



Walmart Site Redevelopment Concept Plan

**Fall 2011 • Planning, Public Policy,
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About SCI

The Sustainable Cities Initiative (SCI) is a cross-disciplinary organization at the University of Oregon that promotes education, service, public outreach, and research on the design and development of sustainable cities. We are redefining higher education for the public good and catalyzing community change toward sustainability. Our work addresses sustainability at multiple scales and emerges from the conviction that creating the sustainable city cannot happen within any single discipline. SCI is grounded in cross-disciplinary engagement as the key strategy for improving community sustainability. Our work connects student energy, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

About SCYP

The Sustainable City Year Program (SCYP) is a year-long partnership between SCI and one city in Oregon, in which students and faculty in courses from across the university collaborate with the partner city on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner city through a variety of studio projects and service-learning courses to provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCYP's primary value derives from collaborations resulting in on-the-ground impact and expanded conversations for a community ready to transition to a more sustainable and livable future. SCY 2011-12 includes courses in Architecture; Arts and Administration; Business; Economics; Journalism; Landscape Architecture; Law; Oregon Leadership in Sustainability; and Planning, Public Policy, and Management.

About Springfield, Oregon

The City of Springfield has been a leader in sustainable practices for more than 30 years, tackling local issues ranging from waste and stormwater management to urban and suburban redevelopment. It is the first and only jurisdiction in Oregon to create two separate Urban Renewal Districts by voter approval. Constrained by dramatic hillsides and rivers to the north and south, Springfield has worked tirelessly to develop efficiently and respectfully within its natural boundary as well as the current urban growth boundary. Springfield is proud of its relationships and ability to work with property owners and developers on difficult developments, reaching agreements that are to the benefit of both the project and the affected property owners. These relationships with citizens are what continue to allow Springfield to turn policy and planning into reality. Springfield recruited a strong, diverse set of partners to supplement city staff participation in SCYP. Partners include the Springfield Utility Board, Willamalane Park and Recreation District, Metro Wastewater Management Commission, United Way of Lane County, and Springfield School District 19.

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This report represents original student work and recommendations prepared by students in the University of Oregon's Sustainable City Year Program for the City of Springfield. Text and images contained in this report may not be used without permission from the University of Oregon.

Executive Summary

With an overall goal of facilitating the revitalization of the Mohawk District, this concept plan provides goals and strategies for the redevelopment of the Mohawk District.

By evaluating existing conditions within the Mohawk District, six student teams developed a neighborhood profile including demographic and economic conditions and trends, land-use and area infrastructure, and neighborhood amenities. This profile informed the student groups of opportunities and constraints for redevelopment of the Waremart Site and the District as a whole.

From this profile, teams developed concepts for redevelopment of the Waremart Site based around three themes: affordable/mixed-income housing, medical-related, and light-industrial. In addition, teams developed concepts for improvements within the larger Mohawk District to support the overall goals of nodal development.

This concept plan synthesizes goals identified by the six student teams into key goals for the Waremart Site and the Mohawk District. These goals, some of which are complementary and some of which indicate different directions development could take, are listed below.

Waremart Site

Goal 1: Provide affordable mixed-income housing for Mohawk District residents.

Goal 2: Create a Mohawk Medical District.

Goal 3: Create an employment center utilizing bicycle manufacturing for illustrative purposes.

Goal 4: Create an employment center utilizing a brewery and bottling facility for illustrative purposes.

Mohawk District

Goal 1: Improve current transportation infrastructure and promote active transportation within the Mohawk District.

Goal 2: Reduce stormwater runoff into the city's stormwater system.

Goal 3: Expand public green space within the Mohawk District.

Goal 4: Use civic art, signage, and architecture as tools for establishing a unique sense of place in the Mohawk District.

Goal 5: Establish vibrant community gathering spaces to draw community members to centralized places in the Mohawk District.

Goal 6: Spur economic development in the Mohawk District.

Overall, this concept plan envisions the redevelopment of the Waremart Site into a vibrant community space helping to create an identity for the surrounding Mohawk District and acting as a catalyst for future economic growth in the area.

Introduction

The purpose of this report is to provide a vision and practical guidance for revitalizing the Mohawk District, using the principles of nodal development and smart growth. The proposals for redevelopment presented in this report seek to address the existing challenges and opportunities in the Mohawk District and within the larger city. The plan emerged from a course involved in the Sustainable City Year Program, a component of the University of Oregon's Sustainable Cities Initiative (SCI), which partners with local governments to address important social, economic, and environmental challenges facing Oregon communities.

The Mohawk District is one of six formally adopted nodal development areas within the City of Springfield. Nodes are intended to incorporate a mix of land uses to create healthy communities with a rich sense of place. A key objective of nodal development is to reduce automobile dependency by providing efficient public transit, and encouraging active modes of transportation. Other important components of nodal development follow closely with the principles of smart growth. Those principles include providing parks and open spaces for community residents, efficiently using municipal infrastructure, and using urban designs to minimize impact on the natural environment.

The implementation of nodal development is not a "one size fits all" approach. Each district within Springfield is unique, with its own challenges and opportunities for planners, city officials, developers, and residents. The plans outlined in this report consider economic and social trends, as well as the existing physical, demographic, and land-use conditions. Together, these factors helped to define the planning framework, and assisted student researchers in developing an understanding of the identity and spirit of the community.

This report starts by presenting important contextual and background information. This information was used to formulate community-driven planning concepts, potential economic development strategies, and multiple recommendations for redevelopment within the node. These concepts are addressed at two levels: the Waresmart Site and the larger Mohawk District. The plans will also present suggested design and urban form guidelines incorporating elements of Springfield's rich cultural history. It is our hope these ideas will enrich the economic and social opportunities of Springfield residents, while enhancing the long-term health of the environment.

Site Analysis

Context

The Waremart Site is located south of Highway 126 in central Springfield, at the northeast corner of Mohawk Boulevard and Centennial Boulevard (see Figure 1). The surrounding area is a retail hub for big box stores such as Jerry's and Wal-Mart. While these stores bring traffic through the area, most traffic is "drive-by" traffic. The traffic flow and physical layout of the area are based on automotive transportation and are not conducive to pedestrian or cyclist travel. This makes it difficult for residents of the surrounding community to access businesses in the district via active modes. Around the site, fast-food establishments and the noise level attributed to automobiles are considerable due to the high levels of automobile traffic and auto-dependent design. Additionally, the pedestrian experience is unfriendly, with few designated pedestrian routes and a lack of green space. The expanse of asphalt surrounding the site's buildings retains heat and augments the urban heat island effect. Additionally, the impervious nature of the blacktop prevents water from draining in an efficient manner.

The surrounding neighborhoods in the Mohawk District are moderate- to low-income. The well-manicured lawns and gardens in the neighborhoods demonstrate many residents take pride in their homes and community. However, many of the homes date to the 1960s and are in need of refurbishment. Low-hanging, exposed power lines run along many of the surrounding residential streets. Residential streets are wide, and the sidewalk network is fragmented throughout the district.

The Mohawk District is centrally located among many amenities in Springfield. There are several schools, churches, and shopping centers within walking distance of the Waremart Site. The closest nodal development area is the downtown Springfield area, located approximately one mile southwest of the Mohawk Node.

Several terms will be used throughout the document to refer to the project area. The first is the Mohawk District. This is the primary area of focus in this concept plan. It is a community including mostly low-density residential development surrounding a central commercial core, a well-respected hospital, and a large city park. The Mohawk District is defined in this document by the boundaries illustrated in the Mohawk Specific Development Plan diagram. It is located about one mile northeast of downtown Springfield and is bordered by E Street to the south, Highway 126 to the north, 12th Street to the west, and 21st Street to the east. Within the Mohawk District, the Waremart Site is an 11-acre tract, bounded by Mohawk Boulevard, Centennial Boulevard, 18th Street, and a Bi-Mart store. The site houses the former Waremart building and various commercial occupants. The property is owned by Steven Yett, who is working with the City of Springfield to develop the site to be compatible with

nodal development. A commercial core could be developed on this site to spur the advancement of affordable housing and local businesses in and around the Mohawk District.

Another term used throughout the report is Nodal Development Area. This is a more specific area within the Mohawk District. It is defined by the City of Springfield Development Code (SDC) and Zoning Map as well as the Eugene-Springfield Metropolitan Area General Plan (Metro Plan) Diagram. Nodal development, also called transit-oriented development, focuses on creating pedestrian-oriented mixed-use centers which encourage people to leave their automobiles at home and access services and places of work via active or public means of transportation. In the Mohawk District, the nodal development overlay specifically targets the mixed-use commercial corridor running along Mohawk Boulevard from I-105 to E Street. The corridor also runs east from Mohawk Boulevard along Centennial Boulevard and Olympic Street. These boundaries are clarified in Figure 1.

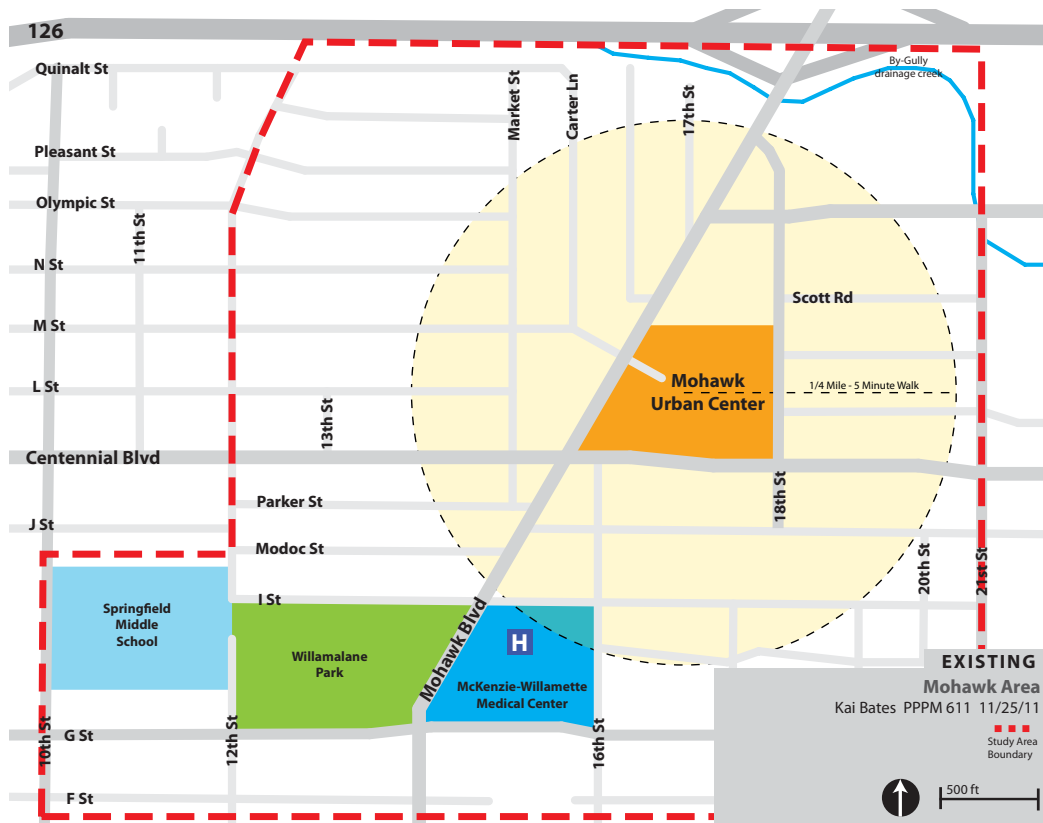


Figure 1: Mohawk District map.

Land Use and Zoning

Existing Land Use

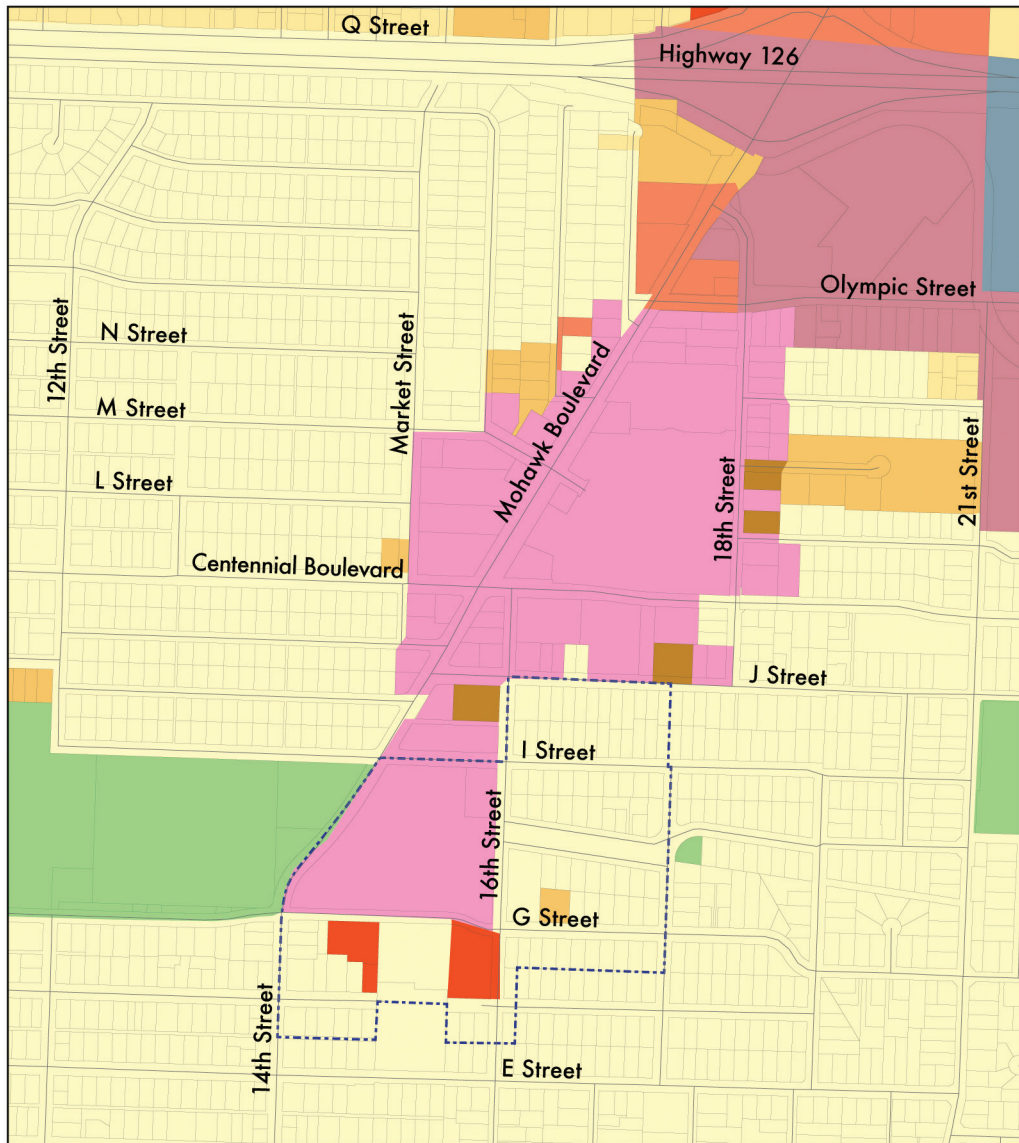
The Mohawk District can be divided into three general categories of existing land uses: residential, commercial/office, and public use. Residential uses are composed predominantly of single-family detached housing and are located in the west, south, and east areas of the district. There are also a few multi-family housing units located directly to the east of 18th Street (City of Springfield 2010). Commercial uses are concentrated along Mohawk Boulevard. These single-floor establishments are auto-based, with a considerable number of parking spaces. Many of the food establishments are fast food restaurants.

The McKenzie-Willamette Medical Center is located between G and I Streets, on the east side of Mohawk Boulevard. Several medical-related office buildings and clinics are located near the hospital, mainly along G and 16th Streets.

Finally, there are few public uses within the area. Willamalane Park is a regional park located to the west of the hospital. There are no other established parks of significance in the area. The former Springfield Middle School (which will reopen as an elementary school in 2012) is located west of the park and is the only other public use area within the larger Mohawk District.

Zoning

The Mohawk District is composed of two general types of zoning designations: commercial and residential. Within each zoning type are a handful of land use zones specifying requirements for those parcels. The predominant land use zones within the Mohawk District include Low Density Residential, Mixed Use Commercial, and Major Retail Commercial. Other zoning designations include Community Commercial, Mixed-Use Residential, Medium Density Residential, High Density Residential, General Office and Light-Medium Industrial (City of Springfield 2010).



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- | | | |
|----------------------------|-------------------------|-----------------------------------|
| Low density residential | Mixed use commercial | Light medium industrial |
| Medium density residential | Major retail commercial | Public land and open space |
| High density residential | Community commercial | Hospital Support Overlay District |
| Mixed use residential | General office | Lot and parcel lines |
| | | Established roads |

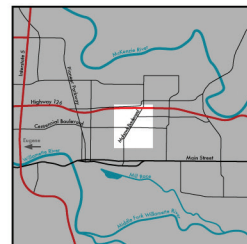
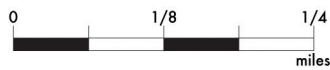


Figure 2: Current zoning in the Mohawk District. (Source: Springfield Zoning Map, 2011)



Figure 3: Map of the Eugene-Springfield area. (Source: Google, 2011)

History

The City of Springfield is located at the southernmost edge of the Willamette Valley. The valley is defined by the Coast Range to the west and the rugged Cascade Range to the east. The rich fertile soil of the valley, mild climate, abundant water resources, and close proximity to diverse ecoregions make this area highly desirable for settlement. The City of Springfield's urban area is currently composed of a strip of land approximately two to three miles wide and lies between the McKenzie and the Willamette Rivers (Lane Council of Governments 2003).

The City of Springfield developed as an industrial town with reliable access to agricultural and timber resources. The first land claims in the Springfield locality occurred between 1851 and 1853, primarily in the Thurston area east of downtown Springfield. Cabin sites were widely distributed across the landscape but consistently situated on the edges of the woodland where it abutted the prairie (Dennis 1999). Large expanses of land near Thurston and also north of downtown, near the present Gateway Mall area, supported dairies, poultry farms, small fruit and vegetable farms, fruit and nut orchards, hop agriculture, horticulture, and general farming. Filbert orchards were located south of the city near the Middle Fork of the Willamette River and in the present day Glenwood area (Dennis 1999).



Figure 4: Early Springfield, with the Coburg Hills in the background. (Source: Springfield History Museum)

By the late 1800s, Springfield had developed into an urban center. The young town's nucleus and major industries were oriented toward the Willamette River. Much of the town's growth is directly linked to the establishment of water-powered sawmills, lumber companies, and a gristmill. Similar to other western towns, Springfield developed on a planned grid system extending north and northeast from the river. Other industries followed the lumber and gristmills and established roots in the town, because of the abundant water supply for production and transport and the natural resources available in the surrounding forests and hills. Springfield's first industrial center was located to the south of present-day downtown, near the railroad lines and Mill Race. Mill buildings were constructed of old growth timber found in abundance just east of the city in the foothills of the Cascade mountain range. By 1910, Springfield's Main Street consisted of rows of storefronts, a streetcar system, and power lines. Between 1910 and 1912, the saloons of Springfield created a reputation for the city as being the only place for alcohol consumption between the cities of Salem and Oakland, a distance of about 130 miles (Dennis 1999).

The surrounding topography and location of Springfield between two rivers continued to determine the spatial arrangement of the town as it expanded in the 1900s. In relation to the downtown area, the residential areas generally spread north and northeast while businesses and industries expanded east, with the exception of the Booth Kelly industrial area located just south of downtown. Beyond this growth, the neighboring city of Eugene was growing fast while prime agricultural land was being farmed to the north. Communities to the east of Springfield, such as Thurston, remained rural in nature.



*Figure 5: Early transportation: electric trolley between Eugene and Springfield.
(Source: Springfield History Museum) Springfield History Museum)*

Throughout the first half of the 20th century, timber mills powered the city's economy (Dennis 1999). After World War II, Springfield grew tremendously. Between 1940 and 1950, the population nearly tripled; it then doubled again between 1950 and 1960. From a small, compact town surrounded by farms, Springfield grew to a sprawling urban community of widely dispersed shopping centers and industrial sites, set amidst dense housing developments. As Springfield grew, the town continued to stretch eastward and northward (Dennis 1999).

Springfield's 100-year span of prosperity began to subside during the latter half of the 20th century. During this time, a range of factors eroded the foundation of the timber industry, the cornerstone of Springfield's economy. Springfield's economy declined as old growth forests were depleted, timber demand waned, attitudes toward forest management changed, and advances in technology created highly automated manufacturing processes (Owens 1998).

The decline of Springfield's industrial economy, which was brought on by Oregon's recession in the 1980s, continued into the 21st century, and was magnified by the national recession of 2008. Future economic redevelopment and revitalization for Springfield will require planning and ingenuity, drawing on the lessons of the past, uncovering natural ecological amenities, and realizing the opportunities still present despite a struggling economy.

Socioeconomic Profile

The City of Springfield is at a crossroads in history. The traditional industries that supplied jobs to generations of residents have undergone serious decline in recent years, leading to a high unemployment rate and changes in the area's economy. In addition, Springfield's population is undergoing significant social change as the community becomes more diverse and more people approach retirement age. As Springfield plans for the future, these issues will have to be addressed.

We have identified six key socioeconomic trends influencing future development in Springfield.

Springfield's growth outpaced the nation over the last decade.

During the 2000 to 2010 period, Springfield's population grew at a rate of about 12%, or 1.1% annually. This population growth was consistent with the state during the same period and higher than the national average (10%). At the local level, Lane County experienced slower growth (8.9%). (U.S. Census 2010)

Springfield's population is aging and becoming more diverse.

Springfield's population continues to grow older and more diverse. Since 1990, there has been a shift in age distribution towards an older population. In Springfield between 1990 and 2010, the fastest growing segment of the population was individuals between 50 and 59 years of age (U.S. Census 2010). During this period, the population over the age of 40 grew from about one-third to nearly 43%. Despite the general trend toward an aging population, Springfield has maintained a younger population than both Oregon and Lane County. This relatively young median age carries over into the Mohawk District.

Figure 6 shows the age and gender distribution of Springfield. This suggests there may be young families who have preschool-age children and may demand child care facilities. This assumption is reinforced by Figure 6, which shows 14% of the population is under 10 years of age.

Springfield has also experienced growth in the diversity of its population. Since 2000, the Hispanic population has grown by 61%. In 2010, the study area was more ethnically diverse than Springfield as a whole, with 14% of the population identifying as Hispanic or Latino (U.S. Census 2010).

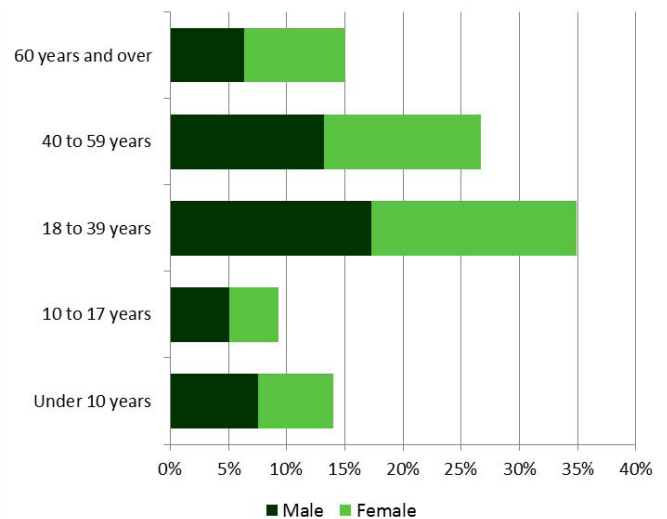


Figure 6: Mohawk District 2010 population age by gender. (Source: U.S. Census Bureau, 2010 Census, Summary File 1)

The study area has a high number of single-parent families.

Over the last two decades, Oregon has seen a trend in family structure toward an increasing share of single-parent households. According to US census data from 1990 and 2010, the share of married-couple households has decreased (U.S. Census 2010). The change has been more drastic in the study area, where compared to the state of Oregon single-parent families make up a larger share of family households.

Within the study area, 39% of all family households are single-parent families (US Census 2010). This is near double the state average of 21% of households being single-parent households (see figure 7). This is an important trend for a number of reasons, most significantly it can be more difficult for single-parent householders to secure stable, well-paying employment because of child care responsibilities.

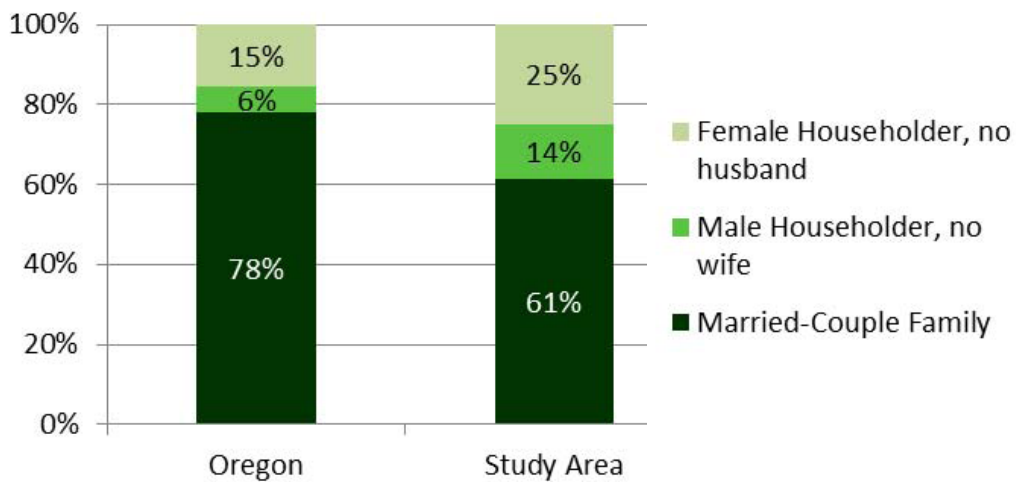
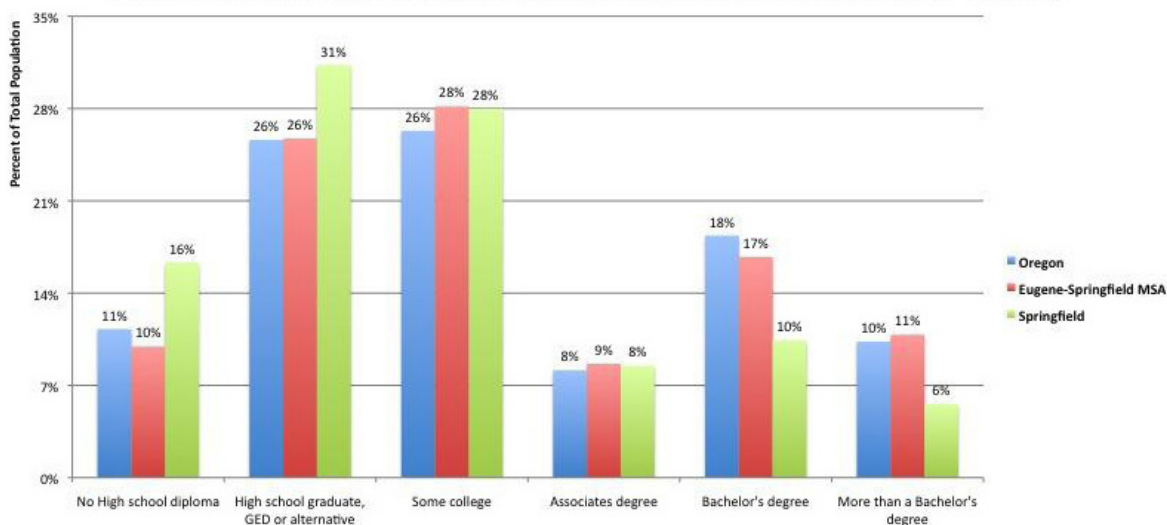


Figure 7: 2009 Family type in study area. (Source: 2005-2009 American Community Survey)

Figure 2: Educational Attainment for the Population 25 Years and Older (2007 to 2009)



Source: U.S. Census Bureau, 2007-2009 American Community Survey (B15002)

Figure 8: Regional educational attainment rates.

(Source: US Census Bureau. American Community Survey, 2007-2009)

Education and wages in Springfield lag behind the state and region.

In Springfield, both education and wages lag behind state and national averages. In terms of educational attainment, less than one-quarter (24%) of Springfield's residents possess an associate's degree or higher, compared to 36% in Lane County and 37% in Oregon. In 2009, half of the households in the Mohawk District were making less than 68% of the state median household income. This trend is illustrated in Figure 10. In general, the Mohawk District reflects the local trend of lower median household income than the state.

Springfield has experienced a decline in the wood products and manufacturing industries.

There has been a steady decline in the local forestry and wood product manufacturing industries over the past few decades. In Lane County, employment in the lumber and wood products industry declined more than 75%, from 14,292 employees to just 3,393 between 1979 and 2010 (Oregon Employment Department 2010). This decline has been further intensified by the 2008 recession and collapse of the national housing market. In the Eugene-Springfield MSA, the mining and logging industries have seen a 30% decline since 2002, with a 12.5% decline in the last year alone. The construction and manufacturing sectors have also experienced dramatic losses in employment. Since 2002, the manufacturing sector has lost 7,200 jobs in Lane County.

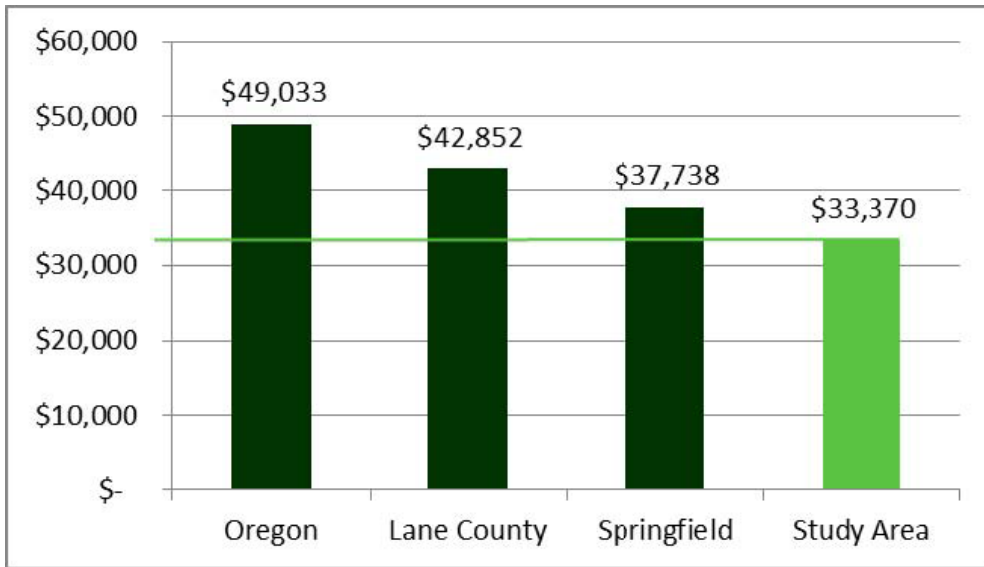


Figure 9: 2009 median household income. (Source: US Census Bureau. 2005-2009 American Community Survey 5-Year Estimates)

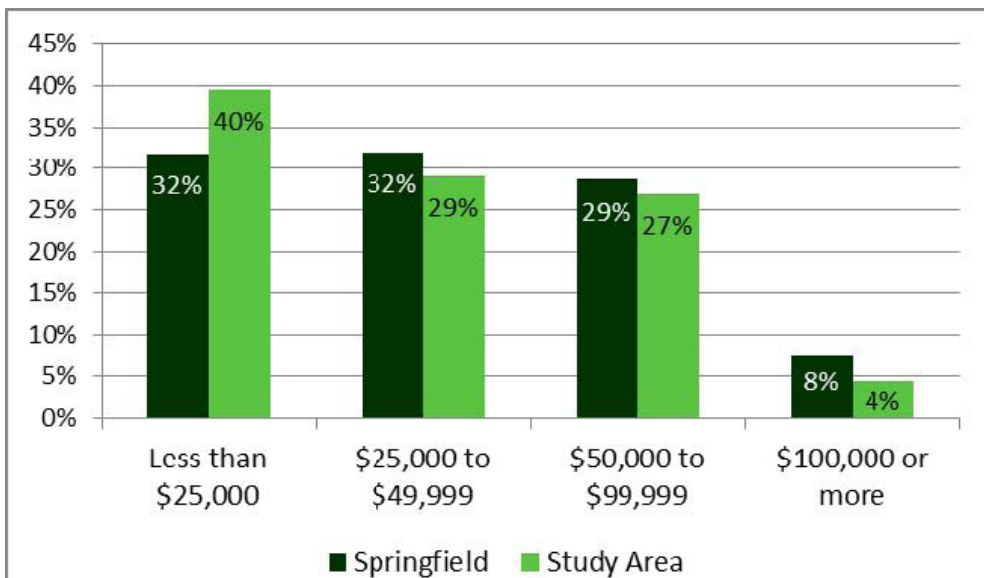


Figure 10: 2009 household income distribution. (Source: US Census Bureau. 2005-2009 American Community Survey, 5-Year Estimates)

There has been a rise in healthcare and service-based industries.

Despite the decline in Springfield's traditional industries, there are several occupations forecasted to grow over the next decade. Among them is the health care sector, which has added 600 jobs in Lane County since August 2010 and currently employs 17,800 people. As age distribution shifts toward an older population, the health care sector will likely continue to expand. Jobs in the health care sector generally pay well and should stimulate Springfield's economy.

The service sector is another industry forecasted to grow over the next decade. Of the ten largest local industries, two made the greatest employment gains between 2001 and 2008: administrative and support services (26%) and ambulatory health care services (22%). This growth reflects the expansion of the services sector on a national level during the same period.

As jobs shift away from timber and manufacturing, the growth of health care and service sector could help ease the transition. In Lane County, employment in the service sector is expected to grow 13% by 2018 (Oregon Employment Department 2010).

Transportation

Currently the Waremart Site and surrounding developments are auto-oriented. The interior of the Waremart Site has huge expanses of surface parking and few restrictions for vehicle movement. The boulevards adjacent to the Waremart Site are fast moving arterial streets with high traffic counts. The current environment provides for convenient auto access to the area's businesses, but is not conducive to bicyclist and pedestrian travel.

Circulation Planning Documents

Currently, the City of Springfield does not have a pedestrian plan or a pedestrian map to inform and assist pedestrians. The standards and guidelines for pedestrian facilities affecting the Mohawk District include those laid out in the Metro Plan nodal development standards and Section 4.2 of the Springfield Development Code.

Street Network and Parking

As shown in Figure 11, both Mohawk and Centennial Boulevards are minor arterials with high traffic during peak travel times. The principal arterial in the area is Highway 126, located one-half mile north of the Waremart Site, defining the northern boundary for the Mohawk District. Highway 126 runs east to west and connects Springfield to I-5 and the City of Eugene.

Mohawk Boulevard

Mohawk Boulevard is used as an automobile feeder to Highway 126 and a throughway to destinations north and south of the district. The signalized intersections at Mohawk and Centennial Boulevards, and at Mohawk Boulevard and Olympic Street, are measured Level of Service (LOS) D, which means the road is approaching peak capacity for traffic volume (Deke 2003; AASHTO 2004). The intersection at Highway 126 and Mohawk Boulevard is also measured LOS D, but currently exceeds its mobility standard. According to Springfield traffic standards, future development will require traffic mitigation measures along the northern portion of Mohawk Boulevard to prevent excessive congestion (Deke 2003).

There is a signaled traffic entrance at Mohawk Boulevard and M Street, where M Street terminates at the western edge of the Waremart Site (see Figure 16). Other access points to the Waremart Site are located along Centennial Boulevard and 18th Street, connecting area residential neighborhoods with the site. According to Mark Metzger of the City of Springfield's Planning Division, commercial freight and trucking access is permitted into the interior of the Waremart Site.

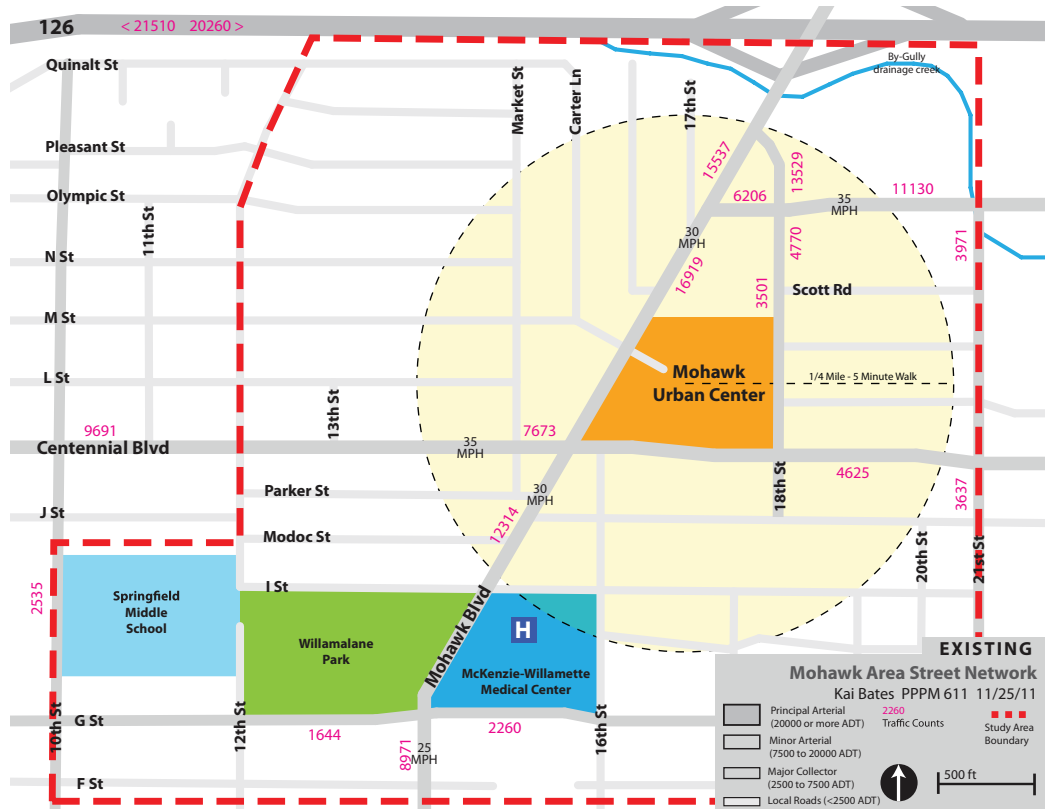


Figure 11: Mohawk District existing street network.



Figure 12: M Street and Mohawk Boulevard intersection, looking west.



Figure 13: Waremart Site parking lot.

Parking

On-street parking is permitted along local roads in the residential sections of the Mohawk District. On-street parking is prohibited along Mohawk and Centennial Boulevards, arterials adjacent to the Waremart Site.

Traffic circulation within the Waremart Site is unrestricted. The parking lots within the site provide no channelization for vehicular movement, speed bumps, or other mitigation measures to control and calm traffic (see Figure 13). The large parking lots provide spaces for 560 automobiles. Observations during site analysis were of automobile drivers not following predicted flows of traffic, tending to park wherever convenient for their visit. As a result of these factors, the immediate parking areas surrounding the site's buildings present a major obstacle for pedestrian or bicycle circulation. A transit rider or local community member who seeks to access the businesses on site has no walkways or designated paths to separate them from chaotic traffic circulating around the buildings.

Pedestrian Facilities

The Mohawk District's sidewalk network is fragmented, but it does provide options for pedestrians. As shown in Figure 15, the arterial roads have



Figure 14: Mid-block connector in Mohawk District.

sidewalks on both sides of the street, and most connectors and local streets have sidewalks. The majority of the local roads within the residential areas have setback sidewalks. Along these roads there is usually a buffer of on-street parking and a planting strip to separate the pedestrian space from vehicular traffic. However,

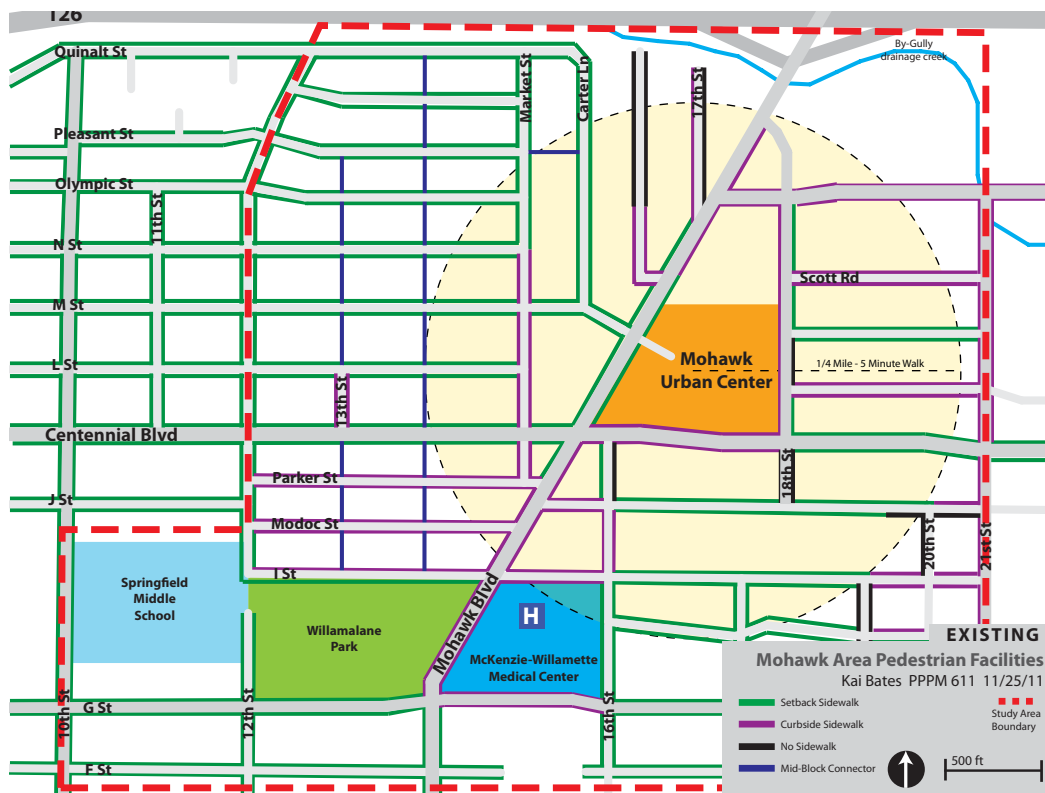


Figure 15: Mohawk District existing sidewalks.

many of the sidewalks, particularly along higher traffic streets such as Mohawk Boulevard and Olympic Street, have curbside sidewalks that do not provide an adequate buffer for pedestrians. In addition, some streets, such as 18th and 16th Streets, have either no setback or large sections of sidewalk missing.

Figure 15 also shows how the local streets to the west of the Waremart Site include long residential blocks unbroken by cross streets, particularly between Market Street and 12th Street. This design hinders pedestrian circulation within the neighborhoods. There are mid-block connectors from I Street north to Pleasant Street and Quinalt Street allowing for pedestrian and bike passage between the blocks. Figure 14 is an example of the 13th Street mid-block connector.

Figure 16 shows the current status of the various intersections throughout the Mohawk District. Major intersections along the primary roads, such as Mohawk and Centennial Boulevards, and Olympic Street, currently have signalized intersections with push-button crosswalks. These intersections require pedestrians to cross long distances in short time windows, and do not provide pedestrian islands. Few intersections along the adjacent arterials provide striped crosswalks or signage indicating multi-modal crossings.

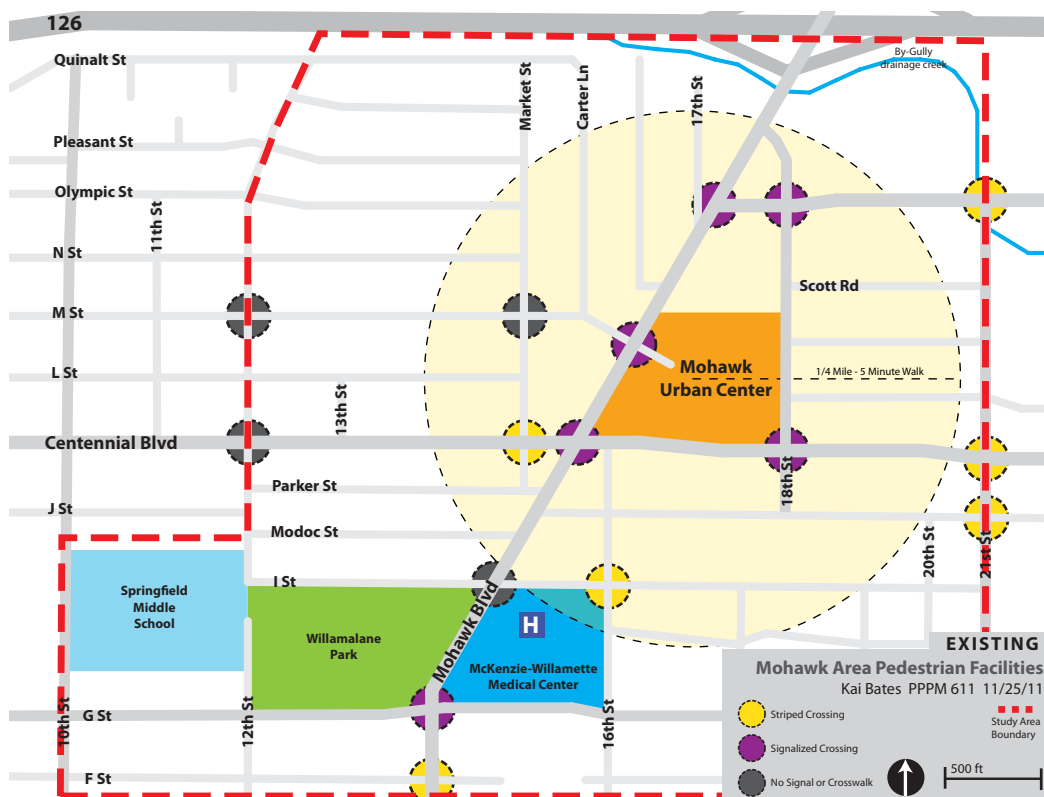


Figure 16: Mohawk District existing intersections.

Bicycle Facilities

According to the Traffic Impact Study (TIS) Bicycle Findings in the Regional Transportation Plan (RTP) from the Central Lane County Metropolitan Planning Organization (CLMPO), there are 126 miles of bikeways in the Eugene-Springfield metropolitan area. Over the past 20 years, both Eugene and Springfield have built and expanded extensive bikeway systems (Central Lane Metropolitan Planning Organization 2007). The coming 20 years are identified as an “improvement and expansion” phase for filling in critical gaps in the system and improving bicycle user safety.

Within the Mohawk District, there are bike lanes along the primary streets and a few bike boulevards as shown in Figure 17. The speed of the automobile traffic and the basic design of the bike lanes generally make it an unappealing area to cyclists. Bicycle lanes are located on Mohawk and Centennial Boulevards, 18th Street, and Olympic Street. The bike lanes are generally four feet wide, separated from traffic by a white stripe, and marked with bicycle icons. However, at a few intersections in the area, bike lanes end at major intersections. This requires bicyclists to ride in traffic lanes or on sidewalks after passing through the intersections. The only bicycle boulevards within the Mohawk District are along G Street and a portion of 10th Street. These boulevards are marked by bike route signage. The Waremart Site and surrounding area provide no bicycle parking. The only bicycle parking found during site analysis was a single rack at the Wendy’s restaurant just east of the former Waremart building.

Several bicycle projects have been proposed in area transportation plans, but await funding and resources. Future priority projects, as outlined in the CLMPO RTP, include multi-use path expansions and bike lane and route improvements within the Mohawk District. The long-range projects include an extension of the By-Gully multiuse path from Mill Street to 5th Street (Central Lane Metropolitan Planning Organization, 2007). The Springfield Bike Plan also calls for the addition of bicycle lanes on 21st Street from Olympic Street south to Main Street (Evans D. and Associates, Inc. 1998).

The Regional Travel Forecasting Model projects that by the year 2015, without implementation of RTP projects, Lane County's non-commercial vehicle miles traveled (VMT) will increase by 52 percent. Conversely, the percentage of people who bike will drop from 3.7% to 3.3%, those who walk will drop from 8.9% to 7.9%, and the transit percentage will increase only slightly from 1.8% to 1.9% (Central Lane Metropolitan Planning Organization 2007).

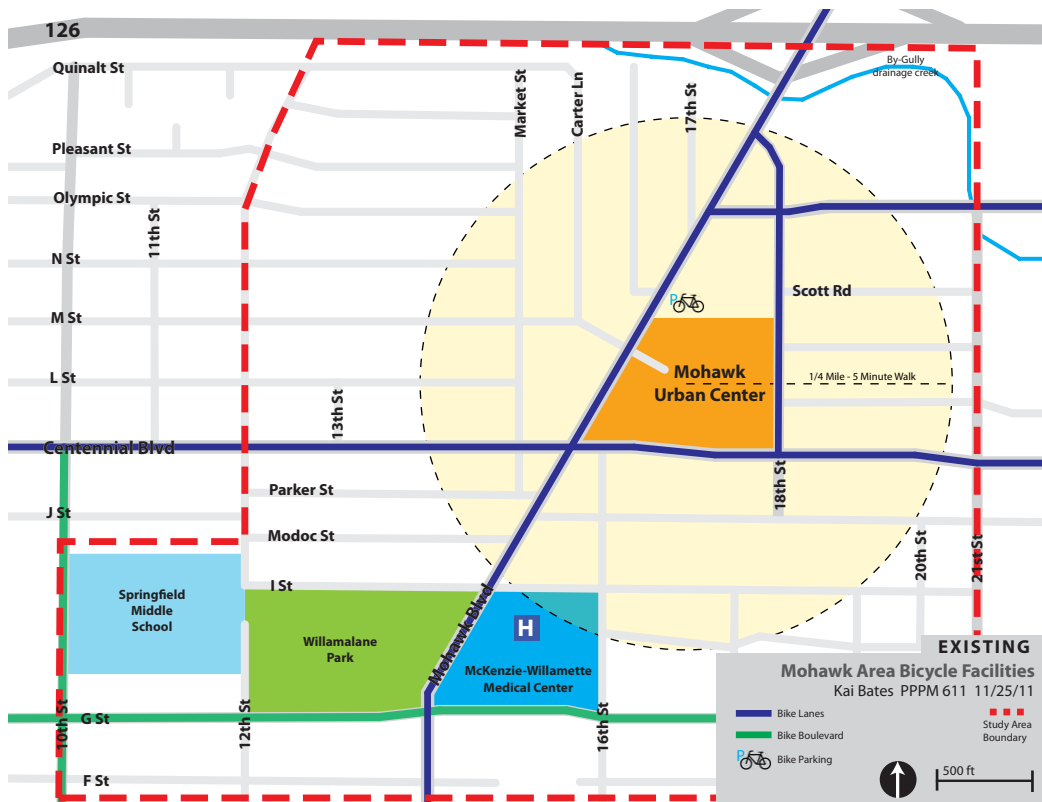


Figure 17: Mohawk District existing bicycle facilities.



Figure 18: LTD bus stop on Mohawk Boulevard.

Transit Facilities

The Lane Transit District (LTD) operates all bus transit within Springfield and Eugene. LTD bus lines 13 and 18 serve the Mohawk District. As shown in Figure 20, these buses provide frequent service and stops along Centennial Boulevard, Olympic Street, Mohawk Boulevard, and G Street. There is only one covered bus stop adjacent to the Waremart Site. It is located on the west side of Mohawk Boulevard, across from Wendy's. The other bus waiting stations in the area are not covered, and they lack comfortable amenities such as seating, trash cans, or bike racks (see Figure 18).



Figure 19: McVay EmX station.

LTD has plans for transit improvements in the area. The most significant planned improvements are a new transit center at Mohawk Boulevard and Olympic Street, and a new EmX (bus rapid transit) line into Springfield would run along Centennial and Mohawk Boulevards (Figure 19). These plans are currently in the very early stages.

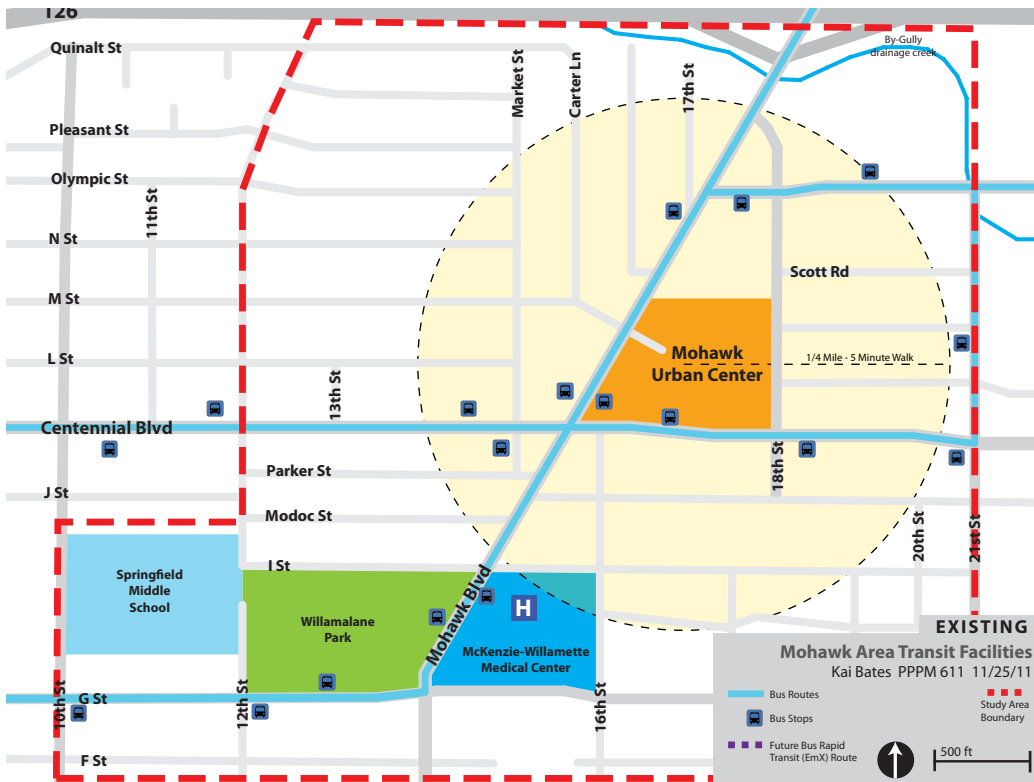


Figure 20: Mohawk District existing transit facilities.

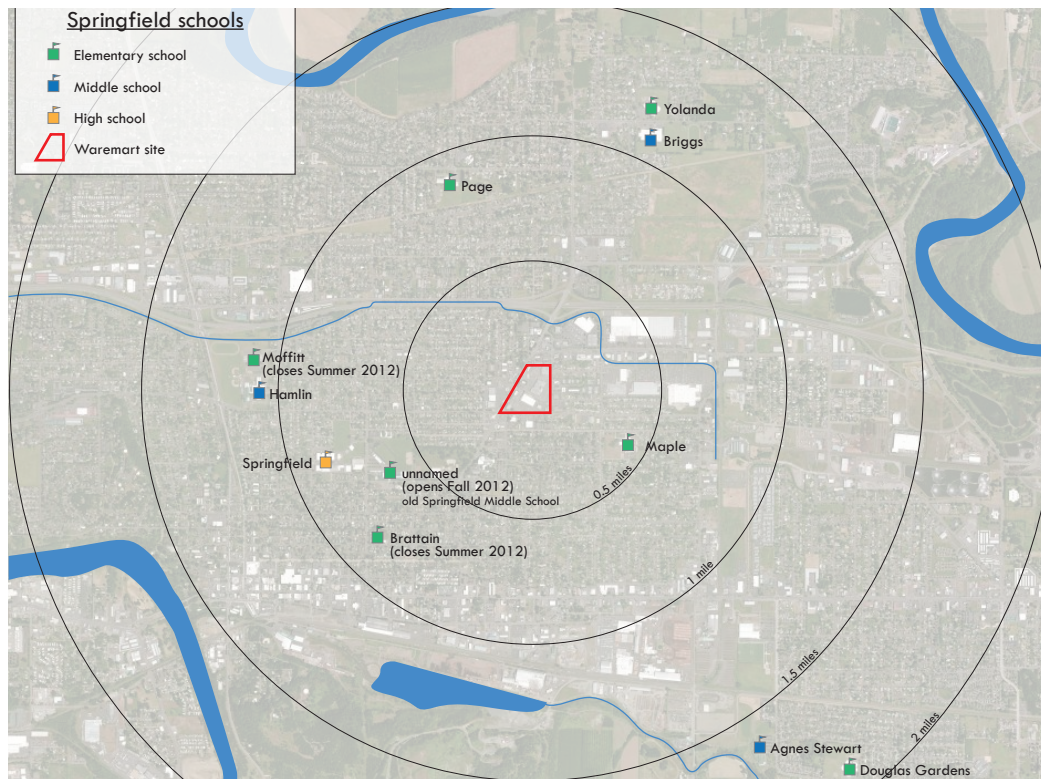


Figure 21: Locations of area schools.

Neighborhood Amenities

Cultural centers within the Springfield community include museums, a historic residential district, and parks and outdoor recreation. Springfield's Arts Commission has also begun creating a unique identity for the city by funding civic art projects. To date, 15 colorful murals have been painted on downtown buildings and structures, and of the 15, thirteen survive (Springfield Arts Commission n.d.).

The central location of the Waremart Site to Springfield's cultural and activity centers presents an opportunity. There are 16 churches within a one-mile radius of the Waremart Site. Approximately 2,000 students and parents commute to neighborhood schools from the Mohawk District each day. Seven public schools are located within a 1.5-mile radius of the site. Springfield High School, located to the southwest of the site, draws students from across the city with an enrollment of approximately 1,300 students.

The McKenzie-Willamette Medical Center is located approximately one-quarter mile south of the Waremart Site along Mohawk Boulevard. The hospital services a population area of approximately 300,000 people and employs 750 workers. It offers a variety of services including a Cardiac Health Center and a Sleep Solutions Center, and it provides support for physical therapy, occupational therapy, and sports medicine (McKenzie-Willamette Medical Center 2011). A network of medical offices surrounds the hospital.

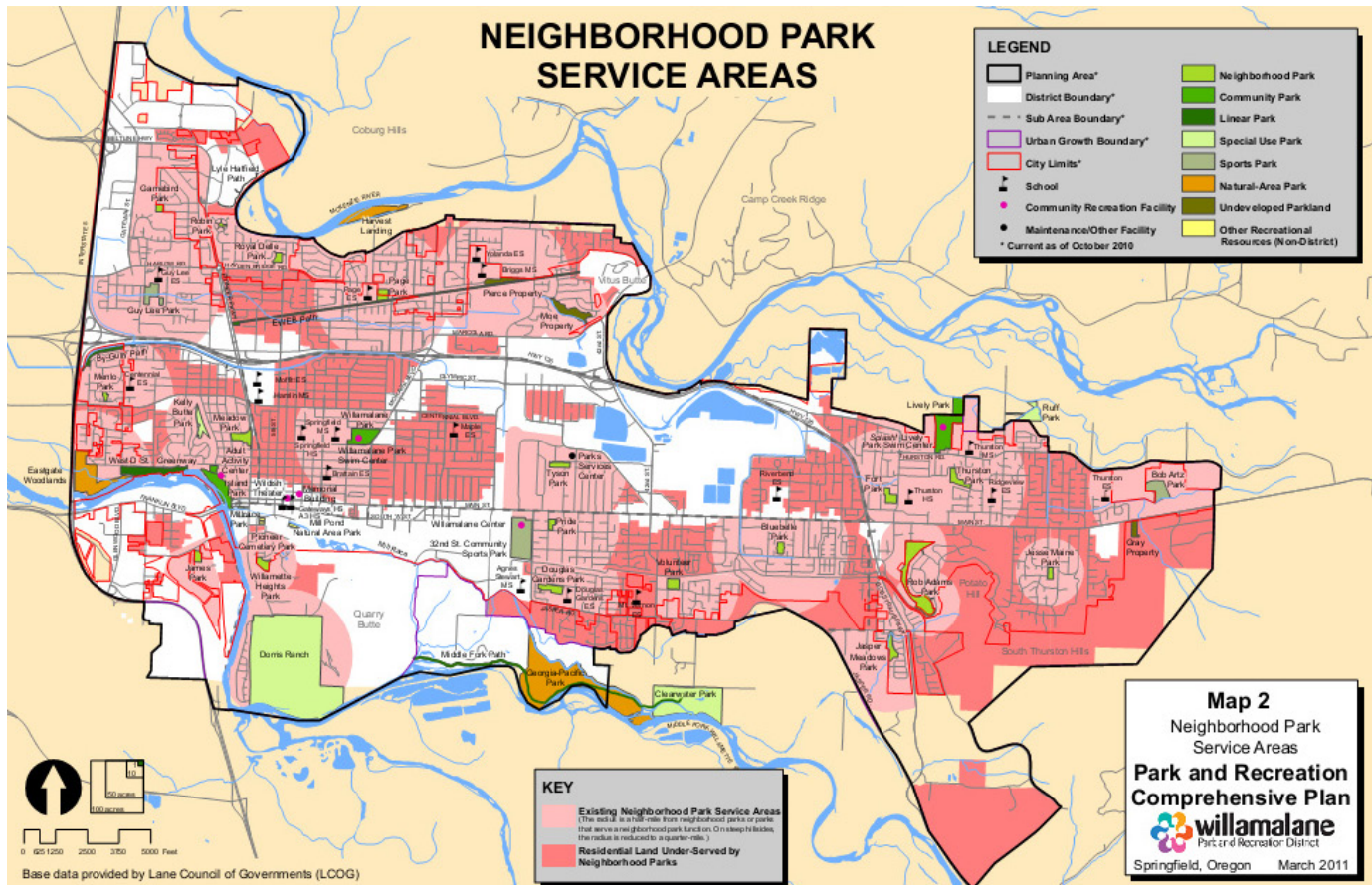


Figure 22: Neighborhood park service areas. (Source: Willamalane Park and Recreation District, 2011)

The Willamalane Park and Swim Center is located approximately one-quarter mile from the Waremart Site, directly west of McKenzie-Willamette Medical Center and adjacent to public schools. The 14-acre park has pools, community rooms, basketball, football, softball and soccer fields, open play areas, tennis courts, and the only skate park in Springfield.

Using projected population data supplied by EcoNorthwest, the Willamalane Park and Recreation District estimates an additional six miles of multipurpose paved paths are needed in addition to the existing 10.4 miles for Springfield (WPRD Planning Department 2011).

Neighborhoods located within the Mohawk District lack small community-oriented green spaces. With the exception of Willamalane Park and School District properties, green space is confined to single-family residences with small yards. There are several opportunities to expand green spaces by creating parks within the Mohawk District using existing underutilized public land.

The Mohawk District has the potential to be transformed into an area that is not only a place for work, but a place providing services and a sense of community

for employees, patients, and families associated with the hospital and other surrounding employment centers.

Natural Resources

The City of Springfield's proximity to natural resources has been the lifeblood of its economy for generations. Residents rely on the surrounding landscape for its recreational and economic opportunities and for its aesthetic beauty. Historically, resources have granted the city a significant role within the regional economy and also in the national and global market. During the late 19th century and for much of the 20th century, the surrounding area was highly productive in its harvesting and distribution of lumber and agricultural products. This industrious origin and a strong work ethic are now embedded into the cultural fabric of the city. Although Springfield's economy is shifting from an industrial base to one oriented toward service, the natural resources of the surrounding area provide prosperity for its residents and remain a crucial asset to the city.

Water Resources

The Local Wetlands Inventory identifies one wetland area—the Q Street Canal—in the Mohawk District, situated directly south of Highway 126 (City of Springfield n.d.). Springfield's water supply comes primarily from an aquifer that lies directly beneath the city (Springfield Utility Board n.d.). With the presence of the aquifer, water tables throughout Springfield are relatively high.

Soils

The USDA Soil Conservation Service soil survey reports the three most prevalent soil types for the Mohawk District (Salem, Malabon, and Coburg land complexes, covering approximately 80 percent of the land area) consist of well- to moderately-well-drained gravelly or loamy alluvium (see Appendix A— soil report image). This indicates local soils beneath the compacted urban layer could be well suited to on-site water infiltration (Zimmermann 2009). However, variables including a high water table (0-11 inches from the surface in select areas) and interspersed clay deposits increase the study area's capacity for high runoff rates once these soils are saturated. The area's good to adequate drainage does, however, have the potential to support small-scale urban agriculture in combination with surface soil replacement or amendment (Zimmermann 2009).



Figure 23: View of Coburg Hills.

Climate

The City of Springfield has a climate typical of the Pacific Northwest. Winter months are characterized by rainfall and increasingly foggy or overcast days. Temperatures are relatively mild throughout the year, reaching typical highs in the 80s in the summer, with typical highs in the mid-40s during the winter. Development within the Mohawk District consists of residential and commercial structures less than three stories. Shading due to man-made structures is not typically a constraint imposed on new development.

Average monthly rainfall ranges as high as 8 inches in the wet winter months and as low as 0.5 inches in the drier summer months (Springfield Chamber of Commerce 2011). Seasonal winds blow from north/northwest in the summer and south/southeast in the winter. Average wind speed remains below the US average for the duration of the year, reaching peaks of 8 miles per hour in the summer months (City-data.com 2011).

The sun and shade patterns influence the placement of buildings and pedestrian facilities. Currently, trees line the west edge of the Waremart Site along Mohawk Boulevard. These trees serve to separate the sidewalk from the busy roadway and provide shade to the adjacent buildings. The remainder of the site is completely exposed to the sun due to a lack of vegetation.

Sensory Impacts

Although the land area within the Mohawk District is relatively flat, scenic views of the forested hills framing the city can be seen at various locations. The southeast portion of the Waremart Site affords scenic views of the Coburg Hills, located north of Springfield.

Visual impairments within the district are primarily a result of the automobile-oriented development that characterizes the area. Large asphalt parking lots separate commercial spaces from the streetscape and are uninviting to pedestrians. Aside from the row of street trees along the eastern edge of Mohawk Boulevard, most commercial properties within the district lack significant green space and landscaping. Within the Waremart Site, large asphalt parking areas occupy the majority of the site, and commercial buildings have not been sufficiently maintained, giving the site the appearance of neglect.

The expanse of asphalt surrounding the site retains heat and the impervious nature of the blacktop prevents water from draining into the ground. Water drains to the east side of the site and collects into a large puddle. These expanses of impervious surface pose many constraints for the district's connectivity, aesthetic qualities, and stormwater system.

The most significant noise pollution within the Mohawk District results from high traffic volumes along Mohawk Boulevard, Centennial Boulevard, and Highway 126. Agricultural and industrial practices of the surrounding area degrade the city's air quality. New buildings and landscaping should be designed to incorporate the area's natural features and to mitigate some of the sound and exposure issues.

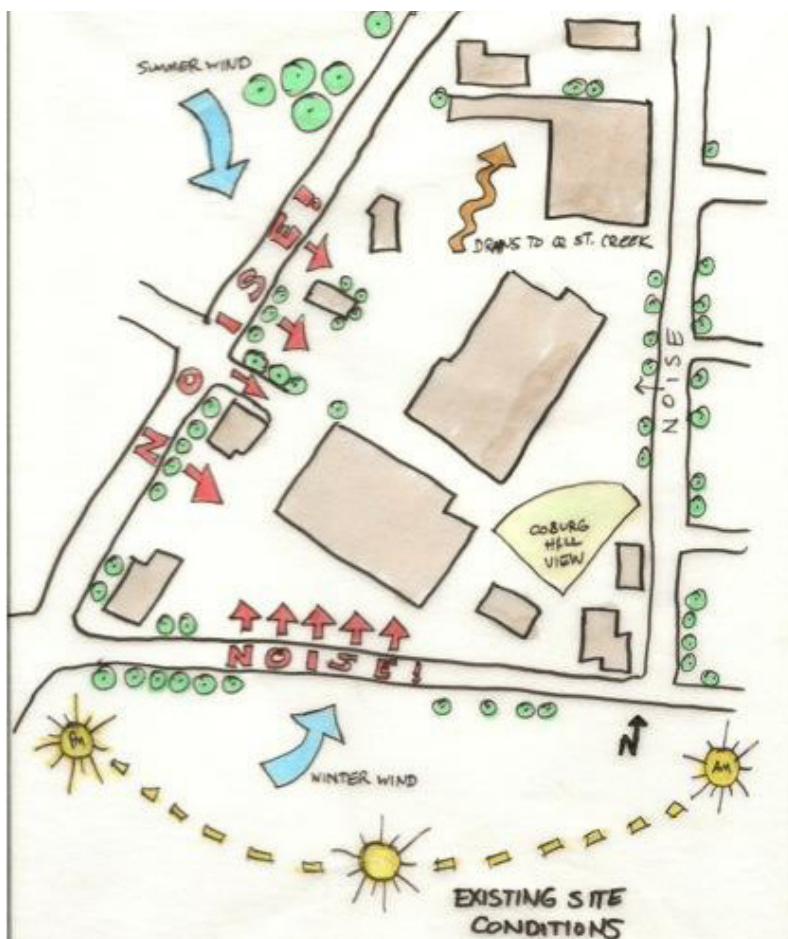


Figure 24: Natural features affecting the Waremart Site.

Utilities

Electrical

Both underground and overhead transmission lines serve the Waremart Site. These are sufficient for current uses and could accommodate increase site use. An underground primary line connects the west side of the site to the east side and runs between the two large buildings (Talbot, 2011).



Figure 25: Power lines along 16th Street.

Electric poles and adjoining lines run the length of 18th Street. These obstruct pedestrian access to sidewalks. However, circulation on Centennial Boulevard sidewalks is not restricted by utility poles.

Water

The potable water system currently in place adequately serves all of the buildings on the Waremart Site. The two main buildings on the site have multiple water input lines, while each of the other buildings has a single input. Due to discrepancies in water pressure, backflow is occurring on the site in three areas: one on the west side, and two on the southeast side of the Waremart Site (Yett n.d.). The current buildings all have adequate sprinkler systems.

Sanitary/Sewer Systems

The area is served by eight-inch sewers. Sewage treatment is provided through a joint sanitary district managed by both Eugene and Springfield, and sufficient pumping, transmission, and treatment capacity exists for the current land use (SRI/SHAPIRO/AGCO, Inc. 1999).

New developments and redevelopments may be responsible, at least partially, for ensuring the sanitary sewer system will be able to handle additional loads (City of Springfield, Public Works Department 2006).

Stormwater

Stormwater on the site drains across impervious surfaces until reaching both onsite and offsite storm drains. The site occasionally experiences overloading of the storm drainage system. Reducing impervious surfaces by adding street trees and green spaces will help mitigate stormwater issues in the future (SRI/SHAPIRO/AGCO, Inc. 1999).

Natural Gas

The site's natural gas lines flow from Mohawk Boulevard down to Centennial Boulevard and back up 18th Street, supplying seven buildings on site. The gas lines enter from the street.

Lighting

The site's streetlight inventory shows little lighting is available on site. Street and central site lighting should be significantly enhanced to provide the safety and comfort needed to make the site pedestrian friendly.

Monitoring Wells

Between 1960 and 2000, Springvilla Dry Cleaners and Laundromat operated on the Waremart Site. In 2002, The Oregon Department of Environmental Quality (DEQ) incorporated the former Springvilla Dry Cleaner into the DEQ Dry Cleaner Program to begin an Interim Removal Action Measure for PCE (tetrachloroethene, also called perchloroethylene) and TCE (trichloroethene). Since 2002, the DEQ has been implementing ongoing groundwater monitoring via wells on the site. The Mohawk District is a high priority for DEQ because the aquifer located underneath the Waremart Site is used by the Springfield Utility Board (SUB) for the city's potable water supply. To date, there has been no contamination found in the SUB wells, but DEQ will conduct ongoing testing to determine the magnitude and scope of contamination in the surrounding area (Oregon Department of Environmental Quality 2011).

DEQ launched an additional Interim Remedial Action Measure in 2010 to speed the cleanup of groundwater on-site and reduce potential for off-site contamination. In April 2010, only one shallow groundwater well exceeded contamination levels and the DEQ cited improved progress since 2008 at this well. DEQ requires these monitoring wells remain intact for future monitoring. If a developer chooses to relocate them on the property, they may do so at their own cost (estimated \$50,000 to \$60,000 per well in 2012). Figure 26 shows the locations of onsite monitoring wells.



Figure 26: Monitoring wells at the Waremart Site.

Opportunities and Constraints

The Mohawk District site analysis can be summarized in the following opportunities and constraints chart.

Category	Opportunities	Constraints
Demographics	A new senior housing facility to serve the aging population	Low educational attainment of local residents
	Diverse populations bring new life into communities	Changing population may struggle to integrate into community
Economics	Proximity to McKenzie-Willamette Medical Center will provide medical related employment opportunities	Residents have low skills and educational attainment
	Inexpensive labor force	Mohawk residents have less disposable income
	Waremart Site redevelopment could be a catalyst for other development	Low business rents discourage investment on the neighborhood level
Transportation	As the Waremart Site sits at the core of the greater Mohawk District, with large commercial retail to the north and residential areas to the east, south, and west, connectivity may be improved for the neighborhood if diverse modes of transportation were supported.	The Waremart Site is surrounded by auto-dependent development, with lackluster pedestrian and bicycle access. This pattern of transportation and lack of any planned traffic flow through the site has increased congestion along Mohawk Boulevard and Highway 126.
	The main access to the Waremart Site is through M street, and the infrastructure exists to connect this street through the site to L Street on the east.	Mohawk Boulevard has traffic congestion along its northern end and at the intersection of Mohawk Boulevard and Highway 126. Further development will require mitigation to alleviate traffic congestion.
	Existing mid-block connectors help facilitate pedestrian and bicycle traffic and offer opportunities to connect to other routes in the area such as the By-Gully multiuse path.	EmX does not serve the district. EmX supports PeaceHealth RiverBend Hospital north of the district.
	Plans for circulation improvements are laid out in several documents illustrating implementation for new bike routes and lanes, and expanded transit to the area.	Central portion of site is a sea of asphalt. The large parking lot places no restrictions on through traffic. This is not conducive to internal pedestrian traffic.
	There is a large pedestrian right-of-way on Mohawk that allows for change and improvement.	Fragmented pedestrian and bicycle networks on the site and in the surrounding area.
	Planned transportation improvements in and around the Waremart Site have the potential to diminish future traffic demand, improve safety for pedestrians and bicyclists, and increase access to commercial retail, the Coburg Hills to the north, and other urban redevelopment zones near downtown Springfield.	Traffic from Mohawk Boulevard creates a constant background noise that can be heard from any point on the Waremart Site. The other three streets adjacent to Waremart Site also add to this. Because of the close proximity to the McKenzie-Willamette Medical Center, ambulances often pass by, using Mohawk Boulevard as access to Highway 126 and other parts of Springfield. Occasionally, train whistles can be heard from the railroad track that runs parallel to Main Street in the downtown area.
	Parking requirements in nodal areas may be reduced by 20% of established standards (City of Springfield, 2011).	
	The relatively short distance between the Mohawk node and downtown nodes also provides an excellent opportunity to build up a pedestrian- and bicycle-friendly link between the two activity centers.	
Neighborhood Amenities	There are many community assets in the area that can be linked.	The area lacks public green spaces in the form of neighborhood-scale parks.
	Springfield public schools are within close proximity to the site.	Lack of city-owned space for public uses.
	Pursue joint land acquisition opportunities with partners like school districts and Waremart Site developers.	Limited funding for park improvements.
	Proximity of McKenzie-Willamette Medical Center to the Waremart Site.	
	There are several underutilized public spaces in the area that have the potential to be developed into neighborhood parks.	
Existing mid-block connectors allow for the opportunity to create small linear parks.		
Natural Features	Trees line the eastern edge of Mohawk Boulevard, providing shade and separating pedestrians from the busy road.	The Mohawk District has been heavily altered to provide for automobile use.
	The southeast portion of the Waremart Site provides views of the Coburg hills to the north.	Large asphalt parking lots separate commercial spaces from the streetscape and are uninviting to pedestrians.
	The sun exposure in the southern region provides solar gain potential.	High traffic volumes in the Mohawk District, especially along Mohawk Boulevard, create noise pollution.
	The Mohawk District is relatively flat, making it appealing for pedestrians and bicyclists.	
Utilities	Water facilities, storm drainage, and sewer systems were deemed adequate in the surrounding area to support modest redevelopment; however, it will be necessary to upgrade sewer and water facilities if high-density development does occur (SRI/SHAPIRO/AGCO, Inc. 1999).	There is insufficient lighting on and surrounding the site.
		Overhead power lines along 18th Street disrupt sidewalks and the space above them
		An underground primary power line runs through the Waremart Site. If plans propose a new structure on top of this power line, the line may need to be relocated.
		The storm drainage system occasionally experiences overloading.
		Challenges posed by past water contamination, and ongoing monitoring of wells.

Figure 27: Opportunities and constraints identified through the site analysis

Guiding Principles and Vision

The Guiding Principles are the values and priorities that guided the student teams' redevelopment plans for the Mohawk area. These principles served as a framework for developing concepts to enhance the social, economic, and environmental health of the area.

Guiding Principles

Generate Sense of Place

- Redevelop the Waremart Site with an eye toward improving the character of the district and the quality of life of the community members.
- Create neighborhood identity and connectivity through establishment of boulevard streetscapes on Mohawk and Centennial Boulevards.
- Establish community resources within the district to serve as a magnet for the surrounding neighborhoods, and to generate a vibrant feel.

Emphasize Wellness and Environmental Health

- Use urban forms and designs to minimize energy use.
- Foster community gardens in residential areas to provide an educational resource and a limited source of food.
- Increase the number of vegetated areas and open spaces.
- Manage stormwater on the Waremart Site.

Create A Multi-Modal Transportation Environment

- Provide safe and comfortable bike and pedestrian access to, through, and within the Waremart Site.
- Foster a range of transportation options around the Mohawk District to decrease automobile dependence for community members.
- Enhance streetscapes through tree planting, traffic calming, bike and pedestrian improvements, and on-street parking.
- Connect local businesses with the surrounding residential neighborhood.

Build On Existing Economic Capacity

- Achieve a balanced pattern of development in the community that is well designed and compatible with economically sustainable business, employment, and residential areas.
- Provide for convenient auto access along the Mohawk Boulevard and Olympic Street corridors in order to promote future economic activity.
- Focus on both the short-term and long-term financial success of the Waremart Site.
- Create the capacity for Mohawk District residents to live, work, and play in their community.

Vision

The goals and objectives established in this document build upon the district's assets and underutilized potential. This vision aims to enhance economic opportunity and civic life for the district's residents, and not simply to displace the current residents with a more affluent population. The following goals support our vision of making the Mohawk District an attractive place to live, work, and play.

Walmart Site

Affordable Mixed-Income Housing

Goal: Provide Affordable Mixed-Income Housing for Mohawk District Residents

The development of mixed-income housing at the current Walmart Site will serve as a point of connection to safe biking and walking routes, mass transit, and employment, keeping the neighborhood's goods and services within close distance.

According to the 2010 Census, approximately 1800 residential units are located within the Mohawk District, resulting in a housing density of 5 units per acre in Mohawk's residential areas. The combination of limited land stock and low housing density has driven up the price of housing, creating a cost burden for district residents. Forecasted population growth will place additional pressure on an already limited housing stock, increasing cost burden issues.

Objective: Develop Affordable Mixed-Income Housing on the Walmart Site.

In line with the goals of nodal development, we propose to increase the overall housing density to 12+ units per acre, starting with the Walmart Site and the area immediately surrounding the commercial core of the central Mohawk District.

A mixed-income housing development on the Walmart Site will provide residents access to amenities desired in any quality neighborhood, with a price tag suitable for a variety of incomes. In addition, redevelopment of the Walmart Site should add cohesiveness with the surrounding elements and will bring out the intrinsic neighborhood qualities of the Mohawk District, allowing it to grow and prosper.

Action Item: Construct 120 housing units on the Walmart Site. Each housing development should be two to three stories and should meet required bicycle and car parking standards established by nodal development standards in the Springfield Development Code.

The following mix of housing is proposed based on income and housing data from the local area and reflects the needs of the area’s income earning capacities:

Housing by Type	Number of Units	% of Units
Permanent Supportive Housing	10	8%
Very Low Income	54	45%
Low Income	42	35%
Market Rate	14	12%
Total	120	100%

Objective: Increase Housing Density in the Mohawk District to Reach 12 Units per Acre, Using a “Density Petals” Model.

The “Density Petals” model illustrates increases in density in leaf-like shapes surrounding the site to plan for higher housing density in the future.

A primary goal is to keep the core feel of the community intact, with infill development focused within the commercial core and along major thoroughfares.

Action Item: Increase the number of high- and medium-density residential parcels, as well as Mixed-Use Commercial development, to accommodate the nodal development goal of 12 units per acre.

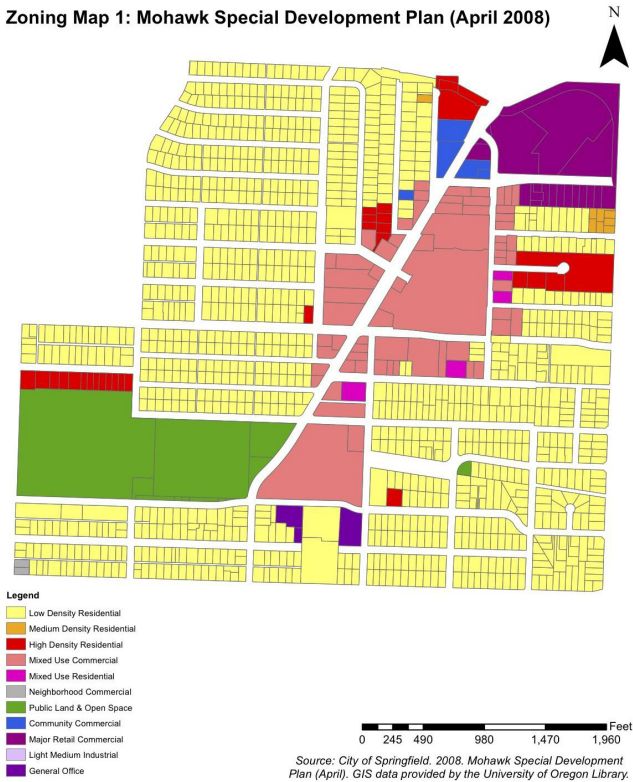
- Encourage the development of affordable housing outside of the 11-acre Waremart Site on all newly-zoned Mixed Use Residential (MUR) areas. To achieve an average of 12 units per acre, the zones should be built to maximum housing units per zone or can be more dispersed across the Mohawk District to achieve 12 units per acre.
- Increase housing density along the 18th Street corridor, south of Centennial Boulevard, bordering the McKenzie-Willamette Medical Center, on Scott Road, along 16th and 17th Streets on the Northwest portion of the site, on M Street, and on parts of Market Street.

Permanent Supportive Housing (PSH) units are set aside for households making 30 percent of the area median income or less. PSH units should be equipped with wraparound services and access to health care, mental health services and treatment, and other necessary social services (Cuhane and Hadley 2002).



Figure 28: Density petal.

Zoning Map 1: Mohawk Special Development Plan (April 2008)



Zoning Map 2: Mohawk Development Area - Plan 1 (Maximum Units per Zone)*

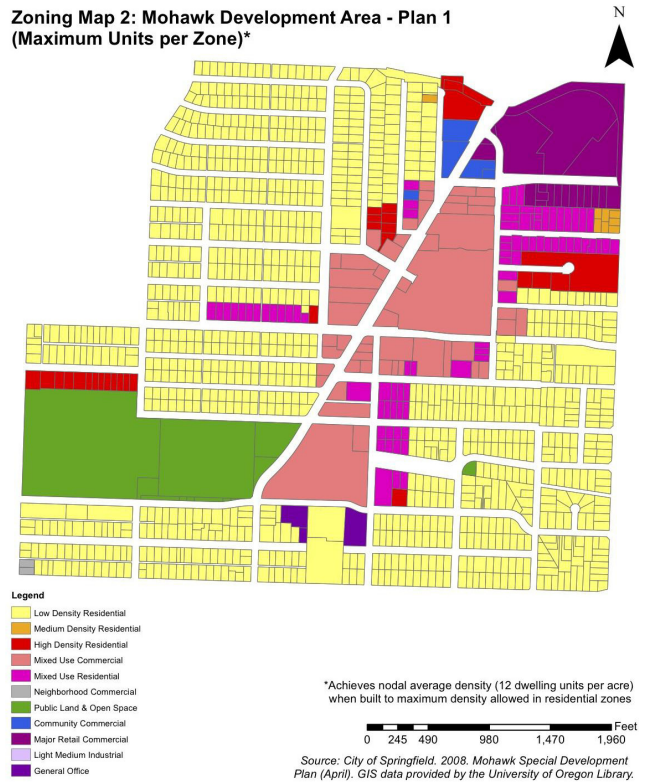


Figure 29: Current zoning in Mohawk District. (Source: City of Springfield 2008)

Figure 30: Mohawk District nodal development zoning 1. (Source: City of Springfield 2008)

Zoning Map 3: Mohawk Development Area - Plan 2 (Minimum Units per Zone)*

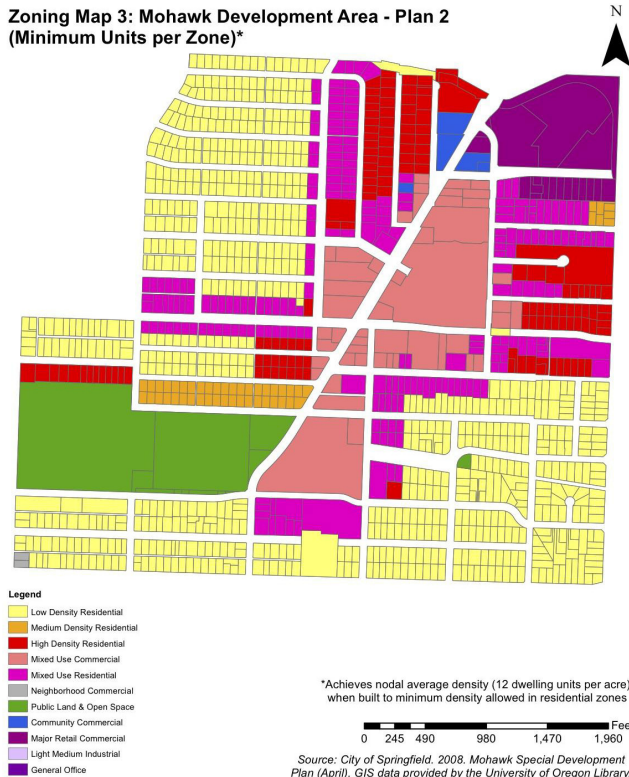


Figure 31: Mohawk District nodal development zoning 2. (Source: City of Springfield 2008)

Action Item: Amend the Springfield Development Code to accommodate increased residential density in the Mohawk District.

- Parcels along the edges of the Mixed Use zone currently designated as Low Density Residential could change to Mixed Use Residential to achieve 20 units per gross acre minimum (SDC 3.2-630 B2).
- Amend the Mohawk Special Development Plan (not adopted) to change Low Density Residential units surrounding the Waremart Site to Medium Density Residential (MDR) to achieve between 10-20 units per acre (SDC 3.2-205 B).
- Amend the Mohawk Special Development Plan (not adopted) to change Low Density Residential units surrounding the Waremart Site to High Density Residential (HDR) to achieve between 20-30 units per acre (SDC 3.2-205 C).
- Amend the SDC to alter minimum housing numbers:
 - LDR: 6 Units Minimum increases to 10 Units Minimum
 - MDR: 12 Units Minimum increases to 20 Units Minimum
 - HDR: 25 Units Minimum increases to 30 Units Minimum

Objective: Develop Senior Housing Facilities within the Mohawk District's Hospital Support Overlay District

Demographic research indicates the population of Springfield is aging. An older population is likely to require greater medical services and additional senior housing. Current zoning of the Mohawk District contains a designated Hospital Support Overlay District. This district is intended to support the expansion of medical services and industries connected to the McKenzie-Willamette Medical Center. Senior housing falls into this category.

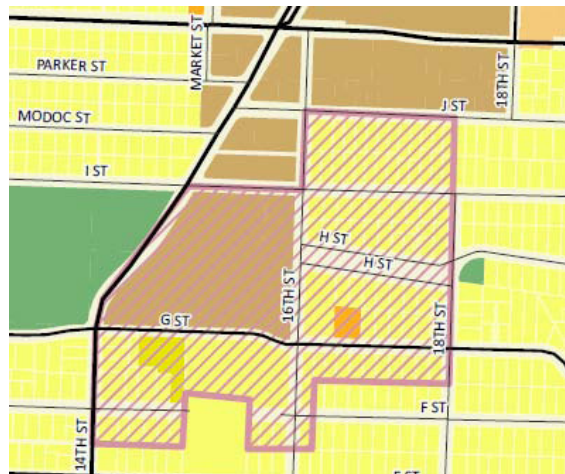


Figure 32: Hospital Overlay District map.

Action Items:

- Develop a relationship with the McKenzie-Willamette Medical Center to increase senior services within the Hospital Support Overlay District.
 - Time Frame: 1-5 Years
- Develop senior housing within the Hospital Support Overlay District to support Springfield's aging population.
 - Time Frame: 5-10 Years

Funding and Partnerships

Funding a mixed-income housing project is often a difficult task. Public/private partnerships can allow communities and developers to foster solutions to move mixed-income housing projects forward. Below are several examples provided by the authors of this report for funding mixed-income housing that call on public-private partnerships to achieve success. These are provided as examples and do not represent City of Springfield plans or committed partnerships.

Local Affordable Housing Agencies

Housing and Community Service Agency of Lane County (HACSA):

HACSA is a local government agency that provides assistance to residents in need of affordable housing. A partnership between the City of Springfield and HACSA could help develop and implement affordable mixed-income housing in the Mohawk District.

St Vincent De Paul:

Since 1988, St. Vincent de Paul has provided affordable housing to over 1,000 people in Lane County. To date, St. Vincent de Paul has focused on affordable housing and has yet to assist in a mixed-income development. However, a public-private partnership involving the City of Springfield could present St. Vincent de Paul with an opportunity to expand their housing strategies, while meeting the needs of the emerging Mohawk District

Creative Finance

Creative finance offers sustainable financing alternatives for affordable housing using funding approaches not solely tied to one funding source. Creative finance uses multiple sources of funding, including money from federal, state, local, philanthropic, private for-profit, and/or nonprofit sources, to finance low-income housing projects.

By incorporating creative finance methods, development could be less susceptible to federal program changes and budget cuts. Even when enacted, budget cuts rarely destabilize entire affordable housing project budgets (Rohe, Quercia, and Levy 2001).

Affordable housing developments utilizing creative finance typically require between three and eight funding sources (Quercia, Rohe and Levy 2000). The characteristics of the finance mechanisms vary in degree from outright grants to higher levels of equity financing. Generally, units relying heavily on grant funding are able to house a larger number of severely low-income households (Quercia et al. 2000).

The Housing and Community Services Agency of Lane County (HACSA) and St. Vincent de Paul are two local agencies, in addition to many others, that may

prove valuable resources in funding mixed-income housing developments in the Mohawk District (Quercia, Rohe and Levy 2000).

Tax Incentives

Tax breaks offer incentives to developers and investors to encourage development. This is an attractive option in promoting affordable mixed-income housing development in the Mohawk District. There are two forms of tax breaks that may be used to stimulate development: tax credits, and Multi-Unit Property Tax Exemption (MUPTE, see below). A tax credit is a sum deducted from the total amount a taxpayer owes to the state or local government.

Multi-Unit Property Tax Exemption Program (MUPTE)

Another tax option is to employ something similar to Eugene's MUPTE Program. The MUPTE program was created to spur the construction of multi-unit housing to increase housing density in identified areas. MUPTE is a mechanism, lasting ten years in length, that is set up as a boundary area and includes new construction, addition, or conversion of rental or ownership multi-unit housing within the MUPTE boundary. The Mohawk District could benefit from the implementation of a MUPTE program within the City of Springfield.

Medical Concept

Goal: Create The Mohawk Medical District

This concept seeks to create the "Mohawk Medical District" to serve as a catalyst for growth in Springfield's medical and educational industries. The proposal is also meant to foster a "medical campus" environment between the Waremart Site and the McKenzie-Willamette Medical Center.

Medical and Education Hybrid Use

The Waremart Site and Mohawk District present an opportunity to expand Springfield's medical and education industries, which have catalyzed economic growth over the last decade.

Objective: Create the Physical Space for Medical Offices and Educational Facilities

Under this concept, the old Waremart building would be renovated and converted into a new medical office building to support the nearby medical centers. This building would provide new facilities for potential expansion of the hospital and its supporting medical office cluster. This space would help to consolidate medical services in the area and provide new infrastructure to offset the aging and dated office space currently located in the area.

The old Sears building on the Waremart Site, which currently houses several small retail shops, would be renovated and converted to accommodate educational uses. This building could house schools like the new Springfield

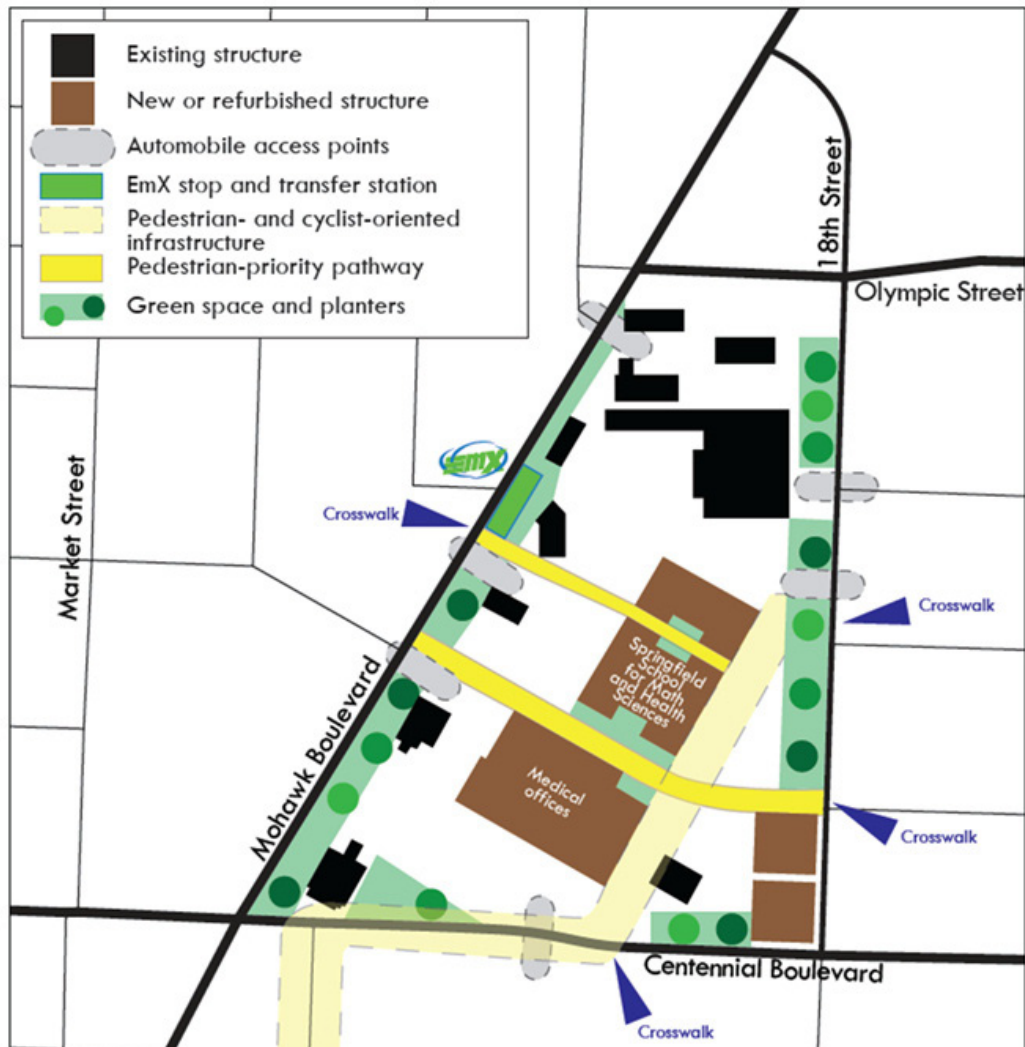


Figure 33: Proposed redevelopment concept for Medical District.

Academy of Science and Health (SASH), which is currently scheduled to open in downtown Springfield in 2012. The old Sears building has several benefits including close proximity to McKenzie-Willamette Medical Center, Springfield High School, and the surrounding elementary and middle schools. The new medical offices (in the former Waremart building) and education center could be connected by an inner courtyard, where a water feature, small garden, and gathering space could be located.

Objective: Establish a Public-Private Partnership with McKenzie-Willamette Medical Center and Springfield Public Schools

The Waremart Site's location presents an opportunity to launch a public-private partnership between Springfield Public Schools and the McKenzie-Willamette Medical Center. The hospital has the resources and expertise to serve as the ideal partner to launch this innovative partnership. This partnership has the potential to increase the overall vitality of the Mohawk District and to secure the economic future of the Springfield area.

The joint partnership would tap medical experts at McKenzie-Willamette Medical Center for curriculum, present unprecedented hands-on learning opportunities for students and create a shared identity between the site and surrounding community. This initiative would meet a need for rigorous, high-level science and health education in Springfield Public Schools and bring economic and community benefits to the Mohawk District, McKenzie-Willamette Medical Center, and the larger city. Another benefit of this partnership is a stable anchor tenant for the Waremart Site, which could then become a hub and central meeting point for medical professionals, students, and families.

Objective: Create a Pedestrian Environment within the Interior of the Waremart Site

This concept would also create a pedestrian-friendly environment in the district and build upon a sense of place and community. This would be accomplished by reclaiming parking areas and roadways within the site and converting them into pedestrian and bike pathways. These pathways would enhance circulation between buildings and within the larger Mohawk District. Peripheral areas of the site would be converted into small pocket parks or "parklets" and green spaces to enhance storm water drainage, allow for relaxation, and to add aesthetic value. Auto access points into the site would be formalized and limited to a few entry points along Mohawk and Centennial Boulevards and 18th Street.

Objective: Create a Direct Link for Pedestrians and Cyclists between the Waremart Site and the McKenzie-Willamette Medical Center

Central to this medical concept is a physical link between the Waremart Site and the McKenzie-Willamette Medical Center. The primary physical link between these areas is 16th Street. This street would serve as the backbone for a medical campus environment between the hospital, medical offices, and the Waremart Site. 16th Street is currently designated as a local road and sees little vehicle traffic. It has a fragmented sidewalk network, few trees, and no designated bicycle lane.

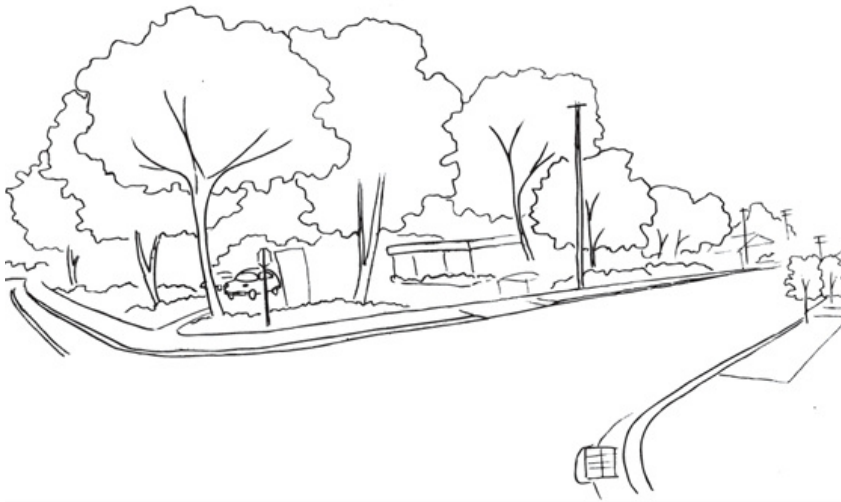


Figure 34: 16th Street – before.



Figure 35: 16th Street – after.

16th Street could be redeveloped to serve as the primary pedestrian and bike artery between the Waremart Site and the McKenzie-Willamette Medical Center. As part of this redevelopment, 16th Street would be improved with setback sidewalks along both sides of the roadway and dedicated bike lanes separated from traffic by on-street parking. The street would also be treated with tree plantings and pedestrian scale lighting with signage to direct pedestrians and cyclists. Traffic calming devices, such as narrow points and traffic circles, could also be used to reduce vehicle speeds and encourage pedestrian circulation within the Mohawk District.

Objective: Calm Traffic and Ease Pedestrian Crossing on Centennial Boulevard adjacent to the Waremart Site

To complete the creation of a medical campus between the hospital and the Waremart Site and to encourage pedestrian circulation between existing medical facilities, this concept proposes a series of improvements along Centennial Boulevard adjacent to the Waremart Site. These improvements include median islands to reduce vehicle speeds and street trees. A new striped crosswalk could be built at the LTD route #13 bus stop, and signs would be placed in the area to alert drivers to pedestrian crossings.



Figure 36: Centennial Boulevard – before.

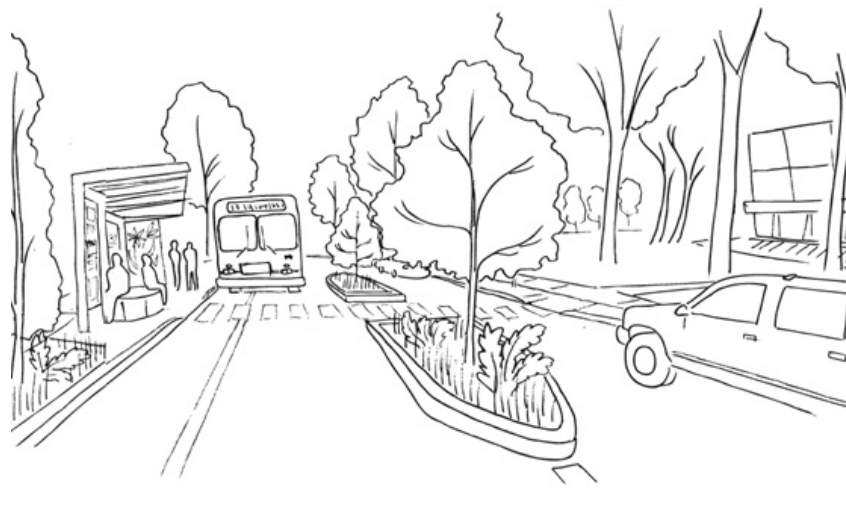


Figure 37: Centennial Boulevard – after.

Light Industrial Concepts

Two light industrial concepts were proposed for the redevelopment of the Waremart Site, both focused on increasing employment. It should be noted the existing Metro Plan and zoning for the site would need to be changed to accommodate industrial development. The first concept is the Mohawk Urban Center, a bicycle manufacturing hub. The second concept is for a brewery, beer bottling factory, and entertainment center.



Figure 38: Mohawk Urban Center logo.

Goal: Create an Employment Center Utilizing Bicycle Manufacturing for Illustrative Purposes

The Mohawk Urban Center concept is a redevelopment idea to turn the Waremart Site into a hub for bicycle manufacturing (see Figure 39). In this scenario, the existing Waremart building would be redeveloped into a Bicycle Manufacturing Center. Over time, additional supporting facilities could be built, including a Bicycle Manufacturing College, the Mohawk Bicycle Center, and space for more bicycle industrial operations and offices. The Mohawk Urban Center would also include some mixed-use development, allowing space for retail and restaurant businesses.

As the developer searches for a tenant in the Waremart building, the building should be repaired and renovated, including cleaning of the windows to allow natural light into the building, as well as the application of new environmentally friendly paint on the exterior. Until the Waremart building is leased to an anchor bicycle manufacturing company, the developer could create a bicycle production incubator for small-scale operations to entice individuals who are building bikes in area garages into the Mohawk Urban Center. To foster a healthy incubator, the developer could purchase basic tools and production equipment for small-scale bike production, and offer use of the former Waremart facility at discounted rates.

Local Bicycle Industry

The Eugene-Springfield bicycle market is well established and growing. In fact, in September, the U.S. Census found Eugene-Springfield to be the second highest metro area (MSA) in the nation for residents who commute to work by bicycle, with six percent of residents using the bicycle as their chosen mode (McKenzie and Rapino 2011). The Eugene-Springfield MSA has a well-established bicycle industry, which consists of Burley—the world’s leader in bicycle trailers—and five other established bicycle production companies, a wheel manufacturer, and a cycle clothing company.

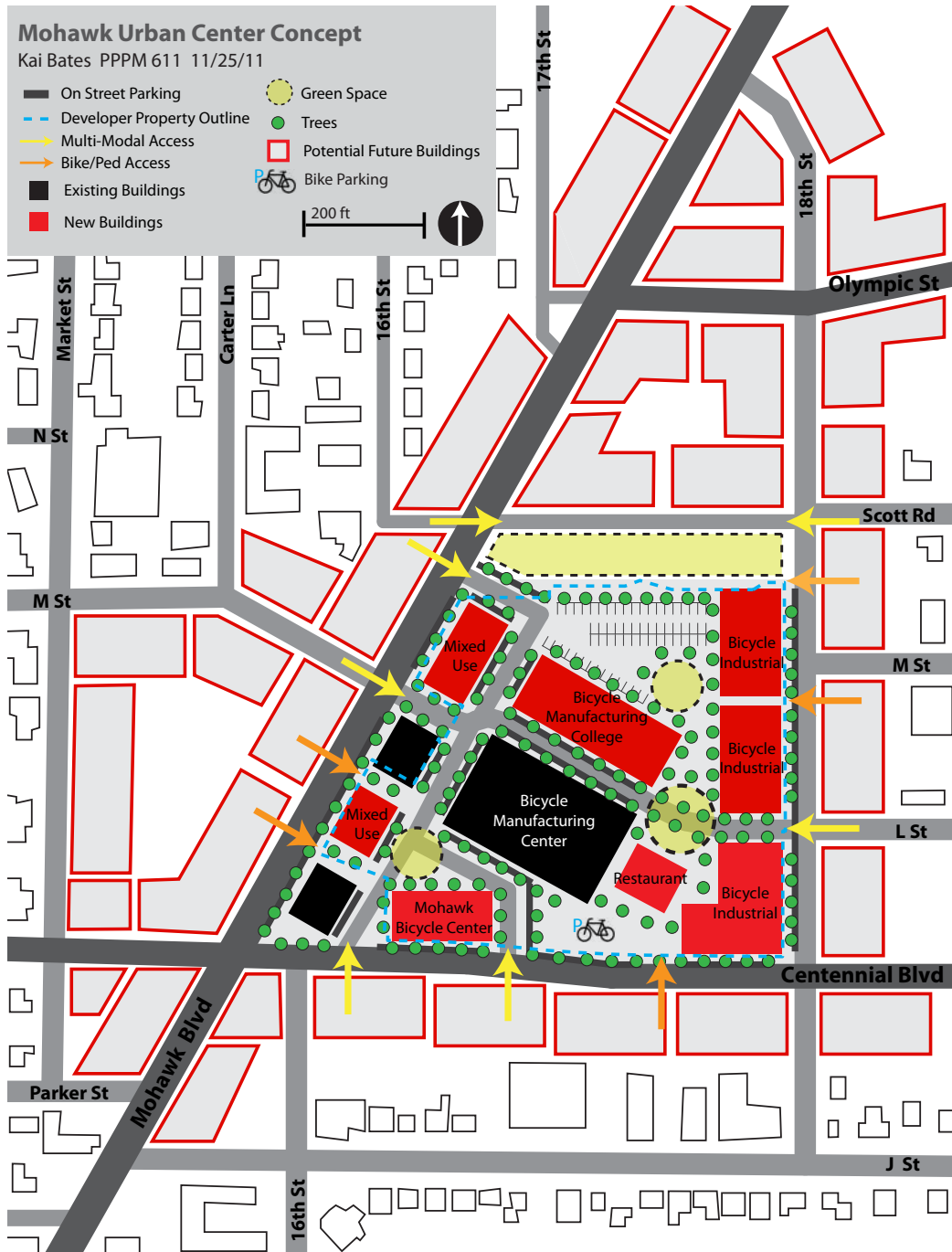


Figure 39: Mohawk Urban Center concept plan.

Within the Mohawk District's Willamalane Park sits the Tony Hawk Skate Park. This skate park grants the community national recognition and an established bicycle testing opportunity, which this proposal expands upon. In addition, the southern Willamette Valley is relatively flat and offers scenic rides with great views of area hills, buttes, and mountain ranges. For the daring and adventure seekers, the "Mountain Biking Capital of the Northwest" sits less than one hour's drive away in Oakridge, a town of roughly 3,500 residents (Oakridge/Westfir Area Chamber of Commerce 2011). There are also mountain bike trails available within the metro area, at places like the Ridgeline Trail System.

Recruitment and Development of Anchor Tenants

The area's proximity to a large customer base, favorable business climate, low site costs, skilled industrial labor force, and the availability of local suppliers will make the developer's sales pitch inviting to potential bike manufacturers. In addition, Springfield is designated as an Enterprise Zone and thus affords new, qualifying business an exemption from property taxes for three to five years (Business Oregon, n.d.). This solicitation should be made to national, large growth brands, such as the Bixi bicycle sharing system; Public Bikes, which specializes in design and sales of urban bike products; Planet Bike, a bicycle accessory producer; and Ortlieb Waterproof, which produces outdoor gear and bags.

The steps the developer might take to recruit bicycle manufacturers are:

- Form a Business Recruitment Team, which could include representatives from the Springfield City Council, the Joint Elected Officials (JEO), Lane Business Link, the Mohawk Business Association, and the Oregon Bicycle Constructors Association.
- Narrow the bicycle manufacturing cluster to companies that are well matched for the Mohawk Urban Center's available and future industrial land and buildings.
- Develop a marketing strategy and materials targeting these companies.
- Design an ideal tenant mix.
- Identify prospective tenants.
- Contact a select list of prospects to learn more about their industry needs and relocation interests.
- Close contracts with tenants.

(Downtown and Business District Market Analysis 2011)

We feel a diverse Business Recruitment Team can market the Mohawk Urban Center as a nationally competitive site to attract new bicycle business and help achieve the JEO's goal of gaining 20,000 net jobs by 2020.

With community support from the JEO and Lane Business Link, as well as business development incentives from Lane County and the State of Oregon, the developer may be able to land an anchor tenant(s) within five years, if not before.

Goal: Create an Employment Center Utilizing Brewery and Bottling for Illustrative Purposes

Background

Another potential anchor tenant and area-wide job creator for the Waremart Site is a brewery and bottling light industrial facility. Beer consumption reaches across all socioeconomic classes, cultures, and demographics. Food and beverages draw people together and create social connectivity. Eating and drinking are popular social activities and the Mohawk District does not have any other restaurant destinations; most are structured for convenience and do not attract out-of-town visitors. The brewery could be a destination to which people would come to eat good food, taste beer, and tour the facility. People would come to the site to interact with family and friends, to meet new people, and to discover something new.

Springfield has a long history of hop culture, and developing a local brewery and bottling facility in Springfield ties into this history as well as Springfield's reputation as having a population of hard-working people with an entrepreneurial spirit.

Many local breweries in the Eugene and Springfield area have seen success. Ninkasi Brewing Company, in Eugene, is a prime example of a small local business helping to revive a neighborhood, stimulate economic development, and act as a focal point in a neighborhood. Other small and successful local breweries include Oakshire Brewing in Eugene and Hop Valley Brewing Company in Springfield. For this site, a brewery a little larger than Ninkasi would be ideal. The other local breweries give back to their local communities and are strong advocates for community development because they are so reliant on the community in which they are located. We can expect once the brewery becomes established, it will attract other businesses to locate in the Mohawk District.

Beer Bottling Facility

The proposed beer bottling facility would be 54,000 square feet; the associated restaurant and tasting room would be 7,000 square feet. An additional wing would be set aside for future light industrial use by another business or expansion of the brewery. The facility would employ approximately 75 to 100 people; the jobs created would range in skill level and pay scale, but most would be attainable for people with a high school education. The brewery would be established as a focal point for the Waremart Site and the greater neighborhood. The development could serve as a magnet for local residents and visitors from across the region. Attractions could include tours of the facility, a restaurant, and a beer tasting room. Based on the successes of other local breweries, we expect the brewery would act as a catalyst for redevelopment, pulling secondary and supporting businesses to the area.

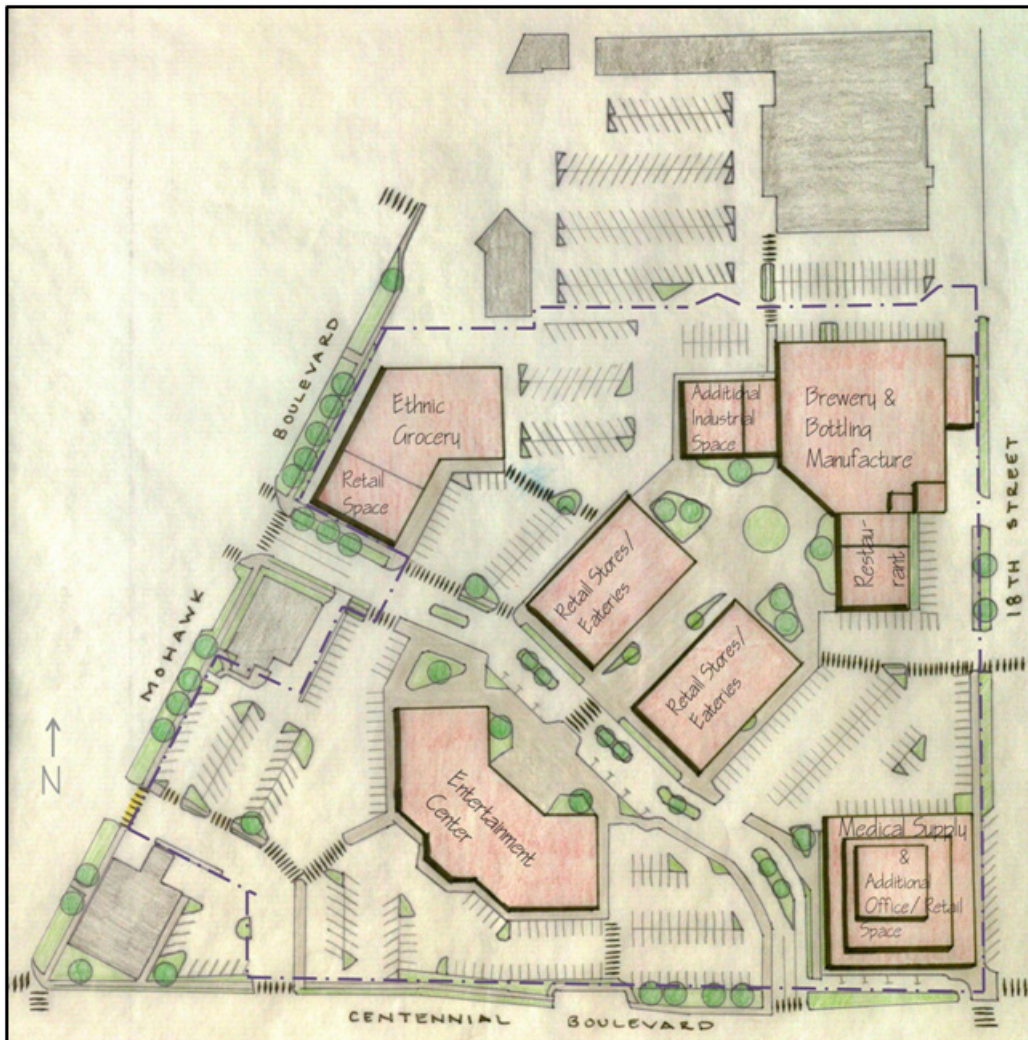


Figure 40: Site design for bottling plant on the Waremart Site.

The Brewery and Bottling Manufacturing business is a proposed anchor for the Waremart Site. The placement of this industry on the site was selected because the site has:

- Preferable soil composition within the northwest corner of the property
- Available truck access from 18th Street and an established truck route on Olympic Street to the north
- Opportunity for an anchor business to serve as a backdrop for the overall site

The Waremart Site and our proposed anchor business present an opportunity for the developer to use architectural forms and styles sensitive to Springfield's cultural heritage. The architectural style for the brewery could potentially be reminiscent of a historic mill or industrial style. This would complement the building's usage and connect the site to the cultural identity of the city.

Mohawk District: Transportation and Design

Goal: Improve Current Transportation Infrastructure and Promote Active Transportation Within The Mohawk District

This section outlines concepts to improve multi-modal transportation and create a strong sense of place within the Mohawk District by creating infrastructure that decreases automobile dependence. These concepts propose a series of streetscape improvements throughout the area. These enhancements focus on improved public transit, traffic calming measures, and improved access to local businesses. Improvements will also work to better connect the Waremart Site and the Mohawk District to other attractions and employment centers within the metropolitan area.

The following section proposes two options for streetscape improvements. Option one follows the Context Sensitive Solutions approach, explained below. Option two recommends a different reclassification system, using boulevards, mixed-use connectors, and residential streets.

In addition to the streetscape improvements, there are also recommendations for improved bicycle and pedestrian facilities, including the Willamette 2 McKenzie Bike Trail, the Mohawk River-to-River Trail System, and the implementation of a Safe Routes to Schools program.

Street Design

Objective: Enhancement Streetscapes and Design within the Mohawk District to Facilitate Active Transportation.

Option One: Context Sensitive Solutions

The first major step to improving the street network within the Mohawk District is to adopt a Context Sensitive Solutions (CSS) approach to street design as defined by the Institute of Transportation Engineers (ITE) manual “Designing Walkable Urban Thoroughfares.” The CSS approach is based on the urban-to-rural transect planning model created by New Urbanist Andrés Duany as shown in Figure 41. This model establishes a series of context zones related to urban thoroughfare design (ITE 2010).

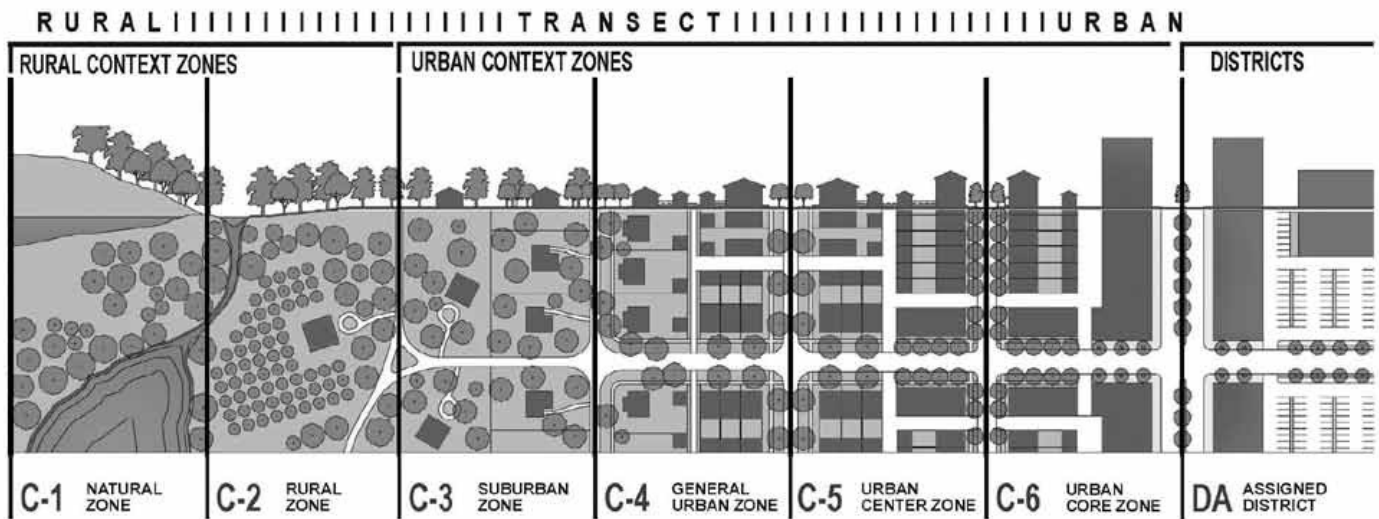


Figure 41: Rural to urban transect zones. (Source: ITE 2010. p. 47)

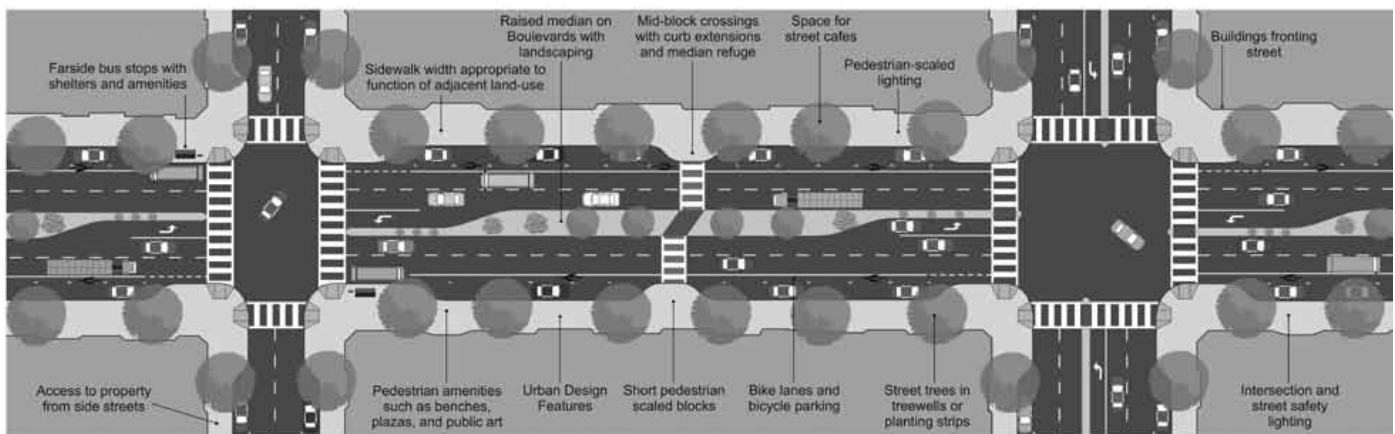


Figure 42: Elements of context sensitive thoroughfares. (Source: ITE 2010. p. 58)

The context zones are used to define a series of thoroughfare types that work within each zone. Based on the character of development in the Mohawk District, which includes detached residential buildings and a range of commercial activities, the area would fall into the C-4 General Urban Zone. The thoroughfare types best suited for this zone include boulevards, avenues, and streets (ITE 2010). The essential elements of a CSS thoroughfare are illustrated in Figure 42. To adopt the CSS approach, the City of Springfield would need to change its current classifications from arterials, collectors, and roads to boulevards, avenues, and streets. Under this new classification system, all new roads would need to be built according to the characteristics laid out in Appendix C. In addition, existing roads could be reconfigured to meet the new standards.

Figures 43, 44, and 45 illustrate how boulevards, avenues, and streets would look.

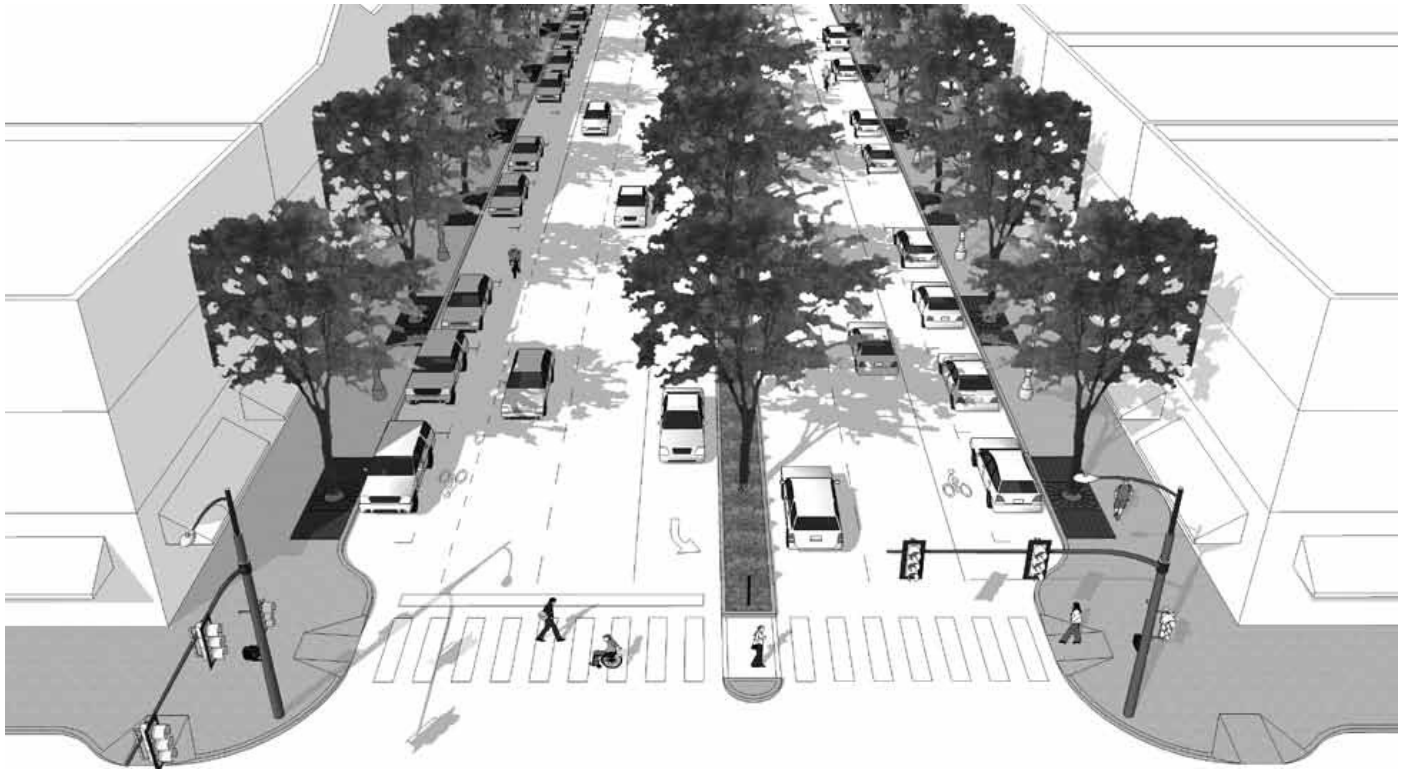


Figure 43: Boulevard design. (Source: ITE 2010. p. 50)

The following changes are proposed to roads within the Mohawk District based on CSS criteria from Appendix C:

- Mohawk Boulevard – add curb bumpouts, on-street parking, wider bike lanes, wider sidewalks, and street trees, according to the design standards for a commercial boulevard.
- Centennial Boulevard – add curb bumpouts, on-street parking, wider bike lanes, wider sidewalks, and street trees, according to the design standards for a commercial street.
- 18th Street – add curb bumpouts, on-street parking, wider bike lanes, wider sidewalks, and street trees, according to the design standards for a commercial street.

New Street Connection

The final streetscape improvement in this phase is the creation of a new street connection through the Waremart Site connecting M Street and L Street. This street should follow the design criteria of a commercial street as outlined in Appendix C. This new connection will improve accessibility throughout the neighborhood and will enhance connectivity to the Waremart Site.

Option Two: Boulevards, Mixed-Use Connectors, and Residential Streets

Streets are being reinvented in many environmentally- and community-minded cities as conduits for active transportation and human interaction. We propose to redesign key streetscapes in the Mohawk District to slow traffic and promote safety. Streetscapes can also be redesigned to improve pedestrian comfort. Other benefits of redesigning streetscapes include increased native wildlife habitat and the mitigation of stormwater runoff. Streetscape design can also benefit local businesses by creating an identity for the district.

We propose three different streetscape categories for the Mohawk District: Boulevard, Mixed-use Connector, and Residential Street.

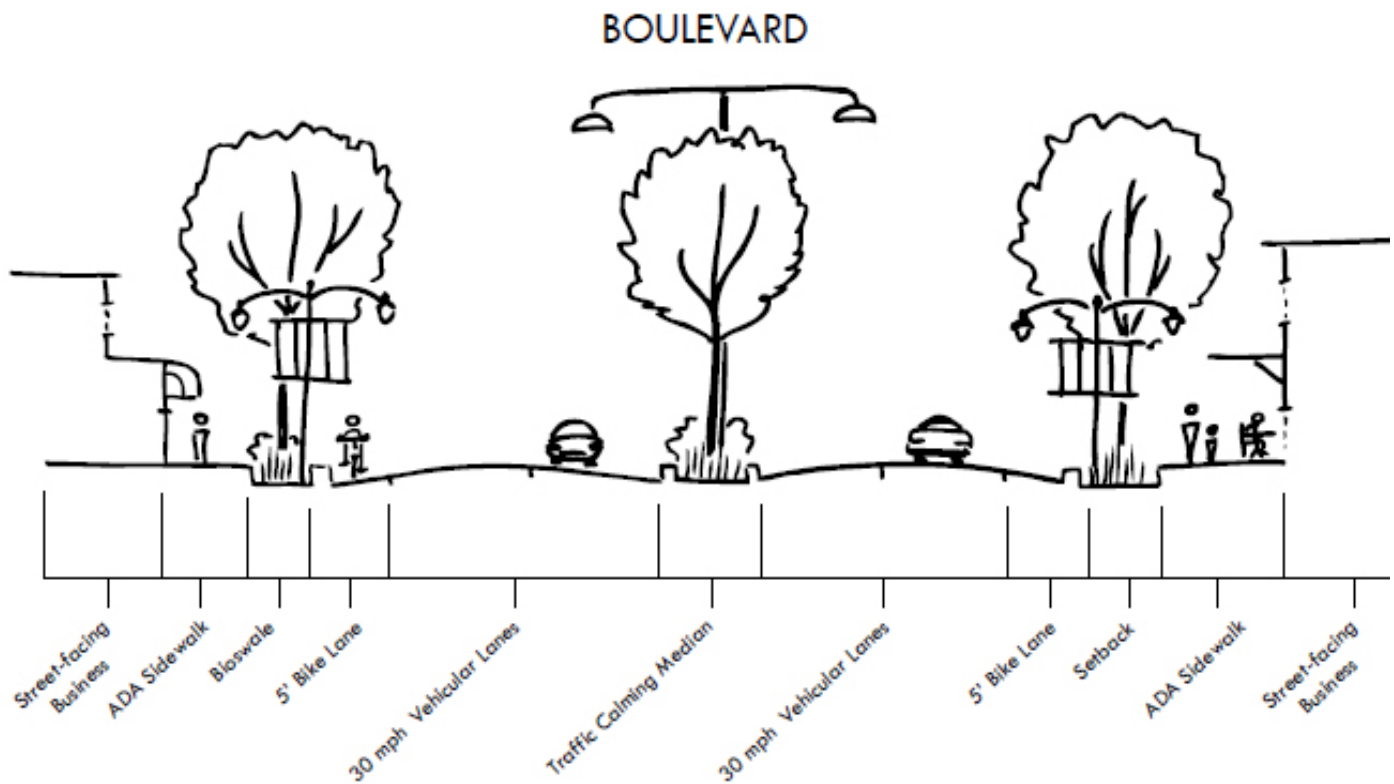


Figure 44: Boulevard design.

Boulevards: Mohawk and Centennial Boulevards convey traffic at 30 mph and are the main streets by which vehicular traffic approaches the Waremart Site.

Action Items:

- Current bike paths should be widened to promote real and perceived safety for cyclists riding alongside vehicular traffic.
- Bike parking should be required for all businesses.
- Wide setbacks should provide a buffer between the street and the sidewalk.
- Deciduous street trees well suited to the site (minimum 40 feet mature height, native species preferred) should be spaced appropriately for semi-continuous canopy cover on sidewalks along the entire length of the boulevards.
- All overhead utilities should be rerouted underground to allow for the planting of street trees.
- Sidewalks should meet high standards of ADA accessibility and provide opportunities for businesses to set up outdoor amenities, such as moveable seating and displays to engage customers and community members.
- Buildings along boulevards should engage the street with windows and entrances.
- Unique vehicular and human-scale lighting should be provided to promote a cohesive district identity and nighttime safety.
- Crosswalks with traffic lights and island safety medians should be installed at main intersections, as well as at main pedestrian entrances to the Waremart Site.
- Stormwater runoff should be managed with street-side native-planted bioswales.

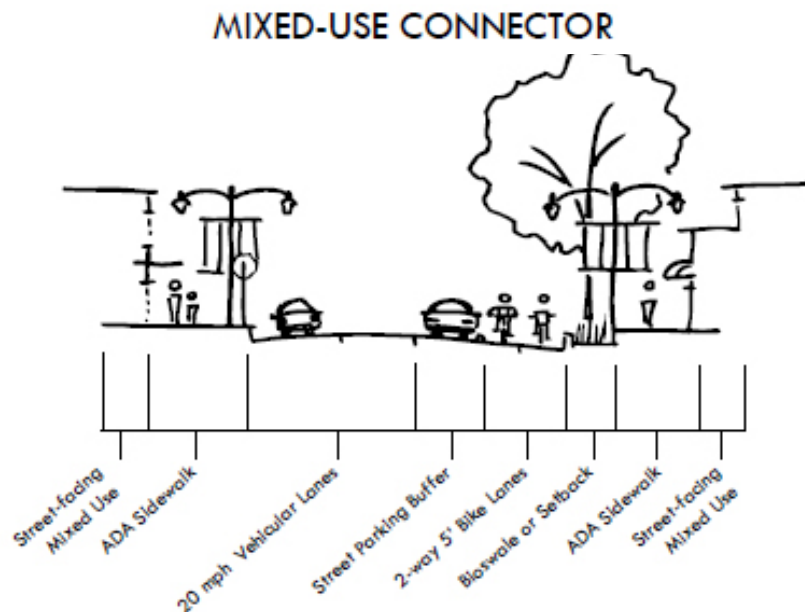


Figure 45: Mixed-use connectors design.

Mixed-Use Connectors: 16th and 18th Streets provide opportunities to connect the Waremart Site to the McKenzie-Willamette Medical Center and to the residential neighborhood to the east. They should provide for comfortable, enjoyable pedestrian and bike travel.

Action Items:

- Streets should convey low-speed vehicular traffic (20 miles per hour) and should include a buffer of street parking between bike and vehicular traffic.
- Wide bike lanes should be provided and traffic-calming measures should be employed.
- Bike parking should be provided by businesses, and public bike parking should be installed in select areas along the street.
- Sidewalks should meet high standards of ADA accessibility.
- Setbacks should be created where possible.
- Utilities should be moved underground and street trees should be planted as continuously as possible.
- Human-scale streetlights should be provided to promote a cohesive district identity and nighttime safety.
- Stormwater runoff should be managed with street-side, native-planted bioswales.

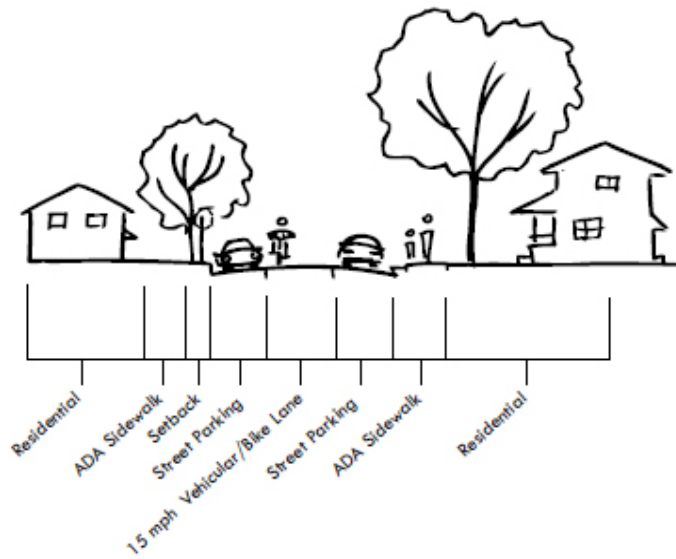


Figure 46: Residential street design.

Residential Street: Primarily residential streets should promote community interaction, neighborhood identity, and active local lifestyles.

Action Items:

- Streets should convey traffic at low speeds (10 to 15 miles per hour) with traffic calming measures and frequent stop signs.
- Sidewalks should meet high standards of ADA accessibility.
- Utilities should be moved underground and street trees should be planted wherever possible.
- Stormwater runoff should be managed with street-side native-planted bioswales.

Objective: Create Connectivity between Springfield Public Schools and the Waremart Site.

Seven schools are located within a 1.5-mile radius of the Waremart Site. To increase connectivity between the schools and the site, it is essential to create pedestrian and bike-friendly options for transportation to and from school. Providing safe routes for active modes of transportation to and from local schools will decrease automobile congestion and promote a sense of social and physical connection and wellness within the community.

Action Items:

- Create a Safe Routes to School Program.

Safe Routes to School Proposal for Maple Elementary School

Maple Elementary School is located southeast of the Waremart Site, at 21st and J Streets. The school's catchment area borders Highway 126 on the north, 28th Street and the railroad tracks on the east, Main Street on the south, and Mohawk Boulevard and 16th Street on the west.

The Safe Routes to School designation ensures no households within the boundary are more than one mile away from the school. Therefore, no school buses are provided to bring students to or from the school. This makes a Safe Routes program at Maple Elementary beneficial; not only would the streets be safer for students who choose to walk or bike to the school, but also it may encourage parents who currently drive their children to school to walk or cycle with them, thereby alleviating congestion on the streets around the school before and after classes.

The proposal for Maple Elementary's Safe Routes program was divided into three Safe Route zones: north, southwest and south of the school. These zones are bounded by the residential areas. Each of these zones contains a recommended network of streets that students take between their homes and the school. The routes were chosen based on various factors, including most efficient way to school, routes that maximize the opportunity for students to travel with other students, and travel via local streets and low-traffic collectors.

Objective: Improve Pedestrian and Bicycle Infrastructure within the Mohawk District to promote Active Transportation.

We encourage the city to follow through with the planned update to the most recent adopted Springfield Bike Plan (1998). We also encourage the city to create a plan specifically for pedestrians. These two plans should incorporate all proposed bicycle and pedestrian facility changes and determine a path for the city to enhance its commitment to supporting a robust bicycle and pedestrian infrastructure.

We also propose the city upgrade its bicycle boulevard infrastructure. This upgrade involves signage and better pavement markings, as well as the addition of new bicycle boulevards. As the City of Portland has demonstrated, bicycle boulevards are a fast and inexpensive way for a city to improve bicycle use and accessibility.

Action Items:

The City of Springfield can benefit significantly from the following improvements in the Mohawk District:

- Improve signage and street markings along existing bike boulevards by adding sharrow pavement marking and distance signs (see Figures 48 and 49)
- Create new bike boulevards on the following streets (see Figure 47):
 - New street connection through the Waremart Site
 - 10th Street (extension)
 - 12th Street south to Main Street
 - 16th Street south to Main Street
 - 21st Street from Olympic Street south to Main Street, which is identified in the Springfield Bike Plan

An expansion of the By-Gully multiuse trail would benefit cyclists in Springfield. The expansion would continue the paved trail along the By-Gully drainage creek east of Pioneer Parkway to the northern end of 8th Street, just south of Highway 126. This connection will provide a strong link to the larger bike boulevard, bike lane, and bike path system in the city. In addition, it will give bicyclists who prefer to avoid major roads, such as Centennial Boulevard, an alternate, low-traffic route. This expansion also helps facilitate the best option for the Willamette 2 McKenzie Bike Trail. Figures 50 and 51 present sidewalk, mid-block connector enhancements, and intersection improvements.

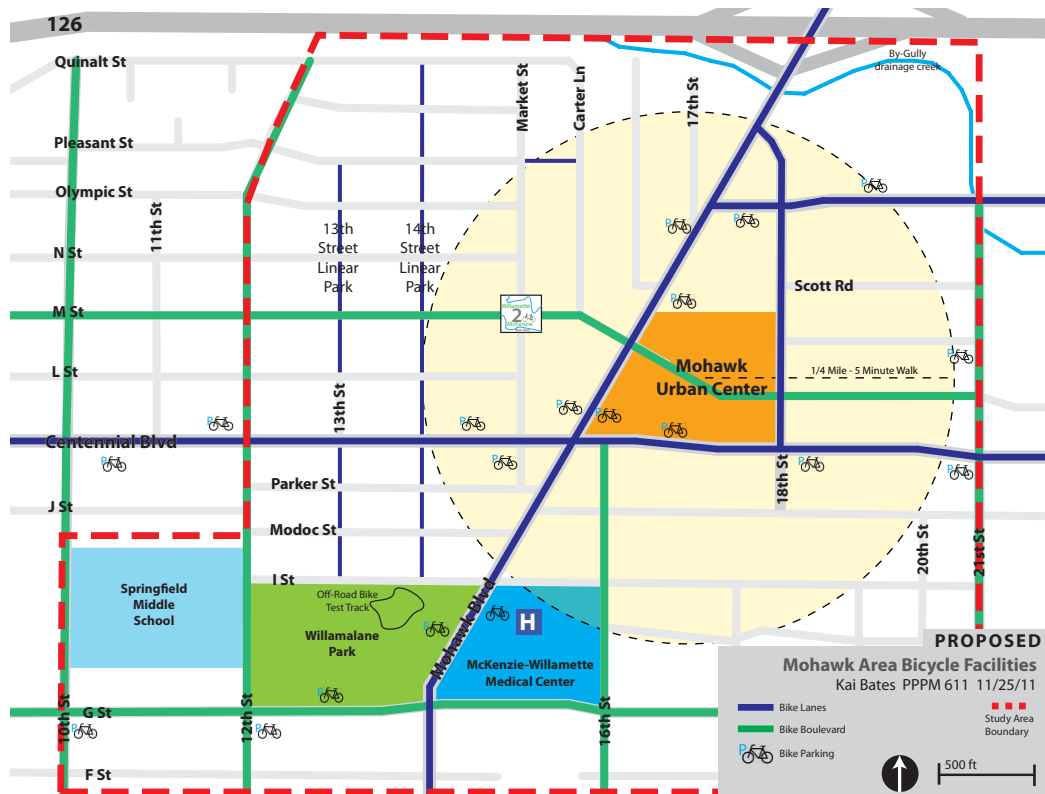


Figure 47: Mohawk District proposed bicycle facilities.



Figure 48: Bike boulevard sharrows. (Source: Sierra Club North Star Chapter, n.d.)



Figure 49: Bike distance signage. (Source: Ken Wunschke, 2011)

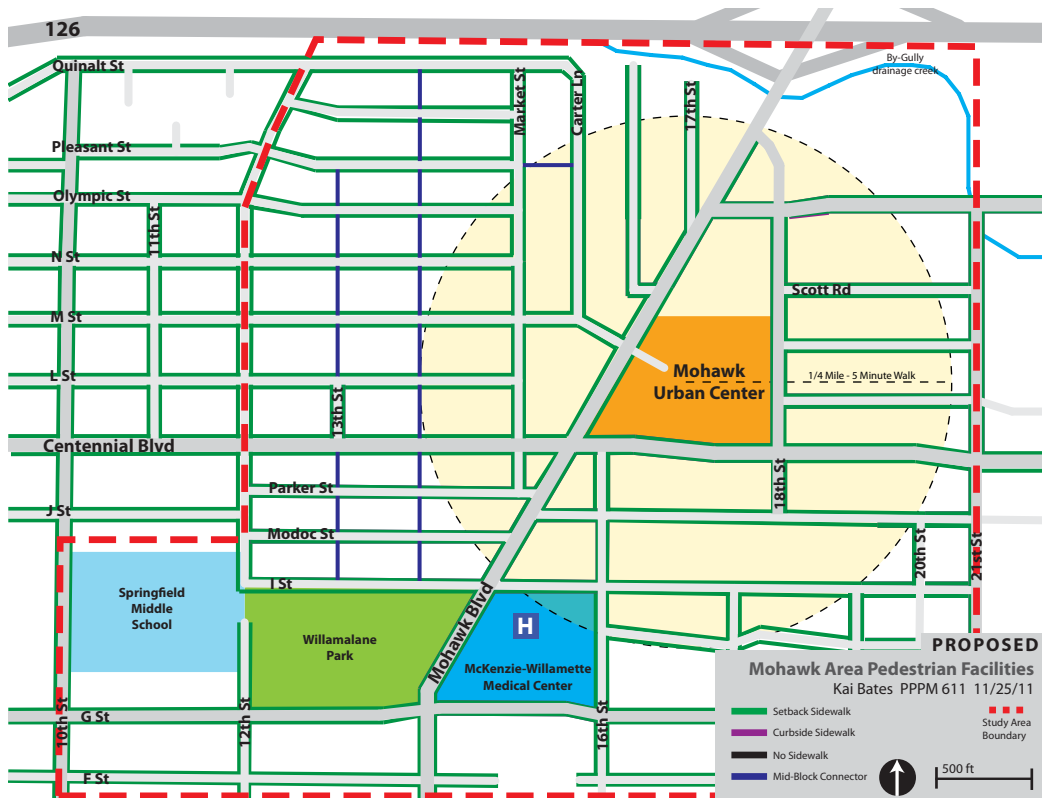


Figure 50: Mohawk District proposed sidewalk facilities.

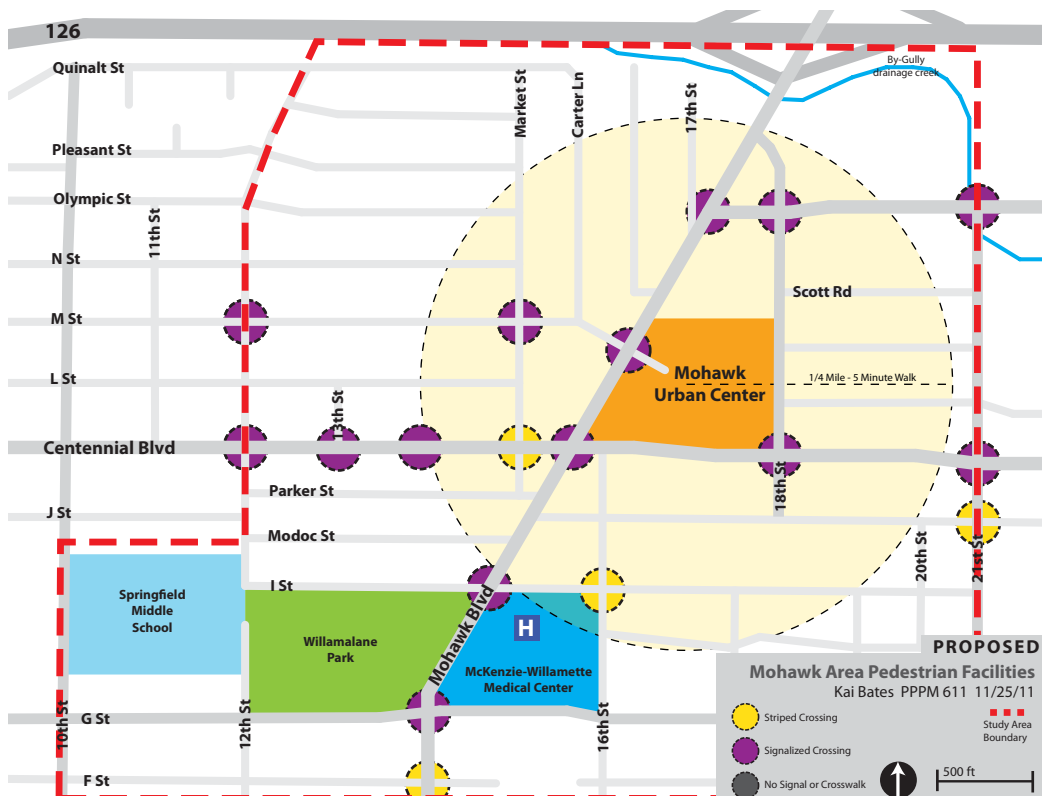


Figure 51: Mohawk District proposed intersection crossings.

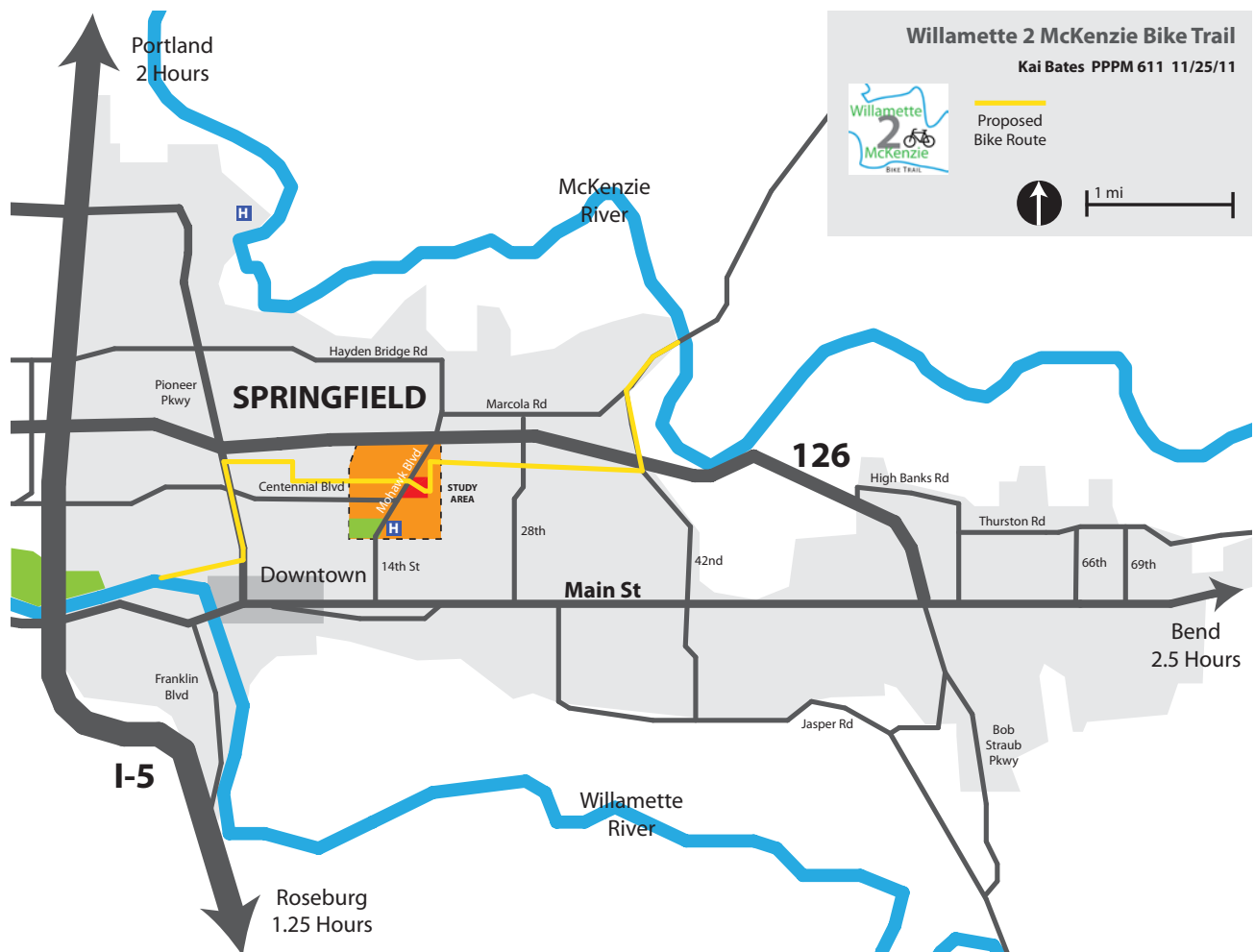


Figure 52: Willamette 2 McKenzie Bike Trail route.

Objective: Create Willamette 2 McKenzie Bike Trail.

With the new street connection, the new bicycle boulevards, and the By-Gully Trail extension completed, the city would then be ready to establish the proposed Willamette 2 McKenzie Bike Trail. This trail will provide a safe, on- and off-street, low-traffic route for cyclists to go from the Willamette River, across Springfield, through the Waremart Site, all the way to the McKenzie River for a total ride distance of five miles. As shown in Figure 52, this trail would begin in Alton Baker Park in Eugene, connect to the D Street bicycle boulevard in Springfield, continue along the Pioneer Parkway paved trail, cross the new section of the By-Gully trail, and follow a series of bicycle boulevards on 8th Street, M Street through the Waremart Site, up 18th Street, across Olympic Street, to the 42nd Street bike path, and would finally proceed down Marcola Street to the McKenzie River.

Action Items:

1. Identify existing streets, alleys, and paths to serve as the starting point of a trail system, linking existing parks and opens spaces. Focus street improvements on these existing areas.
2. Establish new green spaces and parks along Willamette 2 McKenzie Bike Trail east of 28th Street and along the Willamette River.
3. Develop signage for path.
4. Partner with Rails to Trails to redevelop parts of the proposed path along railroad tracks to the east of Mohawk District.
5. Achieve connectivity across Highway 126 by building a bicycle/pedestrian bridge connecting western residential neighborhoods of the Mohawk area with Q Street to the north of the site.
6. Redevelop the eastern edge of the Waremart Site to serve as both a connection point for the Willamette 2 McKenzie Bike Trail and as open space for the district residents.
7. Establish Willamette 2 McKenzie Bike Trail along newly designated cycling corridors to connect downtown Willamette riverfront trails with Springfield green space, the Mohawk District, and the McKenzie River with proper directional signage.

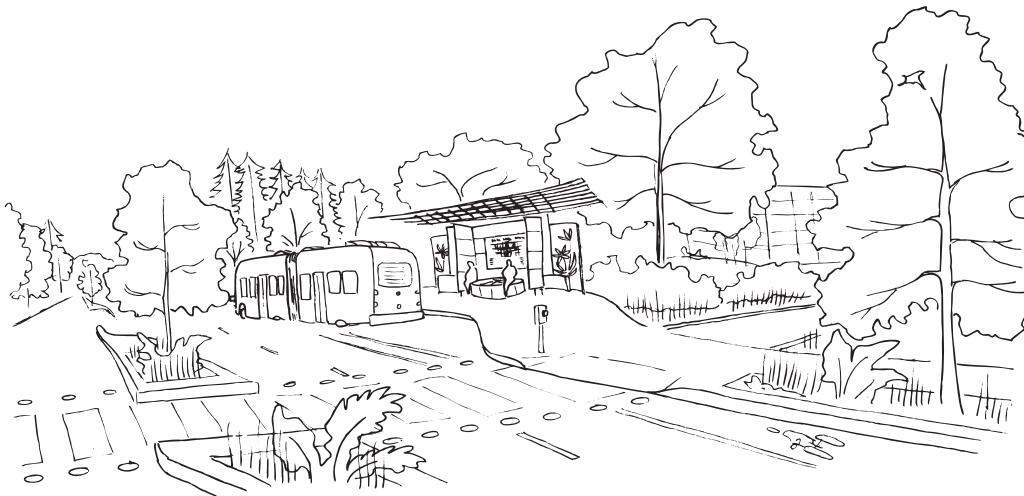


Figure 53: Proposed EmX station on Mohawk Boulevard.

Mass Transit

Future development within the Mohawk District hinges on forging better connections to the Eugene-Springfield MSA's public transit assets, and improving the comfort of public transit. To make existing bus routes more accessible and enjoyable to the public, we propose the city work with LTD to upgrade all of the bus stops within the Mohawk District to include covered shelters, bike parking, and trash cans.

Springfield, in coordination with LTD, will finalize Environmental Impact Statements and secure federal, state, and local funds for the proposed EmX bus rapid transit route through Mohawk.

Objective: Improve the Physical Quality of Existing Transit Stops.

According to the Victoria Transport Policy Institute, 10-30% of mass transit travel time is spent waiting at a stop or station. Improving the physical quality of transit stops can make mass transit more attractive, accessible, and safe for new and existing passengers. Transit stops that are uncomfortable, wet, dirty, or unsafe are deterrents to people who may otherwise use mass transit. The Federal Highway Administration notes: "Many features and amenities are available to improve a passenger's experience by creating a pleasant and safe environment to wait. Transit stops should be designed to make boarding and alighting easy and safe for passengers of all abilities." (Federal Highway Administration 2008)

Action Items (for the city and LTD):

- Provide clear, highly visible signage at transit stops.
- Increase the availability of seating at transit stops.
- Improve major transit stops surrounding the site (North/Olympic, West/Mohawk, South/Centennial) to provide shelter/cover from the elements. Most important in Springfield will be cover from the rain, but the city could also consider providing shade from the summer sun and shelter from cold winds.



Figure 54-56: Bus Stop Shelters (Source: <http://torontosavvy.me>, <http://commons.wikimedia.org> and Classic Recreation Systems, Inc., <http://torontosavvy.me>, <http://commons.wikimedia.org> and Classic Recreation Systems, Inc., <http://torontosavvy.me>, <http://commons.wikimedia.org> and Classic Recreation Systems, Inc.)

Objective: Improve the Safety of Transit Stops.

Safety and security issues, either real or perceived, may deter potential passengers from using mass transit. The following actions will improve the safety of transit stops. The city and LTD should also be sure future safety concerns at transit stops are taken seriously and dealt with in an appropriate manner.

Action Items:

- Set transit stops back from the road at a distance to protect passengers from traffic and road hazards such as splashing and debris.
- Provide pedestrian-scale lighting to improve visibility at and around transit stops.
- Provide protection from hazardous weather as discussed above.
- Consider video surveillance at major stops if threats to safety are reported.

These actions are compatible with Lane Transit District's draft Long-Range Transit Plan.

Objective: Improve Pedestrian and Bike Access to Transit Stops from Surrounding Residential Areas.

For people to use mass transit systems, they need to be able to access them. Transit routes currently circle the Waremart Site on Centennial Boulevard to the south, 21st Street to the east, Olympic Street to the north, and Mohawk Boulevard to the west. Ensuring access to these routes from the surrounding residential streets will be key to encouraging greater use of mass transit in the area.

Action Items:

- Implement street design elements for pedestrian and bike friendly streets as discussed elsewhere in this conceptual plan.
- Improve availability of safe street crossings near all transit stops.
- Install safe bicycle parking at or near transit stops that will not interfere with pedestrian movement along sidewalks. This bicycle parking could be installed in partnership with nearby businesses.

These actions are compatible with the LTD draft Long-Range Transit Plan, Section 5, Action 1.F: Coordinate with local governments to improve bicycle and pedestrian connections to LTD routes. Also, Action 2.F: Coordinate with local partners to ensure new transit system improvements include complementary improvements to bicycle and pedestrian infrastructure.

Waremart Site: Stormwater Management

Goal: Reduce Stormwater Runoff Into The City's Stormwater System

The built environment within the Mohawk District is characterized by impervious surfaces and auto-oriented retail. On the Waremart Site, stormwater infrastructure is unable to support peak flows during heavy rainfall. The City of Springfield relies on groundwater for much of its drinking water. To protect the area's water resources and to create an appealing physical environment for the public, we developed the following objective:

Objective: Manage Runoff within the Mohawk District and on the Waremart Site

The Mohawk District's stormwater system is currently at or near capacity. Redevelopment of the Waremart Site must carefully consider the impacts of further development on stormwater and groundwater infrastructure. We recommend the implementation of stormwater management strategies throughout the Mohawk District. As streetscapes are improved and new development occurs, policies can be developed to require new construction to employ tactics for water mitigation.

There are a number of mechanisms that can be applied to manage stormwater. Areas of vegetation provide shade, manage stormwater, and filter pollutants. They also offer a place in which people can congregate for recreation or relaxation. Bioswales and rain gardens are mechanisms that catch water and filter pollutants before water goes into storm drains or percolates into the ground. Green roofs detain water, do not take up additional lot space, and can reduce the heat island effect. Finally, rain barrels act as water catchment devices to help manage water flow and provide a water source for gardens.

We propose a reduction in the Waremart Site's impervious surfaces by at least 50 percent.



Figure 57: Bioswale in Atlanta.

Rain Gardens

A rain garden is a type of bio-retention facility that consists of native plants placed in shallow depressions to capture runoff from impervious surfaces (Parrott 2007). Rain gardens are a desired bio-retention system because of their effectiveness, but also because they are easy to construct once topography and soil types are understood, can be incorporated easily into existing developments, and improve the aesthetics of a site (Morzaria-Luna et al. 2004).

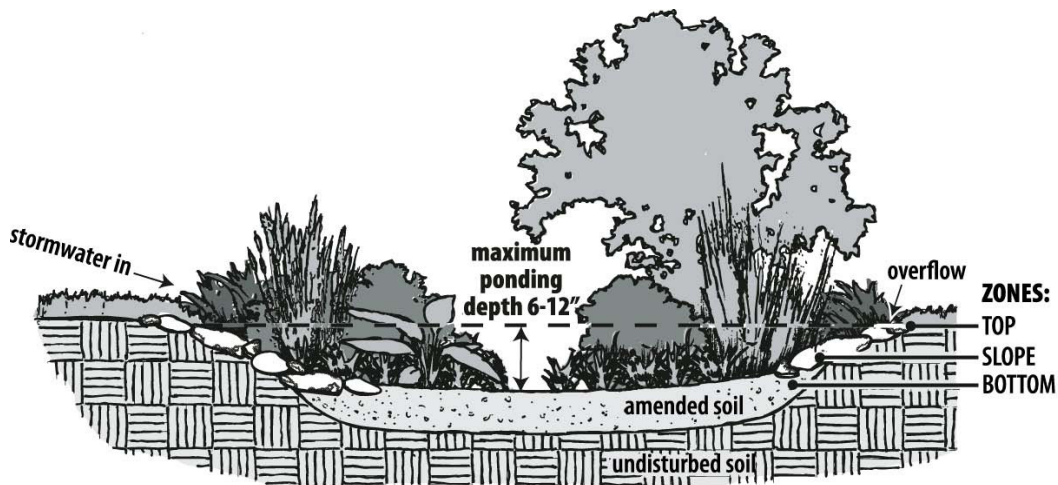


Figure 58: Cross-section of a rain garden. (Source: East Multnomah Soil and Water Conservation District)

Action Items:

- Increase the amount of landscaped and vegetated areas.
- Create bioswales and rain gardens on-site to capture water and allow for direct infiltration.
- Introduce water-harvesting technologies, such as large-scale rain barrels, to collect and store water for non-potable re-use on site (summer irrigation, toilet flushing, laundry, cooling).
- Build demonstration green roofs and employ them as a teaching tool.
- Develop an overflow drainage system to handle water flows from large storms, and in case of unforeseen drainage problems with the proposed infiltration system.
- Use permeable materials for parking areas.

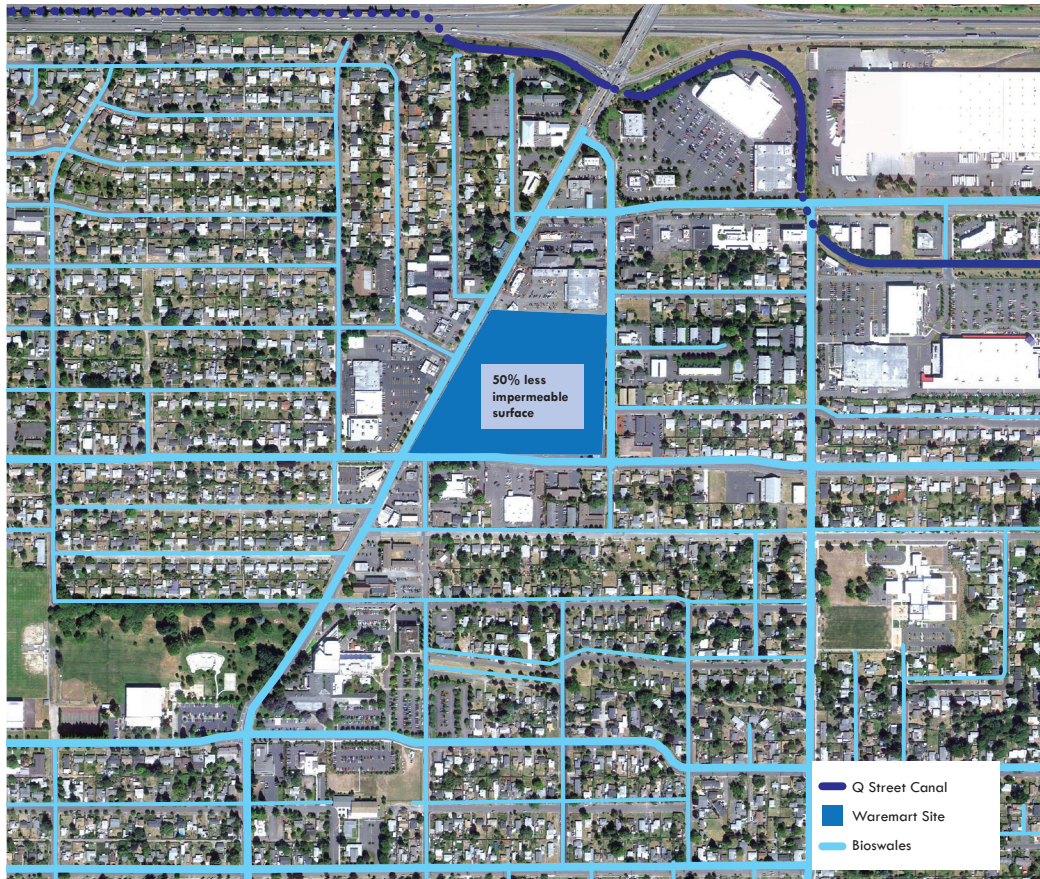


Figure 59: Stormwater management throughout the Mohawk District.

Implementation

Property owners should be involved in the design process for stormwater management techniques to increase personal investment in this program and to receive education on proper maintenance.

Ultimately, local design regulations will determine the suitability of Low Impact Development techniques. The SDC requires the development of stormwater management systems to implement the policies outlined in the City of Springfield Stormwater Management Plan and the Springfield Engineering Design Standards and Procedures Manual (City of Springfield 2011).

Mohawk District: Parks and Open Space

Goal: Expand Public Green Space Within The Mohawk District

Public spaces such as parks are valuable to a community because they provide places for social interaction and recreation. While strengthening communities, city parks and open spaces can also improve public health and make cities and neighborhoods more attractive places to live and work. According to a United Kingdom study of the built environment, 91% of the public believe public parks and open spaces improve quality of life, and 74% believe they are important to mental and physical well being (Commission for Architecture and the Built Environment 2009). Within the Mohawk District, there is a lack of open and public green spaces.

Objective: Create Easily Accessible Public Places.

Within the entire Mohawk District there is only one public green space: Willamalane Park. Residential areas within the District lack small neighborhood-scale parks. Easily accessible neighborhood parks are vital to a community as they provide opportunities to socialize with neighbors. By creating additional neighborhood parks within the Mohawk District, opportunities for social interaction will improve and neighborhoods will become more attractive places to live and work.

Action Item:

- Identify, develop, and transform underutilized public spaces into neighborhood parks.

Within the Mohawk District we have identified several city-owned properties with potential to become neighborhood parks. The recommendations listed below are sensitive to budgetary constraints, and emphasis has been placed on cost-effective strategies that yield the maximum benefit for the minimum public investment.

- 13th Street between L and M Street
- 13th Street between M and N Street
- H Street Median between 16th and 18th Streets
- Corner of 18th and H Streets

These four properties are publicly owned and currently vacant. A mix of amenities such as playgrounds, dog parks, and open green space would benefit all residents in the Mohawk District. Community gardens also have the potential to benefit residents and facilitate neighborhood interaction for a minimal investment. In addition to providing space for growing food, community gardens have been shown to reduce crime, preserve green space, educate children, and facilitate social interaction spanning family generations.



Figure 60: H Street Median Park.



Figure 61: Potential neighborhood park at 13th Street.

Mohawk District: Community and Identity

Goal: Use Civic Art, Signage, and Architecture and Tools For Establishing A Unique Sense of Place in The District

The pioneer spirit brought by the early settlers of Springfield lives on in the culture and attitudes of city residents. One of the most admirable features of Springfield is its determination to maintain its essential cohesion and sense of community. Throughout its long history, Springfield has found ways to overcome conflict and tragedy. For instance, when the Booth-Kelly Mill burned down in 1911, the community's economy was devastated (Dennis 1999). The people of Springfield, however, chose to stay and rebuild. Also, Springfield has successfully encouraged the idea that every community member can participate at some level of government. Ordinary men and women, such as blacksmiths, small business owners, bus drivers, and schoolteachers have been mayors and councilors. Each generation tries to make a better life for the next generation that follows.

Springfield can follow its long tradition of cooperation and community enhancement to stimulate economic growth and create a place where hard workers can make a good life for their families.

The ideas presented in this section represent techniques for enhancing the sense of identity and community in the larger Mohawk District. These techniques include signage, art, murals, and architectural design.

Civic Art and Signage

Civic art could make a valuable contribution toward building a sense of community and identity in the Mohawk District. Civic art could create a connection between new development and the historical and cultural identity of

Springfield. Springfield's Arts Commission would be an ideal partner for developing appropriate civic art for the site. Sculptures could make use of images of waterwheels, the industrial laborer, or early Oregon pioneers.

Wayfinding and branding are simple but critical examples of initiatives that can create a sense of place and identity for the surrounding community. Pedestrian-scaled wayfinding signage could be placed at intersections throughout the Mohawk District to designate bike and pedestrian routes between points of interest such as Springfield's Downtown Business District, the Mill Race, Willamalane Park, and the McKenzie-Willamette Medical Center.



Figure 62: Example of a sculpture honoring the industrial worker. (Source: impactphotos.com)

Commissioning community murals throughout the Waremart Site and Mohawk District could also foster district identity. These murals could depict scenes and resources of historic or geographic importance to the city of Springfield, such as the Oregon Trail, the Willamette and McKenzie Rivers, and the camas plant. The city could partner with local public schools and the Springfield Academy of Arts and Academics to have students create the murals. The murals would add color to new structures and alleviate drab design features on existing buildings within the Waremart Site.



Figure 63: Example of signage that helps to create identity in an area. (Source: www.greatstreets.org)

Gateway Treatments

Gateway treatments are an element of urban design that identify the significance of a place. They are usually located at the entrance to a neighborhood or district to signify an area is special and unique. Gateway treatments often use distinctive street design features, such as special signs, street lamps, prominent sidewalks, public art, and decorative street paving. Gateway treatments should be consistent throughout the Mohawk District to create a sense of place. This is particularly true on Mohawk Boulevard, which is the main thoroughfare running through the Mohawk District. Ideal locations for gateway treatments should be at the boundaries of a district along main corridors or boulevards. However, gateway treatments should not be limited to just the boundaries. Effective gateway treatments are important in placemaking and should be present throughout the district.



Figure 64: Mural example, depicting Oregon Trail. (Source: geographictravels.com)



Figure 65: Mural example, depicting Oregon Trail. (Source: advrider.com)



Architecture

The Waremart Site and larger Mohawk District present opportunities for the developer and the city to use architectural forms honoring the area's cultural heritage. Architectural styles for new or renovated buildings could make use of designs that reflect Springfield's early lumber mills and industrial buildings.

The historic industrial style is utilitarian in form and would complement the character of the surrounding neighborhood; single-family homes within the Mohawk District are primarily unadorned, utilitarian structures. Other anchor institutions and public buildings within the city (PeaceHealth RiverBend Hospital and Springfield's Department of Motor Vehicles office) have set a precedent for using an architectural style reminiscent of historic industrial architecture. These buildings, and others like them, demonstrate methods for tying an area's built form to its history and cultural character.



Figure 66-67: Examples of "mill style" architecture. (Source: impactphotos.com)

Goal: Establish Vibrant Community Gathering Spaces to Draw Community Members to Centralized Places in the District

Community Centers

Within the Mohawk District, there is a shortage of community gathering places. The places that currently exist cater to specific demographics rather than the population as a whole. As Springfield's cultural composition evolves, it is important to create places that are accessible to all members of the community. A community center can strengthen social bonds and the social health of the community as a whole. The central location of the Waremart Site makes it ideal for the development of a community center.



Figure 68: Gathering space. (Source: David Evers, 2003)

Action Items:

- Develop a community center on the Waremart Site to act as a center for the residents of the Mohawk District to come together as a neighborhood and discuss and guide the future of the district.
- Create public space by providing multiple public realms close to proposed new uses through the built environment, park areas, outdoor seating and dining, and integrated community rooms for rented use.
- Establish community events at the Waremart Site by using pedestrian-only areas for open-air markets, events, or outdoor movie showings.
- Facilitate a variety of community uses by creating space for a for-profit activity center.

Implementation

To garner support for a community center, a steering committee could be established by either the city or community organizations such as the Mohawk Business Association.



Pedestrian Mall

First popularized in the post-WWII era, neighborhood business districts contained a variety of specialized stores and offered a wide range of services. Changes to living and shopping patterns with an emphasis on automobile-oriented communities led to the rise of the shopping mall. Neighborhood and regional business districts like the Mohawk District were unable to keep pace with the new shopping centers. Vacancies began to occur and the business districts deteriorated gradually. Springfield is in need of an engaging, pedestrian-friendly center. Given the proximity to the surrounding neighborhoods and the business foundation of the district, the Waremart Site could be the answer.



Figure 69: Pedestrian malls. (Source: The Cultural Landscape Foundation)

Today, returning to a walkable, transit-friendly community is a necessary component in the larger effort to reduce our environmental impacts and carbon footprint, improve human health, and increase social interaction. Successful neighborhood commercial districts providing day-to-day needs are an essential element in fostering community cohesion and healthy neighborhoods.

Action Items:

- Create a pedestrian mall surrounded by businesses that cater to neighborhood residents' daily needs for goods and services.
- Create commercial spaces for existing businesses to retain a foothold in the local economy and allow existing businesses that are relocated during redevelopment to pay rent similar to previous expenses.
- Incorporate storefront windows to create a "passing trade" route and encourage window shopping and secondary business.
- Create pedestrian-only zones throughout the Waremart Site to improve connectivity between commercial spaces within the site and also to connect the site to surrounding neighborhoods.

Mohawk District: Economic Development

Goal: Spur Economic Development in the Mohawk District

The Mohawk District contains many underutilized resources. Its location along a primary corridor between downtown Springfield and Highway 126, the proximity to the Willamette-McKenzie Medical Center, and the extensive residential area to the west make the district ideally suited to accommodate several business centers. Springfield's history of determination and innovation is a resource that lies at the heart of the Mohawk District. Tapping into the skills of the residents requires an economic plan that celebrates this spirit while empowering the people who call the district home.

Employability is a major constraint throughout Springfield, especially given the lag in educational attainment compared to the surrounding region. The city needs to ensure that it develops an educated, capable workforce, specifically in the growing medical and service fields. While workforce development services exist elsewhere in Springfield, their location outside of the Mohawk District creates accessibility issues for many in need of services.

Objective: Develop a Small Business Incubator within the Mohawk District

According to the Bureau of Labor Statistics, only 49% of small businesses survive beyond the first five years (U.S. Department of Commerce n.d.). However, the National Business Incubator Association (NBIA) estimates that 80% of small businesses cultivated in an incubator continue to operate after the same period has elapsed (Knopp 2006). In 2005, North American incubation programs assisted more than 27,000 companies that provided employment for more than 100,000 workers and generated annual revenues of \$17 billion (Knopp 2006). In Oregon, the success of incubators is visible through the Business Enterprise Center in Corvallis, which boasts a 76% success rate having helped over 160 entrepreneurs reach their goal of business ownership (Business Incubation Center Inc. 2011).

A small business incubator is an organization of services designed to nurture start-up businesses. Incubators provide entrepreneurs security through technical, educational, and financial support. At the same time, an incubator brings new economic development into the community. The Mohawk District shows potential to benefit from the addition of a small business incubator. By encouraging small business development, such a facility can enhance the economy of the neighborhood.

Using a concept similar to that of Mercado La Paloma in the Esperanza Neighborhood of Los Angeles, a small-business incubator focusing on neighborhood retail, hospital support services, and restaurants can be developed to provide a place for local entrepreneurs to start businesses that will attract customers from the district and the surrounding area (Lum 2007).

Action Items:

- Dedicate a neighborhood workforce intermediary to act as coordinator between local residents and city partners. Time Frame: 1-5 years
- Create a Small Business Incubator within the Mohawk District. Time Frame: 2-10 years

To encourage the success of such a venture in the Mohawk District, we recommend the following:

- Clients sign first-source hiring agreements similar to the William M. Factory Small Business Incubator in Tacoma, WA.
- Agreements require that small-businesses consider unemployed neighborhood residents for available job openings.
- Market the area to draw patrons from the local and greater Eugene-Springfield residential markets.
- Ensure, through a mission statement, that products and services are sufficiently diverse to appeal to different, distinct markets in the greater Eugene-Springfield MSA.
- Provide regular events such as art shows, food fairs, and other events to showcase the neighborhood, as well as to provide an attractive venue for consumers.
- Locate the incubator in an area of high visibility.

Funding

A variety of funding options are available for the initial startup of an incubator. Incubators like Mercado La Paloma receive much of their startup funding through the state and the U.S. Economic Development Administration. Private donors provided the majority of the funding for the Business Enterprise Center in Corvallis. Once started, most incubators are financially self-sufficient and funding shifts from private or state sources to the small businesses themselves.

The Infrastructure Finance Authority oversees much of the state-level small business funding in Oregon. Nationwide, the U.S. Small Business Administration manages many of these programs, including:

- Community Express – An SBA pilot, 7(a) loan program for small businesses in low and moderate-income areas; collateral is not required for loans up to \$25,000.
- Microloan Program – Provides funds to nonprofit community-based lenders who distribute these funds as loans of up to \$35,000 to startup, newly established, or growing small business ventures.
- Patriot Express Pilot Loan Initiative – Provides financial assistance for veterans and members of the military community wanting to establish or expand small businesses.
- New Markets Venture Capital – A developmental venture capital program designed to promote economic development in low-income geographic areas.

Objective: Develop Additional Child Care Facilities within the Mohawk District

Nearly 40 percent of all households in the Mohawk District are single-parent households. Such a high number of this type of household will require a variety of child care facilities throughout the area. Currently, only two such facilities exist. Both facilities are private, and one is a faith-based preschool located on the Waremart Site.

According to 2010 research funded by the Cornell University Linking Economic Development and Child Care Project, the location and availability of child care can affect other community development goals and activities including smart growth initiatives, and addressing community child care needs in long-range planning documents and project reviews results in more family-friendly neighborhoods (Anderson and Dektar 2010). In studying the site and surrounding neighborhoods, we determined that the area would benefit from a cost-sensitive child care program for children under five.

Research indicates that single-parent households, particularly when the single parent is a woman, are the poorest of all major demographic groups (Garfinkel and McLanahan 1986). Often already suffering from cost burden, these parents cannot afford high-quality child care or after-school care for their children. Lack of quality child care has been found to contribute to low work performance of parents and delinquency in children, leading to a cycle of poverty and a permanent impoverished class (Norton and Glick 1986).

City partnerships can help overcome the financing challenges of improving local child care systems (Anderson and Dektar 2010).

Action Item:

- Create incentives to attract one or more cost-sensitive child care facilities to the district. Time Frame: 1-5 years

Conclusion

Springfield has long been a prosperous community with a rich cultural history. The city's geographic location provided its founders and generations of residents with an abundance of resources to build businesses, industries, and livelihoods. From the mid-1800s to the present day, the people of Springfield have demonstrated a strong work ethic and community spirit in response to social, economic, and environmental challenges.

Today, Springfield faces many development challenges. The larger area has seen a decline in the timber industry and traditional manufacturing, leaving the city with depressed wages and relatively high unemployment. The 2008 recession magnified many of these problems. The Waremart Site and Mohawk District stand as examples of the economic and social challenges faced by the city. Site analysis by the student teams uncovered opportunities and constraints for redevelopment at both geographic levels.

Student teams used Springfield's nodal development policy and smart growth principles to address the opportunities and constraints present in the community. The plans that the students developed were aimed at both the Waremart Site and the larger Mohawk District. Site-level plans were carefully designed to serve as catalysts for revitalizing the larger district. The teams developed a range of concepts for redevelopment. These concepts fell into three major categories: medical development, affordable housing, and light industrial. The concepts built mainly upon the existing economic strengths of the area, and sought to enhance the Mohawk District's strong sense of community. The teams collaborated with city officials, community groups, developers, and UO faculty to generate plans that were both creative and feasible.

The final products in this report were drawn from the more extensive documents created by each of the six graduate student teams. The information presented in this report sought to capture the best ideas presented by those teams and consolidate common themes in the work of each student group. We hope that these concepts serve as a template for developing a vibrant community where people from a range of socio-economic backgrounds can live and raise families, and where local residents have long-term employment opportunities and a range of transportation options.

Appendix A: Soil Information

6—Awbrig-Urban land complex

Map Unit Setting

Elevation: 90 to 1,300 feet Mean annual precipitation:

30 to 60 inches

Mean annual air temperature:

50 to 55 degrees F

Frost-free period: 160 to 235 days

Map Unit Composition

Awbrig and similar soils: 55 percent Urban land: 30 percent

Minor components: 8 percent

Description of Awbrig Setting

Landform: Stream terraces Landform position (three-

dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear

Parent material: Silty and

clayey alluvium derived

from mixed sources Properties and qualities Slope: 0 to 2 percent

Depth to restrictive feature: 5 to 12 inches to abrupt textural change

Drainage class: Poorly drained Capacity of the most limiting

layer to transmit water (Ksat): very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: About 0 to 11 inches

Frequency of flooding: Rare Frequency of ponding: None Available water capacity:

very low (about 1.4 inches) Interpretive groups

Land capability classification (irrigated): 4w

Land capability (nonirrigated): 4w Typical profile

0 to 7 inches: Silty clay loam

7 to 29 inches: Clay

29 to 60 inches: Silty clay loam

Description of Urban Land Interpretive groups

Land capability (nonirrigated): 8 Minor Components

Bashaw

Percent of map unit: 4 percent Landform: Terraces

Conser

Percent of map unit: 4 percent Landform: Steam terraces

32—Coburg-Urban land complex

Map Unit Setting

Elevation: 100 to 1,300 feet Mean annual precipitation:

30 to 60 inches

Mean annual air temperature:

50 to 55 degrees F

Frost-free period: 160 to 235 days

Map Unit Composition

Coburg and similar soils: 55 percent Urban land: 30 percent

Minor components: 4 percent

Description of Coburg Setting

Landform: Stream terraces Landform position (three-

dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear

Parent material: Loamy alluvium

over clayey alluvium Properties and qualities Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: About 18 to 30 inches

Frequency of flooding: None Frequency of ponding: None Available water capacity:

High (about 11.0 inches) Interpretive groups

Land capability classification (irrigated): 2w

Land capability (nonirrigated): 2w Typical profile

0 to 18 inches: Silty clay loam 18 to 53 inches: Silty clay

53 to 65 inches: Fine sandy loam

Description of Urban Land Interpretive groups

Land capability (nonirrigated): 8 Minor Components

Conser

Percent of map unit: 4 percent Landform: Stream terraces

76—Malabon-Urban land complex

Map Unit Setting

Elevation: 300 to 650 feet Mean annual precipitation:

40 to 60 inches

Mean annual air temperature:

52 to 54 degrees F

Frost-free period: 165 to 210 days

Map Unit Composition Malabon and similar

soils: 50 percent Urban land: 45 percent

Description of Malabon

Setting

Landform: Terraces Landform position (three-

dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear
Parent material: Silty

and clayey alluvium Properties and qualities Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Capacity of the most limiting

layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None Available water
capacity:

High (about 11.4 inches) Interpretive groups

Land capability classification (irrigated): 1

Land capability (nonirrigated): 1 Typical profile
0 to 12 inches: Silty clay loam 12 to 42 inches: Silty clay
42 to 60 inches: Clay loam
Description of Urban Land Interpretive groups
Land capability (nonirrigated): 8

101—Oxley-Urban land complex

Map Unit Setting

Elevation: 170 to 800 feet Mean annual precipitation:
40 to 60 inches

Mean annual air temperature:

50 to 54 degrees F

Frost-free period: 165 to 210 days

Map Unit Composition

Oxley and similar soils: 45 percent Urban land: 40 percent

Minor components: 5 percent

Description of Oxley Setting

Landform: Terraces Landform position (three-
dimensional): Tread Down-slope shape: Concave Across-slope shape: Concave
Parent material: Mixed

gravelly alluvium Properties and qualities Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high
(0.20 to 0.57 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None Frequency of ponding: None Available water
capacity:

Moderate (about 6.6 inches) Interpretive groups

Land capability classification (irrigated): 3w

Land capability (nonirrigated): 3w Typical profile

0 to 17 inches: Gravelly silt loam 17 to 23 inches:

Gravelly clay loam 23 to 41 inches: very

gravelly clay loam

41 to 60 inches: Extremely

gravelly sandy loam Description of Urban Land

Interpretive groups

Land capability (nonirrigated): 8

Minor Components Courtney

Percent of map unit: 5 percent Landform: Depressions

119—Salem-Urban land complex

Map Unit Setting

Elevation: 300 to 800 feet Mean annual precipitation:

40 to 60 inches

Mean annual air temperature:

52 to 54 degrees F

Frost-free period: 165 to 210 days

Map Unit Composition

Urban land: 45 percent

Salem and similar soils: 45 percent

Description of Salem Setting

Landform: Stream terraces Landform position (three-

dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear

Parent material: Gravelly

mixed alluvium Properties and qualities Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None Available water capacity:

Low (about 4.8 inches) Interpretive groups

Land capability classification (irrigated): 2s

Land capability (nonirrigated): 2s Typical profile

0 to 7 inches: Gravelly silt loam

7 to 26 inches: Gravelly clay loam 26 to 60 inches: very

gravelly sand

Description of Urban Land Interpretive groups

Land capability (nonirrigated): 8

Lane County Area, Oregon (OR637)			
Map Unit Symbol	Map Unit Name	Acres in District	Percent of District
6	<u>Awbrig</u> -Urban land complex	112.6	11.9%
32	<u>Coburg</u> -Urban land complex	411.3	43.4%
76	<u>Malabon</u> -Urban land complex	169.7	17.9%
101	<u>Oxley</u> -Urban land complex	65.3	6.9%
119	<u>Salem</u> -Urban land complex	190.1	20.0%
Totals for District		949.0	100.0%

Custom Soil Resource Report
 Map—Soil Taxonomy Classification (Mohawk Area Soil Taxonomy)

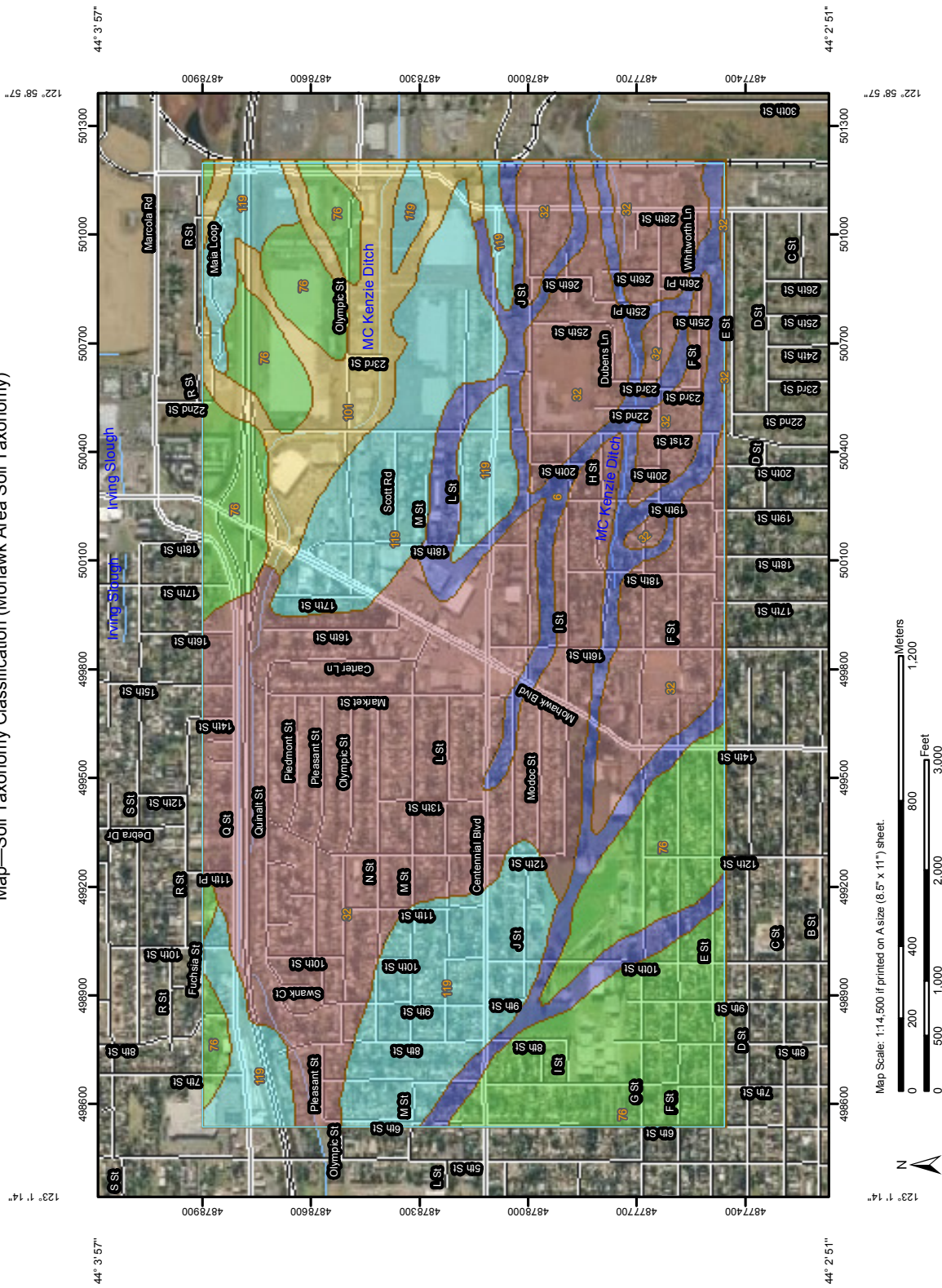


Figure 70: Soils within the Mohawk District. (Source: USDA Natural Resources Conservation Service)

Appendix B: Special Development Plan

Zone Map 1: Mohawk Special Development Plan (April 2008)

Residential Zones				Residential Zones			
Zones	Acres	Min. Units	Total Units	Zones	Acres	Max. Units	Total Units
LDR	194.8	6	1169	LDR	194.8	10	1948
MDR	1.1	12	13	MDR	1.1	20	22
HDR	12.3	25	308	HDR	12.3	30	369
MUR*	1.8	20	36	MUR*	1.8	20	36
MUC*	45.6	12	547	MUC*	45.6	12	547
TOTAL	255.6		2073	TOTAL	255.6		2922

Zone Map 2: Mid River Place Plan 1 (Max. Units Allowed per Residential Zone)

Residential Zones				Residential Zones			
Zones	Acres	Min. Units	Total Units	Zones	Acres	Max. Units	Total Units
LDR	181.8	6	1091	LDR	181.8	10	1818
MDR	1.1	12	13	MDR	1.1	20	22
HDR	12.3	25	308	HDR	12.3	30	369
MUR*	17.1	20	342	MUR*	17.1	20	342
MUC*	43.3	12	520	MUC*	43.3	12	520
TOTAL	255.6		2273	TOTAL	255.6		3071

Zone Map 3: Mid River Place Plan 2 (Min. Units Allowed per Residential Zone)

Residential Zones				Residential Zones			
Zones	Acres	Min. Units	Total Units	Zones	Acres	Max. Units	Total Units
LDR	127.3	6	763.8	LDR	127.3	10	1273
MDR	10.2	12	122.4	MDR	10.2	20	204
HDR	33.2	25	830	HDR	33.2	30	996
MUR*	44.3	20	886	MUR*	44.3	20	886
MUC*	40.6	12	487.2	MUC*	40.6	12	487.2
TOTAL	255.6		3089.4	TOTAL	255.6		3846.2

*No maximum allocated by Springfield Development Code

Source: City of Springfield. 2008. Mohawk Special Development Plan (April). GIS data provided by the University of Oregon Library

Appendix C: Walkable Streets Parameters

Table 6.4 Design Parameters for Walkable Urban Thoroughfares

Thoroughfare Design Parameters for Walkable Mixed-Use Areas									
	Suburban (C-3)						General Urban (C-4)		
	Residential			Commercial			Residential		
	Boulevard [1]	Avenue	Street	Boulevard [1]	Avenue	Street	Boulevard [1]	Avenue	Street
Context									
Building Orientation (entrance orientation)	front, side	front, side	front, side	front, side	front, side	front, side	front	front	front
Maximum Setback [2]	20 ft.	20 ft.	20 ft.	5 ft.	5 ft.	5 ft.	15 ft.	15 ft.	15 ft.
Off-Street Parking Access/Location	rear, side	rear, side	rear, side	rear, side	rear, side	rear, side	rear	rear, side	rear, side
Streetside									
Recommended Streetside Width [3]	14.5–16.5 ft.	14.5 ft.	11.5 ft.	16 ft.	16 ft.	15 ft.	16.5–18.5 ft.	14.5 ft.	11.5 ft.
Minimum sidewalk (throughway) width	6 ft.	6 ft.	6 ft.	6 ft.	6 ft.	6 ft.	8 ft.	6 ft.	6 ft.
Pedestrian Buffers (planting strip exclusive of travel way width) [3]	8 ft. planting strip	6–8 ft. planting strip	5 ft. planting strip	7 ft. tree well	6 ft. tree well	6 ft. tree well	8 ft. planting strip	8 ft. planting strip	6 ft. planting strip
Street Lighting	For all thoroughfares in all context zones, intersection safety lighting, basic street lighting, and pedestrian-scaled lighting is recommended. See Chapter 8 (Streetside Design Guidelines) and Chapter 10 (Intersection Design Guidelines).								
Traveled Way									
Target Speed (mph)	25–35	25–30	25	25–35	25–35	25	25–35	25–30	25
Number of Through Lanes [5]	4–6	2–4	2	4–6	2–4	2	4–6	2–4	2
Lane Width [6]	10–11 ft.	10–11 ft.	10–11 ft.	10–12 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.
Parallel On-Street Parking Width [7]	7 ft.	7 ft.	7 ft.	8 ft.	7–8 ft.	7–8 ft.	7 ft.	7 ft.	7 ft.
Min. Combined Parking/Bike Lane Width	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.
Horizontal Radius (per AASHTO) [8]	200–510 ft.	200–330 ft.	200 ft.	200–510 ft.	200–510 ft.	200 ft.	200–510 ft.	200–330 ft.	200 ft.
Vertical Alignment	Use AASHTO minimums as a target, but consider combinations of horizontal and vertical per AASHTO Green Book.								
Medians [9]	4–18 ft.	Optional 4–16 ft.	None	4–18 ft.	Optional 4–18 ft.	None	4–18 ft.	Optional 4–16 ft.	None
Bike Lanes (min./preferred width)	5 ft./6 ft.	5 ft./6 ft.	5 ft./6 ft.	5 ft./6 ft.	5 ft./6 ft.	5 ft./6 ft.	5 ft./6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.
Access Management [10]	Moderate	Low	Low	High	Moderate	Low	Moderate	Low	Low
Typical Traffic Volume Range (ADT) [11]	20,000–35,000	1,500–25,000	500–5,000	20,000–50,000	1,500–35,000	1,000–10,000	10,000–35,000	1,500–20,000	500–5,000
Intersections									
Roundabout [12]	Consider urban single-lane roundabouts at intersections on avenues with less than 20,000 entering vehicles per day, and urban double-lane roundabouts at intersections on boulevards and avenues with less than 40,000 entering vehicles per day.								
Curb Return Radii/Curb Extensions and Other Design Elements	Refer to Chapter 10 (Intersection Design Guidelines)								

Table 6.4 Notes:

- Multway boulevards are a special form of boulevards. Generally they add one-way, 16–20 foot wide access lanes adjacent to the outer curb and separated from the through traffic lanes by a longitudinal island at least 6 ft. wide (10 ft. if accommodating transit stops). Access lanes have curb parallel parking plus one moving traffic/bike lane with a target speed of 15–20 mph. All vehicular traffic on the access lanes is local. See Chapter 6 section on multiway boulevards for additional information.
- For all context zones with predominantly commercial frontage, this table shows the maximum setback for buildings with ground floor retail. In suburban contexts, office buildings are typically set back 5 ft. further than retail buildings to provide a privacy buffer. In general urban and urban center/core areas, office buildings are set back 0–5 ft. Setback exceptions may be granted for important civic buildings or unique designs.
- Streetside width includes edge, furnishing/planting strip, clear throughway, and frontage zones. Refer to Chapter 8 (Streetside Design Guidelines) for detailed description of sidewalk zones and widths in different context zones and on different thoroughfare types. Dimensions in this table reflect widths in unconstrained conditions. In constrained conditions streetside width can be reduced to 12 ft. in commercial areas and 9 ft. in residential areas (see Chapter 5 on designing within constrained rights of way).
- Desired target speeds on avenues serving C–4 and C–5/6 commercial main streets with high pedestrian activity should be 25 mph.
- Six lane facilities are generally undesirable for residential streets because of concerns related to neighborhood livability (i.e., noise, speeds, traffic volume) and perceptions as a barrier to crossing. Consider a maximum of four lanes within residential neighborhoods.
- Lane width (turning, through and curb) can vary. Most thoroughfare types can effectively operate with 10–11 ft. wide lanes, with 12 ft. lanes desirable on higher speed transit and freight facilities. Chapter 9 (Traveled Way Design Guidelines) (lane width section) identifies the considerations used in selecting lane widths. Curb lane width in this report is measured to curb face unless gutter pan/catch basin inlets do not accommodate bicycles, then it is measured from the edge of travel lane. If light rail transit or streetcars are to be accommodated in a lane with motor vehicles, the minimum lane width should be the

Table 6.4 Design Parameters for Walkable Urban Thoroughfares (continued)

Thoroughfare Design Parameters for Walkable Mixed-Use Areas									
	General Urban (C-4)			Urban Center/Core (C-5/6)					
	Commercial			Residential			Commercial		
	Boulevard [1]	Avenue	Street	Boulevard [1]	Avenue	Street	Boulevard [1]	Avenue	Street
Context									
Building Orientation (entrance orientation)	front	front	front	front	front	front	front	front	front
Maximum Setback [2]	0 ft.	0 ft.	0 ft.	10 ft.	10 ft.	10 ft.	0 ft.	0 ft.	0 ft.
Off-Street Parking Access/Location	rear, side	rear, side	rear, side	rear	rear	rear, side	rear	rear	rear, side
Streetside									
Recommended Streetside Width [3]	19 ft.	16 ft.	16 ft.	21.5 ft.	19.5 ft.	16 ft.	21.5 ft.	19.5 ft.	16 ft.
Minimum sidewalk (throughway) width	8 ft.	6 ft.	6 ft.	10 ft.	9 ft.	6 ft.	10 ft.	9 ft.	6 ft.
Pedestrian Buffers (planting strip exclusive of travel way width) [3]	7 ft. tree well	6 ft. tree well	6 ft. tree well	7 ft. tree well	6 ft. tree well	6 ft. tree well	7 ft. tree well	6 ft. tree well	6 ft. tree well
Street Lighting	For all thoroughfares in all context zones, intersection safety lighting, basic street lighting, and pedestrian-scaled lighting is recommended. See Chapter 8 (Streetside Design Guidelines) and Chapter 10 (Intersection Design Guidelines).								
Traveled Way									
Target Speed (mph)	25–35	25–30 [4]	25	25–35	25–30	25	25–35	25–30 [4]	25
Number of Through Lanes [5]	4–6	2–4	2–4	4–6	2–4	2–4	4–6	2–4	2–4
Lane Width [6]	10–12 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.	10–11 ft.
Parallel On-Street Parking Width [7]	8'	7–8 ft.	7–8 ft.	7 ft.	7 ft.	7 ft.	8 ft.	8 ft.	7–8 ft.
Min. Combined Parking/Bike Lane Width	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.	13 ft.
Horizontal Radius (per AASHTO) [8]	200–510 ft.	200–330 ft.	200 ft.	200–510 ft.	200–330 ft.	200 ft.	200–510 ft.	200–330 ft.	200 ft.
Vertical Alignment	Use AASHTO minimums as a target, but consider combinations of horizontal and vertical per AASHTO Green Book.								
Medians [9]	4–18 ft.	Optional 4–18 ft.	None	4–18 ft.	Optional 4–16 ft.	None	4–18 ft.	Optional 4–18 ft.	None
Bike Lanes (min./preferred width)	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.	5 ft. / 6 ft.
Access Management [10]	High	Low–Moderate	Low–Moderate	Moderate	Low–Moderate	Low–Moderate	High	Low–Moderate	Low–Moderate
Typical Traffic Volume Range (ADT) [11]	15,000–50,000	1,500–30,000	1,000–15,000	15,000–30,000	1,500–20,000	500–5,000	15,000–40,000	1,500–30,000	1,000–15,000
Intersections									
Roundabout [12]	Consider urban single-lane roundabouts at intersections on avenues with less than 20,000 entering vehicles per day, and urban double-lane roundabouts at intersections on boulevards and avenues with less than 40,000 entering vehicles per day.								
Curb Return Radii/Curb Extensions and Other Design Elements	Refer to Chapter 10 (Intersection Design Guidelines)								

- width of the transit vehicle plus 1 ft. of clearance on either side. Most modern streetcars or light rail vehicles (LRT) can be accommodated in an 11 or 12 ft. wide lane but designers need to consider the LRT vehicle's "dynamic envelope" when designing on horizontal curves and intersections.
- An 8 ft. wide parking lane is recommended in any commercial area with a high turnover of parking.
 - For guidance on horizontal radius—see AASHTO's "green book" section on "Minimum Radii for Low Speed Urban Streets—Sharpest Curve Without Superelevation." Dimensions shown above are for noted target speeds and are found on Exhibit 3–16 (Page 151) in *A Policy on Geometric Design of Highways and Streets* (2004), assuming a superelevation of –2.0 percent reflecting typical cross slope. Depending on design vehicle, horizontal curves may require lane widening to accommodate large vehicle off-tracking. See AASHTO's section on "Traveled Way Widening on Horizontal Curves" for guidance.
 - See also Chapter 9 for additional detail on medians. For curb to curb intersection crossing distances of 60 ft. or more, medians should be at least 6 ft. wide to serve as a pedestrian refuge, otherwise the median should be at least 4 ft. wide. Where left turn lanes are to be provided, median widths should be increased by the width of the turn lane(s). Where left turn lanes are not needed (e.g., long blocks) median widths may be as little as 4 ft.
 - Access management involves providing (i.e., managing) access to land development in such a way as to preserve safety and reasonable traffic flow on public streets. Low, moderate and high designations are used for the level of access restrictions. A high level of access management uses medians to restrict mid-block turns, consolidate driveways and control the spacing of intersections. A low level of access management limits full access at some intersections, but generally uses minimal measures to restrict access.
 - These ranges of typical traffic volumes are intended to help determine the characteristics of thoroughfares. Volumes can fluctuate widely on all thoroughfare types. These ranges are not intended to establish guidelines or upper bounds for designing thoroughfares.
 - Double-lane roundabouts are not recommended in urban areas with high levels of pedestrians and bicyclists.

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