving as a well-known meeting spot for friends.

Whatever combination of these elements is implemented, it is important that street furnishings be kept back from bus loading zones, crosswalks, bike lanes, fire hydrants, and other potentially stressful or hazardous areas. A minimum of five feet of clear walking space must also be maintained at all times. Street furnishings should not clutter the sidewalk or hinder traffic. The point is to allow pedestrians to relax, not risk injury.

Provide street furnishings such as benches, clocks, newspaper stands, drinking fountains, and public restrooms to offer pedestrians incentives to linger in the public realm.

The following patterns offer suggestions how to create Street Furnishings and Public Restrooms:
Sitting Places
Convenient Bike Racks
Pools of Light
Bollards
Time and Temperature

Variations in Paving Materials

The patterns
Web of Safe Transportation for All
Calmed Vehicular Traffic
Sidewalks and Walkways
Bike Lanes and Paths
are further articulated by this pattern.

The change in texture is a visual and visceral signal to both driver and pedestrian of the appropriate boundaries for each at that particular location.

Sucher 84

When limiting surface materials to only one or two kinds, the various zones of the public realm lack differentiation, leading to confusion and possibly even jeopardizing the safety of pedestrians and bicyclists.

In many cities, the experience of pedestrians, bicyclists and even motorists is impoverished because of the all-pervading presence of the gray surfaces of asphalt and concrete. While such surfaces may work well to accommodate vehicular traffic and parking, they do little for people who choose to walk or bicycle through town nor do they contribute to a sense of place.

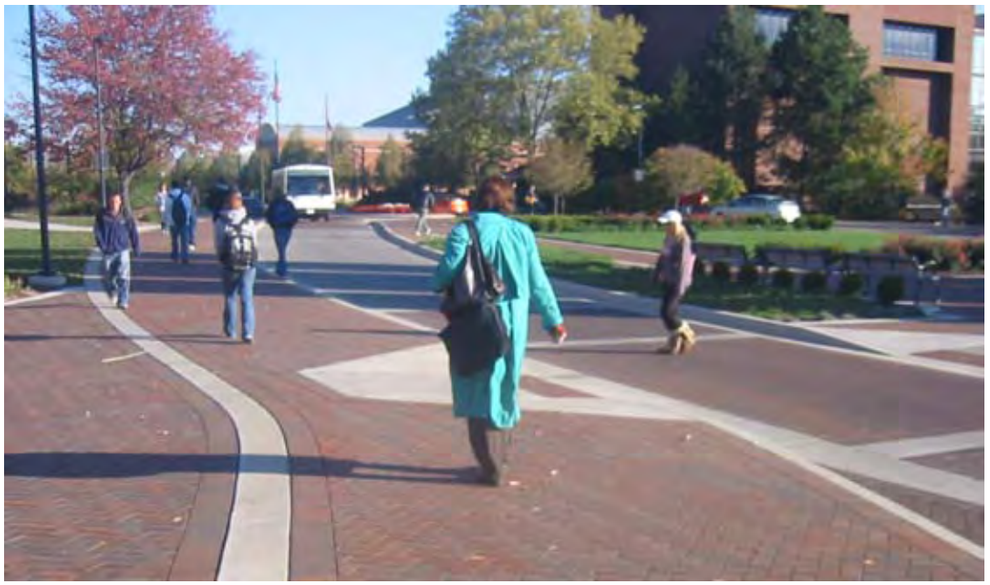
A few forward-thinking city governments have begun to redesign public surfaces by employing a wide array of materials, including cobblestones, concrete pavers and bricks in order to make the urban setting more pleasurable for its citizens and visitors while also increasing safety, legibility and orientation. When using differently colored pavers and bricks it is possible to embellish the streetscape while delineating movement zones for the various modes of transportation, such as sidewalks, bike lines, and parking realms, without having to incorporate level changes that easily become obstacles for some population groups.

Maintained brick sidewalk Susanne Siepl-Coates

Brick and concrete Andrea Pardo

Varying paving materials, used simultaneously for instructive and decorative purposes, can contribute significantly to traffic calming and, thus, to a higher degree of safety for everyone using the streets. Rather than striping surfaces with paint to demarcate boundaries, pavers of contrasting colors can achieve the same effect in a longer-lasting and aesthetically more pleasing manner. In fact, many towns and cities in Germany have surfaced whole intersections with pavers of different colors and patterns, thus not only reducing vehicular speeds but also creating a visually more attractive setting. It is amazing to see how all modes of transportation use such intersections carefully yet equitably.

A sudden change in paving materials changes both sound and vibration of the traveling car, thus demanding the driver's increased attention. Motorists tend to slow down considerably when driving down a brick street, even one as wide as Juliette Avenue. Appropriate places to change paving materials on the road would be, for example, at crosswalks and at intersections with bike lanes where motorists must be especially cautious. For pedestrians, a change in surface materials underfoot adds to the tactile experience of the city. Varying textures indicate not only the pedestrians' arrival at a street crossing, but also their 'right of way' as they cross the street. And by employing contrasting colors, bike lanes, which frequently run coincident with sidewalks, can easily and unmistakably be delineated with the same type of paver.



Separation of street and sidewalk, with use of various paving materials David Watts

Other settings, which can gain considerably in terms of legibility and aesthetic quality, are parking lots. These areas, often considered 'wastelands' within the urban fabric, can become visually and experientially pleasing places, if they are thoughtfully paved and carefully enhanced with appropriately scaled light poles, rows of trees and other plantings.

In Manhattan, brick used to be the surface materials of choice for streets and sidewalks which, when regularly attended to, can be easily and inexpensively maintained. Instead of concrete, limestone was chosen to define curbs, as can still be experienced along Houston Street.

Streetscape improvement efforts implemented by the City of Manhattan downtown and in Aggieville have included concern for surface materials, focusing primarily on the decoration of sidewalks. Along Poyntz Avenue sidewalks in the downtown area are celebrated by a beautiful brick pattern. In Aggieville, for example, square stone tiles with names of contributors to the improvement effort engraved into them add a playful touch to the pattern scored into the concrete surfaces. In some places, a strip of red bricks has been incorporated along the edges of sidewalks to create a visual boundary to keep pedestrians back from the street, benefiting in particular those who are visually impaired.

Employ various paving materials, in a variety of contrasting colors and textures, to distinguish different uses of the urban realm, such as bike lanes, pedestrian paths, traffic lanes, and parking spots while also contributing to a visually stimulating and aesthetically pleasing streetscape.

Brick contrasts crosswalk markings David Watts

The following patterns offer suggestions where to create Variations in Paving Materials:

Raised Crossings and Intersections
Curbs and Gutters
Curb Ramps
Brick Streets and Sidewalks

Patches of Prairie

The patterns
City Park
Neighborhood Greens
Linked Plazas and Squares
are further articulated by this pattern.

In Kansas, seasonal container plants - if they are not adapted to the local climate - will likely not survive the hot summers.

Many cities and town displays brightly colored flowering annual plants in containers, hanging baskets or flowerbeds throughout their downtowns. Such plantings, which can also include trees, low shrubs and ground cover, play many roles: they soften the often hard edges of buildings and streets; they enliven the urban environment by adding the colors of nature into the city; they increase the aesthetic experience of the downtown core; and they improve the microclimate by offering protection from wind and sun.

Containers, flower beds, and even pots hanging from light posts can help beautify the downtown, but it is inefficient to attempt growing plants which are not native to the area. In the course of a year, the temperatures in Kansas cover a wide spectrum. While the state's climate is characterized by extremely hot summers and relatively cold winters, it is also well known for being unpredictable from season to season. Precipitation is also variable, with most of the rain falling between April and September in few but significant downpours.

Possible difficulties with container plants are mostly related to maintenance. In the public realm, who makes sure that the plants are watered and fertilized? Is the city responsible? Does the city contract with a landscape firm? Are owners of retail stores and offices in front of which the planters are placed responsible for their upkeep? In view of the cost involved, it is best to employ landscaping that requires very little maintenance, and particularly little watering.

Typically, containers are re-planted each spring with annual plants. Expected to last for one season only, their flowers and foliage provide attractive splashes of color during the growing season. However, the plants die back quickly as winter approaches and containers and beds remain barren for a good part of the year. In contrast, perennials may die back each fall, but they send up new shoots during the spring. They can also be evergreen or shrub-like. While perennials tend to have a shorter blooming period than annuals, they require less care during the summer.

Given the Kansas climate, vegetation native to the area ensures that it is well suited to the extreme weather conditions it will be subjected to, particularly heat and drought. Its chance of survival is considerably higher than that of non-native plants and therefore increases the likelihood of consistent attractiveness, whereas planting non-native plants will likely result in stress for the plants and thus an unattractive streetscape.

Native plantings Susanne Siepl-Coates

Ornamental grass Gary Coates

"Xeriscaping" is a landscaping philosophy for hot climates that relies on careful selection and placement of plants to maximize watering efficiency while minimizing water waste. Derived from the Greek xeros meaning "dry," the term, xeriscape means 'dry landscape.' Thus, xeriscaping is particularly suitable for areas that are susceptible to drought by making use of indigenous plants, which are adapted to the local climate and consequently require little water.

Incorporating this philosophy into the downtown setting would seem to be appropriate as the amount and frequency of watering available to the plants can be unpredictable. Kansas is home to many drought-tolerant plants that have been adapted to growing in gardens and containers. Ornamental grasses and grass-like plants, grown for decorative purposes, can play a particularly important role in container plantings. Flowering plants are in bloom between March and October, while grasses have a beautiful presence even during the winter months. A combination of grasses and flowering prairie plants for the downtown containers can lead to long-lasting and visually beautiful arrangements, extending their beauty even into the winter months when frost or snow accentuates their mature forms and shapes while serving as a reminder of Manhattan's location in the tallgrass region of the Flint Hills and contributing to the city's sense of place (Kansas Wildflowers and Grasses).

Planters can also help to bring order to the elements of the street and define smaller realms within the street space: containers or flowerbeds can serve as a barrier between slow-moving/pedestrian and fast-moving/vehicular realms. They can provide the backs to sitting places, ensuring a psychological sense of protection. And they can demarcate the boundaries between two different realms, for example a sidewalk cafe and the sidewalk proper. If fitted with descriptive signs, they can even teach us about plants, their characteristics and preferred growing conditions.

In any case, a certain degree of design consideration along the street is important as well. It is "more attractive when the entire block is landscaped in a consistent manner" (Seattle Manual 58).

Plant 'patches of prairie' consisting of ornamental grasses, other heat- and drought-tolerant flowering perennials, and a few brightly colored annuals to fit the area's climate and to create an attractive urban landscape that bolsters Manhattan's sense of place.

Plant containers can be used where trees and shrubs cannot be planted directly into the ground. They can be used to form barriers, provide visual screening or soften high walls.

Gibbons 68

The following patterns offer suggestions where to create Patches of Prairie:
Riverside Park
Third and Fourth Street Loop
Planted Swales
Poyntz Avenue Promenade
Town Center Plaza

Raised Crossings and Intersections

The patterns
Web of Safe Transportation for All
Calmed Vehicular Traffic
Traffic Signals for Bicyclists and Pedestrians
Marked Crosswalks
Variations in Paving Materials
are further articulated by this pattern.

In busy shopping districts regular crosswalks do not sufficiently favor pedestrians.

Obviously, cars are faster, larger and stronger than people. Even slow moving vehicles can be intimidating to pedestrians who want to cross a wide street. In urban districts with a lot of pedestrian traffic, elevating crosswalks, both at the ends of blocks as well as mid-block, and raising intersections to the sidewalk level are two means that can effectively delineate a pedestrian or bikeway crossing while also granting pedestrian movement precedence over vehicular movement.

Raised crosswalks are essentially a continuation of the sidewalk perpendicular to the street. While there is no level change for pedestrians, vehicles encounter a gradual ascent and descent as they cross the pedestrians' right-of-way. Raised intersections are essentially raised crosswalks that cover the width of an entire intersection.

When crossing the street at a raised crosswalk or intersection, pedestrians are an extra few inches above the street level, which makes them more visible to the motorist while also giving them a larger scope of vision and providing them an increased sense of control. The change in street level acts as a speed bump for vehicles, slowing down vehicular traffic and increasing the safety to pedestrians. Sometimes bollards are added to such crossings to further signal the potential danger for both motorists and pedestrians.

Often these raised surfaces are constructed with pavement materials that contrast with the surface of the street by color or texture, such as brick or paving stones, thereby further increasing the awareness of drivers while assisting pedestrians with visible crossing areas. The safer the crossings, the more attractive they will become for people to walk in the downtown area.

In urban shopping districts consider the construction of raised crosswalks and intersections to increase pedestrian safety in order to promote utilitarian walking.

The following patterns offer suggestions how to create Raised Crossings and Intersections:
Bulb-Outs
Curb Radius Reductions
Bollards
Brick Streets and Sidewalks

Raised crossing Rinteln, Germany — Susanne Siepl-Coates

Sitting Places

The patterns
Public Realms
Positive Outdoor Space
Streets as Urban Spaces
Elders Everywhere
Neighborhood Greens
'Walking School Bus' and Bus Stop
Street Furnishings and Public Restrooms
are further articulated by this pattern.

Sitting places outside retail shops Susanne Siepl-Coates

A city worth living in has to be a city worth sitting in.

Montgomery 95

People will not interrupt their activities to meet friends or associates if they do not have places to sit.

Many times downtown areas fail to provide chairs or benches for people to rest on, or they discourage them from sitting on available surfaces by adding spikes or signs asking people to keep off.

Sitting places in downtown areas communicate that this setting was designed with people in mind. Not only is it desirable that people shop and spend their money downtown, but also that they stay and relax. "A seat is an explicit invitation to stay, either with others or by oneself" (Sucher 40). The welcome extended by the presence of seating is of enormous value to a place's character. Thoughtfully spaced at short walking distances apart, sitting places are particularly important for older adults, who are more likely to have balance or gait problems and lack muscular or cardiovascular endurance, requiring that they rest more frequently than younger adults. Given the relative proximity between the Seniors' Center on Leavenworth Street, Ray's Little Apple Market grocery store and several seniors' housing complexes, there are many opportunity for older adults to walk about in downtown, though some persons with limited abilities may not feel comfortable walking without these sitting places.

Metropolitan Museum of Art, New York City BBN Inc.

Practically speaking, 'sitting places' can refer to any number of settings. Movable chairs and benches are one obvious solution, but they are not the only solution. Stair steps, such as in public plazas, can be comfortable, casual places to rest to eat lunch or meet people. The steps of the New York Metropolitan Museum of art, for example, were not designed for citizens to sit on them, yet many do because of the convenience they offer: oasis of calmness within the hustle and bustle

Country Club Plaza, Kansas City, Kansas Gary Coates

of the city. Raised surfaces adjacent to trees or fountains also provide excellent places for people to sit and relax. The secret lies in convenience and comfort. *Village Homes: A Community By Design*, a part of the Land and Community Design Case Study series, notes that "For an open space to be well used, it needs to be comfortable… This may simply mean providing enough comfortable places to sit or management practices that invite use. The need for food, drink, shelter from the elements, or a place to rest when tired requires some degree of comfort to be satisfied" (Francis 20).

People like choices. "It's best to give people choices about where to sit; in sun or shade; alone or in groups; out in front or away from the street. Low retaining walls can serve a double purpose if they are of the right height for sitting and are not pointed, sloped, or spiked to prohibit sitting" (Schmitz and Scully 48). They should be able to choose whether to sit in the sun, in the shade, by a wall, in the open, near the street or away from it. Thus, chairs should be flexible enough to be moved and placed in desired positions.

Typically, people do not like to rest in expansive open space. Instead, they prefer sitting places along the edge of spaces or in "niches" where they are not so exposed and have a good view of their surroundings. They want to face the street or plaza or main center of activity with their backs protected by a wall or a hedge.

"Place to sit outdoors has the potential to deter crime" (Loukaitou-Sideris 225). If a space appears to be regularly used, or has the potential to be regularly used, criminals will be less likely to choose those places as a location to conduct their activities.

Make available a wide variety of sitting places, with choices of location, view and exposure to the sun, offering pedestrians and bicyclists occasions to relax and engage in conversation with other members of the community.

Student Proposal Katie Harms

The following patterns offer suggestions how to support Sitting Places:

Night Life
Pools of Light
Poyntz Avenue Promenade
Shopping Street
Town Center Plaza
Sidewalk Cafés and Restaurants

Parking in Front of Stores

The patterns
Main Street
Aggieville Shopping District
Neighborhood Stores and Services
are further articulated by this pattern.

Parking in Aggieville — Andrea Pardo

With significant pedestrian volumes on the streets, the added buffer width can make a big difference in the walking environment.

Edwards

The cost of parking is hidden in higher prices for everything else.

Shoup 1

Curb parking in front of stores can negatively impact the safety of pedestrians and bicyclists.

There is general agreement among downtown Manhattan merchants that the availability of parking directly in front of their stores is a prerequisite for the economic success of their businesses. Coincident with this notion is the attitude of many shoppers who expect that parking is available immediately adjacent to their destinations. Donald Shoup, Professor of Urban Planning at the University of California in Los Angeles, traces this expectation back to the beginning of the twentieth century, when cars began to replace other means of transportation and "motorists simply parked their new cars at the curb where they had formerly tethered their horses and carriages" (Shoup 1).

Traditional downtown business districts face tough competition form strip malls along arterial routes and other suburban shopping centers, where land for parking is readily available at low cost. Interestingly, people tend to perceive parking at suburban malls as more convenient than in traditional downtowns even though studies suggest that "average walking distances for shopping trips show longer walking distances for shopping centers than the central business district" (Edwards).

In the dense urban fabric of a traditional downtown the provision of convenient on-street parking is definitely more challenging compared to shopping centers and malls where empty parking spots seem readily available at all times. Thus it makes sense for traditional retail districts to consider using street space for parking wherever possible. Depending on the circumstances, such as width of street space as well as density and velocity of vehicular traffic, either parallel or angled parking may be accommodated.

While parallel parking is considered relatively inefficient, it may be the only on-street option for shopping districts with narrow streets. Compared to angled parking, parallel parking takes up more curb space per vehicle and has more potential for traffic delays because "backing-in" takes time. Furthermore, parallel parking is considered challenging by many drivers, particularly elderly ones.

Angled parking, on the other hand, increases the number of parking spaces per block length of curb space, but it takes up more roadway width.

It is easy to use, but backing out can be hazardous, as drivers often cannot see oncoming traffic. However, accident rates on low-speed, low-volume streets with on-street parking are statistically no higher than those for streets without parking, and furthermore, accidents that do occur tend to be not severe (Edwards).

Local and collector streets with little or no through traffic are ideal candidates for angled on-street parking. Poyntz Avenue is particularly suited because its vehicular traffic volume is light, the speed of the traffic is much reduced and its width allows for two driving lanes and two angled-parking lanes (minimum required 60 feet curb to curb) while also providing for bike paths and generously dimensioned sidewalks.

With regard to pedestrian and bicycle activity, angled parking offers several benefits. It provides a buffer zone 18 - 20 feet wide between driving lanes and the sidewalk and bicycle path, compared to a buffer zone of only 8-9 feet wide for parallel. The wider buffer zone results in an increased sense of safety for pedestrians and bicyclists, reduced vehicle splashes and diminished exposure to exhaust fumes. John D. Edwards, a nationally recognized expert in traffic engineering with special expertise in traffic circulation and parking, promotes angled parking for districts where shopping and retail services are the primary uses and where there are several contiguous blocks of primary retail use (Edwards).

On a final note, in his book *The High Cost of Free Parking*, Donald Shoup argues that "'free parking seriously skews travel choices toward solo driving and away from other forms of travel that requires less terminal capacity: public transit, carpooling, bicycling and - the extreme case - walking, which requires shoes and sidewalks, but no terminal capacity at all" (Shoup 9). Shoup suggests that cities replace free curb parking with metered curb parking that charges fair-market prices, thus not only creating revenue that can be returned to the district for the upkeep and maintenance of the streets (Shoup 15) but also promoting walking, cycling or public transport in lieu of short vehicle trips (Shoup 9).

Wherever possible provide angled parking in front of downtown stores as a buffer between lanes for slowly moving vehicular traffic and 'safe zones' for pedestrians and bicyclists.

Parking near storefronts Susanne Siepl-Coates

The following patterns offer suggestions where to accommodate
Parking in Front of Stores:
Third and Fourth Street Loop
Poyntz Avenue Promenade
Shopping Street

Convenient Bike Racks

The patterns
Web of Safe Transportation for All
Bike Lanes and Paths
Vibrant Downtown Districts
are further articulated by this pattern.

Bike parking on pedestrian street Susanne Siepl-Coates

Inconvenient location SSC

Few town citizens will use their bicycles to reach a destination if there is no convenient and secure place to store them.

Just as cars require parking spaces, and pedestrians require places to sit and rest, cyclists need a place to safely store their bikes. If cyclists are to be encouraged to use their bikes for utilitarian purposes such as getting to work, bike racks must be made available. As the Bicycle Master Plan for Kansas State University and Manhattan, Kansas states, “In many communities, secure bicycle parking is recognized as one of the first and most important facility improvement necessary to improve the viability of bicycle transportation” (Bicycle Master Plan 33).

Bike racks do not take up much space but their placement must be carefully considered in order to avoid the risk of danger or damage. Racks should “provide a means of locking bicycle frame and both wheels” (Cylateral Thinking 43).

If bike racks are placed in convenient locations, either near, but not in the way of, major paths of circulation or outside of shops, restaurants, post offices, banks, and libraries, people will more likely use their bikes to reach their destinations, thus engaging in physical activity. Racks should be visible for additional security. Lack of secure bicycle parking is a frequently cited reason for not biking to work.

The Bicycle Master Plan for Kansas State University and Manhattan, Kansas suggests that in Aggieville and the downtown area, bicycle racks could be located on the sidewalk, provided that a buffer lane of 3 feet is left between the racks and the curb. Bicycle parking on bulb-outs is also recommended, as it reduces the bicyclist’s opportunity for conflict with the pedestrian or motorist (Bicycle Master Plan 35).

Bike racks can also be designed to be artistic and visually appealing. The designs could vary from location to location to contribute to the unique sense of place of each area. For example bicycle racks could become public art or they could simply be painted a different color depending on their location.

Distribute convenient and secure bicycle parking at popular destinations no more than 50 feet away from building entrances.

The following patterns offer suggestions where to accommodate Convenient Bike Racks:
Third and Fourth Street Loop
Poyntz Avenue Promenade
Shopping Street
Urban Mall at the Heart
Sidewalks Cafés and Restaurants

Night Life

The patterns
Public Realm
Streets as Urban Spaces
Vibrant Downtown Districts
Mix of Uses
Eyes on the Street
are further articulated by this pattern.

Night activity at a carnival BBN Inc.

Street crimes are most prevalent in places where there are too few pedestrians to provide natural surveillance, but enough pedestrians to make it worth a thief's while, in other words, dark, isolated night spots invite crime.

Alexander 181

A nightlife atmosphere in the downtown will not be generated unless various entertainment activities that stay open late are clustered together.

Sometimes people like to go out at night to see a movie or to have dinner at a restaurant. At other times people feel like going out - without having a particular plan for the evening. A district that offers a variety of entertainment options in close proximity to one another can function as a focus for such people.

A night out on the town is a special event for many people, for others it is an occasion to balance the routines of everyday life: a dinner for two to celebrate an anniversary, a family-style meal around a large table to celebrate a friend's birthday, a movie 'to get away from it all', or drinks after work to recognize a colleague's promotion.

Nightlife refers to entertainment that occurs during the night time hours. Typically intended for adults of all ages, nightlife venues do not just refer to pubs, clubs, bars and taverns, but also to restaurants, diners, live music events, theaters, small cinemas, coffee shops and even hotels and book stores.

The sociologist Ray Oldenburg points out the significance of cafes, coffee shops, bookstores and bars as contributors to a community's social vitality. Referring to them as "third places" where people go when they do not want to be at home ("first places") or at work ("second places"), he argues that such businesses play an important role because they are popular places where regulars and newcomers can gather at no or low expense, put aside the concerns of work and home, and hang out simply for the pleasures of good company and lively conversation (Oldenburg).

A downtown that offers a variety of such venues can make for many enjoyable activities during evening and night hours. When restaurants and bars, all-night diners, hotels and a movie theater

Night activity in an urban park BBN Inc.

Night activity in an urban space Gary Coates

are located in close proximity to one another, they can form a center for night life where people can choose to patronize more than one venue while taking a leisurely walk in between, window shopping and enjoying the densely layered fabric of the historic downtown. If well lit, safe and lively, such a center has the potential to increases “the intensity of pedestrian activity by drawing all the people who are out at night to the same few spots in the town” (Alexander 182). The hospitable atmosphere of the district would be enlivened even further if restaurants offered sidewalk dining during the warmer months of the year, extending the nightlife into the street and drawing even more pedestrians to the downtown area.

Increased numbers and types of entertainment options in Manhattan’s downtown will give people a wider range of possible destinations on their night out and boost nighttime activities. Street lighting can encourage nighttime activities and make people feel safe by reinforcing circulation corridors. An increased presence of people will tend to bring with it an increased sense of security. Rather than feeling deserted at night, downtown could become a safe and comfortable nighttime setting.

One successful example of an urban district with an active nightlife is Old Town Square in Wichita, Kansas. A mix of restaurant/bars, small businesses, places to shop, apartments, and an upscale movie theater that serves food are all oriented around a large urban square. Evening establishments clustered around a square or interspersed with other businesses along well-lit urban streets provide a place for people to linger.

In the downtown area, cluster various attractive restaurants, bars and entertainment businesses that stay open late so that people have options for going out at night, enlivening the streets as they come and go.

The following patterns offer suggestions how to support Night Life:
Pools of Light
Third and Fourth Street Loop
Poyntz Avenue Promenade
Town Center Plaza

Pools of Light

The patterns
Sidewalks and Walkways
Bike Lanes and Paths
Eyes in the Street
Night Life
are further articulated by this pattern.

At night, if people perceive dark public spaces as unsafe they will not use them.

Illuminating a city at night means so much more than lighting its streets and sidewalks for safety and visibility. The use of artificial light can reinforce the character of a city or district. Highlighting historic buildings and squares, a 'nightscape' can contribute greatly to the city's sense of place. Furthermore, a district that is attractive and inviting even after dark will tend to attract pedestrians to its restaurants, cafes and theaters even during nighttime hours. The nighttime city is 'livable' if there is something to see or do.

The lighting in the city in the evening and at night must create a pleasant atmosphere, but should not dominate.

Van Santen 26

Of course, function and economic aspects also play a significant role in the design of street and sidewalk lighting. People frequently associate darkness with misdeeds and unsafe conditions. Places that are not well lit tend to go unused after dark. A dark area may not necessarily have issues with crime, but the collective perception of danger will cause people to avoid it - and thereby often attracting exactly the sort of people everyone was afraid of to begin with. "Good lighting and visibility have the potential to deter crime and/or the perception of crime/fear" (Loukaitou-Sideris 225).

Several cities recommend separate lighting elements: pedestrian-scaled lampposts for sidewalks and bike lanes, and taller fixtures for streets. However, it is crucial that the lighting elements complement each other to ensure that both sidewalks and vehicular travel lanes are effectively illuminated.

The most important function of good lighting along urban pedestrian paths is to illuminate sidewalks, crosswalks, curbs, curb ramps and signs, and to provide visibility at night, allowing pedestrians to identify others people and thus increasing people's sense of safety. However, uniformly bright illumination mounted on a few towering poles - regarded by some as the best solution - tends to destroy the social nature of public spaces and can contribute to making people feel disoriented and unbounded (Alexander 1160).

Instead of flooding sidewalks with brightness, which light fixtures on tall poles tend to do, down lights provided on frequently spaced pedestrian-scaled lampposts of no more than 12 feet height, are preferred in pedestrian districts. The light cones of such pedestrian-scaled lampposts, placed 8 to 12 feet apart, should slightly overlap on the sidewalk surface, creating pools of light, re-

Ultimately, the minimum level of light should always be enough to convey a sense of well-being.

Brambilla 54

An illuminated Poyntz Avenue BBN Inc.

The qualities of artificial lighting in pedestrian areas can have a significant effect on the willingness of people to walk in public areas after sunset.

Zacharias 11

Town Center Plaza BBN Inc.

sulting in light levels between .2 to .5 foot candles, which is bright enough to ensure safety but not so bright as to create glare. Specific decisions about type, number, and spacing of lighting depend upon the setting.

While vertical lampposts are the most common fixtures for illuminating city streets and squares, lighted bollards or wall-mounted small-scale sconces can also augment the illumination of urban scenes. If done thoughtfully, street lighting can enhance the pedestrian environment by reinforcing circulation corridors, thus encouraging nighttime activities.

Part of the street furnishings during the day, lampposts - given their size, shape and ornamentation - can help define the space of urban streets and add to the character of the setting. They also provide vertical buffers between the walkable part of the sidewalk and a bike lane or the street, thus helping to define the pedestrian realm.

Lighting for storefront windows can serve the dual purpose of calling attention to displayed merchandise and illuminating the street with “spillover” light. If storefronts are not illuminated consistently however, dangerous shadows can be created where poor lighting occurs next to good lighting. Back alleys especially need to be well lit since they are not as consistently observed. Decorative lighting also provides life and vibrancy to downtown districts and can be used as a decorative element. This may include flood lighting to emphasize parts of buildings or signs, festive lighting for seasonal occasions, strings of lights for special effects, etc.

In pedestrian settings, high-pressure sodium lights though energy efficient - should be avoided because they cast a yellowish light distorts colors and should be avoided in. Metal halide lights, in contrast, cast a warm high intensity light that works well for illuminating buildings or landscaping.

Along downtown sidewalks and pedestrian promenades, place frequently spaced ornamented lampposts with down-lights to gently illuminate pedestrian paths and bike lanes with pools of light.

Dark public places often generate feelings of fear. Research has shown that good lighting of streets, parks, bus shelters, and stations can decrease assaults and perception of danger.

Loukaitou-Sideris 225

The following patterns offer suggestions where to create Pools of Light:
Third and Fourth Street Loop
Poyntz Avenue Promenade
Shopping Street
Town Center Plaza

Public Signs and Markers

The patterns
Public Realm
Streets as Urban Spaces
Historic District
Legible District Boundaries and Gateways
Art in the Public Realms
are further articulated by this pattern.

Public Signs Susanne Siepl-Coates

Without visible public signs or markers it can be difficult to navigate through a district.

Urban districts sport public signs and markers of various types including signs to control traffic, to call attention to landmarks and to assist with wayfinding. Well-designed and well-coordinated signage systems provide orientation and contribute to effective circulation throughout a district thus enhancing the way finding experiences of pedestrians and bicyclists.

If carefully related to the character of the surroundings in terms of size, shape, detailing, and color scheme, signage can add to the character of the streetscape while also strengthening the identity of a district. "'Place' can be communicated by signage distributed throughout a site, with greater emphasis at gateways or entry points. Good signage tells the story of a place or conveys what makes the site special and interesting to visitors. Further, the signage at gateways defines the nodes of activity" (Schmitz and Scully 25).

Signs should instruct people how to find the places for which they are searching. While some signs, intended to direct motorists, may be large in scale, signs intended for pedestrians and bicyclists, who will be passing the signs at a much slower rate, can be smaller in scale while providing rather detailed information. Rather than using many words, signs should make use of symbols because so they are more universally understood.

Some signs provide directions within a district, while other signs, perhaps as simple as a plaque with the words "Welcome to Smith Center", announces that the visitor has arrived at the desired destination. This may include a shop's sign, street signs, or maps on street corners to alert pedestrians of opportunities available in the area. In addition to a posted map, signs can call out key destinations such as libraries, school, museums, shopping districts, etc. Furthermore, directional signs can inform pedestrians of the distance to a destination by telling them of the number of blocks or walking time.

Lastly, signs can indicate where a person should go for assistance. It is an important component of good wayfinding that a tolerance for error be incorporated. If, despite good signage, the traveler becomes confused, it should be obvious where he or she could turn for help.

Beyond signs assisting in wayfinding and supplementing a sense of place, signs are also valuable for pedestrian safety. In order to encourage more pedestrian and bicycling activity, people need to feel confident that the environment is accommodating to their needs. Signs to denote crosswalks and to moderate the speed of vehicular traffic are important to make motorists aware of the slower moving transportation modes of walking and bicycling.

Signs should be as few in number as possible. Too many signs can create visual confusion and a cluttered environment. Sign size should maximize legibility and be arranged to align horizontally or vertically to "create a tidier visual appearance" (Gibbons 142). Low signs are generally more easily noted by pedestrians and contribute to an appropriate sense of scale. Signs placed overhead should be placed no lower than eight feet however from the surface for the safety of bicyclists (Oregon Bicycle and Pedestrian Plan 155).

Develop a well-designed system of signs and markers to assist pedestrians and bicyclists to find their way through the community.

The following patterns offer suggestion where to create Public Signs and Markers:
Third and Fourth Street Loop
Poyntz Avenue Promenade
Flags, Banners and Holiday Lighting

V 1 Third and Fourth Street Loop

2 Attractions on Both Sides of the Street

3 Store-Wrapped Parking Garages

4 Riverside Park

5 Planted Swales

6 Rails to Trails

7 Bulb-Outs

8 Curbs and Gutters

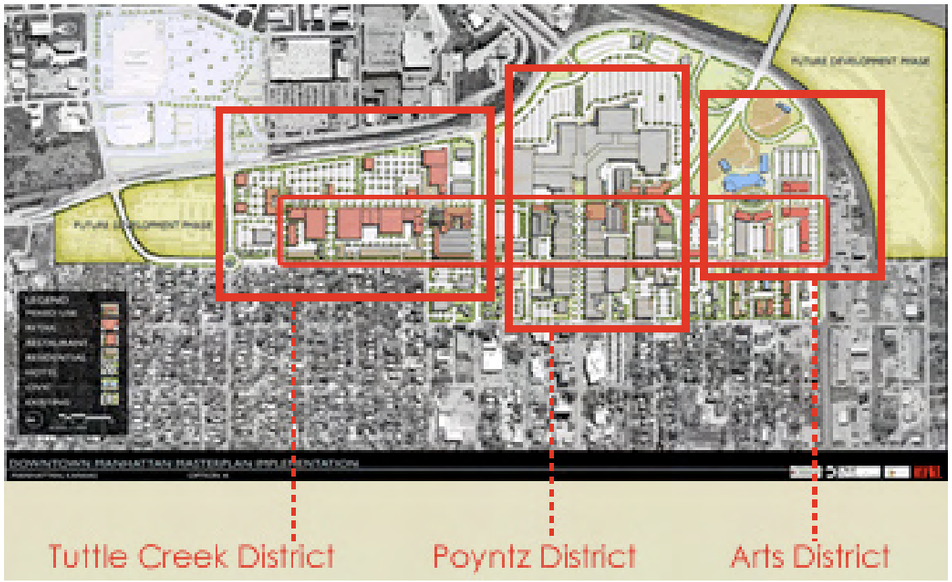
9 Curb Ramps

10 Curb Radius Reductions

11 Bollards

Third and Fourth Street Loop

The patterns
Streets as Urban Spaces
Grid of Urban Streets
Calmed Vehicular Traffic
Interconnected Destinations
are further articulated by this pattern.



Interconnected downtown districts BBN Inc.

Walkable communities are places in which most trips are made without a car.

www.urbanity.50megs.com/Walkable.htm; accessed 17 September 2007

Automobile-dominated streets cutting through the downtown districts will do nothing to support the vibrancy and vitality of the area.

Manhattan is in the enviable position of having an attractive and walkable historic downtown: relatively densely packed small retail stores with some housing and office space above, interspersed with restaurants and other entertainment options, in close proximity to governmental and other public functions such as the county offices and the post office. Albeit small in size, the 'Core District', the downtown blocks north and south of Poyntz Avenue, with their many historic structures and intriguing architectural details, establish Manhattan as a unique and memorable place in the region.

Many other communities - particularly those in suburban settings - go to great expense to create the illusion of a historically grown district with a mix of shopping, dining and entertainment venues in order to establish a similarly strong sense of place.

As the city embarks on the planned downtown redevelopment, where each of three adjacent downtown districts is hoped to be a desirable destination in its own right, a multitude of opportunities presents itself to create an interconnected urban fabric. A key to the success of such interconnectedness seems to be pedestrian and bicycle connectivity among the districts as well as to the surrounding areas of the city. A loop formed by Third and Fourth Streets, conducive to walking and bicycling, provides an excellent opportunity to bind the North and South Districts to the Core District as well as to one another and to the rest of the city. Strictly emphasizing vehicular traffic in the center of town counteracts the creation of a walkable community, bringing enormous social and environmental costs.

In fact, several major downtown streets are already scheduled to be upgraded as part of the redevelopment, including Fourth Street between Fort Riley Boulevard and Bluemont Avenue (later perhaps to McCall Road), and Third Street from Leavenworth to Osage Streets. While pedestrian accommodation is mentioned in the city's plan documents, clear emphasis is given to automobile traffic. Improvements include pavement, pavement markings, curb and gutter, storm drainage, street lighting, and landscaping (North District Redevelopment Plan).

Proposed pedestrian-friendly Third Street BBN Inc.

Downtown is a gathering place for residents of all ages and cultures as they discover downtown over and over again.

Excerpt DMI VISION 2009

Given that Third and Fourth Streets both run in a north-south direction through the redevelopment area, they can easily be thought of as a loop connecting the proposed three districts and focusing on the needs of pedestrians and bicyclists. For example, downtown customers might park their cars only once and stroll between the districts to shop in a variety of stores, meet a friend in one of the coffee shops, then shop some more; professionals and business employees might take their lunch to a near-by pocket park or go for a walk along the loop to get a bit of exercise while also running a few errands; and residents of the area, particularly the elderly, might go for a leisurely walk around the loop, resting occasionally on one of many benches while watching the theater of urban life.

However, more than easy accessibility of stores from parking lots, the vibrancy and vitality of a downtown depends on the equitable and safe movement between attractive destinations of pedestrians, bicyclists, motor vehicles and even transit vehicles. All along Third and Fourth Streets, care must be given to make the experience of walking and bicycling attractive. New buildings should be sympathetic with the historic ones in terms of materials, scale and detailing; instead of blank walls storefronts should offer enticing displays and views of the store interior; instead of the edges of large parking lots a narrow linear park with sitting places, their backs protected by clipped hedges, invite a restful reprieve under a shade tree from the bustle of town; sidewalks, located on both sides of the street, should be at least 8 feet wide to accommodate users without crowding while also providing urban amenities such as planters, sitting places and newspaper vending machines. At a minimum, the loop streets would have shade trees to ameliorate the summer heat and be well lit at night.

Emphasizing walkable and bikable transportation routes will contribute not only to the health of the city's inhabitants but also to the improvement of energy problems that plague the city, the state and areas beyond.

Upgrade Third and Fourth Streets along with the cross-streets between the two for all modes of transportation. Conceive of them as parts of a loop that interconnects the three downtown districts conveniently and safely for pedestrians and bicyclists and ties them to the adjacent residential neighborhoods.

Ensure that the downtown core revitalization is strongly integrated with both the north and south districts physically, economically, socially and culturally.

Downtown Manhattan Next

The following patterns help to enhance the Third and Fourth Street Loop:

Attractions on Both Sides of the Street
Store-Wrapped Parking Garages
Shopping Street

Attractions on Both Sides

The patterns
Vibrant Downtown Districts
Mix of Uses
Farmers Market
Pocket Parks
are further articulated by this pattern.

Streets with attractions on one side will draw only limited numbers of pedestrians and bicyclists.

In many cities around the country the development and redevelopment of retail districts has been a growing priority, presenting opportunities to enhance not only the economic viability but also the quality of life for its residents. As the City of Manhattan is poised to develop three vibrant retail districts - the downtown core with a district each to the north and south - it is crucial to ensure that this broader vision for a higher quality of life is not lost.

Among other parameters, quality of life depends on both planned and spontaneous activities and interactions occurring in a community's public realm. Thus, if they are to be vibrant beyond economic viability, the three districts must become pedestrian- and bicycle-friendly destinations for people who live in the adjacent neighborhoods and for those who elect to limit the use of their cars.

While contributing to their community's local economy, new commercial developments tend to take on the appearance of a strip mall because they are designed to attract mid- to large-size stores which, in turn, results in their spread-out nature and total dependence on access by car.

The situation is exacerbated when a district is to serve as a regional draw and thus likely to attract significant vehicular traffic for moving and parked automobiles. All too often, the demands of the motorist are heeded while lip service is paid to the needs of the local community for pedestrian- and bicycle-friendly settings.

Given the complexity of the planning issues facing the community, there is concern that attention is focused on the design of the districts themselves

Retail must line both sides of the street; there are no successful one-sided retail streets.

Richard Heapes, in Schmitz and Scully 31

This street in Glasgow offers attractions on both sides

Gary Coates

Aggieville offers attractions on both sides of the street Betsy Pribula

Attractions only one side Betsy Pribula

A good project design can increase the actual distance that people will walk by reducing the perception of distance.

Schmitz and Scully 23

while the connecting realms between the districts are not given sufficient consideration. Discontinuous zones between development areas, such as blank walls concealing the backside of a super market or large unscreened parking lots, create 'empty' spots in the urban fabric that do nothing for the experience of pedestrians and bicyclists. Such uninviting stretches in the public realm create the perception of 'insurmountable distance' between here and there. Therefore, rather than bicycling over or walking from one district to the next, people will likely drive the few blocks and then cruise to look for another parking space a few minutes later.

Manhattan is fortunate to have an historic downtown retail district along Poyntz Avenue that can serve as a role model for street with attractions on both sides. As Third and Fourth Streets will be the local streets to connect the downtown retail district with the new north and south districts, the design of these streets must be given special attention. Rather than merely serving as transportation routes for vehicular traffic, Third and Fourth Streets have to be thought of as pedestrian-scaled streetscapes with attractive sidewalks and bike lanes, offering pedestrians and bicyclists a continuous experience of interesting storefronts or entryways into residential units not only within each of the three districts but also between the districts in order to 'fill the gaps'.

When the connecting streets are lined with small-scale retail shops, plazas, trees, service businesses, coffee shops and other attractions on both sides, a cohesive urban setting is created that draws pedestrians and bicyclists from the residential neighborhood to the shopping districts, and from one district to another. A positive experience has to be further supported by attractive lighting, street furnishings, landscaping, and informative and consistent signage enticing pedestrians to explore the larger district and beyond.

This type of development has the potential to boost revenue, while also enhancing the sense of community by encouraging more interaction between and among people, even if it involves just seeing and being seen. The more variety of attractions offered, the more casual social interaction there will be.

Between the three downtown shopping districts, as well as within downtown shopping districts, line streets with small retail stores, a mix of housing types, pocket parks and other attractions on both sides of the street while reducing the prominence of parking as an element of the landscape.

The following patterns help to enhance Attractions on Both Sides:

Store-Wrapped Parking Garages

Shopping Street

Store-Wrapped Parking Garages

The patterns
Positive Outdoor Space
Buildings Edging the Sidewalk
Eyes on the Street
Attractions on Both Sides of the Street
are further articulated by this pattern.

This parking garage offers attractions at street level Gary Coates

To make garages fit into the pedestrian-oriented streetscape, active retail, or service uses can be incorporated at the street level.

Schmitz 51

The typical parking garage is an unsightly building that tends to mar the atmosphere of its surroundings.

The parking garage is perhaps the greatest example of design with only one distinct segment of the population in mind: the motorist. Parking garages offer an efficient and convenient solution to parking problems: simply stack as many vehicles as possible on top of one another and save the rest of the land for something else. However, functional as they may be, parking garages located in the middle of shopping districts can make the whole district less attractive. Many people - even those who park their cars there - do not find parking garages appealing but accept them as a 'necessary evil'. Limited points of ingress and egress, lack of daylight and limited views to the outside, contribute to their interiors being perceived as unsafe settings.

The exteriors of parking garages can have similarly negative effects. Parking garages are generally mammoth pieces of intimidating architecture that, when located within urban shopping districts can create discontinuity in a row of storefronts and thus be detrimental to the walking experience of shoppers and business owners, visitors and employees, as well as pedestrians and bicyclists, thus making the whole district less appealing.

A solution that addresses the demand for increased parking capacities and the need for people-friendly settings in an urban shopping district is to "camouflage the parking garage" (Sucher 158). Surrounding a parking garage with stores and shops has two major benefits: first, the bulk of the parking garage is hidden; and secondly, additional residential and retail spaces are created.

More residential units contribute to an increased customer base for the district's retail businesses while a higher number of shops means greater economic profit for the community.

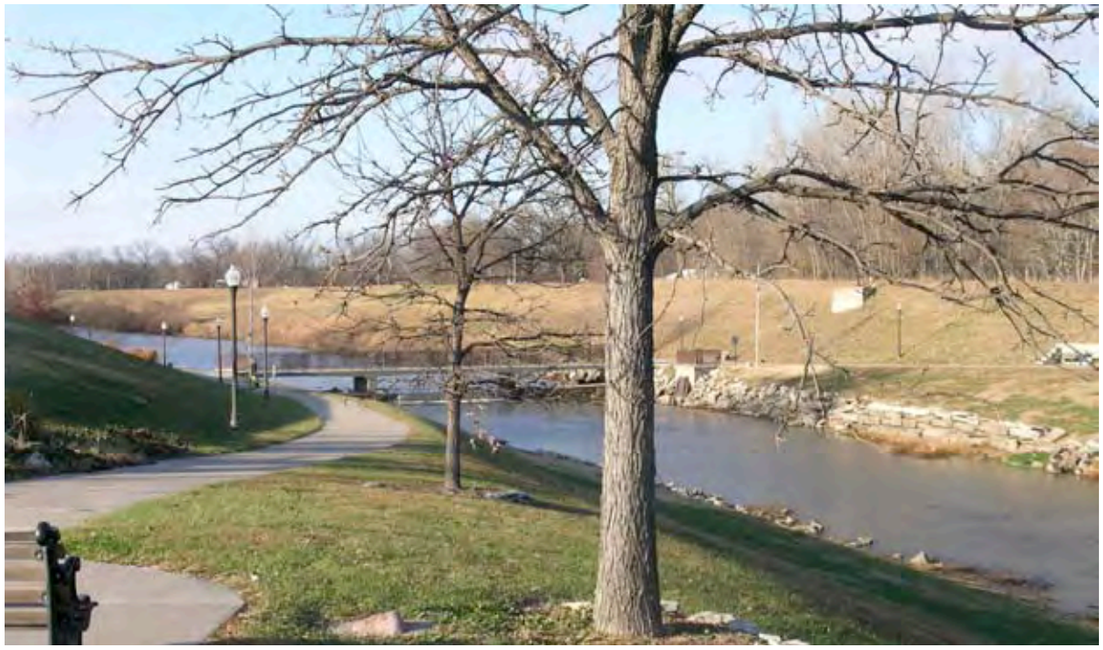
Wrap a parking garage with stores on the street level and apartments above to create a more pedestrian-oriented streetscape.

Proposal for a parking garage in Manhattan BBN Inc.

The following pattern helps to enhance Store Wrapped Parking Garages:
Shopping Street

Riverside Park

The patterns
Growing City in the Flint Hills
Linear Trail
are further articulated by
this pattern.



Riverside park, Council Grove, Kansas — Susanne Siepl-Coates

Riverfront access and the extended "redevelopment" area provide additional opportunities for activity and recreation.

DMI Vision 2009 statement excerpt

Without access to near-by rivers the citizens of Manhattan are cut off from possible major recreation areas.

The Kansas and Big Blue Rivers provide many recreational opportunities yet some citizens of Manhattan are not aware that these rivers are so close by, despite the fact that the founding of Manhattan occurred because of shallow sand banks in the Kansas River.

Proposed plant material — Katie Kingery-Page

Proposals to facilitate the experience of the rivers more fully are included in the 1998 Linear Park Master Plan, Phase II, suggesting that secondary "neighborhood loops" to complement the Linear Trail be constructed, including an extension from the Blue River Area to Tuttle Creek and a route along the Blue River through the Northview area. Running partly through the Flint Hills landscape and offering enjoyable views, these trails lend themselves both for utilitarian and recreational physical activities.

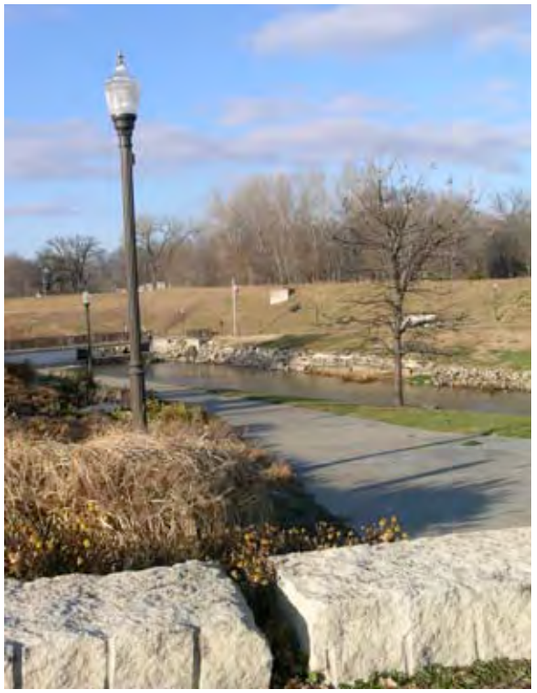
Even though the Kansas River coincides for a brief stretch with the city's southeast boundary and defines one edge of a small green space, general access to the river and its recreational potential is extremely limited. However, there is a large wooded area between the levee and the Kansas River that lends itself well to the use of a park. Lying within the flood plain and partly located on county property, this land is within walking distance of the downtown and southern redevelopment areas and easily accessible via the Linear Trail and Temple Lane.

If transformed into a ‘Riverside Park’, this area could become a highly desirable recreation spot for Nordic walkers, bicyclists, and possibly even equestrians. Compared to the more manicured parks within the city limits, Riverside Park would remain more rugged in character, largely because it would be prone to flooding. Nonetheless, the park can offer not only a network of trails and greenways but also possibly a BMX or skate park for adolescents.

Furthermore, the possibility exists to extend Riverside Park across the Kansas River and connect it with land located at the northeast intersection of K-177 and the Kansas River. Named Fairmont Park, the site was acquired by Riley County and the City of Manhattan after the 1993 flood to serve as open space and be utilized for passive park uses, such as picnicking, walking and informal play spaces, and for the preservation and conservation of the park’s natural resources (Fairmont Park Master Plan, 1997).

A boat-launching ramp already exists on the east side of the river, close to the bridge and off McDowell Creek Road. Places to access the river should also be available on the city side, not only for boating but also for fishing or just to get one’s feet wet and cool off on a hot summer day. An existing concrete pier, once used to support the now abandoned railroad tracks, lends itself well as the foundation for a picnic structure. Developing this dilapidated area into a shelter and meeting place for walking and bicycling groups would enhance the area, provide a destination point and offer one of the few places from where the river can be observed.

Potential Trails Kristina Nelson



Council Grove, Kansas Susanne Siepl-Coates

Provide access to the Kansas River in close proximity to the downtown Manhattan core for citizens to enjoy many opportunities for physical activity and recreation while in turn increasing the attractiveness of the downtown.

The following pattern helps to enhance Riverside Park:
Planted Swales

Planted Swales

The patterns
Shielded Off-Street Parking
Patches of Prairie
are further articulated by this pattern.

Planted Swales along street and sidewalk Sarah Karlan

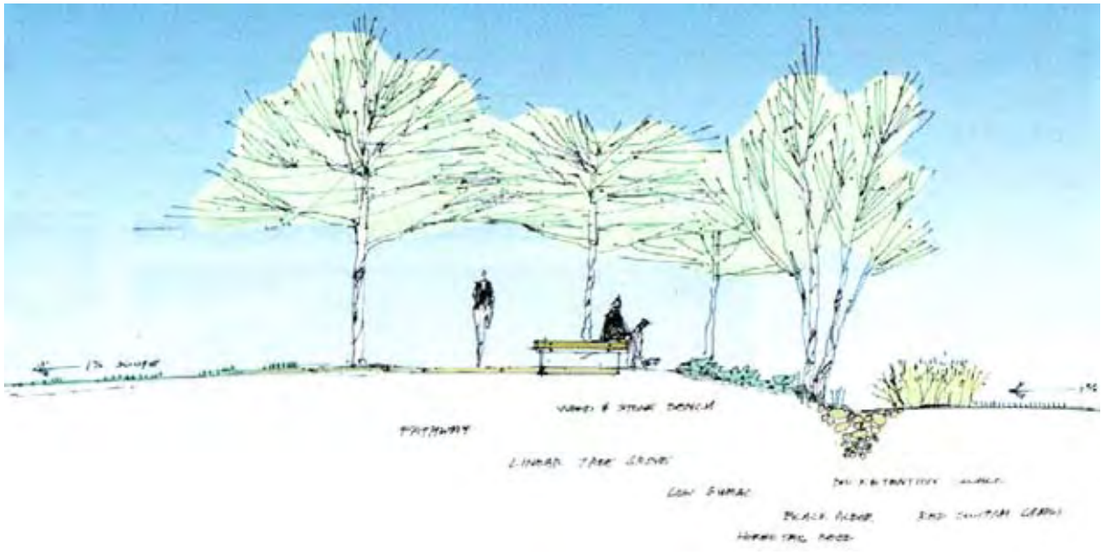
Rainwater runoff often floods streets and large parking lots, hampering pedestrian movement and leaving behind unsightly debris.

The task of creating beautiful, walkable environments for pedestrians and bicyclists includes dealing with the problem of large parking lots and storm water runoff. Large paved areas such as parking lots are prone to excessive rainwater runoff, which can lead to unnecessary flooding problems and the accumulation of debris. Clean rainwater becomes contaminated with chemicals when it hits the pavement and must therefore be decontaminated at the water treatment plant putting additional strain on the facility.

Parking lots with planted swales Chris Schneider

The more storm water that runs through the systems, the more chemicals must be used to purify the water, and, consequently, more sedimentation and residual chemicals are fed into streams and other bodies of water. “To give you an idea of the difference a hard surface makes, consider the difference between one inch of rain falling onto a meadow and a parking lot. The parking lot sheds 16 times the amount of water that a meadow does” (North Carolina Department of Environment and Natural Resources). For pedestrians, the flooding presents a problem for walkability.

Planted swales offer alternative ways of managing storm water. They are vegetated channels that are intended to resist erosion, naturally filter rainwater, and control peak discharge. Using natural biological methods for filtration and de-sedimenta-



Bio-retention swale diagram

Manhattan Recreation Study

tion, they can help to create a more beautiful, pedestrian-friendly environment. For example, when carefully planned and integrated with the design of surrounding buildings and streets, planted swales can serve as walking paths from the outer portions of a large parking lot to the front door of a mall, or as part of a bike path through town.

Grassed swales are advantageous because they control stormwater by natural means, rather then depending on the need for strong chemicals for cleaning methods. Grasses, wildflowers, or other native plant life adapted to the area are used as vegetation for the swales and are easy to maintain. Swales not only enhance the water quality downstream, but can also soften the stereotypical hardscape of a parking lot and bring beauty and green space for pedestrians as well as drivers.

Grasses native to Kansas are the most likely to be successful for this application. Some of these include Switchgrass, Zebra, Ribbon, Fountain, Maiden, Bluestem, and Feather Reed. These grasses grow quickly and usually reaching maturity in two years. These grasses are well adapted to Kansas weather and the environment and also can accentuate the surroundings by their variety of colors.

Compared to conventional parking lots, lots with planted swales create a more pleasant atmosphere for pedestrians and bicyclists by beautifying the landscape while reducing flooding in the area. During the hot summer months, vegetated surfaces remain much cooler than the harsh pavement, an effect that is further enhanced when shade-giving trees are included in the plantings.

As part of the design of large parking lots, create pedestrian paths and bike lanes by providing planted swales that also naturally manage storm water.

The following pattern helps to accommodate Planted Swales:
Rails to Trails

Rails to Trails

The patterns
Linear Park
Neighborhood Greens
Flow-Through Circulation
are further articulated by this pattern.

Abandoned rail corridors are an under-utilized resource for pedestrians and bicyclists.

Railroads were once the lifeline for America's towns and villages. Today, trains have lost some of their significance, but railroads still exist, often running through unspoiled pastoral landscapes and farmlands, and even through the communities themselves. The majority of these railroad paths are flat or on modest inclines. As trains are removed from service, the rail corridors provide perfect opportunities to create trails for walking, running, cycling, and other outdoor activities.

Established in 1986, The Rails-to-Trails Conservancy is a non-profit organization whose mission "is to create a nationwide network of trails from former rail lines and connect corridors to build healthier places for healthier people." (Rails to Trails, 1) Over 1,000 new trails have been created, amounting to nearly 13,600 miles, but there are still more than 16,000 miles of rails that have been abandoned, awaiting development. (Rails to Trails, 1) The Rails-to-Trails Conservancy has a goal by 2020 that 90% of Americans will live within three miles of a trail. As the trails grow longer and connect with one another, they can easily become transportation routes to work and school (Active Living). Studies of rails to trails projects in other states have shown that easy access and a closer proximity lead to greater use (Troped et al.).

Corridors of abandoned railroad tracks can become community trails, advocating a healthier lifestyle if they are designed to attract many types of users. The trails are not judged to be successful based on their length, but rather on their use. Bringing people into and through the city or town through a trail can increase the health of the users and enrich the community. A study conducted by the Saint Louis University School of Public Health and the Missouri Department of Health and Senior Services found that "changing communities by making them safer and offering people access to community parks, public recreation facilities, and walking and biking trails may help reduce the prevalence of overweight by promoting physical activity and healthier lifestyles' (Saint Louis

Possible trail near Manhattan train depot — Betsy Pribula

Proposed development near depot BBN Inc.

University). Many towns and cities have begun to promote greenways to attract visitors, businesses and residents.

A recent study of a newly built trail in rural Missouri increased walking among residents up to 62% (Brownson et al.). In Manhattan, the corridor of an abandoned railroad line runs around the Eastern edge of downtown. With the tracks now removed, the remaining space becomes a prime location for an urban trail that offers people of all ages opportunities for healthy recreation and transportation.

This particular former railroad corridor could be easily transformed into an attractive greenway that has the potential to make Manhattan a more walkable and thus livable community. Of course the trail must be perceived as safe and comfortable for pedestrians and bicyclists. Setting the path back from the adjacent arterial street behind a row of trees, reinforced with bollards, low hedges and other forms of vegetation can serve as a buffer

Aerial view of Manhattan's railroad lines BBN Inc.

zone shielding users form fast-moving vehicular traffic.

Shaded sitting places, planters, drinking fountains and appropriate lighting will entice those who live or work downtown to utilize the trail for everyday exercise including biking, walking, commuting to work, jogging and skating, or for pleasurable strolling.

Restricted to pedestrians and bicyclists, the newly constructed trail could safely and conveniently connect Fort Riley Boulevard and the Train Depot with the mall and the newly developed North District. The trail would also lend itself as a connection from downtown to the Linear Trail, allowing bicyclists access to downtown from other parts of the city and beyond thus allowing people to combine physical activity with going shopping and running errands.

Convert abandoned railroad lines to attractively planted greenways with paved trails in order to create beautiful public paths that travel through the heart of the community.

The following pattern helps to enhance Rails to Trails:
Bollards

Bulb-Outs

The patterns
Web of Safe Transportation for All
Calmed Vehicular Traffic
Traffic Signals for Pedestrians and Bicyclists
Sidewalks and Walkways
Variations of Paving Materials
are further articulated by this pattern.

More space for pedestrians at a bulb-out BBN Inc.

Crossing a wide street can be dangerous, particularly for children, the elderly, and the disabled, because of the length of the path to be traversed.

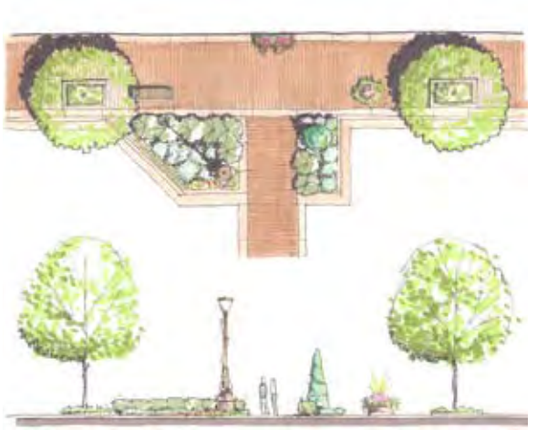
Bulb-outs are traffic-calming devices that reduce the crossing distance for pedestrians by extending the sidewalk into the street, often to the line between the parking and traveling lanes. Bulb-outs tighten the street space visually and physically, thus encouraging motorists to travel at slower speeds while simultaneously shortening the time during which pedestrians are exposed to vehicular traffic.

Bulb-outs contribute to improving the safety of pedestrians at intersections in other ways, too. While they provide additional room for pedestrians waiting to cross the street, they place pedestrians more clearly into the field of vision of motorists, making them more visible to drivers. And, of course, pedestrians can better see cars approaching.

A study entitled ‘Children and Road Accidents’ found that no matter how much education a child has, children do not have the judgment required to interact with traffic (Van der Does) . This means that physical measures must be taken in order to provide safe crossings for children and slow-moving elders. Even in cases of the elderly or disabled, there is a perceived sense of safety when bulb-outs are present at intersections.

Well-designed bulb-outs change the physical aspects of a street, but they also affect the psychological feel. By incorporating street furnishings such as sitting places or street lamps, and landscape elements such as planters and street trees, a more relaxed, human-scaled and pedestrian-friendly effect is achieved which says to the driver “Beware! This is a shared space” (CART 19). By incorporating bulb-outs into the design of streets pedestrians and cyclists can more safely share the road with vehicles.

Wherever pedestrian-friendly streets are desired, enhance intersections with bulb-outs to create shorter and safer distances for pedestrians of all ages and abilities to cross.

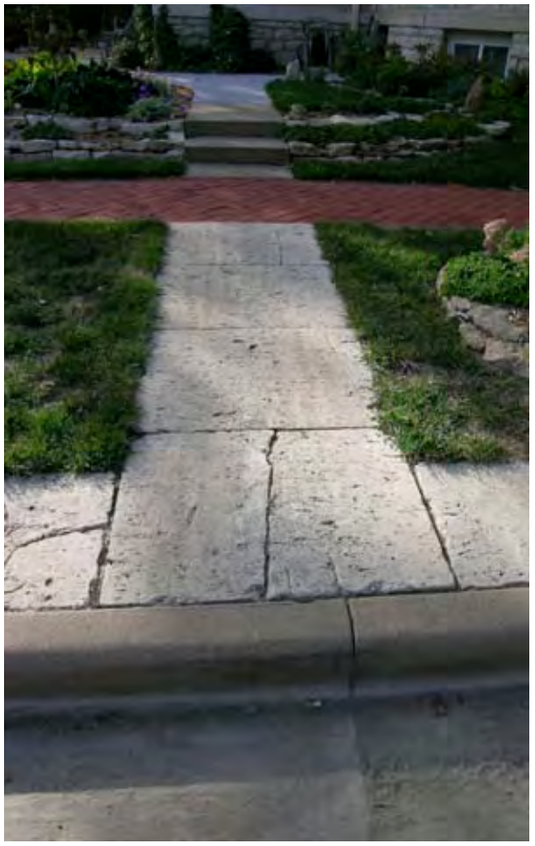


Proposed bulb-out for Poyntz Avenue BBN Inc.

The following patterns offer suggestions how to create Bulb-outs:
Curbs and Gutters
Curb Ramps
Curb Radius Reduction

Curbs and Gutters

The patterns
Sidewalks and Walkways
Variations of Paving Materials
are further articulated by
this pattern.



Limestone walkway in Manhattan Susanne Siepl-Coates

Gutter detail in Kansas City Susanne Siepl-Coates

Limestone curb, installed in 1904 Susanne Siepl-Coates

If designed merely for practical purposes, curbs and gutters do little to enhance the pedestrian experience.

For pedestrians to feel safe walking beside urban streets, there must be a physical barrier between them and the vehicular traffic. Typically, curbs serve in this capacity by providing a level change between the sidewalks and street, which walkers may cross but cars cannot: the curb helps to define their respective realms.

In some places, bike lanes, too, are elevated above the street level by the curb and located next to sidewalks. By separating slow- from fast-moving modes of transportation, pedestrians' and bicyclists' perceived and actual sense of safety is significantly increased. "To drive over the curb onto the sidewalk is uncomfortable for the driver, hard on the car, and an outrage to social niceties" (Sucher 70).

Thus the curb is not an insignificant element. It provides order to the streetscape and defines how we experience the city: the curb defines the relative size of the pedestrian and car realms and thus impacts the consequent sense of power of pedestrians and bicyclists over vehicles (Sucher 70).

Curbs cannot be thought about without also considering gutters. Located next to curbs, gutters are channels on the sides of streets that assist in water drainage by collecting and carrying away rainwater and debris.

There are many additional positive aspects of curbs and gutters, including their ability to protect "street trees, utilities, and signs. They establish a positive limit of vehicle encroachment on the border area, minimizing parkway erosion and reducing the probability of vehicles sliding off the roadway under unfavorable pavement and weather conditions. They provide excellent drainage control. They are better able to control parked vehicles that on their own start to roll (runaways). They protect the border grass from damage by snowplows" (Kulash 47).

Before concrete was easily available, limestone was the traditional curb material in many cities throughout the Midwest. Some streets in the older parts of Manhattan still demonstrate the special attention that was once given to curbs and gutters: curbs made of local limestone still survive along Houston Street, some appearing to be in better condition than many of the more recently installed concrete curbs. Together with their adjacent reddish-brown brick sidewalks, they speak to the history of the city and contribute to Manhattan's unique sense of place. Using limestone as curb material in the older parts of town again would enhance the unique character of town and make walking and bicycling a pleasurable experience.

Today, most Manhattan citizens may take concrete as the main surface material for streets and sidewalks for granted. However, it must be noted that many cities that are well-known for their character and charm have recognized the significance of materials in attracting their own citizens as well as revenue-creating visitors to their historic town centers. Many of these cities, such as Dubuque, Iowa, established design guidelines that call for the maintenance of traditional materials and, when necessary, for the replacement of deteriorated sites with the same traditional material:

"Recommended
• Identification and preservation of original historic paving and limestone curbing materials where they survive, particularly in areas where the curbing has a substantial visual impact on the view from the street.

Gutter solution Susanne Siepl-Coates

• Replacement of deteriorated limestone curbs with new limestone."
(City of Dubuque, Iowa)

In the older neighborhoods, where brick streets and sidewalks should be enhanced, create local attractions that appeal to pedestrians and bicyclists by replacing concrete with limestone curbs in order to enhance the ensemble character of historic buildings in their historic settings.

Old stone sidewalks and curbs shall be maintained in all historic districts. Where old sidewalks must be replaced, such replacement shall be made of similar material and of similar sizes.

City of Granbury, Texas

The following patterns help to enhance
Curbs and Gutters:
Curb Ramps
Curb Radius Reduction
Brick Streets and Sidewalks

Curb Ramps

The patterns
Sidewalks and Walkways
Variations of Paving Materials
are further articulated by this pattern.

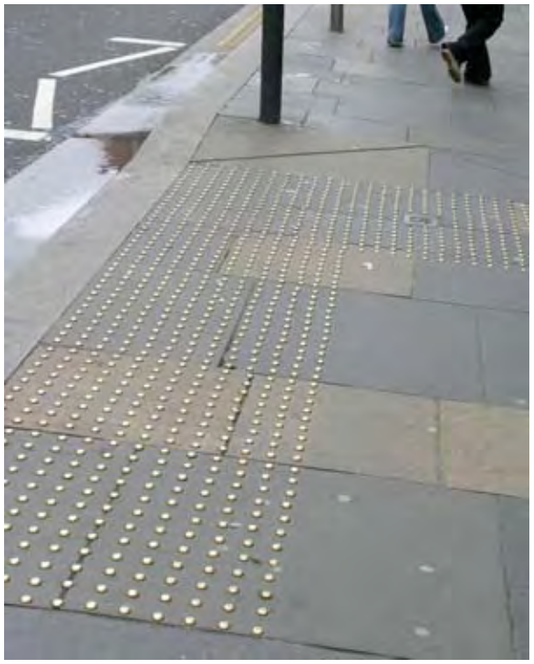
Curbs designed for the ease of motorists only can have a negative impact on the convenience and safety of non-motorists.

A curb ramp provides a gradual transition between the street and the level of the sidewalk, usually 6 inches above the street. Typically made of concrete, curb ramps are appropriate for all types of streets. While they are mostly located at intersections, they can also be found in other places where a gradual change in level is called for, for example at mid-block crossings or medians. Ramp slopes are not to exceed 1:12, meaning that for every twelve feet of horizontal distance, they rise no more than one foot.

While their presence is taken for granted today, curb ramps have not always been typical elements in urban streetscapes. As laid out in the Americans with Disabilities Act (ADA) of 1990, curb ramps are required by law for new construction as well as for alterations of buildings and transportation infrastructure to provide easier mobility for persons with disabilities. The ready availability of curb ramps has also provides conveniences for individuals using walkers and canes, people confined to wheelchairs, persons pushing strollers or handcarts, and children riding bicycles. Particularly in retail districts and other districts frequented by users with mobility needs the design of curb ramps should be given special intention.

Depending on local circumstances, including type of street, curb ramps can be configured in a variety of ways. “Curb ramps are often categorized by their position relative to the curb line. Many sidewalk characteristics, including width, elevation of buildings, and position of street furniture, can affect the curb ramp design chosen. The four most common configurations are perpendicular, parallel, diagonal and built-up ramps” (Federal Highway Administration).

Sometimes curb ramps are difficult to maneuver when rainwater and debris such as leaves and grass clippings gather at their base due to the limited slope of adjacent gutters and streets. These conditions can cause major inconveniences, if not create major obstacles, for able-bodied persons as well as persons with limited abilities.



Brass knobs for traction Susanne Siepl-Coates

Curb ramps should always be properly aligned to ensure safe access to the intersection without putting the individual in danger. Ideally, the sloping parts of the ramp should be scored for good water runoff and enhanced traction. Good traction can also be achieved by adding concrete or metal knobs into the surface. Sometimes, concrete ramps are stained red for better visibility.

Technical requirements and other pertinent information regarding accessibility of buildings and infrastructure, including curb ramps, are described in the ADA Accessibility Guidelines.

Along city sidewalks, place curb ramps at intersections and other strategic locations to provide persons with limited mobility assistance with transitioning from the roadway to the sidewalk, thus increasing the usability of the pedestrian paths throughout the city.

The following pattern helps to accommodate Curb Ramps:
Brick Streets and Sidewalks

Curb Radius Reductions

The patterns
Calmed Vehicular Traffic
Third and Fourth Street Loop Bulb-Outs
are further articulated by this pattern.

The single-minded goal of efficient car movement has altered the forms of new and existing development to consist of large curb radii at intersections.

Dutton 19

A curb radius of 25 feet or more typically results in high-speed turns by motorists.

Burden 44

Decrease the turning radius … the sharper the turn, the slower one must drive.

Sucher 77

The following patterns offer suggestion where to accommodate
Curb Radius Reductions:
Poyntz Avenue Promenade
Shopping Street
Brick Streets and Sidewalks

Granting motorists a large radius for making right turns at intersections increases the danger to pedestrians.

City engineers have rigorous codes and standards by which they design urban streets. In the past, these codes and standards have tended to favor vehicular over pedestrian traffic.

When designing urban streets, intersections receive much consideration. Interestingly, this attention is often not focused on the convenience and safety of pedestrians, but on the expediency of vehicles, as evidenced by the fact that it is the turning radii of vehicles that determines the curb radius, not the desire of the pedestrian for the shortest possible distance to cross a street.

The AASHTO Green Book defines four types of vehicles for this purpose: a passenger car, a single-unit truck, a conventional school bus, and a tractor-trailer. “Important elements of turning radii are the wheel paths, which define the needed width of pavement, and the front overhang, which is the zone beyond the pavement edge that must be clear of obstructions above the curb” (American Planning Association 236).

The turning radius dimensions for local streets are based on passenger vehicles, and thus typically require a curb radius of only 20 feet. In contrast, for arterial streets with a high volume of fast-moving traffic, turning radius standards are based on large vehicles. Accommodating school buses and tractor-trailers in their efforts to make right turns, they typically require a curb radius of 25 to 30 feet.

Tight radius prevents high speed turns SSC

The wider the radius, the gentler the turn: while large vehicles still have to slow to navigate a wide turn, small passenger vehicles can make the turn at fast speeds.

Unfortunately, when generously dimensioned turns present themselves along arterials, collector and even some local streets, many drivers neglect to slow down to accommodate non-motorists crossing the street, which too often results in accidents involving pedestrians and bicyclists.

Along urban streets with pedestrian activity, particular in retail districts, reducing curb radii has several advantages: “A reduced radius shortens the pedestrian crossing distance, improves visibility between pedestrians and motorists, reduces the speed at which motorists can turn, and may add parking spaces to the street” (Seattle Manual 50).

When a curb radius is tight, motorists are required to slow before executing the turn, especially those who do not, or are not required to, completely stop before turning. Slowed vehicular traffic allows drivers to be more aware of those traveling alongside their vehicle, particularly those who are more vulnerable.

Some people have begun to promote the revision of design manuals to encompass the safety of all users (Complete the Streets Coalition). This may well include revised design standards with reduced curb radii in pedestrian-friendly districts. If implemented, vehicles would still have free access but drivers would be forced to lower their speed. Furthermore, “the narrower curve places the pedestrian closer to the goal: the other side of the street” (Sucher 77).

Minimize curb radii at intersections to slow motorists executing a right turn while improving the visibility of pedestrians, and to promote walking by shortening the crosswalk for pedestrians.

Bollards

The patterns
Flow-Through Circulation
Web of Safe Transportation
are further articulated by this pattern.

Setting apart pedestrian and vehicular realms Susanne Siepl-Coates

Bollards creating a boundary SSC

When motorists have unimpeded access to all areas of the public realm, the safety and quality of experience of pedestrians and bicyclists is likely to be much reduced.

Bollards are vertical traffic control elements made of metal, wood, stone or concrete. Strategically placed in regularly spaced intervals, they are typically installed in downtown areas, for example, to help establish the boundaries of a pedestrian-only district or to define the gateway to an auto-free plaza. Bollards offer inexpensive and easily modifiable interventions to slow drivers, increase security, enhance pedestrian and bicycle safety, or limit vehicular movement.

Setting apart realms of the city where pedestrians of all ages can mingle and experience urban life in a delightful and safe setting is likely to attract people and contribute to an increased sense of community.

The appearance, placement and installation of bollards must be given careful attention. Bollards that do not appear to belong to the streetscape can have a negative impact on the perception of the district. While their primary purpose is the control of vehicular access, bollards should not only be functional in their design. Artistically attractive and visually appealing bollards can contribute to the architectural ambiance of their setting, enhance the character of the district, integrate well with the urban fabric, and contribute to a positive pedestrian experience.

Some bollards, for example spherical ones, can be used as sitting places. Others can include fixtures to provide low-level lighting to illuminate pedestrian paths. Where service or emergency vehicle access is required, bollards should either hinge at the base or be otherwise removable (Gibbons 87).

Install bollards in areas where vehicular access must be denied in order to enhance the urban experience of pedestrians and bicyclists.

The following pattern offers a suggestion where to accommodate Bollards:
Poyntz Avenue Promenade

VI 1 Poyntz Avenue Promenade

2 Shopping Street

3 Urban Mall at the Heart

4 Town Center Plaza

5 Brick Streets and Sidewalks

6 Sidewalk Cafés and Restaurants

7 Time and Temperature

8 Outdoor Fireplaces and Barbeque Pits

9 Flags, Banners and Holiday Lighting

Poyntz Avenue Promenade

The patterns
Public Realm
Streets as Urban Spaces
Historic District
Main Street
Tree-Lined Streets
Vibrant Downtown Districts
Street Furnishings
are further articulated by this pattern.

Rendering of a revitalized Poyntz Avenue BBN Inc.

Although Americans have less tradition than do Europeans for strolling, promenading, or frequenting outdoor cafés, studies of street life in U.S. cities indicate that more and more people are recreating in downtown outdoor space.

Cooper Marcus et al. 9

Cities that neglect to enhance the potential of their main streets lose a vital aspect of the city's character and appeal.

Regarded by many citizens as Manhattan's main street, Poyntz Avenue stretches three miles in an east/west direction, starting in the west at the Manhattan High School West Campus and terminating at the Town Center Mall in the East. Undeniably, the Eastern blocks of Poyntz Avenue mark the heart of Manhattan.

The historic buildings that line the downtown blocks of Poyntz Avenue provide the backdrop for a setting that is unique to Manhattan, KS. Edged with retail stores, residential spaces, offices, restaurants, and entertainment venues, Poyntz Avenue is a symbol of city life in Manhattan, attracting people to conduct their business, shop and window-shop, and enjoy a good meal in one of the district's fine restaurants and coffee shops.

Given the special character of downtown Poyntz Avenue, efforts have already been made to increase its potential for pedestrian activity. During the summer of 2006, the downtown blocks of Poytnz Avenue were upgraded to enhance pedestrian safety and thus increase walkability: the roadway was repaved and restriped, reducing vehicle travel lanes from four to two; the angle of the on-street parking spaces was increased to accommodate more cars; mid-block crosswalks were newly introduced; painted bulb outs were added at intersections and mid-block crosswalks; and signs were posted adjacent to the new mid-block crosswalks to alert motorists. In addition to these functional improvements, the district also received a 'face-lift' to improve the aesthetic experience of people strolling up and down the street: colorful flowers were planted in baskets hanging from the light posts.

K-State professor of kinesiology Melissa Bopp and her students conducted walkability assessments of Poyntz Avenue during the spring and summer of that year, before and after these modifications, and found that big improvements had indeed been made to make the downtown blocks of Poyntz Avenue more pedestrian-friendly.

While the city's initial efforts are notable, there is still much that can be done to further enhance people's experience of the downtown portion of Poyntz Avenue. Given its potential, this portion of Poyntz Avenue could be developed to become a 'promenade'.

Derived from the French word 'promener', meaning 'to take a walk', a promenade is a public urban space that is designed to make walking a leisurely and enjoyable experience. A promenade attracts pedestrians because of its attractive multi-dimensional character. It is often identified as being a major destination, the place in town to "see and be seen", and the best location for spontaneous and planned encounters.

Purple Power Play on Poyntz Susanne Siepl-Coates

Purple Power Play on Poyntz Susanne Siepl-Coates

In his book *Great Streets*, Allan Jacobs illustrates a number of attributes that contribute to making a great street or a promenade. The first is that great streets create "places for people to walk with some leisure" (Jacobs 271). Jacobs acknowledges that streets must accommodate vehicles, "but you do not meet other people while driving in a private car, nor often in a bus or trolley. It's on foot that you see people's faces and statures and that you meet and experience them… and it's on foot that one can be most intimately involved with the urban environment; with stores, houses, the natural environment, and with people." (Jacobs 271-2).

Already, Poyntz Avenue is used to host and display the vibrancy of the city. Purple Pride Power Play, parades, Wiener dog races, Dog Day sales, and other events take place there throughout the year. During the holiday season, the street is festively decked with lights and banners.

The following design interventions should be considered to strengthen the character of downtown Poyntz Avenue as a promenade and to further increase its pedestrian-friendly and welcoming atmosphere by:

- creating extra-wide sidewalks for comfort and safety of those who are walking and the pleasure and delight of those who are sitting outside of a café or restaurant;

Purple Power Play on Poyntz David Sim

• decreasing the spacing between street trees to increase the cooling effect of their shade-giving canopies during hot summer months;
• decreasing the perceived width of the Poyntz Avenue corridor by planting street trees in bulb-outs that extend from the sidewalk past the parking lane in order to provide an attractive and psychological separation between pedestrians and vehicles while also calming vehicular traffic;
• returning the original brick surfaces to the roadway and sidewalks in order to slow traffic along Poyntz Avenue and to solidify the historic charm of the district; and by
• offering a variety of appropriately scaled and ornamented high-quality street furnishings whose designs are coordinated to unify the streetscape and to enhance the experience of pedestrians.

The character of the downtown Poyntz Avenue streetscape is like no other in town and should be preserved and enhanced so that the downtown Poyntz Avenue district will retain its significance into the future.

Celebrate Poyntz Avenue as the center of the city's historic district by developing it as an attractive and vibrant promenade in which pedestrians and bicyclists share the public realm equitably with vehicles.

The following patterns offer suggestions how to create Poyntz Avenue Promenade:
Shopping Street
Brick Streets and Sidewalks
Sidewalk Cafés and Restaurants

Shopping Street

The patterns
Main Street
Grid of Urban Streets
Sidewalks and Walkways
Vibrant Downtown Districts
Mix of Uses
Eyes on the Street
Convenient Bike Racks
Attractions on Both Sides of the Street
are further articulated by this pattern.

Poyntz Avenue Susanne Siepl-Coates

Commercial districts, comprised of large-box stores and parking lots, do not contribute to the lively atmosphere needed to promote walking and bicycling.

In recent decades, several commercial districts and strip malls have sprung up around town. Largely following suburban development patterns, these commercial districts tend to be located along arterial roads, with large parking lots in front and stores set far back from the streets. While many shoppers appreciate the quick and convenient vehicular access, there is mounting dissatisfaction with such developments because of their boring uniformity with other shopping centers and their lack of variety and vitality: once the car is parked, there is not much else to do than make a beeline into the store and back to the car across acres of asphalt.

In such settings, the car is dominant. The distance between stores and services; prevailing views of parked cars; limited aesthetic considerations of the surroundings; and the general lack of amenities for pedestrians offer no or little allure to entice shoppers to walk from one store to the next to complete one's errands, to visit the district for a stroll, to walk the dog, make a round of window shopping, or linger in the district any longer than necessary.

Compared to most other retail districts in Manhattan, the downtown shopping district offers distinctive advantages for pedestrians. An integral part of the urban fabric and situated within a unique historic setting, Poyntz Avenue is a shopping street that is characterized by a row of uninterrupted storefronts lining both sides of the street. Pedestrians have to travel only relatively short distances in order to reach a diversity of businesses and services, including small retail stores, bars, coffee shops, restaurants and entertainment establishments - most, if not all, of them locally owned. These businesses, together with private and government offices as well as upper-level apartments, support a variety of activities that keep the district active and alive during the day and into the night.

People enjoy shopping in unique environments that offer value, quality, and a high level of personal service - assets that downtown Manhattan has.

Downtown Tomorrow 10

Successful mixed-use developments provide at least some goods and services that meet people's daily needs. In addition, they facilitate casual social interaction.

Schmitz and Scully 23

Local shops and businesses along a street in the downtown district Kristina Nelson

Pedestrian street with shopping directly adjacent to street

Melody Honnen

An urban shopping street may not be able to offer the large variety of goods available in the big-box stores typically found in suburban shopping centers nor provide for all the needs of the community. Thus people may be reluctant to frequent the street's businesses and as a result, the economic vitality of the shopping street may suffer.

Such tendencies can be counteracted in a variety of ways: by considering physical improvements "in conjunction with economic improvements"; by establishing and promoting "special event programs that are aimed at attracting people" to the shopping street; and by creating "increased opportunities for people to live, work, shop and be entertained" in the district (Downtown Tomorrow 23).

Similar to downtown Poyntz Avenue, a vibrant shopping street also must be part of the city's grid of urban streets, providing easy access to and from adjacent residential neighborhoods. While shopping streets should serve as corridors for all modes of transportation, pedestrian traffic should be favored through the presence of attractive storefronts along wide and tree-shaded sidewalks while the typical dominance of vehicular traffic must be dramatically reduced through traffic-calming measures. The needs of bicyclists can be accommodated by placing bicycle racks along the sidewalks, close to stores and services.

But it is not just the presence of mixed uses and multiple destinations within short walking distances that is appealing to pedestrians and bicyclists. Pedestrians and bicyclists are also attracted by the atmosphere of a district. Thus the aesthetic qualities of the immediate surroundings, the buildings and streetscapes, play an important role in drawing pedestrians to the district.

Along Poyntz Avenue, limestone and brick buildings, mostly two-stories high, shape and define the public realm as a space capable of providing protection and shelter for pedestrians. With their carefully proportioned and richly ornamented facades, inviting storefront windows and clearly

In cities, people will walk farther than in the suburbs, simply because walking typically is more convenient than finding parking and dealing with traffic congestion.

Schmitz and Scully 23

articulated store entrances, the buildings provide visual interest and create an enjoyable setting for pedestrians who - because of their relatively slow speed - are able to appreciate and enjoy a great deal of detail in the environment.

When urban sidewalks are designed to be experienced on foot, as they typically are in historic districts, they tend to attract pedestrians. As a result, such sidewalks usually feel safer because there are other people walking. Additionally, when a district is designed to offer a variety of positive experiences, it is likely that pedestrians' perception of distance is reduced and they will walk longer distances than they thought possible or desirable.

Geographic constraints may make it difficult for the Poyntz Avenue shopping district to be reached from the outlying parts of town through modes of transportation other than driving. But once there, the vibrant, pedestrian-friendly atmosphere of the district can promote walking or biking to shop, use services or dine.

A community survey conducted in 1999 found that a high percentage of citizens (67.3) has strong positive associations with downtown Manhattan. People cited the district's historic architecture; its design elements and appearance; atmosphere and character; as well as the possibility for a variety of unique experiences as contributing to this attraction (Downtown Tomorrow, 21). It is important to identify this and other shopping streets as unique and realistic economic niches by emphasizing their atmospheres that no suburban shopping center can match.

Enhance downtown Poyntz Avenue and the neighboring city blocks as a pedestrian-friendly shopping district by retaining the diversity of predominantly locally owned stores; attracting new businesses to enlarge the district's boundaries; and further augmenting the district's amenities for people who like to walk and bicycle.

To generate more pedestrian activity in commercial cores, planners and designers should eliminate blank street fronts and instead use most of the ground-level space for shops, restaurants, entertainment, and other pedestrian-focused uses.

Schmitz and Scully 30

Shopping street with mixed modes of transportation Gary Coates

The following patterns offer suggestions where to create Shopping Street:
Urban Mall at the Heart
Town Center Plaza

Urban Mall at the Heart

The patterns
Grid of Uban Streets
Interconnected Destinations
Flow-Through Circulation
are further articulated by this pattern.

West entrance to Manhattan's Town Center Mall Susanne Siepl-Coates

At present, Town Center Mall is disconnected from the rest of the downtown shopping district.

The Town Center Mall, opened in 1987 as the result of the first downtown Manhattan redevelopment project, is a regional shopping center on the eastern edge of downtown. There was much discussion in the early eighties about how best to keep the downtown economically vital and to protect it from the negative effects of suburban mall development. Finally it was resolved that an urban, rather than suburban, mall should be erected, a decision that received much national attention at the time. Poyntz Avenue was interrupted as the main thoroughfare through town, and the mall was located as the eastern gateway into downtown Manhattan.

Today, the mall plays an essential role in the planning of Manhattan's downtown redevelopment. Even though the mall is not directly involved in the redevelopment efforts, its location at the edge of the downtown core and between the proposed new districts to the north and south respectively, has an impact on the connectivity between the various parts of the redevelopment. The construction of Manhattan Town Center resulted in reduced vehicular ingress and egress to the downtown, particularly from and to the east.

Pedestrian and bicycle movement is also significantly impacted because much of the pedestrian traffic generated by the mall is siphoned away from Poyntz Avenue and the downtown core. Rather then entering the mall through the western Poyntz Avenue entrance, most shoppers drive to the mall along arterial and collector streets and, after parking their cars in the vast lots that surround the mall on the north, east and south, enter the building through one of several possible entrances, none of which connect directly to the urban fabric of the city. Here is the problem: while the mall is set in an urban context, the experience of entering and leaving the mall is still a suburban one and, as such, favors vehicular over pedestrian and bicycle modes of transportation.

At present, the Town Center mall is not functioning as much as a "center" as its name suggests, but rather as an entity adjacent yet separate from downtown. The many blank walls enclosing the mall, particularly along the western side where the mall faces downtown, discourage pedestrian movement. Additionally, the large parking lots also contribute to a pedestrian's or bicyclist's experience of disconnectedness between the mall and the surrounding areas. Only one mall entrance connects directly to a pedestrian- and bicycle-friendly environment, the one that extends the Poyntz Avenue corridor into the main concourse

of the mall. However, while the siting of the mall and the location of the main concourse suggest a continuation of the Poyntz Avenue corridor through its center, the building does not fully support this potential connection.

The mall is designed as a terminus and focal point of Poyntz Avenue. A line of skylights illuminates the central circulation area that was part of Poyntz Avenue before the mall was constructed. This space already has a street-like character because of its high day-lighted ceiling and the plants and trees that line the corridor.

Pedestrian connectivity could be much improved, dramatically increasing pedestrian and even bicycle connectivity and benefiting both the mall and the Poyntz Avenue shopping district, if the following changes could be made: clearing the mall's central circulation space of small shopping stalls, tables and chairs to emphasize pedestrian movement; removing the large interior fountain that blocks visibility from the inside of the mall to Poyntz Avenue and thus obstructs direct physical access; developing the outdoor space immediately adjacent to the eastern entrance to the mall's central space as a "spill-over place" for the Food Court and connection to the park-like green space beyond; and redesigning the space immediately adjacent to the mall's western entrance to create an active and lively urban plaza.

As people begin to use the mall's central space as a circulation path and not see it solely as part of the mall, the connectivity of Town Center Mall and the Poyntz Avenue shopping district can improve, thereby increasing pedestrian movement between these two significant downtown shopping destinations and thus enhancing the vitality of downtown.

Both the mall and the Poyntz Avenue shops and services would benefit from these changes. The mall shops would extend westward to connect even more directly than they do now to the downtown shopping district, creating a closer connection to the Manhattan community. And if the main eastern entrance to the mall were opened up and connected with a proposed new bicycle trail, commuters coming via bicycle from extended communities would travel into Manhattan through the mall and onto Poyntz Street into the city.

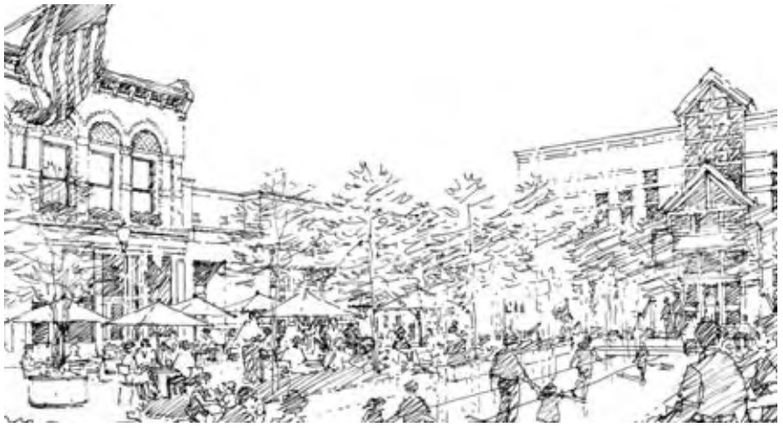
Strengthen the connection between the main east and west entrances of Town Center Mall in order to establish a stronger synergy between the mall and downtown and thus attracting increased pedestrian movement back and forth between these two shopping environments.

Proposed east Town Center Mall Plaza Eric Vossman

The following pattern offers suggestions how to enhance Urban Mall at the Heart: **Town Center Plaza**

Town Center Plaza

The patterns
Public Realm
Positive Outdoor Space
Linked Plazas and Squares
are further articulated by this pattern.



Proposed Town Center Plaza BBN Inc.

The medieval town square, or piazza, was often the heart of a city: its outdoor living and meeting place; a site for markets, celebrations, and executions; and the place where one went to hear the news, buy food, collect water, talk politics, or watch the world go by.

Cooper Marcus and Francis, ed. 1

Plazas that do not invite activities such as sitting, standing, walking, eating, strolling, reading, watching, and listening will remain devoid of people much of the time.

The medieval city would not have functioned without the town piazza, but the contemporary city is just as dependent on squares and plazas, albeit for different purposes, to allow for modern day public life to unfold. The inclusion of an outdoor plaza as part of the design of the Town Center mall was an excellent idea.
Located outside the west entrance to the mall and facing Poyntz Avenue and downtown Manhattan, the Town Center Plaza is a well-proportioned and clearly defined outdoor space that serves as a 'foyer' for the mall. The Plaza plays an important role in the efforts to extend the Poyntz Avenue through the mall, promoting pedestrian movement from the mall to the Poyntz Avenue shopping district and the other way around.

The plaza is surrounded and shaped by a few beautifully ornamented historic buildings as well as by sympathetically detailed mall buildings, which together create an architectural ensemble in scale and character with the historic downtown. Despite these obvious qualities and despite the fact that it is situated right between the entrance into the mall's busy main interior concourse and the T-junction of Third Street and Poyntz Avenue, the plaza has unfortunately gone largely unused. While the plaza is located in a spot that attracts a variety of users, many of these users walk past the plaza rather than stopping to linger, sit, view, read, watch children play, socialize and dine out.

The plaza has the potential to serve as an 'urban oasis' with its attractively planted containers and because of its relative seclusion from the street. A fountain offers several positive distractions: water can create a sense of respite on a hot summer day, providing refreshment physically and psychologically. People also appreciate the sound of gently moving water as stress-reducing 'white noise' that blocks the sounds of the city and suggests a quiet and casual atmosphere for conversation.

Increasing the flow of pedestrian traffic would encourage more shoppers to utilize the plaza. Perhaps the mall's wall facing the plaza could be redesigned to promote movement between the

Existing Town Center Plaza Susanne Siepl-Coates

two spaces by inserting larger doors and other openings, thus reducing any perceived obstacles that might thwart the movement between inside and outside.

The perimeter of the plaza functions well as a movement space, but the center portion of the plaza needs something to encourage people to rest. No longer sunken but raised to match the sidewalk level and thus more accessible, the plaza should provide some hard-surfaced places for movable tables and chairs inviting people to stay. Control of the microclimatic conditions such as temperature, sun and wind play a significant role for all outdoor spaces in Kansas. The seasonal differences of the local climate must be taken into consideration, so that people can find comfortable places almost year-round: there must be sufficient shading by either trees, trellises, pergolas, or awnings to provide relief from the intense summer sun; during the winter, places with full access to the sun's warming rays but protected from cold winds are desirable. Umbrellas shading outdoor tables are particularly useful: they allow a group of people to sit together comfortably; they provide a sense of enclosure and intimacy; and they offer an important visual cue to passers-by that here is a place that invites sitting and resting. Ideally, a restaurant or coffee shop would utilize the plaza for outdoor dining.

Given that different people will want to sit in different places, a plaza must offer a variety of sitting places, not only in terms of location but also with regard to type of sitting. Many people prefer to sit on wooden benches with backrests. In some instances, when sitting in both directions is desirable, a three-by-six-foot long backless bench may be appropriate. The edges of planters in the plaza could also offer sitting places for more informal occasions, as could ledges or steps.

Create a public gathering place west of the Town Center Mall as the heart of the downtown for community members and visitors to casually partake in the urban life of Manhattan, Kansas.

Proposed plan view of Town Center Plaza BBN Inc.

The following patterns offer suggestions how to enhance Town Center Plaza:

Outdoor Fireplaces and Barbeque Pits

Flags, Banners, and Holiday Lighting

Brick Streets

The patterns
Historic District
Sidewalks and Walkways
Variations in Paving Materials
are further articulated by this pattern.

Ball State University Brick Industry Association

Asphalt and concrete are generic surface materials, making each street look just like the next and depriving the streetscape of interest and character.

Brick was the first paving material used for streets and sidewalks in the older parts of Manhattan and is still used today as a surface material along sections of Juliette and Houston Streets. Brick is also still present under many, if not all, the asphalt streets in downtown Manhattan and the surrounding neighborhoods, including Poyntz Avenue.

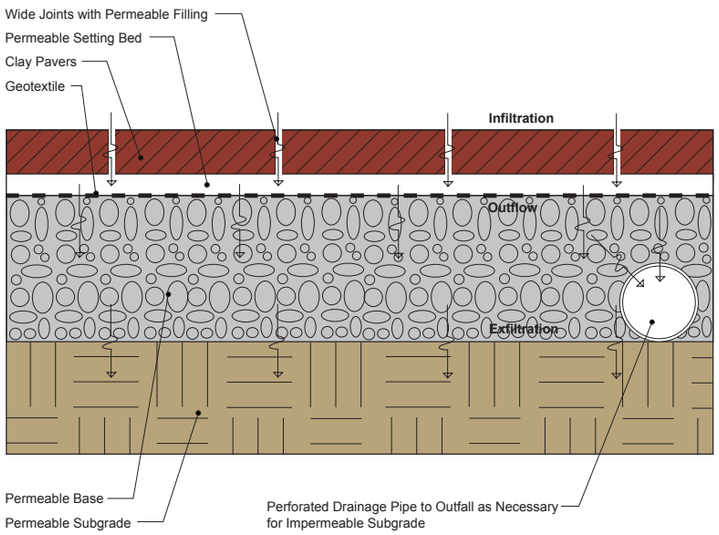
The benefits of brick streets compared to asphalt are numerous: they utilize sustainable resources; they create a water pervious surface; they calm traffic, making a street safer for pedestrians; they make economic sense; and aesthetically, they add beauty and character to a place and create a connection to the past.

Economically, brick streets are a better choice than asphalt or concrete, too. The January 2006 issue of Better Roads Magazine features an article by Brigitte Mayerhofer, P.E. and director of engineering services of Wilmette, Illinois. Similar to Manhattan, Wilmette had several historical brick streets under deteriorating asphalt surfaces. In 2006 the town completed the preservation of eleven miles of still existing original brick streets and restored another seven-block section of Linden Avenue, a residential collector street, where brick had been overlaid with asphalt in the mid 1900s.

Restoration involved careful removal of the existing asphalt surface with a backhoe. Additional scraping to take off any asphalt residue was easy because no bonding material had been used when the bricks were overlaid. Subsequently, the bricks were then hand-removed for cleaning at a distant site. Before eventually returning and re-laying the bricks by hand, the street had been reconstructed with an eight-inch thick stone base and a leveling sand bed (Mayerhofer).

A cost-benefit analysis revealed that while the reconstruction of an asphalt-overlaid street in brick is approximately 20% more expensive upfront, the long-term maintenance costs are significantly less. In comparison to asphalt streets, which have to be resurfaced on a regular schedule, a brick street requires minimal maintenance over the life of the street. “The cost to build and maintain a brick street over a 100-year period is $326 per square yard or 27% less than an asphalt street” (Mayerhofer). Furthermore, underground utility repairs are easy to handle because brick streets do not require a patch. Contractors carefully remove the bricks and replace them once the underground work is done (Mayerhofer), adding to their economic benefits.

Bricks are also sustainable because they are made of a reusable, natural material. In the Willmette pilot project, it was projected that 70% of the brick below the asphalt would be salvageable. However, after removing the asphalt, about 80% of the overlaid brick was found to be in good condition. “Asphalt and concrete streets, which are prone to cracking under traffic loads, the majority of the brick streets in Willmette have held up for more than 100 years” (Mayerhofer).



Typical construction of a brick street Brick Industry Association Juliette Street Susanne Siepl-Coates

Furthermore, as an oil-based product, asphalt uses resources that cannot be replenished and that are widely believed to be running out. Furthermore, procuring the components that make up asphalt requires that materials be brought in from other parts of the country (or world). This extensive use of energy is unnecessary as brick can be made primarily from clay, a common material, which can often be manufactured locally. Overall, brick streets are a better use of energy and resources than asphalt.

Asphalt streets also cause problems with rainwater runoff. First, because asphalt is impervious, rain water runs off into storm sewers instead of penetrating the ground and remaining on site where it could help nourish street trees and other urban vegetation. The many joints between bricks, however, allow rainwater to reach the ground beneath and replenish the soil with this precious resource.

The texture of a brick street is somewhat coarser than that of concrete or asphalt. The distinctive sound and feel of tires on the road can serve as a traffic-calming device. Motorists are likely to reduce their speed and be more cautious when the street is not as smooth. Using brick streets to slow vehicular traffic has been documented as an effective way to make the area safer and friendlier to pedestrians and bicyclists and to encourage their presence in the area. “Other traffic-calming devices include … the use of various pavement surfaces (for example, where pedestrians use is high, brick or cobblestone pavers can be used to slow traffic)” (Schmitz and Scully 41).

From an aesthetic perspective, brick surfaces for streets and sidewalks together with limestone curbs create connections to the past and add a sense of character to the streetscape that is significantly different from the asphalt or concrete streets that can be found anywhere and everywhere.

In order to improve their aesthetic characteristics, the historical value of streets can be used to obtain financial support through the Kansas Department of Transportation (KDOT), which - through its Transportation Enhancement Program - provides federal highway funds for projects that strengthen the cultural, aesthetic or environmental value of the state’s transportation system.

One such project is in Lawrence, Kansas, where KDOT awarded almost $1 million to fund a brick street restoration on Ohio Street from 6th Street

to 8th Street in 2008 (Whitley 1). The project will include removing the existing asphalt that had been laid over the bricks, constructing a substrate and resetting the bricks and limestone curbing (Soules).

In 2006, a busy city arterial in Muncie, Indiana, was selected for a prestigious 'Brick in Architecture Award'. Passing directly through the Ball State University campus, McKinley Avenue was transformed from a wide asphalt-covered street, which was hazardous for pedestrians to cross, to a pedestrian-friendly thoroughfare with raised and lushly planted pedestrian islands between two lanes of traffic; generously dimensioned pedestrian zones in between the islands; and frequent and well-marked pedestrian crossings.

As part of its reconstruction, the street, which has to carry vehicular traffic including city and university buses, was surfaced with large sections of brick combined with short stretches of asphalt. "Clay brick pavers were a logical choice for the project for several reasons including efficiency, sustainability, and permanent color. In addition, they have a durability that results in reduced maintenance and replacement requirements. ... With traffic moving more efficiently than before, this unique and aesthetically pleasing environment is now safer and more friendly to pedestrians. Once an intrusion, the transformed street is truly a campus showcase" (2006 Brick Architectural Awards).

Return brick as a surface material for streets and sidewalks in the older parts of Manhattan to enhance the aesthetic character of the historic settings while calming vehicular traffic.

Poyntz Avenue with brick paving

Riley County Historical Society

Sidewalk Cafés and Restaurants

The patterns
Public Realm
Streets as Urban Spaces
Eyes on the Street
Night Life
are further articulated by this pattern.

Proposed sidewalk café along Fourth Street — Katie Harms

…the café culture phenomenon can be seen to bring several benefits to city life…First, pavement cafes are places to meet people…Second, cafes are places where…one can sit and watch the world go by… Third,…pavement cafés help to increase the natural surveillance of streets…Finally…café culture and its attendant people-watching is one of the few urban activities remaining which require streets and public spaces.

Montgomery 99-101

The secret to public social life in cities is, therefore, not so much to be public in public but private in public. The attractions of street cafes ... is that they provide: '… the right balance between distance and amusement [and] as a consequence are considered very safe places…on the one hand, the street is partially transformed into an open air living room, and on the other…the street turns into a sort of stage with people behaving like players and audience.

Montgomery 96

A promenade without sidewalk cafés dramatically reduces the possibility of a vibrant urban street life.

According to Christopher Alexander, "the most humane cities are always full of street cafés." Yet people have different social patterns and experiences. Some people prefer crowds while others prefer solitude. Sidewalk cafés can offer every type of social atmosphere by means of the layout of their tables and/or booths. Not only can groups meet for lunch, individuals can sit and rest while 'people-watching'. If a solitary person were to stand in one location, it could be considered loitering. A sidewalk café offers the person the opportunity to sit and relax while passively participating in 'urban life'. For bicyclists, sidewalk seating provides the opportunity to keep watch on their parked bicycles, particularly if no secure rack is available.

In one study, an indicator of a successful urban place includes the availability of food and drink. "People will be able to purchase and consume it at varying prices and degrees of leisure" (Loukaitou-Sideris 95). Cafés create a type of atmosphere rarely found in other settings. "They enrich public life and allow casual contact with others in ways that do not occur at home or at work. People crave such places…" (Schmitz and Scully 24).

The seating in a sidewalk café should include a variety of choices. Not only should the typical indoor tables and/or booths be installed, but movable outdoor seating should be incorporated as well. Tables and chairs placed at the entrance of the café along the sidewalk creates an attraction from pedestrians at a distance and allows a more direct path of visibility for those meeting friends. Outdoor seating at different times of the day also creates a safer area for pedestrians and businesses. With more 'eyes on the street', more people will use the space, increasing revenue while reducing crime particularly at night.

In addition to sidewalk cafés, restaurants with outdoor dining possibilities have also become increasingly popular in Manhattan during the past decade, despite the fact that local regulations regarding the serving of alcohol create obstacles that must be addressed. It is not only the delight of sitting and dining outside, but also the pleasure of being in the public realm, of being entertained by what happens on the street that is the main attraction of outdoor sidewalk cafés and restaurants.

Include sidewalk cafés and restaurants along a promenade to allow pedestrians the chance to create an 'oasis' and to meet friends.

Time and Temperature

The patterns
Landmarks
Art in the Public Realm
are further articulated by this pattern.

Poyntz Avenue, courthouse clock tower BBN Inc.

Clock adjacent to sidewalk Gary Coates

The absence of a 'time and temperature' display can prevent downtown shoppers from relaxing.

Even given the pervasive presence of cell phones that provide immediate access to all kinds of information, benefits can be gained from publicly displaying the passing of time and the rise and fall of temperatures during the course of the day.

"It may seem trivial, but knowing the temperature and time helps everyone make informed decisions" (Zelinka and Brennan 158). With this information clearly visible even from afar, it is easier to be on time for a meeting. And sometimes, when the temperatures are excessive, it is satisfying to know exactly how hot or cold it is.

If situated in a prominent location, time and temperature displays can take on the function of a landmark in an urban setting and possibly become a well-known and popular meeting spot.

Place a well-designed and ornamented time and temperature display in a prominent location along Poyntz Avenue, visible from many places and to many people.

Outdoor Fireplaces and Barbeque Pits

The patterns
Landmarks
Art in the Public Realm
are further articulated by this pattern.

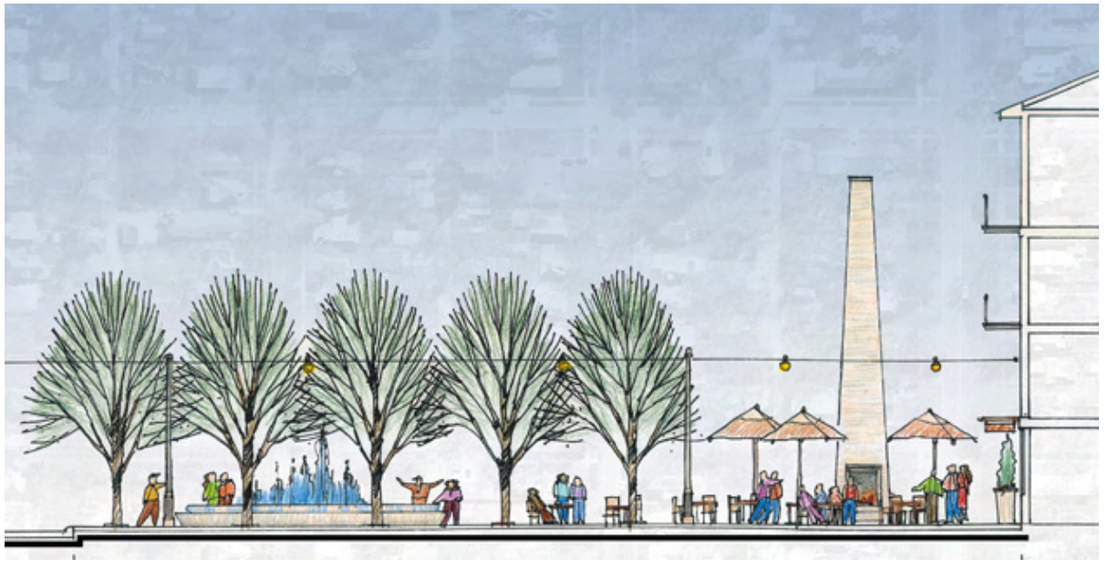
An outdoor space that - during the winter months - offers no means to keep warm will not lure many people.

During the cold season Manhattan offers a number of outdoor activities that can only take place because people can safely light a fire to stay warm. One such event is the Christmas tree sale in Long's Park every year after Thanksgiving. By putting up walls under the roof of a picnic shelter and making a fire in the fireplace, the volunteers involved with the activity can stay warm during business hours. On occasion, shoppers, too, take more than a little while to browse the inside of the shelter just to warm up; and while they do, to have a cup of hot cider and perhaps even a chat with a volunteering sales person or another shopper.

In the downtown district, sidewalk cafes, plazas and pocket parks offer outdoor seating as places of rest. However, during the late fall and winter months sitting outside may feel uncomfortable or not be possible at all. During special events, a fireplace or a BBQ pit could serve as a heat source making the surrounding area cozy and thus usable during the winter months, and thus make the urban outdoors accessible during all the seasons. How much more delightful would it be to wait at Town Center Plaza for the next ride on a horse-drawn carriage if there were a fireplace with a crackling fire and the fragrance of burning wood?

Fireplaces have always been attributed to a feeling of warmth and comfort. "Fire is an emotional touchstone, comparable to trees, other people, a house, the sky" (Alexander 839). Fireplaces draw people together, and an outdoor fireplace can provide excellent opportunities for citizens to meet and enjoy civic life during the cold months of the year. An ideal location could be near a restaurant or an urban plaza to extend their season during the winter months.

Install outdoor fireplaces in downtown spots that already generate significant amounts of pedestrian traffic in order to attract large numbers of people for special events during the fall and winter months.



Proposed Pedestrian Realm with Outdoor Fireplace BBN Inc.

Flags, Banners and Holiday Lighting

The patterns
Public Realm
Streets as Urban Spaces
are further articulated by this pattern.

BBN Inc. office in Manhattan, Kansas BBN Inc.

A downtown without flags, decorative banners or holiday lights may not entice visitors and shoppers to the districts.

Decorative flags and banners can attract visitors to districts, especially if those flags and banners are changed on a regular basis. New notices and/or banners announcing the happenings of a district will alert visitors of future events and can increase attendance at those events. The changing of flags and banners is important because if this does not happen on a regular basis, the users of the space begin to overlook them and do not take notice of upcoming attractions.

Flags and banners not only add character to a space, they can also add to the festivity of an area during the holidays or special events (Gibbons 142). Another aspect to be considered as well is the rationalization of the placement of flags and banners to minimize the clutter attached to buildings/poles and to be sure the height, size, and shape maximize legibility (Gibbons 142). All of these benefits will promote the district, increasing the desire of people to be there, and generate profit for businesses.

Provide poles and other places from which to suspend flags, banners and holiday lights to identify the shopping district, to celebrate special holidays, and to create a festive atmosphere before and during events.

Poyntz Avenue Susanne Siepl-Coates

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About the Author

Susanne Siepl-Coates

Susanne Siepl-Coates received her Diplom Ingenieur (Dipl. Ing.) degree in architecture at the University of Hannover, Germany in 1979 and her Master of Architecture (M. Arch) degree as a Fulbright Scholar at the University of California, Berkeley in 1982. At Berkeley, she studied with the internationally renowned architect, author and educator Christopher Alexander and worked at his *Center for Environmental Structure*.

Since 1984, Siepl-Coates has been on the architecture faculty at Kansas State University. Her teaching focuses on the exploration of the relationships between the built environment and human health and well being. In collaboration with Gary J. Coates, Siepl-Coates examined the health-supporting aspects - physical, social, emotional and spiritual - in the architecture of Swedish architect Erik Asmussen. Reporting on this research by applying Alexander's Pattern Language method, she is the author of papers and articles that have been published in professional and scholarly journals in this country and abroad. Her research in this area has been presented to architectural firms practicing in the health care field as well as at international conferences.

Appendix

Benefits of Physical Activity

by
Melissa Bopp
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Participation in regular physical activity has many physical and mental health benefits. Regular physical activity increases cardiovascular fitness, muscle flexibility, strength and endurance, overall functional capacity, and decreases the risk of diseases, including cardiovascular disease (CVD), diabetes mellitus, obesity, certain types of cancer (breast and colon) and all-cause mortality (U.S. Department of Health and Human Services). Individuals who are regularly active also enjoy many mental health benefits including decreased rates and severity of depression and anxiety, lower levels of stress and increased quality of life (Goodwin; Ross and Hayes; Dunn, Trivedi and O'Neal; Stephens; Strawbridge et al.). Several large epidemiological studies have shown that individuals with higher levels of cardio-respiratory fitness and physical activity behavior have reduced all-cause mortality, and have also demonstrated that improvements in fitness and physical activity behavior correspond with improvements in mortality rates (Blair, Kohl, Barlow et al.; Blair, Kohl, Paffenbarger et al.; Kushi et al.).

Overweight, Obesity and Cardiovascular Disease Trends

Cardiovascular disease is the leading cause of morbidity and mortality within the United States, affecting approximately 80 million Americans (American Heart Association). There are several risk factors for heart disease that are non-modifiable (family history, age, race/ethnicity), though there are several modifiable risk factors that changes to lifestyle could impact (physical inactivity, smoking, diabetes, obesity, elevated blood pressure or blood lipids). Making simple changes to increase physical activity participation can result in effective risk reduction for the onset of cardiovascular disease and serve as a viable method of treatment.

Individuals with a body mass index (BMI) greater than 25 kg/m^2 are considered to be overweight and those with a BMI greater than 30 kg/m^2 are considered obese. The number of individuals who are overweight and obese has increased substantially over the last 30 years ("State-Specific Prevalence of Obesity among Adults--United States, 2005"). The public health implications of this epidemic indicate that action beyond a personal responsibility level must be taken to ensure that we do not see rates of overweight and obesity rise beyond current levels. Among adults, 66% of Americans are overweight or obese, while 14% of children aged 2-5 are overweight, 19% of 6-11 year olds and 17% of adolescents (Ogden et al.; "State-Specific Prevalence of Obesity among Adults--United States, 2005"). Manhattan is the largest city in Riley County, and county level data shows that 33.4% of adults are overweight and 15.6% are obese (Ghouri).Though the causes of the epidemic are unknown, unhealthy diets, an increase in sedentary activities and a decrease in the amount ofphysical activity are likely culprits.

Physical Activity Participation

Though the benefits of regular physical activity participation are well established and documented, rates of regular participation in physical activity are not optimal. Public health officials have identified physical inactivity as a target behavior in *Healthy People 2010*, with several objectives addressing physical activity participation, including reducing the proportion of individuals reporting no leisure time physical activity to 20% (US Department of Health and Human Services). Women, older adults, and most ethnic minority groups

have the highest rates of no leisure time physical activity. National data from 2004 showed the rates of no leisure time physical activity ranged from 15.0%-30.7%, with a national average of 24.6% (CDC). Trends within the state of Kansas are similar to national trends, with women more frequently reporting no leisure time physical activity compared with men; African Americans were more likely to report no leisure time physical activity compared with Caucasians and; older Kansans were more likely to report no leisure time physical activity compared with younger KS residents (CDC). Approximately 47.4% of adults in Riley county are meeting current physical activity recommendations of 30 minutes of moderate intensity physical activity on 5 or more days a week (Ghouri).

The lack of physical activity has many public health implications, reflected in the above-mentioned rates of cardiovascular disease and diabetes. There are many potential factors influencing physical activity, including factors at an individual level (e.g. demographics, personal history, psychological), a social level (e.g. family, friends, co-workers), and an environmental level (e.g. built features, natural terrain, available facilities). Intervening on an individual or social level has been found to be effective through a number of approaches, though limiting in scale. Since rates of physical activity are less than optimal at a population level, current public health strategies suggest understanding and intervening at the level of environmental influences.

The Role of the Environment on Physical Activity Participation

As mentioned above, regular physical activity has been shown to decrease the risk of chronic diseases. Making positive changes to the built environment offers the opportunity to impact many individuals within a geographical area. Creating a more activity-friendly environment will encourage individuals to engage in more active transportation, including walking or biking to work, school or to do errands, as well as making leisure time physical activity a safer, more attractive option.

A recent review of several studies that examined the role of the built environment on health showed that individuals who engage in active commuting (walking or biking to work or school) saw an 11% decrease in their risk for cardiovascular disease (Hamer and Chida). Given that cardiovascular disease is the leading cause of death in the United States and many other developed countries, a small change like increasing active commuting could have substantial public health and economic benefits. Another review of studies examining the potential relationship between the built environment and obesity revealed that there is a significant association between a more activity friendly built environment and lower rates of obesity (Papas et al.). Since obesity is quickly reaching epidemic proportions and is a risk factor for other chronic conditions such as cardiovascular disease, diabetes or certain forms of cancer, this relationship is worthy of exploitation and provides public health officials, city planners, local and state legislators and community members with ideas and incentives for creating areas that value the pedestrian and cyclist.

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Student Design Projects

Manhattan, Kansas:
A City for Walking and Bicycling

During the fall 2006 semester, a Kansas State University class of fifth-year architecture students under the guidance of Professor Susanne Siepl-Coates tested the usefulness of the design guidelines as they had been proposed in draft form at that time. Applying the design guidelines to Manhattan's downtown and older neighborhoods, the students developed design proposals as modifications of the existing automobile-dominated environment toward a more pedestrian- and bicycle-friendly environment. The following pages illustrate that it is indeed possible not only to use the patterns for the purpose of designing interventions for an existing urban environment but also to discover design opportunities that did not present themselves before.

The proposed design proposals are intended to contribute to

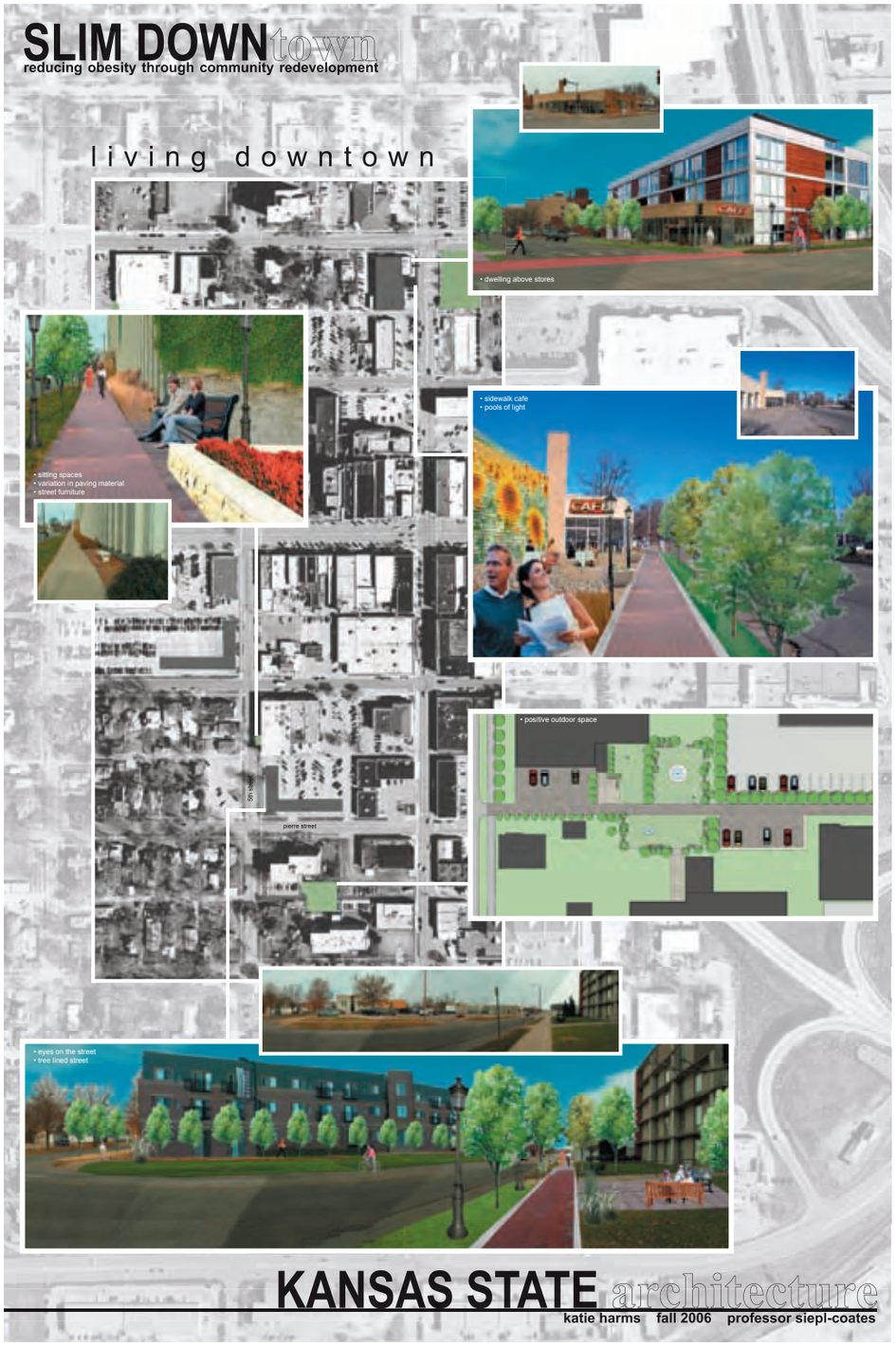
- improving the health of Manhattan's citizens, particularly that of children, the elderly and the poor
- decreasing obesity through everyday physical activity
- promoting health benefits of utilitarian walking and bicycling
- creating a safe and attractive downtown conducive to walking and bicycling
- furthering the on-going redevelopment efforts for downtown Manhattan
- linking downtown to neighborhoods and other desirable destinations
- developing ideas to increase physical activities through the built environment in Manhattan, Kansas
- pioneering efforts to promote walkable, bikeable urban environments in Kansas
- creating a model for adoption by other Kansas communities

The following students participated in this class project

- Katie Harms
  Downtown Living
- Sarah Karlan
  A Transformation: From Parking Lot to Park
- Kristina Nelson
  Connecting the Community to the River
- Chris Schneider
  Using Storm Water to Green the City
- Carmen Simon
  Manhattan Prairie Park: Storm Water Retention near the Linear Trail
- Eric Vossman
  Linking Destinations: The Linear Trail to Poyntz Avenue Through the Town Center Mall
- Aubrey Slaybaugh & Carrie Mertes
  Downtown Streets as Urban Spaces
- Abbie Wharton & Luke Dolechek
  Linking Destinations with Pedestrian and Bicycle Paths: City Park to Linear Trail, and Linear Trail to Juliette
- Amanda Sullivan
  Bus Routes: Connecting the Community
- Adam Hutschreider
  Safe Routes to School

Downtown Living

Katie Harms

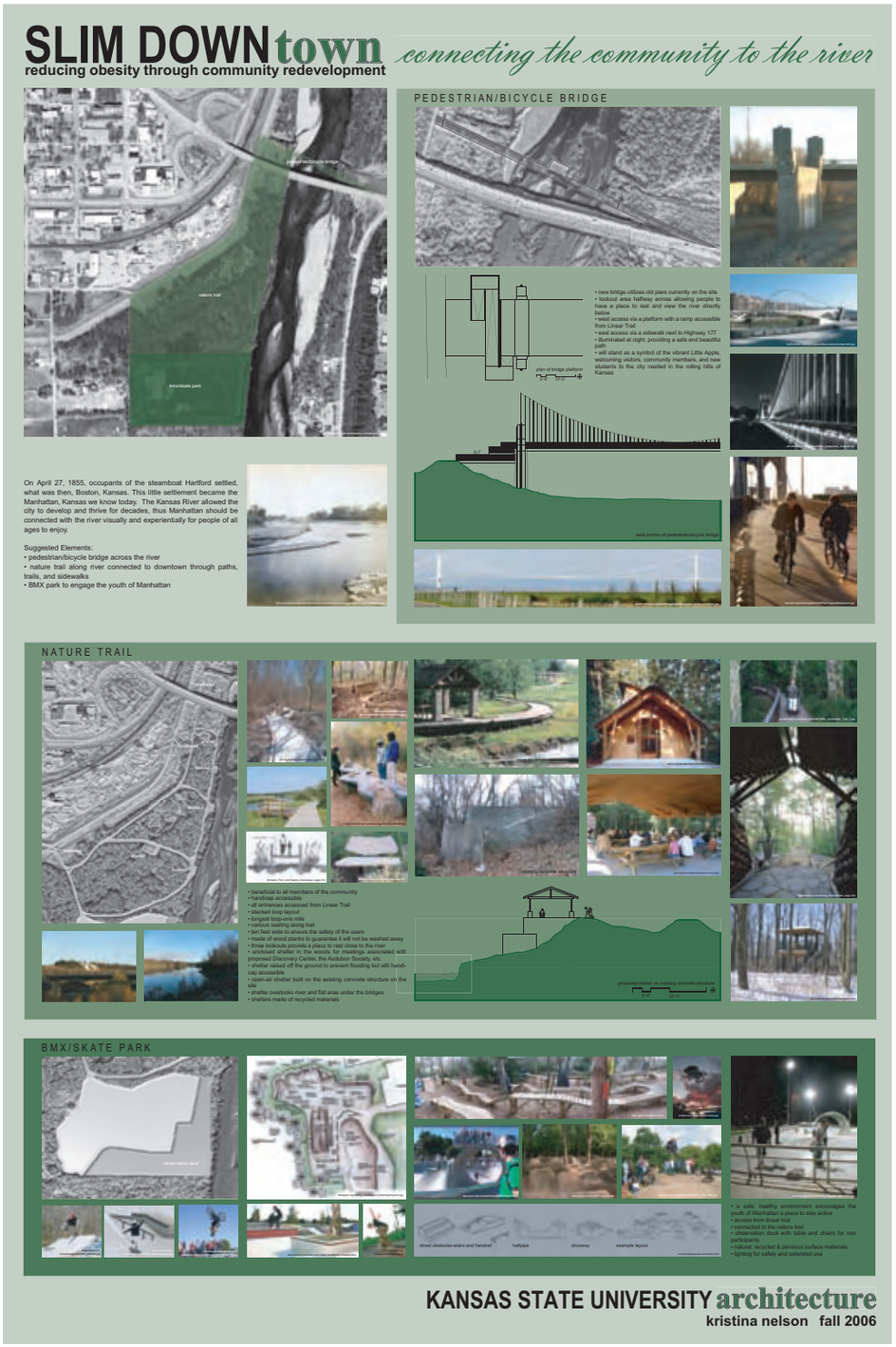


A Transformation: From Parking Lot to Park

Sarah Karlan

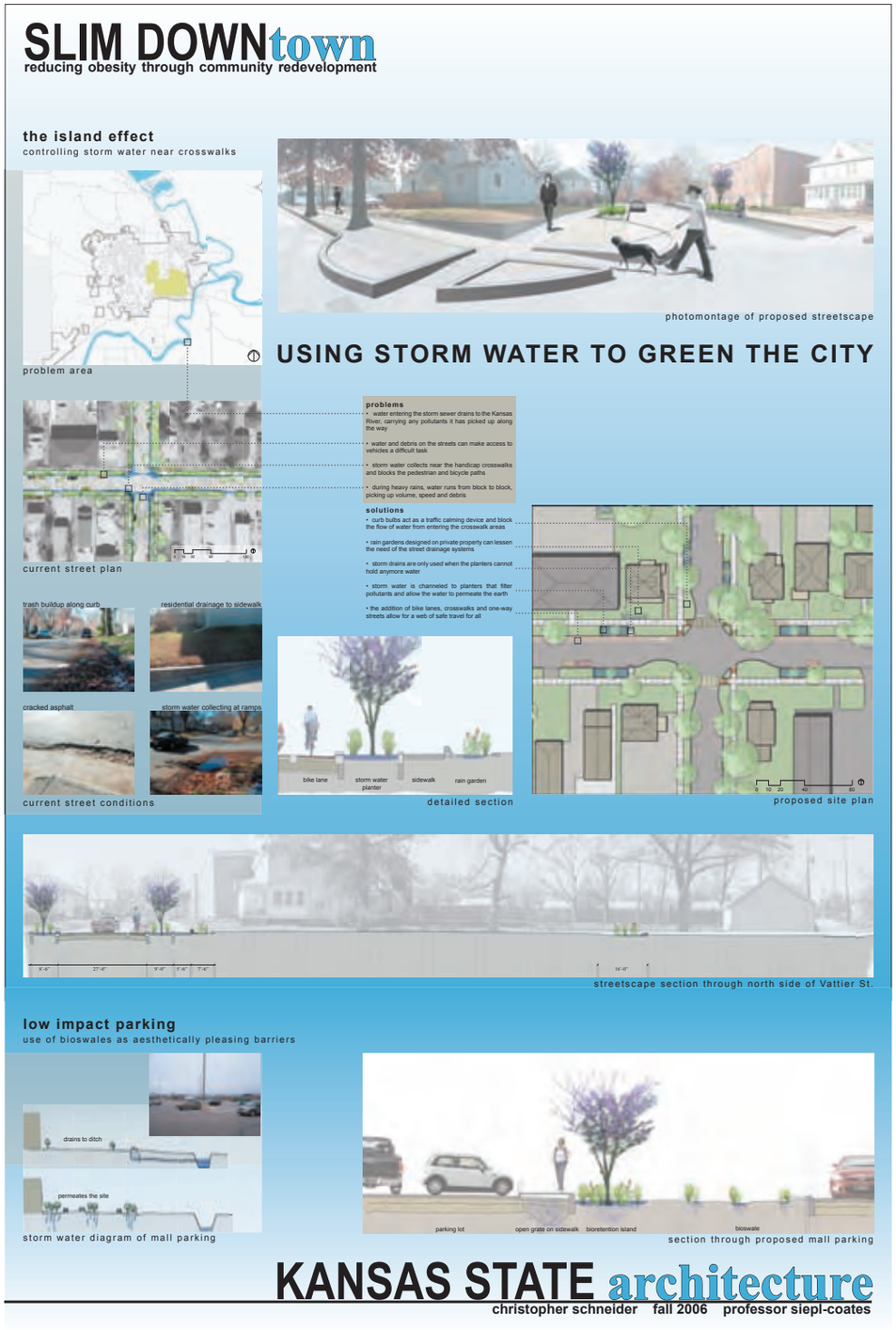
Connecting the Community to the River

Kristina Nelson



Using Storm Water to Green the City

Chris Schneider



Manhattan Prairie Park: Storm Water Retention near the Linear Trail

Carmen Simon

SLIM DOWNtown
reducing obesity through community redevelopment

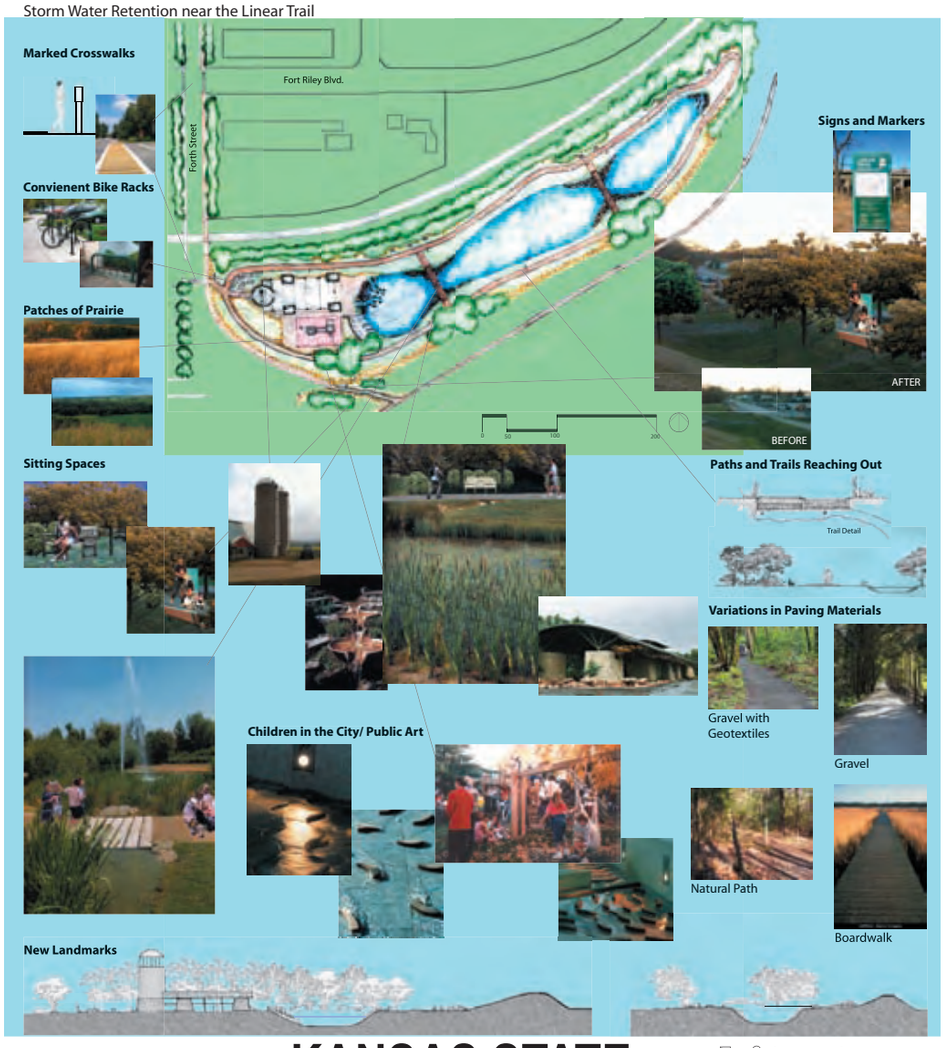
Site and New Development

Site Plan

Views Existing on the Site

Manhattan Prairie Park:

Storm Water Retention near the Linear Trail



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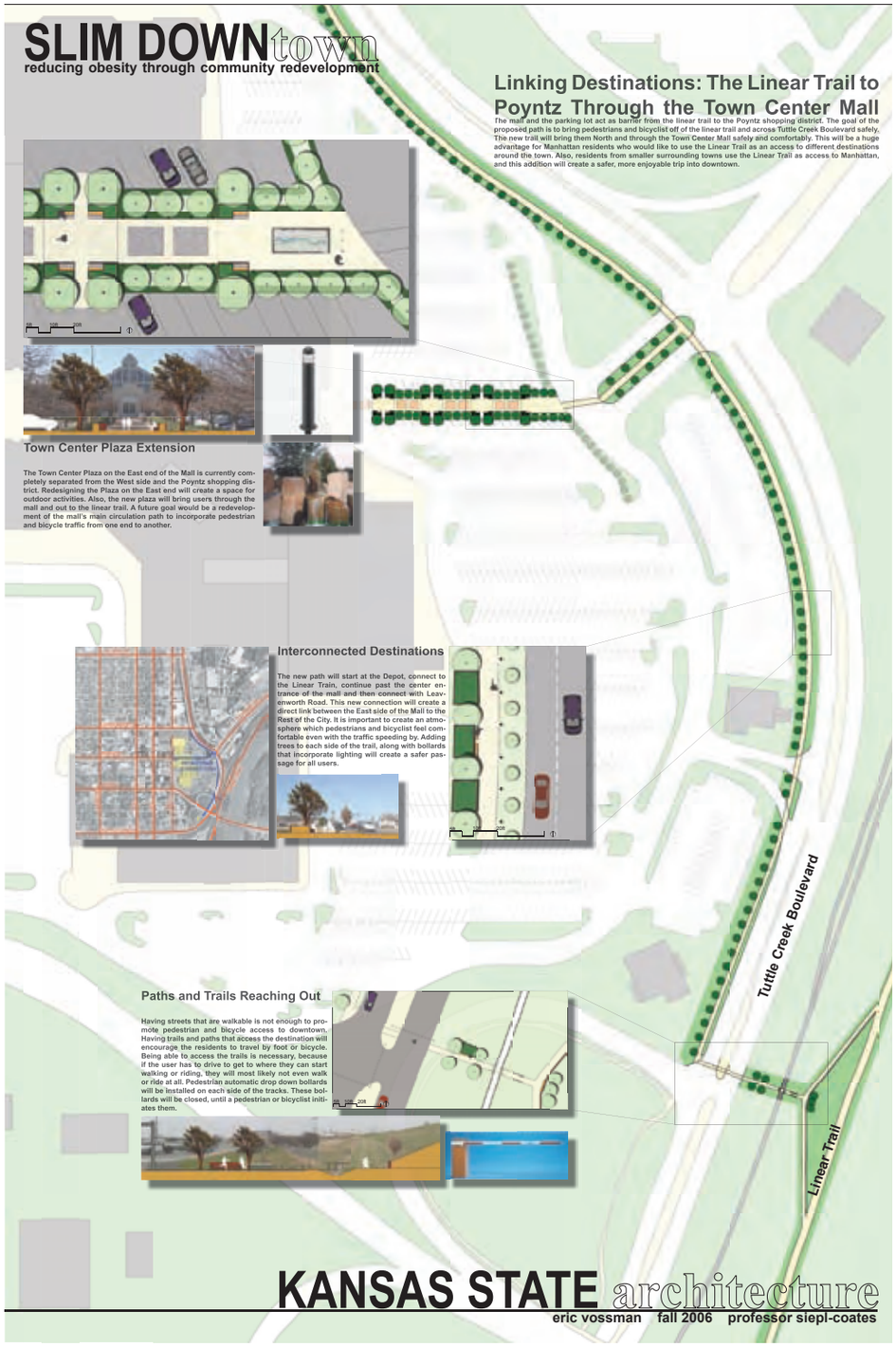
Linking Destinations: The Linear Trail to Poyntz Avenue Through the Town Center Mall

Eric Vossman



Downtown Streets as Urban Spaces

Aubrey Slaybaugh & Carrie Mertes

In the downtown area of Manhattan, the design of streets, sidewalks, and bicycle paths must be intimately connected with the design of the buildings that shape the urban space of the public realm.

Option 1: Brick Streets

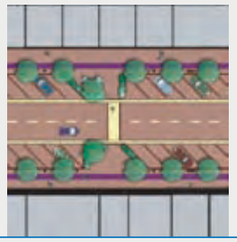
Variations of Paving Materials
Using varying paving materials provides a type of clarification for secondary districts within public spaces and can also distinguish between primary specifications such as bike lanes, pedestrain paths, traffic lanes, and cross-walks.

Brick Streets
Using bricks as a street paving material distinguishes a district from other paved areas while calming traffic and creating a sense of historic times.

Option 2: Asphalt

Tree-lined streets
Streets lined with trees attract pedestrians and bicyclists because of the shade and environment the trees create; many trees could also slow down motor traffic.

Multi-Modal Transportation
Manhattan streets should be made safe and usable not only for cars but also for pedestrians and bicyclists. By widening the pedestrian paths and adding bicycle lanes, more users will be encouraged to use these forms of transportation between Poyntz and the adjacent districts.

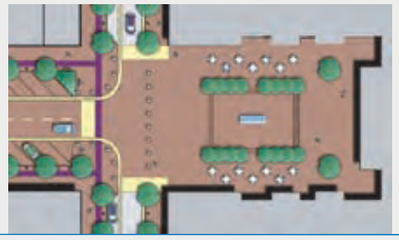


Bulbouts
Bulbouts decrease the width of the roadway, thus bringing the pedestrian further into view of vehicular traffic, reducing the chance of accidents.

Sidewalk Cafes
Including sidewalk cafes along a shopping street allows pedestrians the chance to browse longer and to meet friends.

Street Furniture
Providing street furniture such as benches, clocks, trash cans, drinking fountains, etc. will invite pedestrians to browse and rest in public spaces.

Gutters between roadway and parked cars
Placing gutters between the active roadway and parked cars reduces the crown of the street and limits conflict with raised pedestrian routes, particularly bulbouts at intersections and mid-block crossings.



Interconnected Destinations
Main destinations must be interconnected to allow different routes from which pedestrians and bicyclists can choose from. This will create an increase in consumers and revenue for public districts.

3rd and 4th Street Loop
By creating a one-way loop between 3rd and 4th Streets and Leavenworth and Pierre Streets, traffic is focused around downtown and the adjacent districts. These one way streets also calm traffic and create more space for the pedestrian and bicyclist.

Flow Through Circulation
Creating bike lanes and/or pedestrian paths that flow effortlessly through a city's circulation allows the users to choose their own path through public areas. This grants them a level of control that will attract them to use the allocated lanes and/or paths.

Raised T-Junction at Town Center Plaza
A raised T-Junction at the Town Center Plazz will slow traffic and create a safer environment for pedestrians using the plaza.

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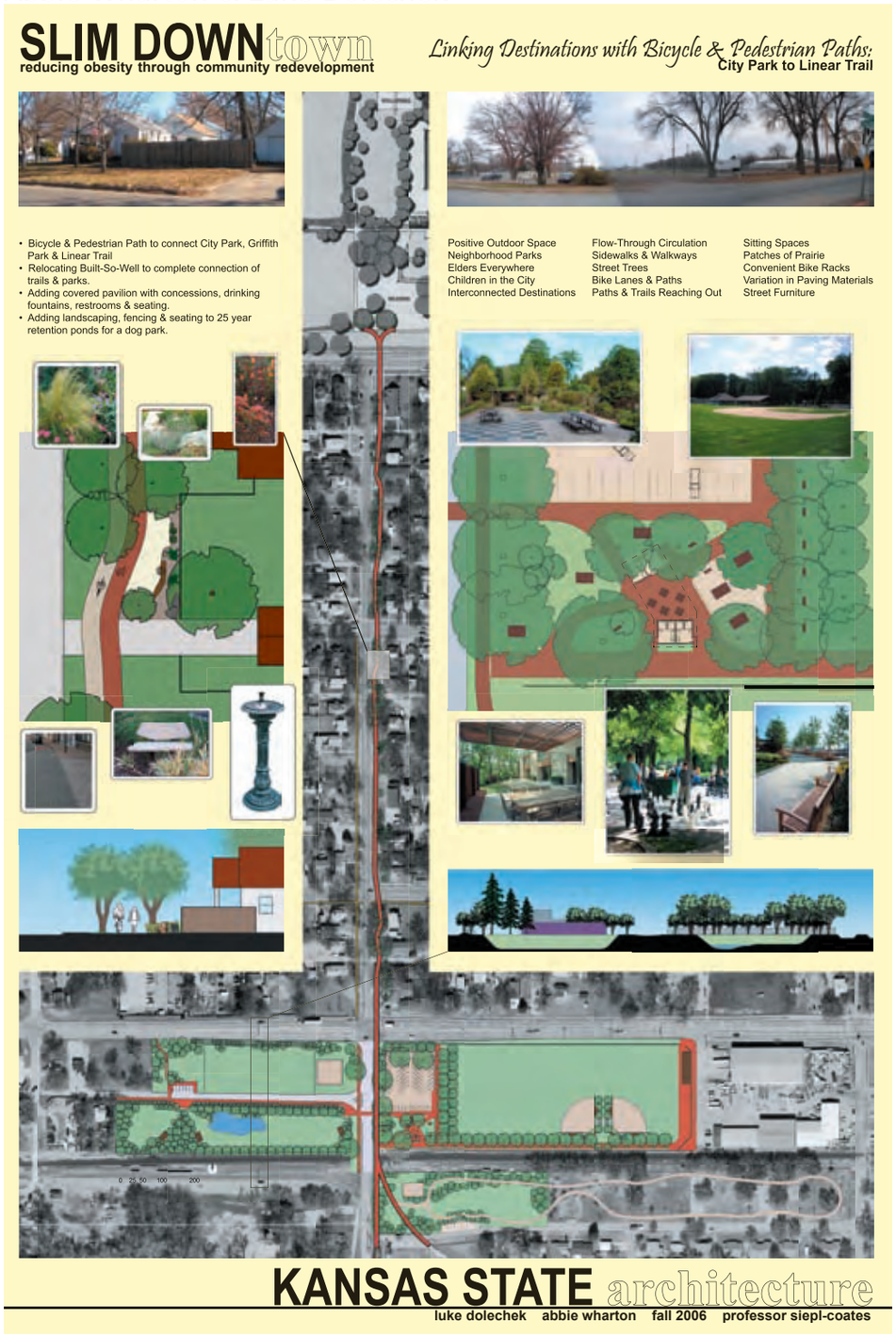
Linking Destinations with Pedestrian and Bicycle Paths: City Park to Linear Trail, and Linear Trail to Juliette

Abbie Wharton & Luke Dolechek



SLIM DOWN town

reducing obesity through community redevelopment

Linking Destinations with Bicycle and Pedestrian Paths:

Juliette Avenue to Linear Trail

Tree Lined Streets
Streets as Urban Spaces
Neighborhood Grocery
Interconnected Destinations
Flow-through Circulation
Sidewalks & Walkways
Street Trees
Bike Lanes & Paths
Marked Crosswalks
Path & Trails Reaching Out
Plazas & Public Squares
Farmers Market
Sitting Spaces
Pools of Light
Patches of Prairie
Convenient Bike Racks
Variation in Paving Materials
Street Furniture
Grassed Swales
Linked Public Squares
Parking in Front of Stores
Shielded Off-Street Parking
Curbs & Gutters

Path along Tuttle Creek Blvd.

Create a path along Tuttle Creek Boulevard to meet up with Linear Trail and Leavenworth.

Make the path 10' wide to allow free-flow of bicycle and pedestrian circulation.

Path will take the place of the former railroad.

Pedestrian Entrance to Mall

Create a pedestrian path from Leavenworth to the north entrance of the mall.

The bicycle and pedestrian path will be take the place of the far north row of mall parking.

Use the existing sidewalk and extend the path at the same level across the parking lot.

Path on Leavenworth St.

Create two bike lanes going in opposite directions and a walking path on the south side of Leavenworth at sidewalk level.

Replace south side parallel parking with sidewalk level bike path.

Add trees and lighting along street edge.

Sitting Space at Leavenworth & 6th St.

Using the existing green space at the northwest corner of 6th and Leavenworth to create a sitting space.

Remove chain link fence at the corner to make space open to the public.

Substitute the split rail fence with a wrought iron fence to provide security for Wilson school grounds.

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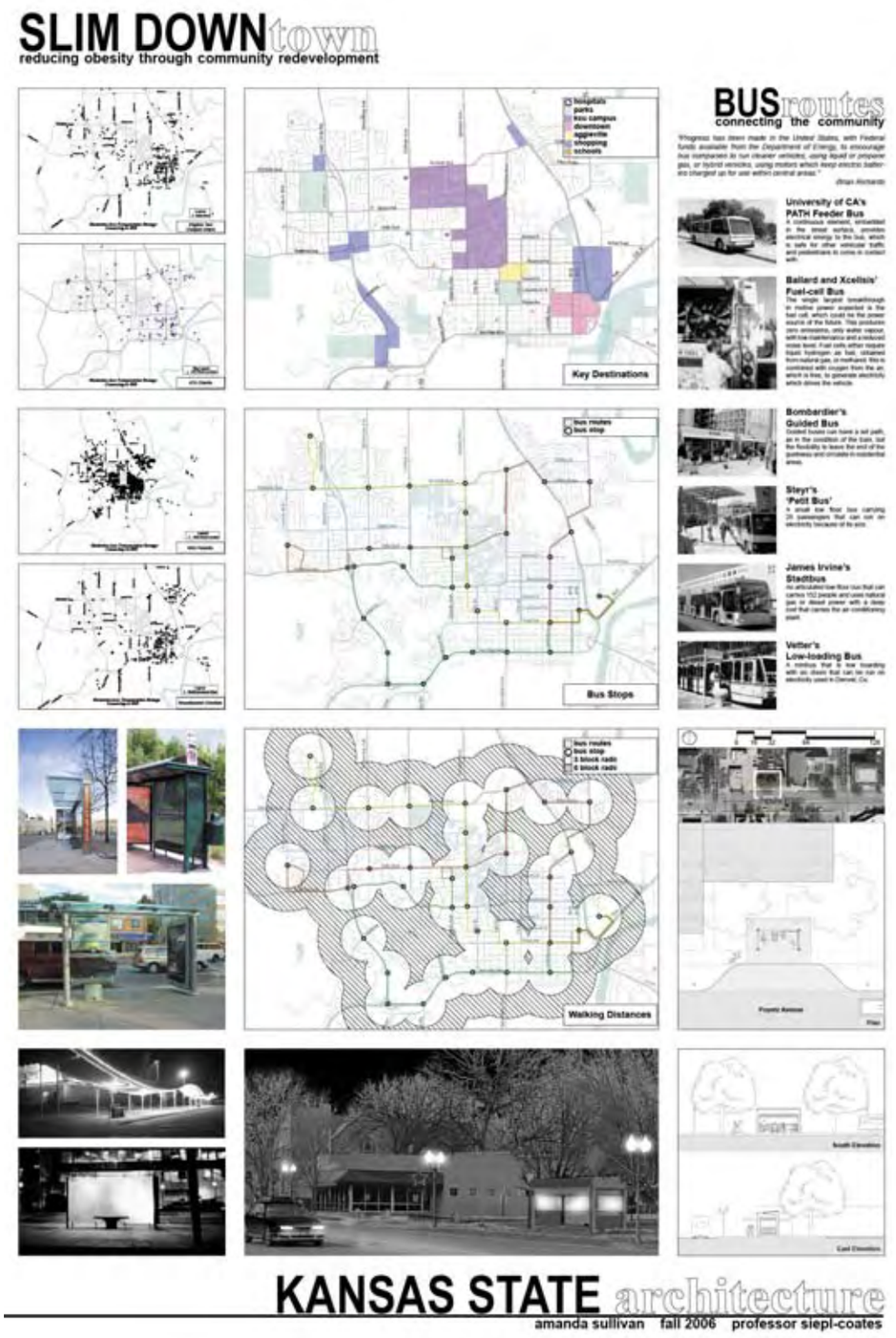
Bus Routes: Connecting the Community

Amanda Sullivan



Safe Routes to School

Adam Hutschreider