

Place, Space and Community

Enhancing community identity in Winona, Kansas

by

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A REPORT

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Abstract

The sub-rural Kansas community of Winona stands at a critical crossroad. The dilemma of rural population decline, fueled largely by technological advances in communication, transportation, and agriculture is devastating rural economies and the centers of community social life – namely the local school(s) and main street(s). The physical infrastructure, spatial character and unique identity of rural places is slowly diminished in the process. While great potential exists for the landscape architecture and planning professions to address patterns of rural decline, the limited market for such services and the lack of regulations requiring those services precludes their effective implementation within rural communities. Within Winona, a long-standing stormwater problem provides an opportunity to address both the stormwater problem and the larger dilemma in a holistic landscape architecture approach.

How can contemporary landscape architecture engage rural communities in planning and design solutions aimed at mitigating stormwater issues while addressing community identity loss resulting from population and economic decline? The Place, Space, Community (PSC) Framework developed can determine distinctive qualities and characteristics and illuminate community identity which serves as the creative genesis for stormwater mitigation, and more importantly, the development of social capital critical to economic and population stability and growth.

Successful development of social capital and enhanced community identity is dependent on design solutions anchored in the sense of place inherent in the residents of Winona. Landscape architects are uniquely qualified to provide solutions to the stormwater problem which respond to place in ways influencing the identity and social capital of Winona's residents in dramatically positive ways. This initial focus on a holistic, place-based approach to increased social capital provides a strong foundation for future economic, social and environmental stability and growth into the future. Winona can indeed enjoy a bright and prosperous future with a Place, Space, Community approach.

Table of Contents

[1]	Project Genesis
[7]	Connections
[29]	Theoretical Framework
[37]	Analysis
[93]	Design
[129]	Conclusions
[137]	References
[141]	Appendix A - Glossary
[147]	Appendix B - Literature Review
[153]	Appendix C - Community Survey
[179]	Appendix D - Greensburg Precedent Study
[189]	Appendix E - Sub-rural Comparative Analysis

List of Figures

CHAPTER 1: Genesis

[3] **Figure 1.1** - Evening silhouette of Winona's distinctive architecture (Kirby Barrett)

[3] **Figure 1.2** - Panorama of Winona's distinctive architecture (Kirby Barrett)

[4] **Figure 1.3** - Population decline in Winona between 1930 and 2009 (Kirby Barrett)

CHAPTER 2: Connections

[10] **Figure 2.1** - Statistics illustrating the *global* rural and urban population trends (source data: United Nations Population Division)

[10] **Figure 2.2** - Statistics illustrating the *national* rural and urban population trends (source data: U.S. Census Bureau)

[13] **Figure 2.3** - Winona's proximity to population centers (source data: ESRI)

[14] **Figure 2.4** - Logan County/Winona context map (source data: ESRI)

[15] **Figure 2.5** - Winona's important structures (Kirby Barrett)

[16] **Figure 2.6** - Population decline in Winona between 1930 and 2009 (source data: U.S. Census Bureau)

[16] **Figure 2.7** - Projected population decline in Logan County from 2010 to 2027 (source data: U.S. Census Bureau)

[17] **Figure 2.8** - Number of farms - Kansas (source data: Institute for Policy and Social Research - University of Kansas)

[17] **Figure 2.9** - Number of farms - Logan County (source data: Institute for Policy and Social Research - University of Kansas)

[18] **Figure 2.10** - Farm Employment Graph - Logan County (source data: Institute for Policy and Social Research - University of Kansas)

[18] **Figure 2.11** - Triplains School enrollment statistics from 1992-1993 to 2010-2011 school years (source data: Kansas State Department of Education)

[19] **Figure 2.12** - NW Kansas Trade-pull Factors (2009) (source data: Institute for Policy and Social Research - University of Kansas)

[19] **Figure 2.13** - NW Kansas Employment Residence Ratio (2010) (source data: Institute for Policy and Social Research - University of Kansas)

[20] **Figure 2.14** - #1 - Aerial of Winona - expansive sky and surrounding agricultural lands (Kirby Barrett)

[20] **Figure 2.15** - #2 - Main street character (Kirby Barrett)

[20] **Figure 2.16** - #3 - Agricultural influence and stormwater problem area (Kirby Barrett)

[20] **Figure 2.17** - #4 - Quiet residential area - stormwater problem area (Kirby Barrett)

[20] **Figure 2.18** - #5 - Agricultural influence - animals kept just outside city limits (Kirby Barrett)

[20] **Figure 2.19** - #6 - Quiet, safe and well-kept residential neighborhoods (Kirby Barrett)

[23] **Figure 2.20** - Simplified Community Capitals: Current realm of sub-rural problem-solving within the Capitals (Kirby Barrett - adapted from Flora & Flora)

[23] **Figure 2.21** - Simplified Community Capitals: Proposed realm of sub-rural problem-solving within the Capitals (Kirby Barrett - adapted from Flora & Flora)

CHAPTER 3: Theoretical Framework

[31] **Figure 3.1** - Project process diagram (Kirby Barrett)

[33] **Figure 3.2** - Broad literature map (Kirby Barrett)

[35] **Figure 3.3** - Detailed literature map (Kirby Barrett)

CHAPTER 4: Analysis

[42] **Figure 4.1** - Survey results: Where are residents' beautiful places within Winona? (Kirby Barrett)

[42] **Figure 4.2** - Survey results: Where are residents' favorite places within Winona? (Kirby Barrett)

- [42] **Figure 4.3** - Survey results: Why do residents choose to live in Winona? (Kirby Barrett)
- [42] **Figure 4.4** - Survey results: Why do residents feel they belong or don't belong to Winona? (Kirby Barrett)
- [42] **Figure 4.5** - Survey results: What is special about Winona? (Kirby Barrett)
- [43] **Figure 4.6** - Survey results: Distinctiveness of Winona's built features (Kirby Barrett)
- [43] **Figure 4.7** - Survey results: Distinctiveness of Winona's natural features (Kirby Barrett)
- [43] **Figure 4.8** - Survey results: Distinctiveness of Winona's social features (Kirby Barrett)
- [44] **Figure 4.9** - Survey results: Winona's most distinctive built features - Wordle analysis (Kirby Barrett)
- [44] **Figure 4.10** - Survey results: Winona's distinctive built features - 3D representation of feature importance (Kirby Barrett)
- [45] **Figure 4.11** - Survey results: Winona's most distinctive natural features - Wordle analysis (Kirby Barrett)
- [45] **Figure 4.12** - Survey results: Winona's most distinctive natural features (Kirby Barrett)
- [45] **Figure 4.13** - Survey results: Winona's most distinctive natural features - within Winona (Kirby Barrett)
- [45] **Figure 4.14** - Survey results: Winona's most distinctive natural features - outside Winona (Kirby Barrett)
- [46] **Figure 4.15** - Survey results: Types of social activities in Winona (Kirby Barrett)
- [46] **Figure 4.16** - Survey results: Locations of Winona's social activities - Wordle diagram (Kirby Barrett)
- [46] **Figure 4.17** - Survey results: Strength of social activities - 3D representation of feature importance (Kirby Barrett)
- [47] **Figure 4.18** - Survey results: Strength of community center - Wordle diagram (Kirby Barrett)
- [47] **Figure 4.19** - Survey results: Desired community activities (Kirby Barrett)
- [48] **Figure 4.20** - Survey results: Strength of community center - 3D representation of feature importance (Kirby Barrett)
- [49] **Figure 4.21** - Survey results: Favorite Places (Kirby Barrett)
- [49] **Figure 4.22** - Survey results: Favorite Places Wordle diagram (Kirby Barrett)
- [49] **Figure 4.23** - Survey results: Favorite Places - Inside (Kirby Barrett)
- [49] **Figure 4.24** - Survey results: Favorite Places - Outside (Kirby Barrett)
- [50] **Figure 4.25** - Survey results: Beautiful Places (Kirby Barrett)
- [50] **Figure 4.26** - Survey results: Beautiful Places Wordle diagram (Kirby Barrett)
- [50] **Figure 4.27** - Survey results: Beautiful Places - Inside (Kirby Barrett)
- [50] **Figure 4.28** - Survey results: Beautiful Places - Outside (Kirby Barrett)
- [51] **Figure 4.29** - Survey results: Enhancing Community Beauty (Kirby Barrett)
- [51] **Figure 4.30** - Survey results: Enhancing Community Beauty Wordle diagram (Kirby Barrett)
- [51] **Figure 4.31** - Survey results: Trees' success at enhancing community identity (Kirby Barrett)
- [51] **Figure 4.32** - Survey results: Park's success at enhancing community identity (Kirby Barrett)
- [52] **Figure 4.33** - Survey results: Enhancing Community Beauty - 3D representation of feature importance (Kirby Barrett)
- [52] **Figure 4.34** - Survey results: Willingness to implement stormwater management measures privately (Kirby Barrett)

[52] **Figure 4.35** - Survey results: Willingness to donate funds for installation/maintenance of public BMPs (Kirby Barrett)

[52] **Figure 4.36** - Survey results: Willingness to donate/volunteer in other ways to support community-wide reductions in stormwater runoff (Kirby Barrett)

[53] **Figure 4.37** - Context map of Kansas (Kirby Barrett)

[54] **Figure 4.38** - Downtown Greensburg prior to the tornado (image source: <http://static.panoramio.com/photos/original/26024437.jpg>)

[54] **Figure 4.39** - Post-tornado Greensburg (image source: http://upload.wikimedia.org/wikipedia/commons/e/e0/Greensburg_kansas_tornado.jpg)

[55] **Figure 4.40** - Greensburg City Hall (Kirby Barrett)

[55] **Figure 4.41** - Kiowa County Hospital (Kirby Barrett)

[55] **Figure 4.42** - 5.4.7 Arts Center (Kirby Barrett)

[56] **Figure 4.43** - Main Street Panorama (Kirby Barrett)

[56] **Figure 4.44** - Runoff storage cisterns at High School (Kirby Barrett)

[56] **Figure 4.45** - Runoff storage cisterns at High School (image source: <http://www.bnim.com>)

[57] **Figure 4.46** - Portland Green Street infiltration planter (Kirby Barrett)

[57] **Figure 4.47** - Greensburg infiltration planter (Kirby Barrett)

[58] **Figure 4.48** - Community participation (image source: Greensburg Master Plan)

[58] **Figure 4.49** - Community participation (image source: Greensburg Master Plan)

[59] **Figure 4.50** - Sub-rural identity study: Community locations (source data: ESRI)

[60] **Figure 4.51** - Golden Plains High School - Rexford (Kirby Barrett)

[60] **Figure 4.52** - Brewster K-12 School (Kirby Barrett)

[60] **Figure 4.53** - Triplains K-12 School - Winona (Kirby Barrett)

[60] **Figure 4.54** - Sub-rural community identity matrix (Kirby Barrett)

[60] **Figure 4.55** - Selden Catholic Church (Kirby Barrett)

[60] **Figure 4.56** - Selden Methodist Church (Kirby Barrett)

[61] **Figure 4.57** - Rexford Community Church (Kirby Barrett)

[61] **Figure 4.58** - Brewster Community Church (Kirby Barrett)

[61] **Figure 4.59** - Brewster Methodist Church (Kirby Barrett)

[61] **Figure 4.60** - Brewster Lutheran Church (Kirby Barrett)

[61] **Figure 4.61** - Winona Methodist Church (Kirby Barrett)

[62] **Figure 4.62** - Selden Water Tower (Kirby Barrett)

[62] **Figure 4.63** - Brewster Water Tower (Kirby Barrett)

[62] **Figure 4.64** - Winona Water Tower (Kirby Barrett)

[62] **Figure 4.65** - Main Street parking rates (Kirby Barrett)

[62] **Figure 4.66** - Ratio of occupied to unoccupied buildings (Kirby Barrett)

[63] **Figure 4.67** - Activity Concentration - Brewster (Kirby Barrett)

[63] **Figure 4.68** - Activity Concentration - Selden (Kirby Barrett)

[63] **Figure 4.69** - Ratio of spatial enclosure on main street (Kirby Barrett)

[63] **Figure 4.70** - Ratio of spatial enclosure on main street (Kirby Barrett)

[64] **Figure 4.71** - Activity Concentration - Rexford (Kirby Barrett)

[64] **Figure 4.72** - Activity Concentration - Winona (Kirby Barrett)

[64] **Figure 4.73** - Main Street Sections - Residential Transect (Kirby Barrett)

[56] Figure 4.74 - *Main Street Sections - Mixed Land-Use Transect* (Kirby Barrett)

[64] Figure 4.75 - *Main Street Sections - Commercial Transect* (Kirby Barrett)

[65] Figure 4.76 - *Percent of public open and park space* (Kirby Barrett)

[65] Figure 4.77 - *Percent of tree cover* (Kirby Barrett)

[65] Figure 4.78 - *Tree Cover - Brewster* (Kirby Barrett)

[65] Figure 4.79 - *Tree Cover - Selden* (Kirby Barrett)

[66] Figure 4.80 - *Tree Cover - Rexford* (Kirby Barrett)

[66] Figure 4.81 - *Tree Cover - Winona* (Kirby Barrett)

[67] Figure 4.82 - *Programmatic elements of project divided into PSC categories* (Kirby Barrett)

[69] Figure 4.83 - *Site Analysis Process Diagram* (Kirby Barrett)

[71] Figure 4.84 - *Existing Stormwater Problem Areas* (Kirby Barrett)

[72] Figure 4.85 - *Stormwater Problem Area #1* (Kirby Barrett)

[72] Figure 4.86 - *Stormwater Problem Area #2* (Kirby Barrett)

[72] Figure 4.87 - *Stormwater Problem Area #3* (Kirby Barrett)

[72] Figure 4.88 - *Stormwater Problem Area #4* (Kirby Barrett)

[72] Figure 4.89 - *Stormwater Problem Area #5* (Kirby Barrett)

[72] Figure 4.90 - *Stormwater Problem Area #6* (Kirby Barrett)

[73] Figure 4.91 - *Watershed Boundaries* (Kirby Barrett)

[74] Figure 4.92 - *Watershed landcover types and area calculations* (Kirby Barrett)

[75] Figure 4.93 - *Subwatershed runoff volume calculations - 3D representation of peak runoff volume* (Kirby Barrett)

[77] Figure 4.94 - *Subwatershed runoff boundaries and patterns of stormflow* (Kirby Barrett)

[78] Figure 4.95 - *Subwatershed runoff volumes Graphic comparison* (Kirby Barrett)

[79] Figure 4.96 - *Corner Raingarden Location Map* (Kirby Barrett)

[81] Figure 4.97 - *Right-of-way analysis* (Kirby Barrett)

[83] Figure 4.98 - *Parking Analysis Map* (Kirby Barrett)

[85] Figure 4.99 - *Park suitability map* (Kirby Barrett)

[87] Figure 4.100 - *Business Analysis Map* (Kirby Barrett)

[89] Figure 4.101 - *Projection Suitability Analysis Map* (Kirby Barrett)

[91] Figure 4.102 - *Space synthesis map* (Kirby Barrett)

CHAPTER 5: Design

[95] Figure 5.1 - *Diagrammatic illustration of the basic processes of photosynthesis in wheat* (Kirby Barrett)

[96] Figure 5.2 - *Growth stages of wheat* (adapted from Large, E.C. 1954)

[97] Figure 5.3 - *Growth stages of wheat related to the PSC Framework* (adapted from Large, E.C. 1954)

[102] Figure 5.4 - *Winona entry plan* (Kirby Barrett)

[103] Figure 5.5 - *Railroad Park Section (Section AA)* (Kirby Barrett)

[103] Figure 5.6 - *Railroad Park Section (Section BB)* (Kirby Barrett)

[105] Figure 5.7 - *Main Street BMP/Post Office entry plan* (Kirby Barrett)

[106] Figure 5.8 - *Main Street BMP flow diagram* (Kirby Barrett)

- [107] **Figure 5.9** - *Main Street existing condition* (Kirby Barrett)
- [108] **Figure 5.10** - *Main Street BMP detailed perspective* (Kirby Barrett)
- [109] **Figure 5.11** - *Aerial photo of existing conditions* (Kirby Barrett)
- [111] **Figure 5.12** - *Aerial perspective of proposed conditions* (Kirby Barrett)
- [113] **Figure 5.13** - *Main Street Master Plan* (Kirby Barrett)
- [115] **Figure 5.14** - *Post Office entry - existing condition* (Kirby Barrett)
- [116] **Figure 5.15** - *Post Office entry - proposed condition* (Kirby Barrett)
- [116] **Figure 5.16** - *Street-side bioswale detailed section* (Kirby Barrett)
- [117] **Figure 5.17** - *Community-wide master plan* (Kirby Barrett)
- [119] **Figure 5.18** - *Corner raingarden detailed section* (Kirby Barrett)
- [119] **Figure 5.19** - *Central Park section - Main Street/Roots/Farmers Market - Section CC* (Kirby Barrett)
- [121] **Figure 5.20** - *Central Park section - Amphitheater/water wall/Roots - Section DD* (Kirby Barrett)
- [123] **Figure 5.21** - *Central Park aerial perspective* (Kirby Barrett)
- [127] **Figure 5.22** - *Treatment train diagram* (Kirby Barrett)
- [128] **Figure 5.23** - *BMP type and location diagram* (Kirby Barrett)

CHAPTER 6: Conclusions

- [131] **Figure 6.1** - *Synthesis/Evaluation Diagram* (Kirby Barrett)

CHAPTER 7: Appendices

- [156] **Figure 7.1** - *BMP images - companion image to Question 23* (image sources: attached to images)
- [179] **Figure 7.2** - *Greensburg's school following the disaster* (image source: http://environment.nationalgeographic.com/staticfiles/NGS/Shared/StaticFiles/Environment/Images/Natural_Disaster/school-RTR1PF67-ga.jpg)
- [179] **Figure 7.3** - *Remnants of Greensburg's downtown* (image source: http://rscmakingtracks.com/wp-content/uploads/2009/04/greensburg_building1.jpg)
- [179] **Figure 7.4** - *Post-tornado Greensburg* (image source: http://upload.wikimedia.org/wikipedia/commons/e/e0/Greensburg_kansas_tornado.jpg)
- [181] **Figure 7.5** - *The Big Well museum/gift shop - prior to the tornado* (image source: http://www.greensburggreentown.org/storage/Big%20Well_joe%20schumacher.jpg?__SQUARESPACE_CACHEVERSION=1292018540357)
- [183] **Figure 7.6** - *Greensburg City Hall (LEED PLatinum)* (Kirby Barrett)
- [183] **Figure 7.7** - *Kiowa County Schools (LEED Platinum)* (image source: <http://www.bnim.com/work/kiowa-county-schools>)
- [183] **Figure 7.8** - *5.4.7 Arts Center (LEED Platinum)* (Kirby Barrett)
- [184] **Figure 7.9** - *Bioswale and reserved parking spaces outside High School (LEED Platinum)* (Kirby Barrett)
- [184] **Figure 7.10** - *Natural landscape area/bioswale in front of Kiowa County Hospital (LEED) Platinum* (Kirby Barrett)
- [184] **Figure 7.11** - *Native plantings/stormwater BMPs along the main street* (Kirby Barrett)
- [186] **Figure 7.12** - *Infiltration planter - Portland Green Street* (Kirby Barrett)
- [186] **Figure 7.13** - *Infiltration planter - Greensburg Green Street* (Kirby Barrett)
- [190] **Figure 7.14** - *Identity Matrix* (Kirby Barrett)
- [192] **Figure 7.15** - *Typical main street sections - Brewster* (Kirby Barrett)

[193] Figure 7.16 - *Brewster main street spatial character* (Kirby Barrett)

[194] Figure 7.17 - *Brewster main street spatial character* (Kirby Barrett)

[196] Figure 7.18 - *Typical main street sections - Selden* (Kirby Barrett)

[197] Figure 7.19 - *Selden main street spatial character* (Kirby Barrett)

[198] Figure 7.20 - *Selden main street spatial character* (Kirby Barrett)

[200] Figure 7.21 - *Typical main street sections - Rexford* (Kirby Barrett)

[201] Figure 7.22 - *Rexford main street spatial character* (Kirby Barrett)

[202] Figure 7.23 - *Rexford main street spatial character* (Kirby Barrett)

[204] Figure 7.24 - *Typical main street sections - Winona* (Kirby Barrett)

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TO BONNIE

S nekonečnou a věčnou láskou...

Preface

In the summer of 2010 I was approached by my father, who at that time served on the Winona City Council, about ideas a graduate student in landscape architecture might have for addressing Winona's excess stormwater runoff issue that might also help build community. From the beginning, I sensed that because this project was taking place in a rural landscape suffering from significant population decline, it would be a valuable exploration of the limits of contemporary landscape architecture. All landscapes have a powerful ability to influence people, and this question represented to me a very interesting and exciting combination of the abilities of a landscape architect, not only to modify the built and natural environments via design, but to influence and affect social environments as well. Since beginning my education, I have been intrigued by the characteristics or identity of place and how people create identity through their own thoughtful, emotional and physical interactions within a landscape.

Upon deep reflection of the question posed, I realized my sense of place in this locale is the product of nearly a lifetime's experiences there. I still feel a powerful con-

nection to this landscape where my siblings and I spent our grade school through high school years as students of Triplains School. We contributed to various sports teams and competed in many other small communities around the area. Over the years, I grew to love the place, unknowingly maybe then, but clearly and abundantly evident now. My love of the experience of small town life is a shared experience described by many others who have spent parts of their lives in rural locales. And, like many, I found the feelings difficult to describe at first.

For me, the value of the community has always been more than the availability of "things or activities," and in hindsight appears to be a product of the tight-knit social interactions that one who lives or visits feels while within a community. In Winona a strong feeling of community resonates within the school and its students, neighbors, and the streets of the community. For me these social connections are also tightly connected with the natural environment and natural systems because they were, maybe because of the lack of "things to do", my stomping grounds.

While there are hundreds more experiences, events

and images remembered which contribute to my appreciation and love of the landscape and place called Winona, they can be basically grouped into two inclusive categories. These categories represent Winona's two most important resources: the social and natural resources. My experiences and interactions are not the same as others who also share a love of this landscape, and who are there for very different reasons than I. The qualities and characteristics of place, both natural and social, are individual and personal. Each resident's sense of place will be unique to them. Understanding and determining others' special characteristics of identity and place is a critical element preceding successful creation of spaces which they can make place.

While my experiences and personal sense of place provide insight into what other residents might consider place-making, they may not accurately represent the feelings of the greater community. To create a community landscape that is powerful place requires both individual contribution and community consensus. For this project the citizens of Winona boldly provided their thoughts and opinions about distinctive identity and place, and about

their willingness to participate in solutions to the stormwater challenges via a community survey. All of the concepts and proposals offered here attempt to reflect either direct communication with residents or from consulting the feelings and desires expressed in the survey results. I thank all who boldly shared their opinions and feelings as their personal and collective insight provided the opportunity to actually create place unique to Winona and its residents.

I must also make it clear, that while the analysis and design solutions offered present stormwater calculations using the widely accepted Rational Method, they are preliminary calculations and should not be used for final decision making due to the accuracy of the topographic information available. The topographic data used to create the input data presented came from the National Elevation Dataset (10 meter resolution) and is not accurate enough to achieve calculations suitable for final design purposes. To achieve this level of calculation and ensure the systems designed will manage the stormwater as proposed, a topographic survey of Winona is necessary.



Project Genesis

01



Figure 1.1
Evening silhouette of Winona's distinctive architecture



Figure 1.2
Panorama of Winona's distinctive architecture

Genesis: Project and Place

Silhouetted against an endless backdrop of brilliantly blue sky, grain elevators and a water tower demarcate Winona, Kansas, population 186 (2009 estimate, US Census Bureau). Nestled in a sea of green, then amber waves of wheat dancing in the ever-present western Kansas breeze, Winona provides a powerful and dramatic image of the rural Great Plains, and could very well have been the inspiration for “America the Beautiful.” (Figures 1.1 and 1.2). While these images evidence a location stereotypic of Great Plains rural America, what makes Winona special, unique?

Winona faces the same dilemma confronting most rural communities in the United States and many globally—population decline (Figure 1.3). In the Great Plains, population declines are largely attributable to technological advances in communication, transportation and agriculture resulting in retail-commercial and on-farm job losses. The coupled effects of an aging-in-place population, and out-migration of youth and young adults, are

devastating to the community economy and the centers of community social life—namely the local school(s) and main street(s). As these centers of rural community erode, the physical infrastructure and spatial character of the community, along with their unique identity also wane.

Design and planning professions, especially landscape architecture, have been partly responsible for successfully addressing similar patterns of decline in urban core areas (Wood 2008). However, these professional approaches have not been utilized in sub-rural communities. While there are many reasons for the absence of design and planning professions in rural communities, the most likely is the limited market for services and lack of regulations (codes and ordinances) which require licensed landscape architectural professional services. This fact could be attributable to the lack of planners within local governments as well as a general lack of local understanding of the services rendered by landscape architects. Can a landscape architect achieve community

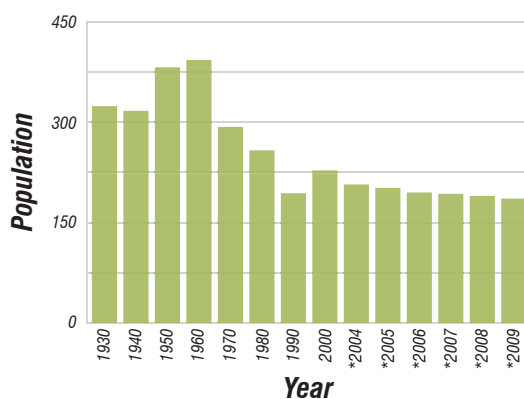


Figure 1.3
Population decline in Winona between
1930 and 2009

* indicates years of U.S. Census estimated population

building and place making in Winona?

In a post-9/11, and post-natural disaster context (Katrina, Greensburg Tornado, etc.), communities of all sizes have been tasked by the Department of Homeland Security (DHS) and/or the Federal Emergency Management Agency (FEMA) to assess vulnerabilities and propose mitigation strategies for their community's identified issues. In Winona the community's assessment indicated a need to mitigate a long-standing stormwater management problem. Typically, rural communities engage engineers for assistance with these tasks likely due to their historic reliance on engineers for infrastructure, planning and surveying needs, and the fact that many counties have staff engineers or contracts for on-demand services with engineering firms. While engineers are well equipped to identify and propose mitigation strategies for FEMA and DHS purposes, they are not necessarily

equipped to provide more holistic solutions which could both mitigate identified vulnerabilities and simultaneously address rural community center decline and erosion of community identity.

How can contemporary landscape architecture engage rural communities in holistic planning and design solutions aimed at mitigating FEMA/DHS issues while addressing community identity loss resulting from population and economic decline? Herein is the thesis for this project. A Place, Space, Community (PSC) Framework (developed from literature on community identity and community capitals) can determine Winona's distinctive qualities and characteristics and illuminate identity which serves as the creative genesis for stormwater mitigation, and more importantly, the development of social capital critical to economic and population stability or growth.

A large, stylized graphic of a leaf or branch, rendered in a light green color against a darker green background. The graphic consists of several overlapping, curved shapes that form a central node with three main branches extending outwards. The overall style is clean and modern.

Connections

002

**“A great city is not to be
confounded with a populous one.”**

**Aristotle - quoted in Greensburg Master Plan
-page 28**

Figure 2.1
Statistics illustrating the **global** rural and urban population trends

Connections: The Dilemma Expanded

Globally, rural communities are facing an extremely difficult dilemma of depopulation—rural out-migration. Simultaneously the world’s urban populations are dramatically increasing—urban or metro in-migration. Figures 2.1 and 2.2 illustrate the story of the extremes of both population decline and explosion occurring worldwide, and especially in the United States. In 1800, roughly 98 percent of the global population lived in rural areas. By 1900, that number had decreased to 88 percent (Cohen 2003). Similarly, in 1900, a majority of the U.S. populace (a full 60%) lived in rural locations (U.S. Census Bureau). During the 20th century, however, the balance between rural and urban areas in the United States, and throughout the world, dramatically shifted. While the global population of urban dwellers in 1900 was a mere 12 percent, by 2000 it would nearly quadruple to 46 percent (UN Population Division). In 2010, the number of urban dwellers worldwide surpassed 50 percent. While the rate of rural decline on the worldwide stage is dramatic, it is even more profound in the United States. While 40 percent of citizens nation-wide were urban dwellers in 1900, just 50 years later they numbered 64 percent. After another 50 years, the population of urban citizens jumped another 15 percent to 79 percent of the total population. Finally, in 2010, 82 percent of United States citizens live in urban areas (UN Population Division).

Trends in the United States agricultural industry illustrate a dramatic reduction in the number of farming operations and a simultaneous increase in the size of farming operations. In 1790, 90 percent of the nation’s workforce farmed. In 1900, 40 percent, and by the year 2000 a startling 1.9 percent (Wood 2008) of the workforce was em-

Figure 2.2
Statistics illustrating the **national** rural and urban population trends

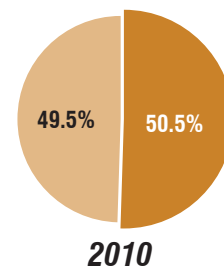
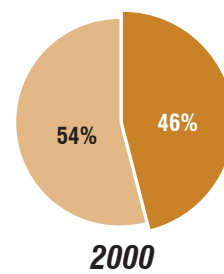
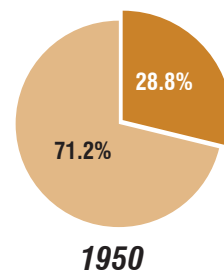
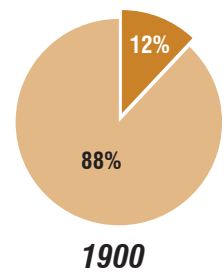


Figure 2.1

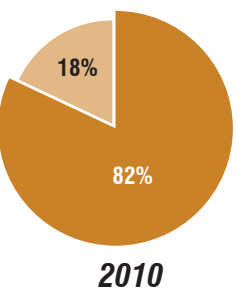
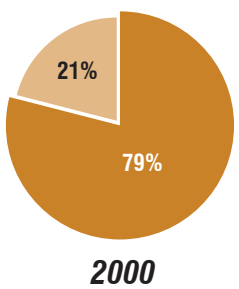
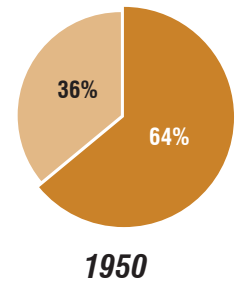
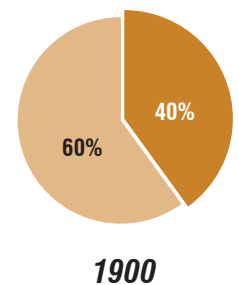


Figure 2.2

Legend

- Rural Population
- Urban Population

ployed in farming. The decline in the number of farms and simultaneous increase in farm size coincides temporally with the decline of rural populations. Historically family farming was the backbone of the nation's economy given the sheer percentage of the populace employed in the field. As employment requirements to produce food and fiber have declined, so have rural populations and their local economies, exacerbating population deterioration. This connection becomes clear when historic and contemporary trends in the agricultural foundation of the rural economy are considered.

Much of the impact on the agricultural industry is a result of the advent and widespread utilization of modern technologies. Industrial efficiency in farming has enabled farmers to farm more and more land with fewer and fewer workers. Large and technologically advanced machinery make the planting, cultivating and harvesting of vast acreages of land manageable by a handful of operators. Additionally, the widespread use of fertilizers, pesticides and herbicides in combination with these large machines make the historically intense manual labor of farming more automated and efficient with a minimal amount of human labor.

Transportation evolution has also played a significant role in agricultural trends. Historic foot, horse and wagon modes of transportation limited access to basic goods and services and were acknowledged by President Jefferson in his Public Land Survey System (PLSS) plan. The PLSS plan laid out townships in 6 mile by 6 mile areas to facilitate people's access to basic goods, services and education. The implementation of the PLSS began the development of the robust agricultural system in the Great Plains.

The development of the transcontinental rail system gave rise to another type of evenly spaced communities along their routes due to water requirements for steam locomotives. Railroad towns expanded rural farming operations in the Great Plains along these routes by providing greater and easier access to basic goods and services. Another force of change in rural development in the early 20th century was the automobile.

In the early part of the 20th century there were only about 8,000 automobiles in existence and only around 150 miles of paved roads (Wood 2008). After the automobile became more widely available, roads and highways were paved (especially the interstate system), and as technology improvements increased the range of vehicles, a person's possible radius of travel dramatically increased. Rural people began to travel to larger communities offering a larger variety of goods and services and a greater diversity of activities. The train and the automobile have played a vital role in the transition to larger farms due to the increased efficiencies and network capacities.

Importantly, advances in automobiles and road networks occurred nearly simultaneously with the development of the diesel locomotive which changed the range between required train stops. Rural businesses already struggling to compete against larger communities faced another decrease in customer base as railroad employees required to service trains were cut. These advancements also changed how agricultural products were stored and shipped, enabling new distant markets for products. The advent of the internet and advancements in communication are a current force of change for rural communities extending the reach of some basic goods to the global level.

As the spacing between towns essential to acquiring basic goods and services has changed with transportation evolution, so has the required spacing for farm operations with similar agricultural technology and market advancements. Collectively, the very advances which stimulated growth of rural communities initially now challenge their existence. The advent of technology, as well as the allure of “urban” life has had a strong and immediately visible influence on the economies of rural communities, and thus on the communities themselves. As agricultural and farming practices become more efficient and streamlined, jobs continue to be lost to machines. As the automobile enabled people to travel further and further from home in search of basic essentials, education and entertainment, retail and commercial business (those rural jobs) and in some cases entire communities have been lost to larger communities.

Although the widespread availability and use of the automobile and the internet have created problems for rural communities, they can also provide opportunities for community growth and development. The quality of rural life is an important and valuable asset of each community which can be expanded and “put to work” for the community. Just as rural dwellers take advantage of electronic commerce and relatively quick vehicular travel, rural communities can take advantage of those technologies to entice visitors and new community members to experience their unique identity and sense of place rich in history.

The Landscape: Winona, Logan County, Kansas

Winona is a sub-rural community located on U.S. Highway 40, a major route to Colorado Springs and the

Rocky Mountains just south and west of Interstate 70 in northwest Kansas. The term sub-rural is defined here as a community with a population less than 600. Winona is located 30 miles south of Colby (2000 Census population: 5,450) and west of Oakley (2000 Census population: 2,173), which are both on the Interstate 70 corridor. While Winona is a fair distance from major urban population centers (see Figure 2.3), the community benefits from its proximity to local population centers and the major transportation corridors which link to Denver, Kansas City, Wichita and beyond.

“Winona’s beginnings came when the railroad came through” (Gaskill 1986, 44). As the nation’s railroads began their westward expansion, the federal government provided land on which to lay their track. The land occupied by Winona was given to the Kansas Union Pacific Railroad Company as they expanded their rail system west to connect Kansas City to Denver. Winona, like most railroad towns, was established in order to provide access to a critical necessity for the steam locomotives to operate—water at a specific interval.

Called Gopher by the Union Pacific, the town was originally intended to serve as a freight center for the railroad and did so until the town site was sold to the Western Town Site Company in 1886. It was in May of that year that the town’s name was changed to reflect a distinctive characteristic of the place, “a new community located on the broad western plains” (Gaskill 1986, 44). The town was given the name of Winona, in honor of one of the early residents of the city, Mrs. Bill (Winona) Clark, and Hiawatha’s mother, Wenonah, a character in the famous poem “The Song of Hiawatha” by Henry Wadsworth Longfellow. Wenonah is an Ojibwa word meaning

“the lily of the prairie” (Longfellow 1855, 46). While a beautiful prairie wildflower, the “lily of the prairie” is not a plant native to or commonly found within the region surrounding Winona. However, the imagery conjured in the minds of people by comparing a beautiful plant emergent in a vast land cannot be denied.

Although founded as a railroad town, Winona has grown and prospered under the agricultural economy. Wheat was the “flagship” crop of this economy, and continues to be the most important crop in the region. As such, perhaps Winona’s “lily of the prairie” could be the hard red winter wheat plant. Though not a prairie wildflower, and not native to western Kansas, wheat is still an elegant and beautiful plant in its own right, mesmerizing newcomers and locals as it moves like waves in the breeze. Wheat has been an important and creative influence in the historic settlement of Winona. As with

all farming operations, wheat farming success is directly tied to creative responses to weather patterns. Winona, like nearly all Great Plains communities, has experienced extraordinarily dry times evidenced in the Great Dust Bowl and Depression of the 1930s. Inversely, periods of favorable climate have produced abundant crop yields overwhelming local elevators. This illustrates the temporal aspect of the interactions between the natural and social systems, the water of the hydrologic cycle, photosynthesis, soil systems and the economy of farmers in a global marketplace.

Early on, Winona lived up to its namesake as it grew to become the center for commerce and social life for the region. The period of greatest growth came during the years between the founding of the city and when it was incorporated as a city of the third (3rd) class in 1920. Winona was truly the center for commerce in the area

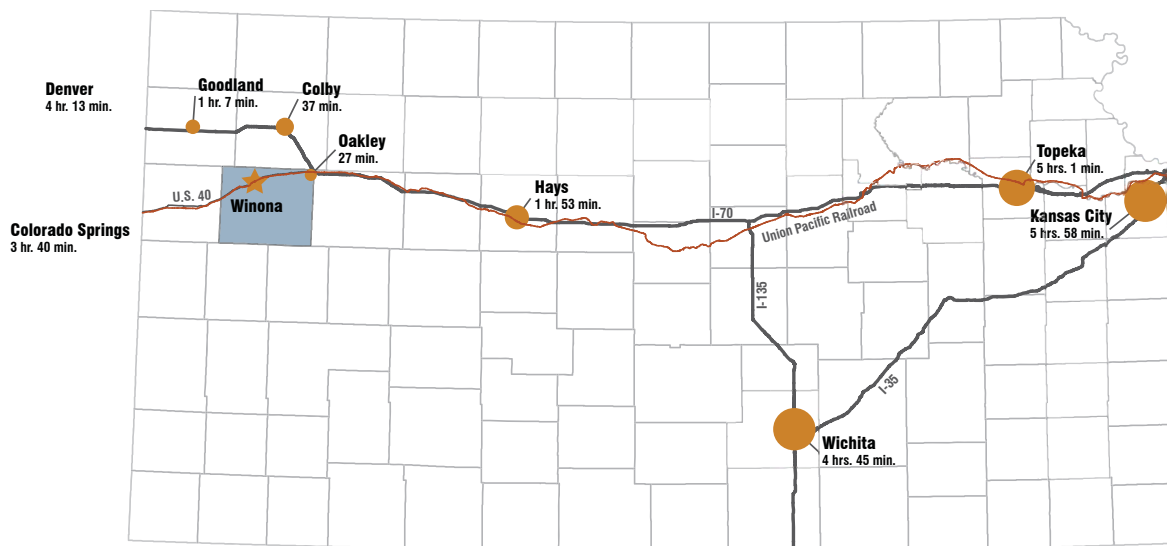


Figure 2.3
Winona's proximity to population centers

and was the place to buy any farm or household goods; including lumber and hardware supplies and coal. In addition, Winona boasted a hotel, a real estate business, “four grocery stores, two barbershops, two doctors, a lawyer, two livery stables, an auctioneer, creamery stations, a drug store, a bank, and a Logan County newspaper” (Gaskill 1986, 45). Collectively the business successes and rail line influenced the develop of the road network along with growth along the Colorado front range south of Denver.

In addition to being the commercial center of the area, Winona served as the region’s social hub. Many social organizations as well as several churches were established in the city. Early residents were inventive when trying to meet their needs for worship, as formal facilities for church services of any kind were initially hard to come by. The Methodist church began its first service in one of Winona’s livery stables. Services were then moved first to the hardware store and then to a drug store. Finally, the congregation dedicated Winona’s first new church building in 1921 and it is in that building that members still meet in Winona (Gaskill 1986). (For locations of important structures, see Figure 2.5.) Through the years, many other social institutions were established and enjoyed including a movie theater and an indoor roller skating rink.

Winona boasts another historic structure, the Winona school building. Completed in 1926, the building is listed on the National Register of Historic Places. In Winona’s early days, the school was an important part of the community. According to Gaskill, “The Winona school has always been the community center” (Gaskill 1986, 45). Historically, it not only provided for the education of the town’s children, but also for the adults. A

Chautauqua was held four times a year and tickets were sold in advance for a number of programs. A Chautauqua consisted of “various traveling shows and local assemblies that flourished in the United States in the late 19th and early 20th centuries, that provided popular education combined with entertainment in the form of lectures, concerts, and plays, and that were modeled after activities at the Chautauqua Institution of western New York” (Merriam-Webster Online). Famous vocalists, musicians, speakers, debates and plays were all part of the Chautauqua activities.

The school has also served as an entertainment center of the community. In addition to the entertainment provided through the Chautauqua activities, the school auditorium was used for playing silent movies on Saturday nights (Gaskill 1986). In 1966, the consolidation of nearby schools brought together Winona, Page City and Russell Springs’ (see Figure 2.4) schools to form Triplains School which is located on the northwest side of Winona. (see Figure 2.5). Following the consolidation,

Figure 2.4
Logan County/Winona context map

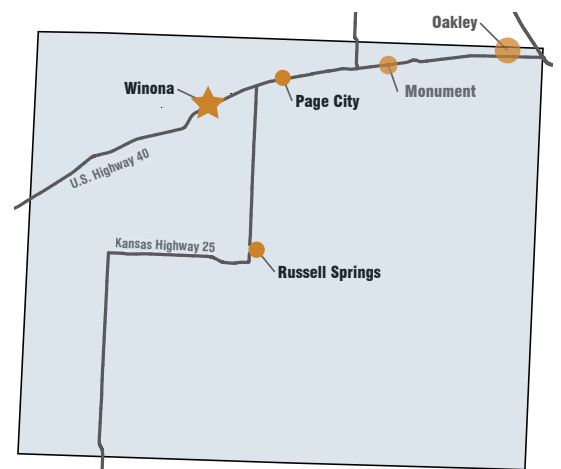
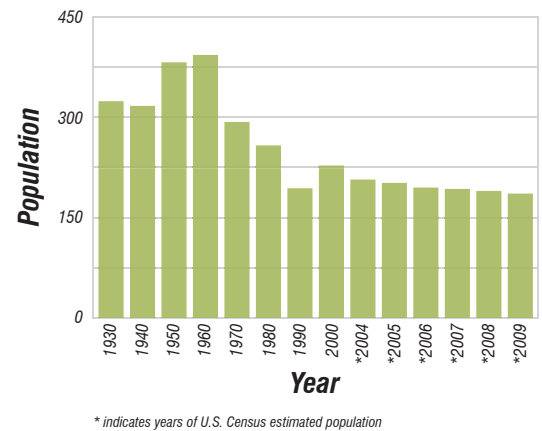




Figure 2.5
Winona's important structures

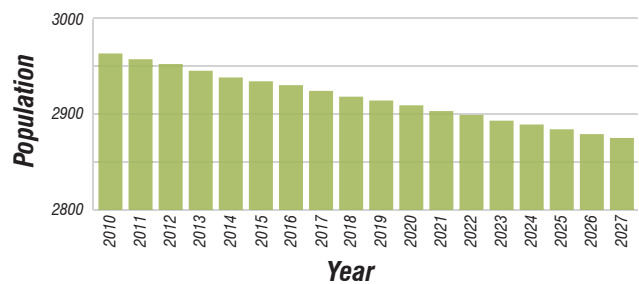
0' 175' 350' 700'
Scale: 1" = 350'

Figure 2.6
Population decline in Winona between
1930 and 2009



student activities and competitive sports teams became a primary source of entertainment for Winona residents as well as others from Page City, Russell Springs and the surrounding area. The Triplains Kindergarten through 12th grade school draws people to Winona to watch both the high school and the middle school teams play football, volleyball and basketball and enjoy student music and theater performances. Several other student activities provide a source of entertainment and pride for the community, including forensics and debate and scholar’s bowl competitions. The school still serves as an education and entertainment node in the community as it did historically.

Figure 2.7
Projected population decline in Logan
County from 2010 to 2027



Unfortunately, since the heyday of the late 1800s and early 1900s, Winona’s population has slowly and steadily declined beginning in the depression days of the 1930s, with the exception of two brief periods of growth in the 1950s and 1990s. In 1930, the U.S. Census listed Winona’s population as 324. Since that time, the population has declined to the 2009 estimate of 186 (see Figure 2.6). This disturbing trend is likely to continue. The U.S. Census has provided population estimates for individual counties out to the year 2027. According to these estimates, between 2010 and 2027, Logan County can expect to decline by another 3% per year (see Figure 2.7).

located in Logan County which has seen nearly a 26 percent decrease in the number of farms (Figure 2.9) and boasts the largest average farm size in the state with a 1,960 acre average size (Institute for Policy and Social Research). This boils down to more acres of land being farmed by larger and larger equipment with fewer and fewer people, meaning less farming jobs available to work the same amount of land. This is evident in the numbers of farm-related jobs in Logan County in the past few decades. Figure 2.10 illustrates the loss of farming

Kansas, a predominantly agricultural based state historically, mimics national trends in both loss of farms and increase in farm size. Since 1920, Kansas has seen a 60.7 percent reduction in number of farms, while farm size has increased nearly three-fold from an average size of 272 acres to over 700 acres. (Figure 2.8) Winona is

Legend

- Historically Important Structures
- Economically/Socially Important Structures
- Current Community Structures
- City Streets

jobs while at the same time the average farm size, as discussed earlier, has grown to become the largest in the state.

In parallel with the general population and farm employment declines, enrollment in the Triplains school has also declined (see Figure 2.11). For Winona, a small and typical rural community with the school as its center, declining enrollment statistics bring fear about the future of the school, and by extension, fear for the future of the community. While declining enrollment statistics incite fear, they also serve as motive, and the residents of Winona, Page City and Russell Springs are solidly committed to doing all they can to ensure the school maintains student enrollment and quality education.

Winona's economic picture has weathered many storms including the Great Depression and effects of technological advancements in transportation and communication. The railroad has become a much less valuable player in the local economy, but the agricultural economy remains a key element of Winona due to the presence and abundance of grain production. While many of the businesses and social organizations which existed in Winona's heyday have closed or faded, two grain elevators, the lumber yard and hardware store (one of the first businesses in Winona) still operate in their original locations (Gaskill 1986). One elevator, Winona Feed & Grain, also maintains a seed cleaning operation, as well as distribution facility for feed, mineral, agricultural chemical, farm equipment and supplies. Winona also maintains its post office, bank, two insurance agencies, the Town & Country service station and convenience store, hair salon, bar and grill, a motel and a hunting lodge. (Locations shown in Figure 2.5). The social life

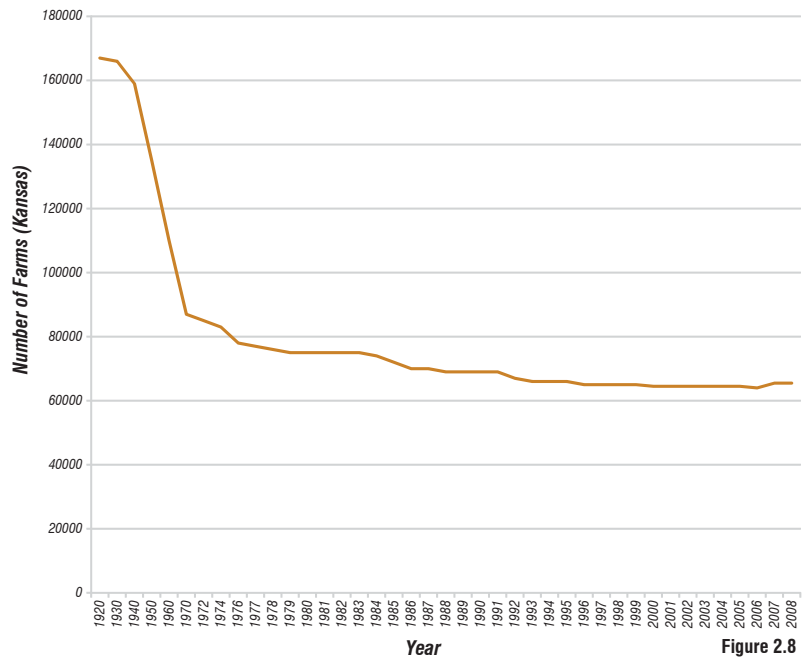


Figure 2.8
Number of farms - Kansas

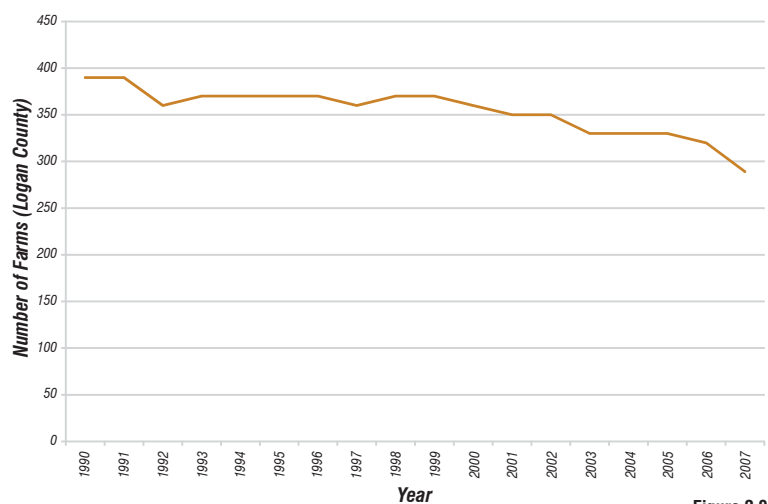


Figure 2.9
Number of farms - Logan County

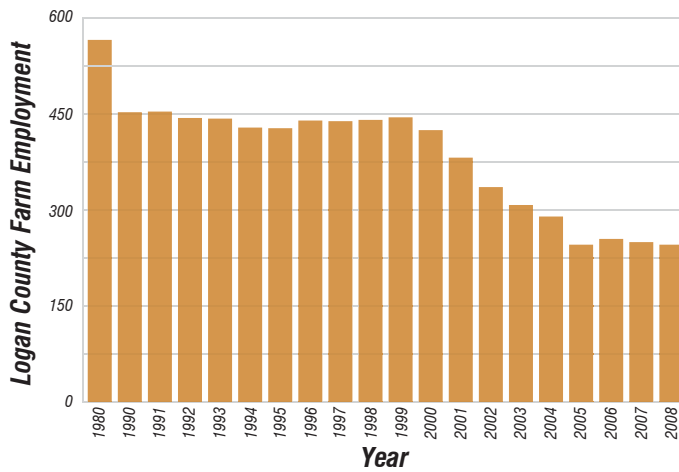


Figure 2.10
Farm Employment Graph - Logan County

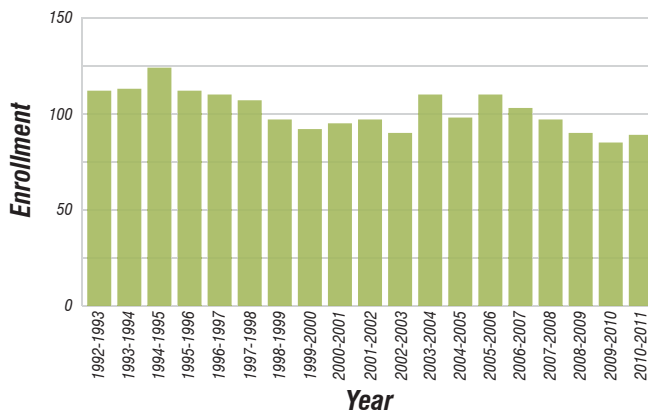


Figure 2.11
Triplains School enrollment statistics from 1992-1993 to 2010-2011 school years

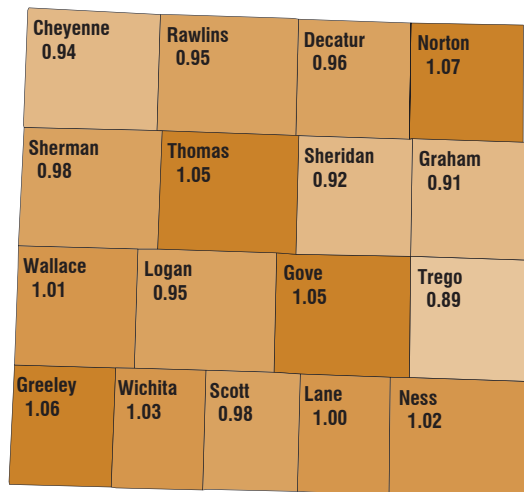
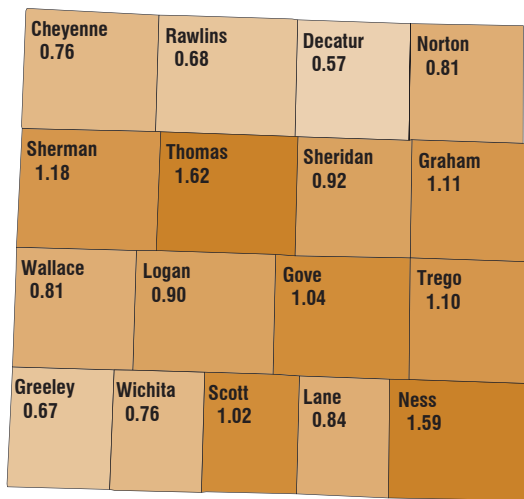
of the community also remains strong. Winona has two churches, including the historic Methodist Church, and several social organizations, including a Masonic Lodge. One critical loss however came only a few years ago

when the grocery store closed its doors.

Logan County rural communities typify the effects of transportation and road network advancements. The county population has easy access to the I-70 corridor and most residents live within a half-hour drive of Colby (Thomas County), the largest city in northwest Kansas. Logan County has experienced a continued loss of business to several of the neighboring counties, although that loss has slowed in recent years. Figure 2.12 illustrates the trade pull factors among northwest Kansas counties (source data from the Institute for Policy and Social Research). A value greater than 1 indicates a county is attracting business from neighboring counties and a number less than 1 indicates a county is losing business to neighboring counties. As illustrated in Figure 2.13, Logan County has a value of 0.95 (> 1 attracting workers) indicating a loss of residents to employment in other counties and substantiating the 0.90 Trade Pull Factor illustrated in Figure 2.12.

While commerce and jobs are slowly being siphoned off to larger communities, the characteristics unique to Winona the place continue to act as a draw for some.

Enhancing this unique identity can attract even more people to connect with Winona. The character of the place, including the feelings and sense of safety, community and a slower lifestyle are very attractive to many, even



those who desire a more fast-paced, urban lifestyle. The wide-open spaces, with the seas of grain set in motion by the ever-present Kansas breeze, and the immediate and constant access to the grand expanse of crystal blue sky are also very desirable characteristics providing great potential for Winona’s future. How can Winona capitalize on the potential latent in its social and natural assets?

The images presented in Figures 2.14-2.19 begin to illustrate these valuable social and natural characteristics. Several images also begin to hint at how Winona might begin to think about capitalizing on this great potential. Figures 2.16 and 2.17 bring to light an opportunity hidden within Winona’s stormwater management problem. The solution to this problem, and the integration of that solution with Winona’s other community catalysts, will ensure the city’s growth into the future.

Recently, the Federal Emergency Management Agency (FEMA) required Logan County to create and implement a disaster management plan in all incorporated cities within the county. This plan required each community to analyze possible future disaster threats which could face the community and propose plans on how to mitigate the effects of those possible disaster events. FEMA promised financial assistance of up to 75% of the total cost of the design and implementation of strategies which would mitigate or reduce the effects of the foreseen disasters (personal communication with Winona City Council).

In general terms, there are two ways in which the city can proceed. Either the problem can be addressed and solutions solicited, or the problem can be ignored and life can continue as is. As in all communities there are those which may say that “things are fine as they are, we don’t need to spend the money to fix things.” There are

Figure 2.12
NW Kansas Trade-pull Factors (2009)

Figure 2.13
NW Kansas Employment Residence Ratio (2010)

Figure 2.14
#1 - Aerial of Winona - expansive sky
and surrounding agricultural lands



Figure 2.15
#2 - Main street character



Figure 2.16
#3 - Agricultural influence and
stormwater problem area



Figure 2.17
#4 - Quiet residential area - stormwater
problem area



Figure 2.18
#5 - Agricultural influence - animals kept
just outside city limits



Figure 2.19
#6 - Quiet, safe and well-kept residential
neighborhoods



those which, due to an incomplete view of the available possibilities and opportunities, may move ahead with solutions which quickly and relatively inexpensively solve the problem. Thus, the status quo of problem solving in rural communities seems to be either apathy, investment in physical or economic infrastructure or a bit of both. These attitudes may be very prevalent in sub-rural communities for a number of reasons, including a very real lack of funds which limits the available solutions and a hindered ability to garner assistance from others outside the community which might be able to offer more than a simple solution to the problem.

Winona's rich soils, favorable climate and available water continue to enable agricultural production locally. The location on U.S. 40 and rail access are important aspects of the marketing and delivery of agricultural products to the global market. The school, remaining businesses and other social groups continue to be community catalysts. As illustrated by Winona's history, the landscape of Winona—social systems, natural systems and the dynamic which brings them together in space and time (Laurie, 1986)—is powerful and place-creating, however vulnerable to changes through time. Landscape architects offer the potential to combine the solution to Winona's stormwater problem, and the tremendous value in its social, economic and natural assets into a dynamic and hopeful vision of the future.

The role of the landscape architect

In perhaps an interesting twist of fate, urban core areas have been experiencing patterns of decline similar to rural areas (Wood 2008). Cities across the nation are attempting to revitalize their urban downtowns, combating

trends of out-migration to suburbs, economic and general physical decline. Recently the expertise of landscape architects has proven extremely valuable in urban design and downtown revitalization projects. A simple Google search of the term "urban core revitalization" generates over 177,000 hits, while adding the words "landscape architecture" lands 29,200 hits, hinting at the importance of landscape architecture's contributions to these efforts. In recent years, many of these revitalization efforts have proven effective at reversing patterns of decline as documented in cities such as Denver and Chicago. While landscape architecture has, and continues to greatly contribute to urban revitalization by holistically looking at the natural and social systems and their interactions in space and time, the profession's role in rural areas is minimal, and essentially non-existent in sub-rural areas. If landscape architecture has been effective in reversing patterns of decline in urban areas, how can this expertise combat similar declining trends in sub-rural communities?

Much of the reason for the identified urban/rural landscape architecture disconnect is economic. While there are thriving markets for different types of landscape architecture within urban and suburban areas, landscape architecture markets within rural areas are scarce. That scarcity increases as the distance between rural communities and urban centers grows, as in the case of Winona in northwestern Kansas. The lack of a sufficient market for professional landscape architectural services mimics other retail, commercial and industrial businesses which are also not present in rural communities. However, Winona and other rural communities face environmental issues and concerns just as larger communities and cities

do – evidenced by Winona’s stormwater problem. Many of these concerns could be addressed by a landscape architect.

While not common, examples of landscape architecture do exist in some rural communities across the nation. The majority of these examples include efforts to maintain the character and feel of rural areas in the face of either suburban sprawl or other types of population growth. Such growth may include large increases of population in formerly rural resort towns or other rural communities which have significant historical or natural economic draws. While these are examples of landscape architecture in rural communities, they are typically at least tangentially related to the realm of urban or suburban landscape architecture.

Greensburg, Kansas is one example of rural landscape architecture which attempts to develop character and identity in the face of population and economic decline. Greensburg is an example of the value of considering the landscape (natural systems, social systems and dynamic) in revitalizing a rural area following an F5 tornado which decimated the community. Like Winona, Greensburg is only a short drive away from larger communities such as Garden City, Dodge City, Liberal, Pratt, Hutchinson and Wichita. Post-tornado, Greensburg is literally being rebuilt from the ground up taking on a completely new identity aimed at being the “greenest” city in the world. While not directly applicable in Winona, the re-design and planning of Greensburg hints at what a landscape architecture’s role and value can be in Winona and sub-rural communities with a holistic landscape architecture approach.

The professional duty and responsibility of licensed landscape architects is to protect the health, safety and welfare of the public. Generally, health relates to human health, safety relates to protection and well-being of humans, and welfare relates to the value of real estate and community assets. Cases such as Greensburg and the storm water issue in Winona expose an intriguing opportunity for landscape architects to enhance these communities’ health, safety and especially welfare. Although the engineering solutions for Winona’s stormwater could be seen as straightforward, any ethical solution should be mindful of the holistic landscape context.

Like landscape architects, city officials are also charged with maintaining the public health, safety and welfare. Therefore, they too must think holistically about solving problems in their elected jurisdictions. Short-sighted and non-holistic responses likely impact the public’s long-term good or welfare. The profession of landscape architecture should engage rural communities and their leaders in understanding the benefits of holistic landscape thinking and problem solving as there are potentially great benefits to communities and the business of landscape architecture.

The opportunities to use Winona’s stormwater dilemma to enhance the quality of life of the community’s residents is a great landscape challenge. While the history and statistics illuminate the enormous population and economic challenges Winona faces and make it easy to be skeptical or apathetic about the future, a holistic landscape approach could leverage the FEMA funds toward a longer and potentially more prosperous future for Winona. The question is how?

Community Capitals: Place, Space Community

The rural sociologists Mary Emery and Cornelia Flora have studied rural communities in order to determine where “development” efforts should be focused within the community. Their study incorporates the Community Capitals Framework as developed by Cornelia and Jan Flora. This framework organizes all of the elements creating rural communities into seven community capitals: the natural, cultural, social, human, political, financial and built capitals. As illustrated in Figure 2.20, the community capitals can be further simplified into three broader categories: the Environmental, Economic and Social Capitals. Throughout the remainder of the document, capitals referred in the plural and capitalized (Economic and Social Capitals) will refer to these simplified categories as a whole. Singular, uncapitalized references (financial, social, cultural capital, etc.) will refer to the individual capital discussed. Currently the status quo of sub-rural problem solving and development is focused mainly on the economic capitals. Emery and Flora’s study examines the effects of shifting that focus onto the Social Capitals, as discovered in the survey of community identity and as illustrated in Figure 2.21.

Within sub-rural communities, the general lack of strong Social Capitals makes it very difficult to reverse, or even slow the processes of rural decline. Many rural communities face a downward-spiral of neglect and despair. Declines in economic capitals are likely the cause of the downward spiral, but losses in any of the capitals may be the beginning point for the slide downward. When industries or businesses are lost in an area (such as the switch from a family to corporation farming), it becomes harder to mobilize political capital, which then leads to a

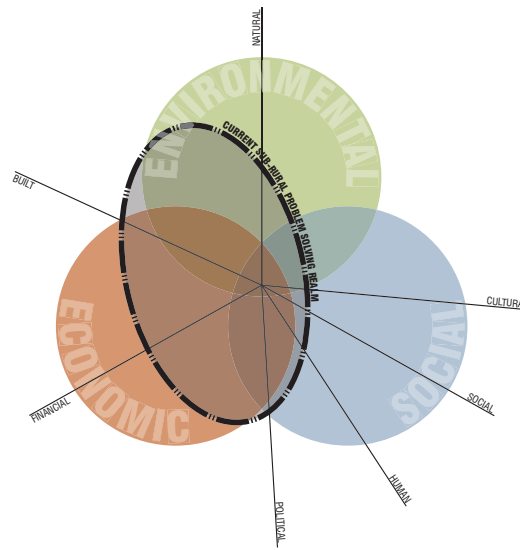


Figure 2.20
Simplified Community Capitals:
Current realm of sub-rural problem-solving within the Capitals

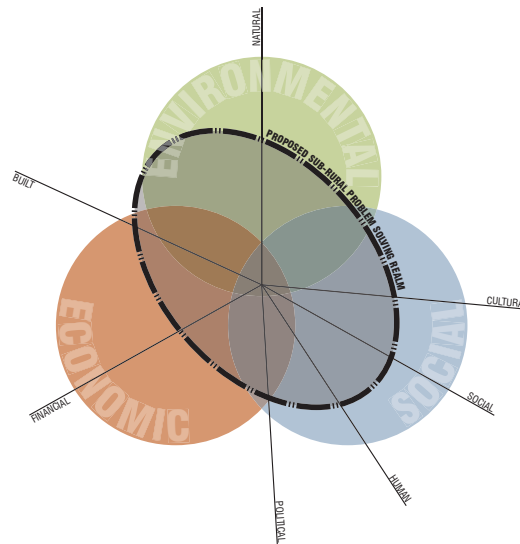


Figure 2.21
Simplified Community Capitals:
Proposed realm of sub-rural problem-solving within the Capitals

further loss of Social Capitals through time (Emery and Flora 2006). In order to create an effective upward spiral of community development, communities must achieve cumulative increases in both the stock of all capitals and the flows across all capitals. Rural communities typically try to reverse this downward spiral by investing in economic capitals (“typical” investments include ethanol plants, wind energy farms, big commercial/manufacturing businesses (such as call centers, etc.) – Flora and Flora 2008 and Wood 2008). However, these investments do not often result in the necessary cumulative increases. Without cumulative increases across all capitals, eventually the downward spiral will resume along with the steady decay of the community. Cumulative increases will develop and continue only with strong Social Capitals as a base (Emery and Flora 2006).

Emery and Flora determined that the best entry point for cumulative increases across all capitals is social capital. Increases in both bonding and bridging social capital are necessary in order to initiate the upward spiral. Flora and Flora define bonding and bridging capitals as consisting “of connections among individuals and groups with similar backgrounds” and connections between “diverse groups within the community to each other and to groups outside the community” respectively (Flora and Flora 2008, 125). These two forms of social capital are necessary because they include the ties which are directed and purposeful, as well as those which drive and influence people’s emotions. The goal is to have high forms of both capitals, which will motivate effective community action. When community action is low, residents of the community relate apathetically to their community, as is seen in the pattern of despair and hopelessness

present in many rural communities. With this type of relationship, residents, as well as outsiders are skeptical and disbelieving that success can occur, and usually unwilling to initiate or participate in constructive community change. When community action is high, residents relate emotionally to their community and are purposefully driven and motivated to solve the community’s problems (Flora and Flora 2008). For this reason, increases in social capital first and foremost, will lead to the cumulative increases which are necessary for sustained community development. If Winona is to see any form of sustained community development, it will begin with a strategic increase in the Social Capitals (Emery and Flora 2006).

Community Identity: The missing link

Community identity is one of the critical dimensions of social capital, though it is not directly defined in the Community Capitals Framework (Flora and Flora 2008). A very intriguing definition of identity has been developed by the British community psychologist John Puddifoot. Community identity is essentially a perception by the residents of the community that their community is unique and distinct, and that they belong to it and it to them (Puddifoot 1995).

Community identity can be divided into six dimensions. Each dimension will be briefly defined here, but detailed definitions of each of the categories can be found in the glossary (pg. 141). **Locus** refers to physical boundaries and features of the community, **distinctiveness** is a perception of community distinctiveness, **identification** denotes connection to community, **orientation** relates to personal involvement with the community, **quality of community life** is a perception of the quality of certain

aspects of community life and **community function** is a perception of the quality of community functions (Puddifoot 1995).

Clearly identity is more than just a social or a physical construct, it is a product of people interacting with each other and their physical environment in ways which allow the development of meaningful place and a stronger sense of belonging and connection to community. Puddifoot's definition and six dimensions of identity can be distilled into three categories: Place, Space and Community. Together these three represent a lens through which other literature on capitals can be focused to aid holistic landscape architecture approaches to rural community dilemmas.

The Essential Nature of Community Identity

Puddifoot's discussion of identity provides support for the Flora's notion that community identity is an important, even necessary component of social capital and that the lack of identity (and consequently weakened social capital) will have negative consequences on the social and physical fabric of the community. Community identity is a necessary and positive element in the ordering of our lives. In fact, the decay of community identity, in Puddifoot's estimation, leads to diminished prospects of leading rewarding and fulfilling lives. The anxieties which residents of declining rural communities experience stem from the notion that the community they knew, connected with and cherished is faced with change and decline. This "apparent decline or alteration to the identity of one's community has wide psychological implications" within the community and among its residents (Puddifoot 1995, 327). It is of tremendous importance,

therefore, that something be done within such communities so that identity can be preserved and enhanced (Puddifoot 1995).

Because identity represents the integration of both people and environment, it will be necessary in any attempt to enhance identity to address both the physical and the social environments which are a part of a community as well as the ways in which the people experience and interact with each other and their physical environment. Therefore, a detailed and comprehensive understanding of the people and their sense of place is critical to successful enhancement or creation of identity and place as is a deeper understanding of Space, Place and Community.

Space

Space is a relatively abstract notion consisting of the physical containers through which we move and in which we live our daily lives. It can be defined by readily perceptible physical elements (structures, vegetation, and infrastructure) or less-readily perceptible boundaries such as political boundaries and watersheds (Tuan 1979). Though much of Space is to be found within the natural environment, the spaces through which we move on a daily basis and the way in which we move through them is largely a product of human creation. Though much of our known and experienced space is of human creation, it is still located within a specific natural environment and is dependent upon that environment. Therefore, Space is locational and in some ways makes evident both human and natural processes. As Space consists of the pathways we use as we move throughout our daily lives, accommodating movement is a goal contained within the

realm of Space (Tuan 1979, Sack 1997). Because we must move through it, Space is experienced primarily through the “possibilities and limitations of our [physical] senses” (Tuan 1979, 399).

Space strongly relates to Puddifoot’s dimensions of locus and distinctiveness. Some examples include the built surroundings of the community, such as the boundaries of the community and the location of a community “center.” Also included are the quality and types of architecture, the quality, types and dimensions of community infrastructure, and the types and locations of activity spaces within the community. In addition, the elements comprising the natural environment are also within the Space category. These include the geomorphology of the place, its natural history, geology, soils, and topography. Hydrology, including the local climate (annual precipitation) and natural drainage patterns are also important elements of Space. Finally, the biology of the environment, such as native vegetation and wildlife species is another of the important elements of Space (Tuan 1977, Tuan 1979, Sack 1997). This is simply a listing of what types of elements comprise Space, they are not meant to be an exhaustive or all-inclusive list.

Place

If Space is the container in which we live our lives, Place is created as people experience and interact with Space (Tuan 1977, Tuan 1979, Relph 1976). Place is not found as one moves through space, for movement is a part of Space itself. Instead, Place is made evident as we pause and reflect. Place is created during the pauses, when we interact with spaces in a multitude of ways (Tuan 1977). The term “sense of place” is often used

when speaking about the qualities unique to a place; however that is somewhat of a misnomer. “A place may be said to have ‘spirit’ or ‘personality’, but only human beings can have a sense of place. People demonstrate their sense of place when they apply their moral and aesthetic discernment to sites and locations” (Tuan 1979, 410).

As Space was locational, Place cannot be “just the ‘where’ of something; it is the location plus everything else that occupies those locations seen as an integrated and meaningful phenomenon” (Relph 1976, 3). Additionally, “location itself is not enough to create a sense of place. It emerges from involvement between people, and between people and place” (Pretty 2003, 4). Place is therefore a construct of Space and is created by and through the experiences of people as they pause within Space. It is in this experience or interaction with and through spatial elements that identity is created, maintained and enhanced. “Place can be understood as a unit of environmental experience, a convergence of cognitions, affect and behaviors of the people who are experiencing them” (Pretty 2003, 3-4). It is important to note the usage of the words “cognition” and “affect” in this last statement. The mental or cognitive interaction which occurs as a driver of developing a sense of place within people is a very important part of the entire process of place-making. In a similar way, the emotional or affective interaction that a person has with Space will lead to a much stronger bond with Place than merely a physical interaction with Space could ever facilitate.

Because a strong sense of place includes physical, mental and affective (or emotional) experience with Space, identity is a very personal phenomenon. Place is

necessarily an individual journey and adventure – it cannot just be handed to someone, although provisions can be made which facilitate one’s personal creation of place. This means that “there are as many identities of place as there are people” (Relph 1976, 45). Therefore, in order to create a powerful community identity, it is important that each of these very individual and personal identities become woven together into a larger common identity. “[I]t is not just the identity of a place that is important, but also the identity that a person or a group has *with* that place...” (emphasis in original) (Relph 1976, 45).

As alluded to earlier, a sense of place is demonstrated when people apply their “aesthetic discernment to sites and locations” (Tuan 1979, 410). Within the realm of landscape architecture theory, Elizabeth Meyer has spoken of the landscape architect’s opportunity to create Place from the perspective of beauty or appearance, a form of aesthetic discernment. She writes almost exclusively of urban environments (further evidence of the disconnect between urban and rural design), however, the comments and conclusions she draws are easily transferred. Meyer draws upon the theories and work of Frederick Law Olmsted and others who support the theory that landscapes are both environments (fitting into the Space category) and experiences (fitting into the Place category). Her thesis is that aesthetic experience can

lead to recognition, empathy, love, respect and care for the environment (a rather powerful affective experience). Extrapolated and transferred into the next category, the affective results of this aesthetic experience can lead to recognition, empathy, love, respect and care for Community.

Place also relates strongly to two of Puddifoot’s dimensions of identity: identification and orientation. Examples of both the experiences and interactions which enable Place creation include both physical and non-physical interaction. A person’s feeling of comfort and safety while in a space and the aesthetic experience while within the space are important physical interactions a person can have within Space. Activities which facilitate opportunities for social interactions among community residents are also a very important part of Place-making as they provide a tremendous opportunity for residents to develop the affective feelings of belonging and ownership that should be a part of a strong sense of place. Finally, the cognitive/mental experiences of people as they interact with Spaces are a powerful part of personal meaning and sense of Place. These experiences allow an understanding of the processes which underlie natural, social and economic phenomena. As understanding of landscape deepens, so will a sense of ownership and belonging to the Place.

Community

Community relates to Puddifoot's dimensions of quality of community life and community function which are directly influenced by Space and Place. Community can be increased in ways that are not so directly related to Space and Place. These methods of increased Community occur as all the Social Capitals are enhanced through the design process. As community residents interact together in the design process and contribute to design, phasing, fundraising, and/or leadership decisions, bonding social capital is increased as well as political capital. Additionally, as residents learn about the value of different aspects of the design, for instance stormwater management practices, their human capital increases. Bridging social capital increases as residents work with members of design/consultant teams and members of governmental bodies/agencies. In addition, as participants come into contact with others they are able to communicate their story about the creation and importance of their Place, further developing the bridging social capital of the community.

The very definitions of Place and Community require residents be involved physically, mentally and emotionally in the creation of their landscape, and suggest that people, through their interactions with each other and their landscape are the true agents of place. Since such interaction is essential to creating powerful Place, the framework and the products emanating from it must be legible and accessible to each resident of the community and facilitate or foster positive experiences and interactions. Therefore, each resident must be able to identify with the community and be able to connect in meaningful ways if they are to perceive place. Design concepts

developed with or informed by community residents are crucial to developing bonding and bridging social capitals as well as effective place facilitation.

Connections Summary

While the social systems in the landscape called Winona have through time illustrated vibrancy, there are real concerns about the future given local, national and global statistics on rural population and economic decline. The bounty of vast fertile land, generally favorable climate for grain production, available water and connections to transportation networks have maintained Winona thus far and illuminate elements of identity (Place, Space and Community) and community capitals. How can an understanding of Place, Space, and Community characteristics of identity in Winona inform a holistic landscape solution which mitigates the stormwater problem and more importantly, develops social capital, leading to economic and population stability, or growth?





Theoretical Framework

03

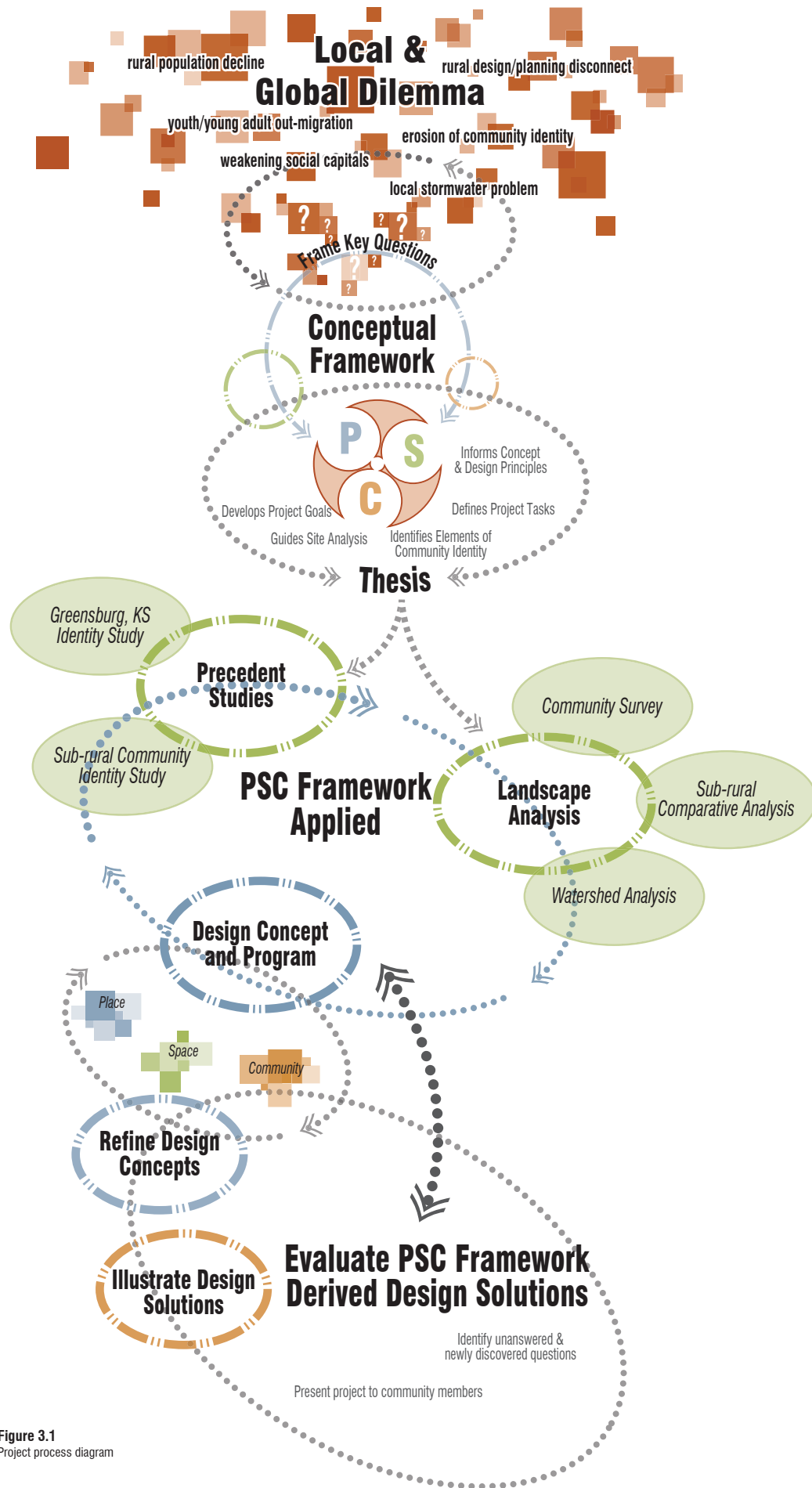


Figure 3.1
Project process diagram

Framework: Place, Space and Community

Figure 3.1 diagrams the process undertaken to discover and create solutions for the landscape called Winona that resonate deep rooted identity, build community and afford opportunities for place making by residents and visitors. As illustrated, the PSC Framework (immediately following the dilemma in diagram) serves as the way to synthesize a number of diverse concepts and ideas from multiple academic and applied disciplines into a common theory. The theory guides landscape investigation and ultimately informs the landscape architectural design to enhance community identity, and in this case specifically for Winona. The framework organizes the study, analysis and synthesis, and directly informs the design of the community.

The PSC framework directs and informs all aspects of the project from the initial landscape inventory and precedent studies to the analysis and synthesis and design conceptualization stages. As such, the framework necessarily serves both a wide-scale academic and project defining role, as well as a very place-specific role, assisting individual residents in understanding the project and their part in it. The wide-scale academic role is manifested in the definition of the framework elements themselves—Place, Space and Community. These elements, distilled from social sciences literature, provide the structure and reasoning for detailed landscape analysis and design and elements of the community survey. The successful creation of identity in Winona, or any other rural community is directly tied to understanding the community's distinct features and capitals.

To inform and validate design solutions aimed at enhancing identity, creating place and technically solving

Winona's dilemma requires an extensive literature review spanning multiple disciplines and includes: local/rural documentation and historical accounts, sociology/psychology, humanistic/environmental geography, and landscape architecture/design theory. Figure 3.2, the Broad Literature Map, illustrates key literature areas and works used to formulate research methods and develop the framework for approaching this type of project. Figure 3.3 synthesizes the dimensions of identity discovered in the literature which led to the development of the PSC Framework. Specific connections between individual works and disciplines and the ideas therein are the basis upon which the theoretical framework has been created. The ideas extracted from sociological literature provide the connection between the issues and dilemmas facing sub-rural communities. These concepts, when implemented provide the greatest opportunities to create sustainable community change through time. The sociological and psychological concepts of community and identity are focused and clarified by the fields of humanistic geography and landscape architecture. The literature in these two fields helps to clarify exactly how these social capital and identity enhancements might be implemented and what they might look like on the ground.

As was introduced in the Connections chapter prior, the greatest effect in enhancing rural community can be realized by improving community capitals and specifically the identified Social Capitals (see pg. 23). The Community Capitals Framework represents the departure point for thinking about the future of sub-rural communities. The detailed literature map in Figure 3.3 illustrates the three categories within the PSC framework. These three elements have a certain amount of interdependence



Figure 3.2
Literature Map - Overview

and overlap. However, when considering the potential influence of design, the overlap between Community, Place and Space is considerably more direct. Design has a potential to influence community identity on two different levels. Obviously, the products of design (spatial/landscape elements, types, organization, orientation, distinctiveness, etc.) directly influence identity in both the Space and Place categories of the framework. The second, less obvious level involves the process of design where residents involved in the process connect with each other, governments/agencies, designers and others, directly influencing identity at the Community level.

As documented in the social science literature, community is developed and strengthened as the Social Capitals (social, human, cultural and political) of the community are enhanced. (refer to Figure 2.21, pg. 23). The development of the Social Capitals is directly influenced by and through people's interactions within Space which also foster their perceptions of Place. Space, and the possible experiences afforded in it, foster Place and offer different opportunities for people to enhance and develop their Social Capitals. The varied spatial qualities and characteristics of Space, and the different types and arrangement of programmatic elements within Space,

encourage or discourage opportunities for Place-making, and thus for the development of Social Capitals. For example, if a collection of spatial elements act simply as a corridor facilitating human movement and do not provide a well-placed bench or space to encourage a conversation or pause for reflection which Place-making requires, an opportunity to increase Social Capitals is missed. Accommodating different types of interaction among people within a creative and beautiful Space increases the likelihood of Social Capitals growth.

The PSC Framework aids in the filtering of historic information and the formation of questions for surveying community members and detailed site inventory and analysis. The framework also guides precedent studies, the formation of identity concepts, program elements and design alternatives which can build Place, Space and Community. The framework also serves as the filter by which design solutions are evaluated. The next section illustrates the PSC Framework applied in the development and delivery of the community survey, the precedent studies and the detailed inventory and analysis that will lead to a master plan for Winona.

Legend



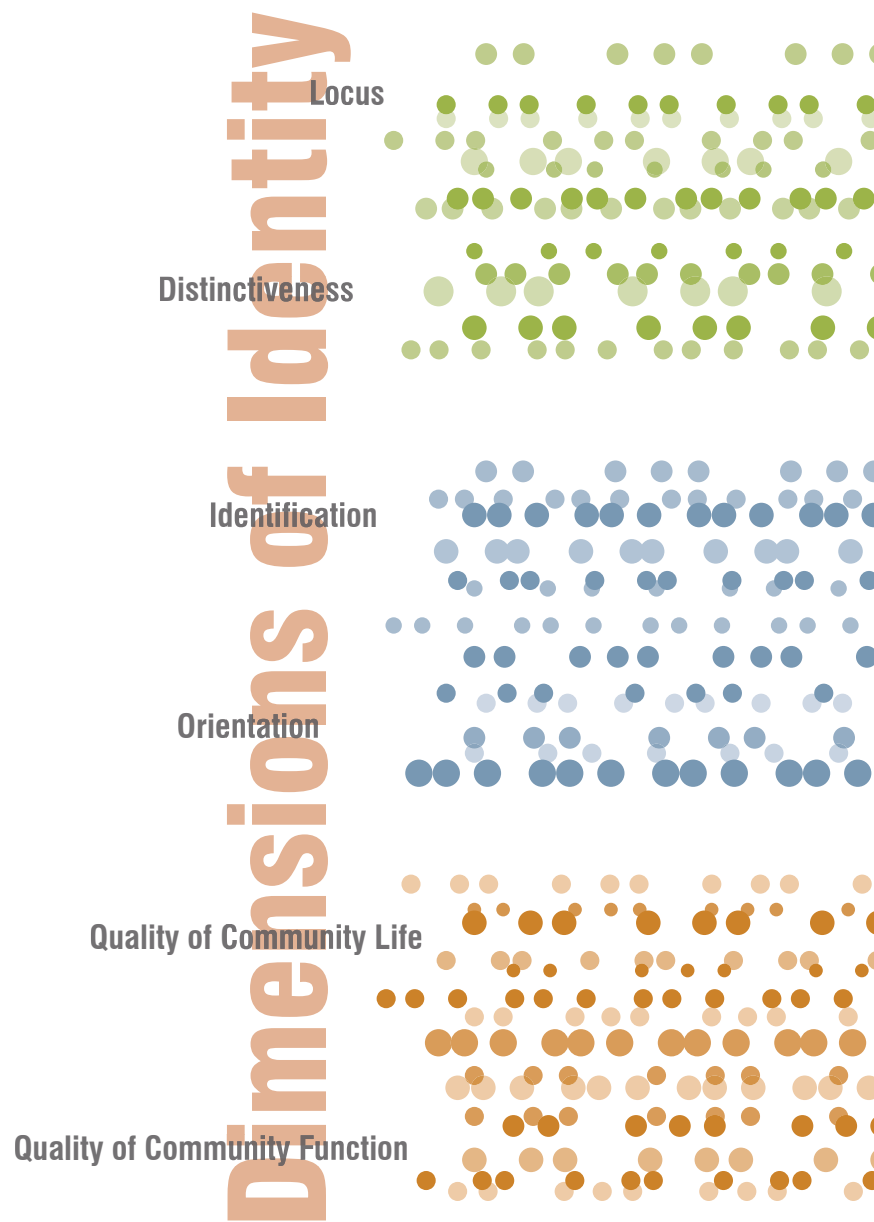
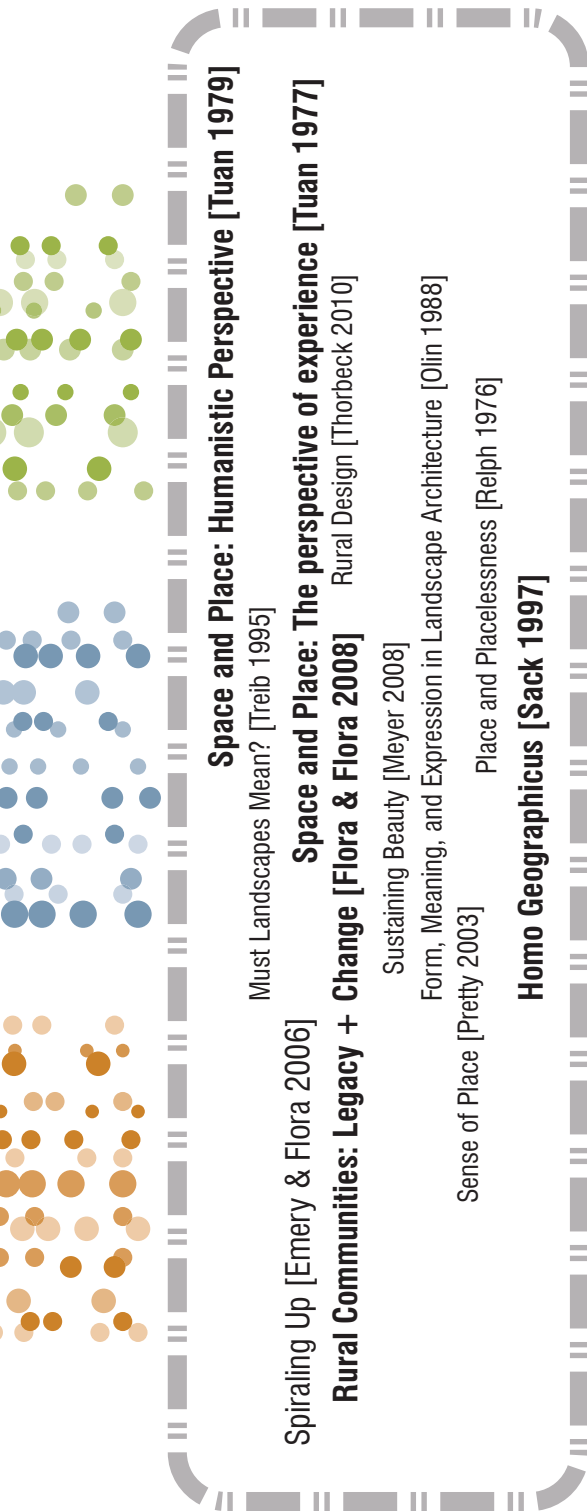


Figure 3.3
Literature Map - Detailed Literature Map



Space and Place: Humanistic Perspective [Tuan 1979]

Must Landscapes Mean? [Treib 1995]

Spiraling Up [Emery & Flora 2006]

Space and Place: The perspective of experience [Tuan 1977]

Rural Communities: Legacy + Change [Flora & Flora 2008] Rural Design [Thorbeck 2010]

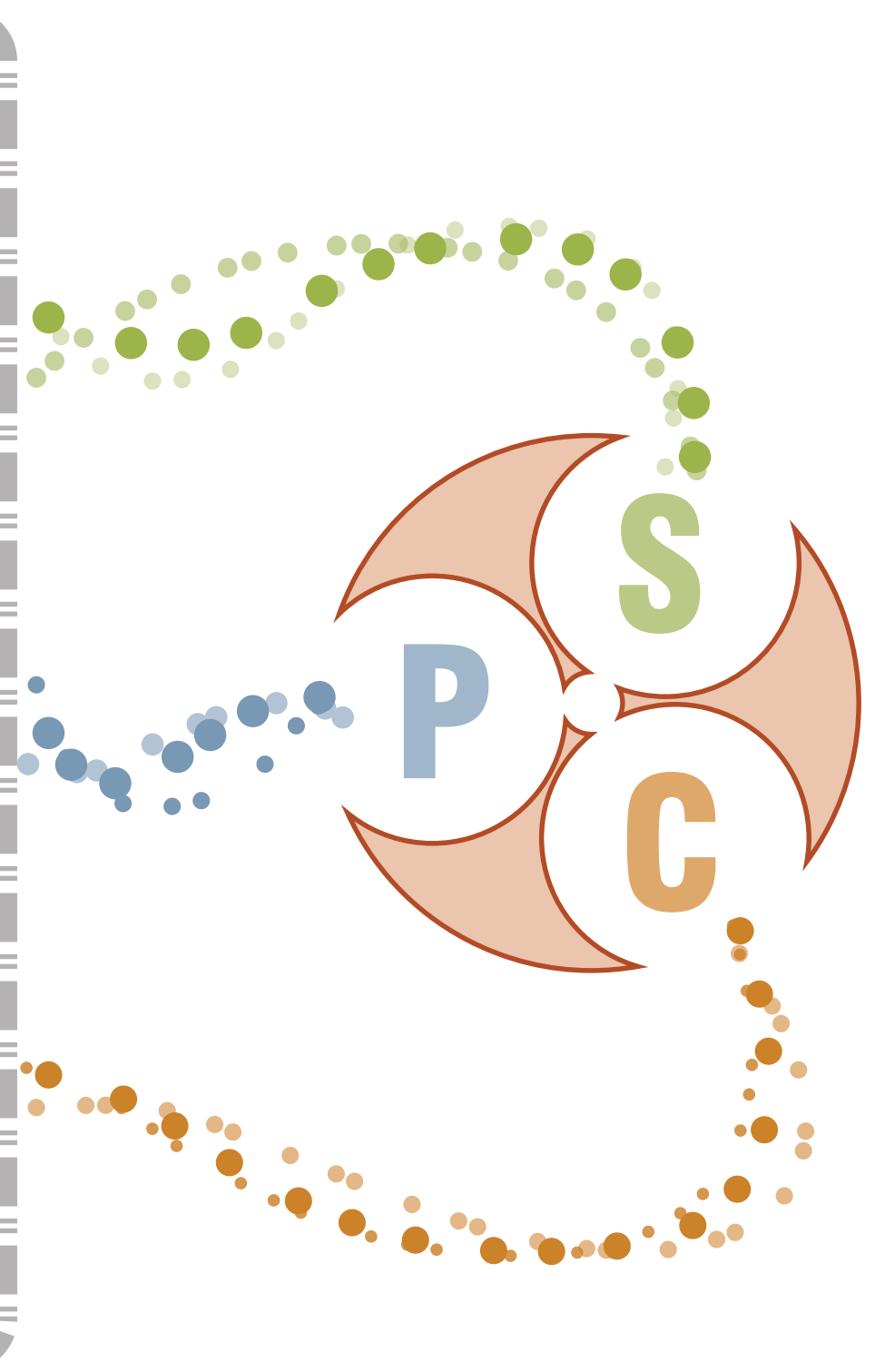
Sustaining Beauty [Meyer 2008]

Form, Meaning, and Expression in Landscape Architecture [Olin 1988]

Sense of Place [Pretty 2003]

Place and Placelessness [Relph 1976]

Homo Geographicus [Sack 1997]



The image features a solid blue background with a large, abstract graphic composed of several overlapping circles. The circles are arranged in a way that they intersect at a central point, creating a complex, organic shape. The lines of the circles are a lighter shade of blue than the background. In the lower right quadrant, the word "Analysis" is written in a bold, white, sans-serif font, slanted upwards. Below it, the number "04" is written in a large, light blue, sans-serif font, also slanted upwards.

Analysis

04

“I like small towns, and Winona is the best small town EVER!”

**Resident response from survey of
community identity**

Analysis: Determining Winona's Community Capitals and Identity

The qualities and characteristics unique to rural communities are a significant attraction for those who live there and for many others seeking a rural lifestyle. The small size of rural communities often equates to peaceful and safe feelings enforced with clean air and water, virtually no traffic, low noise, low crime, low density and, in Winona's case, a great school. As valuable as the rural environment is to the community, small populations can also be a double-edged sword as previous connections to economy indicate. Determining the qualities and characteristics of Winona which lead to identity and subsequent Community Capitals growth requires inquiry focused on elements of identity and Community Capitals, thus the need for the PSC Framework.

The goal of the PSC-driven analysis is to define community identity and direct design-decision making to achieve enhanced identity and grow Community Capitals. All aspects of the analysis were conceived and planned through the lens of the PSC framework with the intent of addressing Place, Space and Community and the interactions and overlaps between them. The methods used to determine existing elements of Place, Space and Community as well as determine knowledge of the stormwater issue, and willingness to be a part of the solution, include: a community survey, precedent study of a rural town rebuilding with a new identity, precedent inventory studies of similar sub-rural towns around Winona, and a detailed inventory and analysis of Winona's historic and existing conditions.

Survey: Winonan's Opinions of Place, Space and Community

Literature makes it clear that people interacting in Space and with others perceive Place and Community. The goal of the survey is to engage members of the Winona community to determine distinctive elements of Place, Space and Community. The survey, included in Appendix C (page 153), was conducted as an online (digital) questionnaire. Emails were sent to community members high school age (14) and above with a link to the online survey. The survey was approved by Kansas State University Institutional Review Board prior to delivery. A total of 48 responded to the survey with an average response time of 22 minutes and 30 seconds (Full survey results are included in Appendix C). Respondents were mainly citizens of Winona (43), but included part-time Winona residents who also live in Denver, Oakley, and Hays (5 total). Given the estimated population of Winona at 186, and removing those not full-time citizens of Winona (5), equals a twenty-three percent (23%) response rate. Survey respondents spanned all ages from 14 to 75, were 48% male and 52% female, and included a broad range of occupations from students, to farmers, to bankers, even an ultrasonographer.

Nearly 25% of survey respondents cited the quality of rural life as a main reason for choosing to live in Winona and nearly 75% felt they belonged to Winona because of the social connections afforded them by a small town lifestyle (see actual responses in Appendix C). Winona's resident's appreciation of their environment is possibly the greatest opportunity, for it is within these relationships that the realm of place emerges.

Currently, however, many of the interactions

which could create a sense of place occur outside the community as evidenced by responses to where and what were resident's favorite and beautiful places. Responses indicate more personal connection to areas surrounding Winona (in some cases even other communities were considered favorite places) rather than within the city (see Figures 4.1 and 4.2). While initially this seems a rather distressing attitude among residents, it represents a grand opportunity to achieve a tremendous level of Place and Community with proposed design solutions. These results illuminate a key aspect of the dilemma Winona faces and raise the question of what can and should be done to help residents create beautiful places within the city which, over time will develop into meaningful, favorite places.

In the survey, three follow-up questions hint at ways to successfully realize the potentials and capitalize on the great opportunities to secure Winona's future. First, why do the residents live there? Second, why do the residents feel they belong to Winona? Third, what do they feel is special about Winona? In several instances, responses to the three questions were very similar (see Figures 4.3, 4.4 and 4.5), further illuminating questions about what can and should be done to enhance the effectiveness of those qualities and/or characteristics. Historical connections to the place are the primary reason for belonging to, and residing within the community. Therefore, planning and providing for a legacy which can develop that historical connection across all generations must be a primary goal in Winona's future plan.

Opportunities to enhance the economic potential of the community must be taken advantage of in order to keep and attract residents and increase their sense of

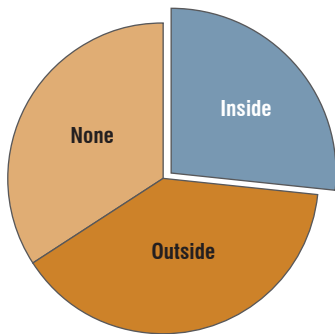


Figure 4.1
Survey results: Where are residents' beautiful places within Winona?

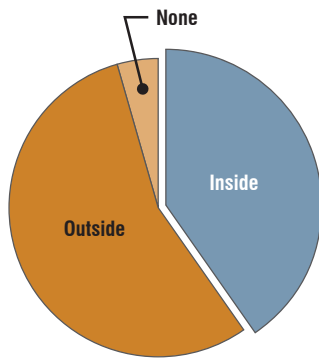


Figure 4.2
Survey results: Where are residents' favorite places within Winona?

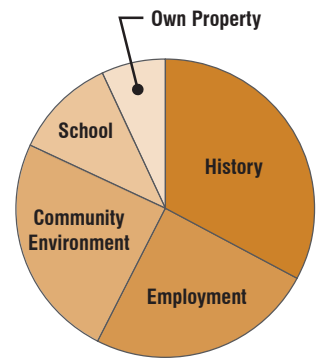


Figure 4.3
Survey results: Why do residents choose to live in Winona?

Why do you live in Winona?

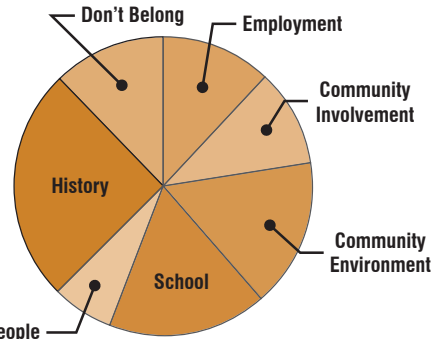


Figure 4.4
Survey results: Why do residents feel they belong or don't belong to Winona?

Reasons for Belonging

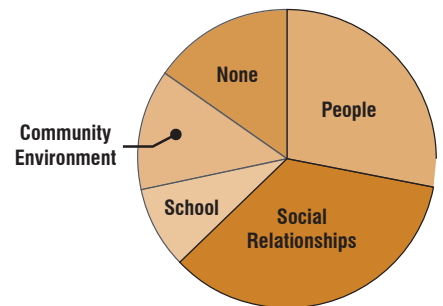


Figure 4.5
Survey results: What is special about Winona?

What is Special about Winona?

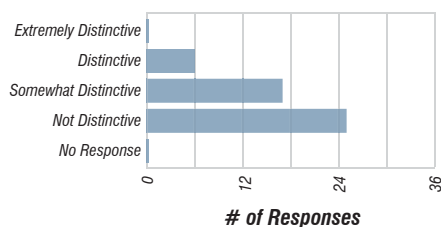


Figure 4.6
Survey results: Distinctiveness of Winona's built features

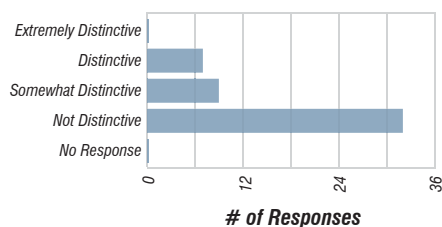


Figure 4.7
Survey results: Distinctiveness of Winona's natural features

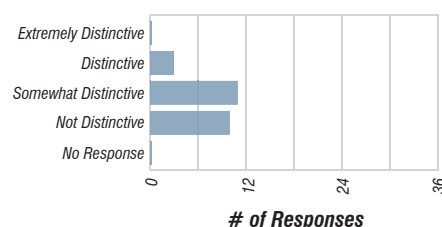


Figure 4.8
Survey results: Distinctiveness of Winona's social features

belonging. Similarly important are both the physical and social environments within and surrounding the city. It is interesting to note that respondents indicated they live in Winona because of the quality of the **physical/natural** environment (which includes infrastructure, a sense of safety, the school, and owning property.) They belong to the community because of their connections to and quality of the **social** environment (including community involvement, the school and familiarity with other people.)

Three categories of focus appear in these responses. The interactions between the social, economic and environmental aspects of Winona represent the grand opportunity to inform and direct Winona's future. It is overwhelmingly evident, however, that the social dimension is much more important to the community than the economic or environmental. Though more important, the economic and environmental issues are still necessary and, in fact support and enrich the social aspects of the community. As suggested by the community itself, and as borne out by research and study to be discussed in the following chapter, a central focus on enhancing the social characteristics of the city will provide the greatest ability to realize potential opportunities and will also significantly enhance the economic and environmental characteristics of the place. This mutually supporting and self-enhancing triad, implemented hand in hand with stormwater solutions, will provide the basis for the design of Winona's future.

Winona's residents generally do not feel that the community is more distinct than its sub-rural neighbors. However, the residents do feel that Winona has some built (represented in Figure 4.6), natural (Figure 4.7) and especially social (Figure 4.8) elements which are

unique to the community. Among the built components of the community, residents overwhelmingly answered that Winona's architecture is the most distinguishing characteristic of the community (see Figure 4.9). Responses to this question, and similar questions, were examined using the online tool Wordle, which analyzed the range of responses, counting the recurrence of each word. The result is a graphic which visually demonstrates the range of responses and the hierarchical importance of each response in relation to all others. (see Figure 4.9) Larger words represent a greater number of responses, meaning a stronger sense of distinctiveness in those elements.

The results of the Wordle analysis are also represented spatially in Figure 4.10. Each three dimensional diagram is symbolized to show the relative importance of elements within the community. They are not intended to represent a three dimensional model of proposed or existing buildings. Each shape simply represents the value given it in resident responses to survey questions. Thus, taller shapes represent higher value than shorter shapes. Figure 4.10 illustrates the importance of architecture in creating a sense of distinctiveness. The relationships between the architecture of main street, the water tower, grain elevators, school and the current city park must be energized and strengthened in order to capitalize on the distinctiveness already offered by these elements.

A large portion of residents did not feel Winona contains many distinctive natural features (see Figure 4.7). However, when considering the natural features of the community, more residents felt features **outside** the community offered more distinctiveness than those within the community (Figures 4.11 and 4.12). Of the

station

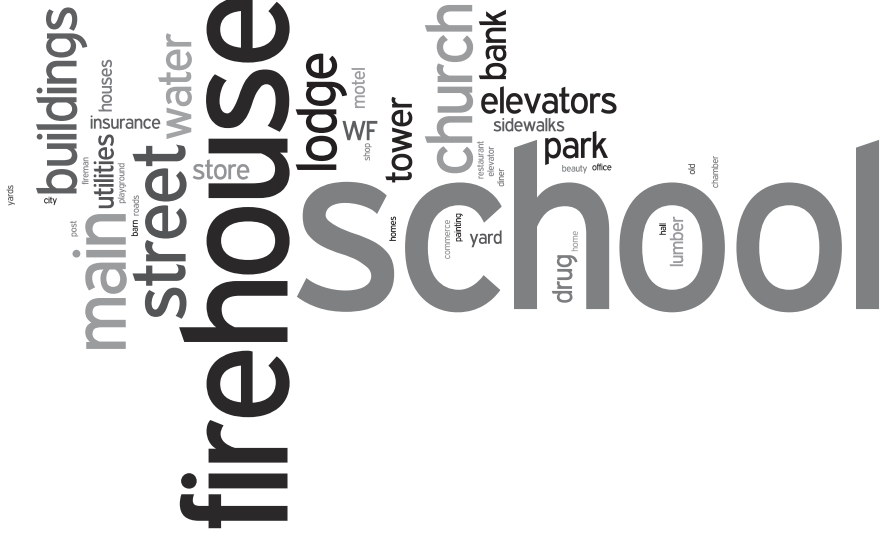


Figure 4.9
Survey results: Winona's most distinctive built features - Wordle analysis

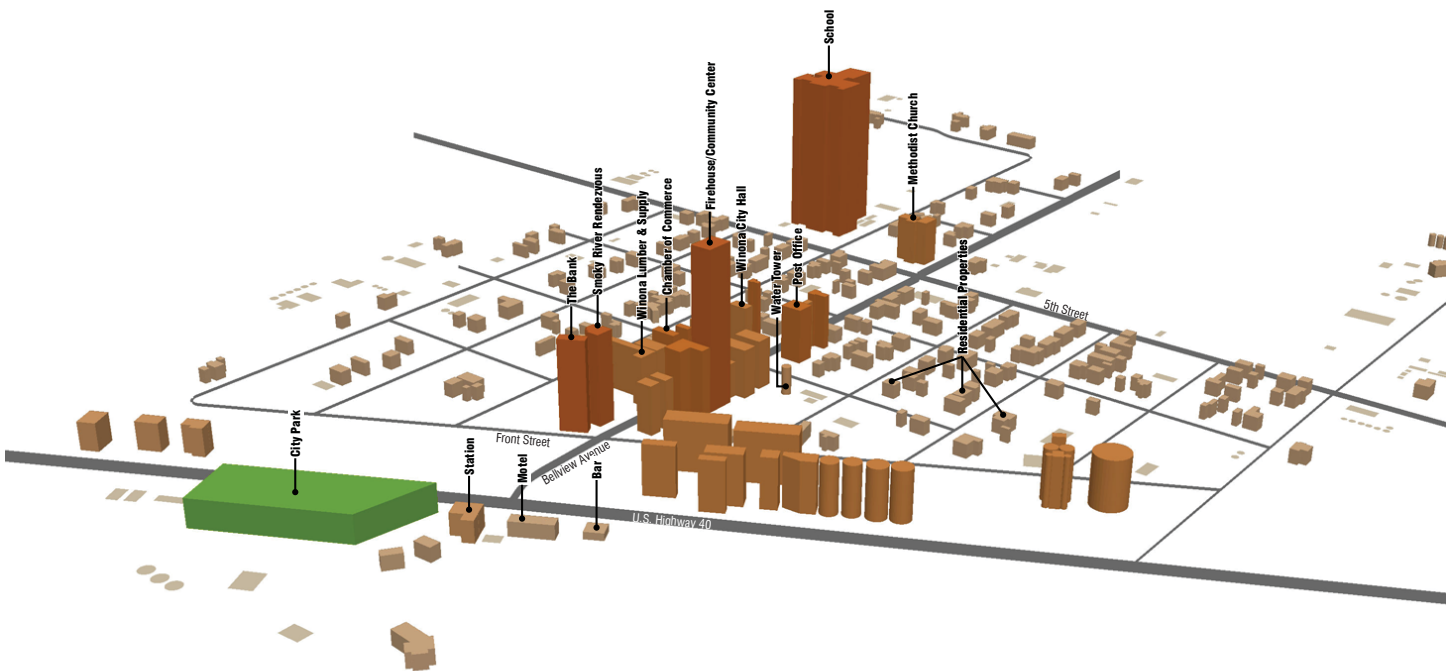


Figure 4.10
Survey results: Winona's distinctive built features
3D representation of feature importance

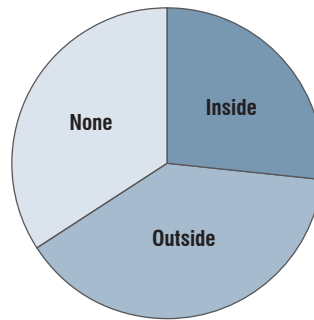
Legend

-  Greatest Distinctiveness
-  Least Distinctiveness
-  Roads and Streets
-  City Park



Figure 4.11
Survey results: Winona's most distinctive natural features - Wordle analysis

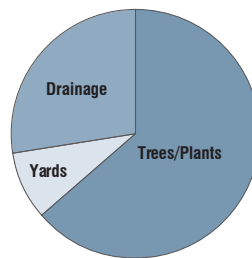
responses pertaining to within the city, the presence and type of vegetation offered the most distinction. Outside the boundaries of the city, the flatness of the surrounding farm lands was the most distinctive element noted by residents. (see Figures 4.13 and 4.14). These results suggest the value in increasing the amount of vegetation within the community, particularly trees. They also suggest an opportunity to reinforce and capitalize on the value of both the flat farmlands and the more rugged, rolling badlands of the Smoky Hill River valley. Implementing landform within the community and providing opportunities for elevated views of the surrounding flat countryside should become one of the goals of the design.



Distinctive natural features

Figure 4.12
Survey results: Winona's most distinctive natural features

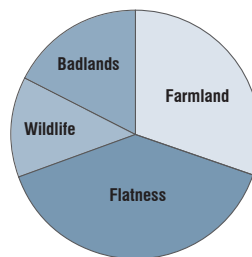
Winona's residents agreed that of all three types of elements, the social elements of the city provide more of a unique identity to the city. Figure 4.15 breaks down the types of distinctive social experiences which occur in Winona. The locations in which these activities occur are shown in Figure 4.16 and Figure 4.17. This analysis further solidifies the conclusion that relationships between certain elements and locations within the city should be reinforced in order to enhance the distinctiveness of the community and increase opportunities for Place-creation and Community-building.



Distinctive natural features - Inside

Figure 4.13
Survey results: Winona's most distinctive natural features - within Winona

In order to reinforce the abilities of Winona's residents to interact socially, the locations of concentrated community activity and types of those activities were determined from the survey of community identity. A feeling of civic center is important to the identity of communities. That central location should be a locus of activity and meaning for community residents, developing their social and emotional ties



Distinctive natural features - Outside

Figure 4.14
Survey results: Winona's most distinctive natural features - outside Winona

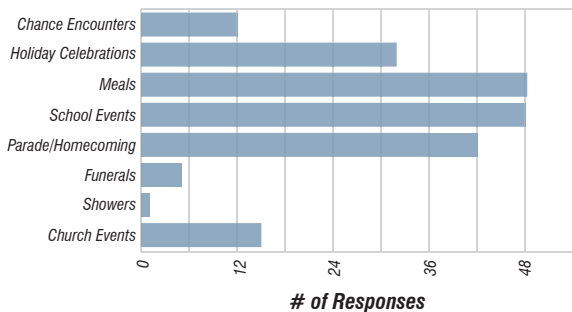


Figure 4.15
Survey results: Types of social activities in Winona

Figure 4.16
Survey results: Locations of Winona's social activities - Wordle diagram

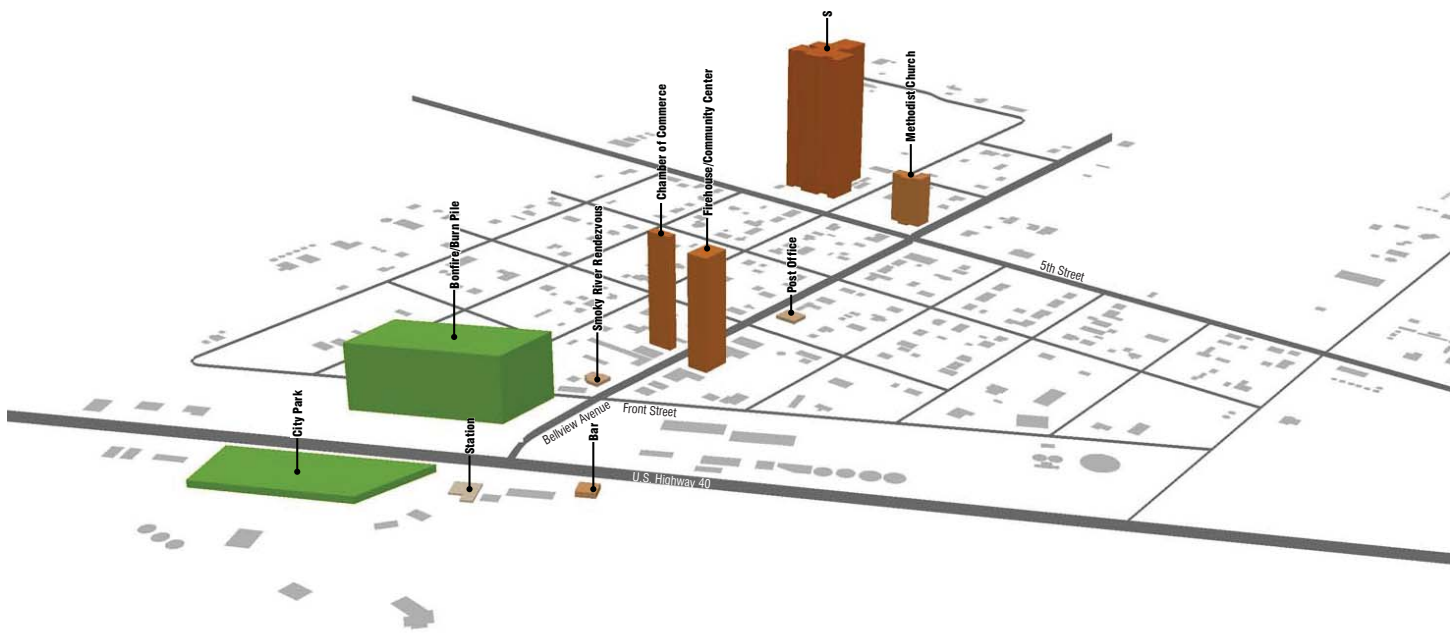
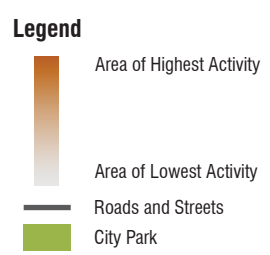


Figure 4.17
Survey results: Strength of social activities
3D representation of feature importance



to place. Instead of attempting to create a new center within the community, residents were surveyed in order to determine the location of the current center, or centers. Two centers emerged from the survey results, focused around the school and the area around the intersection of 3rd Street and Bellview Avenue (see Figures 4.18 and 4.20).

Because Place is so heavily dependent on community-scale interaction, it was necessary to determine in what social activities residents currently participate, in what activities they value or desire to participate, and in what locations these activities currently occur. The results of survey responses will be handled in the Place category in a similar manner to those in the Space category. Distinctive community activities occur primarily in the same locations which were the most distinctive in the Space category. Figure 4.16 and Figure 4.17 show that the school, church, bonfire and main street center location support the majority of distinctive social activities.

As seen in Figure 4.15, community meals, school activities and the activities associated with homecoming are among the most distinctive. When surveyed as to what types of new activities the residents would like to see in Winona, several interesting suggestions were given, as seen in Figure 4.19. Meals are still highly desired activities, but activities occurring in the park, activities which encourage youth participation and community movie nights are important to note. Also important are the introduction of businesses into the community and community clean-up days. Currently, the park is all but inaccessible to pedestrians because of its location on the south side of the railroad tracks and



Figure 4.18
Survey results: Strength of community center
Wordle diagram

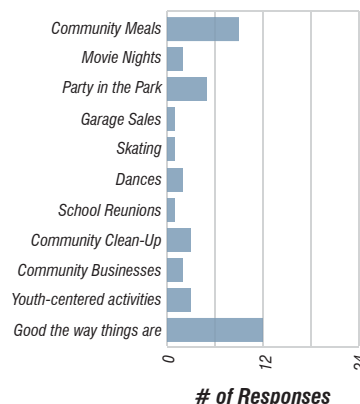


Figure 4.19
Survey results: Desired community activities

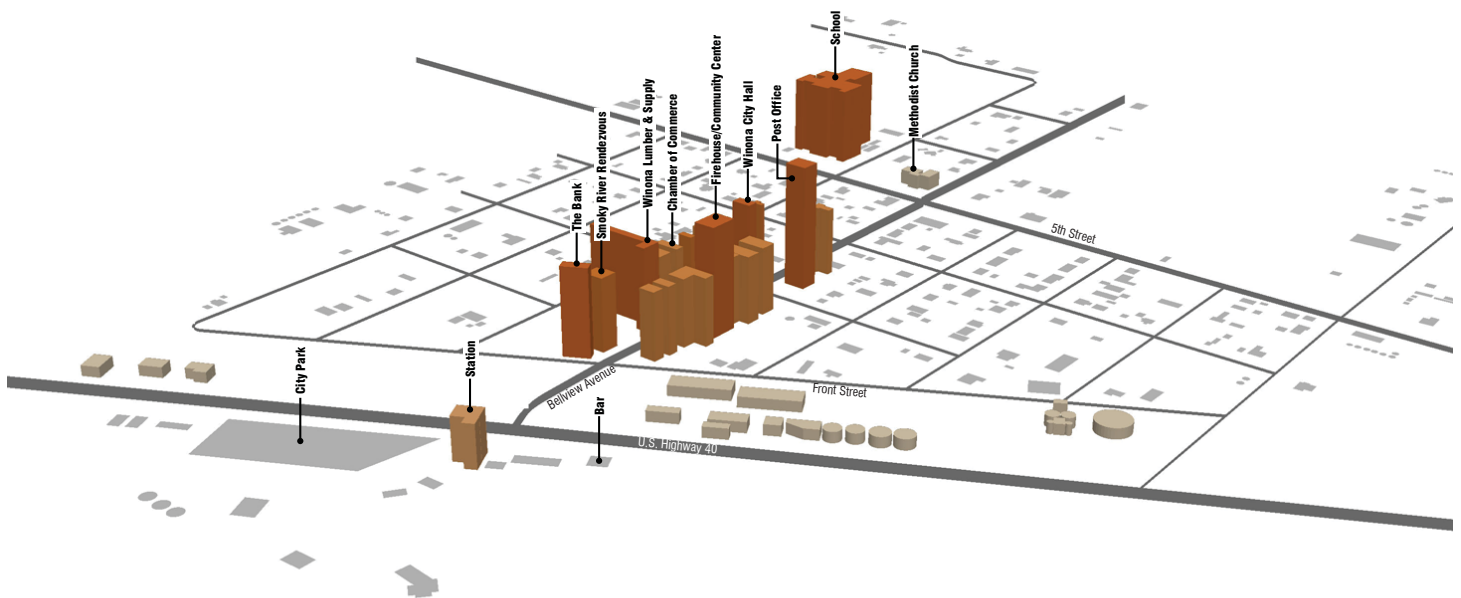


Figure 4.20
Survey results: Strength of community center
3D representation of feature importance

Legend

- Greatest sense of community center
- Least sense of community center
- Roads and Streets

Highway 40 (see Figure 4.19). Enabling access to this important resource will be a major goal of the design of Winona. In addition, because the young people are such a critical component of the future of rural communities, providing opportunities for youth to interact and develop a stronger sense of place is essential. Providing access to easily accessible park space within the community will provide opportunities for this all-important interaction.

Physical and social interaction are not the only necessary types of interaction which must occur in order to facilitate the creation of meaningful place within Winona’s residents. Emotional and cognitive (learning and education) interaction are also essential to this process. People must be able to attach themselves

to a place, to feel like they have ownership of it; that they belong to it and it to them. The residents must be able to create for themselves favorite places **within** the community. A majority of residents currently do not have a favorite place within Winona (see Figure 4.21). Of those who listed a favorite place, school and home were the top choices for places within town, while the majority of favorite places were in various places in the countryside. Some even were in neighboring communities. (see Figures 4.22, 4.23 and 4.24).

Beautiful places within the city are just as important for increasing emotional interaction with a place as favorite places, and actually may be a necessary precursor to the creation of favorite places. A larger percentage of

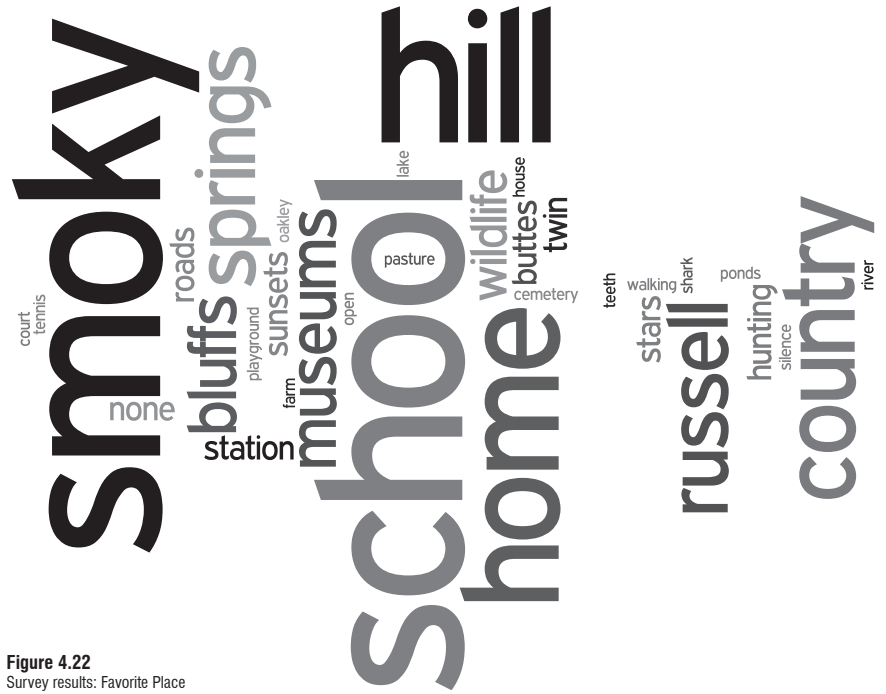


Figure 4.22
Survey results: Favorite Place
Wordle diagram

residents responded that they did not consider any places within Winona beautiful (see Figure 4.25). Within Winona, however, the park and areas with trees and vegetation were those considered most beautiful. Outside of Winona, the sky, the flat, open countryside surrounding the city and the rugged landscape of the Smoky Hill River valley were considered the most beautiful, see Figures 4.26-4.28).

Increasing the beauty of the community is a top priority in the design. Residents were surveyed as to what they would like to see accomplished in order to increase the beauty of the community. Figures 4.29 and 4.30 break down the resident's responses to this question. The majority of responses signal a desire to increase the amount of vegetation within the community. When specifically asked about how successful the introduction of more trees would be in enhancing identity, over 93 percent of respondents said that it would be at least somewhat successful, see Figure 4.31. A significant portion of respondents also indicated that improving the park would enhance the beauty of the community. Over 82 percent of respondents thought that improved park facilities would be at least somewhat successful at enhancing Winona's identity, see Figure 4.32. Improvements made along the main street and attracting business were also important elements of increased beauty. Figure 4.33 spatially shows where the greatest opportunities exist to enhance the beauty of Winona's built features only.

Several questions in the survey were posed, assessing the willingness of community residents to achieve high levels of participation in solving the stormwater problem. Nearly all residents responded that

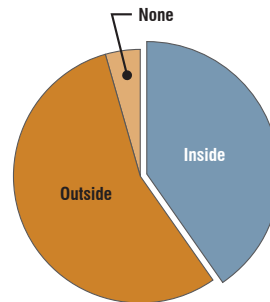


Figure 4.21
Survey results: Favorite Place

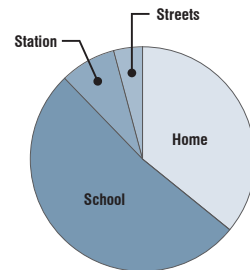


Figure 4.23
Survey results: Favorite Places - Inside

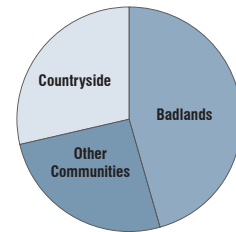


Figure 4.24
Survey results: Favorite Places - Outside

they would be willing to implement at least one type of stormwater management practice at their residence, see Figure 4.34. This dedication to improving the stormwater situation, as well as the aesthetic character of the community is a tremendous starting point from which a feeling of citizen ownership of Winona's future can grow. On a community-wide scale, most respondents stated they would be willing to donate up to \$1,000 in order

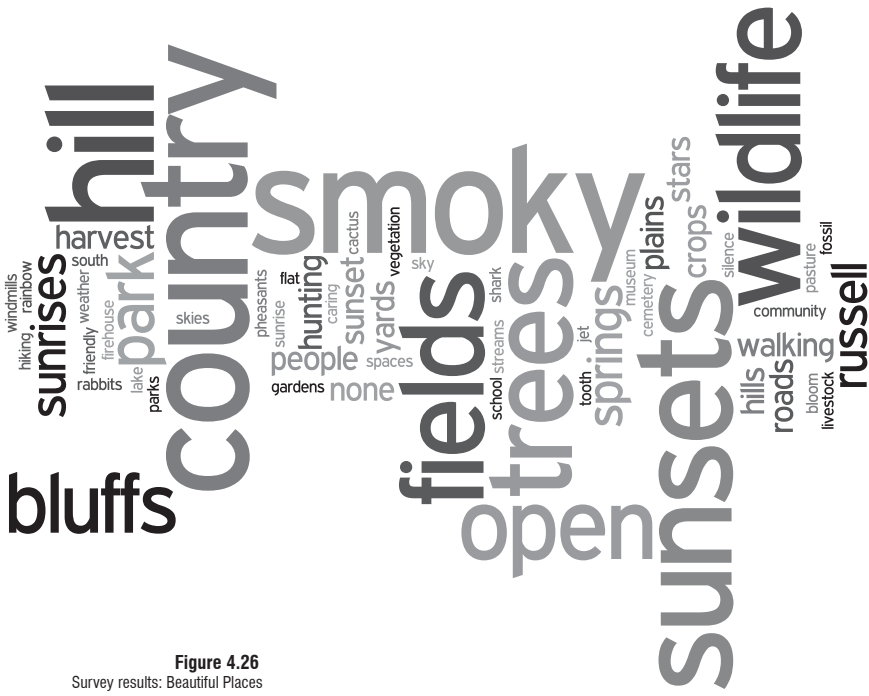


Figure 4.26
Survey results: Beautiful Places
Wordle diagram

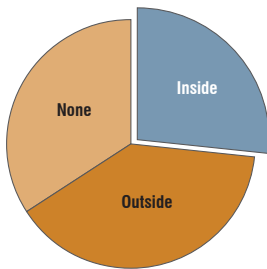


Figure 4.25
Survey results: Beautiful Places

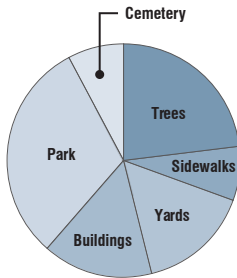


Figure 4.27
Survey results: Beautiful Places - Inside

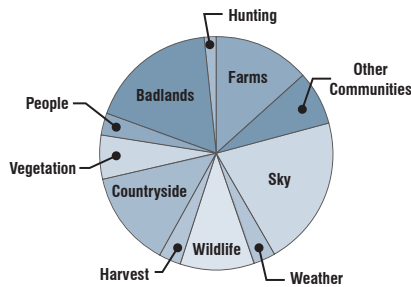


Figure 4.28
Survey results: Beautiful Places - Outside

to help fund the construction and maintenance of design elements, some would be willing to donate considerably more, see Figure 4.35. This could easily amount to nearly a quarter of a million dollars if all adults in the community were to donate a minimum of \$1,000. Residents were also asked how willing they would be to help in other ways. Figure 4.36 shows that many respondents would be willing to help in multiple ways, including donation of money, time and education efforts.

The citizens of Winona are primed for a project which is rooted in their history and responds to an identity born from that past, yet speaks to the future. Results of the survey offer great insights into elements of Place, Space and Community. To understand how these elements can be interwoven in a response to the stormwater management issue a precedent study of another rural town in Kansas was undertaken.



Figure 4.30
Survey results: Enhancing Community Beauty

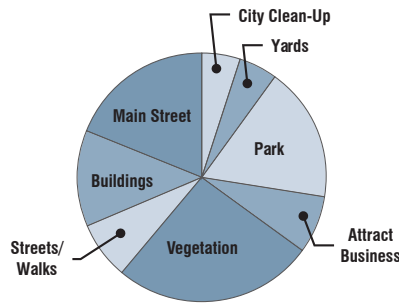
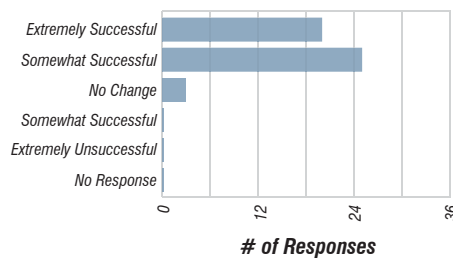
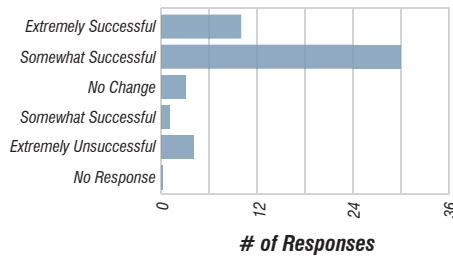


Figure 4.29
Survey results: Enhancing Community Beauty



Trees' Success at Enhancing Identity

Figure 4.31
Survey results: Trees' success at enhancing community identity



Park's Success at Enhancing Identity

Figure 4.32
Survey results: Park's success at enhancing community identity

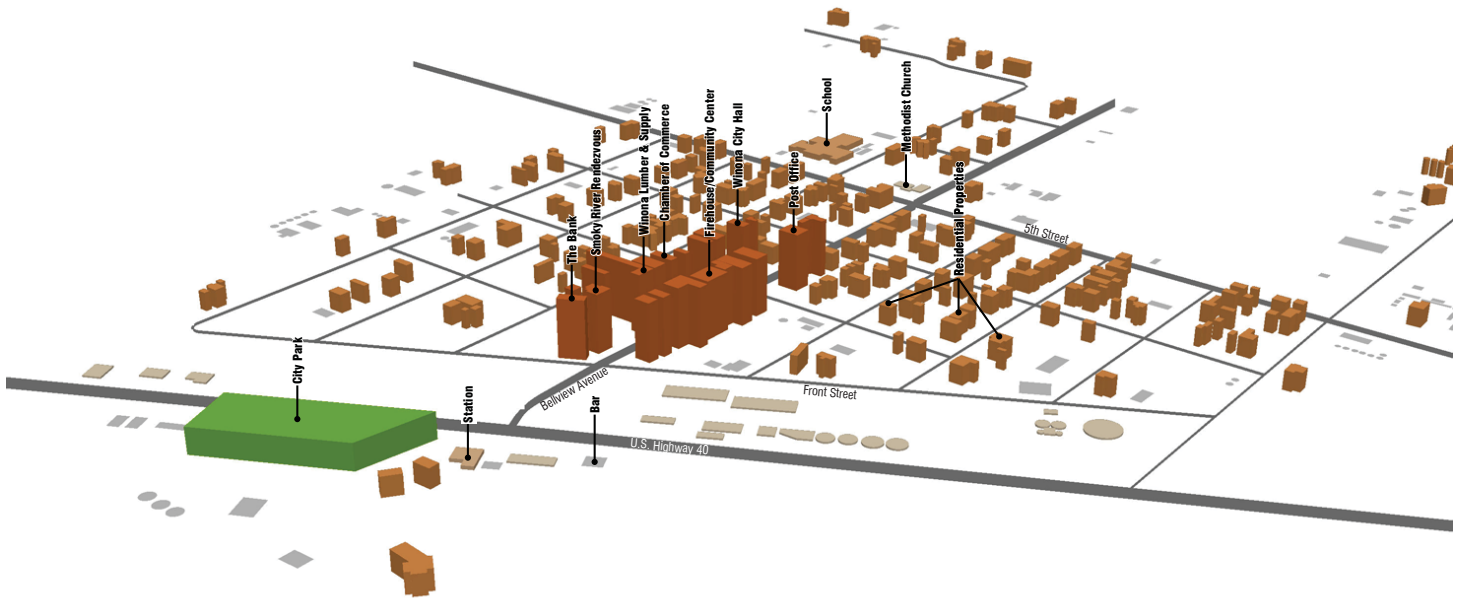


Figure 4.33
 Survey results: Enhancing Community Beauty
 3D representation of feature importance

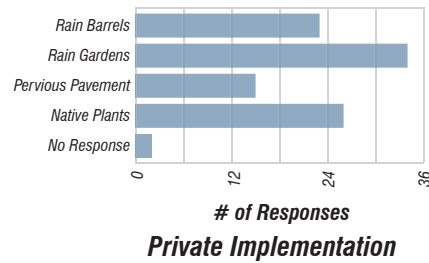


Figure 4.34
 Survey results: Willingness to implement
 stormwater management measures privately

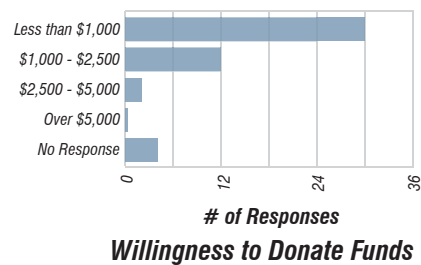


Figure 4.35
 Survey results: Willingness to donate funds for
 installation/maintenance of public BMPs

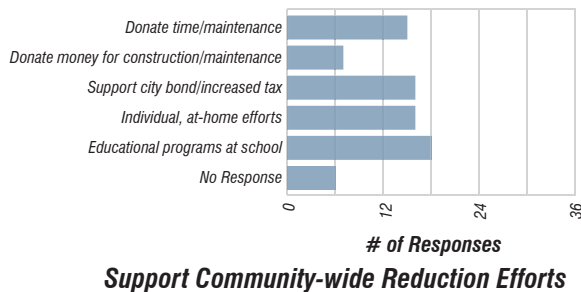


Figure 4.36
 Survey results: Willingness to donate/volunteer
 in other ways to support community-wide
 reductions in stormwater runoff

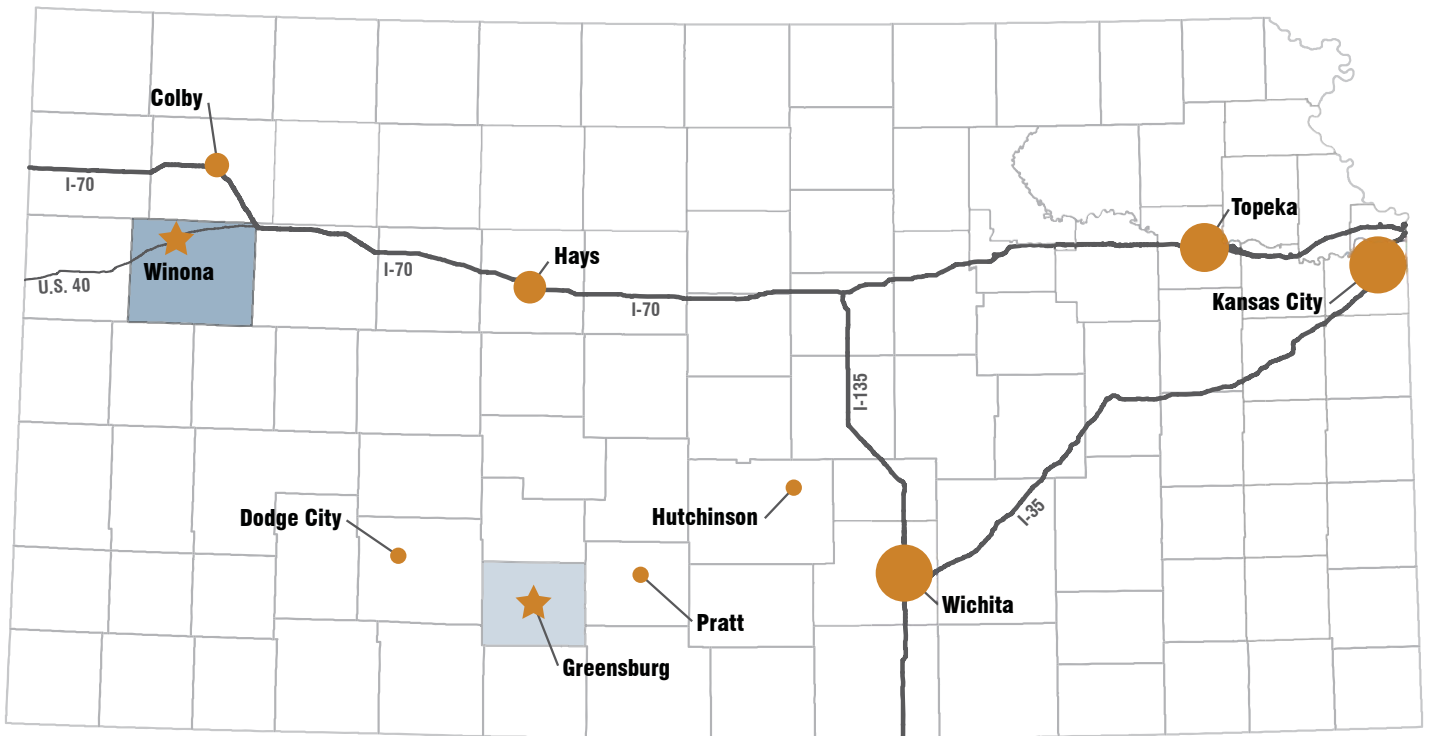


Figure 4.37
Context map of Kansas
Not to Scale



Precedent Study: Rural Identity Creation in Greensburg, KS

Greensburg is the county seat of Kiowa County, Kansas and, prior to 2007 was a town of nearly 1,400 people (Figure 4.36). Following a devastating tornado in 2007, the city has initiated a remarkable attempt to revitalize the community through design efforts aimed at enhancing community identity. Since the town hit its peak population of almost 2,000 in the 1960's, the population has declined by an average of nearly 2% per year (NPR 12/2007.) As in other rural locations, a significant portion of those leaving the community were young people. According to an article in Smithsonian, the school's enrollment had been nearly cut in half over recent decades. Since 1960 the economy has also been declining as large scale agribusiness replaced family farming operations, groundwater availability for irrigated agriculture was exhausted, and automation and efficiency replaced jobs in the gas and oil industry.

Despite population and geographical differences, there are many similarities between Winona and Greensburg. Both communities have a strong desire to revitalize themselves in an effort to ensure a legacy and future for the residents of each city. Winona currently faces an environmental dilemma which is particular to that location. Although much larger and more devastating in scale, Greensburg's engine for its revitalization efforts was the 2007 tornado which destroyed or severely damaged more than 90 percent of the town's buildings (Greensburg Master Plan). (Figures 4.38 and 4.39) As essentially a blank slate, post-tornado Greensburg was an ideal community in which to implement a grand experiment to revitalize a rural Kansas community. The

Figure 4.38

Downtown Greensburg prior to the tornado



Figure 4.39

Post-tornado Greensburg



role of design is central to the success of this experiment in Greensburg and will be of similar importance within Winona.

A thorough review of the current Greensburg master plan goals and objectives and proposed paths to achieve its goals was conducted to discover how their identity to become the "greenest city" is unfolding as they respond to their enormous environmental challenge. Specific design elements intended to achieve the city's goals were distilled from the master plan and a site visit. A literature review of current media and news articles was performed

in order to get a sense of the relative success of the community at achieving its goals, especially in the eyes of the residents of the community. Detailed commentary about the history of the community, the disaster, and the apparent success of the community to this point in meeting its goals is documented in Appendix D located on page 179. The following synthesis highlights how successful the designed environment is at enhancing the identity of the community when viewed through the PSC framework.

Greensburg's vision statement, "Blessed with a unique opportunity to create a strong community devoted to family, fostering business, working together for future generations" (Master plan, 11), along with the community's goals outlined in the master plan, suggest a strong desire to enhance identity by modifying the fabric of the community through components of the PSC framework proposed herein. Encouraging interaction, fostering a perception of Place, and strengthening Community are goals repeatedly developed in the master plan document. An examination of the elements already implemented in Greensburg relating to the Place and Community categories is valuable to Winona's attempts to enhance identity, create place and build community.

It is perhaps beyond argument that Greensburg now has a very distinctive physical identity, representing a strong emphasis on the Space category. The new main street, with its stormwater features, and the city's six LEED Platinum rated buildings (including the City Hall, School and Hospital (Figures 4.40, 4.41 and 4.42) provide an immediate iconic presence to this rural community. While definitely creating distinctive Space, the current manifestation of Greensburg may not support



Figure 4.40
Greensburg City Hall



Figure 4.41
Kiowa County Hospital



Figure 4.42
5.4.7 Arts Center



Figure 4.43
Main Street Panorama



Figure 4.44
Runoff storage cisterns at High School



Figure 4.45
Runoff storage cisterns at High School
Source: <http://www.bnim.com>

place-making as successfully. Many different design elements within public areas have the potential to help encourage interaction and create place, but some may fall short of fully capitalizing on that potential.

Some of the more successful implementations of Place include the building canopies along the main street (see Figure 4.43), the community-wide implementation of native vegetation (Figures 4.40 and 4.41), and the obvious use of cisterns to capture and reuse stormwater runoff (see Figures 4.44 and 4.45.) Canopies along the street, especially when combined with street trees, provide a significantly more pleasant pedestrian experience along the street, encouraging pedestrian use and increasing opportunities for interaction. Canopies and street trees also provide an economic benefit to the businesses which they front (Greensburg master plan). The community-wide use of native vegetation serves as a reminder to residents and visitors alike that this community is a special place which highly values its water and other natural resources. Cisterns give support to that reminder, but only when their presence and function are evident and easily understood.

Several key opportunities to create place, however, may have been missed. The canopies and trees along the main street may encourage pedestrian activity and serve an economic function, but the street design does not appear to encourage social interaction to its full potential, nor speak directly to the landscape of Greensburg. The implemented designs appear rather boiler-plate complete streets solutions. While opportunities along the street were created to encourage social interaction, such as the design of the street corners and the provision of plaza space, the location of benches and bike racks

at the street corners, while convenient, limit potential interaction. Granted these locations have higher volumes of pedestrian traffic and offer a place to sit, they lack shade and the placement and orientation of the benches does not promote comfortable conversation. The plaza area has similar issues. Seating is not provided, and the trees selected are both small varieties (meaning little chance for shade) and are thorny, posing a safety risk to potential users. These pedestrian spaces as implemented only marginally encourage interaction among residents and visitors. As a final note, incorporation of more businesses into the downtown could encourage daily resident trips (like a grocery store, gas station, café, etc.) and increase opportunities for social interaction and chance encounters.

When considering the creation of place (according to the PSC framework) a significant missed opportunity presents itself in the handling of stormwater throughout the community. While quite effective at enhancing physical identity within a rural community (Space category), the stormwater BMPs (Best Management Practices - see glossary, page 141) do not effectively reach the Place category, because they make little connection or contribution to the place. They again are boiler-plate solutions and lack creativity which could enhance identity and place. For example, the main street BMPs appear to be simple modifications of the Portland Green Street model stamped into a rural western Kansas context (Figures 4.46 and 4.47).

While opportunities for place-making may have been missed, opportunities to achieve significant community building were not. Success has been had in many instances across the community, perhaps most



Figure 4.46
Portland Green Street infiltration planter

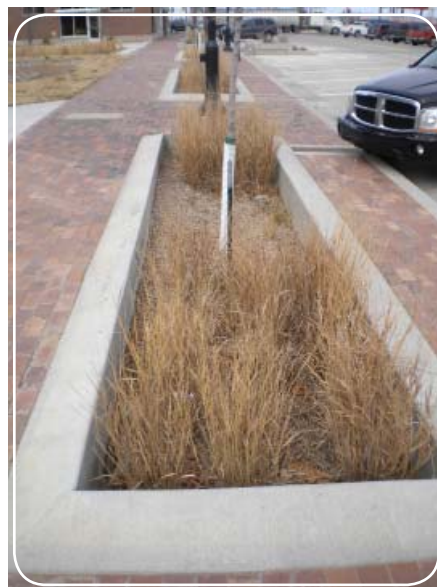


Figure 4.47
Greensburg infiltration planter

Figure 4.48
Community participation
Source: Greensburg Master Plan



Figure 4.49
Community participation
Source: Greensburg Master Plan



notably in the remarkable level of citizen participation in the planning and design phases at the beginning of the process (see Figures 4.48 and 4.49). The number and types of partnerships developed throughout the process are also strong elements of community. These partnerships include Dillons, SunChips, John Deere, Kiowa County, Kansas State University, University of Kansas, and the not-for-profit Greensburg GreenTown, to name only a few. Winona should consider Greensburg’s successes in building community and creating distinctive Space and learn from the missed place-making opportunities. Additional opportunities capitalized on include the proximity of the main street to the highway, the proximity of the museum housing the “Big Well” and Pallasite Meteorite (two of Greensburg’s most recognizable and historic pieces of identity) to the water tower. These adjacencies (Space) help draw visitors into the community creating opportunities for Place perception.

Precedent Studies: Sub-rural Competitors

Three sub-rural communities in close proximity to Winona were studied in order to determine the level of physical distinctiveness and vibrance of their main streets. The communities were chosen based primarily on two criteria. First, they are within an hour of Winona. Second, their population characteristics (according to the 2000 U.S. Census) were similar to Winona. The three communities chosen were Brewster, Rexford and Selden. Brewster is a community of 285 people located at the extreme west-central edge of Thomas County (one county north of Logan County.) Rexford, located in central Thomas County, has a population of 157. Selden is a community of 201 people located in Sheridan County (one county to the northeast of Logan County.) (see Figure 4.50)

The precedent study was carried out as an inventory of many of the physical elements providing distinctive character to each sub-rural community. Due to a lack of available information, and the travel time required, each community was visited on two separate occasions in order to develop as thorough an understanding of the distinctiveness of each place as possible. Without being able to rely upon in depth historical research for each community, or a survey of resident perceptions regarding the distinctiveness of their community, an inventory of only the physical distinctiveness of each community was undertaken. The inventory included a study of the architecture, infrastructure and natural characteristics in order to determine what physical elements help make each community distinctive. Among the built elements studied, particular focus was paid to the main street, parks and school properties. The presence or lack

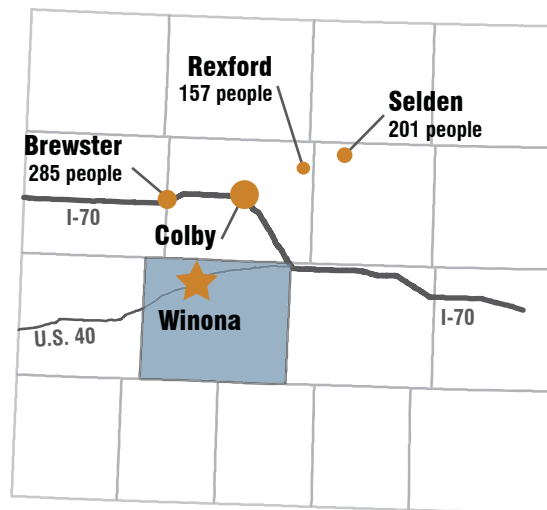


Figure 4.50
Sub-rural identity study:
Community locations

of distinctive natural features, such as trees and other vegetation and topographic features were also a primary focus. Only a summary of the information obtained, lessons learned and conclusions drawn from this study, will be discussed in the body of this work. For additional information (including detailed plans and main street sections of each community (digitized from 2010 NAIP Aerial Imagery and measured in the field,) please refer to Appendix E located on page 189.

Figure 4.54 is a distillation of the knowledge gained about each community's level of physical distinctiveness and the nature of each main street. As such, the matrix allows quick comparison between communities for each point studied. The complete matrix can be found in Appendix E on page 190, along with descriptions of the methods for calculating the distinctiveness score of each community. Each community contains built elements important to providing a measure of distinctiveness to the



Figure 4.51
Golden Plains High School - Rexford



Figure 4.52
Brewster K-12 School



Figure 4.53
Triplains K-12 School - Winona

Distinctive Elements	Winona	Brewster	Selden	Rexford
School	4	4	2	4
Main street Business	2.7	3.0	2.8	0.8
-Pedestrian Presence	1	2	2	0
-Automobile Presence	3	4	4	1
-Building to Open Space ratio	3	4	2	1
-Main Street Spatial Characteristics	4	3	2	1
-Main Street Building Spatial Patterns	2	4	3	1
-Community Entrance	3	1	4	1
Community Center	4	4	4	0
Distinctive Architecture	4	5	3	2
Street Trees	2	1	0	0
Tree Cover (Community-wide)	3	4	1	2
Parks	2	4	4	2
Playgrounds	4	2	4	1
Public Space	3	4	2	1
Distinctiveness Score	3.17	3.24	2.68	1.38

Figure 4.54
Sub-rural community identity matrix

and Winona's (Figure 4.53) schools serve all grades from kindergarten through twelfth grade. Each school offers higher or lower levels of distinctiveness based on its construction, materials, location in the community, size, grades accommodated and historic significance. In addition to schools, each community has at least one unique religious structure. Selden has two churches (Figures 4.55 and 4.56), Brewster, three (Figures 4.57, 4.58, 4.59), Rexford one (Figure 4.60) and Winona two (Figure 4.61). An additional element within most communities (with the exception of Rexford) providing distinctive identity is the water tower (Figures 4.62, 4.63, 4.64). Winona has increased the iconic nature of its

place including schools, grain elevators, churches, parks and the structures on the main street. It was learned that distinctiveness is a product of more than just a different look or appearance to these elements within each community. The locations, organization, concentration, use and appearance of these elements is what creates deeper and richer physical distinctiveness.

Perhaps one of the most distinctive built features within each community is its school. The schools in Selden and Rexford (Figure 4.51) belong to the Golden Plains School District. Rexford's school serves the middle and high school students of the district and the school in Selden serves as the elementary school and houses the district offices. Brewster's (Figure 4.52)



Figure 4.55
Selden Catholic Church



Figure 4.56
Selden Methodist Church



Figure 4.57
Rexford Community Church



Figure 4.60
Brewster Lutheran Church



Figure 4.58
Brewster Community Church



Figure 4.61
Winona Methodist Church



Figure 4.59
Brewster Methodist Church



Figure 4.62
Selden Water Tower



Figure 4.63
Brewster Water Tower



Figure 4.64
Winona Water Tower

water tower by linking it to the school and community by painting it in the school's color – Columbia Blue.

An important distinctive economic element in each community is the main street. Each main street has a different character and a different level of economic and social vibrance. When considering the number of vehicles and pedestrians encountered along the commercial portions of each main street, Brewster and Selden have the most vibrant main street environment evidenced by car parking rates, see Figure 4.65.) Cars were counted using an average of both Google Street View photos and numbers of cars present during site visits. Site visits were

planned and timed in order to get an average number of cars/day, not peak use. Each community was visited once in the mid-morning (between 9-11 am.) and once in the mid-afternoon (between 2-4 pm.) By comparison, Winona and Rexford have much lower activity rates. In both cases, the level of activity is assumed to be a result of the number, types and locations of businesses along the main street.

Figure 4.66 shows the comparison between each main street as the ratio of occupied to un-occupied structures along the street. The communities with greater activity rates also correspond to those communities with higher occupancy rates. Perhaps of equal importance is the organization and concentration of those establishments along the street. This could help explain why, although Winona has many of the same businesses that Brewster and Selden have, its main street is less active. In Winona (as shown in Figures 4.67, 4.68, 4.71, 4.72, those activities and businesses are less concentrated than in Selden or Brewster. Accessibility to the main street from

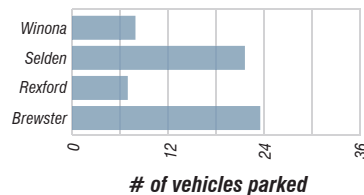


Figure 4.65
Main Street parking rates

Main Street Parking Rates

Occupied vs. Un-occupied bldgs

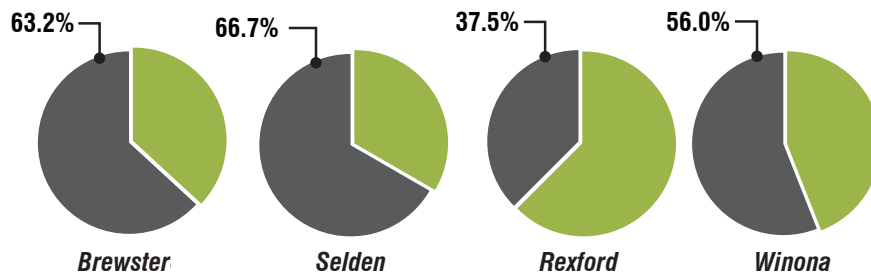


Figure 4.66
Ratio of occupied to unoccupied buildings

■ Occupied Buildings ■ Un-occupied Buildings

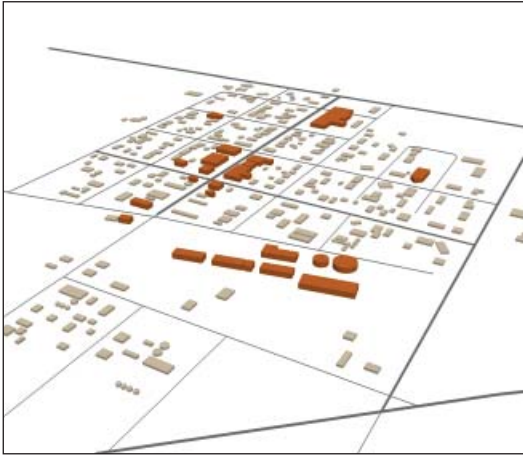


Figure 4.67
Activity Concentration - Brewster

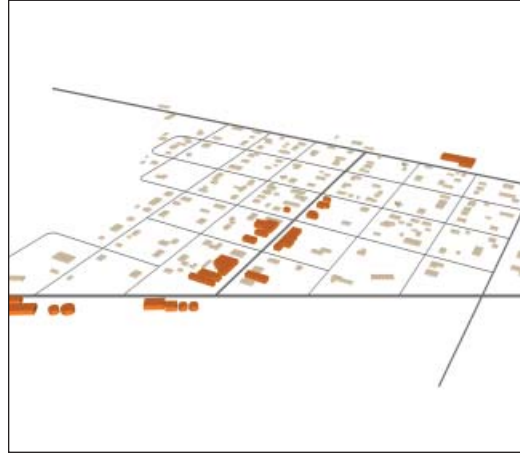


Figure 4.68
Activity Concentration - Selden

the highway, both visual and physical, is an important element of main street activity. Selden and Winona have the most direct visual and physical access and proximity to their main streets from the highway, providing Winona a powerful opportunity to increase the vibrancy of its main street.

In addition to the vibrancy of the main street, the spatial characteristics of the right-of-way and along the street were documented and compared for distinctiveness. Spatial enclosure along the main street and the presence of climate-regulating elements are important features which provide a comfortable pedestrian environment along the street. In each community, the degree of spatial enclosure and the presence of overhead elements (in the form of trees and awnings or other canopies) were studied. It was discovered that enclosure was primarily provided by the buildings, with little climate modification occurring from either trees or canopies. In certain locations in each community, those types of spatial enclosure did occur, but occurrence was relatively minor. In support of earlier conclusions, those streets with the strongest degree of spatial enclosure provided by the buildings corresponded to the streets with the highest activity rates. Figure 4.69 shows Brewster and Selden as having the greatest degree of enclosure. When considering the organization of buildings along the main street, Brewster and Winona maintain the highest level of enclosure (see Figure 4.70).

The dimensions and structure of the main street right-of-way of each community were compared with Winona in order to determine how the city can become more distinct as changes are made to the right-of-way. In this regard, Winona is already quite distinct from the

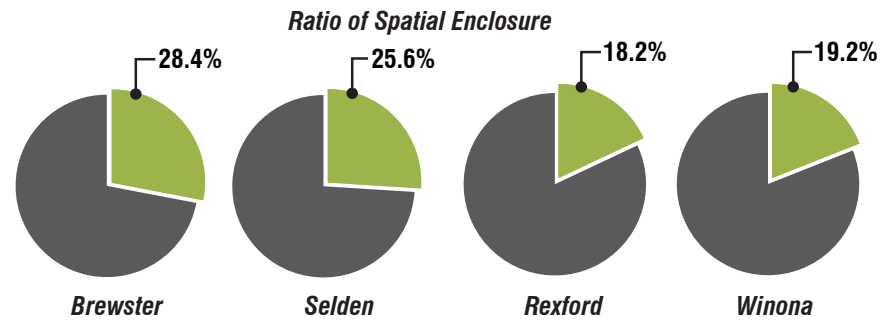


Figure 4.69
Ratio of spatial enclosure on main street

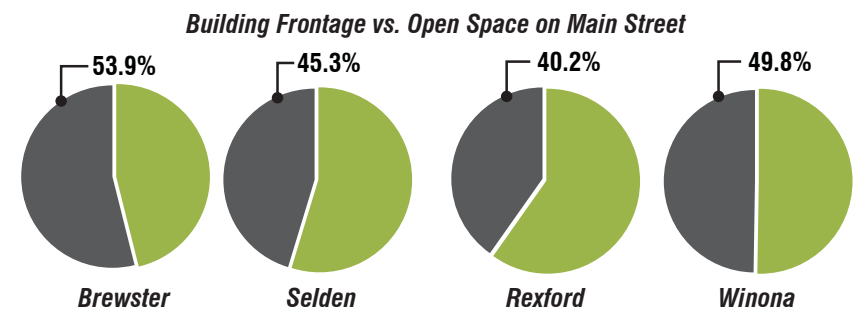


Figure 4.70
Ratio of spatial enclosure on main street

Legend

- Activity Centers
- Community Structures
- Community Streets

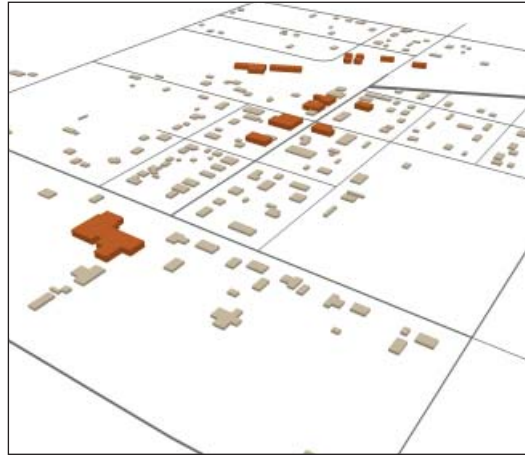


Figure 4.71
Activity Concentration - Rexford



Figure 4.72
Activity Concentration - Winona

Legend

- Winona main street
- Brewster main street
- Selden main street
- Rexford main street

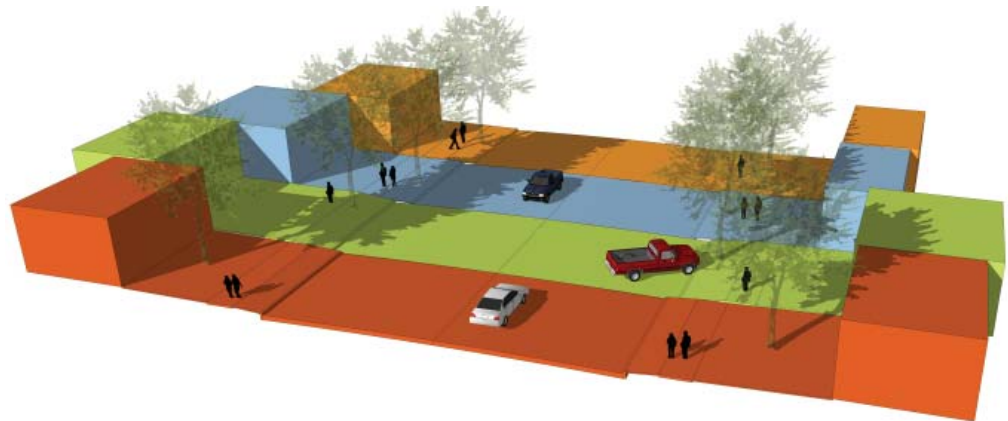


Figure 4.73
Main Street Sections - Residential Transect

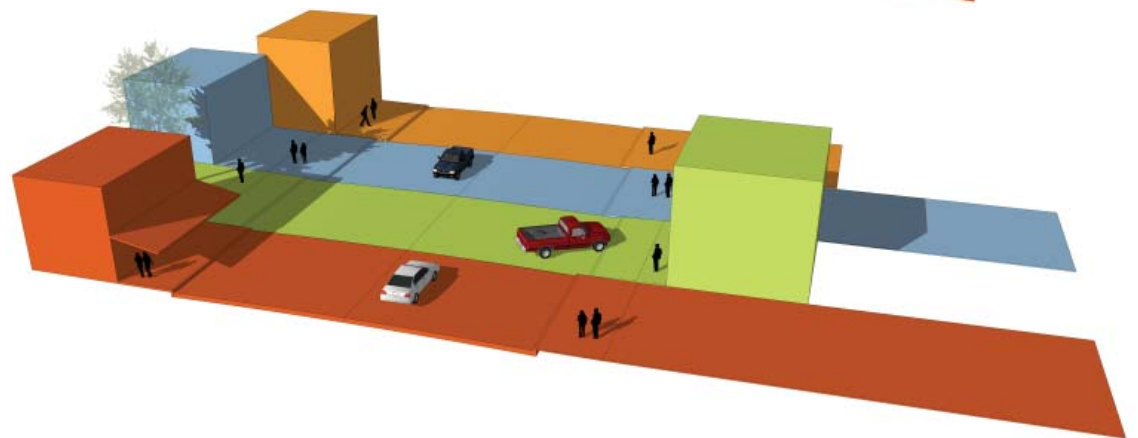


Figure 4.74
Main Street Sections - Mixed Land-Use Transect

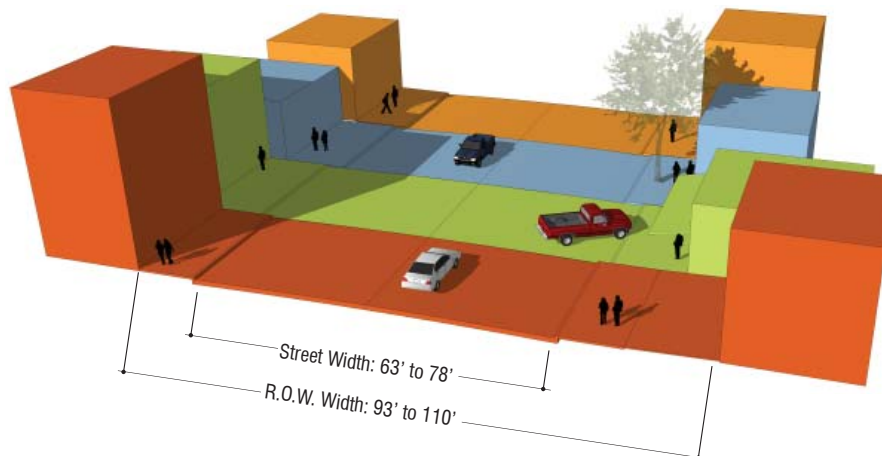


Figure 4.75
Main Street Sections - Commercial Transect

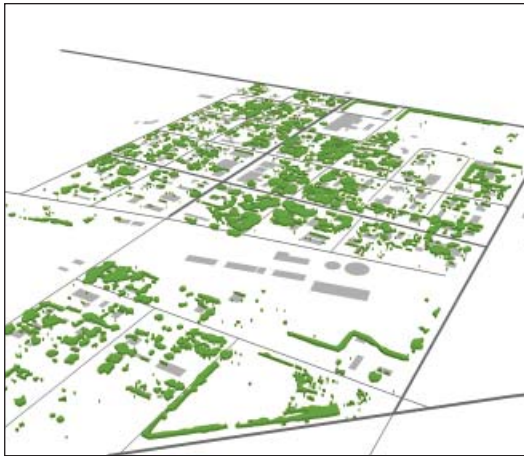


Figure 4.78
Tree Cover - Brewster

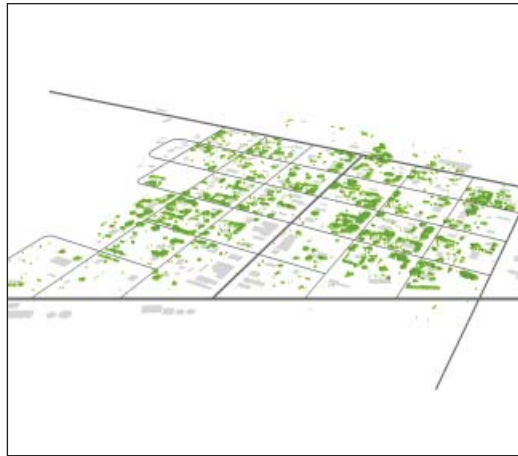


Figure 4.79
Tree Cover - Selden

other communities as it has the narrowest right-of-way and the narrowest street width (see Figures 4.73, 4.74, 4.75).

The final elements considered were the availability, locations and uses of open space within the city, as well as the presence and distinctiveness of natural features. When considering the amounts of public space (all rights-of-way, school spaces and parks), Brewster and Selden again had the edge (Figure 4.76). When considering only park/playground spaces within that percentage, Brewster and Winona (thanks to the availability of school facilities) have the most available park/activity space (Figure 4.77). Brewster and Winona again were the most distinctive when it came to the amount of tree cover across the city (Figures 4.78, 4.79, 4.80, 4.81). This is an area where Winona can become more physically distinct.

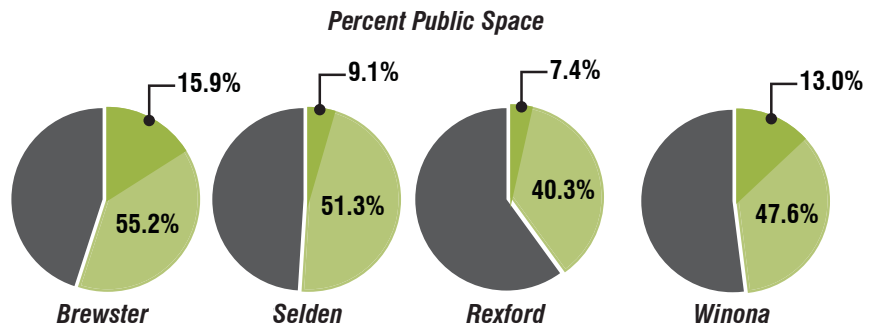


Figure 4.76
Percent of public open and park space

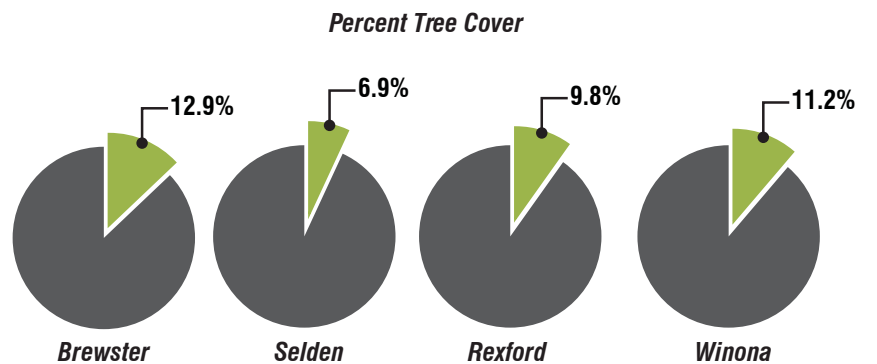


Figure 4.77
Percent of tree cover

Legend

- Tree Canopy Coverage
- Community Structures
- Community Streets

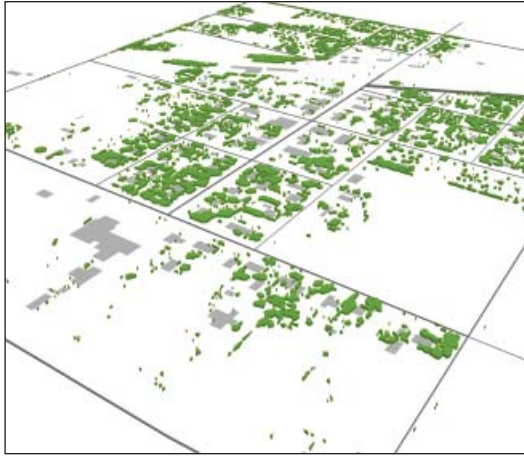


Figure 4.80
Tree Cover - Rexford



Figure 4.81
Tree Cover - Winona



Figure 4.82
Programmatic elements of project divided into PSC categories

Site Inventory and Analysis: Winona

The detailed inventory and analysis of Winona is designed to inform the proper locations of specific programmatic and design elements and again is approached using the Place, Space, Community (PSC) Framework. The precedent studies presented provide key insights and questions for inventory and analysis because of the application of the PSC framework and illuminated important program elements. Figures 4.82 and Figure 4.83 illustrate potential program elements and key questions in the realms of Place, Space and Community and associated sub-questions guiding analysis for location and creation of program elements. The community survey responses also play a critical role in the inventory and analysis as noted in the diagram.

Ultimately the analysis aims to address the following goals of PSC for Winona:

SPACE (Green): Create a community which is physically and spatially distinct from its sub-rural neighbors

PLACE (Blue): Create a community which provides multiple types of resident interaction, distinct from its

sub-rural neighbors

COMMUNITY (Orange): Begin to strengthen relationships and provide a basis for future enhancements to Winona's Social, Economic and Environmental Capitals.

At the outset of this project, very little information about Winona was in a digital format, or was available at a level of accuracy or precision necessary to make final design decisions. However, the inventory and analysis requirements for the project required digital data and a valuable outcome for Winona is a digital library including GIS and CAD files digitized or assembled from the best available source data. The following section presents the watershed analysis for Winona using National Elevation Dataset surfaces at a 10 meter resolution. While this is the best available information, it is not accurate or precise enough for detailed calculations or final design solutions. A full topographic survey of Winona should be done to improve the accuracy and precision of the digital library prepared for this project, and most importantly inform final design solutions.



Figure 4.83
Site Analysis Process Diagram

◆ What physical changes should occur in which locations within Winona in order to increase the **distinctiveness** of the community?

- What built elements provide a distinctive character to each community?
- What is the current configuration of public spaces and activity spaces within each community?
- What natural features provide a distinctive character to each community?

◆ In what ways can stormwater management facilities be implemented within the existing public rights-of-way and how will the current configuration of the right-of-way influence those choices?

◆ What locations within the city require the placement of stormwater management facilities in order to **celebrate** the value of water and most **efficiently manage** stormwater runoff?

- What are the existing stormflow patterns (water directed by curbs/gutters, ditches, culverts, etc.?)
- Where are the existing stormwater problem areas? (including land value and existing evidence of problems)
- How much stormwater runoff is generated on a block-by-block basis during a 10-year, 2.3"/hour storm event?

◆ Which rights-of-way can be modified in order to provide more room for stormwater management facilities?

- Which streets are used by farm implements and other equipment?
- Where and what types of parking exist in the city?
- Where and in what condition are city's sidewalks?

◆ In what ways can the entry to Winona be improved in order to **celebrate** the value of water, **encourage and enhance** resident interaction and **increase** social capital?

- What portions of Winona's entry are visible from the highway?
- Where are major activity areas within the city and what types of activities occur there?
- Where is the perceived center of town?
- Where and what barriers exist between residents and activity spaces?

◆ Where are the best places within Winona to implement park spaces which will **celebrate** the value of water and **encourage** resident interaction?

- What are the land ownership patterns within Winona?
- Where are available locations for parking?
- What are the main convergences of stormwater flow within the city?

◆ What types of business should be (re)introduced or to where should they be (re)located within the city in order to **encourage** resident-resident and resident-visitor interaction?

- Where are locations of daily economic activity?
- What businesses do residents desire to see in Winona?
- What/where are barriers to pedestrian access?
- What are the patterns of visibility from outside the community and from within the community?

◆ In what ways will residents become **involved** in the implementation and maintenance of the designed interventions?

- How much time and/or money will residents be willing to donate in order to build and maintain interventions?
- What interventions will community residents be willing to implement at home?

◆ What types of **social interactions** should be accommodated within park spaces?

- What activities did residents participate in historically and in which activities do they desire to participate?

◆ Where is/are the best location(s) on each block to implement small-scale stormwater management facilities so that each home is at most only half a city block away from a facility?

- Where are residential properties in the city?
- What are the stormwater flow patterns?

◆ Where is the best location to implement functions to reinforce the value of locally grown food products?

- Where is the most water available for irrigation?
- Where is the center of town?
- Where will food be sold?

◆ Sub-rural distinctiveness analysis

- Structure of public space within sub-rural communities
- Vibrancy of main street
- Community entry

◆ Watershed/runoff analysis

◆ Right-of-way analysis

◆ Viewshed analysis

◆ Community Questionnaire

- Analysis of community center
- Community activity analysis
- Community businesses

◆ Park location analysis

◆ Business location analysis

◆ Community Questionnaire

- Desired activity analysis
- Community willingness analysis
- Town center analysis

◆ Watershed/flow analysis

- Proximity to residential properties
- Flow patterns/accumulation



Figure 4.84
Existing Stormwater Problem Areas

Watershed Calculations

Existing Problem Areas

Figure 4.85
Stormwater Problem Area #1

Figure 4.86
Stormwater Problem Area #2

Figure 4.87
Stormwater Problem Area #3

Figure 4.88
Stormwater Problem Area #4

Figure 4.89
Stormwater Problem Area #5

Figure 4.90
Stormwater Problem Area #6



Legend

- | | | |
|--|----------------------------|--------------------|
| | \$0 - \$16,000 | } Total Land Value |
| | \$16,001 - \$48,000 | |
| | \$48,001 - \$118,000 | |
| | \$118,001 - \$236,500 | |
| | \$236,501 - \$1,232,900 | |
| | Community Structures | |
| | Water Collection/Ponding | |
| | Stormwater Problem Areas | |
| | Existing Curbs and Gutters | |
| | City Streets | |
| | City Boundary | |
| | Railroad | |

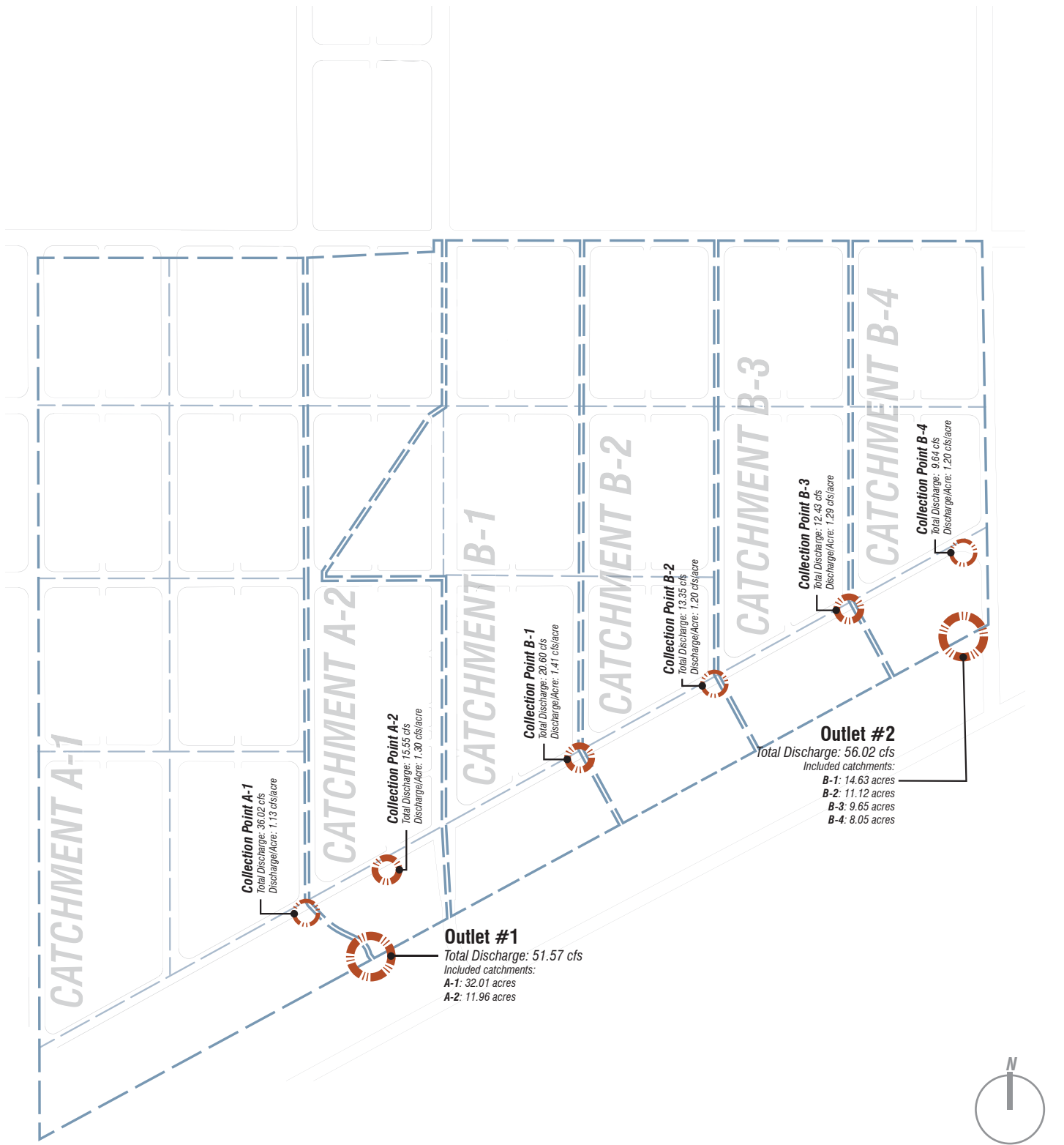
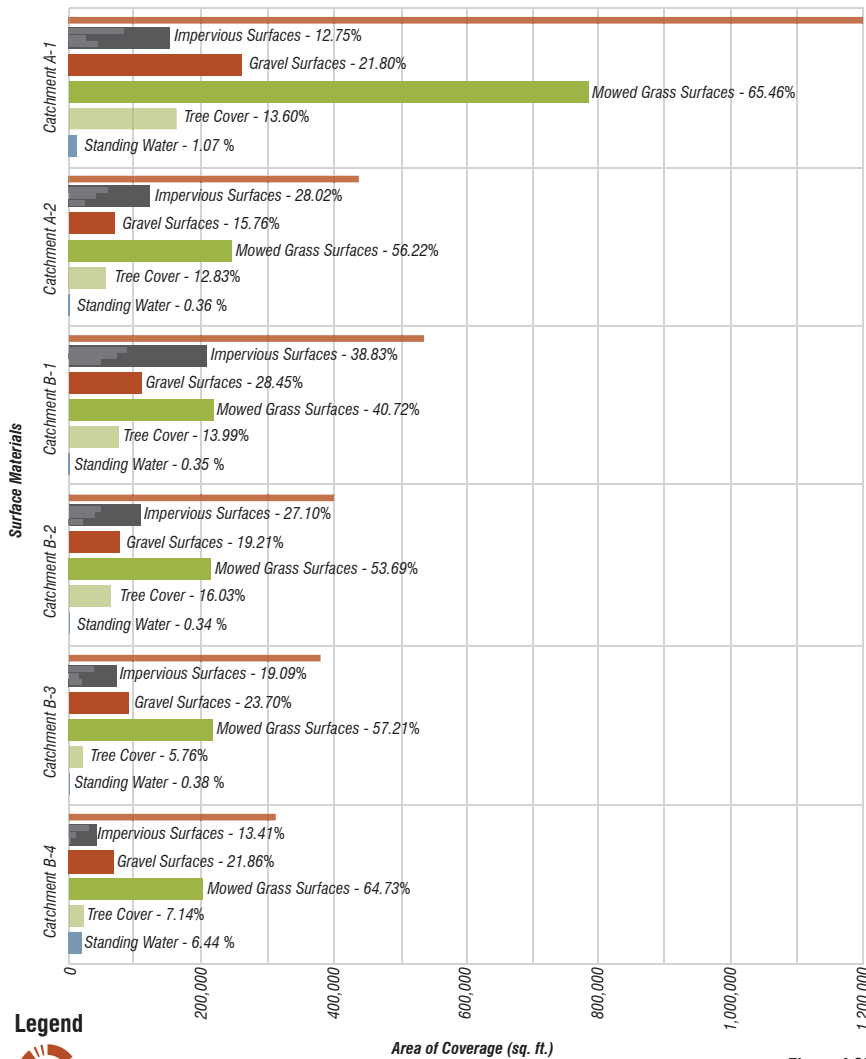


Figure 4.91
Watershed Boundaries

Watershed Calculations

Watersheds and Landcover Types



Legend

- Stormwater Outlet Location
- Catchment Point Location
- Watershed Boundary
- Sub-Watershed Boundaries
- City Streets

Figure 4.92

Watershed landcover types and area calculations

Detailed analysis of the existing stormwater drainage patterns within the city was necessary to understand the volumes of stormwater runoff which could be expected at certain locations and where management strategies would be most needed and effective. The analysis began with a walking survey of the city with a council member who explained the most immediate areas of concern. This initial inventory effort is documented in Figure 4.84 with supporting photographs of the areas of concern following (Figures 4.85– 4.90). Six areas of concern were identified by the city and each area has different causal factors.

Area #1 has significant ponding along both sides of DeGreer Avenue. The lack of a curb and gutter system along this portion of the street may be a contributing factor to the standing water. Area #2 exhibits an even greater amount of standing water along stretches of street both with and without curbs and gutters. Area #3 also has significant standing water serving as the outlet point for all drainage from the west half of the city. In addition, all runoff from Winona flows underneath the railroad tracks in a culvert which appears somewhat silted in and undersized. Area #4 does not have large amounts of standing water, however, due to the velocity and volume of runoff from Bellview Avenue, erosion of the street is occurring at the intersection of 3rd Street and Miles Avenue. Area #5 faces a similar issue for apparently the same reason at the intersection of Front Street and Miles Avenue. Area #6 collects significant standing water along the curb line and in the dip at the intersection of Fremont Avenue and Front Street, ponding water all the way until the exit point under the railroad tracks. The locations of these problem areas and the causal factors are very important in prioritizing where the location and

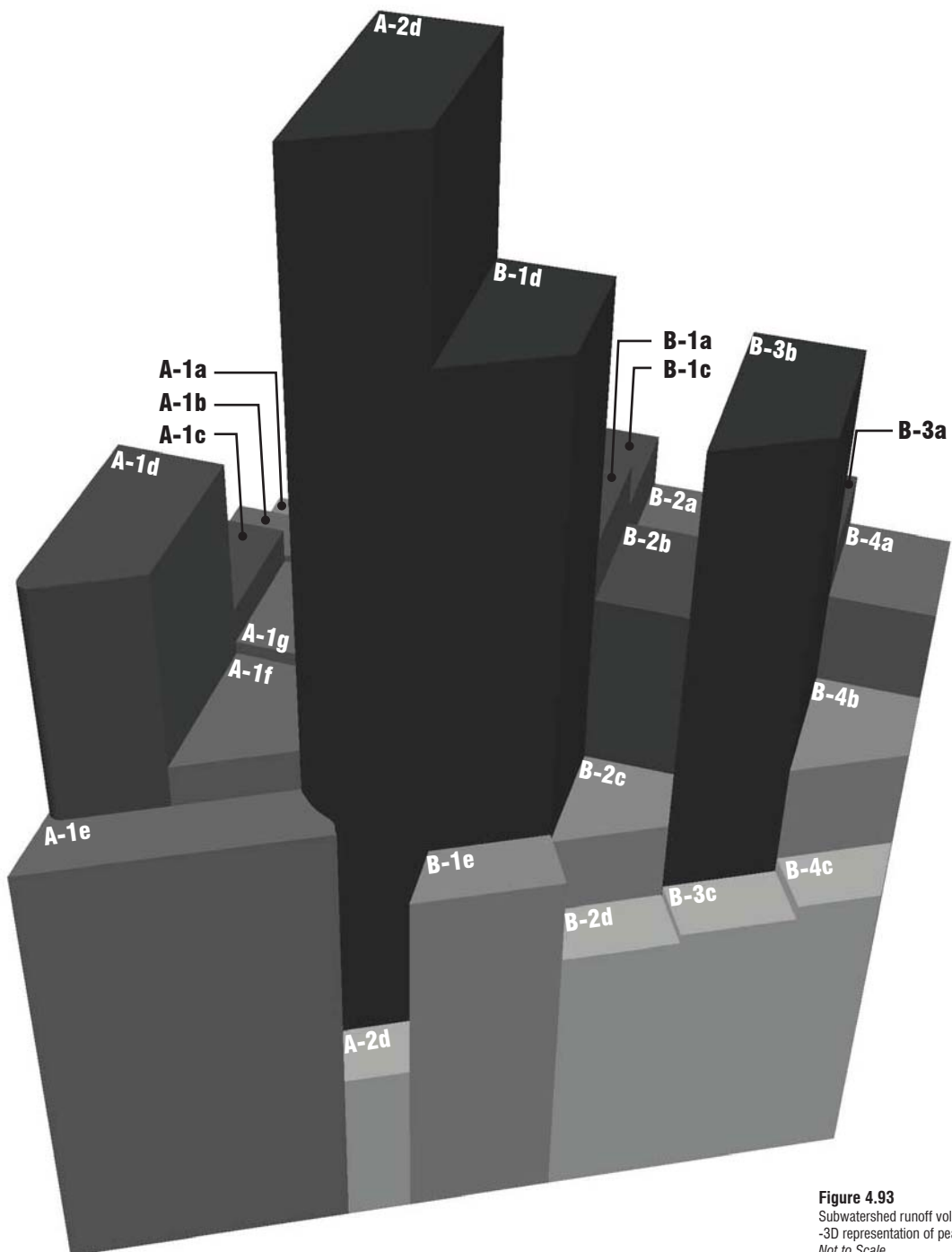


Figure 4.93
 Subwatershed runoff volume calculations
 -3D representation of peak runoff volume
 Not to Scale

Watershed Calculations

Subwatersheds

types of Best Management Practices (BMPs) used and investment in stormwater management should be.

As previously stated, National Elevation Dataset 10 meter resolution data was used to determine the general slope of the land, the drainage patterns, and watersheds within the city. This data is not accurate or precise enough for final design decisions, but was suitable or preliminary estimates presented here. Land cover types were delineated from aerial imagery including National Agricultural Imaging Program (NAIP) data from 2008 and 2010. Initial runoff volume calculations were performed for a 2.3" per hour storm event which is considered a 10 year event from hourly precipitation data obtained for the area from the National Climatic Data Center (NCDC).

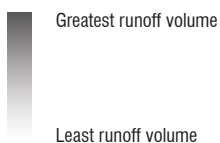
Figure 4.91 shows the watershed boundaries, drainage collection points, areas, and stormwater discharge volumes per watershed derived from the NED 10 meter surface information. Figure 4.92 shows the breakdown of each watershed into its component land cover types. Land cover types determine stormwater runoff depending on their level of perviousness and surface roughness. These two graphics illustrate the location of the greatest amounts of runoff and suggest focus areas to reduce stormwater volumes. The discharge per acre calculations indicate the watersheds next to Bellview Avenue (main street) produce the most runoff due to the increased area of impervious building and pavement surfaces. This suggests that larger amounts of runoff can be removed from the system with a focused effort along the main street providing opportunities for water collection and reuse.

Each watershed was divided into sub-watersheds,

typically following the pattern of blocks within the city. The same analysis was performed for each sub-watershed, calculating the stormwater discharge for the 2.3" per hour storm event. Figure 4.93 illustrates the areas of greatest discharge. Several blocks across the city have much higher discharge volumes than the others. Two of those blocks are located at the south end of Main Street (blocks A-2d and B-1 d). Blocks B-3b and A-1d also produce larger than average runoff volumes. These blocks correspond quite accurately to the areas of concern called out by the leaders of the city. Large areas of impervious surface (buildings and pavements) and mostly impervious surfaces (compacted gravel) are the probable causes of these high levels of runoff, suggesting possible avenues of runoff reduction, including reducing the area of impervious surfaces and providing management facilities to capture and infiltrate the water closer to the point of runoff.

Figure 4.94 shows each sub-watershed coded by color to indicate its level of stormwater discharge to each other sub-watershed. The discharge amounts for each sub-watershed are recorded in Figure 4.95. The direction and path of stormwater flow per sub-watershed, along with a diagrammatic representation of potential volumes and the possibility of actual gutter flow during a storm event are also shown in Figure 4.94 and are represented by the differently sized blue arrows.

Legend



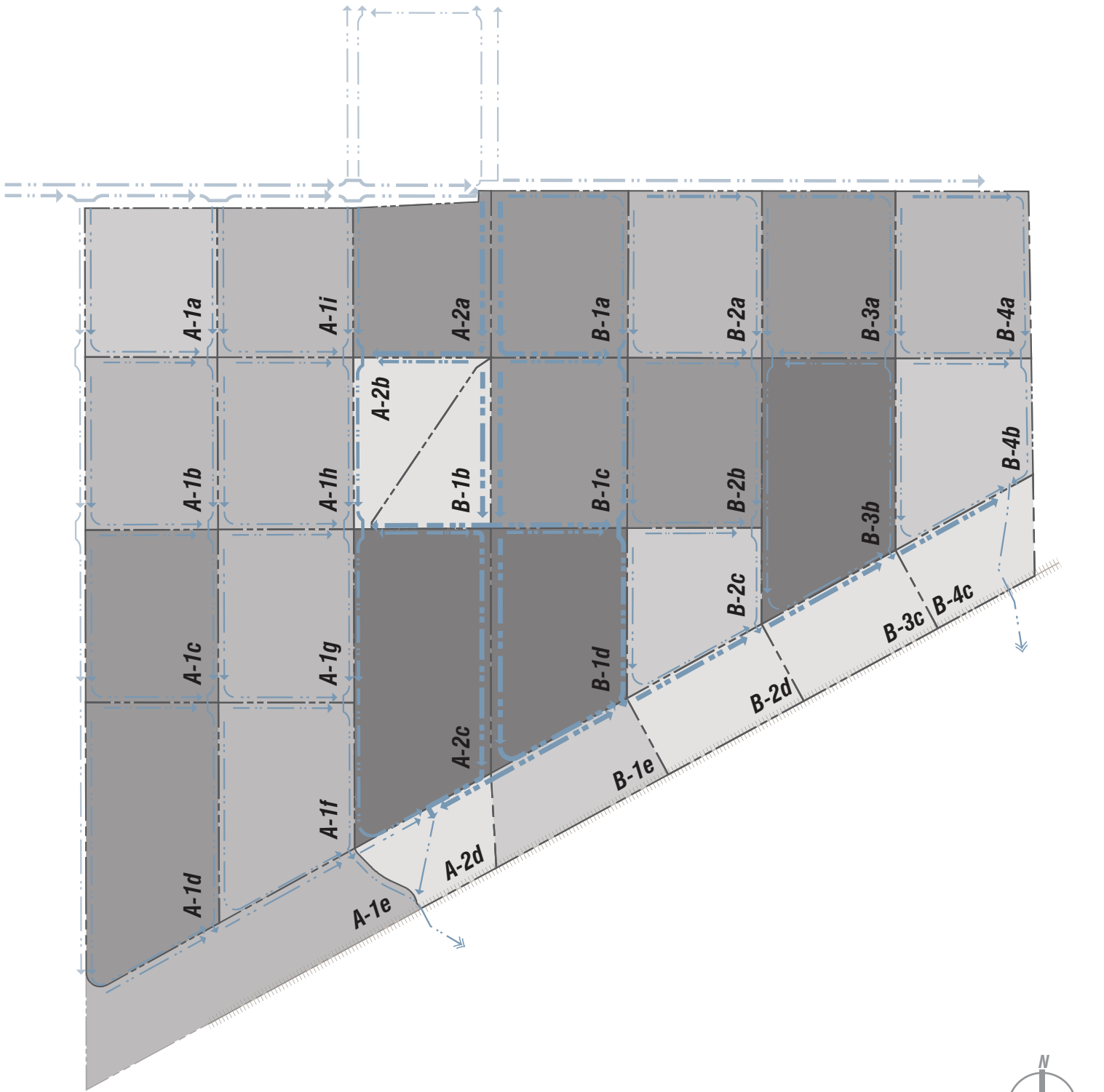


Figure 4.94
Subwatershed runoff boundaries and patterns
of stormflow

0' 175' 350' 700'
Scale: 1" = 350'

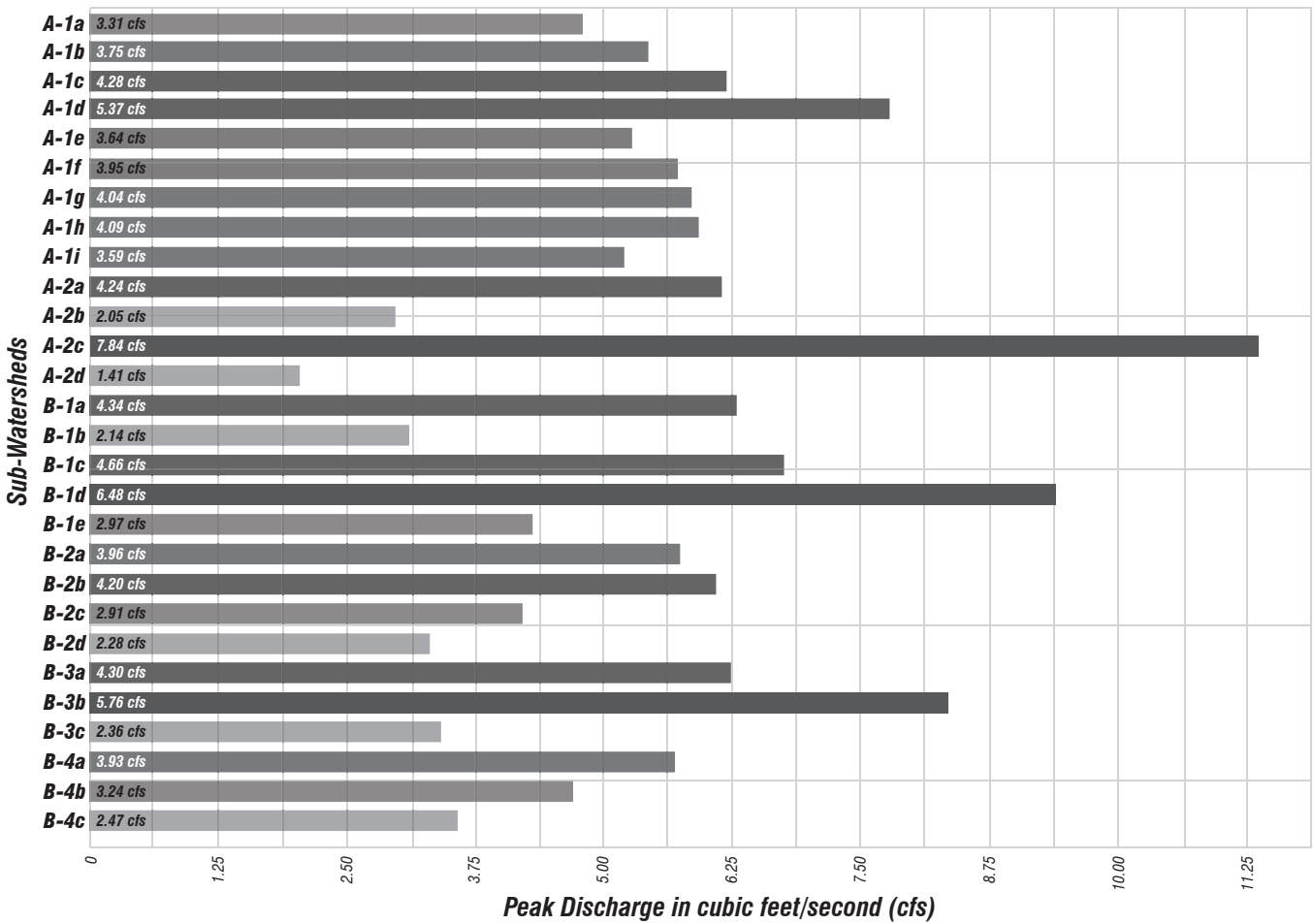
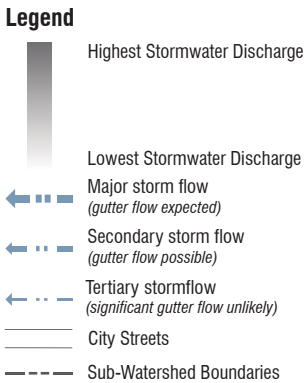


Figure 4.95
Subwatershed runoff volumes
Graphic comparison



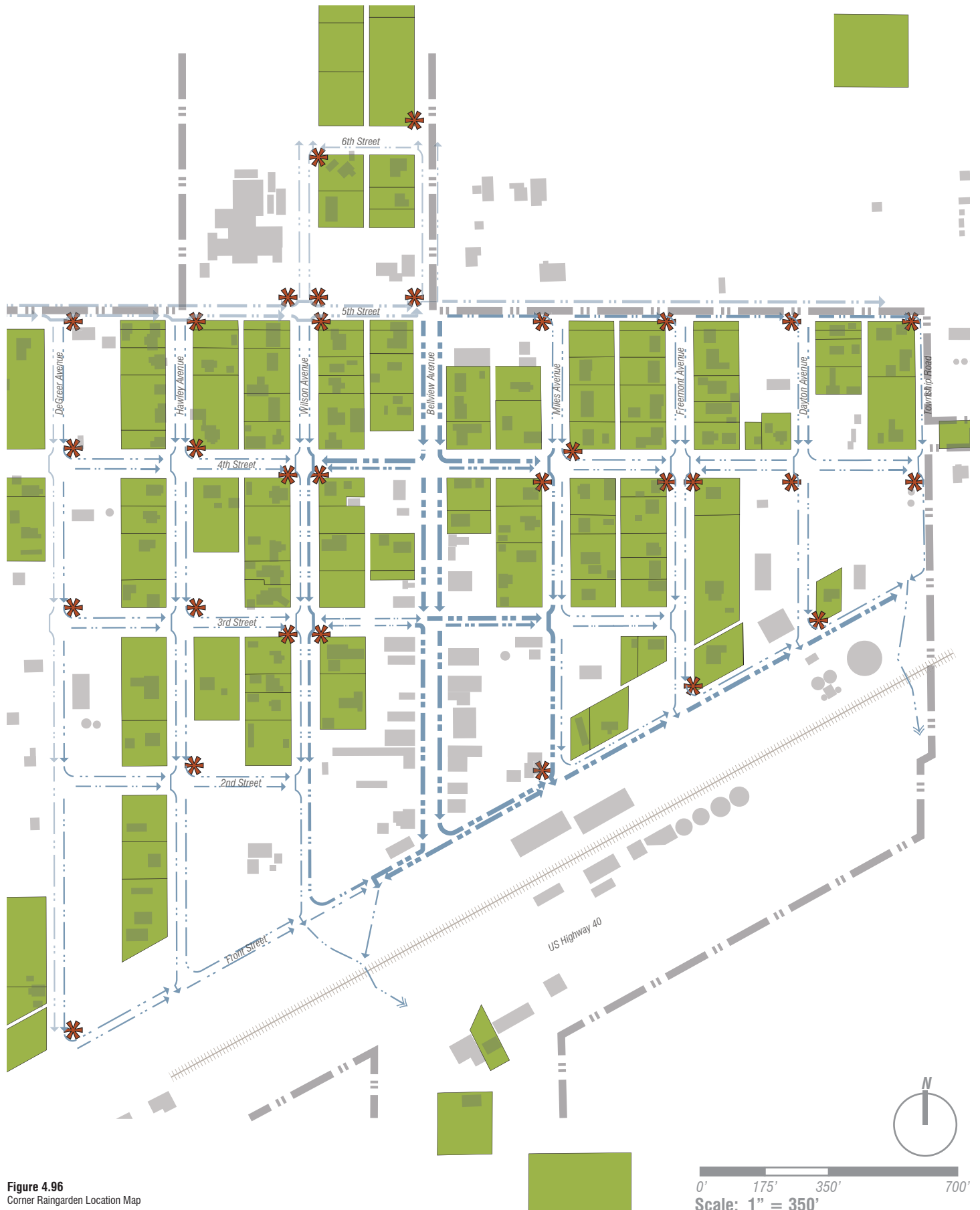


Figure 4.96
Corner Raingarden Location Map

Raingarden Locations

Suitability Analysis

Solutions to the stormwater problem in the community, though elements of Space, can be a primary driver of Community development. Rain barrels, rain gardens and native plantings implemented by residents can be impactful in mitigating stormwater issues by reducing runoff. These small implementations will be highly effective at the outset as they immediately engage residents, are inexpensive and reduce total runoff. Implementing these BMPs on an individual basis has community effects. The implementation of street corner rain gardens provides a simple, yet extremely powerful opportunity to strengthen Community as neighborhoods can compete to have the best rain garden. Community rain gardens within a half-block of each residence provide opportunities for residents to collectively take ownership of a piece of the city at a neighborhood scale. Locations of each neighborhood rain garden were determined based on proximity to residential parcels and patterns of stormwater flow, shown in Figure 4.96.

Legend









-  Community Structures
-  Community Structures
-  Raingarden Locations
-  Major storm flow
(gutter flow expected)
-  Secondary storm flow
(gutter flow possible)
-  Tertiary stormflow
(significant gutter flow unlikely)
-  City Boundary
-  Railroad



Figure 4.97
Right-of-way analysis

Right-of-way Analysis

Existing uses within rights-of-way

Essential in the analysis of Space is a detailed understanding of community rights-of-way. This looks at the current building and vehicular uses along Winona's streets, especially the main street, in order to determine the possibilities for making right-of-way modifications for BMP implementation. Because of the nature of the agricultural economy in Winona, large vehicles (trucks, trailers, tractors, and other farm equipment) must be able to traverse the streets of the city in order to reach existing agricultural industries and land uses. In areas where significant farm vehicle traffic occurs, street widths should not be altered in order to provide more space for BMP implementation within the right-of-way. Fortunately, almost all agricultural uses are along the periphery of the community. Front and 5th Streets, DeGreer Avenue and Township Road should remain unaltered to preserve their functionality, see Figure 4.97.

Along the main street, building use and the location of entries indicate suitable locations for BMP implementation. Successful BMP implementation will not compromise business access, hinder pedestrian movement or create barriers to economic development. Rather, BMPs should be strategically placed design elements which encourage people to freely move along the street and stop, look and buy products and goods. These relationships are also illustrated in Figure 4.97.

Legend









	Community Structures
	Occupied Buildings
	Periodically Occupied Buildings
	Agricultural vehicle access required
	Building doors
	City Streets
	City Boundary
	Railroad



Figure 4.98
Parking Analysis Map

Right-of-way Analysis

Analysis of On and Off Street Parking

The availability of parking along the main street and adjacent activity centers is also very important to the proper function of Space. Figure 4.98 shows the current patterns of parking along the main street and activity locations as well as potential locations for future short-term parking. Parking should be maintained as it exists or enhanced in front of businesses which support daily activity. Short-term/overflow parking for large activities should be located on open property which is owned by the city, if possible. One location (located behind the firehouse and outlined in red) stands out as being the most suitable area for potential short-term parking based on its current and potential future, and its current land cover and city ownership.

Legend

-  Prime Parcels for Park/Parking
-  Publicly Owned Parcels
-  Privately Owned Parcels
-  Community Structures
-  Existing Parking Locations
-  Potential Parking Location
-  Existing Utilized Street Parking
-  Existing Available Street Parking
-  City Streets
-  City Boundary



Figure 4.99
Park suitability map

Park Location

Suitability Analysis

Park space is a valuable element in Place, Space and Community as indicated by community survey responses. Figure 4.99 shows the two most suitable locations for park development in the city. Suitable locations were based on vacant property, property already owned by the city, areas of significant stormwater convergence, parking potential, proximity to central and activity locations, and existing park uses. The location of the current park across U.S. Highway 40 makes access by pedestrians difficult and dangerous. The analysis of potential new park locations within the city was performed with this key consideration in mind.

The park analysis indicates park space be created along the south edge of town immediately north of the railroad tracks given the need to maintain large group activities occurring there currently. This location is easily accessible by residents and adjacent to the downtown. Currently this land is owned by the Union Pacific and leased by the grain elevator. Additionally, it is already used for several events including the homecoming bonfire and weenie roast and the community burn pile. The city could acquire the land with a land swap or other measure, which would make it a perfect location for a new park. Half of the city's stormwater runoff drains to this location, providing a remarkable opportunity for interactive stormwater mitigation and reuse. The planting

of trees in this location would greatly enhance the sense of entry to Winona from the highway. This park could serve as a reason for travelers to actually enter the community instead of driving through or pulling off outside town to rest, missing out on the opportunity to experience Winona. This location becomes an especially exciting element in the future of Winona, given its proximity to downtown, especially when considering the addition of new businesses on Winona's main street.

The survey and inventory also indicate the need for a central community gathering place. The premier location for this park is in the center of downtown. The identified location takes advantage of several parcels of vacant, city-owned or otherwise available land which would make integration of a park space ideal. This location also sits at a point where stormwater runoff collects offering large amounts of water for collection and reuse. This area is also one of the centers of town, with proximity to two of the most significant centers of activity in the city and is directly adjacent to the water tower and enjoys direct views of the grain elevator, which were noted as two of Winona's most distinctive pieces of architecture. Finally, this site has access to adjacent on-street parking and is a short walk away from a large tract of vacant, city-owned land which can be used for short-term overflow parking during large events.

Legend

-  Community structures
-  Residences served by useable sidewalks
-  Residences not served by useable sidewalks
-  Community activity parcels
-  Publicly owned parcels
-  Stormwater collection points
-  Park Locations
-  Adequate sidewalks
-  Inadequate sidewalks
-  City Streets
-  City Boundary
-  Railroad



Figure 4.100
Business Analysis Map

Business Analysis

Opportunities to increase economic vibrancy

Responses to several survey items suggest that attracting new business to the downtown area would be a means of increasing the beauty and identity of the community. Instead of trying to attract all new business, existing businesses from across the highway can be relocated to the main street, making them more accessible to community residents. Relocating the motel, bar and gas station on an improved main street, close to new parks could improve revenue for these businesses from locals. Additionally, these moves could bring highway travelers into the downtown increasing business for downtown establishments. The gas station is a significant traveler draw and important social location within the community. The best location for relocation is near the new park and within easy view of the highway. The motel and bar, when incorporated into the design of the main street and park system could become much more activated and provide more economic benefit to the community in new locations.

Suitable new business locations were analyzed based on the existing building uses along the main street, existing mix of uses, community needs (retail-commercial and services), and the amount of use per day or week. Visibility from the highway was also considered in determining suitable locations for specific businesses. Since each new business must not only function economically, but socially, proximity to the city center as well as centers of community activity is also very important. The two most suitable locations, as seen in Figure 4.100, are located next to each proposed park area, allowing incorporation of existing and desired activities, as well as economic activity to spur the creation of Place and enhancement of Community. Proximity to parks and other activities has the potential to be a significant draw for travelers and other visitors, and whether they come to visit the park or the business, both will benefit from shared use.

Legend

-  Community Structures
-  Daily Occupied Buildings
-  Periodically Occupied Buildings
-  Viewshed
-  Tree Cover
-  Viewpoint
-  Community Entries
-  Potential Opportunities for Future Businesses
-  City Streets
-  City Boundary
-  Railroad



Figure 4.101
Projection Suitability Analysis Map

Video Projection

Suitability Analysis

A key element of Winona’s past was entertainment. The history presented indicates the school currently provides the majority of entertainment opportunities and that there is no longer a movie theater. This presents an opportunity to increase the use of the park space, as well as provide an attraction for visitors. The central park location close to a new café is ideal for outdoor community movie nights. A more detailed analysis is this space identifies suitable locations for movie projection and space requirements for anticipated movie-goers. A review of potential projection equipment indicates the need for a minimum screen size of 20.5 feet wide by 15.5 feet tall, and recommended seating distance for this equipment begins at 30 feet from the projection screen.

In order to accommodate different modes of seating (sitting in lawn chairs, on the grass, chase lounges, etc.)

for up to two hundred people, 3,500 square feet of open space are required, beginning 30’ away from the screen. Available seating distance was the primary determinant of suitable locations, but the dimensions of and materials of walls were also considered as options for projection screens. No existing walls were suitable for projection based upon dimensions and materials. Several locations did have adequate space for seating, however, only one location was suitable based on all three criteria, and is located in the area of the proposed park, see Figure 4.101. This location provides tremendous opportunity to not only activate the park space, but to further stimulate economic growth as adjacent businesses can capitalize on the potential influx of visitors who will come to participate in the unique experience of an outdoor movie in Winona.

Legend










-  Community Structures
-  Privately Owned Land
-  Publicly Owned Land
-  Suitable Projection Location
-  Marginally Suitable
-  Not Suitable
-  City Streets
-  City Boundary
-  Railroad



Figure 4.102
Space synthesis map

Space Synthesis








Synthesis of modifications to Space

Figure 4.102 represents a synthesis of all the various pieces and parts of the analysis informing the modification and creation of Space. Space provides opportunities for interaction and programmed and un-programmed experiences which can be perceived in combination as Place. The elements called out and discussed in this synthesis do not stand alone, but inform locations best suited for certain types of spaces. It is not the implementation of these spaces which enhances identity; it is what people do within the space afterward. People's choices in the space also impact the feeling of Community.

The development of Community is heavily dependent on what the residents do within Space and how they perceive Place therein. The Space elements (parks, businesses, etc.), and activities programmed into them

are vital to fostering Place. However, the beauty and ease of use of the Space speak to the positive perceptions of Place. Importantly called out in the formation of the PSC framework is the concept of identity which is also elemental in positive and distinctive sense of Place and Community. While the analysis indicates locations for program elements, it does not yet indicate an overarching design concept to achieve identity. If design were to proceed at this point solutions would be created that are technically and theoretically sound but lack distinction as was the case illustrated in Greensburg's stormwater and complete streets treatments. Winona's history and current dilemma provide guidance for the identity concept and include people, water and agriculture - specifically wheat farming.

Legend

-  Community Structures
-  Key Pieces of Architecture
-  Tree Cover
-  Focus Areas
-  City Streets
-  City Boundary
-  Railroad



Design

05

Design: Winona's Identity Concept

Wheat has been a powerful creative influence in both the past and present day Winona. The interaction of water and wheat has been central to the success of people in Winona since the founding of the city. As a staple in human diet, wheat has similarly played a critical role in Winona's history almost from the moment the first settler entered the region. The processes of growth within the hard red winter wheat plant offer an excellent metaphor for Winona's process to achieve growth in Community Capitals and identity implementing the interconnected, interdependent and systemic nature of the PSC framework. The growth stages in hard red winter wheat and its patterns of water use are particularly suited to Winona since the community's future will be dependent on how the residents are able to interact with each other and with their environment through implementations of stormwater management practices. The presence and availability of water, in the form of both precipitation and ground water continues to be the critical asset which allows the successful cultivation of the wheat crop from year to year in Winona. In understanding how the wheat plant utilizes and interacts with water, and during which stages of its growth the accessibility of water is most critical, Winona can discover how it should develop its identity and strengthen Place, Space and Community.

In its quest to produce seed, winter wheat is similar to most other plants. Figure 5.1 is illustrative of the processes at work within the plant affecting the plant's production of seed which the plant releases to propagate itself. While the production of seed culminates the growth stages of the plant, this is the beginning of multiple other valuable products which human beings and other

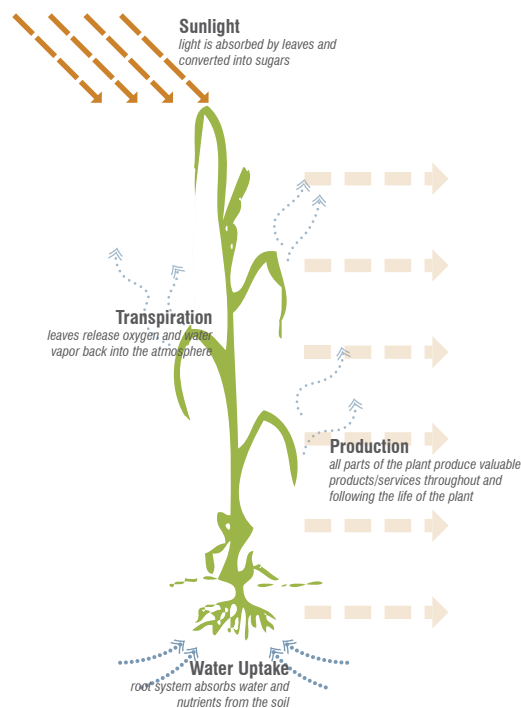


Figure 5.1
Diagrammatic illustration of the basic processes of photosynthesis in wheat

animals consume or otherwise enjoy. During the process of photosynthesis, wheat plants use the energy of the sun, water and carbon dioxide from the air to create sugars which stimulate the growth of the plant and provide energy for creatures which consume the plants. During photosynthesis, plants recycle the carbon dioxide animals exhale and produce the oxygen they inhale. Wheat plant leaves act as a deterrent to soil erosion, as they intercept raindrops before they strike and disturb the soil surface. The root systems of plants also hold the soil together more tightly than unvegetated soil, further reducing soil erosion during rain events. Vegetated soil surfaces also slow the velocities of stormwater runoff,

allowing the water essential to plant growth time to percolate into the soil. The root and leaf systems of the plants help clean and infiltrate water into the soil, increasing soil moisture and recharging groundwater aquifers. Wheat leaves provide shade and regulate the air and surface temperature of the areas in their immediate vicinity. The landscape called Winona owes much of its perceived beauty to the swaying leaves and seed heads of the wheat plant not to mention the food and fiber products essential to human survival.

Wheat develops over a period of months and through a series of stages. Figure 5.2 depicts those stages in simplified form. The first stage is tillering which begins at plant germination. A healthy plant during this stage has a highly developed primary root system and begins developing a secondary root system. An efficient leaf arrangement emerges in this stage which maximizes photosynthesis and minimizes water loss. Multiple fully formed tillers eventually become stalks and later seed heads. The first growth stage is critically dependent on

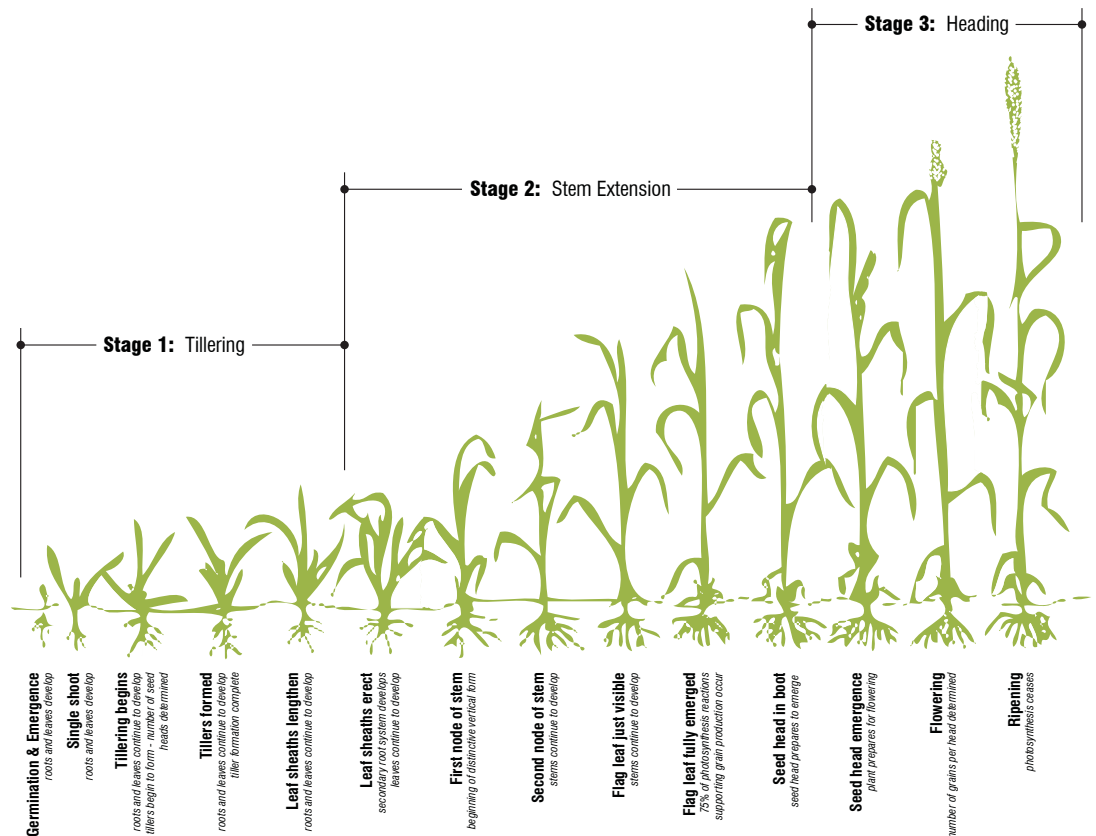


Figure 5.2
Growth stages of wheat (adapted from Large, E.C. 1954)

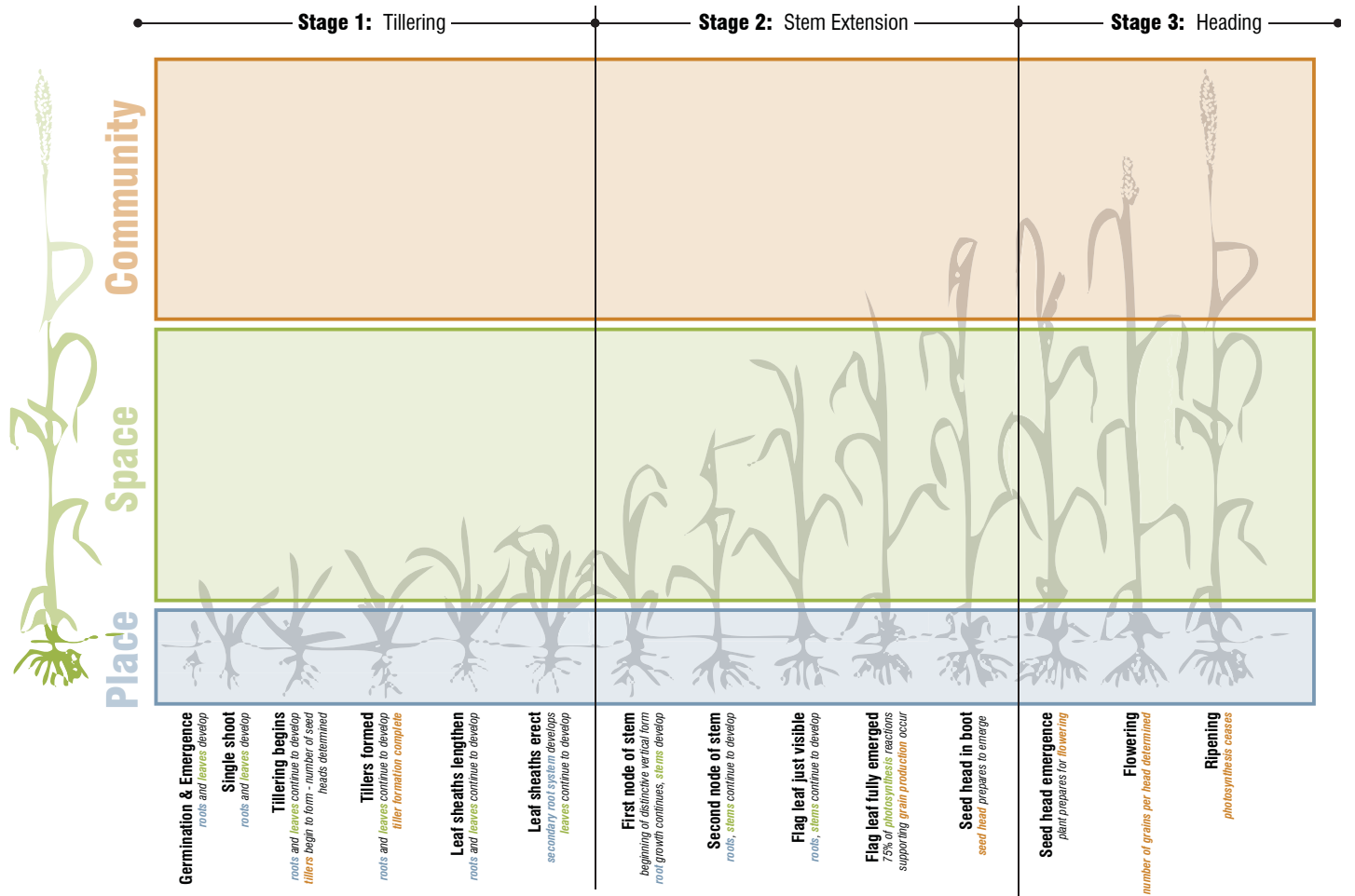


Figure 5.3
 Growth stages of wheat related to the PSC
 Framework (adapted from Large, E.C. 1954)

water for the formation of the tillers. Limited availability of water reduces the number of tillers the plant forms. Since each tiller becomes a seed head, this stage is critical in determining the final grain production potential of the plant (Neibling and Qureshi n.d.).

In the second growth stage, the wheat develops its distinctive erect form as tillers vertically extend to form stalks. During this stage the flag leaf and the seed head are formed. The flag leaf is responsible for 75 percent of all photosynthesis reactions supporting grain production and is the final leaf to emerge. The third stage is the heading stage, when the plant flowers, sets seed, and ripens. Water available to the plant is also critical during the flowering stage, for it is during this stage that the number of kernels within each seed head (former tiller) is determined (Neibling and Qureshi n.d.). If water is inadequate, the full potential of the head will not be realized and part of the ripened seed head will be empty.

It is important to note the logical progression through which the stages of wheat development occur. In the beginning stages of a wheat plant's development, significant energy and resources are invested in the development of roots and tillers. Leaves are produced in sufficient quantities to support plant growth through photosynthesis. Throughout developmental stages, most of the plant's energy is focused first on root development, and then almost solely on the production of seed. The three most important stages in the development of the wheat plant are root development, leaf and stem growth, and tiller formation and seed production. The development of Winona and the enhancement of its identity can benefit from following a similar growth pattern.

Applying the PSC Framework uncovered the key

elements of Winona's existing Community Capitals in the analysis phases and led to the concept of wheat as Winona's future identity. Using the identity of wheat, Place is representative of the development of the primary and secondary root systems. The growth of the leaves and stems which collect sunlight and carbon dioxide providing the plant energy for root and seed production represent the structures of Space. And Community is represented first in the formation of tillers and then the final production of grain. Figure 5.3 illustrates how each stage relates and contributes to each PSC category. The colored text in the descriptions of each stage relates to the colors of the PSC categories, showing the distribution of category functions across the process and the importance of focus in certain categories at certain places in the process. Most importantly, the diagram shows the critical importance of Place as the foundation supporting all future community growth.

Place

Roots are the foundation from which all plant growth springs and the unseen workhorse which enables all plant growth, hence the comparison to Place. Roots are constantly at work, spreading into and throughout the soil in search of the moisture and nutrients which support growth. Strong root growth is essential during the first stage of critical water use in wheat—the tillering stage because it is during this time that the potential total grain production capacity for the plant is determined. The root system must be sufficiently extensive and well-developed in order to provide for the moisture needs of the tillering plant. The roots of Winona, or its Place, are the almost unseen, and seemingly insignificant social interactions

which occur among the residents of the city on a daily basis. Focus on the roots, or the creation of Place in Winona is envisioned to follow a similar pattern.

At the beginning of the process of enhancing community identity, it will be essential to provide a proper environment for the tendrils of social and emotional interaction to permeate extensively into and throughout the fabric of the entire community, reaching and connecting as many individual residents as possible. Each resident must begin to feel that, both individually and collectively they have a critical role to play in the future of their community. They must feel a strong emotional connection with their place which will motivate them to act in behalf of the community in times of need. Instead of investing significantly into the built environment or the economy, both elements of Space, significant resource investment must be strategically focused and aimed at enhancing the connections Winona's residents have with each other and their landscape. Once those strong connections are made, the root system of the community will be sufficiently extensive in order to support the larger investments in infrastructure, elements of Space, necessary for Winona to reach its full potential as a vibrant and dynamic rural community.

Space

The PSC Space category is represented by the vegetative structures of the plant, the leaves and stems. The primary purpose of these structures is to support the vital processes of the plant, such as photosynthesis and the absorption and movement of water throughout the plant. Within the leaves and stems, a network of structures absorb and transport raw materials within the

plant, do the work of converting those raw materials into sugars, then circulate the sugars throughout the plant. Space facilitates similar interactions within a community. A network of both man-made and natural elements (trees, flowers, gardens, streets, sidewalks, buildings, utilities, hydrologic systems, topography, etc.) provides structure which fosters a sense of place while providing essential elements of community capitals, yielding identity.

Without processing and circulatory systems, wheat cannot survive. However, if the plant begins to invest too much energy in creating an abundance of leaves, the ultimate development of seed suffers. If wheat experiences lush vegetative growth before winter dormancy, much of that foliage dies over the winter hindering the ability of the plant to photosynthesize and process sugars in the spring. A similar fate can befall sub-rural communities which invest too heavily in building or repairing the structures of Space. If too much energy, time and money is invested in Space at the beginning, those elements can become a drain on the entire community system rather than supporting and growing it.

Just as the leaves of the wheat plant are the most obvious and visible parts prior to the emergence of the seed head, Space is the most visible and immediately obvious manifestation of identity in Winona, and evidenced by Greensburg's LEED buildings. Nearly every element proposed in the design of Winona will function as a Space element in some capacity. As will be described in the Community section, close interaction between Space and Community will be necessary in order for Winona to achieve its full potential.

Community

The ultimate goal of this design proposal for Winona is to create a stronger, more resilient community. For Winona to have the ability to feed off the strength of its roots, a proper growth environment must be established whereby the social, economic and environmental aspects of the community positively interact (Space). The final development of wheat produces seed for the propagation of new plants. The total amount and quality of seed is dependent upon all previous stages of growth, available nutrients and critical water. In Winona, the fostering of Place and modification of Space should not be end goals in themselves, but rather be stepping stones to a vibrant and dynamic rural community.

The processes supporting and enabling the production of seed are evident throughout nearly the entire growth process in wheat. From the moment the seedling emerges through the soil's surface, preparations are being made within the plant to facilitate the production of grain. Early in the development process tillers form, and eventually develop into stalks which support the seed heads of grain. During the tillering stage the full grain production potential of the plant is determined. In later stages, the flag leaf emerges from within the elongated tillers and the immature seed heads emerge. The flag leaf is critical to the production of grain because it is within this last leaf that a large majority of the photosynthesis reactions supporting grain production take place. Those reactions, given sufficient moisture during the flowering stage, enable the full potential of each tiller to be reached as each produces a full head of grain containing abundant healthy seeds. Given adequate resources and a healthy support structure capable of efficiently tapping

resources, a wheat plant, sprouted from a single seed, has the potential to create hundreds of new grain seeds.

The development of Community in Winona is proposed to occur in three stages; similar to the tillering, flag leaf emergence and flowering stages of wheat growth. Early in the process, almost from the emergence of the ideas which frame Winona's future, Community begins to develop. Just as tillers formed which would later become heads of grain, interactions among community members and partnerships with entities outside the community will determine the final potential of Winona's future. Critical during these early stages is the groundwork laid to facilitate the successful completion and manifestation of the original concepts and ideas. Significant effort and investment need to be made within the community in order to develop the full support of residents and to ensure the proper partnerships with outside entities are forged and strengthened. Strong roots – or meaningful Place – are required to ensure that these efforts and investments are successful.

In later stages, a strong investment must be made to improve the spatial, visual and economic characteristics of the community. This investment, while initially appearing to be focused on elements of Space and relating to the emerging flag leaf, functions as the engine enabling the economy of the community to grow. In the final stages of Winona's development, the full potential of Winona's planned future is realized through the deep and powerful physical and social identity created, stimulating lush economic growth and invigorating the quality of life within the community.

Winona's Master Plan

Things are different in Winona. The gas station moved and attendants fill up vehicles and wash windshields, taking good care of their customers, not to mention the spectacular entrance to town with beautiful fountains and trees. Simply unexpected in semi-arid western Kansas, and quite unique for a town that was drying up in every way. The new history could read, "Water and agriculture, especially winter wheat have supported the people of Winona since the founding of the city and in 2011 residents realized this and were motivated to reinvent their space, place and community. Collectively they turned a stormwater challenge into a community-wide celebration of water for growth."

Ponds with sculptures and fountains at the new safer intersection of U.S. Highway 40 and Main Street mimic the sway of wheat in the surrounding fields culminating a series of stormwater management BMPs. (Figures 5.4 and 5.5). Together the BMPs solve the significant health, safety and maintenance liabilities of the past. The beautiful aesthetic owes much to the reuse of water for irrigating the native trees and plants in the Railroad Park marking the community's entry. The combination of water and trees cools the park and trail on hot summer days and is an oasis for travelers and residents alike as they gather for events, enjoy a picnic lunch, casual stroll or run. Residents will strengthen bonds and relationships with each other as popular community activities take place within the Railroad Park, such as bonfires, hot dog roasts, and fireworks displays. The proximity of the pavilions, trees and water of the park to the gas station, motel, and their adjacent exterior uses, reinforces the important tourist/visitor draw of Winona's new entry.

(Figure 5.6). Beyond the fun interplay of the fountains, is their functional aeration purpose enforcing the wheat symbology of the community's identity.

The entry tree plantings exclaim the arrival to Winona and hint at their value as shade producers and cooling factors as well as stormwater managers. All trees in the right-of-way and parks contribute to the aesthetic and environmental quality of spaces and are integral to stormwater management. Rusted steel sculptures weave down Main Street in new bioswale BMPs, mimicking the hard red winter wheat color and interwoven forms of the seed head. These native planted features mitigate the stormwater issues caused by the impervious surfaces of Main Street and contributing watersheds. As with the wheat plant, the steel structures also have a functional purpose as they direct water through the bioswales. (Figure 5.7). During storm events they direct and control the flow and ponding of water through the Main Street planters. (Figure 5.8).

The bioswale planters are designed to encourage people to interact with them during rain events and are artfully connected to building canopies, entrances and windows with fun rain chains and other sculptural elements celebrating water and sparking interest in dry times. (Figure 5.9 and 5.10). The movement of the ribbon and its integration with plantings help remind people of their unique identity and purpose. Pride-filled residents come together to maintain them regularly, and enjoy their sculpture garden character as they stop to chat along the path of their daily activities.

The economic, cultural and social center of the community is in the middle of Main Street near the new community grocery store and Roots Café. Roots is an

Legend

- A** Park Pavilions/Firepits
- B** Pond/Fountain
- C** Pond/Fountain
- D** Pond/Fountain
- E** Exterior Seating/Dining



0' 35' 70' 140'
 Scale: 1" = 70'

Figure 5.4
 Winona entry plan

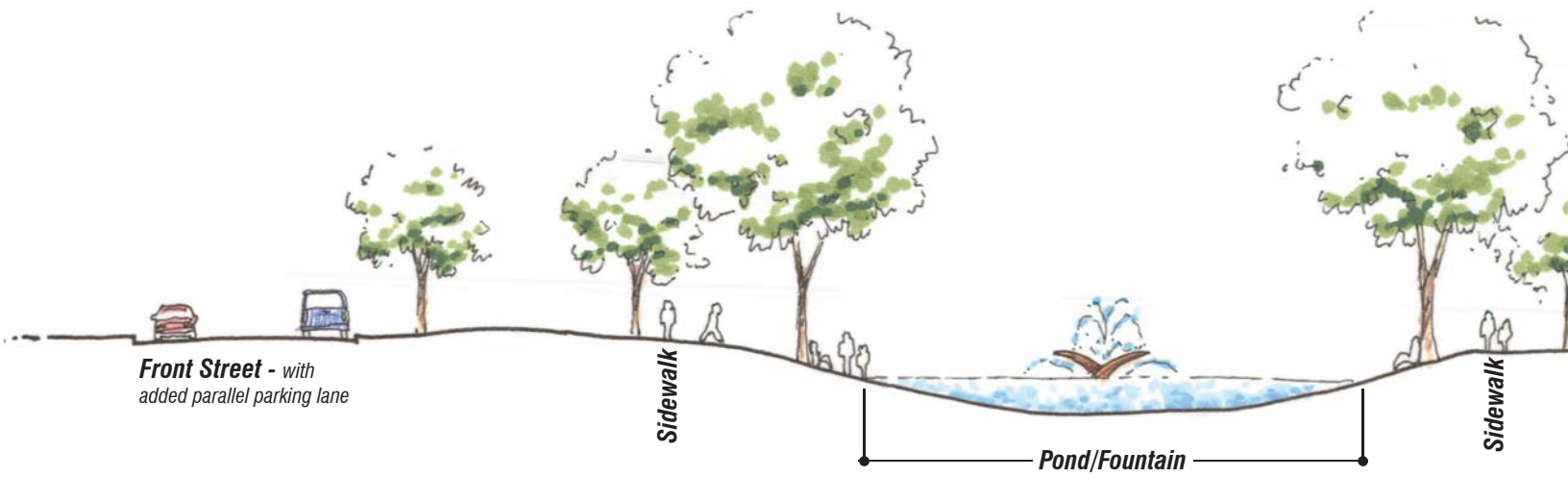


Figure 5.5
Railroad Park Section (Section AA)

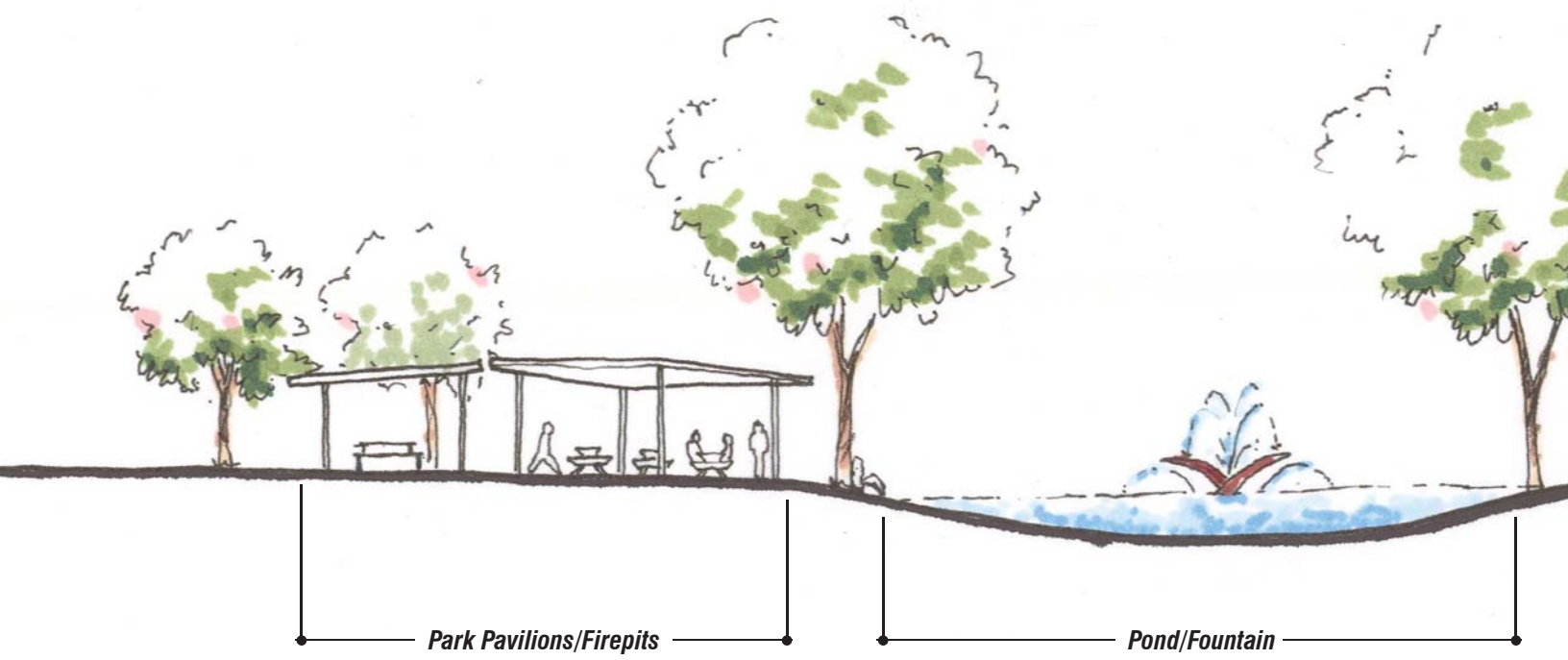
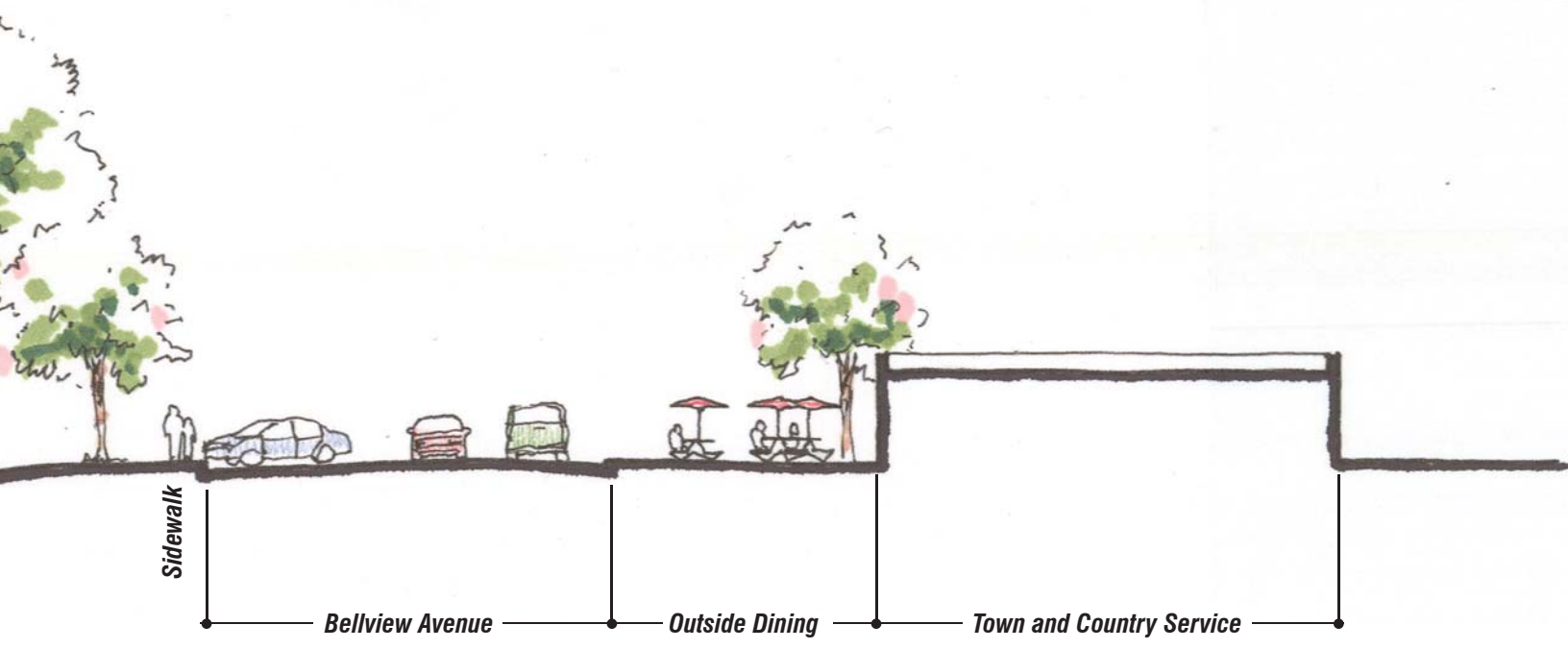
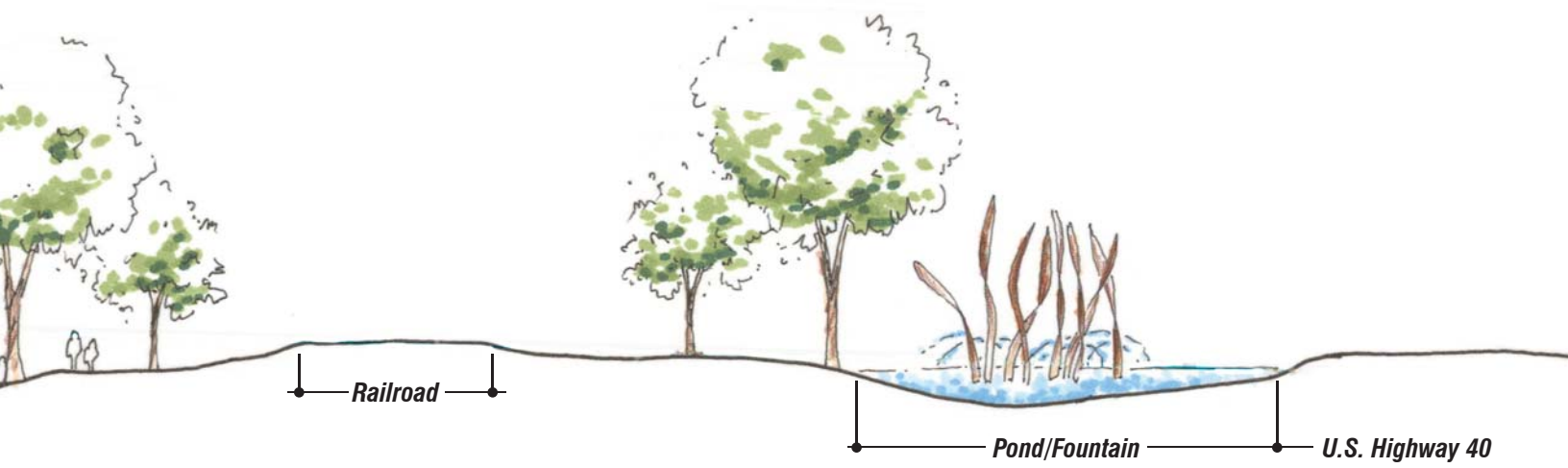


Figure 5.6
Railroad Park Section (Section BB)



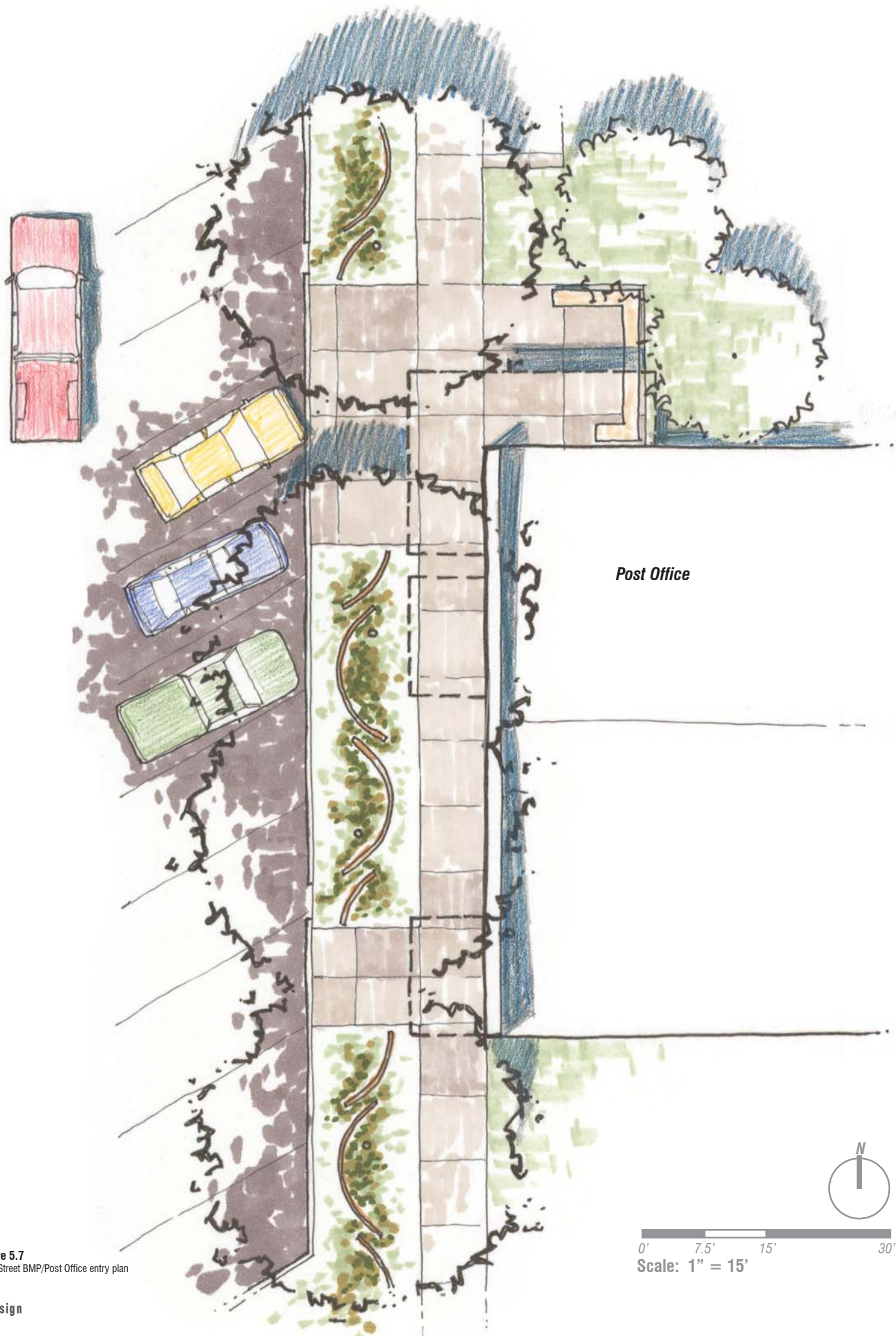


Figure 5.7
Main Street BMP/Post Office entry plan

0' 7.5' 15' 30'
Scale: 1" = 15'



Figure 5.8
Main Street BMP flow diagram



Figure 5.9
Main Street existing condition



Figure 5.10
Main Street BMP detailed perspective

excellent local restaurant celebrating locally produced products and is just across from the post office. The sounds of water playfully cascading down a water wall cool and refresh customers in the summer and the service inside invites and welcomes year-round. Roots Grocery and Café is always busy and has become a regional favorite. The walls adorned with historic photos of Winona tell the story of the amazing transformation highlighted by the before and after large aerial photographs taken from the top of the elevator. (Figures 5.11 and 5.12).

Yes, Winona is different. The combined effort of the community from the very beginning is ongoing and growing with new residents and outsiders getting involved. The small first step of reworking the entrance to the post office (Figure 5.13) to promote social activity brings the community together as mail is essential to everyone. The entry design focuses on comfortable and enjoyable conversation. (Figures 5.7, 5.14 and 5.15). People grow friendships here. A small Place, Space, Community focused step, significant community impact.

Winona's plan revolves around getting people

involved with water as a way to enhance their community identity. Rain barrels and small rain gardens, and more native plants installed by residents in their home landscape lead the way to stormwater mitigation. Every residence in town is at most a half block away from a rain garden. Working together in neighborhood rain gardens resident 'garden clubs' share and learn, while implementing beauty – improving value. (Figures 5.16, 5.17 and 5.18) A community-wide rain garden competition is celebrated at the annual harvest festival held in the park outside Roots.

The rain gardens are the beginning of a city-wide system of educational "art" pieces or sculptures designed to tell the story of the stormwater problem that motivated the entire community transformation. Schools from around the area come on field trips in the spring and fall to learn about native ecosystems, stormwater management, and to have fun. The growth process of the hard red winter wheat and native plants is an additional metaphor for how the community developed and is the inspiration behind the sculptural forms throughout the community. The wheat – like sculptures and steel



Figure 5.11
Aerial photo of existing conditions

ribbons in the stormwater planters along Main Street uniquely identify Winona.

Water was and continues to be foundational in shaping the history of Winona. Residents are excited about their role in reducing stormwater runoff and tell of the exciting methods of treating it – called BMPs or best management practices. Sculptures designed to convey the amount of water removed from the system by BMPs are located at outlet points of each watershed, reminding residents and visitors who tour town of the collective contributions and their tremendous influence on the entire community.

The gem of the community (Figures 5.19 and 5.20) is the park at the center of town designed to graciously host community activities including a weekly farmer's market from May to October. The adjacent community

garden provides produce for residents and Roots growing the local economy and encouraging community interaction. Movie nights held from March to October attract up to 200 people from all over the region to the park for dinner and a movie on the outdoor screen next to the water wall. (Figure 5.21)

While the water wall is great on a hot summer day, it is stunningly LED lit when frozen in the winter. The LEDs project elements on the wall through the ice creating a distinctive ice sculpture highlighting the identity of Winona and attracting people from all over. The roof-top dining terrace at Roots provides a glass enclosed area for year round outdoor dining and a large outside dining terrace amid an extensive green roof of prairie grasses swaying to and fro in the refreshing western Kansas breeze. No matter the weather or season, diners enjoy



the expansive sky and the sea of waving grasses on the rooftop and beyond. The proximity to the water tower and the grain elevator, which are the beacons of rural towns in western Kansas, provide a nostalgic background.

As a beacon of the community and expression of Winona's identity, the relationship of the new landscape to the water tower is elemental. A large underground cistern which stores the runoff from nearby impervious surfaces and all of north Main Street's runoff is juxtaposed next to the water tower. This juxtaposition is a subtle play on the value and uses of water in this landscape, representing an opposite, but complementary spin onto the purpose of the water tower. The large, above-ground cistern captures stormwater from the ground and stores it in the air for gravity-fed human and landscape use. A smaller underground cistern collects stormwater and

stores it within the earth to be later used for landscape consumption artfully explaining the hydrologic cycle and water use specific to the place.

The beautiful transformation of the city can be attributed to the community-wide use of cisterns of all sizes and configurations. From the residential rain barrels to the natural storage occurring in the rain gardens, bioswales and ponds, the beautiful trees, native plants and community gardens are dependent upon and sustained by supplemental water from these storage devices. In addition to the improvement of the visual aesthetic of the place, storage BMPs provide a valuable addition to the pocket books of the city, school, businesses and residents alike as irrigation requirements are dramatically reduced and trees shade structures reducing building energy consumption. The school, with



Figure 5.12
Aerial perspective of proposed conditions



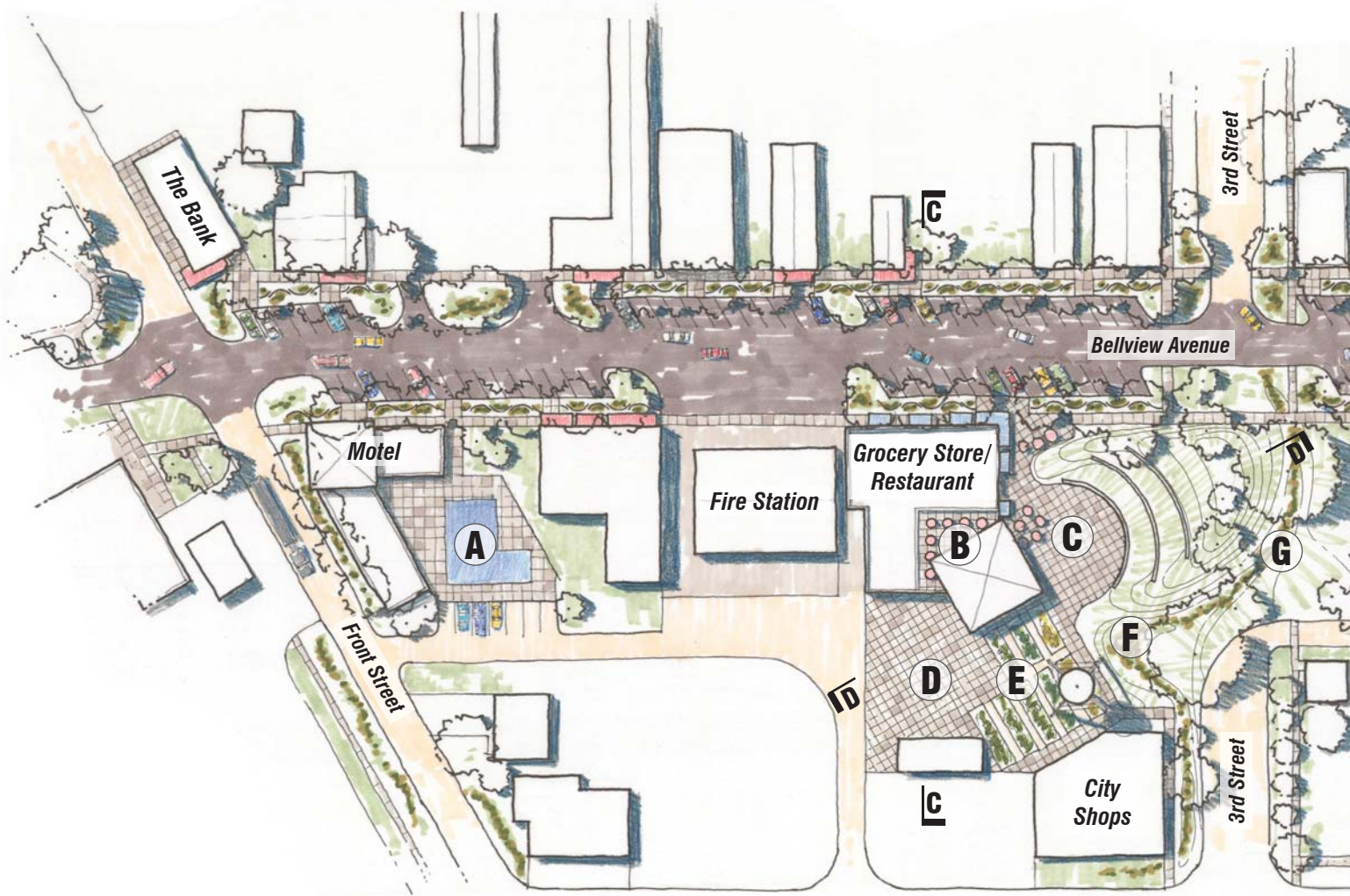
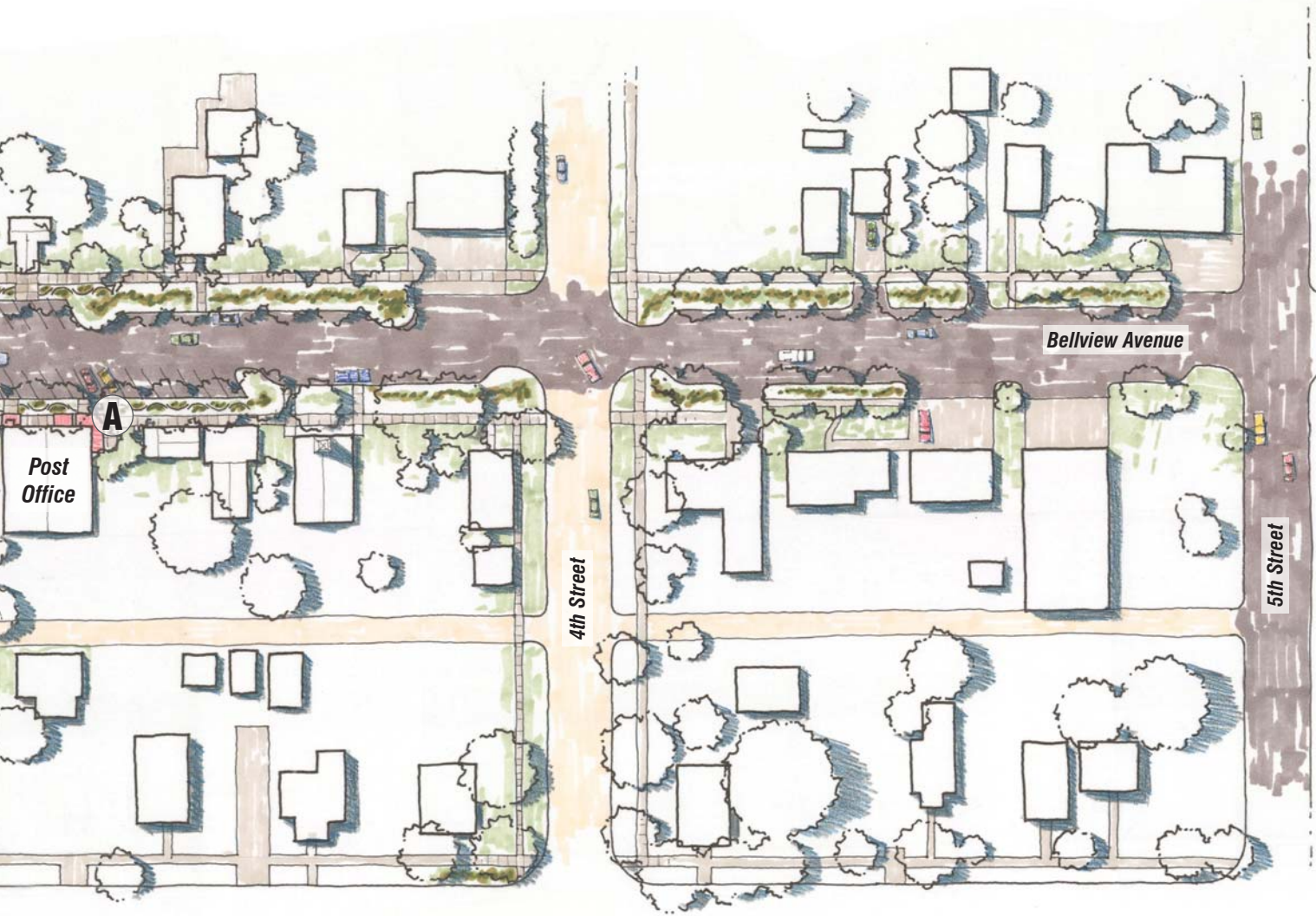


Figure 5.13
Main Street Master Plan

its extensive native and ornamental landscape areas and expanses of turf, receives a significant economic benefit by capturing the runoff from its large rooftop footprint. Water and agriculture, especially winter wheat have supported the people of Winona since the founding of the city, and beginning in 2011, using a city-wide stormwater problem as motivation, they transformed the city into an bustling and vibrant oasis in the middle of semi-arid western Kansas. History, it seems, can be changed from the inevitable drying-up of community to a rebirth of place and community, growing into the jewel of sub-rural America.

The proposed stormwater management system for Winona is divided into three catchment or watershed areas: Watershed A, Watershed B and North Winona. Within each catchment or watershed, distinct stormwater systems are proposed to store, infiltrate, or slow stormwater runoff improving quality and quantity issues. Each BMP type is represented in Figure 5.22 which diagrams function and purpose within the treatment plan often called a treatment train. The specific locations of each type of BMP within Winona are illustrated in Figure 5.33.



Legend

- (A)** Community Swimming Pool
- (B)** Dining Terrace
- (C)** Amphitheater/Water Wall/Exterior Dining
- (D)** Farmer's Market
- (E)** Community Gardens
- (F)** Cistern
- (G)** Bioswale



Figure 5.14
Post Office entry - existing condition



Figure 5.15
Post Office entry - proposed condition



Figure 5.16
Street-side bioswale detailed section



Figure 5.17
Community-wide master plan



Legend

- (A)** Burnpile/Bonfire Location
- (B)** Park Pavilions/Firepits
- (C)** Town & Country Service
- (D)** Motel and Community Pool
- (E)** Grocery and Restaurant
- (F)** Community Gardens/Farmer's Market
- (G)** Multi-purpose plaza space/Amphitheater

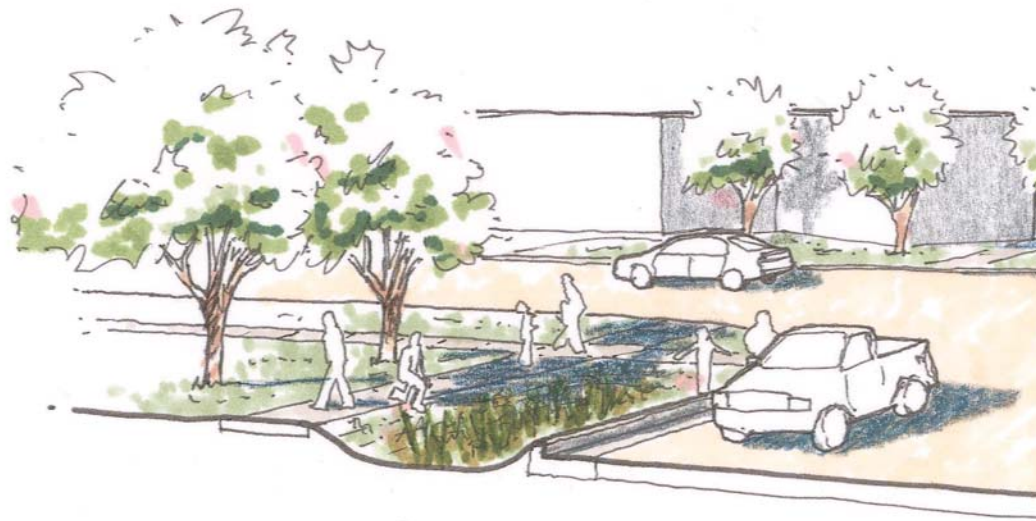


Figure 5.18
Corner raingarden detailed section

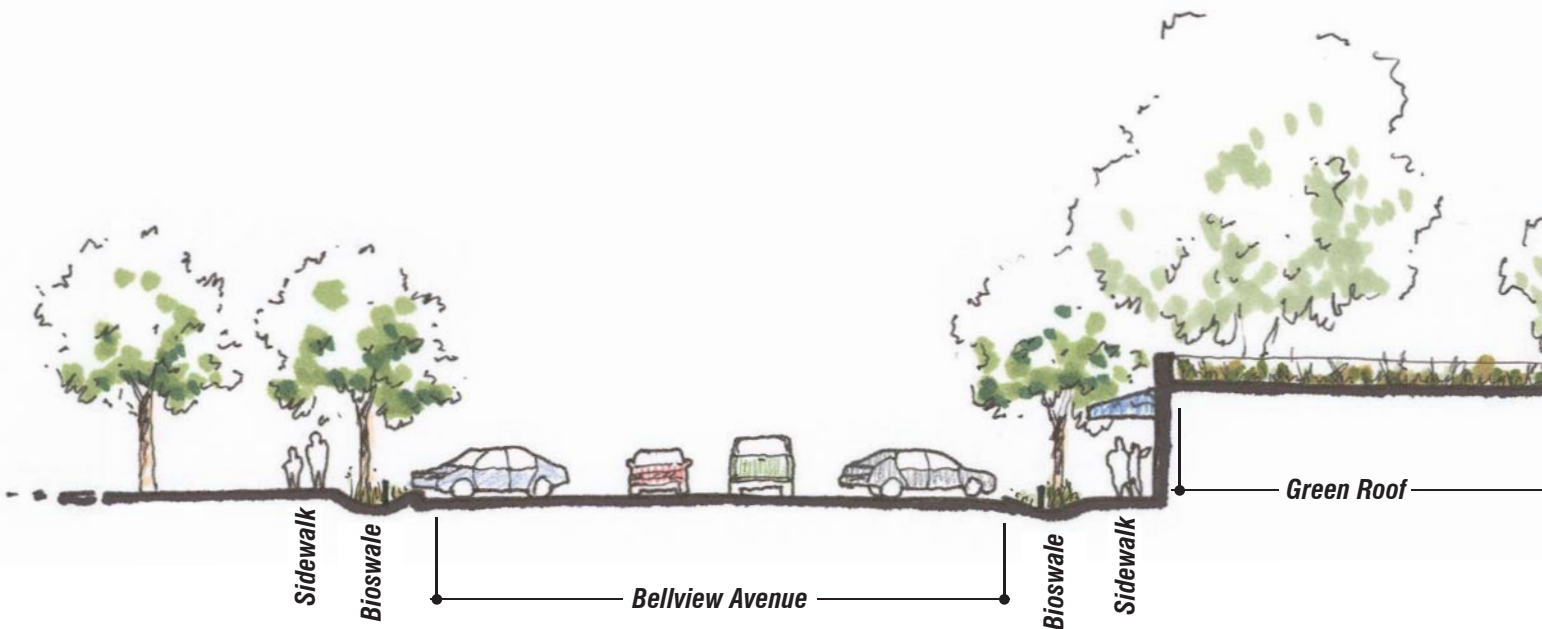
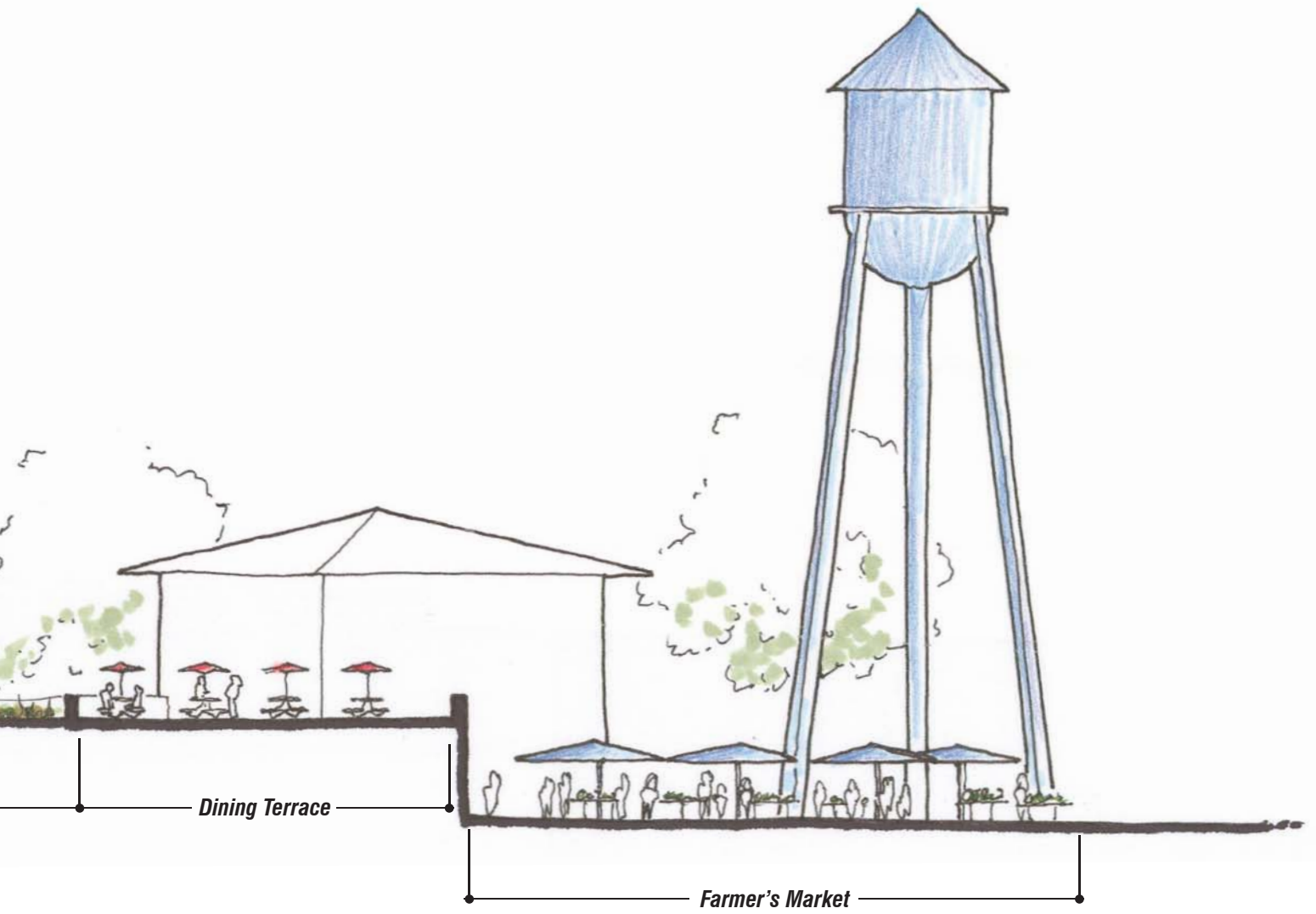


Figure 5.19
Central Park section - Main Street/Roots/
Farmers Market - Section CC



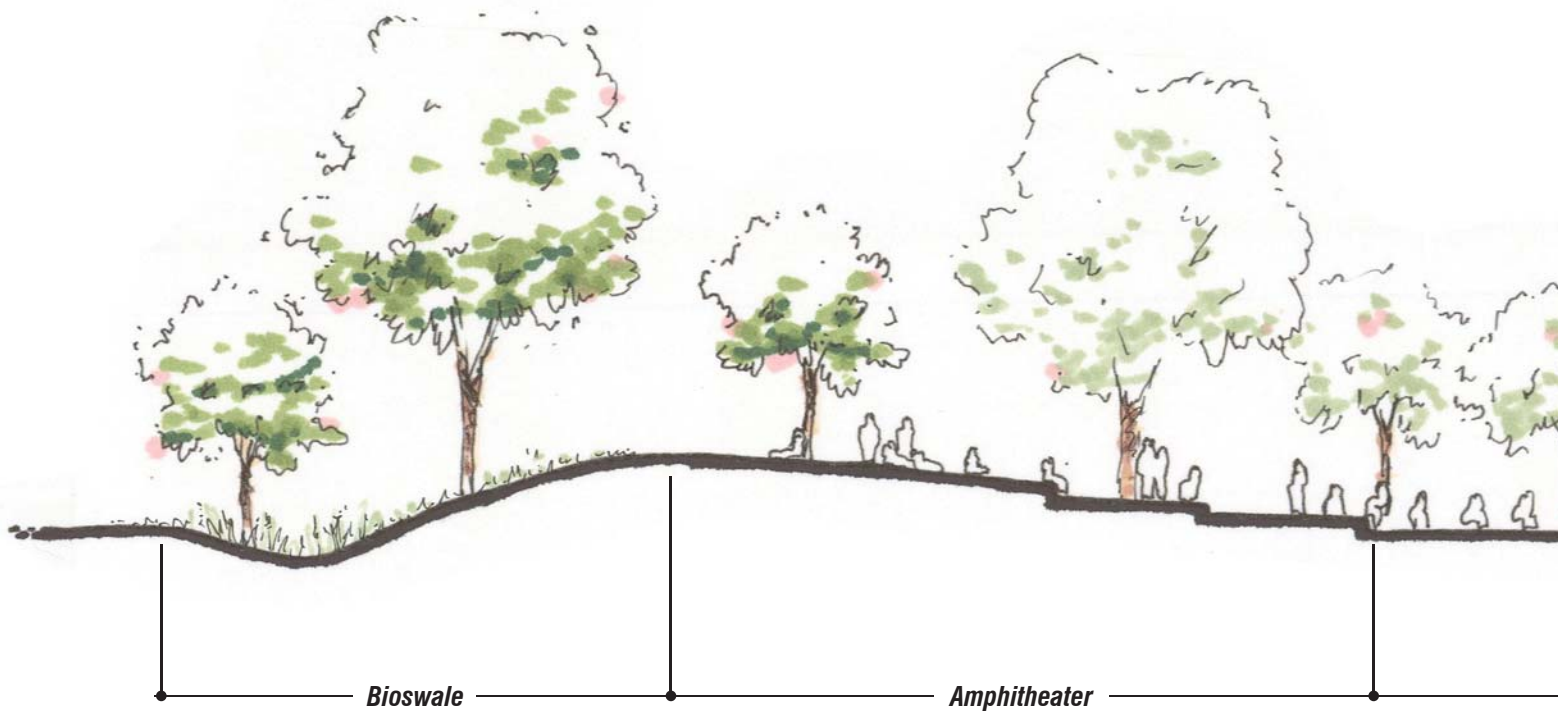
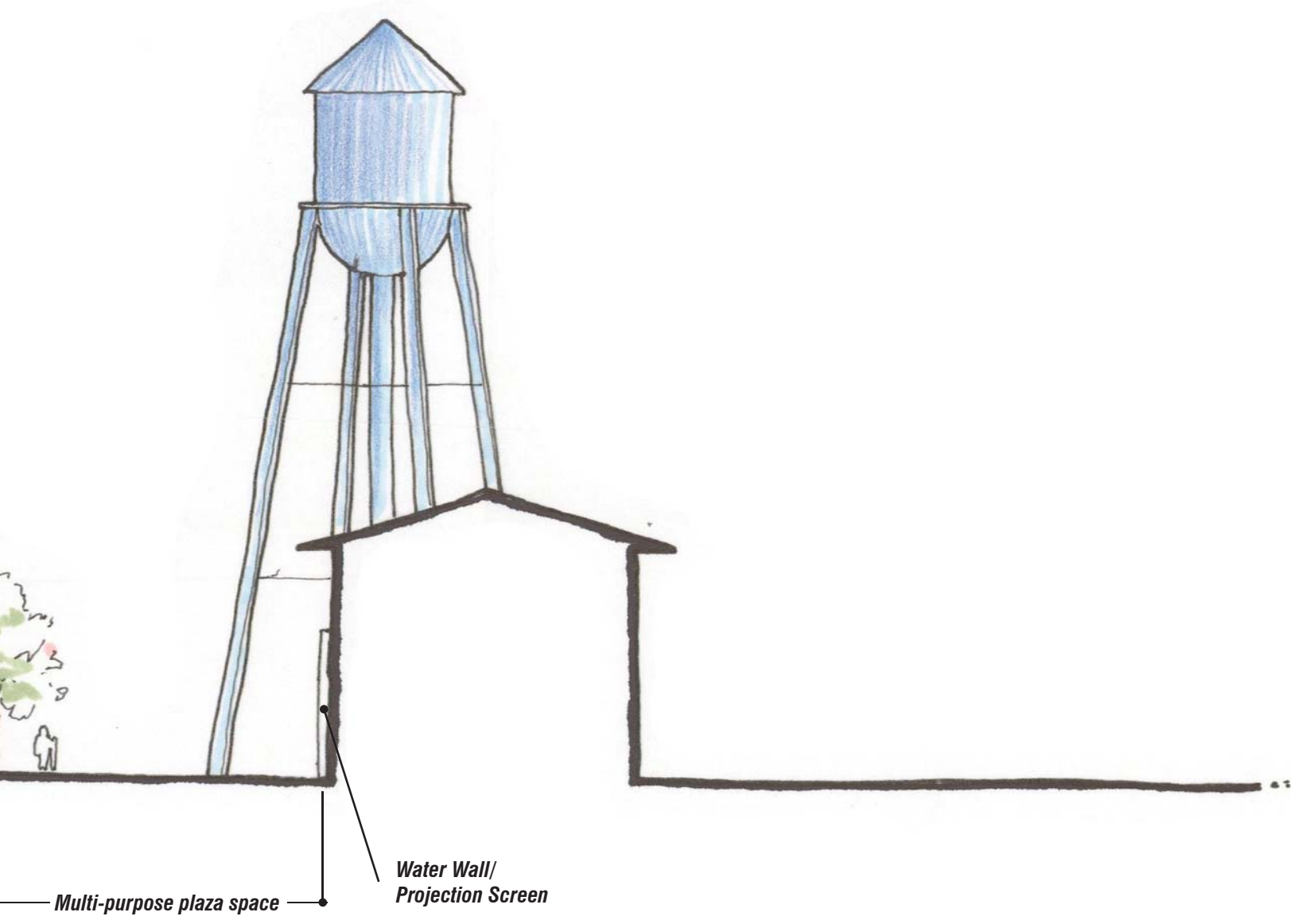


Figure 5.20
Central Park section - Amphitheater/water
wall/Roots - Section DD



*Water Wall/
Projection Screen*

Multi-purpose plaza space



Figure 5.21
Central Park aerial perspective



Watershed A

Four distinct treatment systems, or BMPs, are proposed in watershed A. The first is a storage system which occurs on all properties except those adjacent to the main street. Stormwater is collected from residential building rooftops in rain barrels at each downspout. The water collected in each rain barrel can be used to irrigate gardens and residential landscapes reducing water demand across the city and lowering water bills.

Excess rooftop runoff not able to be stored in rain barrels is directed to infiltration systems called rain gardens. Rain gardens are aesthetically pleasing landscape beds designed to slow and detain stormwater for a period of time allowing water to infiltrate into the soil. Rain garden storage reduces total runoff amounts and improves soil moisture content and groundwater recharge. By storing water and slowing runoff velocity, rain gardens reduce erosion problems. Rain garden plants and soils also filter and cleanse stormwater by removing sediments and chemicals.

Excess runoff from rain gardens is directed along streets and is then collected in bioswale infiltration systems (either along Hawley Avenue or Front Street) where velocities are again slowed, mitigating erosion problems and removing sediments and chemicals. Again these systems are designed to allow overflow to continue on in the treatment train. Excess water from bioswales enters a retention/detention pond system at the community entrance. Water in these ponds is used as an attractive entry feature, a cooling agent for the pavilions and trail in the Railroad Park, and for supplemental irrigation of the proposed street trees and landscape plantings in treatment systems. During large

rain events, the entry ponds allow excessive runoff to pass under the railroad tracks and Highway 40 into the existing pond referred to by locals as the “lagoon.”

Another treatment train option in all watersheds is pervious pavements. Both the city and homeowners are encouraged to install pervious pavements for walks, drives and streets, further increasing infiltration and improving soil moisture content and groundwater recharge. By using native plants for residential and commercial plantings, the amount of supplemental irrigation required to keep landscapes looking great is minimized while lowering water bills.

Main street stormwater flows are treated in a different manner. Runoff from main street buildings and adjacent properties is captured and treated in the bioswales lining the street. The steel ribbons within these bioswales guide and collect that water where it is slowed, cleansed, infiltrated and evapotranspired by vegetation. Any excess runoff flows into the curb/gutter system where it joins the rest of the street runoff.

Because Winona receives, on average, only 18-20 inches of precipitation per year (NOAA), runoff must be strategically managed in order to ensure sufficient volume discharged into the entry ponds. Runoff collected in the curb/gutter systems from both sides of the main street, south of 3rd street, is treated only minimally prior to it reaching the ponds. The only treatment occurs in rain gardens located at curb bulb-outs, where velocities are slowed, allowing sediment and chemicals to drop out of the water prior to discharge into the ponds. This minimal treatment of the flows from the area of highest runoff concentration will help ensure sufficient volumes to maintain adequate pond water levels.

Watershed B

Watershed B operates using similar systems to Watershed A. Most runoff is initially treated at the residential level through rain barrels. Excess runoff is directed along streets until it reaches the corner rain gardens, where the same functions of slowing, cleansing, infiltration and evapotranspiration occur. In watershed B, nearly all runoff eventually reaches a bioswale system along Front Street. Once there, the runoff continues slowly until it exits the community beneath the railroad tracks and highway in the locations of existing culverts.

Water along Main Street is treated in a slightly different manner. While the initial treatment of site runoff occurs in the same manner, with the bioswale/steel ribbon system detaining that runoff, any excess and all street runoff from between 3rd and 4th streets is treated through bioswale systems. In the Central Park, that bioswale cleanses and slows the water before delivering it to a large storage cistern adjacent to the water tower. All runoff from the grocery/restaurant rooftop and the adjacent plaza and amphitheater surfaces is also collected in this cistern. Water from the cistern will be used to irrigate the community gardens, provide water for (and recapture water from) the water wall, as well as necessary supplemental irrigation for new plantings. During large storm events, or when the cistern is full, overflow will continue through the bioswale – eventually

entering the Front Street bioswale system. The southern half of main street is treated in a bioswale on the south side of the motel prior to its entering the Front Street bioswales. These two bioswale systems, along with the redirection of main street flows to the entry ponds will sufficiently slow runoff velocities so as to eliminate the erosion of street intersections currently occurring at the Miles Ave./3rd Street and Miles Ave./Front Street intersections as detailed in the watershed analysis.

North Winona

Runoff north of 5th Street (the characteristics of the North Winona watershed are not described nor calculated in the analysis due to unclear contributing areas, flow patterns and very little evidence of any problem areas) will be reduced in several ways. Runoff from the impervious surfaces of 5th Street is captured and treated in corner rain gardens along the street, similar to watersheds A and B. A large contributor to runoff in this watershed is the school, with its large building footprint and large amount of adjacent impervious surfaces. A system of cisterns will capture the school's rooftop runoff to be stored for later irrigation use (for new plantings and offsetting the school's irrigation requirements, especially for the football field.) Any overflow and pavement runoff will be treated in rain gardens prior to release into the existing curb/gutter system.



Rain Barrels
(Bio-detention)

Image source: <http://ecostrides.com/wp-content/uploads/2008/11/rainbarrel.jpg> - modified by author



Cisterns
(Bio-detention)

Image source: Photograph and modifications by author



Rain Gardens
(Bio-retention)

Image source: <http://www.rainwatercollecting.com/blog/wp-content/uploads/2009/09/Rain-Garden.jpg> - modified by author



Bioswales
(Bio-retention)

Image source: <http://www.lakecountyl.gov/Stormwater/LakeCountyWatersheds/BMPs/PublishingImages/bioswale.jpg> - modified by author



Ponds
(Bio-retention/detention)

Image source: <http://www.lakeforntinc.com/images/pond.jpg> - modified by author

Legend






-  Rain Gardens
-  Bioswales
-  Bioswales w/ ribbon
-  Cisterns
-  Ponds

Figure 5.22
Treatment train diagram



Figure 5.23
BMP type and location diagram

A large, stylized leaf graphic in a light green color, set against a darker green background. The leaf has a central vein and several smaller veins branching off, creating a symmetrical, organic shape. The text is positioned in the lower right quadrant of the leaf.

Conclusions

06

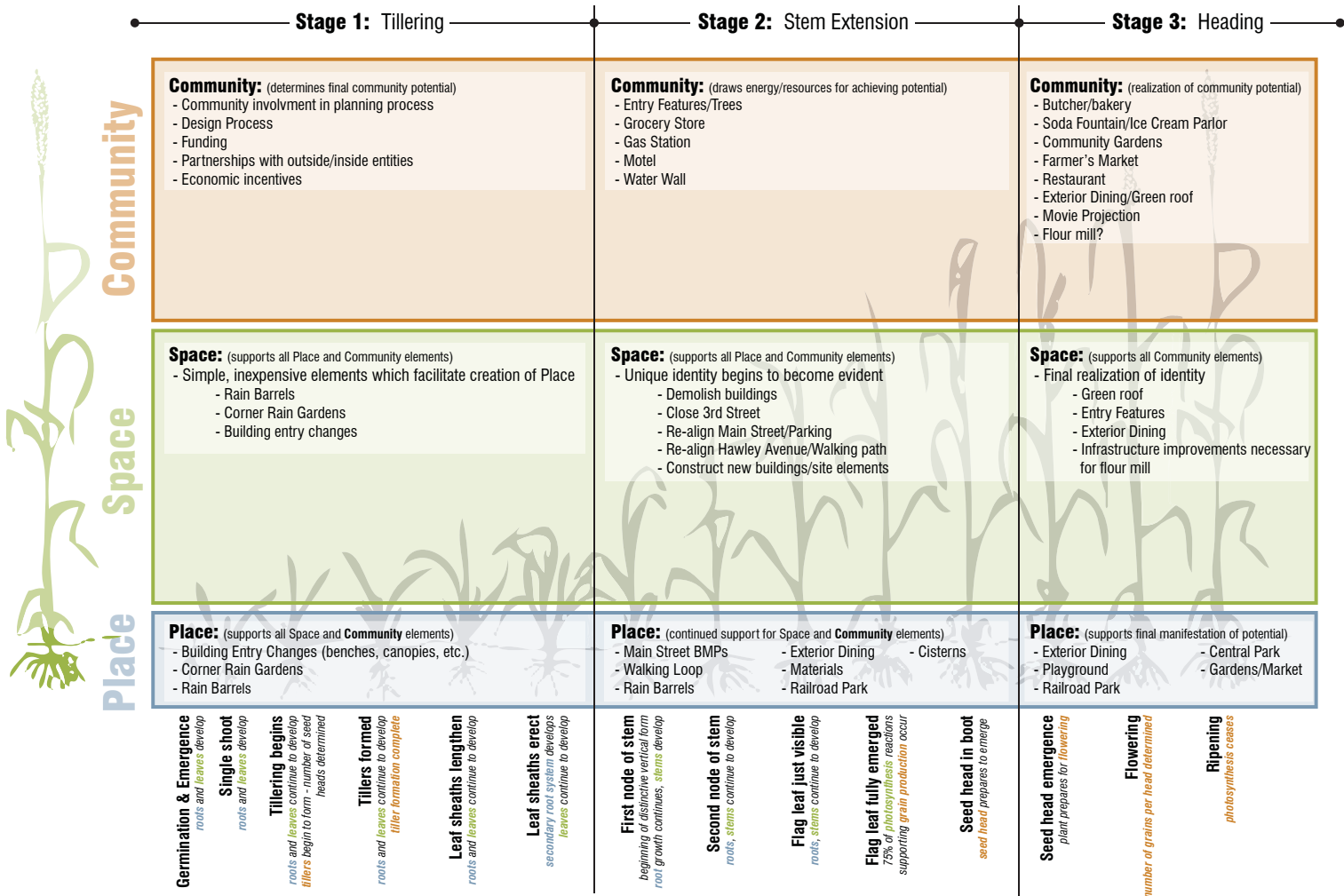


Figure 6.1
Synthesis/Evaluation Diagram

Conclusions

The overarching dilemma of population decline facing Winona is not easily or quickly solved. The processes driving the decline of rural populations are varied and complex and exist on a global scale. They are not unknown or unfamiliar to rural dwellers as they are in part the very drivers of their community beginnings. As rural dwellers have historically creatively adapted to changing situations, they should not fear the future, but prepare and plan for it with their core identity and community capitals in focus.

One of the first questions asked at the outset of this project was “why isn’t landscape architecture more prevalent in rural communities?” The answer to this question, and its far-reaching implications on Winona’s future, provide the hopeful optimism necessary to successfully address the dilemma. While growth may not happen and revitalized downtown business may not return, if despair and apathy rule the day, growth and revitalization won’t happen. Similarly, a short-sighted focus on solving individual pieces of the rural decline problem, or the economic or technical aspects, will not provide a lasting solution or promising future to the community.

People are possibly the most important aspect of any community, and especially a sub-rural one like Winona. Solutions must therefore address the person as well as the place. This is precisely the value of the landscape architect in this situation. Landscape architects are able to consider the systems at play in the rural dilemma, the social, economic, and environmental, and design to holistically improve all systems. In order to create true place, and initiate positive and sustainable change in sub-rural communities, this holistic and creative design must

begin with the people.

Landscape architecture offers great potential for aesthetically pleasing solutions to environmental dilemmas (such as Winona’s stormwater problems) which respect natural system functions and services. However, BMP solutions alone fall far short of achieving identity and place-making. In fact, purely functional BMP systems may contribute instead to placelessness rather than place. Herein was the grand challenge for this project and for landscape architects across the globe – building community and true place through community stormwater solutions.

Therefore, the fundamental question is this: “can an architect of landscape achieve this goal in Winona, Kansas?” The answer is a resounding yes when planned and executed with the correct intentions and in the proper order and sequence. The PSC Framework theorized herein suggests a very strong starting point for a focused process to achieve place and identity. As applied in Winona, the PSC Framework enabled the creation of potentially powerful identity and place, as well as building a very strong and resilient community. Figure 6.1 illustrates the synthesis of PSC elements and the evaluation of the framework’s potential success in informing and facilitating the creation of place and community in Winona.

The key to this project’s success is evident in the answer to this question: “what will landscape architecture look like in Winona and how will it fit into the social and economic dilemma of the sub-rural region?” Most successful communities are so because they have an economic, natural or social draw that attracts people there. In the case of Winona, which on the surface seems to have low amounts of all three capitals, the response was

to enhance the value of the existing social and environmental capitals and allow that to increase the value of the economic capitals. Essentially, the necessary draw was created by simply modifying existing capitals.

If rural communities are to overcome the status quo of rural decline, they must shift the status quo approach of rural problem solving from a focus on economic and infrastructural investment to investments which integrate all aspects of the community – landscape – in a holistic manner aimed at the aspects of Place, Space and Community. Sub-rural communities will best facilitate this integration by implementing designs focused on the long-term goal of improving and enhancing human experiences and connections which reveal and foster place – building Social Capitals. The interaction of people and environment is the essence of the Place, Space and Community (PSC) Framework.

As suggested by Emery and Flora, initial investment in Social Capitals initiates an upward spiral, positively influencing all other capitals (see Figure 6.1). This upward spiral is evident in the self-supporting cycle present among the design elements of Winona's master plan. Successful enhancement of Social Capitals leads to enhancement in environmental Capitals (Space) and Economic Capitals (Community), which in turn create a feedback loop sustaining further development of Social Capitals (Place and Community). The great challenge lies in successfully enhancing Social Capitals to the proper level. If community residents are not completely willing to participate in the prescribed process, then the entire future outcome is jeopardized. However, if residents are positively motivated and willing to work collectively, cumulative increases across all capitals can be achieved.

For example, the provision of the central park, water wall sculpture, and movie nights attract customers which support the restaurant and grocery. The local foods initiative provides produce for both the restaurant and the grocery store and stimulates the economy of Winona. The momentum gained from the selling of local foods in Winona could encourage investment in developing a local market for multiple products, including beef, pork and poultry (to be sold at the butcher in the grocery store and in the restaurant.) A market for a local dairy/creamery operation (also sold in both the grocery and the restaurant) could be developed. Finally, the proximity and access to the railroad could help spur investment in a flour mill/bakery operation, purchasing locally produced wheat and selling the bread products both locally (again, in the grocery store and restaurant) and more regionally, perhaps even nationally.

These future possibilities raise a very important point. What happens if Winona is successful? One of the aspects of the dilemma, the lack of landscape architecture and planning in rural locations, would become very quickly obvious. Significant planning needs to occur in order to guide the economic and social development of the new Winona to ensure the maintenance of the community's identity and sense of place. New industry should develop near the railroad and the highway to take full advantage of the transportation efficiencies. Commercial development should begin by infilling the rest of Main Street, and the intersection of 3rd and Main Streets (south of the city hall) would be a prime location for initial development. Activating this corner would only serve to strengthen the social and economic power of that center. Residential development must similarly focus first on

infilling rather than expanding. Infill maintains the current identity and character of the place as opposed to sprawling outward.

The potential policy decisions supporting these future possibilities further illuminate the value of the landscape architecture and planning professions in rural and sub-rural locations. What kinds of policy decisions and partnerships will be most helpful, encourage development and growth and help ensure success? Several economic incentives will likely be necessary, including varied tax incentives to encourage relocation of businesses and the implementation of BMPs, especially at the residential scale. Incentives for reduced water and energy use, as well as the simple reductions in utility bills which the proposed BMPs would foster can motivate residents and business owners alike to install and maintain BMP systems. Incentives or price discounts on groceries, available to those who contribute to the community gardens or farmers market, in addition to the health benefits of consuming fresh, locally produced foods would also encourage people to shop more locally, not to mention the greater economic benefits of doing business locally.

Finally, several partnerships will be key to the successful implementation of this plan. Partnerships with the grocery store and gas station might be possible with Dilons (Greensburg model), providing the support and security of a national chain. Partnerships between the city, county and local business owners, encouraging businesses to relocate and redevelop along Winona's main street would also be necessary. Early on, the relationship between Winona and FEMA will be critical in procuring the funding necessary to begin the process of modifying Winona's Space facilitating and supporting the changes

to Place and Community necessary to successfully realizing Winona's future. Partnerships with universities for research and design assistance, as well as relationships with professional designers and planners will be critical in initiating and implementing planned developments.

One of the greatest opportunities seized for both Winona, and the landscape architecture/planning professions, is the PSC Framework derived artful and distinct stormwater BMPs which successfully manage a very real stormwater problem **AND** create powerful place and community identity. This is contrary to most Green and Complete Streets applications performed from an ecological or functional perspective but fall far short of creating place and identity - many times instead achieving placelessness. This project provides a clear framework for achieving place-making and community building within the frame of a stormwater project.

The methods through which the design was carried out suggest that perhaps successful place-making might require a modification to the current landscape architecture business model. My intimate knowledge of the place, tempered and expanded by the input of my fellow residents was **THE** element enabling the successful completion of this project. How can landscape architects achieve that level of knowledge of place if they experience their site through infrequent and very short site visits or virtual visits through Google Earth and Street View? PSC suggests a return to our roots. Landscape architects will be more successful at creating place and building community if they develop deep expertise and practice in their "own backyard", or landscapes they are intimately familiar with. Because of the familiarity of place achieved through both my background and the community survey,

the design successfully responded to social, economic and environmental needs. While emphasis was placed on the social aspects, the environmental were also strongly considered and played a powerful role in the enhancement of economic capitals. The potential of the stormwater management system to nearly eliminate Winona's stormwater problem is high. This potential is reached through a community-wide system of BMP treatment options.

Personal Reflections

This project represented a very challenging intellectual process which was very fulfilling. The potential of this project to increase the Social Capitals of Winona is truly great; however, perhaps the greatest fulfillment came with the unexpected increases in the levels of my personal Social Capitals throughout the process. Though nearly a life-long resident of Winona and despite having not lived there for nearly ten years, my sense of belonging to and love of the place increased nearly as much, or perhaps even more than if I was still living there. Conceiving a project which has the potential to so dramatically

and positively affect the future of my hometown was a greatly rewarding and fulfilling experience. It is hoped that this work will inspire similar increases in belonging and hope for the future of Winona among its other residents.

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Appendices

01

Appendix A

Glossary

B **Best Management Practices (BMPs):** A technique, process, activity, or structure used to reduce the pollutant content of a stormwater discharge (EPA). BMPs can range from simple cleanliness and preventative maintenance on an individual/personal level to large-scale and highly structural stormwater storage and conveyance systems.

Bioswale: A modified swale that uses bioretention media to improve water quality, reduce runoff volume, and modulate the peak runoff rate while also providing conveyance of excess runoff (Low Impact Development Manual).

C **Cistern:** A large container, either above or below ground, capturing and storing large quantities of runoff, to be used later for irrigation or other interior uses (such as flushing toilets, etc.)

Community: A collection of physical, social and environmental elements which contribute to a strong sense of place and satisfies each resident's needs for social interaction and also attracts people from outside the community to come participate in and contribute to the quality of life of the residents and visitors alike.

Community Capitals: (Flora & Flora 2008)

Natural Capital: Location specific assets-weather, geographic isolation, natural resources, amenities, natural beauty, etc.

Social Capital: Reflects the connections between people and organizations or the social "glue" to make things, positive or negative, happen. Includes both bonding (strengthened relationships among and between community members) and bridging (strengthened relationships between community residents and those of other communities) capitals.

Human Capital: Includes the skills and abilities of people to develop and enhance their resources and to access outside

resources and bodies of knowledge in order to increase their understanding, identify promising practices, and access data for community-building.

Political Capital: Access to power, organizations, connection to resources and power brokers.

Cultural Capital: Reflects the way people "know the world" and how they act within it, as well as their traditions and language.

Financial Capital: Financial resources available to invest in capacity-building, to underwrite the development of businesses, to support civic and social entrepreneurship, and to accumulate wealth for future community development.

Built Capital: The infrastructure supporting all other activities.

Community Development: An increase in the quality of the interactions and relationships among community residents and between residents and the community itself over time.

Community Identity: A shared perception among community residents that their place is unique and distinctive and that they belong to it and it to them (Puddifoot 1995). Identity is always grounded in places, and as such, is dependent upon the residents' interaction with the community. Community identity can and should be perceptible to those outside the community.

D **Dimensions of Identity:** (modified from Puddifoot 2003)

Locus: Pertains to the perception by community members of the boundaries of their community, its key physical, environmental, and built features, and social/cultural spaces. Locus refers to individual features or characteristics identifiable specifically with the community.

Distinctiveness: Refers to the perceived relative distinctiveness of one's community. Distinctiveness refers to the struc-

ture of the community; the physical, social and environmental structures present, and thus deals more with general characteristics and types of objects within the community than with individual features.

Identification: Denotes a sense of affiliation, belongingness, and emotional connectedness. Identification indicates an interaction and experience between residents and the community which is developed over the course of time.

Orientation: The degree of personal investment by individuals in the community, attraction to the community, perceived future in it, sense of emotional safety, personal involvement, or sense of alienation from the community. Orientation is also developed over the course of time.

Quality of Community Life: The perceived level of satisfaction with life in the community, a level of attractiveness to the community, a feeling of satisfaction that relationships among community members are strong, there is cooperation, assistance, neighborliness, and commitment to community.

Community Functioning: A feeling that services (basic, leisure, health and commercial service) provided in/by the community are good. The sense that the residents are able to participate in the decision-making process and affect change within the community.

E Experience: Interaction between people and their environment. Experience is a sensual act, one accomplished when an individual interacts with his or her environment through the physical, emotional, mental, or spiritual senses.

F Flag Leaf: The last leaf to emerge from the wheat plant. 75% of photosynthesis reactions supporting grain development occur in the flag leaf alone.

I Impervious Surface: Surfaces through which water cannot percolate, such as concrete, asphalt, metals and building rooftops.

P Pervious Surface: Surfaces through which water can readily percolate, such as landscaped areas and permeable pavements (brick, concrete block, etc.)

Photosynthesis: The synthesis and production of sugars from reactions between sunlight, carbon dioxide and water in the tissues of plants.

Place: Places are locations within space which have been endowed with some sort of meaning by human beings. Place can only be created by individuals as they provide the meaning, however, its creation can be facilitated or enabled by others. Place is a direct result of the interaction between Space and the person experiencing it.

R Rain Barrel: A relatively small (typically 50 gallon) container capturing and storing runoff from a rooftop, to be later used in irrigating landscape and planting beds.

Rain Garden (or bioretention cell): A shallow basin or landscaped area that utilizes engineered soils and vegetation to capture and treat runoff (Low Impact Development Manual).

Rural: Any incorporated place or census designated place (CDP) with fewer than 2,500 inhabitants that is located outside of an urbanized area (UA). (US Census Bureau)

S Sub-Rural: Any CDP with less than 600 people, unincorporated areas and non-CDP areas.

Space: Space is the container in which we live our lives. Space exists in different forms and has different qualities at different hierarchical levels and finds different modes of definition and perception at each level. Space can be defined, at one end of the spectrum, by readily perceived physical boundaries (walls, buildings, etc.) or, at the other end of the spectrum, by invisible, less-readily perceived boundaries (political boundaries, etc.)

T **Tiller:** The initial shoots of the winter wheat plant which eventually develop into stalks supporting the grain heads. Each tiller will potentially develop into a head of grain, therefore the tillering stage of wheat development is the first critical stage as the maximum potential grain yield is determined by the total number of tillers.

Appendix B

Literature Review

Space and Place: The perspective of experience

Yi-Fu Tuan [1977]

The central question of Tuan's work is how people create a meaningful world and meaningful lives in the world. The notion of place is central to this proposition. The work is partly a critique of the spatial sciences. Tuan argues that geographers, planners and architects (and I would argue for many landscape architects to be added as well) speak of their knowledge of space and place as though it were "derived exclusively from books, maps, aerial photographs, and structured field surveys," and that the only senses "common man" possesses with which to understand space and place are mind and vision (1977: 200-201).

"The simple being, a convenient postulate of science and deliberate paper figure of propaganda, is only too easy for the man in the street – that is most of us – to accept" (1977: 203).

This "simple being" is perhaps referring to the 'rational man' of spatial science and economics, the man who weighs all options before making a rational choice about which option(s) to pursue. Tuan's argument is that this view of humanity has no place for meaning. We are to increase, what Tuan terms, our "burden of awareness." The concept of place is central to this awareness, and place is created mainly through the realm of experience, or the relationship of people and the world. Tuan writes that "[t]he given cannot be known in itself. What can be known is a reality that is a construct of experience, a

creation of feeling and thought' (1977: 9). Therefore, experience transforms a relatively abstract notion of space into a relatively lived and meaningful notion of place.

How then, is place created from and through space? Tuan explains, 'what begins as undifferentiated space becomes place as we get to know it better and endow it with value...the ideas 'space' and 'place' require each other for definition. Furthermore, if we think of space as that which allows movement, then place is pause; each pause in movement makes it possible for location to be transformed into place' (1977: 6). Tuan argues that one of the ways space is turned into place is through kin-aesthetic familiarity – the habitual ability to move through space unthinkingly.

"Place can be defined in a variety of ways. Among them is this: place is whatever stable object captures our attention" (1977: 161).

Tuan argues that both space and place have important temporal dimensions. Place can be understood as a pause in time as well as space. As such, place can be a way of making time visible. Our creations of place come to represent memories, and as such, we get to know a version of the past through those places. Another aspect of the temporal nature of places is that a true sense of place takes time to establish.

"If we see the world as process we should not be able to develop any sense of place" (1977: 179).

Place is more than a scientific or process driven develop-

ment, it is dependent on the unique and individual personal experiences of those who move through and come to know spaces.

Space and Place: Humanistic perspective

Yi-Fu Tuan [1979]

In this paper, Tuan relates a similar message laid down in his earlier work. He mentions similar aspects, such as the critique of the spatial sciences and the need to focus on the “sense of place.” He further defines place to be something which “incarnates the experiences and aspirations of a people” and something which is a “reality to be clarified and understood from the perspectives of the people who have given it meaning” (1979: 387).

“What is this sense of place on which we have not only erected a spatial geography of considerable elegance but, more important, on which we still depend for the decisions and acts in our daily lives” (1979: 421)

As in his earlier work, he explains that “the study of space...is the study of a people’s spatial feelings and ideas in the stream of experience. [W]e know the world through sensation (feeling), perception, and conception” (1979: 388). He attempts to define spaces that are sense-bound, that is spaces which rely on and respond to experiences of every-day life. Tuan delves into a lengthy description of both space and place (but especially space) as they are related to time and how

they are developments or constructs defined by language and culture, and by our experiences with them. Spatial references were created by humans and were originally defined and measured by parts of the body.

Tuan explains that spaces can only be known through our senses and those sense are divided into three experiential regions. The first is the visual space, or that which we can see in the broadest sense-dominated by the horizon and small, unrecognizable objects. The second is the visual-aural space, which is that space in which we can both see and hear, and the visual is therefore clarified and enriched by what we hear. The third is the affective space which is next to our body and which is accessible to the senses of smell, touch, sight and hearing. Though spaces are experienced through the three regions, they cannot be perceived all at the same time.

Tuan attempts to provide a definition of or a meaning to the word place. He accomplishes this through a definition of the three words used in conjunction with the word “place.” These are ‘spirit,’ ‘personality,’ and ‘sense.’

“A place may be said to have ‘spirit’ or ‘personality,’ but only human beings can have a sense of place. People demonstrate their sense of place when they apply their moral and aesthetic discernment to sites and locations” (1979: 410).

Tuan further distinguishes between the two types of place: those which cater to the eye (termed public symbols) and those that are known only after prolonged experience (fields of care.) According to Tuan, it is easy to

identify public symbols, as they are visually conspicuous, however, it is much more difficult to identify fields of care, as they are not easily identifiable with external criteria. However, many, if not most places belong in both worlds.

Place and Placelessness

Edward Relph [1976]

Relph's work focuses on a broad look into the nature and meaning of place as an integral part of human life. Relph begins with a review of space and its relationship to place. He makes statements similar to those of Tuan, that geography, (in particular, but also mentions planning and design disciplines) although claiming to be the science dealing with places, had not adequately defined what a place was, and, in fact was contributing to the confusion between space and place.

"A place is not just the 'where' of something; it is the location plus everything that occupies that locations seen as an integrated and meaningful phenomenon" (3).

As a means of clarifying what space is and introducing some of the diverse meanings of place, Relph discusses general types of space and the relationships among them. These types are as follows: pragmatic or primitive space, perceptual space, existential space, architectural and planning space, cognitive space, and abstract space. He then attempts to explain the essence of place.

"[Places are] sensed in a chiaroscuro of setting, landscape, ritual, routine, other people, personal experiences, care and concern for home, and in the context of other places" (30).

Place is categorized by examining the various properties of place along with the phenomenon of experience. The categories are: place and location, place and landscape, place and time, place and community, private and personal places, rootedness and care for place, home places, the drudgery of place, and the essence of place.

Relph attempts to define and explain the complexities of identity. He explains that identity is an individual, personal thing, that "there are as many identities of place as there are people" (45), but that each of these individual identities becomes woven together into a larger common identity.

"[I]t is not just the identity of a place that is important, but also the identity that a person or group has with that place..." (emphasis in original) (45).

As a manifestation of identity, Relph developed what he terms levels of "insiderness and outsiderness," or the level at which people feel like they 'belong to' or are 'part of' a place. He goes on to write about the differences between authentic and inauthentic place-making. In particular, he discusses the contemporary problem of placelessness or "the casual eradication of distinctive places and the making of standardized landscapes that results from an insensitivity to the significance of place" (Preface).

Sense of place amongst adolescents and adults in two rural Australian towns: The discriminating features of place attachment, sense of community and place dependence in relation to place identity

Mary Pretty, Heather Chipuer, and Paul Bramstom [2003]

This paper is a lengthy study attempting to “determine how adolescent and adult residents feel toward their remote rural towns in the wake of increasing economic threat and declining sustainability” (3). It explores the residents’ identity with their towns in relation to their “sense of place dimensions,” which include: place attachment, sense of community, and place dependence. The study provides a connection between community identity and sense of place-establishing that the two are dependent upon each other. The study was also an opportunity to “explore the distinctiveness of, and the relationships between, the sense of place dimensions” (3).

“Place can be understood as a unit of environmental experience, a convergence of cognitions, affect and behaviors of the people who are experiencing them.” [It also] conveys many different dimensions such as physical size, tangible versus symbolic, known and experienced versus unknown or not experienced” (3-4).

They articulate the difficulties in defining and differentiating the dimensions of place or identity and the difficulties in empirically studying them. The authors explain how the dimensions the authors set forth have never been fully articulated and how there is considerable overlap in the basic factors which explain and support their place

dimensions. They then attempt to fully define and explain each place dimension and explain the ways in which people associate with the dimensions.

“Location itself is not enough to create a sense of place. It emerges from involvement between people, and between people and place” (4).

The majority of the paper is a discussion of their study, its participants, the measures, the procedure, and the results.

Form, Meaning, and Expression in Landscape Architecture

Laurie Olin [1988]

Olin’s article is a discussion of where form and meaning (related to landscape design) historically came from, where they should come from (or where they must come from in order to be “successful”) and how they should be expressed through design or landscape architecture. He argues that the value of landscape architecture has been due largely to the sensual richness of the landscape and its relation to nature.

“...landscape design has derived a considerable amount of its social value and artistic strength from...: the richness of the medium in sensual and phenomenological terms; the thematic content concerning the relationship of society and individuals to nature; and the fact that nature is the great metaphor underlying all art” (149).

This argument is centered on the value of landscape architecture (landscape design to use his terminology) as it relates to both nature and art. Olin views (and rightly so) landscape architecture as art.

Rural Communities: Legacy + Change

Cornelia Flora & Jan Flora [2008]

This book is a tremendous definitional resource, providing and defining in depth each of the capitals within the Community Capitals Framework. Importantly, the book also explains the rural landscape and the importance of rural place. It provides multiple definitions for what constitutes a rural community or location, as well as what a community is and how it usually relates quite strongly to a sense of place. A sense of community identity is discussed as one of the three elements of community. (The three elements are: location, social system, and identity.)

“[This] sense of place involves relationships with the people, cultures, and environments, both natural and built, associated with a particular area” (2008: 13).

The authors discuss the changes which are occurring in rural locations in the United States, the different causes, effect and methods of disrupting the pattern. They introduce the value of the Community Capitals Framework as a means of understanding rural communities and then helping them to disrupt the cycle.

Each chapter focuses on one of the seven capitals. Each capital is defined and then explained in great detail using examples and case studies of real people and communities and the problems they faced and their successes or failures in combating the problems encountered. They discuss how the community capitals are changing in a world which is becoming increasingly global and what that means (the risks and benefits) for rural communities. They explain why the concept of consumption (as a critical agent of rural change) is important and what role it will likely play in the future. The concept of governance; government functions, the necessity of citizen participation in the process, challenges and opportunities is discussed. Finally, methods of generating change within rural communities are discussed and illustrated.

Spiraling Up: Mapping community transformation with community capitals framework

Mary Emery & Cornelia Flora [2006]

This paper explains a study which utilized the Community Capitals Framework to analyze rural community change from a systems perspective. The critical role of social capital is discussed, especially the role social capital plays in the “spiraling-up” effect which occurs as stocks and flows of the other capitals are increased as a result of an increase in social capital.

The majority of the paper is an explanation of the study which was carried out, a description of the context (a rural Nebraska town’s efforts to revitalize itself,) the meth-

ods the town used, the results of the town's efforts and then the study done in order to quantify the effect those efforts had on social capital and, as a result, the positive effects of that increased social capital on the other 6 capitals. It was shown that an increase in social capital, first and foremost (with a necessary modest investment in financial, built, and other capitals simultaneously) does in fact lead to a more sustainable pattern of positive growth and further development of stocks and flows of the community capitals than if only investments in other capitals were pursued in isolation.

The authors list and loosely define the 7 capitals: natural, cultural, human, social, political, financial, and built capitals. They discuss the "spiraling-down" effect occurring in many rural locations as attempts are made to revitalize the community by investing only in financial or built capital and reinforce the conclusion that by investing in social capital from the outset, a spiraling-up process will be initiated. They elucidate and describe the factors of each capital which were invested and, more importantly, they describe the changes to each capital. This elucidation provides a basis for the determination of what social capital looks like and how it is increased or decreased.

Appendix C

Community Survey - Instrument and Results

Appendix C includes the survey instrument in its entirety, - including each question and the methods by which each question was to be answered. In addition, the results of the survey have also been included.

Only the question numbers, the questions themselves, and a complete listing of answers to each question is included in the results. No information identifying individual respondents was collected during the survey, or included with the responses, therefore, complete anonymity of the respondents is maintained.

1. Of which community do you consider yourself a resident?	
2. Why do you live in Winona?	
3. How long have you been a resident of Winona?	
(circle one answer)	5 years and less
	6-10 years
	11-15 years
	16-20 years
	21 years and greater
4. Rate how firmly you intend to stay in Winona.	
(circle one answer)	Definitely staying
	maybe staying
	not sure
	maybe leaving
	definitely leaving
5. For how long do you intend to stay in Winona?	
	5 years and less
	6-10 years
	11-15 years
	16-20 years
	21 years and greater
6. Where do you consider to be Winona's center?	
(describe location below)	
7. Compared to neighboring small communities, how distinctive is Winona in its built features?	
(built features include all man-made features: buildings, roads, sidewalks, utilities, etc.)	extremely distinctive
	distinctive
	somewhat distinctive
	not distinctive
8. In your view, what are Winona's most distinctive built features?	
(list features here, if any)	
9. Compared to neighboring small communities, how distinctive is Winona in its natural features?	
(natural features include all natural, non-manmade elements: plants, creeks, hills, valleys, bluffs, etc.)	extremely distinctive
	distinctive
	somewhat distinctive
	not distinctive
10. In your view, what are Winona's most distinctive natural features?	
(list features here, if any)	
11. Where are your favorite places in/near Winona?	
(write here)	
12. While within or near Winona, what experiences, places or things would you consider beautiful?	
(write here)	
13. In your view, what built or natural features could be enhanced to make Winona more beautiful?	
(write here)	

14. Compared to neighboring small communities, how distinctive are the social features of Winona?	
(social features include the feeling of community that exists among residents, as well as the activities done together as a community: parades, community dinners, community events, etc.)	extremely distinctive
	distinctive
	somewhat distinctive
	not distinctive
15. In your view, what are Winona's most distinctive social features?	
(write here)	
16. What community events are memorable for you?	
(list any important events (past and present) in which you participated: community/school/church sponsored meals, parades, presentations, shows, etc.)	
17. Where were those events held?	
(list all locations)	
18. What types of community events would you like to see take place in Winona?	
(list any events you feel would be popular and effective in strengthening a feeling of community in Winona.)	
19. In your estimation, rate how strongly you feel you belong to Winona.	
(circle one answer)	extremely strongly
	strongly
	somewhat strongly
	not strongly
20. What reasons would you give for saying you feel you belong to/or do not belong to Winona?	
(write here)	
21. How would you describe what is special about Winona compared with neighboring small communities?	
(write here)	
22. In your opinion, how problematic is the ponding of water around town following rain storms?	
(circle one answer)	extremely problematic
	problematic
	somewhat problematic
	not problematic
23. If costs were not a factor, which of the following would you consider implementing at your home to reduce your stormwater contribution? Check all that apply	
Rain Barrels - to collect water and use for irrigating lawns, gardens and other plantings Rain Gardens - to collect, infiltrate and cleanse water, to reduce irrigation requirement: Native Plants - to reduce irrigation requirements, to help infiltrate stormwater Installation of pervious pavements - to help infiltrate stormwater	
24. How much money would you be willing to spend implementing stormwater management facilities at your home?	
	Less than \$1,000
	\$1,000 - \$2,500
	\$2,500 - \$5,000
	Over \$5,000
25. In what ways would you be willing to support community-wide efforts to reduce COMMUNITY stormwater runoff?	
Donating time to maintaining stormwater management facilities Donating money to fund the construction and maintenance of stormwater management facilities Support city bond or increased tax in order to fund construction and maintenance of SMF's Implementing individual, at-home measures only Support educational programs at the school which teach youth about these issues	



TOP: <http://www.bestgreenhomelips.com/wp-content/uploads/2008/09/rainbarrel-300x481.jpg>
 BOTTOM: <http://www.richlandonline.com/News/2008/Images/RainBarrel.jpg>



TOP: <http://www.rainwatercollecting.com/blog/wp-content/uploads/2009/09/Rain-Garden.jpg>
 BOTTOM: <http://thepleatedzucchini.com/wp-content/uploads/2010/10/RainGardensmall1.jpg>



TOP: <http://www.crystalclearideas.co.uk/images/marshalls/block-paving/priora-block-paving.jpg>
 BOTTOM: <http://www.botanicgardensblog.com/wp-content/uploads/2008/07/plains-garden-low-res.jpg>

Figure 7.1

BMP images - companion image to Question 23

26. How much time would you be willing to spend each week helping maintain community raingarden facilities? (circle one answer)		Less than 1 hour/week	
		1-2 hours/week	
		2-4 hours/week	
		more than 4 hours/week	
27. In your opinion, how successful would a new park in Winona be at enhancing community identity?		Extremely successful	
		Somewhat successful	
		No change	
		Somewhat unsuccessful	
		Extremely unsuccessful	
28. In your opinion, how successful would more trees and designed landscapes be at enhancing Winona's identity?		Extremely successful	
		Somewhat successful	
		No change	
		Somewhat unsuccessful	
		Extremely unsuccessful	
Please circle as appropriate:			
Age:	14-18	Gender:	male
	19-24		female
	25-34		
	35-44		
	45-54		
	55-64		
	65-74		
	75+		
Thank you for helping with this research!!			

AXIO SURVEY

SURVEY REPORT

Summary**Survey Name:**

Winona Identity and Storm Water Survey

Offering Name:

Winona_Final

Offering Date:

3/15/11 to 3/22/11

StatisticsStarted: **48**Completed: **48**Drop outs after starting: **0**

Average completion times:

- Average Time To Complete Survey: **22 minutes 30 seconds.**
- Average Time Spent Before Quitting: **Not enough information.**

Page 1**Question 1**

1. Of which community do you consider yourself a resident?

- Winona
- Winona, KS
- Winona
- Winona, KS
- Winona
- Winona, KS
- Winona
- winona
- Denver Colorado
- Hays
- Winona Kansas
- Winona
- Winona
- Winona
- Winona
- Winona
- Winona
- Winona
- Winona
- Winona
- Winona, KS
- Winona
- Winona
- Oakley & Winona

- Winona, KS
- Winona
- Denver, we have a week end home in Winona
- Winona, KS
- Winona, Ks
- Winona
- Winona, Kansas
- Winona
- Winona
- Denver, Colorado (fulltime) and Winona, Kansas (parttime)
- Winona
- Winona
- Winona
- Winona
- Winona, Kansas
- Winona
- Winona
- Winona, Kansas
- Winona, not Logan county as that is Oakley
- Winona, Kansas
- Winona, Kansas
- Oakley
- Winona
- Winona
- Winona
- Winona

Question 2

2. Why do you live in Winona?

- This is where we have our business and this is where we have lived since we have lived since we have been married.
- Small town; nice people; good place to raise kids.
- Employment
- We came here in 1950 to take a teaching job and never left.
- Where my job is
- I do not live in Winona. I live 14 miles west of town. Winona is the closest town to where we live and it provides us with a wide variety of services.
- Because we are in the farming business and we like living in a small quiet community
- I have always lived in western ks and i married a winonian so now i am one i like the small community and friendly peolpe
- I travel to Winona throughout the year anywhere from 6 - 12 times a year to a house that we own.
- I want to live in a small community with a rural feel and yet have the closeness of a community. I don't want to be surrounded by lots of people but I also don't want to be entirely alone.
- We own a home. There is a good school, with caring teachers.
- My parents live here, and plus I love Winona and I've lived here my entire life. I like small towns, and Winona is the best small town EVER! I like how you can walk around town and not be worried about robbers and burglars. You can send your kids outside without being worried that someone is going to walk up and kidnap them. And that is why I LOVE Winona! <3
- Its nice
- Family lived here and married a local resident.
- I live south of town but I'm being educated in the town of Winona. The reason being my parents lived her and I was born so it was not of my volition.
- This is where my business is, clean school.
- This is were i was born and my parents live.
- We grew up here and work here.
- It's a very nice little town.

- Lifestyle is freindly and slow paced.
- I work in Winona. That's where the job is.
- becuse my parents live here
- Where I was born and raised
- Week end getaway.
- It is the town where I am employed.
- Husband was hired as a teacher in 1965. In 1977 he had a job change but new job was still in Winona. Winona in these times had several businesses, church and school and there were lots of young families with children. It was a good place to raise a family. Now my husband is deceased and children grown and gone, but Winona is my home and I have a church family and friends here and so I've stayed. That might change as I get older.
- My family is here.
- Moved here to help my father, stayed because my job is here. Don't have enough money to live any where else.
- Because it is a small town where I know i can get a good education. I have the opportunity to get one on one time with my teachers because the class sizes are small. It is a town where everyone knows everyone and you can trust the people around you.
- It is where my job is.
- Bought the house from a relative, for a "getaway", pheasant hunting in winter, and a possible retirement home. Still have relatives living in Winona. Nice, quiet town, a needed change from the city. Our house will pass to our children, who also enjoy staying there.
- My job is in Winona. Winona is my hometown.
- I live in winona because it is where i attend high school
- Husband's job brought us here
- Parents were there and that is where I grew up.
- I lived in winona for the small town atmosphere. Along with to go to school. Also because my parents lived here.
- I teach at USD 275.
- Have a business here
- We live on a farm 10 miles from Winona.
- Because I wanted to raise my son in a small town with a small town atmosphere and a school that cared about my son graduating and being a great student. I like living outside the city and having a little more freedom from all the noise of the city.
- I actually no longer live in the city of Winona, but reside very close by. I do own residential property in Winona and rent that property. I like the safety, low cost of living, and friendly nature of my hometown. I have lived in many other cities, but none compare with the unique nature of the city of Winona. Of course, I am probably biased due to the fact that I attended the schools in Winona, my parents lived in the Winona area all of their lives and I also teach in the Winona Schools. None of my sibilings live in the immediate area and that is the one regret I have about living in this area.
- I love western Kansas and it is just home to me.
- Because my parents are here. There is no draw besides the lack of people.
- so i can go to school
- I grew up here and moved away in 1980 and as a single mom living by Kansas City my kids were growing up to fast and I wanted them to be able to slow down some and enjoy life. Therefore 30 years later here I am back in Winona. I also have family that I thought would be nice to live closer.
- I wasn't originally born in the Logan county/Winona area. My great-grandparents were the first of my family to settle out in this area. My grandfather had a great love for the area and the community and established a house south of town. This is not the house we live in, my grandfather built the current house we are living in shortly after my grandmother went off to nursing school. A few years ago, around the time I was seven, my great grandmother suffered stroke and passed away leaving my already mild-dementia afflicted grandfather to care for himself. We regularly visited him but his condition was getting increasingly worse and so after much thought we put him in the care of a VFW nursing home. A year later we moved into the house due to the exponentially increasing crime rate in my birth-city and the quality of the people. The community is a safe one, the people are polite and respectful of others, and they're all genuinely good people.
- I was born here.







Question 3

3. How long have you been a resident of Winona?

5 years and less		7 (14.58%)
6-10 years		8 (16.67%)
11-15 years		5 (10.42%)
16-20 years		8 (16.67%)
21 years and greater		19 (39.58%)
N/R		1 (2.08%)


Question 4

4. Rate how firmly you intend to stay in Winona.

Definitely staying		18 (37.5%)
Maybe staying		7 (14.58%)
Not sure		11 (22.92%)
Maybe leaving		6 (12.5%)
Definitely leaving		6 (12.5%)
N/R		0 (0%)

Question 5

5. For how long do you intend to stay in Winona?

5 years and less		17 (35.42%)
6-10 years		12 (25%)
11-15 years		1 (2.08%)
16-20 years		4 (8.33%)
21 years and greater		11 (22.92%)
N/R		3 (6.25%)

Question 6

6. Where do you consider to be Winona's center? (describe location below)

- Fire station, bank or post office.
- Post office area
- Post Office area
- The Methodist church
- Winona Lumber & Supply on Bellview Ave
- The school which is located on the north end of Winona. The address is 5th and Wilson.
- Triplains school-K- 12th (503 Wilson)
- Fire station
- main street near the fire house.
- main street
- Bellview Avenue or the main street
- The school.
- The station, but if its during harvest than the elevators.
- Fire station
- Main Street
- I would have to say either the Bank, gas station, or school as that where the most going-ons seem to take place.
- Bellview Avenue, "Mainstreet from 1st to 5th Streets
- the school 5th and wilson
- Main Street or Bellview avenue.
- The school. People are always helping out and volunteering for something or another. Mostly sports though, people are real supporters of that.
- Geographically: Main Street. Economically, Triplains school.
- the gas station
- The school
- Bank Area
- The Post Office.
- Church or the new Ambulance & Fire Building
- The lumber yard or the gas station
- Winona Post Office on Bellview Ave. (main street)
- Main Street/Downtown area surrounding Main Street
- the school is the center of community activities
- Post Office, City Hall---that block.
- I think the center is Main street with the Bank, Smoky River Rendezvous, lumber yard, hair station, post office, fire station and insurance agency. The Methodist church is at the north end of main and gas station and elevators at the south end.
- The school.. north end of town
- The school
- The school is definitely the center of Winona
- The post office i would consider the center of town. The school i would consider the place where things happen.
- The post office
- City Hall on Bellview Ave and 3rd
- Main Street where businesses are located.
- To me the center of town is the post office with the gas station and school right in there with it.
- Probably the new firehouse that served as a community meeting center. It is used for voting, meetings of all types and of course serves the area as a fire prevention center.
- The Station. It is the gas station, and seemingly the only place where people are ever at.
- not sure
- around the post office
- The center of Winona is currently its school, the community is heavily intertwined with the education of the next generation nearly everyone is involved in some way or another with it.
- Town and County, school, and the firehouse.

Question 7

7. Compared to neighboring small communities, how distinctive is Winona in its built features? (built features include all man-made features: buildings, roads, sidewalks, utilities, etc.)

extremely distinctive		0 (0%)
distinctive	█	6 (12.5%)
somewhat distinctive	█	17 (35.42%)
not distinctive	█	25 (52.08%)
N/R		0 (0%)

Question 8

8. In your view, what are Winona's most distinctive built features? (built features include all man-made features: buildings, roads, sidewalks, utilities, etc.)

- Fire Station, bank, Harper's hotel, school & play ground, road-side park, some houses and yards
- The school, the old drug store(needs fixed up).
- Historic School Building
- The new Fire house
- buildings
- Of course the school building which is listed as a Historical Site. The new firehouse that was built by the community. Also, the main street features several old buildings which have been updated. Most of the houses are well-kept.
- utilities-water -natural gas- cable TV--internet
- churches school
- grain silos, old fire house, water tower, rodevous hunting lodge, new barn built on southeast of town, dinner, motel, gas station and school.
- the school
- The old buildings like the school, Methodist Church and Lodge. New Building: the firehouse. The city park.
- The school, the elevator, the log-cabin insurance office
- The fire station
- The School
- Buildings
- It would probably have to be the community building.
- Elevators, paved mainstreet, bank, school, service station, natural gas service
- i do not know
- Winona Feed & Grain, Triplains school
- Fire house, bank, random small buildings on main street. definitely the school, the station.
- the school
- The school , Methodist church.
- Water tower
- Firemen Painting on the building near the Fire Station.
- Our new Fire and Ambulance Building. Our School Building is a historial site. Our Methodist Church is old but I think very nice and has severed the community well.
- Park
- the new firehouse, an older craftsman style home @ 3rd & Wilson, the lumber yard's buildings and the Chamber of Commerce building
- I believe the school to be a distinctive feature.
- The Methodist Church is a pretty building, most just need maintenance, which makes them mostly unattractive.
- Two churches, at least one of which has been converted into a home. Historic buildings

"downtown"

downtown .

- I think that the new fire-station and the Smoky Hill Rendezvous a remodeled old hotel are the most distinctive. For the most part side walks are decent in the south part of main street. But it has been a while since I have walked down town.
- the school and roads
- school, new firehouse, elevator--Winona Feed & Grain
- I'm not really sure we have a lot of distinctive built in features.
- The lodge, the school area, and the church.
- The school building. the new firehouse
- Smoky River hunting lodge Triplains School City Hall
- It has a new fire station, adequate water and other utilities with phone and internet as well as cable, lumber yard, filling station with parts and service, 2 elevator businesses, 2 insurance companies, bank, post office, beauty shop, building company, motel and restaurant, good school, and a well kept park.
- The old buildings that are still standing. There are not enough side walks, but there are some and I enjoy those.
- Probably the most distinctive feature of the city is the blue water tower that has the communitys' name printed on it. It is in school colors so that is the first object you see when teams visit for athletic competition.
- The elevators are seen from miles away and are one of the most distinctive manmade features. They remind us of our wheat farming roots. Winona has recently gained a new Fire Station/ Ambulance building. We are very proud if this new addition.
- not sure
- The old drug store building is distinctive and has some history but not all generations appreciate the history.
- The school is perhaps Winona's most distinctive feature.
- The school and the water tower.

Question 9

9. Compared to neighboring small communities, how distinctive is Winona in its natural features? (natural features include all natural, non-manmade elements: plants, creeks, hills, valleys, bluffs, etc.)

extremely distinctive		0 (0%)
distinctive	█	7 (14.58%)
somewhat distinctive	█	9 (18.75%)
not distinctive	█	32 (66.67%)
N/R		0 (0%)

Question 10

10. In your view, what are Winona's most distinctive natural features? (natural features include all natural, non-manmade elements: plants, creeks, hills, valleys, bluffs, etc.)

- School and road side park
- none
- flat lands
- Winona itself is built in a lagoon. This presents drainage problems when there is a large amount of rain during the year. (This hasn't been a problem during the last few years.)
- the smokey river has water in it outside winona at my house Kirk ranch in town i am not sure
- There are really no natural features of this making in Winona, other than trees and shrubs

streams.

- I don't see any.
- Winona really doesn't have much in the way of distinctive natural features that are very close to it.
- The trees, and the animals everywhere.
- Pastures
- Flat fields and pasture land
- Winona is surrounded by some of the flattest pieces of farm ground in western Kansas so in the line of distinctive features there isn't really anything to note.
- No noticable natural features, pretty flat.
- it is pretty natural
- plains
- pasture land and what's in it but mostly farm land is all you get out here.
- trees
- Don't think Winona really has any
- none
- None.
- Smoky Hill and Butterfield Trail
- none that I can see that stand out-- maybe a few nice yards, I guess
- Honestly I don't think there are to many distinctive natural features.
- Beautiful, wide-open rolling countryside, unsullied by tall 'ugly' buildings. Proximity to hunting fields, natural bluffs, rock formations.
- I can not think of any.
- a lot of old elm trees, flat land all around
- not much
- None
- Good open view. May be seen for miles.
- The old creek bed is amazing with the hills and valleys as you drive a little ways further up the road. There are lots of trees and wildlife.
- Probably the most distinctive feature is that it is so flat. This presents a problem with drainage in the city. Many times standing water is found throughout the town after a hard rain.
- The flat pasture land and farm land are characteristic of our area.
- everything
- The dips that water always take forever to dry up they always have water when there is any kind of moisture. The town has several fruit trees and the residents take pride in their gardens.
- There aren't that many natural features to distinguish Winona from the surrounding land.
- plants in the neighborhood.

Question 11

11. Where are your favorite places in/near Winona?

- my home, school playground
- The river bottom
- My home
- Smokey Hill river
- West and south of Winona the landscape changes quickly. There are the river beds and bluffs. I think my favorite area is southwest of Winona along the river.
- the river at my house
- The hunting areas in and near winona.
- My house.
- Twin Buttes, Russell Springs, Chalk rocks at Russell Springs
- smoky hill river the paved roads in winona the gas station
- Pasture
- Land along the Smoky River
- There isn't really a place in Winona I would choose to spend any extra time I had available.
- Russell Springs has great natural features, as does the Smoky Hill River valleys. Within Winona city limits, there is very little draw, so I couldn't really say I have a "favorite" place within Winona other than my residence

within Winona, other than my residence.

- my house
- walking outside of town, tennis court, home
- the station
- Not to many places to call a favorite.
- In Winona, my time is spent at the school. I am very rarely in other parts of the town. I prefer the country.
- the school
- School
- As I hunt, I love all the open area. There is much to see, no one tells you about it.
- The School.
- Smoky Hill River & Valley. Just going out in the country and seeing the countryside and the wildlife we have. In years when it has water in it, the Logan County Lake. Fishing Ponds. Places to find shark teeth and other finds
- Oakley
- the Smoky Hill River, the Pyramids in Gove County, the Fort Wallace museum and cemetery
- School
- Russell Springs, Colby Prairie Museum, several wonderful museums in neighboring towns. Fossil museum.
- I spend most of my time at the school.
- My home is my favorite place
- my home and the school
- The High school area and fields, along with some of the roads just on the outskirts of town to go shooting at.
- The school
- Smoky River
- Home.
- There is a place with two big hills by the highway that I enjoy riding around in the country in that area. I love walking around town listening to the birds. Driving down to Mr. Kahle's place and seeing the wild turkeys.
- I don't believe I have any particular favorite place as the town is so small. Probably the most favorite place would be the school building. The older part of the school building is on the National Register of Historic Buildings. It was constructed in 1926 and features marble floors.
- Russell Springs, Kansas and the Smokey Hill River is located a few miles south of Winona.
- Anywhere outside of Winona.
- the farm i live on 10 miles out of winona
- the country south by Russell Springs the flint hills are pretty and the sunsets most every night are uncomparable to any other natural scenery. In addition to the sunset you have the birds and complete silence and at night you can see the stars unlike in the city where you forget stars even exist.
- The school.
- out of town the country

Question 12

12. While within or near Winona, what experiences, places or things would you consider beautiful?

- the wheat and corn feilds. Trees and museum in Russell Springs. Open spaces and sunsets. Caring people.
- Some of the peoples yards
- The wide open spaces.
- Garden of the gods @ Russell Springs
- The changeable weather is the most eventful aspect of living in this area. The days can be absolutely beautiful...sun shinning, birds, wildlife. I enjoy the landscape...it's so changeable.
- The flowing wheat fields
- the open skies rivers rolling hills
- many rock formations, state parks or wild life reserves, and the farmers crop fields

- ▼ many rock formations, state parks or wildlife reserves, and the farmers crop fields.
- Trees, open areas which are open to the wind
- Driving through the country.
- The big old trees
- Growing crops, livestock in pasture, wildlife, sunrise and sunsets
- As beautiful as things can get around here, sarcasm included, wheat harvest would have the most genuine beauty.
- Trees.
- rabbits and pheasants
- sunsets, rainbow, my yard, fields of wheat, corn, and milo
- the wheat fields during harvest.
- The most beautiful would be the sunrises and sunsets.
- finding somewhere where can look out and not see anything but fields
- There aren't very many beautiful places in winona
- Loan Ct rec area, Chaulk towers
- Nothing.
- Smoky Hill River & Valley. Just driving out in the county looking for wildlife and growing vegetation (like the seeing the cactus in bloom). South of Winona there are some beautiful places on private land along the Butterfield Trail.
- The drive between Colby and Winona on highway 25
- yellow chalk rock outcroppings near the Smoky Hill River and Russell Springs, sunrises, sunsets, windmills, extra large cottonwood tree about 10 miles NW of Winona
- Park, gardens, walking paths/areas
- The park is well maintained and a fun place for gatherings
- South to the Smoky River and west of town along the Smoky. The park south of town is nice.
- The fields with growing crops, the sky, the sunsets
- the park could be, our school is nice too
- Probably just how there are trees on the outer parts of town kinda bring a natural beauty to the area.
- The new fire house
- Hunting along the river Sunsets
- Sunsets. Jet streams. Sunrises. Friendly people.
- The hills, country roads, wild life, and walking on the country roads.
- Probably the rolling, flat plains of Western Kansas. Nothing is more beautiful that a sunset over the plains of Western Kansas.
- Our family loves to spend time near the Smokey Hill River and around Russell Springs. There is good hiking, fossil and shark tooth hunting, as well as much wildlife to see.
- everything outside
- sunset you have the birds and complete silence and at night you can see the stars unlike in the city where you forget stars even exist.
- The community works very hard to keep the cemetery clean and trim, it is a very aesthetically beautiful place in the spring and summer.
- Country

Question 13

13. In your view, what built or natural features could be enhanced to make Winona more beautiful?

- Clean up junk and trash, junk vehicles. Plant more flowers on main street. Get livestock out of town. Have people keep cats and dogs in own yard, not run town. Have people take pride in community.
- Better streets, knock down/fix the old building on main street.
- None as everyone is leaving
- City roads
- I would like to see the city park upgraded. It could be a wonderful introduction to the town that would leave a lasting impression on travelers and locals alike.
- A beautiful park with plants flowers and trees
- the elevators station park school
- needs more horticulture or landscaping, more breakfast and dinner options, updated gas station and a new motel would be nice to see a creek or something to bring the





gas station and a new motel. would be nice to see a creek or something to bring the community more driven to fix main street, this would intice more young family members to have a better love for where they live.

- Additional open areas enhanced by the wind
- The school, church, Main Street, Highway 40 going through town, peoples' yards.
- More flowers and trees Maybe not alot of dead grass that we have now...
- Dirt bike track
- Restoration of buildings, main street landscaping, parks, school landscaping
- Overall just cleaning up the town would do it wonders. Such as cutting down old trees, tearing down old buildings, and moving the junk out of town.
- It would be nice to have a well-maintained park or small recreation area, with nice trees, and nice grass, picnic facilities, gazebo or something similar, but near the town center.
- a nice park
- better care of people's yards, plant more trees, turn old drug store into a shop or business of some sort
- it's awesome the way it is
- I would like to see some gardens built: vegetable as well as ornamental. A memorial area would also be great.
- more flowers and trees
- More flowers and plants throughout the town in the downtown area. Spruce up the park with greenery and flowers and some new and inventive features that would make the park functionable
- Fix park on nHighway 40 Make abandon buildings on main st more attractive. Try and get some main st business.
- I don't know.
- the city park: new restroom facilities with flush toilets & maybe showers, sage green colored tin on the roofs of the picnic table housing structures
- Gardens, play ground and park
- I think on main street some the buildings need repair. and there are a couple of lots and yards that really need to cleaned up.
- the buildings and the school
- the rest of the sidewalks could be fixed, junky yards could be improved
- the park, not sure what else
- Some of the things on main street could be livened up more. Also Like more flowers or nice non dead trees around town.
- perhaps some planters on main street???
- More trees on main street (Bellview) Fixing some of the old buildings on main street (Bellview)
- The sidewalks, the roads, the older buildings, the park needs a big fix also and would be a great place for people to stop off highway.
- Probably the additions of trees on the main street I think that would enhance the beauty of the town. There are very few businesses as the economy of this area is mainly agricultural. Most people go to larger surrounding cities for most things.
- The park along highway 40 in Winona could do with more landscaping, although this would make the upkeep more time consuming. Maybe some of the buildings on main street could use a paint job.
- Plant trees. Lots of them.
- not sure
- The roadside park could use some lighting to be more welcoming to travellers. The town has mostly dirt/sand roads some chip and seal or paved roads would up grade the town. Another thing to enhance Winona would be a hangout spot like open gym or teen center for the kids to have something to do. Although while discussing the enhancements one should also consider the fact that housing in Winona is not plentiful. There are alot of empty storage houses, falling in houses and hunter only houses but only a few for new residents.
- Anything and everything. Winona suffers from a lack of things.
- Better up keep on homes. like needing to be painted.

Question 14

14. Compared to neighborina small communities. how distinctive are the social features of

Winona? (social features include the feeling of community that exists among residents, as well as the activities done together as a community: parades, community dinners, community events, etc.)

extremely distinctive		3 (6.25%)
distinctive		11 (22.92%)
somewhat distinctive		24 (50%)
not distinctive		10 (20.83%)
N/R		0 (0%)

Question 15

15. In your view, what are Winona's most distinctive social features? (social features include the feeling of community that exists among residents, as well as the activities done together as a community: parades, community dinners, community events, etc.)

- Halloween Party, parade and meal for homecoming, ham & bean dinner, Santa for Christmas.
- Works with the school activities, community helps when a family member dies
- School functions everything else has just gone away
- All school events
- The community support of all the events that are put together. There is wonderful support of the school activities that are tied somewhat to the community events provided by the chamber and firehouse.
- All school activities---Chamber of Commerce homecoming parade and activities- First day of pheasant season ham and bean dinner
- comm dinners or showers for local kids getting married or having babies
- Social gatherings @ the diner, pot lucks @ the fire house are all the ones that I know of.
- Community dinners, school events that bring people together, dinners following funerals linking people together
- School Activities-parade, sporting events, Methodist church suppers.
- School activities/ ball games Ham and bean feed Santa coming to town
- School events
- Sports teams, school events, church events
- Other than school sporting events, and a couple church gatherings each year, there are very few community events and those are small.
- there are none
- homecoming parade and BBQ and ham and bean dinner for opening pheasant seasoning
- the school parade gets the community involved-classes,businesses, etc.. parties at the firehouse volunteering to clean and paint the park building a new school playground
- Winona is a very close community and recently built a new fire station that is often used for gatherings. Most events are open to the community as everyone knows everyone else.
- the school gets together and dose thing most schools dont
- Get together For sporting events. Get together downtown for bbque before homecoming
- I dont know much about this.
- Meals at the Firehouse before games.
- Church Smorgasbord, Homecoming, School Athletic, Halloween Hot Dog Roast and Christmas activities.
- I haven't found much in social things. Their is one bar that is open part of the time and they serve some food. No restaurant or grocery store anymore. To me, it is a dying community.
- everyone brings food (or money for the ham)for funeral dinners and food to the family's home (after the death in the familv and before the funeral)

- Homecomings, swirl, proms, everyone in the community always gets together to support these functions.
- home coming events, Holiday celebrations at the church
- As parttime residents, we're not around enough to participate in many we'd like to. But we are interested in community dinners, Masonic lodge.
- I think the majority want to keep the community and thus the school. With fewer young people in the community there has been a decline in attendance at events but the community has a strong community feel.
- school activities, annual pheasant season opening ham & bean feed
- we could probably do more to create a better community atmosphere
- The school activities, the station, the bar, the lodge.
- The school homecoming
- Homecoming parade and bonfire Smorgasbord dinner at Methodist Church Hunters breakfast at Methodist Church Football games
- Voluntary fire department. Chamber of Commerce activities (Ham & Bean Dinner, Santa Claus for children) Homecoming parades.
- I don't feel that we do have a social feature as we have lived here more than 6 years and I have never been invited to any social events that were not school oriented. So I do not feel the social bug here in Winona.
- Probably the most social activity of the community occurs when the United Methodist Church hosts community dinners as holiday time. Also it serves as a center when funerals of residents occur. Community dinners are provided to those attending the services. The school also hosts a Welcome Back to School supper before school begins each year. It also serves as a recreational center for volleyball, basketball and other social events.
- Homecoming celebration, with parade and area/community dinner. Halloween celebration, wiener roast, games.
- not sure
- the school and the church include everyone for special events and the whole town shows up for the parades and community events. Even though the town shows unity for events they also have their own little cliques
- The community is extremely tight knit and nice when you get to know them. Everyone is a nice person.
- Community events

Question 16

16. What community events are memorable for you? (list any important events (past and present) in which you participated: community/school/church sponsored meals, parades, presentations, shows, etc.)

- Do more fore school reunions. Funeral dinners. Those listed above.
- They started the Halloween play day back up, homecoming parades and bond fires, church/community dinners.
- Homecoming
- Homecoming parade community barbecue pep rally's
- The parades seem to involve the greatest number of people. The parades coincide with Homecoming events. The high school classes and community businesses construct floats and we have a parade down main street. Most floats toss candy to the children. There is usually a large crowd that is present to enjoy the parade. To make a longer parade we usually travel down main street twice.
- home coming parade and free meal
- church pot lucks
- N/A
- homecoming festivities
- homecoming meal/bonfire Ham & Bean feed
- School activities. The school is the main thing in the community. If there is a dinner, parade, presentation, etc., it is most likely taking place at the school or sponsored by the school.
- ham and bean dinner putting together the play grounds the parade for homecoming Santa

- Youth group Homecoming, swirl, prom
- Homecoming parades and events, school programs, church meals, community dinners
- The only ones that are of measurable importance would be those of my childhood and the parade, and it was mainly just because there was free candy involved.
- I thought the Winona Centennial was memorable. Annual Church fundraiser is fun.
- the home coming parade
- children's sports events like football, volleyball, and basketball games, and track and golf meets.
- school parade cleaning the park building a new school playground
- I have taught in Winona for 22 years, so I have attended the annual Homecoming parades, music programs, Chamber dinners, and visits from Santa.
- school bbq
- Downtown activities before homecoming. Parades/games/dinner
- Parades
- Church Smorgasbord, Homecoming events, Halloween Hot Dog Roast, Skating, Winona Days Celebration, Lions Club Donkey Softball, School Christmas Program, School Athletics, and Night Circle.
- I went to church once and nobody spoke and everyone stared. I didn't go back so I have no idea as to what important events take place there. Graduation is a big thing.
- Firemen's Christmas or New Year's Eve steak suppers
- school activities, homecoming, swirl, prom, volleyball and basketball games and tournaments football games and track meets
- holiday celebration at the church - Homecoming events,
- Pheasant hunting!!!
- I have been at homecoming parades with community meal after. As I do not live in Winona but north I do not attend a lot of events. Community working to build playground at the school.
- homecoming or winter homecoming events when my children were participants; any school activity or sporting event that my children participated in; choir activities at one of the local churches
- parades, homecoming week
- Back to school BBQ, Sporting events.
- ham and bean feed school homecoming church smorgasbord
- Homecoming parades and bonfires when our kids were in school Girl Scout honor Gold Award ceremony Valentine's Dinner done by the Youth Group School Plays and Music Concerts Kay Club Benefit Volleyball Games
- Athletic activities of the school, plays, music programs, etc.
- Past football, basketball games. I enjoy the back to school bbq and that is about it as that is all that I am invited to.
- Homecoming Parade activities each fall. Fall Smorgasbord at the United Methodist Church. Halloween Wiener Roast hosted by the Winona City Chamber of Commerce.
- Our very small community centers around school and the activities there. I have many fond memories involving school...homecoming, ballgames, field trips, Santa coming to town.
- none i have not lived here that long
- Homecoming parade, church breakfasts, hunters feed during pheasant season, santa at christmas and the halloween celebration and BBQ.
- School dances.
- youth group

Question 17

17. Where were those events held?

- School, church, community
- Halloween: Fire House Parade: Down Town Bond Fire: Over by the railroad Community Dinners: Fire House and Methodist Church
- Down town or at the school
- Main Street
- Winona.
- downtown

- methodist church
- N/A
- the community center
- open area down by the bank firehouse
- The school.
- ham and bean dinner/Santa- Chamber building putting together the play ground- The school the parade for homecoming- down the Main streets
- Main street, school, football field
- school, church
- Main Street
- on main street
- school
- the school, park, mainstreet
- Previously, most events were downtown at the old Chamber building or at the school. Recently, the new fire house has been a common setting.
- school
- On main street and at the community building
- Fire Station/Main street
- Church, School, Skating Rink.
- Graduation is held at the school.
- at the firehouse-first in the old building, then in the new one
- all over the surrounding area
- The church , the school and the community building
- Fire Station and school
- school, church
- main street
- Office building, and the High school.
- school church community building
- School, Church, main street
- At the school.
- at the school
- At the United Methodist Church and the Triplains School. In addition the fire house is also used to host some of the aforementioned activities.
- School Firehouse Chamber of Commerce Building
- Fire house and church
- At the school.
- No sir

Question 18

18. What types of community events would you like to see take place in Winona? (list any events you feel would be popular and effective in strengthening a feeling of community in Winona.)

- Potlucks -monthly, senior citizen bus to town
- Clean up Winona Day,
- As the community ages, it is hard to find someone to sponsor any events. It certainly has changed over the years
- Due to the size of the population, I feel that if the community of Winona continues with what events we normally do, it will keep the everyone connected and strong.
- community events
- Comm dinners movie night maybe or party in the park a winona days with softball and pot luck or other games for kids with garage sale day
- bake sales, cook offs and the like.
- more community meals summer events
- Cleaning up the community Having more dinners together painting old park equipment at the winona park
- People get together and build a dirt bike track
- Community dinners are always nice.
- I can't think of any, but would be nice to have something. I have attended the Jennings Fireman's Fun Day, and that is kind of interesting. Whatever it would be, it would need to

be something unique, not done by other communities.

- i dont know
- softball tournament, after harvest festival
- I would like to see a community homecoming not related to the Football games. Also, a community grocery store (similar to what Grinnell has) would be a great benefit to the area.
- a concert
- Same ones
- I have no idea.
- I really don't know or can't think of anything.
- no opinion
- I think we have the right types of events but we need to continue to get people to get involved with them to make them the best they can be.
- It would be nice if Winona had a movie theater or something; it would be fun if the skating rink still existed; maybe have a few more community meals
- Not quite sure for the size of the town i think that there is plenty done.
- Community Dances Old Settlers' Picnic
- Community get togethers, teen dances on the street with parents involved, community picnics in the park.
- Any type of event that promotes all of the residents to attend. School reunions are probably the only large scale event that occurs at the present time.
- not sure
- Anything.
- Youth group

Question 19

19. In your estimation, rate how strongly you feel you belong to Winona.

extremely strongly		4 (8.33%)
strongly		21 (43.75%)
somewhat strongly		14 (29.17%)
not strongly		8 (16.67%)
N/R		1 (2.08%)

Question 20

20. What reasons would you give for saying you feel you belong to/or do not belong to Winona?

- I have lived here since 1959 and we help with about everything
- The people here are pleasant and easy to get along with and help when you need it. They make you feel that you belong here.
- I have taught in the school district for 15 years and have raised our children tied to the Winona community.
- I have lived here many years and very involved in school events with grandchildren
- i have not lived here very long and did not grow up here but i feel more and more a part of the comm
- Not a real resident of Winona, our house is more of a get away from Denver, but still love to be there.
- lived there a long time
- I belong because I choose to live here and have made an effort to participate in the community
- I feel like I belong to the school community.

- I have participated in community organizations, and i belong to the school
- Did all years of school know just about everyone
- Birthrights
- Just the family history in this community, and being involved and engaged with my business customers.
- i like farming and ranching but i dont know what life will bring me
- besides work we really don't do anything within the community with people besides family
- This is where I grewup. I moved away to a bigger city and as it grew I figured out the smaller towns had more of a home life.
- As I said before, Winona is a close community, but they can be somewhat resistant to accept outsiders.
- becuse people know me and i know people you just feel right
- It's my home where I was raised I'm always at peace when I go back and just feel like I belong there
- The population is not what I wish it could be.
- Lived here for 46 years. Active in church. Still participate in some school activites, but not as much as when had children in school. Husband and I both were active in local clubs and organization when they were still active in Winona.
- I believe that if you were not born in Winona or in the countryside, you are made to feel you don't belong. The people are not friendly if you moved here from out of state or even out of town.
- I like my 2 jobs at the school, I like the children and I think they like me.
- The fact that you know everyone and everyone knows you. It just gives you a sense of family when you know everyone around you and feel comfortable around them.
- i have lived here all my life
- Parttime residency. After retirement, we do plan on living there more of the year. Also, we're usually there on weekends, which sometimes doesnt allow us to participate as we'd like.
- As I stated above I live north of Winona at quite a distance and thus not a central part of the community but of the school.
- a reason i would give to say that i somewhat belong to winona is the fact that i have lived here for a few years.
- I've lived there for a long time, sent six children to school there, and worked in the community for 17 years.
- strongly because that is where i'm from, not strongly because i won't be there forever.
- I think just simply my personality with the town i dont quite fit in with the town folk!
- the school
- Have duties as the mayor of Winona Have duties as a volunteer fireman Have a business in Winona Enjoy the people in this community
- I dont belong as I am not a life long, blood relative to anyone and I think that this keeps me from being invited to things. Everyone is related in some way and I think that is what keeps me from some things.
- Born and raised in the area and have taught here for the past 31 years.
- I have lived near here all my life. We had a family owned business in Winona for eleven years. My children were raised here.
- It is a town that consists almost entirely of bigoted religious people who are incapable of critical thought, and are indifferent towards the environment's health.
- everyone is nice
- I am active with the chamber of commerce and with two middle school kids I also am active with school events, and help out at church when needed. I feel people know they can ask me for help and I will be more than happy to lend a hand.
- There isn't much to belong to other than the community. Winona is a slowly dying town. The school & the grain elevator are the only things that keep this place from becoming a ghost town.
- I have my family and some friends here.

Question 21

21. How would you describe what is special about Winona compared with neighboring small

communities?

- How they pull together in the time of need and how they are so caring. They are a very Christian community.
- The people
- Community pulls together
- We are a high energy community that can produce memorable events on a shoestring budget.
- A friendly community
- everyone helps out and seem to be friendly
- N/A
- I think they are alike in that people live here because they want to
- Small school, good teachers.
- I dont have to worry while walking around at night everyone is friendly
- Everyone knows just about everyone. most people get along.
- sense of community
- As far as the adults go I'm not entirely sure but fellow classmates it definitely seems to be more of a brotherhood.
- Cannot really think of anything.
- i really dont know but i live here so i like it better
- the people make a big difference
- evrybody knows evrybody
- The closeness of the residents
- It has a supportive community atmosphere.
- I don't know that Winona is anymore special than any of the other towns close by. But it's special to me for all the memories that it holds for me in raising a family here and time spent with my husband and time spent with friends. It's a place I've come to call "home" and my children call it "home".
- all small towns are like this in NW Kansas
- the fact that there isn't alot around winona but it still brings people to it.
- quiet, peaceful
- I feel the community is aware of the dependence on each other to keep the community and school. I feel most the people try to support both as much as possible. Many have contributed time and money to the building of a playground for the children of community and grandchildren of residents.
- That it is a quiet, small town without much violence compared to other communities
- I can't think of anything. Other small communities do pretty much what we do.
- its awesomer
- THe people that have lived here for a long time.
- The school is the hub to me.
- Everyone working together to keep the school going Have people who care about others in the community
- Here in Winona it is quiet, calm, and just a nice place to raise your family. I just hope that the school can stay open. As if that shuts down this town is a goner.
- Probably their resilience to withstand some pretty tragic events. We lost two students in an automobile accident several years ago. The community came together to show their support to the school and to the parents of those children.
- not sure
- the fact that everyone is willing to lend a hand in a time of need regardless of the name.
- Nothing.
- People know each other and usually friendly.

Question 22






22. In your opinion, how problematic is the ponding of water around town following rain storms?

extremely problematic		4 (8.33%)
problemtic		18 (37.5%)

somewhat problematic		13 (27.08%)
not problematic		11 (22.92%)
N/R		2 (4.17%)





Question 23

23. IF COSTS WERE NOT A FACTOR, which of the following would you consider implementing at your home to reduce your stormwater contribution? Check all that apply Note: These images are sample images only. They do not represent what might be designed to work most effectively in Winona.

A - Rain Barrels - to collect water and use for irrigating lawns, gardens and other plantings		23 (47.92%)
B - Rain Gardens - to collect, infiltrate and cleanse water, to reduce irrigation requirements		34 (70.83%)
C - Installation of pervious pavements - to help infiltrate stormwater		15 (31.25%)
D - Native Plants - to reduce irrigation requirements, to help infiltrate stormwater		26 (54.17%)
N/R		2 (4.17%)

Question 24






24. How much money would you be willing to spend implementing stormwater management facilities at your home? (knowing that facilities such as these could save you money in the long run and help solve the community stormwater problem?)

Less than \$1,000		30 (62.5%)
\$1,000 - \$2,500		12 (25%)
\$2,500 - \$5,000		2 (4.17%)
Over \$5,000		0 (0%)
N/R		4 (8.33%)

Question 25

25. In what ways would you be willing to support community-wide efforts to reduce COMMUNITY stormwater runoff?

Donating time to maintaining stormwater management facilities		15 (31.25%)
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Donating money to fund the construction and maintenance of stormwater management facilities		7 (14.58%)
Support city bond or increased tax in order to fund construction and maintenance of stormwater management facilities		16 (33.33%)
Implementing individual, at-home measures only		16 (33.33%)
Support educational programs at the school which teach youth about these issues		18 (37.5%)
N/R		6 (12.5%)






Question 26

26. How much time would you be willing to spend each week helping maintain community raingarden facilities?

Less than 1 hour/week		14 (29.17%)
1-2 hours/week		20 (41.67%)
2-4 hours/week		11 (22.92%)
more than 4 hours/week		0 (0%)
N/R		3 (6.25%)

Question 27

27. In your opinion, how successful would a new park in Winona be at enhancing community identity?

Extremely successful		10 (20.83%)
Somewhat successful		30 (62.5%)
No change		3 (6.25%)
Somewhat unsuccessful		1 (2.08%)
Extremely unsuccessful		4 (8.33%)
N/R		0 (0%)

Question 28

28. In your opinion, how successful would more trees and designed landscapes be at enhancing

winona's identity?

Extremely successful		20 (41.67%)
Somewhat successful		25 (52.08%)
No change		3 (6.25%)
Somewhat unsuccessful		0 (0%)
Extremely unsuccessful		0 (0%)
N/R		0 (0%)

Question 29

Please mark the age category you most appropriately fit into.

14-18		10 (20.83%)
19-24		4 (8.33%)
25-34		6 (12.5%)
35-44		4 (8.33%)
45-54		7 (14.58%)
55-64		10 (20.83%)
65-74		5 (10.42%)
75+		2 (4.17%)
N/R		0 (0%)

Question 30

Please mark your gender.

male		23 (47.92%)
female		25 (52.08%)
N/R		0 (0%)

Question 31

Please provide your occupation.

- Homemaker/Farm Wife
- Stay at home Wife/Mother
- Educator

- Mostly retired
- Crisis Evaluator Manager

- Grain Elevator manager
- Teacher
- housewife-cosmetologist
- sec at wfg
- construction and security guard.
- self employed business owner
- Teacher
- Student
- student
- Teacher
- Student
- Banking
- i help my dad farm/ranch
- teacher
- retired
- teacher
- student
- Ultrasonographer
- Project Manager/Sales
- High School Teacher
- Bookkeeper
- Retired
- school bus driver and office aide at school
- Paralegal
- secretary
- housewife
- teacher
- bookkeeper
- student
- student
- Teacher @ USD 275
- Business Owner
- Farmer
- paraeducator
- Educator/ farmer
- School employee
- student
- Territory Assistant
- Student.
- Student at Winona

- End of Survey -

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Appendix D

Greensburg Precedent Study Commentary

The study of Greensburg, Kansas will make an extremely valuable contribution to any discussion of renewal or revival of rural communities in Kansas. Greensburg is a community which was historically very typical of the process of rural decline in Kansas. Situated in southwest Kansas, in 2007 Greensburg was a town of nearly 1,400 people. In the five decades leading up to that point, Greensburg has experienced the steady decline of population and the struggling economic base that has become a hallmark of rural communities. Since the town hit its peak population of almost 2,000 in the 1960's, the population has declined by an average of nearly 2% per year (NPR 12/2007.) As in other rural locations, a significant portion of those leaving the community were young people. According to an article in Smithsonian, the school population in Greensburg had been cut nearly in half over recent decades. During these years of decline, the economy has also been declining as agribusiness replaced family farming operations, automation and efficiency replaced jobs in the gas and oil industry and local businesses closed.

On May 4, 2007, Greensburg was the scene of a major natural disaster. The town was nearly wiped off the map by an EF-5 rated tornado (see Figures 7.1-7.3.) No tornado before had ever been given an EF-5 rating, which is only given to the strongest tornadoes which having winds in excess of 200 miles per hour. This particular tornado had winds of 205 miles per hour and was estimated to be 1.7 miles wide at its base, nearly swallowing Greensburg's two square mile footprint whole as it moved down the town's main street. More than 90% of the town's buildings were destroyed or severely damaged in the storm and, thanks to tornado warnings, only



Figure 7.2
Greensburg's school following the disaster



Figure 7.3
Remnants of Greensburg's downtown



Figure 7.4
Post-tornado Greensburg

ten people were killed (Greensburg Master Plan.)

While many thought that the tornado would be the death blow to an already dying community, some of the community's residents saw in the storm a silver lining. They saw an opportunity to recreate their community in a way that would be able, over time, to reverse the processes of rural decline and help Greensburg to again become a thriving and bustling rural Kansas community. Greensburg would be rebuilt as the "greenest" town in the world. The community would become, in the words of Daniel Wallach, "a living laboratory" for people around the world to see and experience sustainable living on a community scale (USA Today 5/2008). Much of the rebuilding efforts have been focused around an enhanced community vision and identity – a vision and identity which incorporates the community's former identity with a new, green and sustainable identity (Greensburg Master Plan.)

This enhanced identity is largely composed of modifications being made to the built environment. Design professionals such as architects, landscape architects and engineers are helping to develop this identity through the modification and creation of a new physical community structure and within individual pieces of community infrastructure. In addition, this identity is perceived within the community residents themselves as they push for these changes to their physical environment.

While there are many differences between Winona and Greensburg, there are many similarities which make this study very valuable to the project in Winona. While in a different geographical location and at a different much larger scale, Greensburg shares many similar characteristics with Winona. Winona continues to experience

the effects of rural decline in its population, school and economy. Greensburg's attempts to reverse rural decline's effects on the community through enhancing their community identity are a valuable precedent to any community wishing to positively affect their community (and at least the leadership of Winona has expressed a desire to reinvent the community's identity). In addition, Winona shares another important characteristic with Greensburg which makes this study even more valuable. Winona also faces an environmental threat, although not at the tragic scale of Greensburg's tornado, which, left unaddressed, could alter the fabric of the community. This possible environmental adversity can be seen as an opportunity for Winona to enhance its community's identity while mitigating the potential environmental impacts facing the community.

This study of Greensburg will focus on the community's attempts to recreate or enhance their identity, what constitutes that identity and how successful those attempts seem to be. First and foremost in the study will be a look at the master plan which states the community's vision, sets goals for obtaining that vision and which has been developed to guide the future development of the community toward meeting those goals. The master plan document was prepared by the multidisciplinary design firm BNIM Architects out of Kansas City and is intended to help guide the community toward becoming a "socially, economically and environmentally sustainable city" (Greensburg Master Plan – 2). Additionally, the master plan was created with the input of hundreds of community stakeholders with the intention that the document becomes "a reflection of the community's goals and values" (Greensburg Master Plan – 4).

A literature review of news and magazine articles from the period immediately following the disaster to the present will be undertaken, in addition to my own experience of visiting Greensburg, in order to further determine what constitutes Greensburg's new identity. This analysis is an attempt to determine how successful the efforts for the enhancement of identity laid out in the master plan have been. The review of this literature, and to a smaller extent the master plan, will help document the spring from whence Greensburg's identity flows – namely from the residents of the community themselves, from their values and their actions within their community, not necessarily from the physical structures which are merely representations of the community's identity.

Some of Greensburg's identity remained intact after the storm, while the rest was completely blown away. Prior to the tornado, just as in other rural communities, Greensburg's identity was contained within the people, as well as in its physical manifestations. As stated before, over 90% of the structures in the town were destroyed. Many structures which embodied the visible identity of the place, including the school, the hospital, the water tower and almost all of the downtown were among those destroyed. Other embodiments of the community's identity, however, such as the Kiowa County courthouse and the grain elevator were spared. Before the storm, if residents of the community or surrounding area were asked what Greensburg was known for, most likely the answer would have been the Big Well (Figure 7.4). Greensburg's claim to fame before the tornado was its well, which is the largest hand-dug well in the world. Greensburg also boasts the world's largest pallasite meteorite.

Much of a community's identity is less tangible and



Figure 7.5
The Big Well museum/gift shop - prior to the tornado

visible than buildings and infrastructure. That is the identity as experienced and known by the community residents. This identity is much harder to perceive than the spatial elements which lend identity a physical presence. This is the identity which, more than that which has a physical presence, will remain as long as the people remain there to be the container for it. This identity is that which remained in Greensburg even after the tornado removed all of the physical signs of the town's former identity and that which allowed the community to rally around an idea, and rebuild and enhance an identity based upon the old. This is at the very heart of the idea that community identity is a strong and essential piece of the social capital of a place, and one which, when focused on first and foremost can help to strengthen social capital and increase flows among and between other forms of capital (Flora & Flora, Emery & Flora).

It was this less tangible identity which was tapped during the initial phases of the master planning effort

and allowed the community to rally around the idea of rebuilding Greensburg as the “greenest community in the world.” And it was this less tangible identity which has made the creation and implementation of the physical manifestations of Greensburg’s new identity possible. The underlying philosophies of environmental stewardship which made Greensburg’s transformation possible were embedded in the rural values of the community residents. What was needed was a way for them to be expressed. Greensburg’s new bottom line was guided by the values and philosophies of the people living there and includes the cultural qualities that made the town special and the natural heritage of the community and region (Greensburg Master Plan.)

The pioneers who peopled the Kansas prairies understood the basic principles undergirding the green movement. They took advantage of wind energy to water their cattle and took advantage of geothermal energy to insulate their buildings and to preserve their food. They utilized solar energy to heat their homes in the winter and relied on vegetation to shade and cool them in the summer while protecting them from cold winds in the winter. This basic understanding was recognized early in the process by community leaders (Greensburg Master Plan – 10) and was an essential element in garnering the support of the entire community in a region known for being deeply conservative. This support is no small feat considering that the “green” movement is usually associated with liberal, left-wing activists, not right-wing conservatives. Community leaders recognized this conflict and were able to build the support of the community regardless based upon the mantra of rebuilding “smart” instead of rebuilding “green” (NPR 12/2007,

Time 2/2008. AFP 4/2008). Rebuilding smart is what provided meaning and value for community residents; it was the reason for rebuilding at all. Perhaps by rebuilding smart, the community could remake itself and its future legacy by reversing the processes which had been, for the past several decades, slowly strangling the town.

This idea of providing a legacy for future generations is at the core of the vision of Greensburg’s residents as stated in the master plan, which reads: “Blessed with a unique opportunity to create a strong community devoted to family, fostering business, working together for future generations” (Greensburg Master Plan – 11). This vision, and the goals within the master plan which are aimed at achieving it, strives to constantly improve and strengthen the community. As such, the community was to be developed by creating a new identity while incorporating the community’s former identity. The goals of the master plan, which were written as a method of achieving the community vision, revolve around improving Greensburg’s new bottom-line of community or culture, ecology and environment, and the rural economy. Another important goal of the master plan is to make Greensburg and its rebuilding process a replicable model for other rural towns to follow in creating a sustainable economy.

From the study of the master plan, the visit of the place, and through reviewing media articles about the rebuilding process, it appears that the Greensburg’s level of success in creating identity is somewhat contradictory and confused. By taking just a cursory look at the community and its current stage in the rebuilding process, it seems that Greensburg has been very successful in recreating and enhancing its identity. Sustainability and green practice are evident all around the city in both pub-

lic and private examples and at several different scales. Buildings are being constructed across the city which are light years ahead of the city's former buildings in terms of energy efficiency. The city adopted a resolution which aimed at making the community's buildings 42% more energy efficient than currently required by code (Master Plan.) So far, they have succeeded in meeting that goal. The National Renewable Energy Lab (NREL) has tested newly built homes in the city and found that they are on average around 40% more efficient than required by code (Smithsonian 2/2009.)

LEED certified buildings are popping up all over the city (Figures 7.6-7.8). Greensburg has the distinction of having the first LEED Platinum building in the state of Kansas, and if all goes as planned, will have at least six LEED Platinum buildings when all is said and done. The 5.4.7 Arts Center and the John Deere dealership are LEED Platinum buildings, as well as the City Hall, the school the new SunChips Business Incubator and the Kiowa County hospital. Wind, solar and geothermal energy are being tapped to power not only the LEED Platinum buildings, but also a number of homes, churches and businesses within town. Hundreds of water saving toilets and other plumbing fixtures have been donated to be used in buildings across the community (AFP 4/2008, Good Housekeeping 5/2009.) Rain gardens and bioswales are being installed to capture and cleanse stormwater runoff, and cisterns are being employed to collect rainwater to use for irrigation (Figures 7.9 and 7.10). Even dozens of parking spaces throughout the community are reserved for fuel efficient and hybrid vehicles.

The downtown has seen a startling transformation into the "social and economic engine that will drive long-



Figure 7.6
Greensburg City Hall (LEED Platinum)



Figure 7.7
Kiowa County Schools (LEED Platinum)



Figure 7.8
5.4.7 Arts Center (LEED Platinum)



Figure 7.9
Bioswale and reserved parking spaces
outside High School (LEED Platinum)



Figure 7.10
Natural landscape area/bioswale in front of
Kiowa County Hospital (LEED) Platinum



Figure 7.11
Native plantings/stormwater BMPs along the
main street

term redevelopment. It is envisioned as the heart of the town; a vibrant, pedestrian-oriented central district that defines the character and spirit of Greensburg” (Master Plan – 28.) Guidelines for the design of the architecture and site elements were planned. Street trees were to be incorporated as well as stormwater treatment facilities in the form of bioswales and rain gardens. Seating and bike racks were provided in order to reinforce the pedestrian orientation of the corridor (Figure 7.11).

In terms of economic and social recovery, things may be a little bit slower. Due to the recession, attracting businesses to set up shop or relocate to Greensburg has been somewhat of a challenge. While several large companies have expressed a desire to locate operations in Greensburg, either bureaucracy or the economics of relocation have not been ideal to the point of the deal actually going through (NPR 12/2007, New York Times 3/2009.) From a social standpoint, the city is experiencing a similar plateau. Initial predictions projected that the population would recover 50% within 18 months, 75% in three years and 100% within five years after the storm (master plan – 17.) An article in USA Today published in May of 2008 stated that, following the disaster, the population fell to around 700, or nearly 50% of the pre-tornado population. As of April 2008, the population had risen to around 800 (AFP) According to a Los Angeles Times article published in August 2010, the city had a population of around 900 – only 65% of the pre-tornado population. While population has increased, it has not been at nearly the pace hoped for.

These statistics, discovered during the literature review, in addition to my personal visit to the community have led to the conclusion that perhaps the creation of

identity is not as successful as it initially seems, when viewed through the lens of the PSC Framework. The city's rebuilding efforts have definitely resulted in the enhancement of Greensburg's identity. However, the enhancement seems to have mainly occurred in the "space" level, with some enhancement occurring in the "community" level as well. If the master plan and its origins are considered in the context of this project's definition of identity. Considered through the definitional lens of the PSC Framework, the potential available to create a much more powerful identity within the "place" level, as well as building upon the earlier progress in the "community" level was somewhat lost in the fog of green technology. One of the most valuable parts of this study will be to determine, based upon the criticisms developed here, how and where other small communities should focus their efforts while attempting to enhance their identity.

Perhaps the greatest criticism to be learned from is the apparent over-emphasis on the built environment's ability to create identity. In Greensburg's master plan document, this over-emphasis seems particularly focused on the architecture and less so on other important aspects of the built environment. This criticism is supported in the master plan document as well as in the media articles reviewed. Two statements from the master plan will suffice to illustrate this point. The first is on page 38 and states: "In great towns and cities, architecture is a source of civic pride." Following that statement is a comment which implies that a community's architecture **is** its built environment. The second statement comes from the same page and reads as follows: "In the same way that clothing represents an individual's personality and lifestyle, the architectural character of buildings in

downtown Greensburg will define the businesses that inhabit them, and reflect the overall qualities of the town" (emphasis added.) This attention to architecture can also be found in the review of media articles as every article focused almost exclusively upon the most notable LEED Platinum buildings. References to other aspects of the built environment, as well as the people of the community, and their contribution to the identity of the place were absent in most articles and inadequately described in those which did make mention of them.

While architecture definitely plays a leading role in defining the built environment, it is not the only player and should not be the sole focus of efforts to create or enhance identity, especially within communities which do not have the same access to funding as Greensburg. Initially, it seems that the focus of identity creation was placed squarely in the "space" level, focusing on the creation of architectural objects instead of providing a framework within which resident and visitor interaction could create place. Much of the success in implementing these sustainable buildings was credited to the inherent "greenness" of the residents due to their pioneer heritage. The identity of the place was placed squarely upon the people and their values and how those values directed and influenced their actions. Why hasn't the design of the built environment focused more directly on helping develop that state of mind and set of values in the people? Instead of focusing almost exclusively on the energy and construction technology of LEED Platinum architecture, couldn't planning efforts also be focused on enabling more simple interactions which people can recognize or perform every day? These more simple measures could include designing outdoor spaces which, because of a

comfortable microclimate provided by shade, comfortable benches and the cooling effects of water, encourage pedestrians to stop and interact with one another. Other measures could also include orienting the building for solar gain, utilizing vegetation to help regulate the indoor temperature of the house and simply saving resources by using water and electricity within a home more wisely. Is the identity truly in the people's inherent sustainability and stewardship of the land, or is it focused mainly on flashy new architecture within the community?

Because of this over-emphasis on the architecture, several other elements of the built environment appear themed and gimmicky – a sentiment echoed in news articles (LA Times 8/2010.) Several of the goals in the master plan, while being admirable and worthwhile goals, appear quite urban, extracted from their urban context and stamped upon a rural “blank slate.” Several mentions are made within the master plan about providing urban services and creating something of an urban lifestyle without “diminishing the values and lifestyles of its current residents” (master plan – 12.) Within the downtown, the streetscape was designed to cleanse and manage the stormwater runoff of the area. While the “green” basics of bioswales, native vegetation, trees, pervious paving, and rain gardens were all implemented, they seem to have been merely stamped into the landscape instead of integrally woven into it. (The BMPs implemented along the main street appear to be modified copies from the Portland Green Streets model – see Figures 7.12 and 7.13) There is little there which is representative or supportive of the rural place that is Greensburg, or which facilitates any sort of interaction with those who might use it as there are few obvious clues as to what the purpose

Figure 7.12
Infiltration planter - Portland Green Street



Figure 7.13
Infiltration planter - Greensburg Green Street



and functionality of the elements is and what functionality they are supposed to have. This problem was rectified somewhat in the stormwater system at the hospital where signage was used to explain the purpose and function of the landscape.

One question will serve to further drive home this point – where are the trees? For a community which is striving to become the greenest community in the world, there is a startling lack of trees. As stated before, the emphasis on energy efficiency seems to have been placed in the technology to the point that the simpler and less expensive ways of increasing energy efficiency have been forgotten. While visiting the community, it was noticed that very few of the homes which had been rebuilt were properly oriented to take advantage of solar gain, and almost none had vegetation planted which would shade the structure in summer while allowing the winter sun to penetrate. In the review of media articles, the functionality of vegetation was mentioned very briefly only once (Smithsonian 2009.)

At its current position in the rebuilding process, Greensburg seems to have created an identity which seems a bit, gimmicky, themed and out of place in the context of a rural Kansas community. However, before

a community can begin to create meaningful place, that community must develop a spatial framework within which to create place. Currently, Greensburg seems to be in the process of spatial creation. This spatial creation is necessary to the creation of place and community. The perceived weakness is that since they began with a relatively blank slate, they had a tremendous opportunity to do both at the same time; to plan for the creation of place while building the spatial framework. Instead they are focusing on a more superficial means of creating identity; architecture and technology, two things which by themselves cannot do much in the way of enabling the creation of place because they preclude the necessary level and amount of interactions with the community residents which will create meaningful place. It is evident from the media review that this is not the end goal, but a step in the process. It is stated many times in several articles that these efforts are what is providing meaning and value to the residents. Perhaps after the master plan is completed this level of interaction and placemaking will become evident.

Appendix E

Sub-rural Comparative Analysis

Contained within this appendix is information supplementing the summary material presented in Chapter 4. The identity matrix is repeated here with notes and key questions illuminating the methods by which the distinctiveness score for each community was calculated.

Data was obtained on two occasions, a site visit in early January 2011 and another in mid-March 2011. A summary of the most pertinent results of those data-gathering visits has been presented photographically and diagrammatically in Chapter 4 and the remainder of the supporting data (as contained in the identity matrix and the typical section diagrams within the body of Chapter 4) is illustrated in the section and plan graphics following the identity matrix.

Plan graphics are absent in the case of Winona, as that information was included among other maps within the site analysis performed and documented in Chapter 4.

Distinctive Elements	Winona	Brewster	Selden	Rexford	
School	4	4	2	4	Does community have a school? Is it visually prominent? What grades does it serve?
Main Street Business	2.67	3.00	2.83	0.83	This is an average calculated from the following 6 categories, used to determine relative vibrancy of main street
-Pedestrian Presence	1	2	2	0	number of pedestrians present during site visits
-Automobile Presence	3	4	4	1	average number of parked cars counted during 2 site visits and from Google Street View
-Building to Open Space ratio	3	4	2	1	Ratio of the linear footage of building frontage to open space between buildings - how close together are buildings?
-Main Street Spatial Characteristics	4	3	2	1	Analyzed in ROW sections - where are the areas of greatest defined space (with two building facades opposite each other, canopies and spatially defining vegetation)
-Main Street Building Spatial Patterns	2	4	3	1	Supplements the above ratio - how spatially defining are the buildings?
-Community Entrance	3	1	4	1	How close/visible is the main street from the main entry to town? What (if any) entry features proclaim entrance to the community?
Community Center	4	4	4	0	Does the community have one? Does it appear to be heavily used?
Distinctive Architecture	4	5	3	2	Historic architecture, unique (native) and well maintained materials. How visible/apparent is the distinctive architecture?
Street Trees	2	1	0	0	How many trees are along the main street in the business district?
Tree Cover (Community-wide)	3	4	1	2	What is the percentage of tree cover compared with total city area?
Parks	2	4	4	2	Available open space, pavilions, parks, school grounds, etc. How accessible are these facilities?
Playgrounds	4	2	4	1	Parks and school playgrounds - what is the total area available?
Public Space	3	4	2	1	Includes all parks, playgrounds, school grounds, street ROWs, city-owned properties, etc.
	3.17	3.20	2.68	1.38	Final distinctiveness score is the total average of all root categories (does not include sub-categories within the main street business analysis, only the average for the entire category.)

Figure 7.14
Identity Matrix

Brewster

Plans and Sections

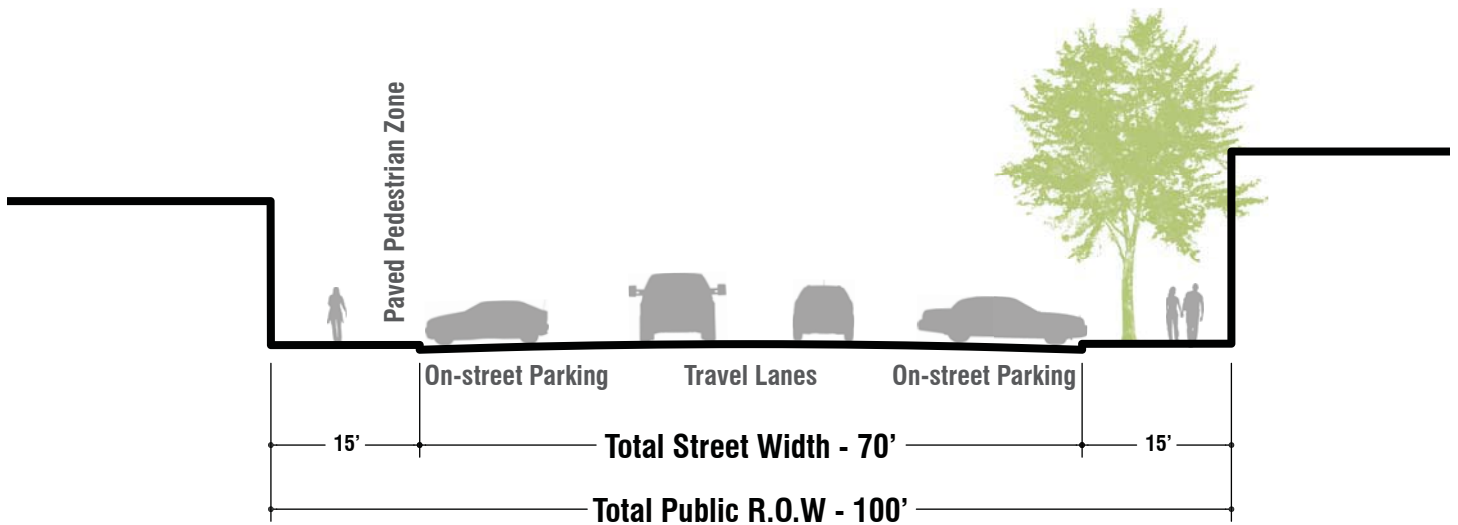
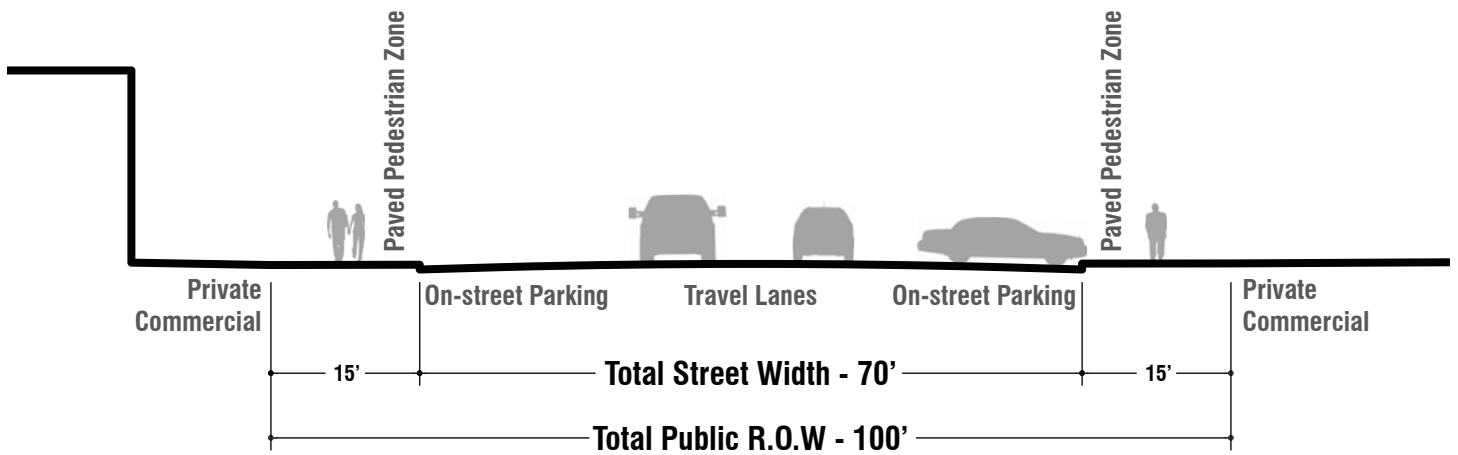
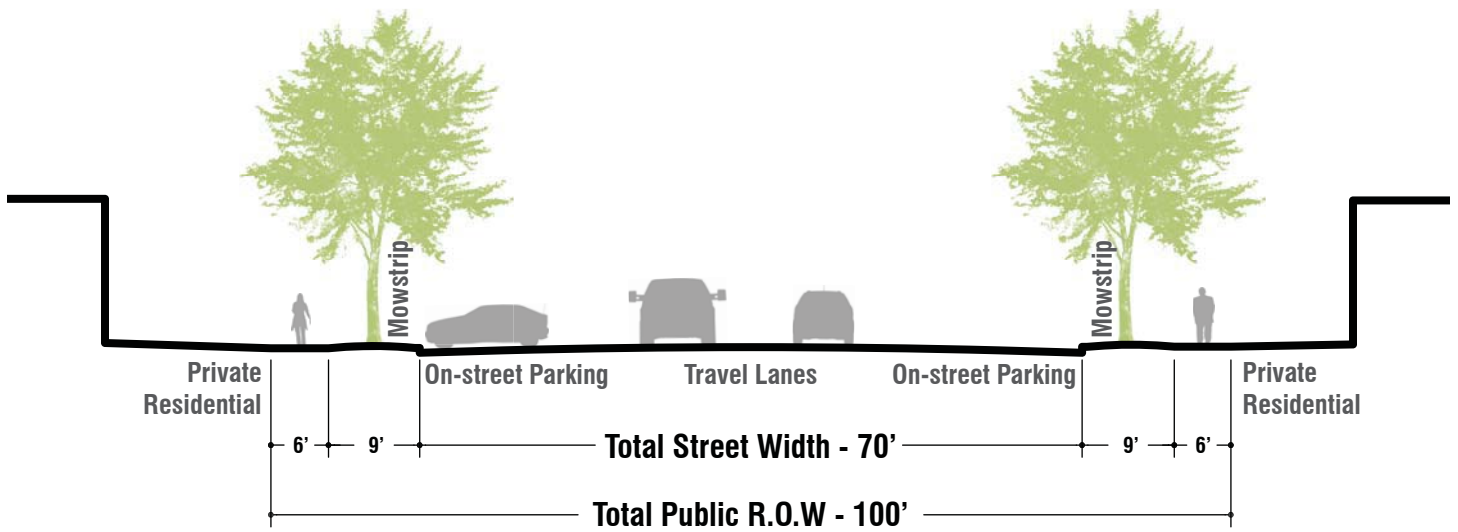










Figure 7.15
 Typical main street sections - Brewster
 (Scale: 1" = 20')

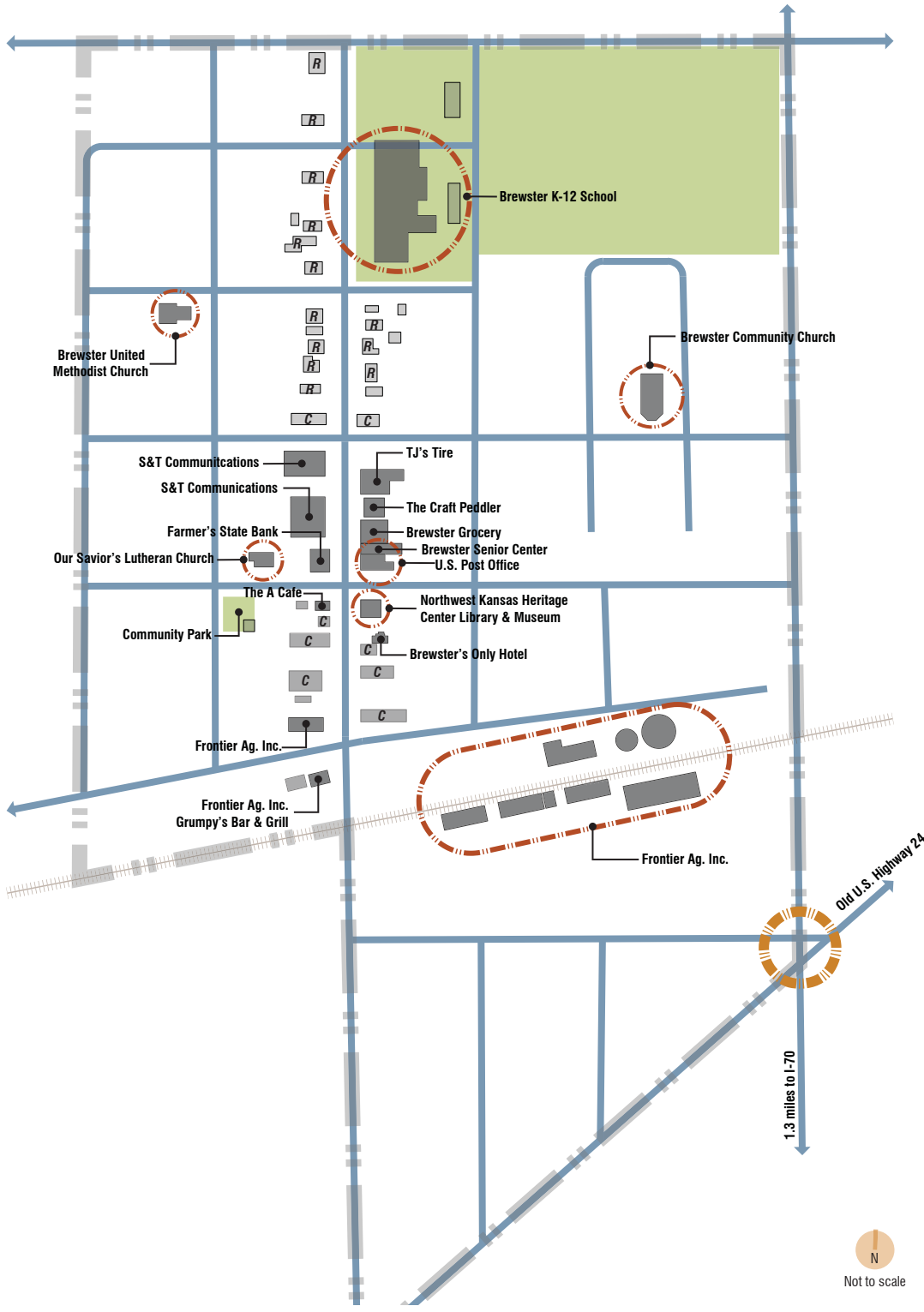


Legend

-  Community Structures
-  Tree Canopy
-  Main Street Frontage
-  Complete Streetwall
-  City Streets
-  City Boundary
-  Railroad
-  Section Cut Lines

N
Not to scale

Figure 7.16
Brewster main street spatial character



- Legend**
- Actively Occupied Structures
 - Nonactive Structures
 - Public Spaces
 - Distinctive Architecture
 - Main community entry point
 - City Streets
 - City Boundary
 - Railroad

Figure 7.17
Brewster main street spatial character

Selden

Plans and Sections

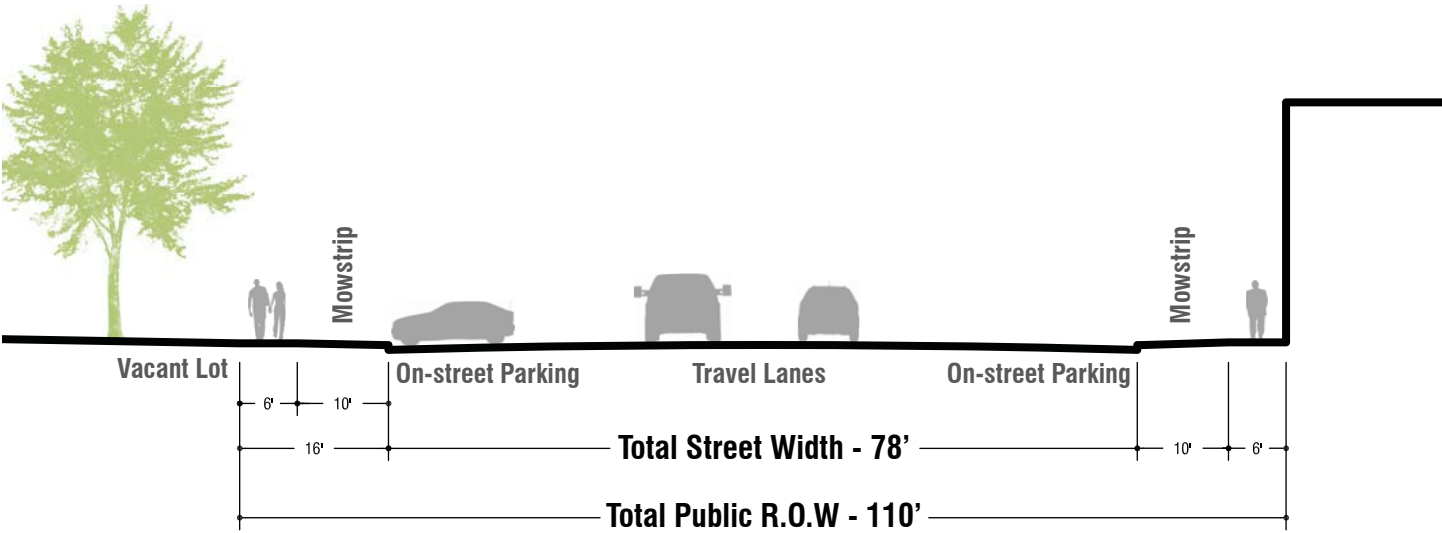
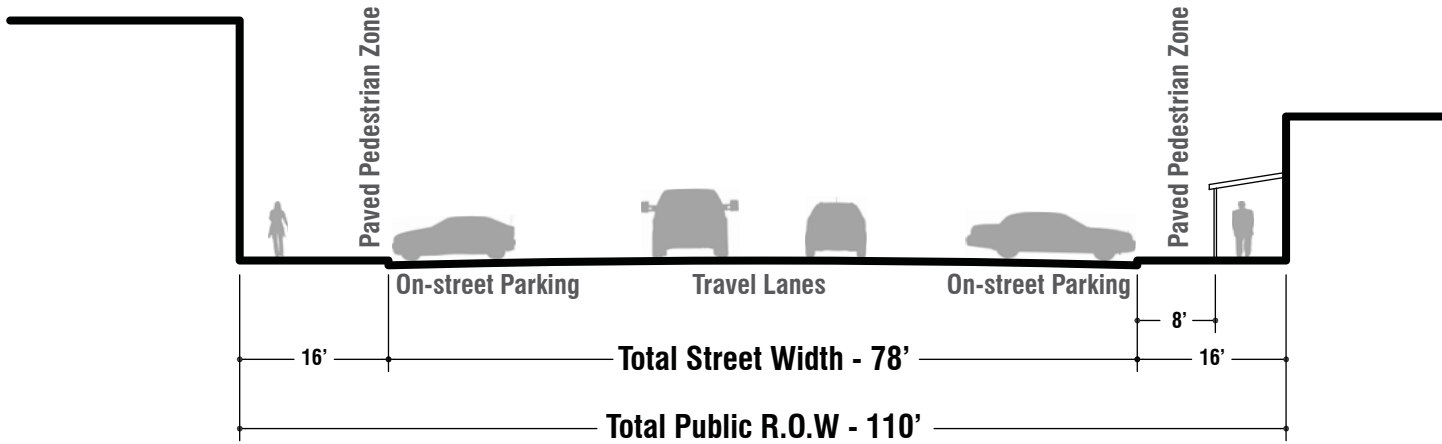


Figure 7.18
 Typical main street sections - Selden
 (Scale: 1" = 20')



Figure 7.19
Seiden main street spatial character



- Legend**
- Actively Occupied Structures
 - Nonactive Structures
 - Public Spaces
 - Distinctive Architecture
 - Main community entry point
 - City Streets
 - City Boundary
 - Railroad
- N
Not to scale

Figure 7.20
Selden main street spatial character

Rexford

Plans and Sections

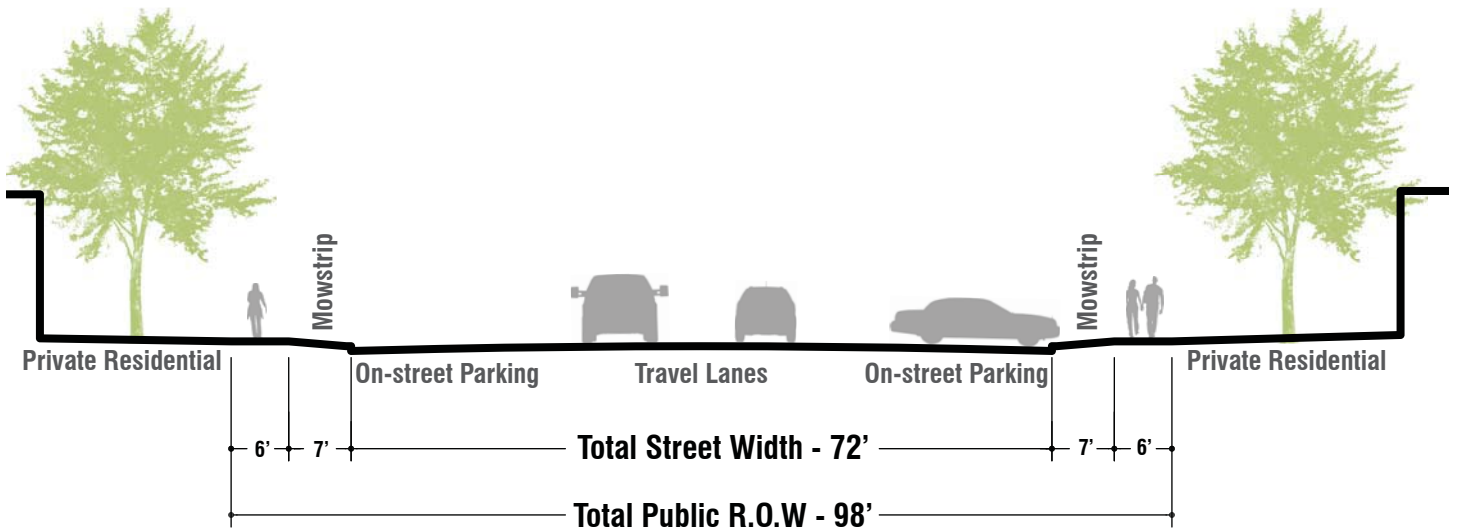
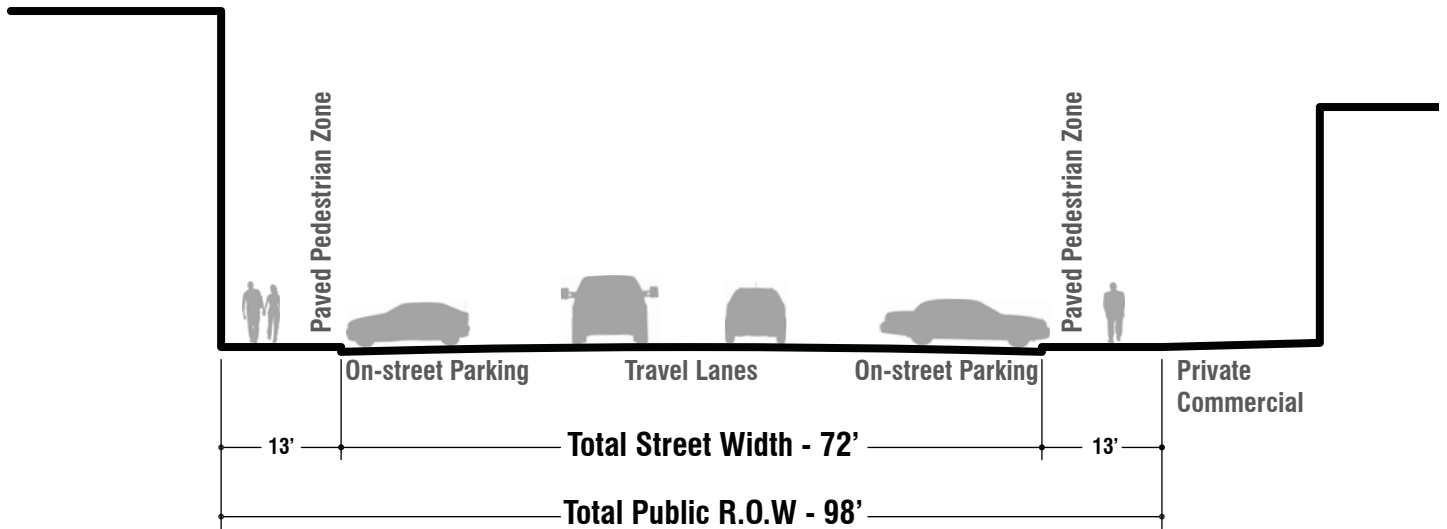
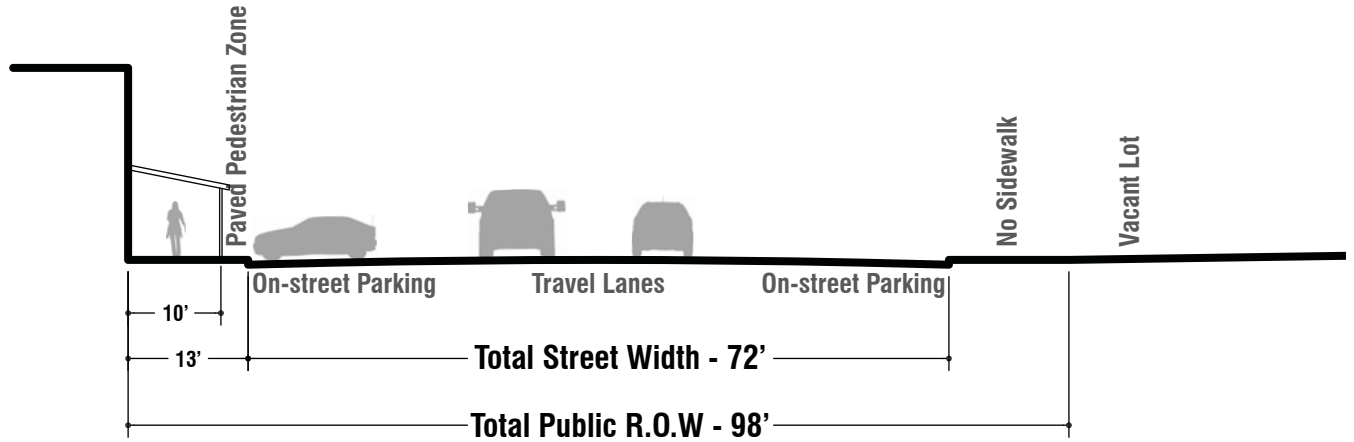
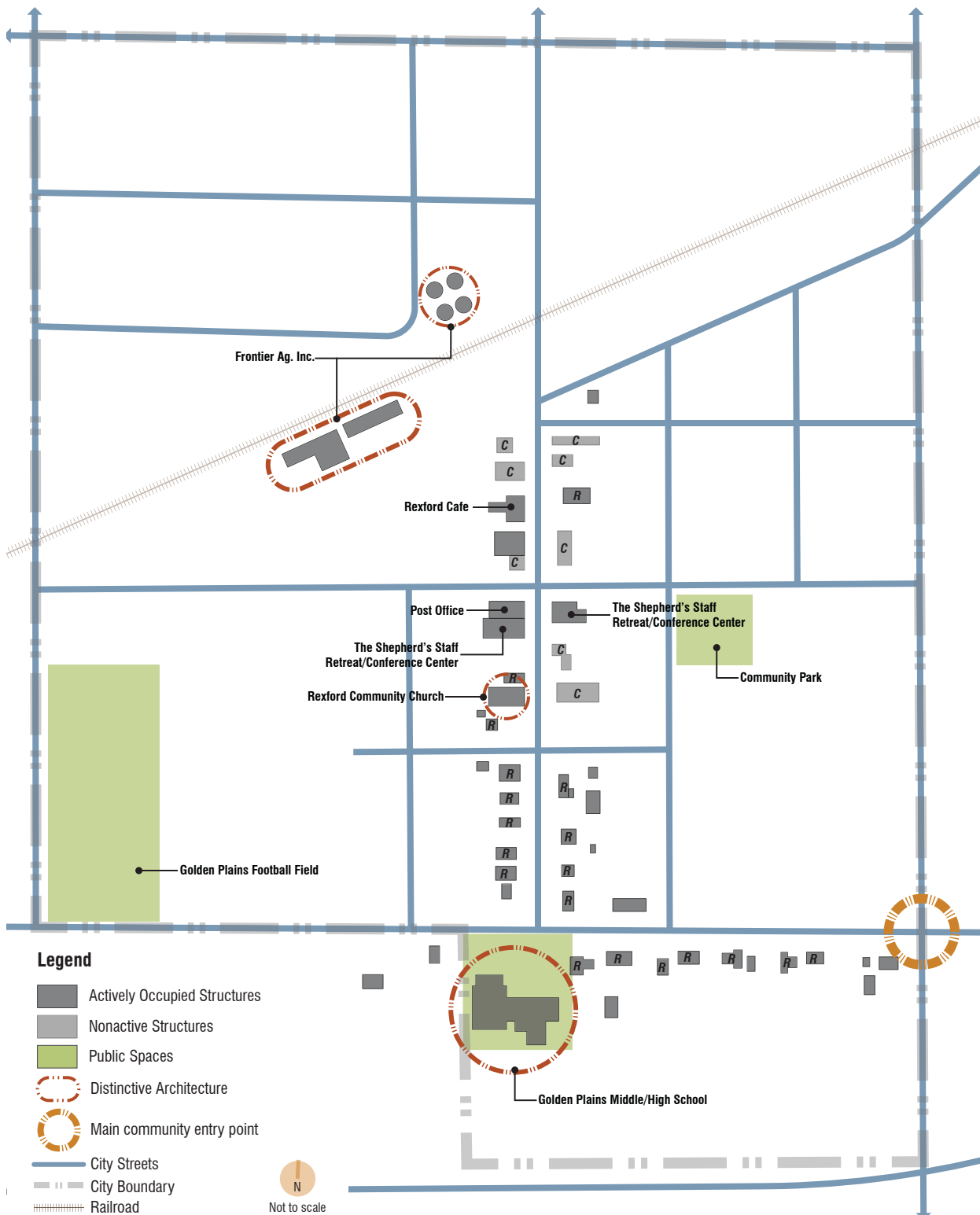


Figure 7.21
 Typical main street sections - Rexford
 (Scale: 1" = 20')



Figure 7.22
Rexford main street spatial character



Legend

- Actively Occupied Structures
- Nonactive Structures
- Public Spaces
- Distinctive Architecture
- Main community entry point
- City Streets
- City Boundary
- Railroad

N
Not to scale

Figure 7.23
Rexford main street spatial character

Winona

Sections

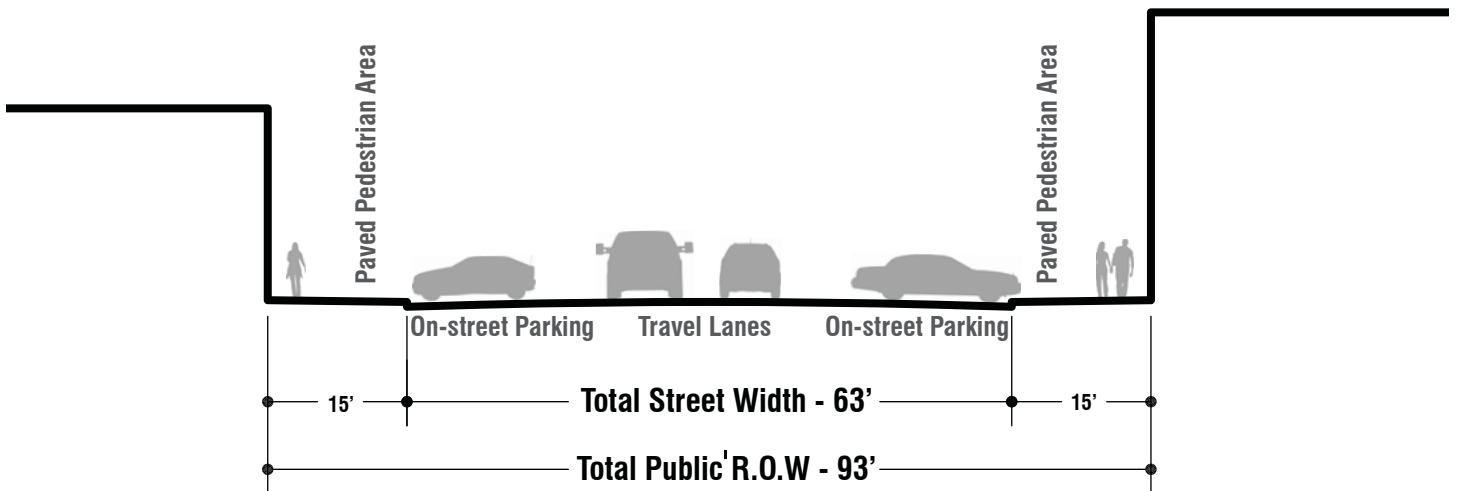
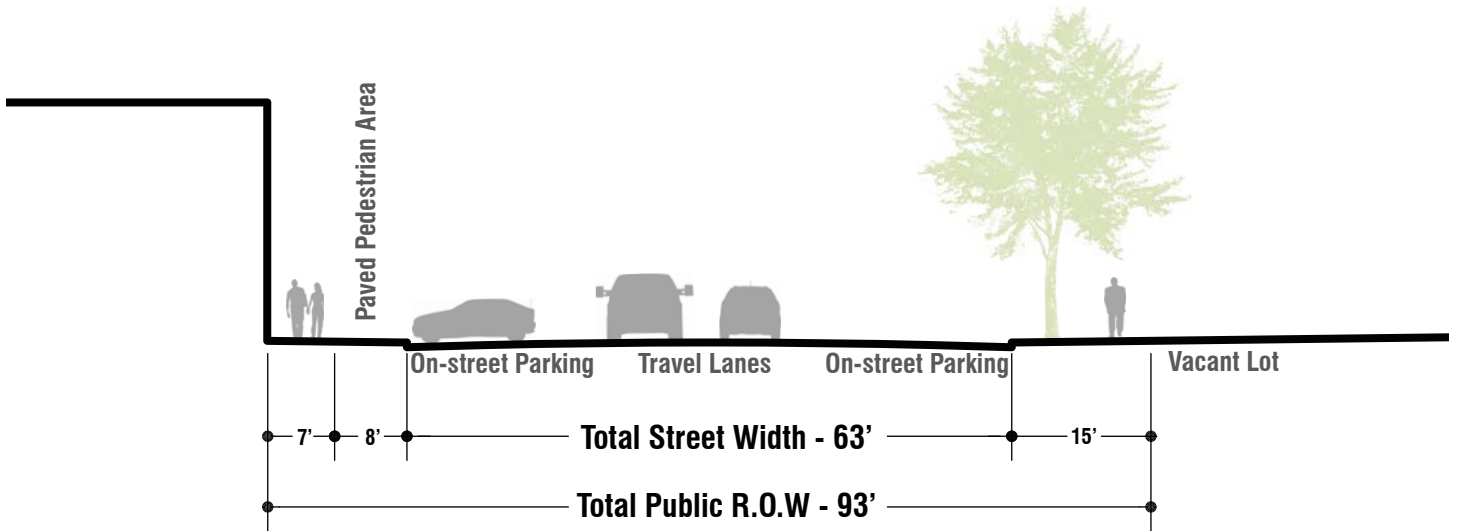
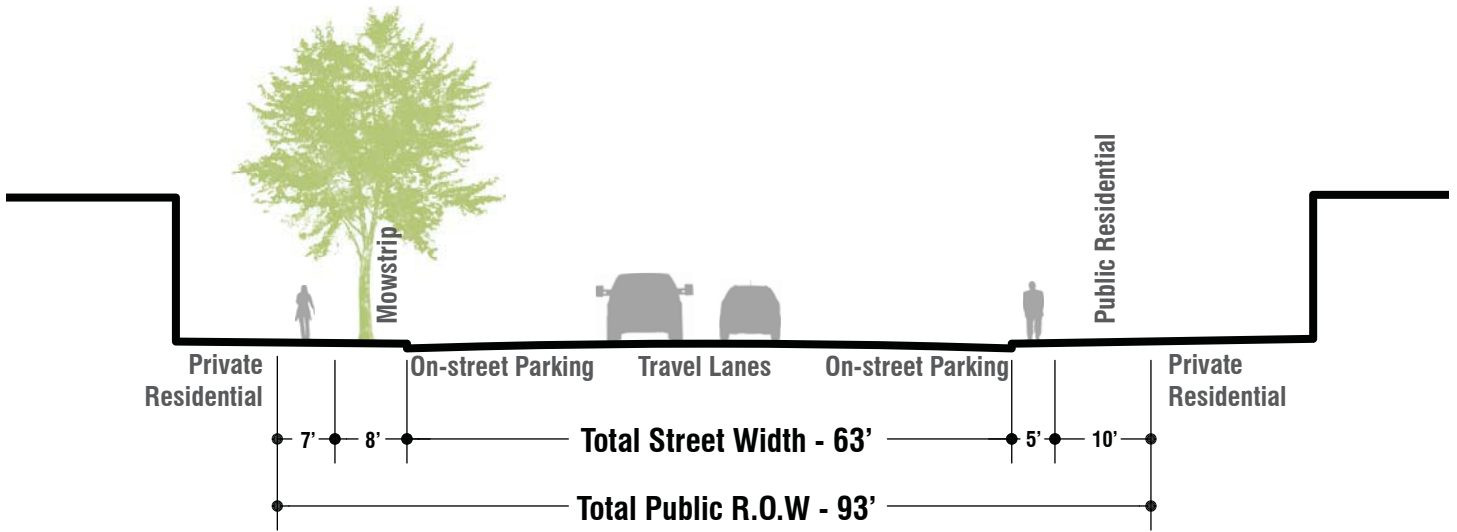


Figure 7.24
 Typical main street sections - Winona
 (Scale: 1" = 20')