

Pedestrian and Bicycle Facilities Master Plan

Valley Center, Kansas

April 2013





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Pedestrian and Bicycle Facilities Master Plan Steering Committee

William Christian, Wichita Area Metropolitan Planning Organization
Ronald Colbert Sr., Valley Center Planning Commission
Terry Ishman, Valley Center City Council
Mike Kelsey, Professional Engineering Consultants
Shelly Kirkpatrick, Resident-at-Large
Mary Moon, Valley Center Park and Tree Board
Neal Owings, Valley Center Parks and Public Buildings Department
Warren Utecht, Valley Center Community Development Department
Matt Vogt, Valley Center Police Department
Rick White, Unified School District 262

Core Planning Team

Richard Dunn, Valley Center Public Works Superintendent
Mark Hephner, Valley Center Police Chief
Neal Owings, Valley Center Parks and Public Buildings Superintendent
Joel Pile, Valley Center City Administrator
Warren Utecht, Valley Center Community Development Director
Mike Kelsey, Professional Engineering Consultants
Scott Dunakey, Professional Engineering Consultants
Ben Mabry, Professional Engineering Consultants
Mitch Coffman, Professional Engineering Consultants





APPROVAL

The Valley Center Pedestrian and Bicycle Facilities Master Plan was adopted by the Valley Center City Council on April 16, 2013. On May 7, 2013, Valley Center City Council approved the inclusion of Wetland Park Trail into the Valley Center Pedestrian and Bicycle Facilities Master Plan. This Plan includes the trail around Wetland Park to reflect City Council action.



EXECUTIVE SUMMARY

What is the purpose of the Master Plan?

Providing choice in how to travel throughout Valley Center is a priority. Residents desire the opportunity to walk or bike to get to school, work, shopping, and other destinations. The Pedestrian and Bicycle Facilities Master Plan focuses on providing safe and efficient connections throughout Valley Center. The Plan identifies priority corridors for pedestrian and bicycle facilities. It also recommends changes to codes and regulations to ingrain the priority of providing opportunities to walk and bike.

What are the benefits of ped/bike facilities?

Valley Center residents and business realize the benefits of providing safe and convenient walking and biking facilities. The benefits are not just limited to those that walk or bike. The benefits include:

- Improved health and well-being
- Reduced costs for transportation
- Reduced crashes
- Increased convenience
- Improved vehicular travel and reduced congestion
- Reduced energy consumption
- Improved local economy
- Improved access to education and employment
- Increased home values

Why do we need ped/bike facilities?

The population of Valley Center is growing, as is the proportion of the population that cannot drive. The young and old often rely on alternative modes of transportation because they cannot drive. Safe and convenient walking and biking options can provide this growing population a means of getting around Valley Center and maintain independence.

The need for walking and biking options was also expressed in a 2010 citizen survey. The results showed that sidewalks and pathways were the second highest priority.

The Plan focuses on developing a pedestrian and bicycle network that makes connections to major destinations. Connecting our homes to schools, employment centers, shopping, parks, recreation, places of worship, and community services will offer a true alternative means of transportation throughout Valley Center.

What current facilities do we have?

Valley Center currently has 14.5 miles of sidewalk, most of which are in good condition. However, there are areas that need improvement. Proper maintenance of the existing and future facilities is a priority of the Plan.

The current network provides an excellent starting point from which to build. The Plan recommends filling in gaps and expanding the network to provide increased connectivity and safety for all users.

There are also accompanying elements, such as crosswalks, signs, benches, and lighting. Many of these elements are present. As new facilities are built, accompanying elements should also be incorporated.

Who uses the facilities?

There are many different users of the network from the young to the old. Many school-aged children use the network to get to and from school. It is important to take all users into account when planning for and building facilities. The different types of users bring different experience and comfort levels. Accounting for the safety of all users is a top priority.

What are the challenges & opportunities?

Developing a safe and connected pedestrian and bicycle network is not without challenges. Barriers such as heavily traveled roads, railroads, and rivers can hinder connections and pose safety issues for crossings. Safe crossings can be developed, while limiting the number of crossings. Funneling traffic to a limited number of crossings can save money and provide safe and convenient connections.

Funding construction and maintenance can be a challenge, as Valley Center has many other priorities. Local funds can be made available for construction and maintenance of the facilities. The local funds can also be used to leverage other funding sources to stretch the limited local money.

Attitudes about walking and biking can pose a challenge. There are individuals that do not think it is necessary to develop a safe and well-connected network. However, a local survey has shown that Valley Center does desire pedestrian and bicycle facilities. The Plan offers recommended facilities to meet the community desires. It also identifies options to define responsibilities for constructing and maintaining facilities.



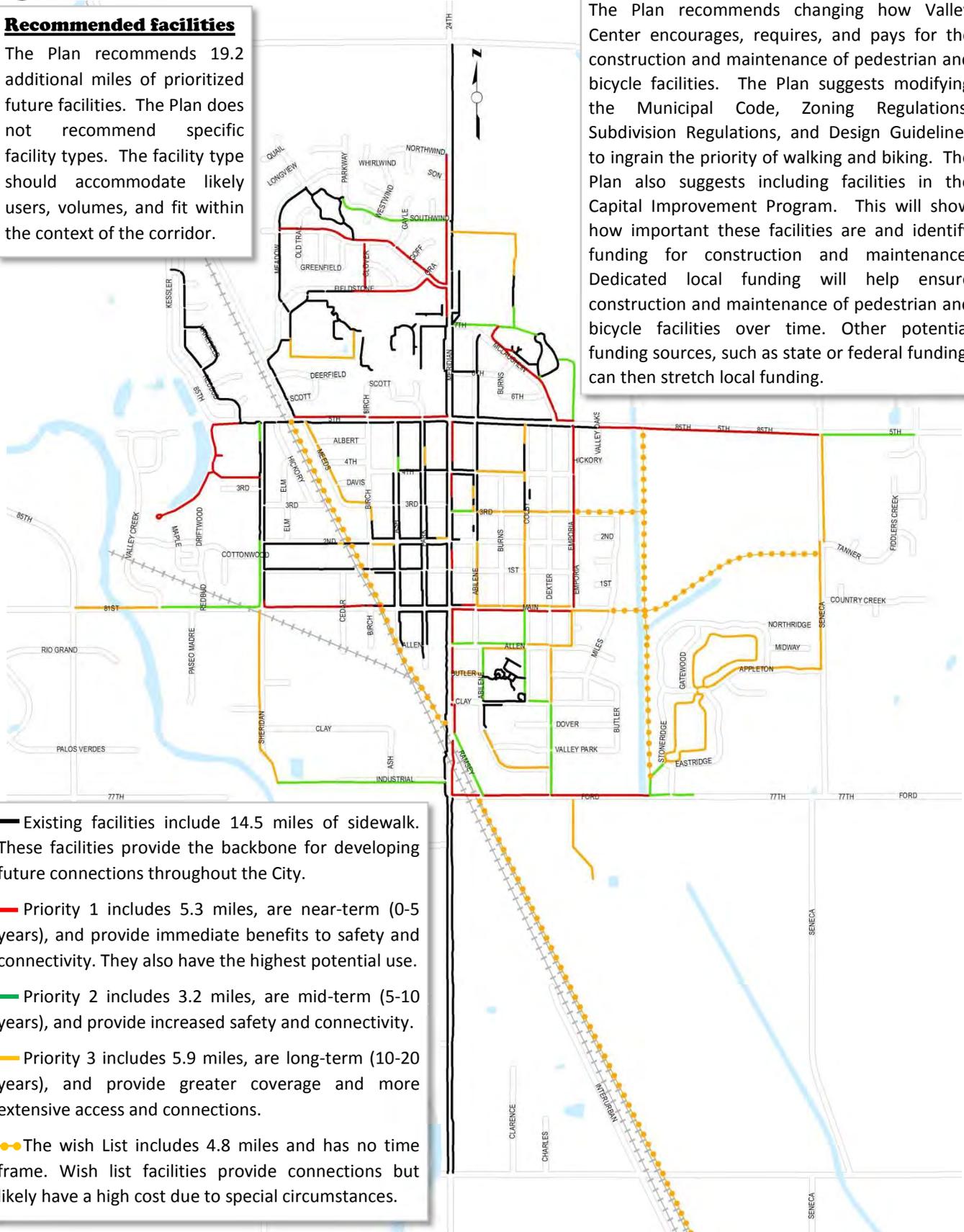
EXECUTIVE SUMMARY

Recommended facilities

The Plan recommends 19.2 additional miles of prioritized future facilities. The Plan does not recommend specific facility types. The facility type should accommodate likely users, volumes, and fit within the context of the corridor.

Changes to codes and regulations

The Plan recommends changing how Valley Center encourages, requires, and pays for the construction and maintenance of pedestrian and bicycle facilities. The Plan suggests modifying the Municipal Code, Zoning Regulations, Subdivision Regulations, and Design Guidelines to ingrain the priority of walking and biking. The Plan also suggests including facilities in the Capital Improvement Program. This will show how important these facilities are and identify funding for construction and maintenance. Dedicated local funding will help ensure construction and maintenance of pedestrian and bicycle facilities over time. Other potential funding sources, such as state or federal funding, can then stretch local funding.



- Existing facilities include 14.5 miles of sidewalk. These facilities provide the backbone for developing future connections throughout the City.
- Priority 1 includes 5.3 miles, are near-term (0-5 years), and provide immediate benefits to safety and connectivity. They also have the highest potential use.
- Priority 2 includes 3.2 miles, are mid-term (5-10 years), and provide increased safety and connectivity.
- Priority 3 includes 5.9 miles, are long-term (10-20 years), and provide greater coverage and more extensive access and connections.
- The wish List includes 4.8 miles and has no time frame. Wish list facilities provide connections but likely have a high cost due to special circumstances.



INTRODUCTION

Valley Center desires to offer its citizens and visitors the opportunity to bike and walk throughout the City. Providing pedestrian and bicycle facilities in certain locations can help people safely and conveniently walk or bike to work, school, shopping, or for recreational purposes. The Valley Center Pedestrian and Bicycle Facilities Master Plan is a guide for the development and implementation of a future pedestrian and bicycle network.

The Master Plan was developed by the City of Valley Center and guided by a steering committee. The committee was made up of stakeholders from the community who believe it is important to plan for and prioritize future pedestrian and bicycle facilities. More importantly, the committee saw the value in changing the culture of walking and biking in Valley Center. Changing City codes and regulations can engrain the importance of providing pedestrian and bicycle facilities as well as how improvements are funded and who is responsible for constructing and maintaining the facilities.



The need to increase pedestrian and bicycle facilities is being driven by the desires of the community. Sidewalk/walking path repair and construction was the second highest priority based on a 2012 public opinion survey of ways to strengthen and promote economic development. The survey results show that Valley Center truly values pedestrian and bicycle facilities.

Adding to the support of the community, the aging population is bringing about the need to provide travel options for citizens that are unable to drive. The number of children is also growing, which is increasing the number of people that cannot drive. There are also those who would like the option to walk or bike in addition to those who cannot drive. The changing demographics of Valley Center and the desires of the community show an increased demand for walking and biking.

The Master Plan focuses on walking and biking as a true transportation option. Not only is it important to provide travel options beyond personal vehicles, there is also more state and federal money that is available for transportation infrastructure. Using local revenues to leverage additional resources can stretch the limited local resources.

BENEFITS OF A PEDESTRIAN AND BICYCLE NETWORK

Investing in pedestrian and bicycle facilities has many benefits. From providing alternative travel options to improving the health of residents, pedestrian and bicycle facilities are proven to be a vital component of cities around the world. Numerous studies have shown the positive health benefits of providing options for incorporating exercise into our commutes. Improving health leads to lower costs for health care and medications. Pedestrian and bicycle facilities provide:

- Options for people to walk or bicycle safely and conveniently to local destinations.
- Safe routes for children to walk or bicycle to school.
- Reduced costs for traveling due to decreased vehicle operating and maintenance costs.
- Reduced costs for maintenance, construction, and operating roads due to less vehicular traffic.
- Reduced crashes which reduce repair costs, insurance costs, and emergency response budgets.
- Increased convenience, comfort, safety, accessibility, and enjoyment for pedestrians and bicyclists.



- Reduced healthcare costs.
- Increased options for traveling, especially for the economically, socially, and physically disadvantaged.
- Improved non-motorized travel due to reduced vehicular travel.
- Reduced fossil fuel use.
- Transportation and recreation options.
- Close to home recreation.
- Educational opportunities by identifying natural resources through interpretive signage.

'Walking is a form of exercise accessible to just about everybody. It's safe, simple and doesn't require practice. And the health benefits are many.'
Mayo Clinic staff

The benefits of providing a good pedestrian and bicycle network not only benefit those that choose to walk or bike. Pedestrian and bicycle facilities provide the entire community:

- A community asset that can attract home buyers and generate economic activity.
- Improved vehicular travel and reduced congestion due to fewer cars on the road.
- Reduced chauffeuring responsibilities, especially for guardians of children and those that take care of the elderly.
- Reduced energy consumption which helps the environment and economy.
- Improved air quality, water quality, and habitat for wildlife.
- Reduced air, noise, and water pollution.
- Reduced parking problems.
- Improved local economy by shifting spending from vehicles and fuel to goods with more regional economic value.
- Improved access to education and employment, especially for the disadvantaged.
- Deterred land consumption and preserving open space and agriculture by promoting compact development.
- Increased real property values and tourism.

A recently completed study by Visioneering Wichita focused on responding to a changing economy. With more home-based businesses and telecommuting, people are able to choose where they live and are not tied to living near the traditional place of work. Attracting highly skilled and highly educated individuals by providing a high quality of life can help areas grow. Developing pedestrian and bicycle facilities add to the quality of life in our community and help attract new residents.

All of the potential benefits of having a robust pedestrian and bicycle network have interested Valley Center for a long time. Valley Center has invested time and money in planning for and building a pedestrian and bicycle network. The Master Plan is another effort in a long series of investments in developing a well-connected network of pedestrian and bicycle facilities.

'Walking to work is a great way to incorporate exercise into a daily routine. In addition to the health benefits, walking helps protect the environment by reducing air pollution from car trips. Furthermore, studies have shown that walking to work improves employees overall attitude and morale and reduces stress in the workplace.'
Kansas Health Matters



BACKGROUND

Valley Center has developed a network of pedestrian and bicycle facilities to accommodate walking and biking trips and to achieve many of the benefits identified in the previous section. The major focus of developing the infrastructure has been to provide school children with the opportunity to safely walk or bike to and from school. This network of sidewalks provides a great backbone of infrastructure to build upon. The existing network allows citizens and visitors to walk and bike safely and efficiently throughout much of the City. However, there are gaps in the network and places where facilities are needed.

In 2006, Valley Center developed a Safe Routes to School (SRTS) Plan. This SRTS Plan assesses school children's use of bicycle and pedestrian facilities and lays out an action plan for implementing bicycle and pedestrian safety improvements. The SRTS Plan sets a good foundation for pedestrian and bicycle planning. The SRTS Plan along with this Master Plan should be used to help leverage state or federal resources.



PURPOSE OF THE MASTER PLAN

Valley Center is planning for the future of bicycle and pedestrian facilities. This Master Plan sets the framework for investing in the network of bicycle and pedestrian facilities. The vision set forth by the Master Plan is that Valley Center will be a place where people have safe and convenient walking and bicycling options for transportation, recreation, and health. Our transportation system will be designed to encourage walking and bicycling, and will provide a seamless, balanced, and barrier-free network for all.

The main goal of the Master Plan is to increase the use of the pedestrian and bicycle network in Valley Center. In order to increase the use, certain aspects of the network and how it functions need to be addressed. The most important aspect of pedestrian and bicycle facilities is that they must connect people from where they are to where they want to go. In providing these connections, the facilities must be safe and the network's users must feel safe.



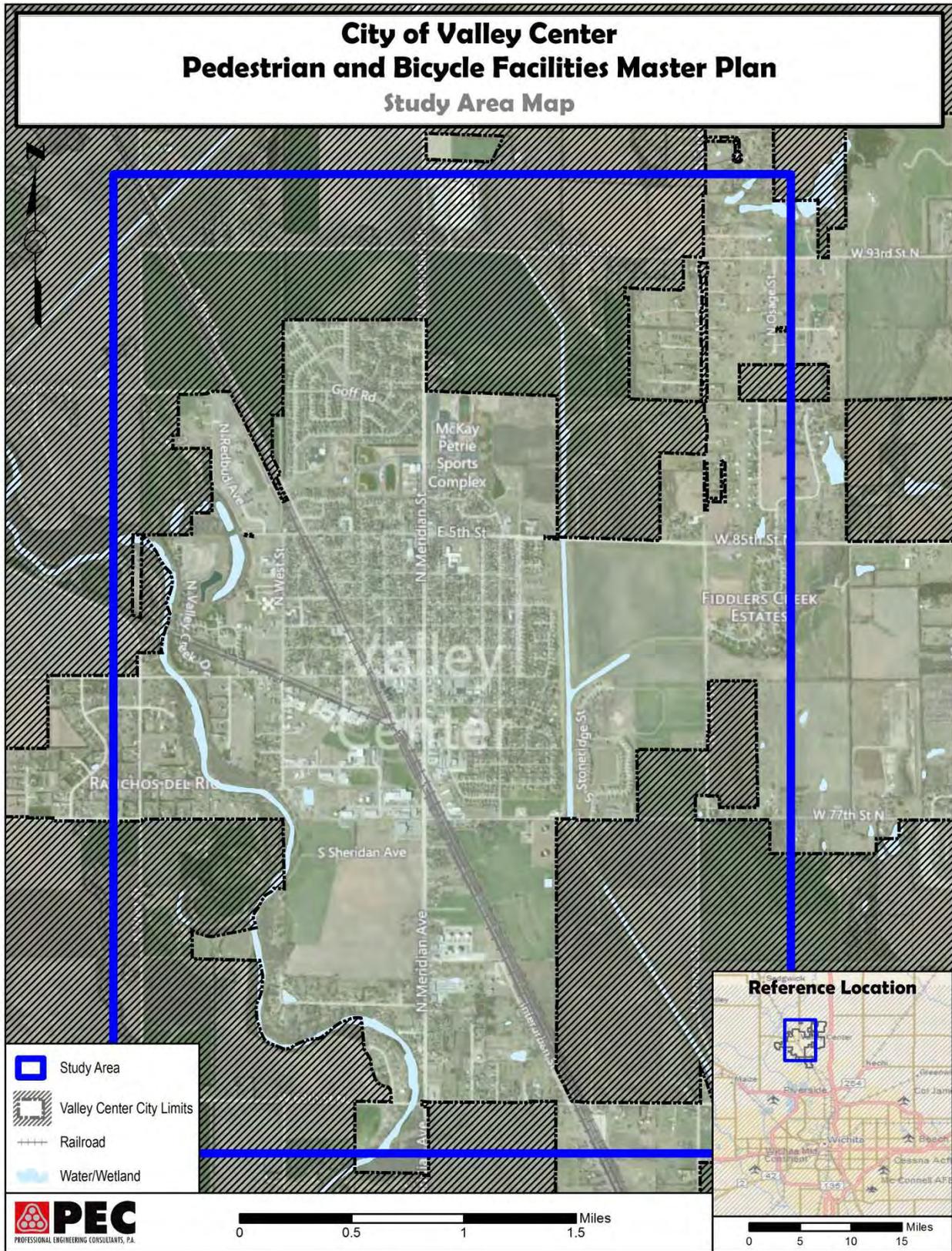
To increase use of the network, new facilities should be built to connect where people are to where they want to go. Connectivity of current and future infrastructure is one of Valley Center's major considerations. As Valley Center develops a network that provides for these connections, safety must be a priority. Safe facilities and crossings of roads and railroads can increase the use of facilities. Both perceived and real safety concerns should be addressed while providing useful connectivity of the network.

STUDY AREA

The City of Valley Center developed the Pedestrian and Bicycle Facilities Master Plan to connect residents and visitors to destinations such as school, work, shopping, parks, government facilities, and social event locations. The Study Area for the Master Plan focuses on the area generally bounded by 93rd Street to the north, 69th Street to the south, West Street to the west, and Seneca Street to the east. This area includes the most densely populated areas and includes most of the major destinations in Valley Center; schools, parks, businesses, employment centers, shopping, civic buildings, and places of worship. A map of the Study Area is shown in Figure 1.



Figure 1: Study Area Map





NEEDS

The American Community Survey (ACS) identifies data that aids in assessing transportation-related needs. According to the ACS, of the Valley Center residents that work (3,081):

- 19% (585) traveled less than 10 minutes to get to work.
- 10.0% (308) traveled 10-14 minutes to get to work.
- 12.4% (382) traveled 15-19 minutes to get to work.
- 93.3% (2,876) used personal vehicle to travel to work.
- 1.9% (60) walked to work.
- 0.0% biked to work.
- 2.1% (65) of workers had no vehicles available.
- 25.9% (797) worked in Valley Center.
- Of those that worked in Valley Center (1,798, not all who work in Valley Center live here):
 - 40.9% (735) traveled less than 10 minutes to work.
 - 16.8% (302) traveled 10-14 minutes to work.
 - 9.6% (173) traveled 15-19 minutes to work.

The data provides insight into the distance people are traveling to work. Trips less than 10 minutes are prime candidates for walking or biking trips. Many of the short trips are taken via personal vehicle as shown by the low number of trips via walking or biking.

According to US Census data, Valley Center has grown from 4,883 people in 2000 to 6,822 in 2010. This shows an increase of 39.7% from 2000 to 2010 adding an additional 1,939 people (annual increase of 3.4%). An important part of the analysis for the Master Plan is the age distribution of the population. As a percent of the overall population in 2010 compared to 2000, there was 1.9% more citizens aged 0-14 and 1.6% more citizens aged 50 or older. This data is shown in Figure 2. Nationally, the percent of the population over the age of 44 has increased by 5% from 2000 to 2010. The growing segment of older individuals should be taken into account when planning pedestrian and bicycle facilities. Eventually, most of these individuals will not be able to drive and will need alternate means of transportation. Planning facilities to provide older citizens easy access to critical destinations can improve the lives of older citizens.

Figure 2: Age Distribution of Population

	2000		2010	
	Pop	% of Pop	Pop	% of Pop
0-14	1172	24.0%	1766	25.9%
15-29	916	18.8%	1277	18.7%
30-49	1490	30.5%	1848	27.1%
50 and over	1305	26.7%	1931	28.3%
Total	4883	100%	6822	100%



Children often use the pedestrian and bicycle network because of the lack of other means of travel. With children being a growing segment of the population and not having the option to drive, providing safe options to walk and bike to destinations such as schools and after school activities can be critical. According to the Valley Center Public Schools (USD 262), there are approximately 2,700 students attending the six schools in Valley Center. According to the ACS, there were 1,268 children in K-8th grade and 452 in 9th – 12th



grade living in Valley Center. A small portion of these children walk to and from school, but more certainly could be provided by providing more and safer facilities from residential areas to school locations. By increasing walking and biking to and from school, the number of guardians dropping off and picking up children would decrease. This would help with alleviating congestion around schools and provide the option for guardians to have children walk or bike.

TRIP TYPES, CONNECTIONS, AND CHARACTERISTICS

Before we identify the existing facilities and recommendations for improvements, we first must identify where people bike and walk, where they may walk or bike in the future, and why they choose to walk or bike. There are different purposes for walking and biking as well as typical destinations for these trips. There are also physical characteristics of the community and behavioral characteristics of existing and potential users to assess.

Pedestrian and Bicycle Trip Types

We walk or bike to get to many different places and for many different reasons. We walk to work, school, and the grocery store. We bike to sporting events, the post office, and the convenience store. The purpose of these trips is for transportation because we want to get to a specific destination. Recreation trips do not have specific destinations and are for enjoyment purposes. Recreation trips include walking and biking for exercise and conditioning. The distinction is important because the focus of this Master Plan is to provide for transportation trips and providing connections throughout Valley Center.

Whether for transportation or recreation, pedestrian and bicycle trips often originate from places where people live. Residents may choose to walk or bike from their home to get to specific destinations. Trips may also originate at other locations such as work or school when traveling for lunch, going to the post office, shopping, or meeting someone for business.

Transportation trips end at a specific location, which we call a destination. Destinations typically include school, work, shopping, government buildings, parks, churches, and many more. Making the connections from where people are to where they want to go is the primary purpose of a transportation focused pedestrian and bicycle facility network.

Recreation trips often use the same facilities as transportation trips. Many times these trips are drawn to aesthetically pleasing areas with views of parks or open space. Trails and paths along rivers, through open spaces, or near parks tend to be more appealing for these recreation trips. Recreation trips can influence the location of facilities; routing a path along a river rather than making direct connections. In either instance, the connection is made.



Connections

Existing developments play a major role in defining the Study Area and the context for future pedestrian and bicycle facilities connections. The existing development pattern as well as the location of destinations will help determine what connections should be made. Also important is the consideration of future development. There are many important areas in Valley Center to connection now and in the future.



Residences

Many trips originate from our homes. Areas where people live are the beginning of the trip and, therefore, that is where we are starting. Identifying areas with high population densities show where trips are originating. In Valley Center, most of the high densities occur near the center of the City. The pedestrian and bicycle network should provide connections to these areas.

There are also some developments that have occurred towards the fringe of the City. These areas should also be connected if they have a high population density and will potentially generate a number of pedestrian and bicycle trips. Many of these fringe developments have large lots and low population densities. These areas should not be ignored as they can provide needed connections, but consideration should be given to the number of potential users of the facilities. As fringe development occurs, future connections should be considered prior to the development as well as how pedestrian and bicycle network will provide needed connections.

Particular consideration should be given to retirement housing developments due to the high population density and potential lack of access to personal vehicles. Our population is aging with more people over the age of 50 now than 10 years ago. Walking may be the only means of transportation for this growing segment of our population so connections to and from retirement communities can be vital.

Schools

Connections to schools is an integral part of the pedestrian and bicycle network. School children often use sidewalks and paths to walk or bike to and from school. Children also require safe accommodations to ensure ease of use by the younger people and confidence from guardians that the children can safely and easily travel from home to school. The network should provide safe and direct connections to the six schools in Valley Center connections.



Employment

Another major connection to be made is to get us to our places of employment. Connecting to employment centers or major employers is a great way to provide the option to walk or bike to work. Locations for major current and future employment centers include:

- West of Meridian to Sheridan between 77th Street North (Ford Street) to 81st Street North (Main Street)
- Along both sides of Meridian between the 77th Street North (Ford Street) and 81st Street North (Main Street)
- Along both sides of 81st Street North (Main Street) between Sheridan and Colby

Shopping

Shopping areas can be destinations for many walking and biking trips. Connections should be made to grocery stores, convenience stores, retail stores, dining, and other stores. How these connections work within the overall pedestrian and bicycle network should take into account that these trips do not always originate or terminate from homes. Shopping trips may originate and terminate from employment centers or other locations other than our homes.

Parks, Recreation, and Open Space

Many people enjoy walking or biking to and around parks, recreation areas, and open spaces. These areas provide aesthetically pleasing views. Many of these trips are for enjoyment, but they can be transportation-related as well.



We may need to get to a sporting event at the sports complex, take our kids to the park, or walk to the river to bird watch. No matter what the purpose, the network should provide connections to these destinations.

Worship

There are many places of worship in Valley Center, which offer another opportunity to walk or bike. These destinations are often within existing neighborhoods, which may require extending existing facilities. An important consideration for providing these connections is when these trips will be taken.

Community Services

There are other locations in Valley Center that likely attract trips. These include the library, the future library at Lions Park, banks, medical offices, post office, public safety building, and City Hall. These destinations provide vital services and can be particularly difficult for the aging or poor to access. These destinations should be connected via the pedestrian and bicycle network now and in the future. As other destinations are identified or developed, we should consider if connections should be made and how to make the connections as safely and efficiently as possible.

Beyond Connections

There are elements that affect the location of pedestrian and bicycle facilities beyond connecting where we are to where we want to go. There are physical elements of the Study Area as well as behavioral characteristics and perceptions of us who live and work in Valley Center.

Physical Characteristics

There are natural environmental elements of the Study Area such as weather, terrain, rivers, lakes, wetlands, and flood zones. There are also manmade environmental elements such as power poles, traffic signals, sewers, drainage, roads, bridges, railroads, and even the existing sidewalks. These physical elements affect where pedestrian and bicycle facilities can and should be located.

Consideration should be given to avoiding or mitigating effects of facilities on sensitive natural areas. However, natural areas also provide desired aesthetics for walking and biking. A balance must be reached between incorporating these natural environmental elements without damage. Consideration should also be given to the drainage issues and the location and/or design of facilities to accommodate users even after major rain events.

The manmade environment can often be seen as an impediment to pedestrian and bicycle facilities. From roads and railroads posing safety concerns to power poles getting in the way of trying to build sidewalks, the challenges can seem exhaustive. However, these manmade environmental elements can also provide great opportunities. Roads offer pavement for on-street bicycle facilities and crossings, traffic signals and stop signs offer safer areas to cross busy streets, and railroads offer corridors for off-street walking and biking facilities. Figuring out how to use existing features as a benefit can be difficult, but the rewards include lower costs and safer facilities.



Behavioral Characteristics

Beyond the physical characteristics of the Study Area, those of us who live and travel through the area behave in certain ways and have certain perceptions. Some behaviors and perceptions can improve pedestrian and bicycle facility use and others can hinder it.



Prior to every trip we make, we chose how we will get there; do we drive, bike, walk, or use some other means. It is unrealistic to think that everyone will walk or bike for every trip we make. It is also probably unrealistic to think all people will walk or bike at all. There are attitudes engrained that often hinder our desire to walk or bike. It may not be viewed as a choice at all. Educating and encouraging people on the benefits of walking and biking can increase the likelihood that we will decide to leave the car at home and walk or bike. To make this choice more apparent to people and ensure more of us actually think about how we will travel, safe and convenient walking and biking options must be provided.

If we choose to walk or bike, we all have a certain expectation of what we will to encounter. We expect that the facilities are in good working order, have safe crossings, lighted at night, and will get us to where we need to go. If the expectations of potential users can be met, the facilities will likely have more users.

The physical and behavioral characteristics are not mutually exclusive. When considering them together, we can begin to identify issues that should be considered as we plan for and build our community. Development patterns and manmade environmental characteristics have played a role in the health of our communities. The continued suburbanization development pattern and the separation of our homes from where we work or shop have increased the need to travel long distances, which is not conducive to walking or biking. Higher density and/or mixed use developments offer a much more attractive environment for walking and biking. Plans such as this Master Plan identify the needed pedestrian and bicycle connections and help identify future connectivity issues. As Valley Center continues to grow, consideration should be given to where development occurs and how developments can be connected to the pedestrian and bicycle network.

If it is desired to provide options for transportation and address various other related issues, we must consider the impacts of the manmade environment created by developments and how that impacts behavioral characteristics. Developing a pedestrian and bicycle network in a way that is reactionary to development will make it much more difficult to integrate biking and walking into how we live.

User Experience

An important aspect of the characteristics of potential walkers and bicyclists is their experience level. Many children and even some adults lack the experience to feel safe and comfortable on certain types of facilities. Not everyone will feel safe riding their bike in the road or allowing their children to do so. The same can be said about crossing busy streets or railroad tracks. Careful consideration should be given to the experience of users when planning for and constructing pedestrian and bicycle facilities, keeping in mind that different facilities and different locations will likely have different types of users and different experience levels.



FACILITY TYPES

There are many types of facilities that can provide for a connected and safe pedestrian and bicycle network. There are two main types of facilities; on-street facilities and off-street facilities. On-street facilities are those that are included as part of the street between the curbs or edges of the street. Off-street facilities are those that occur outside of the curbs or edges of the street.



On-street facilities are most often for bicycle travel only. On-street bicycle facilities typically involve some elements on or near the street that identifies that bicycles will likely be present and may have dedicated space on the street. These elements typically include pavement markings and signage. Some examples of on-street bicycle facilities include bicycle lanes, buffered bicycle lanes, or shared lane markings. On-street facilities are not being recommended, but they are being identified as an option.

Although it is legal for bicycles to ride on the streets of Valley Center without on-street bicycle facilities, it is not always viewed as a safe or viable option. Designating space on the street for bicycles can provide users with a certain level of comfort knowing they are supposed to be in the street and that cars and trucks know where bicycles are likely to be. These types of facilities are often chosen because they are cheaper to build and maintain than separate off-street facilities. However, user experience level and comfort with these facility types should be taken into account prior to implementation.

Off-street facilities can provide for both pedestrian and bicycle travel. These types of facilities can be within the street right-of-way along a street, along a river, through a neighborhood, or anywhere else they are deemed appropriate. Some examples of these facilities include sidewalks and multiuse paths. It is important to consider the width of the off-street facility and who will be using the facility. If the intended purpose of an off-street facility is to provide for both pedestrian and bicycle travel, the facility should be wide enough to accommodate these trips. Typically, multiuse paths are 8 to 12 feet wide.



EXISTING FACILITIES

Valley Center currently has over 14.5 linear miles of pedestrian and bicycle facilities. Most of these facilities are considered sidewalks (4-5 feet wide), which are a great option for walking but are not always the best for bicycling. Sidewalks are often considered too narrow for bicycle use, especially with other users on the sidewalks. The condition of the sidewalks and associated elements and amenities are very important and likely affect the use of the facilities.

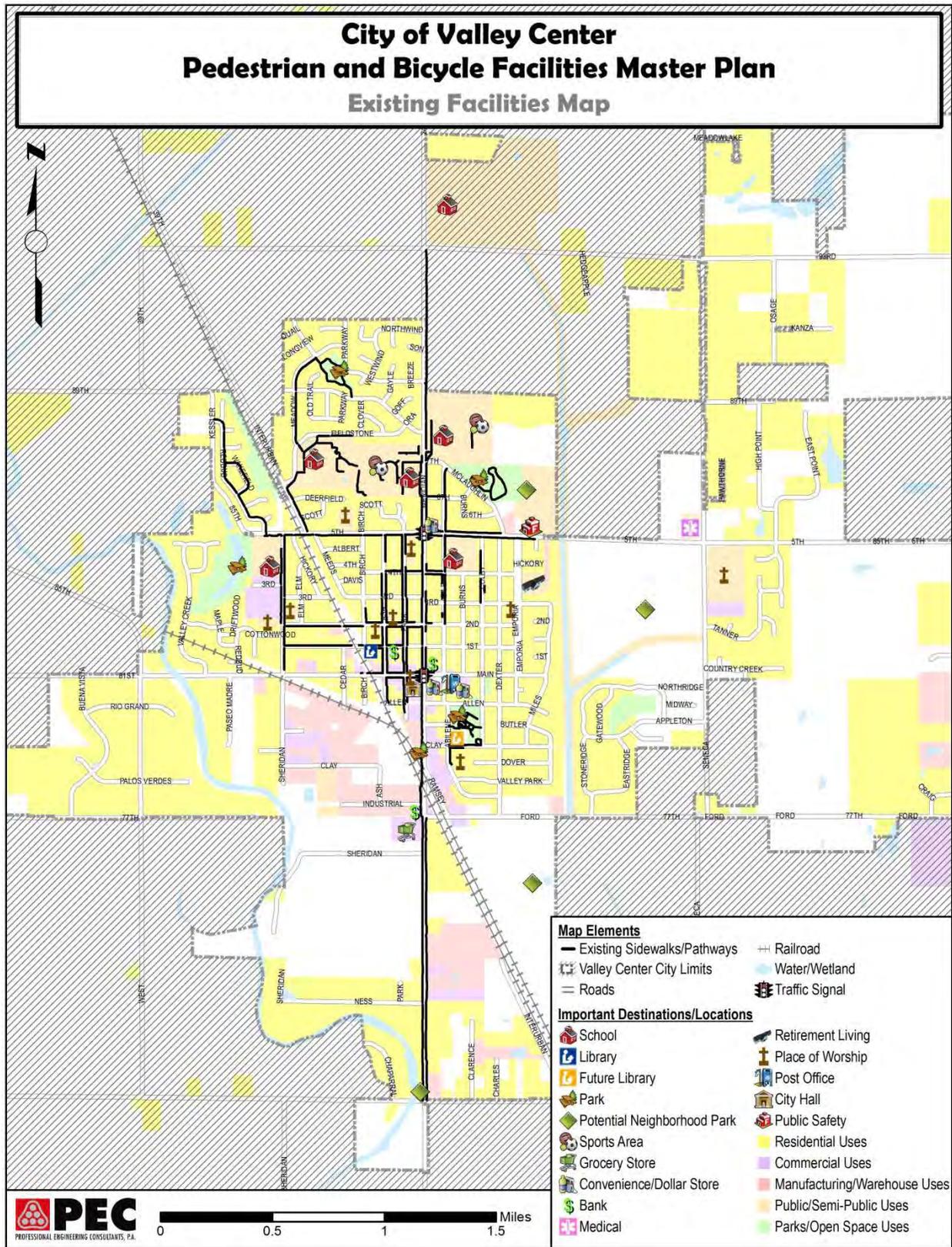
There are currently no on-street facilities and very few facilities that are not along a street. The existing facilities mainly follow streets and many include sidewalks on one side of the street rather than both sides. There are also locations in the older areas of Valley Center where the sidewalks are not continuous. Figure 3 is a map showing the existing sidewalks as well as specific locations that likely produce or attract pedestrian and bicycle trips. These locations are important when assessing where people are and where people want to go and how the existing system facilitates these trips.



A very general assessment of existing conditions was completed as part of this planning effort. In general, the existing sidewalks are constructed of concrete and are in good condition. Many of the sidewalks look fairly new and are in great condition. Many of the newer developments of Valley Center have sidewalks that are in good to excellent condition. There are also some areas in the older part of Valley Center that have recently reconstructed or new sidewalks that are in good condition.



Figure 3: Existing Pedestrian and Bicycle Facilities





There are several areas where the sidewalks are not in good condition. The older areas of Valley Center tend to have more sidewalk maintenance issues. Many of the sidewalks are not in the same condition as those in the newer areas of Valley



Center. Certain locations in the older areas of Valley Center have issues where the sidewalk is crumbling, cracked, and/or buckled. Many of these occur where tree roots have compromised the sidewalk. Other areas have rocks and sand on the sidewalk or are overgrown with grass or weeds. Areas where sidewalks pass through private driveways also pose maintenance issues. Many of these areas are in good condition; however, some are in poor condition with cracked or crumbling concrete. Facility condition likely affects the use of the facilities due to accessibility, safety, and user comfort issues.



Almost all of the sidewalk/street transitions (where a sidewalk meets a street) have ramps, most of which are in good condition. Sidewalk/street transitions are important because of the potential issues caused by grade change. Certain users may have difficulties with the grade change if the transition is not smooth and well maintained. There are a few transitions that do not have ramps, which hinders the accessibility for all potential users.



Another potential hindrance to accessibility is the width of existing sidewalks. Many of the existing sidewalks are very narrow. These narrow sidewalks are not designed to accommodate a large volume of traffic, especially when being used by bicyclists or disabled individuals.

In many cases in the older areas of Valley Center, the sidewalks are not continuous. Sidewalks may traverse along a half a block, then just end. These discontinuous sidewalks do not provide the needed connectivity of the network.



Clearance overhead and to the sides of sidewalks can be an issue for the safety and comfort of users. During the assessment, a few areas had issues with overgrowth of the surrounding trees and shrubs. The sidewalks were clear of vegetation for the most part; however, the assessment was completed during the winter months. Overgrowth may pose a greater issue in the spring, summer, and fall when the vegetation has foliage.



Essential to any pedestrian and bicycle network are certain accompaniments such as crosswalks, signage, pavement markings, and lighting. Especially important to Valley Center are the warning devices and signage for school zones and school crossings. There are crossings near schools that include school crossing warning signs, school zone speed limits with flashers, and pavement markings. These elements add to the safety for children when walking or biking.

There are also some physical amenities that are included to aid in the use and comfort of the facilities. Benches and trash cans have been included in some locations, but are not consistent throughout the network. Amenities, especially along major corridors can increase the user comfort of these facilities.



The current condition of existing facilities plays a role in how much the pedestrian and bicycle facilities are used. Usage of these facilities may be lower than it should be due to locations where facilities are in poor condition or lack accessible ramps, connectivity, amenities, or proper clearance. We must determine how important it is to retrofit facilities, maintain existing and new facilities, to what degree they should be maintained, and how maintenance will be funded.

USE CHARACTERISTICS

As part of the 2006 Valley Center Safe Routes to School (SRTS) Plan, parents of 3rd and 6th grade students were surveyed to capture data on issues preventing children from walking or biking to school. Tally sheets were also given to elementary school teachers to capture data on travel mode to and from school for students in their classes.

Data reported by teachers shows that 10% of children walked or biked to school and 19% walked or biked home. From the parent survey, the data shows that about 15% of students walked or biked to school and about 50% walked or biked home. Responses on issues affecting school travel decisions identified that travel distance, traffic volumes, traffic speed, and intersection safety as the most common reasons parents do not allow their children to walk or bike. It should be noted that three of the top four reasons are manageable through improvements to the pedestrian and bicycle network, traffic calming, and traffic safety improvements.

As part of the development of the Master Plan, observations were taken near Valley Center Middle School, Intermediate School, West Elementary, Abilene Elementary, and along major corridors. These observations were taken prior to school starting and after school dismissal. The following bullet list identifies primary observations at each location:

- Middle and Intermediate School (7:25am to 7:45am and 2:30pm to 3:00pm)
 - Many walkers on both sides of Meridian both north and south of the schools, including on the shoulder and in the grass on the west side of Meridian north of Goff Road.
 - Over 50 children were observed walking south from the schools along Meridian in the afternoon and many more walked north from the schools to the neighborhood northwest of the schools.
 - After school started in the morning, there were approximately 15 bicycles parked in the bicycle parking at the middle school.
 - More walkers during afternoon than morning.
 - Police car(s) was present during morning and afternoon.
 - More walkers and bicyclists on the west side of Meridian.
 - Vehicles traveled below the speed limit along Meridian. Congestion may have helped slow the speed of travel as well as the presence of children and police.
 - Vehicles yielded for pedestrians and bicyclists crossing Meridian, even at unmarked crossings.





- Most children crossed Meridian at marked crossings at 7th Street and 5th Street, but some did not.
 - The unsafe crossings were made at 6th Street and near Goff Road
- Many children walk in the street on Goff Road and in the neighborhood northwest of the schools.
 - Most walk against traffic, but some walked with traffic.
 - Children walked around vehicles parked in the street. They walked in the street in the vehicular travel lane rather than off the street towards the houses.
- West Elementary (8:00am to 8:35am)
 - There were fewer than 20 walkers and bicyclists observed.
 - Most walkers and bicyclists came from the northwest and northeast of West Elementary.
 - Police car was present on Sheridan Avenue.
- Abilene Elementary (3:40pm to 4:00pm)
 - Crossing guard helped children cross at the intersection of 4th Street and Abilene Avenue.
 - There were not many children that walked or biked from school.
 - Most children walking from this school were walking with guardians to vehicles.



Based on the observations, there is definitely a demand for pedestrian and bicycle facilities near the middle and intermediate schools. The existing facilities provide for this demand north and south of the schools along Meridian, except on the west side of Meridian north of the schools. Crossing Meridian appeared to be a concern due to the number of children crossing at unmarked locations. Once the children venture off Meridian, many walked and biked on the residential streets.

As for the elementary schools, there were not many children that walked or biked. This could be due to the convenience guardians have for dropping them off, guardians not wanting their children to walk or bike for various reasons, not enough facilities to get to and from school, or facilities not being perceived as being safe enough.

CHALLENGES

Planning for improvements to pedestrian and bicycle facilities does not come without challenges. From residents not wanting these facilities near their homes to funding the infrastructure, it is easy to find reasons not to invest in pedestrian and bicycle facilities. However, many of these challenges can be overcome and the benefits of providing facilities outweigh the costs in many cases.

Safety

Safety is always a concern when walking or biking, especially for the younger and inexperienced. As mentioned earlier from the 2006 SRTS Plan, parents identified safety concerns as some the major reasons they do not let their children walk or bike to school. However, safety is not only a concern for the young. There are many different levels of experience we have for walking or biking around town. Some of us feel safe riding our bikes in the street while others would not. Taking all of the user types, experience levels, and comfort levels into account is a major challenge when





developing a pedestrian and bicycle network. Some safety concerns can be alleviated through specific treatments such as signalized crossings, crossing guards, traffic calming in specific locations, and lighting.

Barriers

Barriers to travel also pose challenges for both safety and a routing.

Railroads, water features, and high speed and/or high volume roads are major barriers to a safe and connected pedestrian and bicycle network. The railroad corridor crosses diagonally through the Study Area and carries 26-49 trains per day. Railroad crossings are necessary due to development on both sides of the corridor. Crossing the railroad tracks should be done by funneling pedestrian and bicycle traffic to a minimal number of crossings that include appropriate warning devices.



High speed and/or high volume roads should be treated similar to railroads, minimizing crossings and applying proper crossing devices. However, roads are different than railroad tracks because they typically have destinations along them. Since there are usually destinations on both sides of the road, paths along both sides can be a major benefit to reducing the number of users crossing at undesigned locations. Providing facilities where they are needed along roads and an appropriate number of safe crossings can help reduce the degree to which roads act as barriers.

The Little Arkansas River, which flows north/south on the west side of the City, has only one bridge at 81st Street North (Main Street). It is important to note that this bridge is a vehicular bridge and does not include designated pedestrian or bicycle facilities and there are no designated pedestrian or bicycle bridges over the river. The 81st Street Bridge provides a connection to neighborhoods on the west side of Valley Center. Due to its functionality in providing the only connection west of the river, pedestrian and bicycle facilities on the 81st Street bridge should be considered, especially if development continues on the west side of the river.

The Wichita-Valley Center Floodway acts as another barrier on the City's east side. Major residential developments have been built east of the Floodway with limited connections to the rest of the City. Vehicular bridges on 77th Street North (Ford Street) and 85th Street North (5th Street) provide access to the east. Pedestrian and bicycle facilities over the Floodway, whether they are at the current crossings or new crossings, should be considered to provide connections to eastern developments. The existing Ford Street Bridge has designated space for pedestrian and bicycle travel along the north side of the bridge. The bridge on 5th Street is currently being improved and will include designated space for pedestrian and bicycle travel along the south side of the bridge.

Funding

Funding improvements can be a major challenge for improving pedestrian and bicycle facilities and providing needed connections. Scarce financial resources are stretched thin over many priorities. With the many benefits of providing pedestrian and bicycle facilities and the local desire, Valley Center should identify local funding to build a well-connected pedestrian and bicycle network. Beyond the local funding there are also other options for funding improvements, such as grants. The Master Plan identifies possible means of funding improvements in the Implementation Section.

Attitudes and Choices

Cities often run into resistance from citizens and businesses when planning for improvements to pedestrian and bicycle facilities. Concerns usually involve money being spent, why they are needed when not many people walk



or bike, and if they will bring unwanted safety concerns to neighborhoods. There is no doubt that money will be spent if it is decided to make improvements to pedestrian and bicycle facilities. If pedestrian and bicycle facilities are a priority, then investments should be made in infrastructure. Local dialog about determining the amount of financial resources to be allocated to pedestrian and bicycle improvements should include comparing the costs of the improvements to the benefits of facilities.

Many people focus on data, whether real or anecdotal, that suggests not very many people use pedestrian and bicycle facilities. This may be a legitimate argument, but this is then true for the existing facilities. Facilities need to be safe and provide needed connections. If people do not feel safe on the facilities or they cannot get to where they need to go, then why would they walk or bike? Providing efficient connections and improving safety of the facilities, such as lighting and improved crossings, could increase walking and biking.

There are also those that would rather drive, which is their right. However, there is a segment of the population that cannot drive and those that would like the opportunity to walk or bike. Providing the opportunity for those who wish to or have to walk or bike could provide a great benefit to those who desire pedestrian and bicycle facilities.

Many of us think about travel when we choose where to live. However, many times we only think about where we live will impact our driving, not our walking or bicycling. Continued suburbanization typically makes walking and bicycling more difficult because of the distance from our homes to other destinations. If the typical suburban development continues, it will pose difficulties in providing residents with the option to walk or bike to get to needed destinations. School children will have a very long walk or need to be driven or bused to school. The pattern of development and how it impacts transportation options should be considered in future planning.

Uncontrollable Elements

There are certain natural elements that are not controlled by our choices. Rain, snow, heat, and cold impact our decisions to walk or bike. These elements of the climate of Valley Center can be viewed as a hindrance. However, they can also be viewed in the positive for walking and bicycling. Average daily highs range from 40 in the winter months to the low 90s in the summer months, which are conducive to walking and bicycling. Also, the average precipitation is below the national average for most of the year. Another thing to keep in mind is that many areas that have high bicycling and walking rates have much colder and/or wetter climates. Beyond the climate, another feature of the natural environment that provides a benefit to walking and biking in Valley Center is the flat terrain.

OPPORTUNITIES

There are many challenges to increasing the use, connectivity, and safety of the pedestrian and bicycle network. There are, however, many opportunities as well. Valley Center has a good foundation of existing pedestrian and bicycle facilities, a local desire to improve walking and biking, and an established development pattern that allows for quality connections.

Existing Infrastructure

Valley Center has a well-established sidewalk network that includes 14.5 miles of sidewalks. The locations of these facilities offer quality connections. There are also safe and convenient road crossings that help with the high volume road barrier. These existing facilities offer the opportunity to extend connections to more people and more destinations. Improved connections and safety can increase how often these facilities are used.



Local Desire

Valley Center has the local desire to improve pedestrian and bicycle connectivity and safety. It started many years ago funding and building the existing facilities. There is now a desire to plan for and build future connections to provide residents and visitors the opportunity to walk and bike throughout the City.

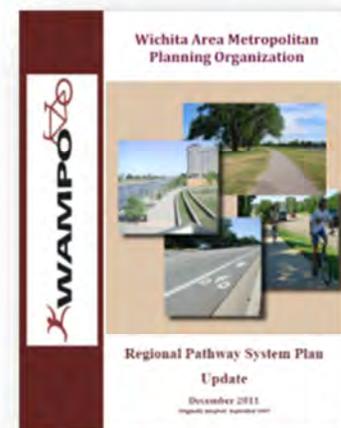
A 2012 public opinion survey of residents of Valley Center was completed to identify where public investments should be made to strengthen and support economic development. The results show that investments in sidewalk/walking path repair and construction are the second highest priority, right behind road repair and reconstruction. Of the written-in comments received about paths, 85% were positive comments. To build upon the local desire and ensure improvements are made, Valley Center should identify means to fund pedestrian and bicycle accommodations now and in the future.

Development Pattern

The current development pattern and residential density in central Valley Center provide a great opportunity to increase walking and biking. Having residents living in close proximity to major destinations, such as schools, employment, and shopping, provides opportunities to walk and bike.

Regional Connections

Many of the cities in the vicinity of Valley Center are planning for bicycle facilities. Sedgwick County also considers the need for pedestrian and bicycle facilities. A regional transportation planning entity, the Wichita Area Metropolitan Planning Organization (WAMPO), recently developed the Regional Pathway System Plan (RPSP). The RPSP identifies regional corridors that provide connections between communities and major destinations. One of these regional corridors passes through Valley Center along Meridian from the north to Main Street (81st Street North) then west along Main Street. Another regional connection identified is along the railroad corridor from Ford Street (77th Street North) southeast through Valley Center connecting to Wichita. The connections identified in the RPSP provide connections beyond Valley Center to other regional destinations. These facilities may also have a competitive advantage to receive funding through WAMPO. How Valley Center is connected within the regional network should be considered when planning for and developing pedestrian and bicycle facilities.



Funding

Funding can be a challenge but there are also many opportunities to fund improvements to pedestrian and bicycling facilities. Funding through state grants and programs, private grants, and WAMPO and other federal sources can be pursued. It is important to keep in mind that these sources usually require some sort of local contribution so it is important to identify local funding streams as well. Identifying local funding is the best way to ensure improvements are made. This local funding can then be used to leverage funds from other sources.

There are many other opportunities for improving walking and bicycling in Valley Center beyond those addressed. There are many aesthetically pleasing areas to locate future pedestrian and bicycle facilities. The Little Arkansas River and Floodway provide pleasing views of open space and wildlife that may encourage walking and bicycling. The many opportunities can be used to our advantage when planning for facilities or overcoming the challenges in developing facilities.



RECOMMENDED FACILITIES

The Master Plan identifies 19.2 linear miles of future pedestrian and bicycle facilities to be added to the existing 14.5 linear miles of network. Adding the planned facilities would provide a total of 33.7 linear miles of pedestrian and bicycle facilities in the future. It is important to note that many of the planned facilities include facilities on both sides of the street, particularly those along major arterial roads. Also, the linear miles may vary depending on the facility types chosen and how each corridor is developed.

The planned facilities are prioritized and also include a wish list. Figure 4 is a map of the planned facilities. The process of identifying and prioritizing the planned facilities involved many steps. A long list of potential facilities was initially developed then whittled down and prioritized by the steering committee. The factors for selecting and prioritizing future facility locations included:

- Previously planned facilities (local and regional)
- Connecting where people are to where they want to go
- Number of likely users
- Safety of users, especially at crossings or busy streets and railroad tracks
- Efficiency of travel
- Providing easy access to the network

The context of the location for the planned facilities is important. When filling in gaps in the network, the facility type should provide continuity with the existing facility types on either end of the gap. If there are 4 foot wide sidewalks on either end of a gap it does not make sense to build a 12 foot wide multiuse path between them. However, if a 12 foot multiuse path is desired then improvements should be made beyond the area of the gap.

When constructing facilities to provide connections to currently unconnected areas, it will be important to consider the likely users prior to selecting a facility type. Facilities that accommodate high pedestrian volumes or carry bicycle trips should be considered where there will likely be heavy pedestrian and/or bicycle travel. This could include a wide multiuse path or combination of facilities.

Priority 1 facilities have the highest priority and should be considered for construction in the near-term (0-5 years). Priority 1 facilities cover 5.3 linear miles and have the highest potential use due to their location as they are primarily along major streets. These facilities provide immediate benefits to safety and connectivity. They have the highest potential use due to their location as they are primarily along major streets.

Many of the Priority 1 facilities are in locations that fill in gaps in the network along major corridors and streets. Continuity of facility types should be a consideration along the entire corridor and how projects that fill in the gaps will provide continuity with the long-term vision for the corridor.





Priority 2 facilities have a high priority and should be considered for construction in the mid-term (5-10 years). Priority 2 facilities cover 3.2 linear miles and provide additional connections that the Priority 1 projects do not provide. These facilities provide immediate benefits, but have greater benefit when Priority 1 facilities exist.

Priority 3 facilities have a medium priority and should be considered for construction in the long-term (10-20 years). Priority 3 facilities cover 5.9 linear miles and provide many more connections and extend the network to provide greater access for residents. Many of the Priority 3 facilities are considered for the long-term because they serve growing developments which will likely have many more users in the future.

The wish list facilities have a lower priority and should be considered for construction as future development occurs. Wish list facilities cover 4.8 linear miles but would likely have a high cost. This is mainly due to the specific location of the facility, which would necessitate special considerations such as bridges over waterways. These facilities would serve as good connections, especially as Valley Center continues to grow.



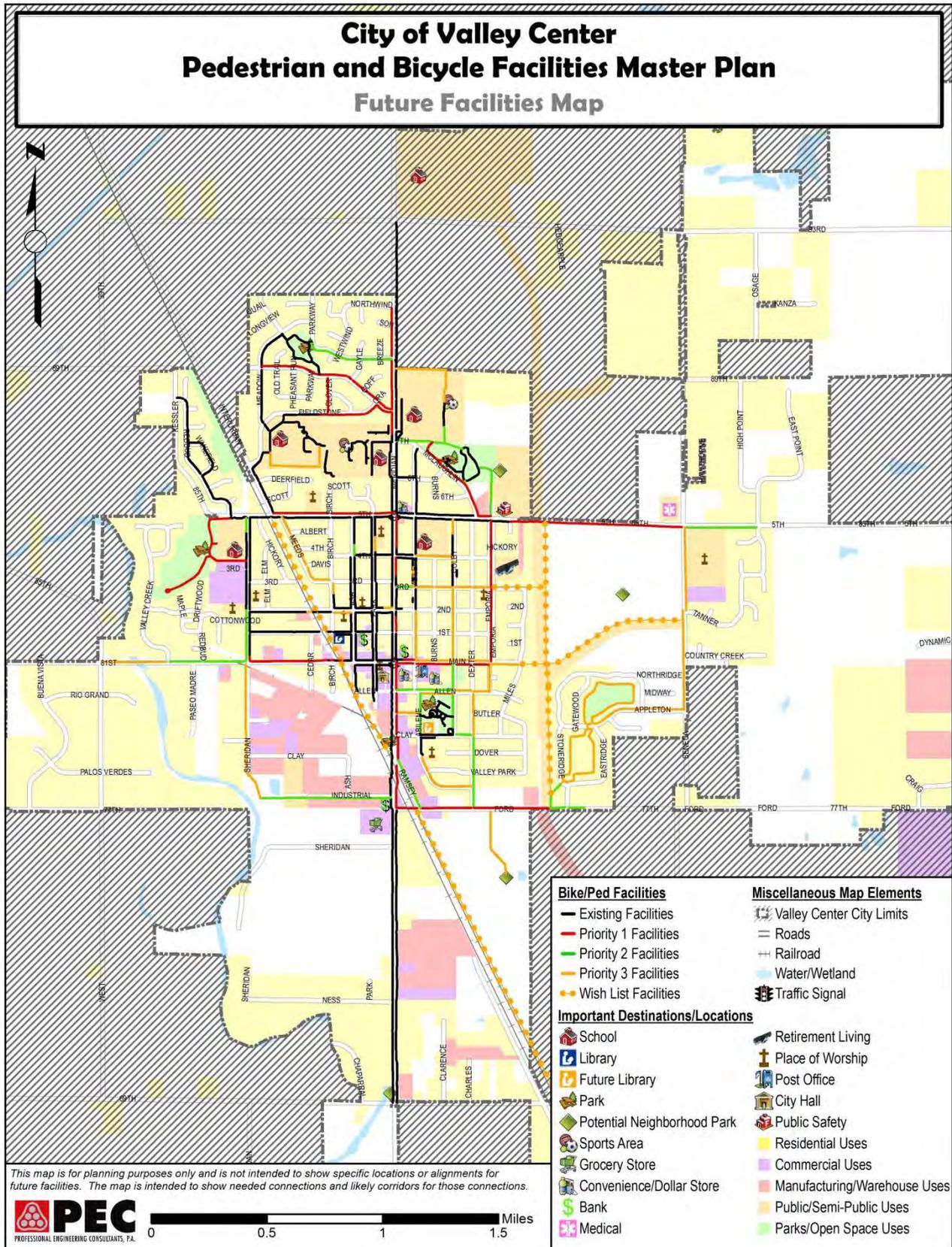
Planned facilities do not necessarily need to be built in order of priority. Planned facilities may become higher priority due to new development or changing needs. It is important to have flexibility in the timing of when future facilities are built especially when planning for the long-term future of Valley Center's pedestrian and bicycle network.



The Master Plan is not intended to recommend certain facility types in all corridors. A list of facility type options are included in the Appendix and should be considered and evaluated for each application prior to selecting a preferred facility type. Consideration should be given to the types of users, safety, crossings, and the ease of use (making sure to not develop too many different facility types along a corridor that would make the corridor difficult to use or understand).



Figure 4: Future Pedestrian and Bicycle Facilities





The Master Plan identifies some possible locations for on-street bicycle facilities. This is intended to identify locations where on-street facilities could be considered. The reason for identifying these locations is to reduce the cost of providing safe and convenient facilities because on-street facilities can be implemented at a much lower cost than developing off-street sidewalks or pathways. Locations considered for on-street bicycle facilities were chosen because they were identified in the WAMPO RPSP. Possible locations for on-street bicycle facilities include:



- Main Street (81st Street North) from Meridian to West.
 - Part of WAMPO regional bicycle corridor
 - Careful consideration must be given to interaction of the facility and the angle parking between Park Avenue and the railroad tracks.
- Meridian from 93rd Street North to Main Street (81st Street North)
 - Part of WAMPO regional bicycle corridor
 - This link may pose issues for on-street facilities due to the existing off-street facility on Meridian south of 93rd Street

The two corridors are important bicycle corridors and should be treated as such. If on-street facilities are not desired along these corridors, consideration should be given to off-street facilities that are designed to accommodate bicycle travel.

On heavily traveled roads, especially when there is development on both sides of the road, pedestrian and/or bicycle facilities on both sides of the road should be considered. With facilities on both sides of the road, users are more likely to cross roads at designated crossings or controlled intersections. Facilities on both sides of the road should be considered along Meridian from Ford Street to Northwind Drive, Main from Emporia to Ash, and 5th from Emporia to the railroad tracks. In the long-term, future facilities on both sides of Seneca should also be considered. As development and vehicular traffic increase in other areas or corridors, consideration should be given to developing facilities on both sides of the road and could be required when platting occurs.

Other improvements such as signage, crosswalk markings, signalized crossings, wayfinding, distance/mile markers, lighting, benches, and bicycle parking should be considered where appropriate in coordination with the development of the planned facilities. In addition to physical improvements, programs should be considered to encourage walking and biking; educate the public on the benefits of walking and biking; and increase enforcement of laws and rules to allow for safe use of pedestrian and bicycle facilities.

New developments, such as residential subdivisions or new parks, may require new connections. The Master Plan should be reviewed and updated periodically to address future growth and development and changes in local desires and needs. The Master Plan should also work in concert with the Comprehensive Plan. As Valley Center updates the Comprehensive Plan, it should take into account future pedestrian and bicycle facilities addressed in the Master Plan.

The planned facilities offer great improvements to connectivity of the pedestrian and bicycle network and safety for users. However, for the Master Plan to be implemented, Valley Center must determine how to build and maintain the pedestrian and bicycle facilities.



IMPLEMENTATION

This section provides guidance for developing the future pedestrian and bicycle facilities network. However, there is one important step before moving ahead with implementation. The first step is to determine the priority of developing the pedestrian and bicycle facility network. This includes maintaining the existing system, constructing new facilities, and maintaining the new facilities. Valley Center must define the priority of pedestrian and bicycle facilities in order to determine the degree to which improvements will be funded. City codes and regulations can be updated to ensure the priorities are engrained in the activities carried out by the City.

After determining the priority and prior to making any changes to City codes and regulations, Valley Center must determine how pedestrian and bicycle facilities will be viewed. Will the facilities be viewed as recreational amenities or part of the multimodal transportation network? This decision will determine how the facilities will be treated in the codes and regulations as well as how they will be funded. If they will be treated as part of the transportation infrastructure, they should be treated similar to streets in how they are dedicated in new developments and how construction and maintenance are funded.

Codes and Regulations

Developing a comprehensive and integrated approach to systematically develop and maintain the pedestrian and bicycle network involves identifying ways to codify how improvements are made and how maintenance is handled. Currently, the Municipal Code, Zoning Regulations, Subdivision Regulations, and Design Standards define where sidewalks are required, where they will be built, how they will be built, and who will be responsible for building and maintaining them.

There are two distinct areas where the pedestrian and bicycle network will serve citizens and visitors. The first is in the areas where development already exists. This land has been subdivided, platted, and developed at some point in the past. Existing developments pose some difficulties when attempting to develop the future pedestrian and bicycle network. The existing conditions of the physical environment, such as the location of houses and utility poles, are much more difficult to change than in locations where development has not occurred. Issues such as who will pay for building new facilities, who will pay for maintaining the facilities, and how they will be routed as to minimally disturb the existing environment must be addressed.

The second area is where new development will occur. New developments require permitting by Valley Center, which provides the City with the opportunity to require provisions for pedestrian and bicycle facilities by including them in subdivision requirements. These requirements, which are developed and implemented by Valley Center, must be met by new developments. Redevelopment of areas also requires permitting by Valley Center, so the opportunity presents itself for requirements for pedestrian and bicycle facilities. Both existing and future developments are guided by codes and regulations developed by Valley Center.

Municipal Code

The Municipal Code is a document that includes ordinances of the City. The current Municipal Code addresses many topics, including sidewalk construction and repair. Valley Center's Municipal Code includes many provisions and requirements for sidewalks, streets, and street right-of-way. The issue is that not all pedestrian and bicycle facilities are included because there are many other types of pedestrian and bicycle facilities that would not be considered sidewalks. Below are the suggested changes to the Municipal Code. The suggestions focus on specifying pedestrian and bicycle facilities rather than sidewalks. The suggested modifications also include specific requirements for these facilities and how other elements interact with these facilities, such as tree clearance over facilities.



Suggested Changes

- Section 2.19.090: Distance from sidewalk.
 - This section addresses the distance trees may be planted from sidewalks.
 - The section should be changed to include all off-street pedestrian and bicycle facilities.
 - The distance from the facility for each size tree could be increased due to roots causing damage to facilities.
- Section 3.04.030: Sales tax proceeds.
 - This section addresses where sales tax proceeds from Sedgwick County sales tax will be used.
 - This section states that 50% of the revenue received will be placed in the street improvement fund to be used to finance public street improvements.
 - This section could be changed to state that the revenue could be spent on construction and/or maintenance of all public travel ways or pedestrian and bicycle facilities, not just on public street improvements. This would make it eligible to spend the existing revenue on pedestrian and bicycle facilities, not just public street improvements
- Section 9.04.010: Use of City parks.
 - This section states that use of City parks is prohibited between the hours of eleven p.m. and six a.m.
 - This section may need to be modified if this includes the use of pedestrian and bicycle facilities that travel through a park. The recommended pedestrian and bicycle network has facilities within parks, which provide connections.
- Section 11.10.010: Public tree care.
 - This section addresses planting, pruning, maintaining, and removing trees, plants, and shrubs within the lines of all streets, alleys, avenues, lanes, squares, and public grounds.
 - This section should be changed to specifically include pedestrian and bicycle facilities and potentially increase the required distance of the vegetation from the facility to reduce potential maintenance issues.
- Section 11.10.030: Dangerous, dead or diseased trees – On private property.
 - This section addresses requirements for pruning trees on private property that overhang any street or right-of-way.
 - The title of this section should be updated to clarify that it does not only cover dangerous, dead, or diseased trees, but all trees on private property that overhang public property.
 - This section should be updated to include requirements for clear space for off-street pedestrian and bicycle facilities.
- Section 11.16: Sidewalk Construction and Repair
 - This chapter should be updated to include all pedestrian and bicycle facilities
- Section 11.16.015: Procedure
 - This section addresses requirements for sidewalk construction, repair, and reconstruction and who is responsible.
 - This section refers to Design Guidelines for requirements for construction, repair, and reconstruction of sidewalks.
 - This section requires that construction of sidewalks shall meet the requirements of the Americans with Disabilities Act.
 - This section allows Valley Center to determine where and when sidewalks need to be constructed, repaired, or reconstructed and allows Valley Center to require property owners to be responsible for construction, repair, or reconstruction of sidewalks in front of which or adjacent to which the sidewalk is to be constructed, repaired, or reconstructed.



- This section should be updated to include all pedestrian and bicycle facilities.
- This section could be updated to place responsibility on the City. It can also be updated to identify funding mechanisms the City can use to fund construction, repair, or reconstruction of facilities. If the funding mechanism is desired to say the same, this section could more specifically identify when facilities need to be constructed, repaired, or reconstructed and how the City will assess property owners for the costs.
- Section 11.16.020: Width
 - This section states the required width of sidewalks is to be not less than four feet wide unless otherwise determined by the City.
 - This section should be updated to include all pedestrian and bicycle facilities.
 - This section should refer to the Design Guidelines for recommended widths and required minimum widths for all pedestrian and bicycle facilities.
- Section 11.16.030: Location
 - This section states that sidewalks shall be located in the street right-of-way of the City with the inside edge being constructed up to the property line.
 - This section should be updated to include all pedestrian and bicycle facilities.
 - This section could be updated to allow for pedestrian and bicycle facilities to be located in other dedicated right-of-way or where deemed acceptable by the City.
- Section 11.20.040: Driveways-Construction or reconstruction of sidewalks
 - This section addresses construction or reconstruction of sidewalks where driveways cross sidewalks.
 - This section should be updated to address all pedestrian and bicycle facilities.
 - This section should refer to the Design Guidelines.

When updating the Municipal Code, it may be easiest to start by revising the sidewalk section to be inclusive of all requirements for pedestrian and bicycle facilities. Valley Center could develop requirements that are inclusive of all expectations for these facilities, then move on to updating other sections of the code that address specific aspects of these facilities, such as required tree clearance. This will likely require moving on to updating other documents referred to by the Municipal Code, including the Zoning Regulations, Subdivision Regulations, and Design Guidelines. Any updates to codes dealing with streets should consider the potential inclusion of on-street bicycle facilities and crossing location requirements.

Zoning Regulations

The Zoning Regulations place restrictions on land development with respect to specific areas and outline the process zoning process. The Zoning Regulations are included as part of the Municipal Code by reference. These regulations address a few aspects related to pedestrian and bicycle facility development. Included as part of the Master Plan are recommendations for modifying the Zoning Regulations to improve pedestrian and bicycle facilities. Below are the suggested changes to the Zoning Regulations.

Suggested Changes

- Section 17.03.25: Dedication of Right-of-Way and Easements.
 - This section addresses the dedication of right-of-way and easements for specific uses.
 - This section could be updated to include requirements for dedication of right-of-way for pedestrian and bicycle facilities. If so, this section should state that dedication of land for and routing of pedestrian and bicycle facilities should be reviewed and determined consistent with identified connections of the Pedestrian and Bicycle Facilities Master Plan.



- Section 17.04.12.B.1.a.8):
 - This section addresses location and arrangement of facilities in a Planned Unit Development.
 - This section could include pedestrian and bicycle facility locations that provide access to properties and to connections through and beyond the development.
- Section 17.04.12.B.1.c:
 - This section could include the option to build pedestrian and bicycle facilities in dedicated open space.
- Section 17.04.12.C.1:
 - This section could include requirements to show location and arrangement of pedestrian and bicycle facilities and the connections with the overall pedestrian and bicycle facilities network, as defined in the Pedestrian and Bicycle Facilities Master Plan.

Subdivision Regulations

Similar to the Zoning Regulations, the Subdivision Regulations are included as part of the Municipal Code by reference. The Subdivision Regulations guide the orderly process of community development. These regulations address pedestrian ways and sidewalks pertaining primarily to new developments and redevelopment projects. Below are the suggested changes to the Subdivision Regulations.

Suggested Changes

- Section 16.02.03: Definitions
 - Section includes a definition of pedestrian way (crosswalk) and sidewalk.
 - The definitions are inconsistent with the way the terms are used throughout the document.
 - The definitions, or terms and definitions, should be updated to be inclusive of all pedestrian and bicycle facilities
 - Throughout the document where sidewalks or pedestrian ways are referred to, change to “pedestrian or bicycle facility as indicated in the Valley Center Pedestrian and Bicycle Facilities Master Plan.”
- Section 16.04.01: Submittal of Sketch Plan.
 - This section could be updated to include conveying the location of proposed sidewalks and multi-use paths.
- Section 16.04.04.A. Action by the Planning Commission on Preliminary Plan.
 - This section works to implement the Master Plan only if the Master Plan is adopted as an element of the Comprehensive Plan.
 - This section could be updated to include the Pedestrian and Bicycle Facilities Master Plan or the Comprehensive Plan should be amended to include reference to the Master Plan.
- Section 16.05.01.C.3:
 - This section states that a subdivision plat shall include in the preliminary plat easements showing width and purpose, such as those for pedestrian ways.
 - Pedestrian way could be removed from this section.
 - Section 16.05.01.C.1 could be updated to include dedication of sufficient right-of-way for pedestrian and bicycle facilities. This could include sufficient right-of-way for all facility types, whether they are on-street or off-street facilities.
 - This section could require pedestrian and bicycle facility improvements to be built with the rest of development. Alternatively, Valley Center could collect a fee-in-lieu for the value of the improvement and keep it in a fund to use for future construction of facilities. The collection of fee-in-lieu may help when facilities would not provide connections at that point in time.



- Section 16.05.01.D.1:
 - This section could be updated to include as part of the Preliminary Plat, a vicinity map showing existing and planned pedestrian and bicycle facilities and show the manner in which the proposed pedestrian and bicycle facilities may be extended to connect to existing or future pedestrian and bicycle facilities.
- Section 16.05.02.J:
 - This section could be changed to remove pedestrian ways if they are included as a dedication of right-of-way rather than via easement. If the easement method is retained, then pedestrian way should be changed to pedestrian and bicycle facilities.
- Section 16.05.02.K:
 - This section could include language about dedication of right-of-way for pedestrian and bicycle facilities.
- Section 16.06.04.A:
 - Land for open space provides great opportunity for pedestrian and bicycle facilities. Easement or dedication of land could include language to allow pedestrian and bicycle improvements. This includes allowing pedestrian and bicycle facilities in a dedicated reserve area.
- Section 16.06.10.E:
 - This section could be updated to change pedestrian way to pedestrian and bicycle facility.
- Section 16.07.03.C:
 - Change sidewalks to pedestrian and bicycle facilities.
 - This entire section could be more specific for facility requirements.
 - This section should refer to the Pedestrian and Bicycle Facilities Master Plan for where facilities should be located.
 - May also want to address needs for improvements to crossings adjacent to developments.

Design Standards

The Design Standards were developed to provide uniformity in construction efforts involving public works. Initial designs and construction activities must comply with these established standards. The Municipal Code and Subdivision Regulations each refer to these standards so the Design Standards are an important consideration during updates to the Code or regulations. Below are the suggested changes to the Design Standards.

Suggested Changes

- Section 1.F:
 - Could include requirements for showing preliminary elevations for all pedestrian and bicycle facilities.
- Section 2.E.:
 - Could update title to include all pedestrian and bicycle facilities.
 - Could include requirements for each type of off-street and on-street facility.
 - May include general drawings of facility types.

It is important to ensure consistency with all documents. Updating one document will likely impact the others. For this reason, updates should be done congruently to ensure consistency. Once the desired changes to how pedestrian and bicycle facilities are addressed in City codes and regulations, the next step is to determine how the City will build and maintain the recommended facilities in the Master Plan.



Determining how pedestrian and bicycle facilities will be built and maintained and who will be responsible for these activities is imperative to the success in developing a functional pedestrian and bicycle network. In some cases, these issues were addressed in the aforementioned recommended changes to codes and regulations. However, there are other areas where funding for construction and maintenance must be identified. Valley Center must determine who will be responsible for building and maintaining pedestrian and bicycle facilities. Further updates to the codes and regulations can codify the responsibility. Beyond the codes and regulations, Valley Center can identify public revenues to build and maintain pedestrian and bicycle facilities.

Local Funding

Determining how to pay for the construction of new facilities should focus on what funding is directly controlled by Valley Center. Relying on grant funding will not allow the desired degree of improvement to be made. Grant funding is highly competitive and cannot be relied upon to build a majority of the planned facilities. Also, grant funding for maintenance is not common.

By setting the priority of pedestrian and bicycle facilities, these types of projects are more likely to be discussed and included in the Capital Improvement Plan (CIP). The CIP is complementary to the annual budget. The CIP lays out capital expenditures for the City, such as new construction and improvements to Valley Center's infrastructure and facilities. The CIP may include individual or line item pedestrian and bicycle projects such as construction of new facilities, installation of certain pedestrian and bicycle amenities, or maintenance activities. This has been the method for constructing some of the recent sidewalk improvements between Arrowhead Park and Wheatland Elementary along with the sidewalk along 85th Street North (5th Street) from Meridian to Interurban.

CIP projects could be brought forward as annual budgets are reviewed. Identifying pedestrian and bicycle facility improvements, both capital and maintenance, as a priority and an expected outcome in the CIP and annual budget can aid in moving Valley Center toward achieving the future pedestrian and bicycle network identified in this Master Plan. Setting performance measures for pedestrian and bicycle accommodations can help Valley Center gauge progress towards achieving the outcomes. In the annual budget, which sets the operating budget for Valley Center, funding for maintenance activities can be included for the appropriate department.

The revenues for construction, repair, or reconstruction can be obtained through assessments to property owners, which has been the practice in Valley Center and many other cities around the country. The issue with this practice is that the pedestrian and bicycle network provides a community benefit, not just a benefit to the adjacent property. The practice of assessing residents based on location is counterintuitive to the way the Master Plan identifies the needs for connectivity throughout Valley Center. The pedestrian and bicycle facilities network is a community asset which should be invested in by the community as a whole. However, assessing property owners does provide a means of revenue specifically for pedestrian and bicycle facility improvements.

Pedestrian and bicycle projects do not necessarily need to be specifically listed in the CIP. The City can decide to include these facilities as part of routine accommodation. This means including pedestrian and bicycle infrastructure along with other projects such as road construction or maintenance. This approach is a cost effective way to build pedestrian and bicycle facilities. This approach would require Valley Center to adopt a policy that ensures future infrastructure projects include pedestrian and bicycle infrastructure improvements where appropriate and feasible.

The annual budget and CIP provide a means of identifying projects and funding. However, the method of using only the budget and CIP will not likely make systematic changes in how Valley Center will develop the pedestrian



and bicycle network. These annually produced documents often change rapidly and funding is moved from one project to another as immediate priorities shift. If pedestrian and bicycle facilities are a priority for Valley Center, a long-term, systematic approach is necessary to ensure that these facilities are built and maintained to serve residents and visitors.

An important aspect to local funding is that it can be used to match other funding sources. Most state and federal funding programs require local funds to match state/federal funds. Securing local funding is an important precursor to acquiring state or federal funds. Local funds can then be used to leverage additional funding from state or federal sources.

State Funding

The Kansas Department of Transportation (KDOT) is involved with planning pedestrian and bicycle infrastructure statewide. Limited funding for constructing pedestrian and bicycle activities limits Valley Center's options to obtain construction money from the State. However, funding and aid for non-construction programs are regularly available through KDOT. Partnering with KDOT and finding ways to involve them with the planning and implementation of the Master Plan can help in moving towards an improved pedestrian and bicycle environment.

Federal Funding

Federal funds are regularly available for constructing pedestrian and bicycle facilities. It is important to involve the Wichita Area Metropolitan Planning Organization (WAMPO) in any efforts that will involve federal transportation funds. WAMPO will need to be included early in the process from long-range planning efforts all the way through programming federal funds to specific projects in the Transportation Improvement Program (TIP).

The recently passed federal transportation legislation – Moving Ahead for Progress in the 21st Century (MAP-21) identifies funding for pedestrian and bicycle facilities. The Transportation Alternatives Program (TAP) provides monies for expanding travel choices. A portion of this national funding pool is distributed to KDOT. KDOT is then required to allocate 50% of the total funding received by the state to Transportation Management Areas (TMA). WAMPO is one of two TMAs in Kansas. The other 50% can be used at the discretion of the state to fund state highway programs or it can be distributed to local or regional jurisdictions. The following are the eligible activities for TAP funding.

- Construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.
- Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs.
- Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other non-motorized transportation users.
- Construction of turnouts, overlooks, and viewing areas.
- Inventory, control, or removal of outdoor advertising.
- Historic preservation and rehabilitation of historic transportation facilities.
- Vegetation management practices in transportation rights-of-way to improve roadway safety, prevent against invasive species, and provide erosion control.



- Archaeological activities relating to impacts from implementation of a transportation project eligible under this title.
- Any environmental mitigation activity, including pollution prevention and pollution abatement activities and mitigation to address storm water management, control, and water pollution prevention or abatement related to highway construction or due to highway runoff, including activities described in sections 133(b)(11), 328(a), and 329; or reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats.
- Any projects eligible under the Recreational trails Program or Safe Routes to School Program.

Other federal funding options include:

- Surface Transportation Program: provides flexible funding for many different types of projects including pedestrian and bicycle infrastructure or related elements.
- Congestion Mitigation and Air Quality Program: provides funding for projects and programs that will improve vehicular congestion and/or improve air quality, such as pedestrian and bicycle improvements.
- Highway Bridge Replacement and Rehabilitation Program: provides funding for replacement or rehabilitation of highway bridges, including pedestrian and bicycle infrastructure.
- Safe Routes to School: once a standalone program, the SRTS projects are now eligible under the TAP.
- Highway Safety Improvement Program: provides funding for safety improvements.
- Section 402: provides funding for various safety initiatives including safety programs, conducting community safety campaigns, and conducting data analyses.
- Recreational Trails Program: provides funding for trail projects.
- Transportation and Community and System Preservation: provides funding for pedestrian and bicycle type projects.

Other Funding Options

There are other funding options beyond local, state, and federal sources. Partnering with non-profit organizations or businesses can offer another funding pool. Non-profits, such as health-related organization, can aid in funding programs or infrastructure that will improve the health of citizens. Some businesses also see the value in providing travel options for workers or providing access to their businesses. Building relationships with non-profits and the business community can potentially lead to new funding sources.



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APPENDIX



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Facility Types

The following section offers potential pedestrian and bicycle facility options as well as planning level cost estimates for installation, annual maintenance, and annual budgeting for replacement. The costs are provided for comparing different facility types. The costs should not be used to estimate the total cost to build and maintain facilities, as costs change rapidly over time. They are being provided to show the current high-level estimates for each facility type and how installing, maintaining, and replacing a certain facility type compares to another.

Careful consideration should be given to choosing the appropriate facility type for each location, taking into account the likely users of the facility. Facility types beyond those listed in the Master Plan are available for consideration. The types listed in the Master Plan were chosen based on the likelihood of implementation in Valley Center.

Consistency in facility type along a corridor should also be a consideration when determining the appropriate facility type(s) for a corridor. If changing from one facility type to another along a corridor, consideration should be given to how the transition will provide a smooth flow of travel and be easily understood by users.

Miscellaneous other features will likely be needed with the installation of pedestrian and bicycle facilities. However, they were not included in the estimates because installation will vary greatly depending on location, use, and context. Other features include elements such as signage, crosswalks, benches, trash cans, lighting, and others.



Sidewalks

Abundant in Valley Center, sidewalks are paved and located adjacent to roadways. Sidewalks are best for pedestrian travel, as they can be too narrow for bicycle travel. Sidewalks are typically located in the street right-of-way.

Figure A1: Sidewalk Planning Level Cost Estimates

Installation Cost per Mile	Annual Maintenance Cost per Mile	Annual Replacement Budget per Mile
\$137,000 to \$172,000	\$1,250 to \$1,500	\$5,500 to \$6,900
Assumes: <ul style="list-style-type: none"> • 5 foot wide sidewalk • Concrete • No right-of-way required • \$4 - \$5 per square foot • 30% engineering, utility relocation, drainage, landscaping, etc. 	Assumes: <ul style="list-style-type: none"> • Sweeping 10 times per year • Sweeping at \$125 to \$150 per mile • Joint/crack sealing 	Assumes: <ul style="list-style-type: none"> • 25 year lifespan • Major repair or reconstruction after 25 years



Multi-Use Paths

Multi-use paths are similar to sidewalks in that they are off-street facilities. They can be located along a road, river, or other linear feature. However, they can be built almost anywhere that space will allow. They are wider than sidewalks which provide more room for walkers and bikers, making shared use paths more accommodating to bicycles. These facilities are typically paved but in certain areas, gravel or wood chips may be used to reduce cost and/or keep a more natural/rural feel. This type of treatment was discussed for potential use for the area west of West Elementary around the pond and/or through the passive park.



Figure A2: Multi-Use Path Planning Level Cost Estimates

Installation Cost per Mile	Annual Maintenance Cost per Mile	Annual Replacement Budget per Mile
\$330,000 to \$410,000	\$1,250 to \$1,500	\$13,200 to \$16,500
Assumes: <ul style="list-style-type: none"> • 12 foot wide path • Concrete • No right-of-way required • \$4 - \$5 per square foot • 30% engineering, utility relocation, drainage, landscaping, etc. 	Assumes: <ul style="list-style-type: none"> • Sweeping 10 times per year • Sweeping at \$125 to \$150 per mile • Joint/crack sealing 	Assumes: <ul style="list-style-type: none"> • 25 year lifespan • Major repair or reconstruction after 25 years

Bicycle Lanes (regular and buffered)

Bike lanes are areas on a road that are marked off for bicycle use. These facilities use existing roadway and designate a route for bicyclists by pavement marking and could include signs. Less expensive than off-street facilities, these on-street facilities offer a cheaper option to increase designated facilities for bicyclists. Buffered bike lanes are bike lanes with pavement markings that create a buffer between vehicles and bicyclists.



Figure A3: Bicycle Lane Planning Level Cost Estimates

Installation Cost per Mile	Annual Maintenance Cost per Mile	Annual Replacement Budget per Mile
\$13,500 to \$19,600	\$9,000 to \$14,500	\$0
Assumes: <ul style="list-style-type: none"> • Both sides of street • Lane striping (\$0.75 to \$1.25 per linear foot) • Approx. 40 total bike symbols and arrows (\$140 to \$160 per symbol) • No parking on street • No pavement repair required • For buffered bike lane, add approx. \$10,000 	Assumes: <ul style="list-style-type: none"> • Restriping once a year • Repaint symbols once every 5 years • Sweeping once a month • For buffered bike lane, add approx. \$10,000 	Assumes: <ul style="list-style-type: none"> • No replacement beyond annual maintenance



Shared Lane Markings

Shared lane markings are symbols on the pavement notifying drivers and bicyclists that they should expect to see and share a vehicular travel lane with bicyclists. These differ from bicycle lanes in that they do not designate a special area in the road for bicyclists.



Figure A4: Shared Lane Markings Planning Level Cost Estimates

Installation Cost per Mile	Annual Maintenance Cost per Mile	Annual Replacement Budget per Mile
\$5,600 to \$6,400	\$1,100 to \$1,300	\$0
Assumes: <ul style="list-style-type: none"> • Both sides of street • Approx. 40 total bike symbols and arrows (\$140 to \$160 per symbol) • No parking on street 	Assumes: <ul style="list-style-type: none"> • Repaint symbols once every 5 years 	Assumes: <ul style="list-style-type: none"> • No replacement beyond annual maintenance

Paved Shoulder

Paved shoulders are areas outside travel lanes on a street that are paved to allow for travel, typically via bicycle. This option works best on roads with open ditches in more rural areas. This option may require the road surface to be widened.



Figure A5: Paved Shoulder Planning Level Cost Estimates

Installation Cost per Mile	Annual Maintenance Cost per Mile	Annual Replacement Budget per Mile
\$384,000 to \$549,000	\$0	\$77,000 to 110,000
Assumes: <ul style="list-style-type: none"> • Both sides of street • 4 feet wide • Asphalt and base (\$7 to \$10 per square foot) • 30% engineering, drainage, utility adjustment, landscaping, etc. 	Assumes: <ul style="list-style-type: none"> • No sweeping 	Assumes: <ul style="list-style-type: none"> • 10 year lifespan • Major repair or reconstruction after 10 years

Intersection Improvements

Improvements to intersections will likely accompany any pedestrian and bicycle improvements. Crossing vehicular travel lanes pose safety concerns for both pedestrians and bicyclists. Intersection improvements can include traffic signals, pedestrian signals, pavement markings, signage, and many other treatments. Specific treatments should be implemented based on the appropriateness of the specific situation.





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