

Cheney

Community Pedestrian & Bicycle

Master Plan

August 8, 2018



KM KIRKHAM
MICHAEL
Your Success is our Passion!



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A. BACKGROUND AND PURPOSE

A key goal identified in the Cheney 2015-2025 Comprehensive Plan is to “Create opportunities for all citizens to stay active by providing various programs and infrastructure throughout the community.” The Comprehensive Plan also recognized that 621 out of the 860 properties in Cheney do not have sidewalks.

The Community Pedestrian and Bicycle Transportation Plan looks at the existing sidewalks/paths/bicycle lane infrastructure and determines placement of new pedestrian/bicycle infrastructure to create routes for pedestrians to safely access identified specific locations of new development within the community. The plan utilizes public input and assessments performed by the City to guide the development of a pedestrian/bicycle friendly community by adding amenities, a comprehensive system of off-road and on-road pathways, bike lanes, sidewalks, and trails.

The City wishes for the plan to:

- Connect users to key destinations throughout the community
- Provide connections to regional destinations
- Provide opportunities for a variety of recreational and fitness activities.
- Not adversely impact automobile traffic

The goals of the plan are as follows:

1. Evaluate existing bicycle and walking conditions and identify gaps in the network
2. Identify potential options for pedestrian routes that connect areas within the community and the region
3. Propose safely designed, well-marked and maintained pedestrian routes
4. Identify options for adequate amenities for pedestrians/bicyclists throughout the community
5. Propose policies, programs, and projects to ensure a pedestrian friendly community
6. Develop an implementation plan, including funding sources and partnerships

The City of Cheney invited residents with different backgrounds and interests to for the Steering Committee that would represent the community during the development of this plan. The Steering Committee was comprised of the following people:

- Linda Ball, Mayor
- Kevin Fowler, Cherry Oaks Director of Golf
- Marcia Kampling, USD 268 School Board President
- Leslie Leroux, Running/Bicycle Enthusiast
- Brent Peintner, Cheney Recreation Commission Director
- Melanie Tolar, Physical Education Teacher/Safe Routes to School Partner
- Jami Viner, Cheney Planning Commission Member
- Danielle Young, City Administrator

B. CITY CODES/POLICIES & FEDERAL REQUIREMENTS

The City currently has several codes and policies related to sidewalks. Chapter XIII, Article 1 presents the city's general sidewalk requirements regarding permits, construction details, responsible parties, inspection, repairs and rights. Chapter XVI, Article 3, section 16-344, subsection b) states that "sidewalks shall be required in accordance with all applicable city ordinances pertaining to sidewalks on both sides of the street wherever streets are required." This section goes on to clarify that residential lots with 200 feet or more of frontage, or, lots equaling one acre or more in average size are not included within this requirement. It should be noted that the typical lot size in Cheney falls under this ordinance. Prior to Section 16-344 in Article III, Section 16-305 states that "No plat or subdivision shall be approved which does not comply with the provisions of this title." These two excerpts taken from City Codes combine to relay the fact that no new residential construction in Cheney should take place if sidewalk is not depicted on the plat of the new development. To avoid assuming the responsibility of providing sidewalks for new subdivisions, it's imperative that the City enforce the above regulations by not approving plats unless sidewalks are included and requiring those sidewalks to be constructed. Changes can be made to improve and clarify the current policies and guidelines the City has in place. A recommended change would be establishing a standard detail for geometric design and location of sidewalk and sidewalk ramps. In addition to the standard detail, it is suggested that a provision is added to Chapter XIII, Article 1 requiring that all new sidewalk be constructed in compliance with the standard detail.

Just as crucial as the policies is having a person or entity assigned to enforce the regulations set forth in the City's Codes and Ordinances. Doing so allows for more thorough examination of construction taking place in Cheney and helps to create the desired consistency and quality for all future projects.

The Americans with Disabilities Act of 1990 (ADA) specifies the width, slope, and texture required for public sidewalks, as well as how curbs are designed and the proximity to obstructions. These standards apply to all new construction; however, the ADA also requires that public entities retrofit any public facilities to these standards to ensure equal access. These requirements include sidewalks and curb ramps. Any non-compliant sidewalks or curb ramps must be upgraded to meet current standards whenever any road alterations are carried out.

Design standards for urban local and collector roads are found in the Fourth Edition of the American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets* (AASHTO Green Book). The AASHTO Green Book states that in residential areas, sidewalk should be provided on at least one side of the street and that local roads and collectors which provide direct access to schools, parks and shopping areas should have accessible sidewalk along both sides of the street.

The American Public Works Association has published criteria for street design within a city which states that major collector streets require sidewalk on both sides of the roadway, local streets

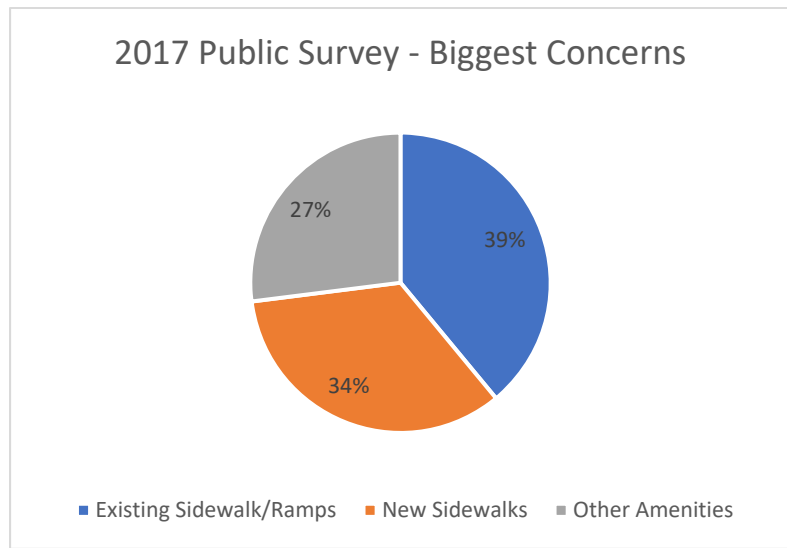
require only one side of the roadway to have accessible sidewalk, and limited access local streets do not require sidewalk.

C. PUBLIC INPUT

The public was consulted while developing the 2015 Comprehensive Plan and 2016 Master Park Plan. The City received comments from the public on both occasions recommending that Cheney improve and expand its sidewalks and park trails.

In 2017, the City further inquired with the public by mailing out surveys that specifically requested comments and input about pedestrian paths/bicycle routes/sidewalks. Most respondents voiced concerns over the condition of the existing sidewalks in Cheney, highlighting certain areas that they believed were not safe for pedestrian travel. Of the individualized responses submitted with the

surveys, over 39% cited issues with the existing sidewalks and ramps, while 34% stated that new sidewalk needs to be installed to connect the community. The remaining comments ranged from adding amenities such as crosswalks, signing and lighting to increase public education.



Of the 34% responses that recommended installing new paths, the prevailing reasoning was to improve connectivity. The main destinations were identified as the south sports complex, downtown, schools, swimming pool/parks, and Cherry Oaks/Back Nine subdivision. Utilizing the Rails-to-Trails program to connect to the Prairie Sunset Trail that currently ends at Garden Plain was also mentioned on several responses. Many other responses mentioned that the length of existing paths to safely walk and bike are currently not adequate due to gaps in the system.

In the survey, an additional question was asked regarding the location that the City should prioritize to have sidewalk added, replaced or repaired. A path to the South Sports Complex was the most frequently mentioned location, with 35% of the responses mentioning it specifically. The north and west areas of Cheney tied for the second most popular response with 20% each. Slightly less than 11% of the responses listed the east side of the city with several specifying Shadybrook or Jefferson. Connecting Cherry Oaks and the Back Nine to downtown and providing sidewalk along Main Street to the north side of the city was also mentioned. The remaining responses either didn't provide a location or were very general in nature.

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The last question on the survey asked what features would help make Cheney more attractive to pedestrians and/or bicyclists. The most popular responses from this question were the inclusion of additional lighting, signage, pavement markings and bicycle amenities.

Based on the survey results, the area of the existing sidewalk system that respondents identified as most needing to be repaired or replaced are sidewalk ramps, more specifically the lack thereof. There are numerous locations throughout Cheney where the current endpoint of a sidewalk is a street curb. If new sidewalk is added, desired locations are the new sports complex and fairgrounds on the south side of the city, Cherry Oaks/Back Nine, north Main Street and the east side of the city. There is also a desire to extend existing paths that can be walked or biked recreationally and to connect regionally by tying into the Prairie Sunset Trail in Garden Plain.

In addition to the public input gathered by the City in previous years, a public involvement meeting was held on June 27, 2018 to allow the community to voice their opinions, questions and concerns related to the contents of the rough draft of this plan. Minutes of the meeting were documented and used to create the final version of the plan.

D. EXISTING PUBLIC SIDEWALK INVENTORY

To create this section of the Master Plan, Kirkham Michael utilized data provided by the City to analyze the existing public sidewalk system in Cheney. No field work was conducted by Kirkham Michael to identify the location or condition of any ramps or sidewalk for use in this report.

I. Sidewalk Ramps

A Land Use Survey was conducted by the City of Cheney in 2014, where city employees performed visual observations and documented information on existing sidewalk and sidewalk ramps. One goal was to determine the prevalence of sidewalk ramps within residential neighborhoods. The results were tabulated to show how many residential street intersections contained sidewalk ramps. The Land Use Survey showed that 38% of street intersections in Cheney had multiple sidewalk ramps, 6% had only one sidewalk ramp, and 56% had no sidewalk ramps.



The location and condition of existing ramps was provided to Kirkham Michael by the City. Google Earth was used to confirm locations of acceptable and non-acceptable ramps by

identifying which ramps contained detectable warnings. This information was utilized in ArcMap 10.5 to create the map shown as Figure 1 below. This map shows the location of all existing sidewalk, the locations of acceptable and non-acceptable ramps, and the locations where there is not a ramp present but should be (sidewalk ends at a curb).



Figure 1. Existing Sidewalk and Ramp Map

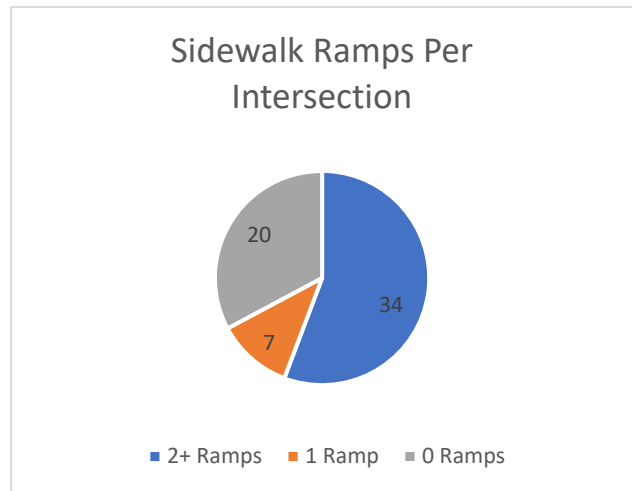
The blue lines represent segments of existing public sidewalk. Locations of sidewalk ramps in acceptable and non-acceptable condition are shown as green circles and pink triangles, respectively. Yellow squares represent locations where sidewalk ends at a curb and no ramp is present. The tabulated results of the ramp analysis are shown on the following page in Table 1.

Table 1. Sidewalk Ramps

	No Ramp Present	Non-Acceptable Ramps	Acceptable Ramps	Total
Quantity	76	40	67	183
Percentage of Total	42%	22%	36%	100%

There are 183 locations in Cheney where a ramp is required. As can be seen in the table, almost two-thirds of the locations either have a ramp that needs to be replaced or do not have a ramp at all.

Analyzing the City of Cheney’s ramp availability by street intersections shows that approximately 61 different street intersections have existing sidewalk that ends at a curb. Analysis of each independent intersection shows that 34 out of the 61 (56%) currently have multiple ramps. Seven intersections (11%) contain only one sidewalk ramp, while 20 out of the 61 (33%) are without a single ramp. This means that 44% of street intersections with sidewalk have at most one ramp present, while many of those are without ramps entirely. These percentages vary from the results of the Land Use Survey which was performed prior to the completion of the Safe Routes to School Project.



The recommended action regarding the installation of new sidewalk ramps is found in Section E, Subsection II of this report.

II. Condition of Existing Sidewalk

The Land Use Survey was also used to gauge the condition of existing public sidewalk. Existing sidewalk within the lot of a home was assessed by the City to be either heavily damaged (heaving/broken/crumbling), moderately damaged (cracked/chipped/damaged), or that it showed no visible



damage. It was also recorded which lots did not contain sidewalk. Tabulated results are shown below in Table 2.

Table 2. Existing Sidewalk Condition

	Heavily Damaged	Moderately Damaged	No Visible Damage	No Existing Sidewalk	Total
Number of Cases Per Condition	28	53	165	614	860
Percentage of Total Cases	3%	6%	20%	71%	100%

This portion of the Land Use Survey included 860 lot-cases. While 246 lots were reported to contain sidewalk, 67% of them showed no visible damage. The majority of the lots in Cheney (614) did not have any sidewalk. Figure 2 below shows the location of each lot-case recorded in the Land Use Survey with its respective sidewalk condition.



Figure 2. Existing Sidewalk Condition Map

All lines shown in Figure 2 represent existing sidewalk. The blue lines represent existing sidewalk that was reported to show no visible damage and assumed to be acceptable. The red lines represent sidewalk that appeared damaged and thus assumed to be non-acceptable. The tabulated results of the sidewalk condition analysis are shown below in Table 3.

Table 3. Sidewalk Condition

	Acceptable Sidewalk	Non-Acceptable Sidewalk	Total Sidewalk
Linear Feet of Sidewalk	48,890	11,857	60,747
Linear Miles of Sidewalk	9.26	2.25	11.51
Percentage of Total	80%	20%	100%

As previously noted, all field work was performed by the City of Cheney. No field assessments were performed by Kirkham Michael to analyze existing sidewalk conditions.

This data provided by the City shows a trend based on location. Lots within the 100 to 500 blocks of both Adams Street and Lincoln Street together accounted for 22 of the 81 lots where sidewalk was moderately to heavily damaged. Jefferson Street, Marshall Street, Filmore Street and 2nd Avenue combined to total another 33 cases (41%) of damaged sidewalk.

This analysis shows a reported 11.55 miles of sidewalk within Cheney with 80% of this existing sidewalk showing no visible damage and assumed acceptable. A comprehensive breakdown of damaged sidewalk locations along with recommended improvements are found in Section E, Subsection II of this report.

III. Availability of Existing Sidewalk

Road use and classification influences the types of accessibility typically offered to the road user. Different types of accessibility would include vehicular, bicycling, and pedestrian travel while accommodating road users who may be disabled. A large portion of Cheney’s roads are low volume residential or classified as local. Main Street would be an exception, as it classifies as an urban collector due to its ability to provide land access and traffic circulation between neighborhoods and arterial streets.

An aerial map of the City’s public sidewalk system was overlaid in ArcMap 10.5 to show absences of sidewalk, commonly referred to as sidewalk gaps. These sidewalk gaps were areas along local roads that did not have sidewalk down either side. The map is shown on the following page as Figure 3.



Figure 3. Existing Gap Sidewalk Map

The blue lines represent existing sidewalk present along a city street. The yellow lines represent segments of sidewalk that would need to be constructed to satisfy the sidewalk requirements stated in the AASHTO Green Book. It is believed that the section of Main Street north of the school only requires sidewalk down one side of it due to the low volume of access points compared to residential areas. Tabulated results of the sidewalk gap analysis were created to

compare the length of existing sidewalk versus what would potentially be constructed to satisfy requirements for all urban roads within Cheney. These results are shown in Table 4 below.

Table 4. Sidewalk Availability

	Existing Sidewalk	Segments of Non-Existing Sidewalk	Sidewalk Required to Satisfy Requirements for all Existing Urban Roads
Linear Feet	60,750	41,670	102,420
Linear Miles	11.51	7.89	19.40
Percentage of Total	59%	41%	100%

Table 4 shows that approximately 59% of sidewalk required along urban roads in Cheney is currently existing. Proposed locations for new addition sidewalk is found in Section E of this report.

E. POTENTIAL SIDEWALK IMPROVEMENTS

When it is not feasible to construct sidewalk along every lot of every street, it is necessary to identify the locations where new sidewalk will benefit the most pedestrians and bicyclists in the most efficient manner. Projects were prioritized for the installation of new sidewalk, or repair of existing, through meetings with Kirkham Michael and the Steering Committee. The projects included are shown below in order of priority:

1. Sidewalk that reaches City Limits along 6th Avenue and Main Street
2. Expanding sidewalk ramp availability and repairing existing sidewalk
3. South Sports Complex Path
4. Sidewalk in Northeast Cheney
5. Back Nine Subdivision Connector Path (Lake Road)
6. Bicycle path and amenities
7. Sidewalk Gap Elimination
8. Alternative Improvements
9. Regional Connectivity

The following subsections show the proposed scope for each of the projects listed above.

I. Sidewalk that Reaches City Limits Along 6th Avenue and Main Street

This project was chosen by the Steering Committee to be the top priority identified in this plan. It would help to reduce the presence of play deserts along major collectors by providing increased access to public places for physical activity such as school playgrounds, the municipal pool, and the South Sports Complex/Fairgrounds. Expanding upon available access to features such as these is a key focus of the Kansas Statewide Comprehensive Outdoor Recreation Plan. Shown below in Figure 4 is the mapped out locations for construction involved in priority one.



Figure 4. Priority 1 Sidewalk Locations

The red lines shown in Figure 4 represent segments of proposed sidewalk and the green objects represent locations of necessary ramps along the route. Priority 1a is to add sidewalk on the north side of East 6th Avenue from Sunnyside Avenue to Hoover Street. Priority 1b places sidewalk along the south side of West 6th Avenue between Lake Road and Filmore Street. Priority 1c consists of adding sidewalk along South Main Street from north of Santa Fe Avenue to the South Sports Complex. Sidewalk construction along North Main Street was deemed to be improbable due to the current drainage channels that run adjacent to the road and was not included within the scope of the Master Plan.

II. Expanding Upon Ramp Availability and Repairing Sidewalk

Corner sidewalk ramps play an important role in making sidewalks, street crossings, and other pedestrian routes accessible to all people. Ramps allow pedestrians and bicyclists to more easily mount the sidewalk and are required by the Americans with Disabilities Act as previously noted.

The consensus is that installing ramps that satisfy these design requirements at sidewalk endpoints that currently do not have a ramp would be a greater benefit to the community than replacing existing ramps that do not meet current requirements. Doing so would decrease the number of sidewalks that end at a curb and therefore increase the range of sidewalks available to those who may be disabled while also encouraging pedestrians and bicyclists to use the sidewalk instead of sharing the streets with motorists. Installation of new ramps at street intersections where acceptable sidewalk currently exists without a ramp has been identified as a high priority related to pedestrian and bicycle paths for City.



It is worth noting that there are additional ramps that should be installed at locations where there is not currently acceptable sidewalk leading to the intersection. It's assumed that those ramps will be installed concurrently with the sidewalk that needs to be repaired or installed



Figure 5. Priority 2 Ramp Locations

There are approximately 49 locations where an ADA-compliant ramp is prioritized to be constructed.

The condition of existing sidewalk in Cheney varied depending on its location within the city. This is common in cities where the sidewalk was not constructed within the same timeframe or if multiple contractors were utilized to construct the sidewalk. Quantitative analysis was done to help identify which segments of sidewalk may be more critical than others. Results were

determined by comparing the linear feet of existing non-acceptable sidewalk adjacent to a street versus the total length existing sidewalk along the same street. In lieu of analyzing each individual segment of sidewalk, the streets with the seemingly largest amounts of non-acceptable sidewalk were focused on to identify which are in most need of repair. Table 5, below, shows the lengths and percentages of non-acceptable sidewalk along specific streets in Cheney.

Table 5. Sidewalk Condition by Street

	Non-Acceptable Sidewalk (Linear Feet)	Total Sidewalk (Linear Feet)	Percentage of Total Sidewalk
2 nd Ave. West of Main. St.	1144.9	4217.5	27%
2 nd Ave. East of Main St.	829.9	3065.2	27%
3 rd Ave. West of Main St.	747.6	3177.3	24%
4 th Ave. West of Main St.	1960.8	3818.6	51%
Adams St.	1397.6	4279.4	33%
Filmore St.	641.7	1777.4	36%
Jefferson St.	825.8	2084.8	40%
Lincoln St.	1316.4	4238.5	31%
Marshall St.	833.1	3743.8	22%

The results of the analysis show that 4th Avenue west of Main Street, Jefferson Street and Filmore Street have the highest percentages of non-acceptable sidewalk. The three with the longest total length of existing sidewalk are 2nd Avenue west of Main Street, Adams Street and Lincoln Street.



4th Avenue west of Main Street, Adams Street and Lincoln Street have the largest amounts of non-acceptable sidewalk.

The conclusion of this data analysis points to sidewalk replacement along 4th Avenue, Jefferson, Adams and Lincoln Street as having the potential to be most beneficial to the public. A map displaying these sidewalk locations is shown on the following page as Figure 6.



Figure 6. Priority 2 Sidewalk Locations

Replacing non-acceptable sidewalk along these four streets would total approximately 5,500 linear feet of sidewalk. The existing sidewalk in this area is four feet wide, equaling approximately 2,445 square yards of concrete.

III. South Sports Complex Path

The City of Cheney contracted with LK Architecture firm to create a conceptual rendering of the South Sports Complex. This includes baseball and softball diamonds, soccer fields, a splash park, a pond, vehicular parking, and a trail that runs around and through the entire complex. The architectural rendering is shown below as Figure 7.



Figure 7. South Sports Complex

Currently the east baseball and softball diamonds have been constructed along with the grading for the parking lot north of the diamonds and a small playground area just west of the parking lot. The proposed pedestrian and bicycle path improvements would help to make this complex more accessible not only to the residents of Cheney but provide a location to bike or walk recreationally.

To aid in development of the South Sports Complex, Kirkham Michael estimated the length and cost associated with the construction of the conceptual path around the perimeter of the complex. This path would be considered recreational and eligible to receive funding from the State as discussed in Section F.2. Figure 8 on the following page shows the general path that the trail will follow. As you can see, the proposed path basically adds a leg to the conceptual path on the northwest side of the complex that would allow people to walk/bike a loop around the entire complex.

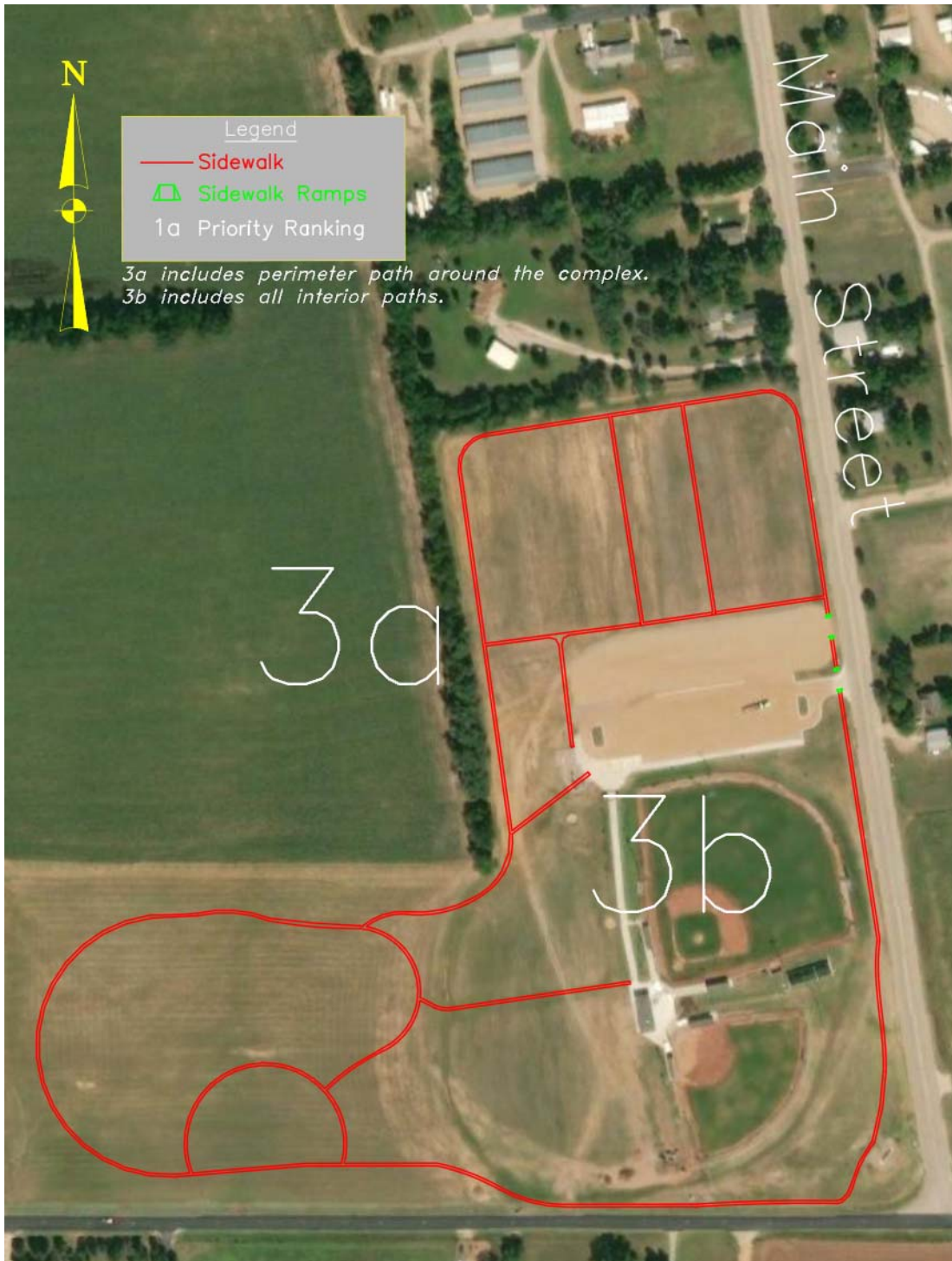


Figure 8. Priority 3 Sidewalk Location

The total length of the proposed path is approximately 8,850 linear feet. To build on the layout proposed by LK Architecture, Kirkham Michael recommends that the path be extended along the west tree line of the north portion of the Complex lot to connect the sidewalk paths in the northwest corner to complete the loop around the perimeter. Priority 3a would be the perimeter path, while priority 3b would include all interior paths.

IV. Sidewalk Construction in Northeast Cheney

Earlier in this report, Figure 3 illustrated the location of existing sidewalk within the City and also showed the presence of gaps within the City's sidewalk system. An area that the Steering Committee chose for construction of new sidewalk was in the northeast corner of the City. The subdivisions in this area are relatively new and did not have sidewalk installed along with construction of the homes. Figure 9 on the following page shows proposed locations for new sidewalk within this area.

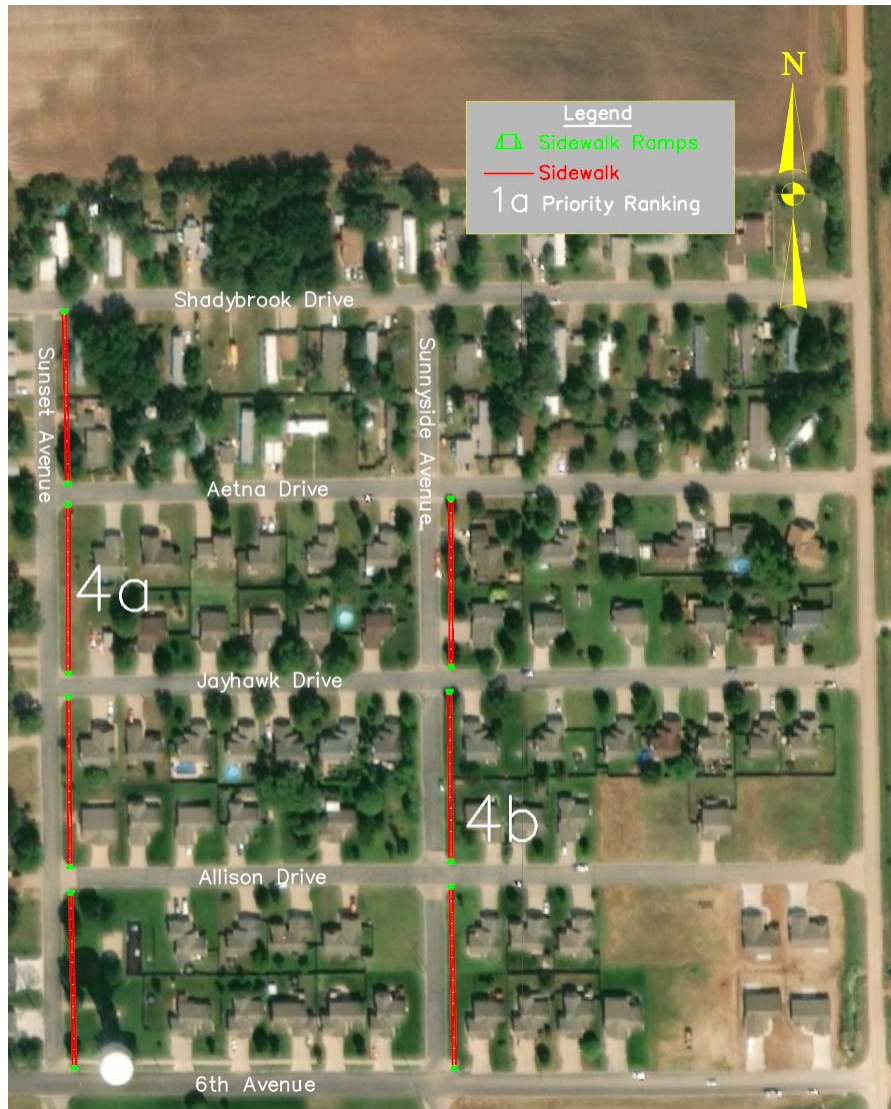


Figure 9. Priority 4 Sidewalk Locations

New sidewalk along Sunset and Sunnyside Avenues would provide an off-street pedestrian and bicycle route from northeast corner of the City to downtown Cheney. In addition to helping facilitate a north to south pedestrian corridor it would also provide children living in the area a route to safely walk or bike to school or the small park located just north of the water tower and south of Allison Drive.

V. Back Nine Subdivision Connector (Lake Road Path)

Because it was not feasible to construct sidewalk along north main street on the east side of the golf course, the Steering Committee decided that a path along Lake Road would provide adequate pedestrian and bicycle access to the school and other areas from the Back Nine Subdivision. Shown below in Figure 10 is the proposed Lake Road path.

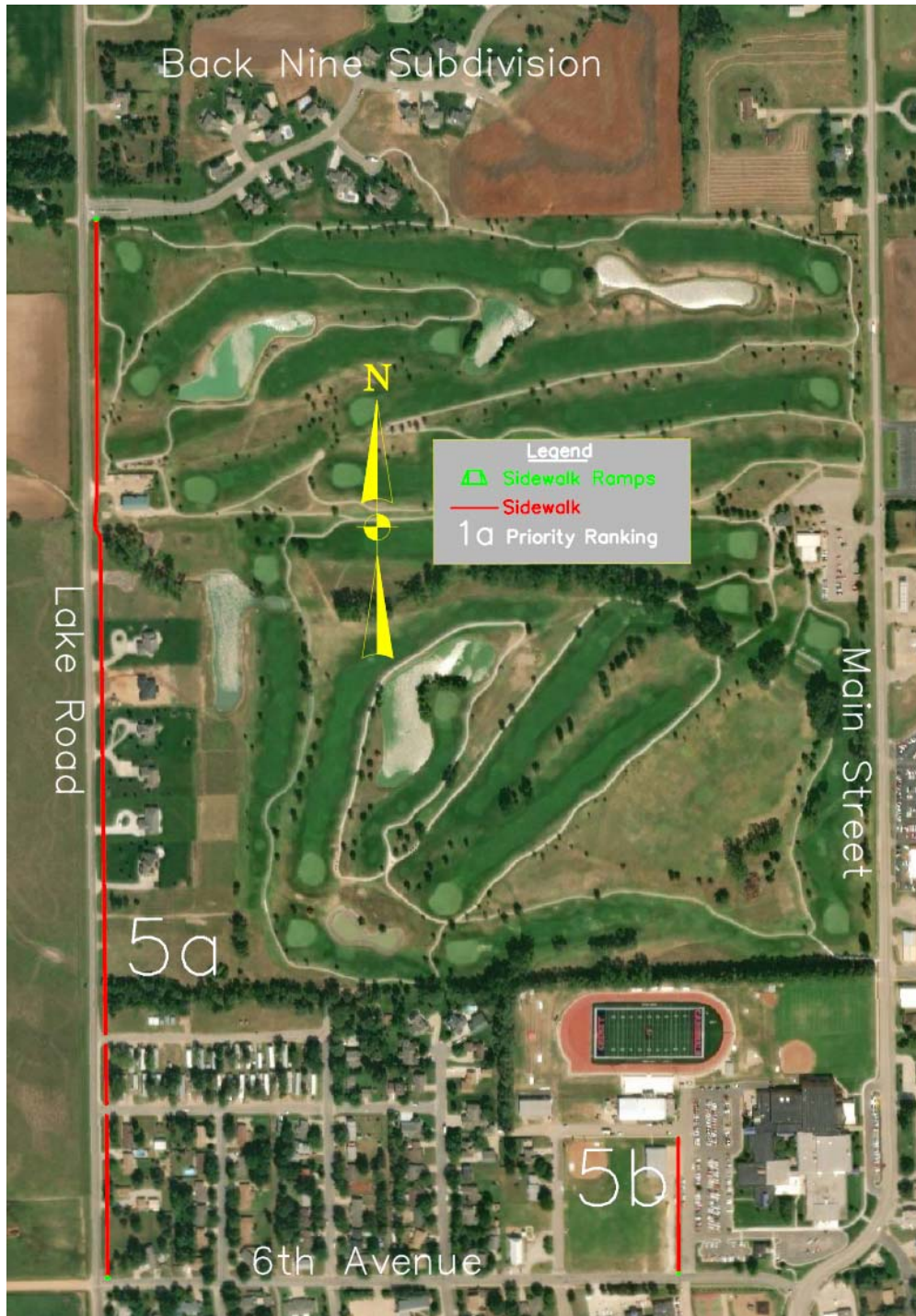


Figure 10. Priority 5 Sidewalk Locations

Shown in Figure 10, path 5a starts on the north side of 6th Avenue and continues north along Lake Road until it reaches the Back Nine Subdivision. Path 5b would add sidewalk along the east side of the practice fields to the track and football field. Since the practice fields are used for overflow parking during activities, this would provide the attendees a pathway to the event without having to walk in the street.

VI. Bicycle Path

The desire to connect the north and south ends of the city for pedestrian and bicycle travel has been highlighted within previous sections of this report. One way to help accomplish this would be through the implementation of bicycle lanes along existing roadways. Bicycle lane pavement markings currently exist along Main Street starting north of Shadybrook Drive and extending north to the entrance to the golf course clubhouse. The lane is composed of a four-to-six foot wide asphalt shoulder extension adjacent to the roadway. Continuing this paved shoulder to the north would provide bicyclists a designated riding area out of the lane of vehicular traffic.

The existing markings along North Main Street at Shadybrook Drive could also continue south along Main Street, creating a zone for safe bicycle travel. It is proposed that the pavement markings extend to 4th Avenue, where the bicycle route would turn to the west. At this point, the pavement markings could end or be placed in the street. The route would then turn south on Marshall Street and continue to Sante Fe Avenue.

With or without pavement markings, it is recommended that bicycle route markers be installed to delineate the route. Providing this designated bike route would allow bicyclists to avoid using Main Street when commuting through the city. For the portion of the bike route along 4th Avenue and Marshall Street, the route would be marked with signs similar to what is right and bicyclists would share the road with motorists. Similar bicycle traffic

control devices would be provided for both northbound and southbound traffic along the entirety of the route.



Existing markings on N Main St



Optional Markings on 4th Ave and Marshall St

The installation of bike lanes would be feasible along North Main Street based off design considerations found in the AASHTO, *Guide for the Development of Bicycle Facilities*. Parallel Parking is offered along both sides of Main Street next to the school, but these parking areas are not striped. In these situations, AASHTO recommends 11 feet minimum from flow line of curb to the center of a 6-inch solid white stripe designating the bicycle/parking lane. This in total would occupy 22 feet of the road width by having bicycle lanes on both sides. North Main Street is 50 feet wide from flowline to flowline at its most narrow point which would allow 14 feet on each side between the center of the bicycle lane striping to the center of the road. The photo above is an example of what they layout could be that delineates bike route while not restricting parallel parking. Figure 11 on the following page shows the proposed bicycle route.



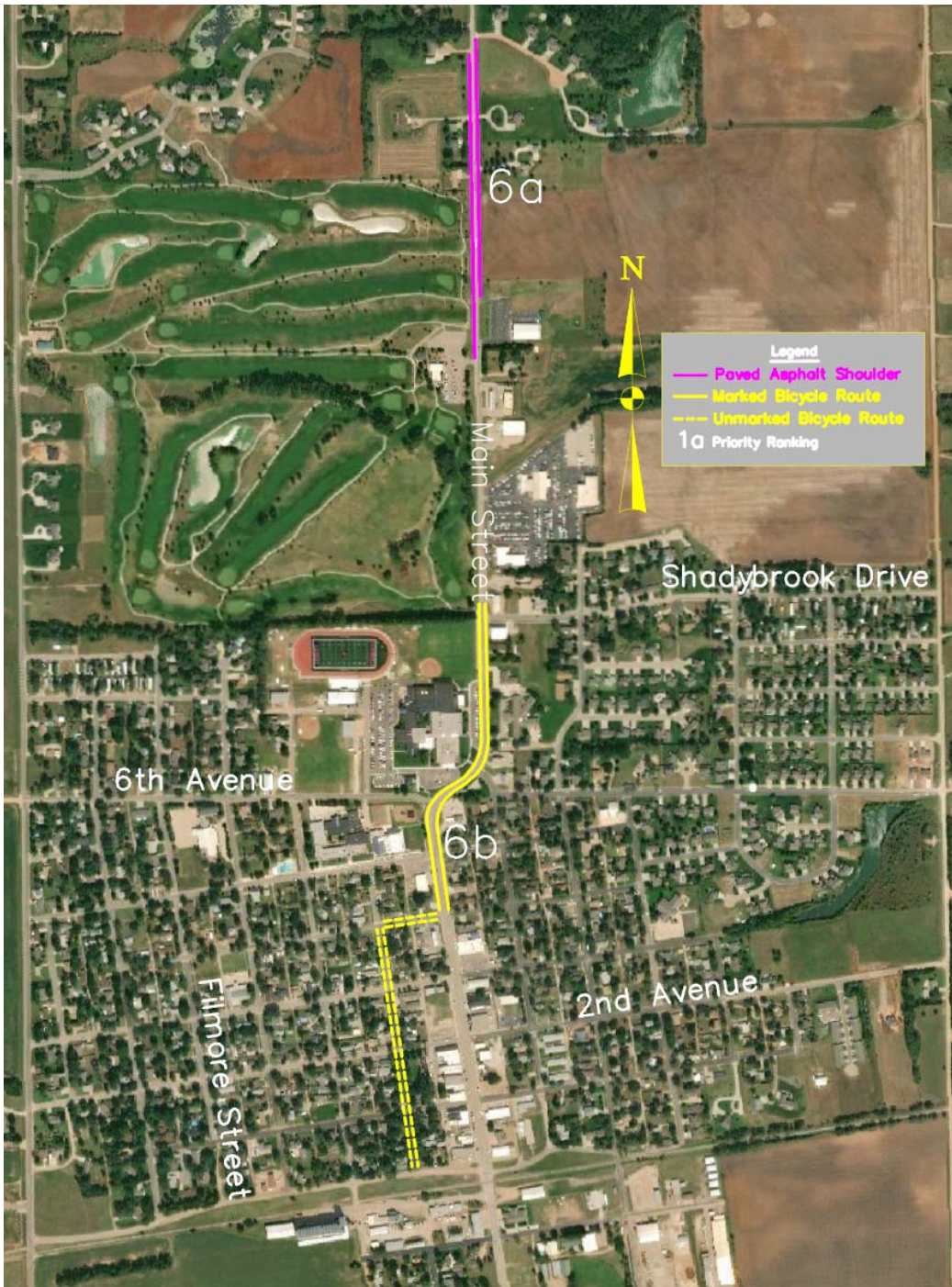


Figure 11. Priority 6 Bicycle Route

The pink lines shown in Figure 11 represent the extended asphalt shoulder used as bicycle lanes, which would extend to the north approximately 1,700 feet along each side of the road. The solid yellow lines represent the area where the route would be controlled by pavement markings and signage, while the dashed yellow lines represent the portion of the route to be controlled only by signage. The length of pavement markings would be approximately 2,000 linear feet on each side of the road, totaling 4,000 linear feet of 6-inch white striping.

VII. Sidewalk Gap Elimination

As shown in Figure 3, there are gaps in Cheney’s sidewalk system located throughout the city that should be addressed to comply with guidelines set forth in the AASHTO Greenbook Design Guide and by the APWA as noted in Section B on page 11 of this plan. The following page contains Figure 13 which shows the locations of future remaining sidewalk gaps with the assumption that all projects proposed within this Master Plan are completed.



Figure 12. Future Sidewalk Gaps

The remaining future sidewalk gaps would total approximately 32,590 linear feet. Table 6, shown below, compares future versus existing sidewalk gaps as presented in section D subsection III of this report.

Table 6. Future Sidewalk Gaps

	Existing Sidewalk Gaps	Future Sidewalk Gaps	Reduction in Sidewalk Gaps
Linear Feet	41,670	32,590	9,080
Miles	7.89	6.17	1.72
Percentage of Existing Gaps	100%	78%	22%

Table 6 shows that the sidewalk projects proposed within this plan will reduce existing sidewalk gaps by 22%. Future consideration should be given by the City to address these gaps. Compliance with AASHTO regulations would require construction of sidewalk along at least one side of every urban road.

VIII. Alternative Improvements

There are opportunities to improve the City of Cheney’s public sidewalk system by adding features that will encourage people to consider walking or biking. Some of the most important factors to increase the appeal of walking or biking in town are safety, amenities, aesthetics and ease.

Implementing things such as new lighting, crosswalks and bicycle parking along pedestrian and bicycle routes would provide additional safety and convenience to pedestrians and bicyclists. Existing lighting can be expanded upon in high pedestrian traffic areas such as East and West 6th Avenue, and North and South Main Street. Potential locations for new crosswalks and pedestrian signing include West 6th Street near the school, and South Main Street near the Sedgwick County fairgrounds and South Sports Complex. Both new and existing crosswalks could be upgraded to include as solar powered flashing light to better delineate them between sunset and sunrise. These improvements would make certain sidewalks safer to use and help to draw more people to the outdoors.



Left: Solar Powered Crosswalk Sign



Above: Existing Crosswalk at Intersection of Main & 6th

Adding amenities along the major corridors can increase user comfort. Places to take a break will be a welcome sight to many so installing benches, shaded resting areas and water fountains should also be given consideration. Other items such as a walking storybook or kiosks along trails would allow users to exercise both their body and mind. A bicycle repair station is a commercial-grade repair solution for bicycles used along public trails or streets. It includes common tools utilized in most repairs, and pegs available for which to mount a bicycle on to provide easier access. This type of station could be included as part of the construction to be completed for the South Sports Complex, and could be placed along high volume areas for bicycle traffic. The City of Hutchinson purchased a



Bicycle Repair Station

similar station at a price of \$1,500 from a local bicycle shop in Hutchinson. This station included an all-weather air-pump used to air up tires as well.

As mentioned above, another method to encourage people to walk and bike is to improve aesthetics. Simply making the trails more pleasing to the eye is a great way to make the experience more enjoyable. The existing stainless steel light poles along Main Street could be replaced with more decorative poles that look nicer and



Decorative Light Pole with Banner Arm



Pedestrian Wayfinding Monolith

have features such as outlets and banner arms similar to the example to the right. Flower gardens and stamped concrete at designated areas could be a means of breaking up the monotony of a long walk.

Simply making the user put forth less effort is a great way to encourage people to walk and bike in Cheney. Although the installation or repair of sidewalks and ramps will be a significant improvement to user ease, simple things such as wayfinding signs could make it easier to navigate through the community. In addition to the wayfinding signs or banners that would be

located throughout the community, a pedestrian wayfinding monolith could be installed at destination hubs such as the sports complex or fairground to help guests find their way through the city. An example of a wayfinding monolith is shown above.



Wayfinding Signs

IX. Regional Connectivity

The Rails-to-Trails conservancy program has a mission of creating a nationwide network of trails from former rail lines and connecting corridors to build healthier places for healthier people. The Prairie Sunset Trail is a route developed and sponsored by a group called the Prairie Travelers that currently runs from West Wichita at Maize Readthrough Goddard and ends in Garden Plain. The trail map is shown below as Figure 14.

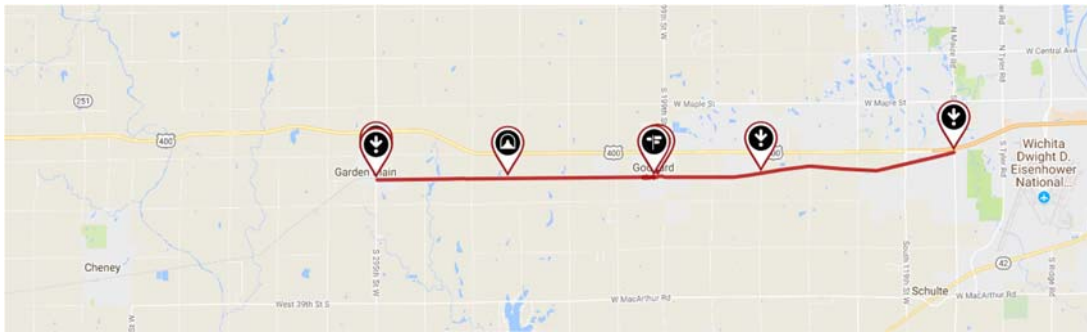


Figure 13. Prairie Sunset Trail

This trail is composed of compacted rock and follows the old rail bed that once carried the Cannonball Stage Line, which continues to the west through Cheney and all the way to Pratt.

If the Prairie Sunset Trail is extended to Cheney, it would provide immediate access to an outdoor recreational path that would extend nearly 18 miles between Cheney to Maize Avenue in Wichita. The proposed addition is shown below in Figure 15.

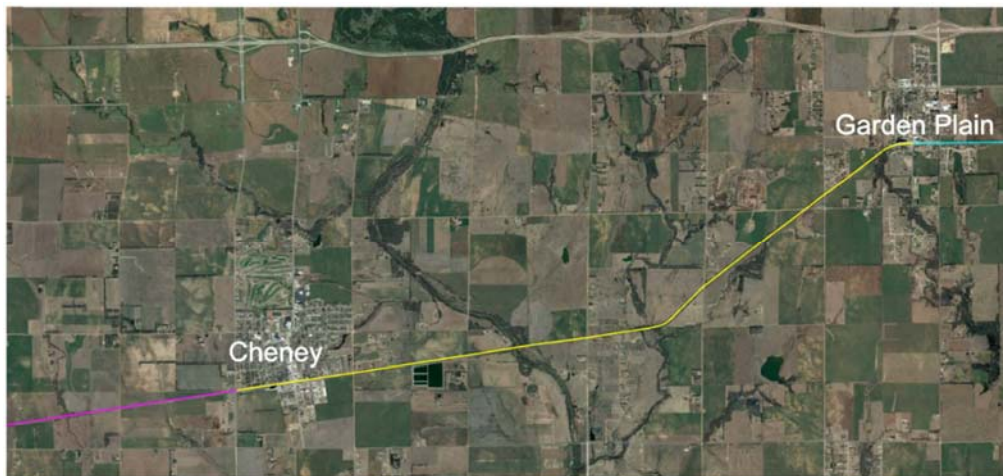


Figure 14. Prairie Sunset Trail Addition

The light blue line in the top right corner of Figure 14 represents the existing trail to which the potential addition (shown in yellow) would connect. The pink line shows the continuation of the old Cannonball Stage Line rail bed, also representing the end of the proposed addition. Approximately 0.5 miles of this trail would be within Garden Plain and only a small portion of the proposed trail would be located with the Cheney City Limits. Since the majority of the trail would

be located outside of city limits, Sedgewick County and the Cities of Cheney and Garden Plain would need to work together on a project that would benefit their residents.

NOTE: The rail line that runs through Cheney and ends at the Garden Plain Station is part of an active line called the Wichita Subdivision, part of the Kansas-Oklahoma Railroad. The railroad would have to abandon this segment of right-of-way prior to becoming eligible for the Rails-to-Trails. The eastern portion of the rail line, between Garden Plain and Wichita, owned by Central Kansas Railroad (CKR) at the time, was ruled by the Surface Transportation Board to be abandoned on an interim basis and utilized as a trail by way of a notice of interim trail use or abandonment. The City of Wichita and Sedgewick County each consummated trail use/rail banking agreements with CKR by the end of 2001. It has come to the attention of Kirkham Michael that the existing rail line is currently used for training by the rail company and at this time is not being considered for abandonment. If the railroad will not consider abandoning the right-of-way, another possible option is Rails-with-Trails where the trail is built within an active rail corridor but not directly over the old railway.

F. PUBLIC SIDEWALK IMPROVEMENT COSTS

Within this section of the Master Plan, estimated costs of projects proposed within this report are broken down. Provided are detailed costs regarding construction materials, construction contractor fees, and engineering fees. Also included are funding opportunities through state and local agencies that provide support by way of grants for the construction of pedestrian and bicycle path improvement projects.

I. Estimated Project Costs

The estimated cost of each project was created using common bid prices found within the KDOT Historical Bid Tabs Index for projects of similar size and scope. Also factored into the estimated cost report was the average unit price for the various bid items over the past 6 months for projects let to bidding by KDOT. Project quantities were found using measurement results from Google Earth, ArcMap 10.5 and AutoCAD 2015. Projects were prioritized based on feedback received through public surveys and from opinions given by the Steering Committee. Table 7, located on the following page, is sorted based on priority and breaks down the estimated cost of the projects identified within this report.

All costs of construction were calculated with the assumption that the work would be performed by a contractor. If the City elects to perform any of the work with their employees, the costs would be significantly reduced.

Cherney Sidewalk and Trail Improvements																
Priority	Sidewalk/Project Description	Location/ Length	4" Sidewalk Area @ 5' Wide	Ramps	Area @ -50 SOFT/Ramp	Common Ex. (4" Depth)	Subtotal (\$)	Mobilization (\$)	Clearing and Grubbing (\$)	Traffic Control (\$)	Construction Staking (\$)	Seeding (\$)	Construction Subtotal	Construction Contingency (10% of Subtotal)	Engineering Cost (25% of Const. Cost)	Project Total Sum
1	a	North side of 6th Ave from Sunnyside Ave to Hooper Street	East 6th Ave 590 LNFT	330 SOYDS	1	6 SOYDS	40 CUYDS	18,200	10,800	2,200	2,200	7,000	43,000	4,300	12,000	59,300
	b	South side of 6th Ave from Elmrose Street to Lake Road	West 6th Ave 690 LNFT	390 SOYDS	4	23 SOYDS	50 CUYDS	24,000	13,500	2,700	2,700	8,100	54,000	5,400	15,000	74,400
	c	West side of Main Street from north of Santa Fe to park area at South Sports Complex	South Main Street 1,400 LNFT	780 SOYDS	4	22 SOYDS	90 CUYDS	43,900	18,500	4,000	5,500	6,600	84,000	8,400	24,000	116,400
Priority 1 Subtotal			2,680 LNFT	1,500 SOYDS	9	52 SOYDS	180 CUYDS	\$ 78,200	\$ 38,700	\$ 8,100	\$ 9,900	\$ 19,800	\$ 166,000	\$ 16,600	\$ 46,000	\$ 228,600
2	a	Sidewalk ramps where acceptable sidewalk ends at a curb	City-Wide 0 LNFT	0 SOYDS		280 SOYDS	40 CUYDS	44,400	23,500	4,500	5,500	10,900	94,000	9,400	26,000	129,400
	b	Priority Replacement of Existing Sidewalk	South of 6th Ave 5,500 LNFT	(4' wide, \$33\$/SOYD) 2,450 SOYDS	0	0 SOYDS	280 CUYDS	102,600	26,600	4,300	7,500	11,400	156,000	15,600	43,000	214,600
Priority 2 Subtotal			5,500 LNFT	2,450 SOYDS	49	280 SOYDS	320 CUYDS	\$ 132,200	\$ 45,900	\$ 8,100	\$ 11,700	\$ 20,700	\$ 171,600	\$ 17,160	\$ 43,000	\$ 312,700
3	a	South Sports Complex Perimeter Path	Sports Complex 5,600 LNFT	(10' wide, \$35\$/SOYD) 6,230 SOYDS	4	23 SOYDS	700 CUYDS	263,500	27,200	4,800	1,600	16,800	320,000	32,000	88,000	440,000
	b	South Sports Complex Interior Paths	Sports Complex 3,250 LNFT	(6' wide, \$40\$/SOYD) 1,950 SOYDS	0	0 SOYDS	220 CUYDS	91,200	11,500	2,300	600	6,900	115,000	11,500	32,000	158,500
Priority 3 Subtotal			8,850 LNFT	8,180 SOYDS	4	23 SOYDS	920 CUYDS	\$ 319,230	\$ 34,830	\$ 6,390	\$ 1,980	\$ 21,330	\$ 392,000	\$ 39,200	\$ 108,000	\$ 539,200
4	a	East side of Sunset Ave from 6th Ave to Shaahybrook Drive	Sunset Ave 980 LNFT	550 SOYDS	8	50 SOYDS	70 CUYDS	36,500	17,500	3,500	3,700	5,100	70,000	7,000	20,000	97,000
	b	East side of Sunnyside Ave from 6th Ave to Athena Dr	Sunnyside Ave 730 LNFT	410 SOYDS	6	40 SOYDS	50 CUYDS	27,500	16,600	2,300	3,500	4,400	58,000	5,800	16,000	79,800
Priority 4 Subtotal			1,710 LNFT	960 SOYDS	14	90 SOYDS	120 CUYDS	\$ 57,600	\$ 30,690	\$ 5,220	\$ 6,480	\$ 8,550	\$ 116,000	\$ 11,600	\$ 32,000	\$ 159,600
5	a	East side of Lake Road from 6th Ave to Back Nines Subdivision	Lake Road 3,500 LNFT	(\$40/SOYD) 1,950 SOYDS	2	20 SOYDS	220 CUYDS	124,200	23,500	4,500	11,600	7,000	178,000	17,800	49,000	244,800
	b	West side of Adams Avenue from 6th Ave to football field	West 6th Ave 470 LNFT	270 SOYDS	2	20 SOYDS	40 CUYDS	17,600	12,000	2,200	2,800	3,000	40,000	4,000	11,000	55,000
Priority 5 Subtotal			3,970 LNFT	2,220 SOYDS	4	40 SOYDS	260 CUYDS	\$ 127,800	\$ 32,400	\$ 6,300	\$ 13,500	\$ 9,000	\$ 198,000	\$ 19,800	\$ 55,000	\$ 272,800
6	a	4' spiral shoulder along North Main Street	North Main Street 3,400 LNFT	(4' wide, 3" thick) 3,400 CUFT	(140) (B/CUFT) 475,000 LBS	(@ \$180 per ton) 240 Tons	43,200	20,300	4,100	14,200	5,500	3,700	91,000	9,100	26,000	126,100
	b	Bicycle Lane Pavement Marking along North Main Street	(@ \$0.50 per LNFT) 4,000 LNFT	Bicycle Symbol Pavement Markings (@ \$350 per) 10	Signs (@ \$350 per) 8	8,300	4,800	1,500	2,900	1,500	1,500	19,000	1,900	6,000	26,900	
Priority 6 Subtotal							\$ 49,400	\$ 23,400	\$ 5,400	\$ 16,200	\$ 6,300	\$ 3,700	\$ 105,000	\$ 10,500	\$ 29,000	\$ 144,500
7	a	Removal of all sidewalk signs	City-Wide 32,500 LNFT	(\$35/SOYD) 18,060 SOYDS	0	0 SOYDS	2010 CUYDS	752,700	56,000	11,200	13,000	17,300	861,000	86,100	237,000	1,184,100
	Priority 7 Subtotal			32,500 LNFT	18,060 SOYDS	0	0 SOYDS	2,010 CUYDS	\$ 752,700	\$ 56,000	\$ 11,200	\$ 13,000	\$ 17,300	\$ 861,000	\$ 86,100	\$ 237,000

All quantities and costs shown in Table 7 are estimated values, not to be used for actual design or construction purposes. Estimated item prices are based on contractor bidding. Priority subtotals are 90% of the sum of respective projects to represent contractor bidding on larger scale projects.

Priority subtotals with multiple projects have lesser values than the raw sum of its respected projects. Assuming the projects would be lumped together, this would give construction contractors the ability to bid on a larger scale, reducing costs. This would make for lower total costs versus each individual project being carried out on its own.

The materials total for the Lake Road project (3c) was given an approximate \$30,00 allowance for the inclusion of excess grading that would be required, as well as the placement of a structure to carry pedestrian and bicycle traffic over the drainage channel.

II. Funding Opportunities

After identifying and prioritizing projects, the next step is to determine how funding will be secured to pay for improvements to pedestrian and bicycle facilities. The first step is to identify how much local funding is available and will be budgeted for future years for these improvements. A potential cost savings measure would be for the City to perform the work on identified priorities when feasible and included in the budget. Utilizing city forces to install sidewalk ramps and small lengths of sidewalk would be a logical option. This work would be relatively short duration and could be performed as time and budget allows. In addition to utilizing local funds, the City will also apply for funding through several different agencies that will pay for a portion of these projects.

Transportation Improvement Program

To secure funds for projects identified in the Master Plan, the City of Cheney will look towards the Wichita Area Metropolitan Planning Organization (WAMPO) for grant opportunities. The City will attempt to secure funding through WAMPO's Transportation Improvement Program (TIP). The TIP is a program which identifies short-range transportation projects to be implemented within the region over the next four years. Any project wishing to be chosen for funding through the TIP must also be listed in the most recent Metropolitan Transportation Plan (MTP) Eligible for Funding List. The MTP is a long-range plan which establishes the region's vision for transportation. The project selection phase for the 2015 MTP (MOVE 2040) has passed and projects now can only be added by amendment. The 2020 MTP project selection phase will occur in calendar year 2019 and this is where the City should focus its efforts. If a project is chosen to be included on the MTP Eligible for Funding List, a project application for funding through the TIP must then be submitted the following April. The annual TIP is submitted to the TPB for their action in the following fall months. This process incorporates criteria for bicycle and pedestrian enhancements, which include rating factors such as:

- priority factor based on project location in regards to traffic generators
- design compliance
- socioeconomic
- cost-to-benefit
- plans and policies
- transportation use

Transportation Alternatives Program

The Kansas Department of Transportation (KDOT) administers funding for projects related to pedestrian and bicycle facilities through the Transportation Alternatives Program (TAP). The 2017 and 2018 TA Program Call for Projects opened May 8, 2017, while KDOT anticipates an estimated \$18 million in federal funds are available over the course Calendar Years 2017 and 2018. Of this \$18 million available over the two years, over \$3.3 million is designated to be awarded to areas with a population less than 5,001. The TA Program funds are designed to pay for up to 80% of eligible project costs, up to the approved grant maximum. Payment match from the local entity is required at minimum of 20% of costs. The Federal-aid Safe Routes to Schools Program (SRTS) remains an eligible program within the TAP.

The application process for procuring funding through the TA Program requires completing the application form. Involved in the application form includes providing general information about the project, how the project would be categorized, cost estimates and applicant qualifications. Necessary documents also include a project narrative, detailed map and photo, sketch-plan of the project, and an itemized breakdown of the project costs and time schedule. An official endorsement from the authority responsible for the project maintenance and operation must be included with the application.

Recreational Trail Grant

The Kansas Department of Wildlife, Parks and Tourism (KDWPT) provides funds for eligible recreational trail and trail-related projects through the Fixing America's Surface Transportation (FAST) Act. Grants administered as part of the FAST Act provide 80% matching funds on a reimbursement basis for eligible selected projects. The KDWPT accepts project applications through August 1st of each year to be considered for the following round of fiscal year allocations. All projects selected must fall into at least one of the following categories: motorized, non-motorized, or diversified recreation trail or trail-related projects. While proposals that provide for improved ADA and environmental impacts will receive a high priority.

Sunflower Trails Grant

The Sunflower Foundation is a State funded entity that offers the Sunflower Trails Grant to build trails that increase opportunities for physical activity in outdoor venues. This funding can be used to assist communities in the construction, expansion, enhancement and connection of trails through regular grant cycles. Rather than an annual application deadline, Request for Proposals (RFP) announcements may be made throughout the year and are posted on the Sunflower Foundations Web Site and sent by email to those organizations who have requested to be on the RFP mail list.

PeopleForBikes Community Grant

The PeopleForBikes (PFB) Community Grant Program provides funding for important and influential projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include bike paths and rail trails, as well as

mountain bike trails, bike parks, BMX facilities and large-scale bicycle advocacy initiatives. Also included are end-of-trip facilities such as bike racks, bike parking, bike repairs stations and bike storage. PFB accepts requests for funding of up to \$10,000 but will not consider grants requests in which their funding would amount to 50% or more of the project budget. Items that can be included are engineering, constructions costs including materials, labor and equipment rental, and reasonable volunteer support costs. They general hold 1-2 open grant cycles each year, one in the spring and the other in the fall. The first step in applying for a grant is to complete an online letter of interest. PFB will request a full project application from a short list of qualified applicants.

Impact and Capacity Grants

Kansas Health Foundation (KHF), based in Wichita, offers the Impact and Capacity Grants (ICG) Initiative Request for Projects funding mechanism to support mission-aligned organizations actively working with one or more of KHF's four areas of focus to reduce health disparities and promote health equity through capacity building or impact specific grant support. In 2018, proposals are being accepted between June 1 and September 17 with grant notifications to be made by December 1. The maximum grant amount is \$25,000. Awards are not dependent on or affected by local matching funds.

Outdoor Wildlife Learning Site

The Kansas Department of Wildlife, Parks and Tourism (KDWPT) created an educational service program called Outdoor Wildlife Learning Sites, or O.W.L., Sites. These sites are designed to help increase student exposure to native wildlife and plant communities, while creating a positive approach to teaching students of all ages responsible and constructive actions that benefit local wildlife and the environment.

O.W.L. Sites are developed to attract and hold a variety of native wildlife species and to facilitate multi-disciplinary learning opportunities for students. All sites are required to have a water feature (wetland, molded pond, bubbling rock, fish, frog pond or birdbath), three terrestrial features (woodlands, shrublands, prairies or wildflower gardens), a wildlife resource center, and a minimum of three site specific related activities per grade level.

An initial grant up to \$2,000, not exceeding 80% of the total budget, can be provided for any school desiring to create an O.W.L. Site. The money is designated primarily for features that attract wildlife, not for tools or equipment. Funded sites are eligible to receive up to an additional \$1,000 upon completing the required certification process for being recognized as an "outstanding O.W.L. Site". Included is another \$1,000 available for rejuvenation funding. An educator from the school must apply for the O.W.L. grant, but it is not restricted to any type of educator who can apply. KDWPT recommends that an O.W.L. Site committee is formed which would include faculty from the school, proactive members of the community, and area specialists to assist in constructing and maintaining an O.W.L. Site.

G. SUMMARY AND RECOMMENDATIONS

The City of Cheney contracted with Kirkham Michael to assist in developing a Community Pedestrian and Bicycle Master Plan. The goal of which was to create calculated strategies that would improve the public sidewalk system in terms of accessibility, connectivity, and its ability to draw people to the outdoors. Expansion upon the existing trails and paths in Cheney was highlighted as one way of accomplishing these goals as was replacing existing sidewalk that is in poor condition.

Data regarding the location and condition of existing sidewalk and ramps was given to Kirkham Michael by the City of Cheney. Based on the information provided, maps were created which display the existing public sidewalk system in Cheney. These maps were used to help identify which areas in the City could benefit the most from sidewalk and ramp construction. Meetings with the City of Cheney's Steering Committee and Kirkham Michael, along with statistical analysis helped prioritize the areas recommended for future projects. The prioritized projects are as follows:

1. Sidewalk extending to the City limits along 6th Avenue and Main Street
2. Repairing existing sidewalk and expanding sidewalk ramp availability
3. South Sports Complex Path
4. Inclusion of Northeast corner of City
5. A path along Lake Road connecting Back Nine subdivision to City
6. Bicycle Trails and amenities
7. Eliminating Sidewalk Gaps
8. Alternative Improvements
9. Regional Connectivity

Figure 15 on the following page shows the locations of proposed projects within Cheney that help the City achieve their goals as highlighted throughout this plan. These projects range within prioritites 1 throught 6, as touched on in previous sections of the report.

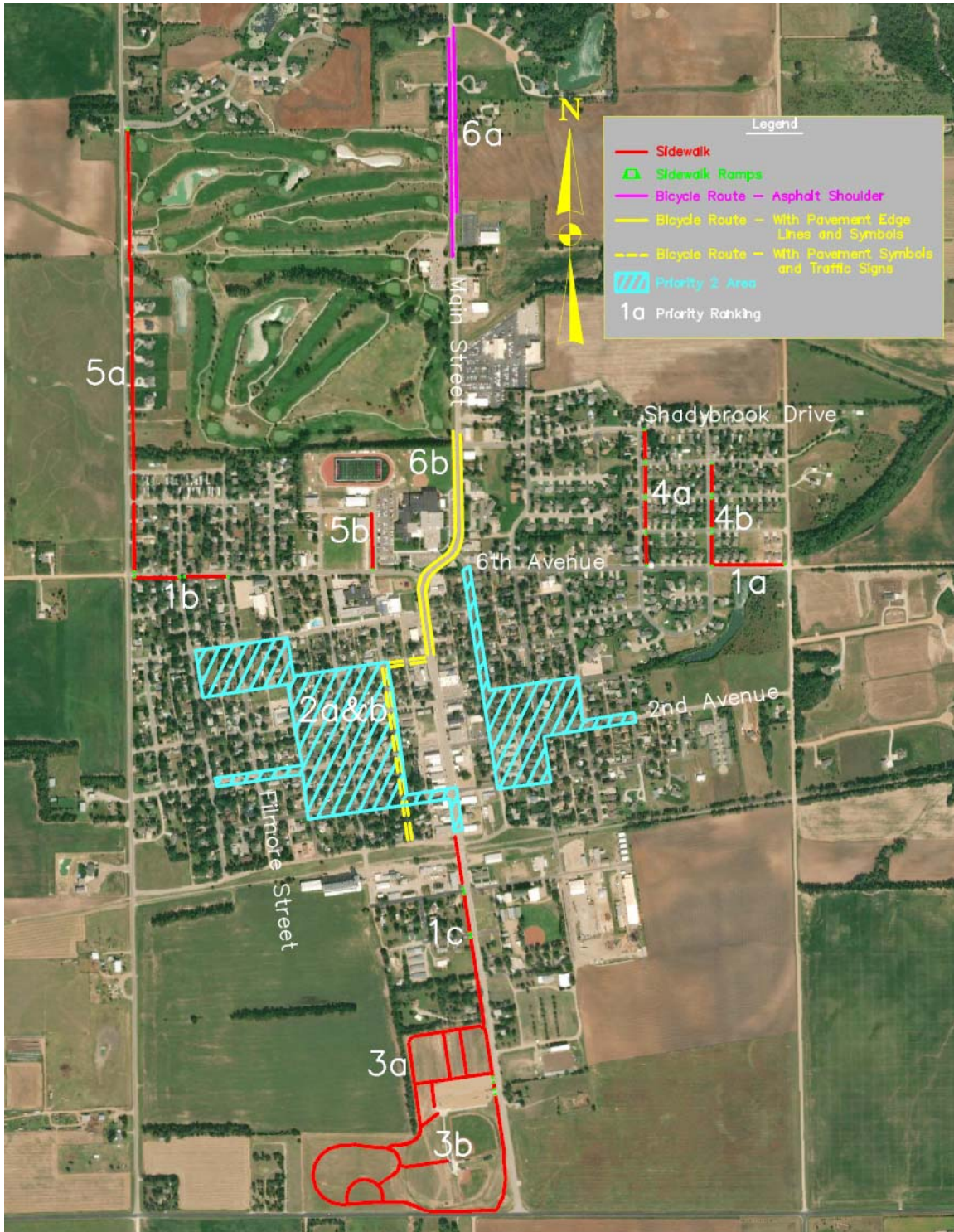


Figure 15. Proposed Improvements

The red lines represent segments of proposed new sidewalk, while the green objects represent necessary sidewalk ramps along each proposed route. The blue shaded area is shown to represent the areas chosen in Priority 2 to have existing sidewalk replaced, along with additional ramps constructed within these areas. Pink lines in Figure 15 represent the

northbound extension of the three-foot asphalt shoulder currently existing along both sides of North Main Street used for bicycle lanes, while the yellow lines represent the proposed bicycle route which would consist of pavement markings and directional signage.

These paths were created with the idea of forming a north to south pedestrian and bicycle corridor, allowing the citizens of Cheney to walk or bike to downtown and on to the South Sports Complex with improved accessibility and safety.

Other opportunities exist to expand upon existing trails and paths. Extending the Prairie Sunset Trail would create a nearly 15-mile-long bicycle trail that connects cities of Wichita, Goddard, Garden Plain, and Cheney. There are also locations for additional lighting, crosswalks and bicycle parking include Main Street and 6th Avenue that would improve the safety of the existing system in Cheney.

In addition to utilizing local funds, opportunities to obtain grants exist through the Wichita Area Metropolitan Planning Organization, Kansas Department of Transportation, and Kansas Department of Wildlife, Parks & Tourism to provide assistance in constructing these projects.

References

- FHWA Course on Bicycle and Pedestrian Transportation. (n.d.). Retrieved April 5, 2018, from https://safety.fhwa.dot.gov/PED_BIKE/univcourse/pdf/swless19.pdf
- Forbes, G. (n.d.). Urban Roadway Classification. Retrieved April 1, 2018, from https://nacto.org/docs/usdg/urban_roadway_classification_before_the_design_begins_forbes.pdf
- Guide for the Development of Bicycle Facilities. (n.d.). Retrieved March 25, 2018, from <http://www.industrializedcyclist.com/aashto.pdf>
- ITE Urban Geometric Design Handbook. (n.d.). Retrieved April 12, 2018, from http://www.neite.org/vt/dist1_2004/Traffic%20Calming%20and%20Roadway%20Features/Paul%20Mackey%20paper.pdf

Applicable Grant Websites

WAMPO TIP – <https://www.wampo.org/transportation-improvement-program>

KDOT TA Program – <http://www.ksdot.org/bureaus/burtransplan/TransAlt.asp>

KDWPT Recreational Trail Grant – <http://ksoutdoors.com/KDWPT-Info/Grants/Helpful-Links-for-the-Recreational-Trails-Program-Grant>

Sunflower Trails Grant –

http://www.sunflowerfoundation.org/grants/for_grant_seekers/grant_seeker_faq#content_83

PeopleforBikes Community Grant – <https://peopleforbikes.org/grant-guidelines/>

Impact and Capacity Grants – <http://kansashealth.org/grant-opportunities/impactandcapacity/>

KDWPT Outdoor Wildlife Learning Sites – <http://ksoutdoors.com/Services/Education/Outdoor-Wildlife-Learning-Sites-OWLS>