



Developing a Multi-Use Trail System in Reedley, California

A Prefeasibility Study

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Prepared for
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Table of Contents

- Executive Summary.....v**
- Chapter 1 – Introduction 1**
 - Background1
 - Purpose and Approach.....8
 - Organization of the Report 11
- Chapter 2 – Analyzing the Case for Trails in Reedley, CA..... 12**
 - Key Findings.....12
 - Summary of Opportunities 21
 - Summary 21
- Chapter 3 – The Trail Development Process 22**
 - The Trail Development Process22
 - Model Framework for the Trail Development Process 35
 - Summary 36
- Chapter 4 – Alignment Concept Assessment & Analysis 37**
 - Assessment Criteria.....37
 - Overview of the Potential Parkway Expansion 38
 - Segment Profiles 40
 - General Themes 40
 - Summary 44
- Chapter 5 – Recommended Implementation Strategy 45**
 - Recommended Implementation Strategy45
 - Summary 48
- Chapter 6 – Conclusions 49**
- Appendices..... 50**
 - Appendix A: Resources List 51
 - Appendix B: Interview Guide 54
 - Appendix C: Model Code Language..... 55
 - Appendix D: Segment Profiles 58

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Executive Summary

This prefeasibility study has been conducted in partnership with the City of Reedley and builds on the City's ongoing efforts to (1) determine the feasibility of expanding its existing multi-use trail corridor, the Reedley Parkway, and (2) successively develop the Reedley Parkway Master Plan. The aim of the prefeasibility study is to serve as a preliminary planning step that informs the City's future analysis and planning efforts. To meet these objectives, this project consisted of a mixed-methods approach including advisory meetings, fieldwork, GIS and map analysis, content analysis, and interviews. Specifically, this report identifies and summarizes existing conditions for trail development in Reedley; a planning and decision-making framework for trail development; assessment and analysis of the potential Parkway expansion; and, Reedley-specific implementation recommendations and next steps.

The results of this prefeasibility study provide a starting point of considerations for the City of Reedley and the Reedley Parkway Committee as they move forward in exploring the feasibility of Parkway expansion and successive development of the *Reedley Parkway Master Plan*. It should be noted that the potential expansion will not follow the traditional rail-trail development whereby a trail corridor follows the railbanked rights-of-way. As this study's alignment assessment and analysis show, the potential expansion exists within three locational contexts and within each context, there are various regulatory, financial, and administrative implications that will affect opportunities and constraints for implementation. However, this prefeasibility study also exemplifies the groundwork for trail investments that the City and RPC have already laid out and the various opportunity areas from which the City and RPC can strengthen and build upon. This prefeasibility study should be used as a tool and reference point to continue such work.

Chapter I – Introduction

This project builds on ongoing efforts in the city of Reedley, California to determine the possibility, practicality, and cost-effectiveness (i.e., feasibility) of expanding the Reedley Parkway, the city’s existing rail-trail and the only multi-use bicycle and pedestrian facility. The City’s primary objective in exploring the feasibility is to create a continuous, non-motorized multi-use trail system that ‘loops’ the entire community and provides safe and convenient transportation options. Once the feasibility is determined, the City intends to advance into a master planning process to develop the *Reedley Parkway Master Plan* that will identify, assess, and prioritize feasible trail segments that, together, form the Parkway expansion, and set the course for implementation. Given the City’s objectives, this project is designed as an initial, prefeasibility study to inform the technical analysis and ensuing master planning efforts. In short, this report summarizes existing conditions and recommends implementation strategies for the City to consider in its planning and decision-making framework for the Parkway expansion.

Background

The City of Reedley is undergoing technical analysis of the feasibility for future trail investment and expansion. The Reedley Parkway (Parkway) – an existing 3.20-mile rail-trail that bisects the community – is the central focus of these efforts that will culminate in the development of the *Reedley Parkway Master Plan*. While the feasibility analysis will determine the possibility, practicality, and cost-effectiveness of Parkway expansion, the *Reedley Parkway Master Plan* will identify, assess, and prioritize feasible trail projects and plan for implementation. The City intends for feasible trail projects to align with the current north-south endpoints of the Parkway, thereby expanding the existing facility to nearly 15 miles in length. Ultimately, the alignment and expansion will create a continuous, non-motorized multi-use trail system that ‘loops’ the entire community and provides safe and convenient transportation options between points of community interest. The following section details the local and regional context, history and current context of the Parkway, and the City’s recent approaches to promoting active travel.

Local Context

The city of Reedley is centrally located in the San Joaquin Valley of Central California in Fresno County (Figure 1.1). Within the county, the city is situated in the southeasternmost corner approximately 20 to 25 miles southeast of the cities of Fresno and Clovis and shares a southern boundary (i.e., Floral Avenue) with the neighboring county of Tulare. The city covers a land area within its city boundaries of 5.90 square miles in addition to approximately 5.00 square miles allocated within its sphere of influence for future growth in population and development. As of 2018, the city is home to approximately 25,500 residents and is expected to continue to see an annual population growth rate between 2.5 and 3% per year.^{1,2} The agricultural industry has played a significant role in shaping Reedley’s land use, growth in development, and employment.

¹ U.S. Census Bureau; American Community Survey, 2018 American Community Survey 5-Year Estimates, Table DP05, Demographic and Housing Estimates; generated by Jenna Chilingirian; using data.census.gov; <https://data.census.gov/cedsci/>; (1 June 2020).

² City of Reedley, Department of Community Services, “Reedley Community Parkway,” City of Reedley, California, accessed June 1, 2020, <http://www.reedley.com/community-services/reedley-community-parkway/>.

Figure 1.1. Location Map



Source: City of Reedley, California. (2014). *City of Reedley General Plan 2030*.

History of the Reedley Parkway

The Parkway is a 3.20-mile rails-to-trails, Class I multi-use facility (Figure 1.2) that was constructed within the railbanked³ rights-of-way next to an abandoned railroad line. In the mid-1990s, the rights-of-way were donated to the City of Reedley (City) by the Tulare Valley Railroad, whereby the City intended to transfer the land to adjacent property owners. In 1997, a grassroots coalition of residents emerged to advocate for the conversion of the land into a linear, “rails-to-trails”⁴ project to provide for recreational use and active travel to various community points of interest (e.g. schools, shopping, and employment).⁵ Strong community support led to the formation of the Rails-to-Trails Committee, later renamed to the Reedley Parkway Committee (RPC), to provide a platform to receive public input for the design, funding, construction, and maintenance of a rails-to-trails project. The committee selected and named its rails-to-trails project, the “Reedley Parkway,” that has come to be recognized by Reedley residents as an important community-owned and -operated recreational asset.

Figure 1.2. Classifications of Bicycle Facilities, California Highway Design Manual, 2018

Type	Description
Class I – Bike Path	Class I bicycle facilities are referred to as “bike paths” or multi-use paths.” Such facilities include a paved-right-of-way completely separated from roadways and highways. Examples: Rails-to-Trails, Under or Mid-block Crossings.
Class II – Bike Lane	Class II bicycle facilities are considered “bike lanes” and are integrated into roadways or highways as one-way facilities in the same direction as traffic. They are typically designated by striping, signage, and pavement markings. Examples of integration: on-street parking, right/left turn lanes, railroad tracks.
Class III – Bike Route	Class III bicycle facilities are on-street “bike routes” shared by bicyclists and motorists, identified by signage. Examples of shared facilities: wide curb lane, “sharrow” lane pavement markings, bicycle boulevard signage.
Class IV – Separated Bikeway	Class IV bicycle facilities are on-street lanes that are physically separated from motorists. Such facilities can be one-way or two-way, and physical separation can include vertical elements such as curbs, landscaping, or parking lanes.

Source: Caltrans, California Highway Design Manual, Sixth Edition, Chapter 1000, 2018.

The Parkway was originally envisioned to be a Class I, multi-use path that would go beyond the linear railway corridor and circle, or loop, the entire community. This vision supported the objectives of the *Reedley General Plan* (1992) that sought to develop a “continuous and easily accessible bikeways system” that would serve various community destinations, including employment centers, schools, and commercial centers.⁶ Design and construction of the envisioned Parkway began in 1999 and continued through 2016 in five intermittent phases: (1) Manning Avenue to 13th Street, (2) 13th Street to Dinuba Avenue, (3) Dinuba Avenue to Buttonwillow Avenue, (4) Manning Avenue to the Kings River, and (5) Huntsman Avenue to the Reedley Sports Park (Figure 1.3). To connect phases three and five of the Parkway, the City completed installation of a quarter mile, Class IV separated bikeway on Huntsman Avenue between Buttonwillow Avenue and Travers Creek in 2018-19.

³ According to the Rails-to-Trails Conservancy, “Railbanking” consists of a voluntary agreement between a railroad company and agency whereby the agency is enabled to use a rail corridor no longer in service as a trail or until the railroad intends to use the rail corridor again.

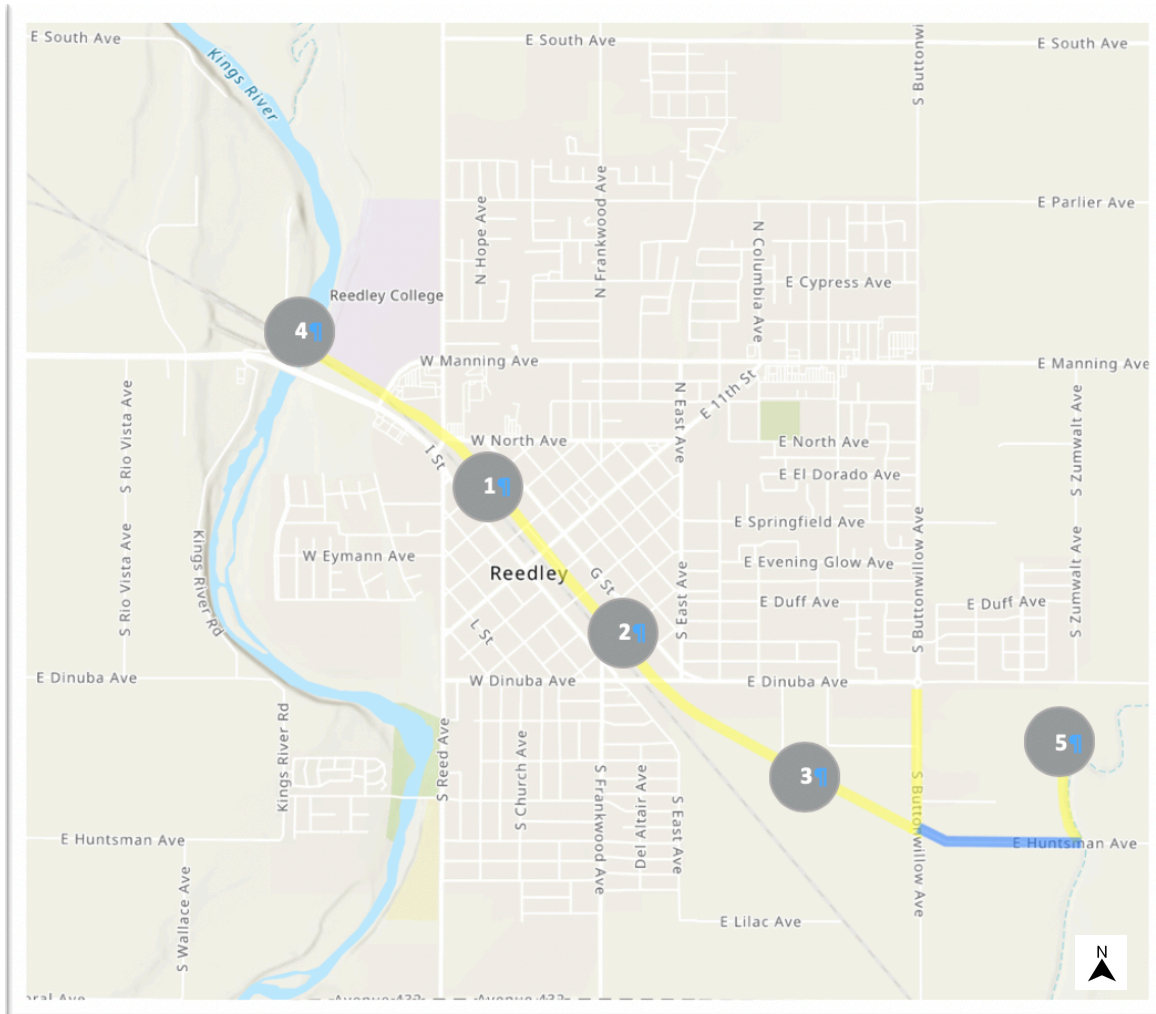
⁴ A “rails-to-trails” project consists of the conversion of a former railway or railroad line corridor into a multi-use, multi-purpose biking or walking path.

⁵ City of Reedley, Department of Community Services, “Reedley Community Parkway.”

⁶ Ibid.

Trail design was largely done by in-house engineering staff and committee input, with in-kind support from third party professionals that dedicated their expertise and services in engineering, design, and landscaping; and, construction was largely completed by in-house crews with support from trained volunteers. Within the design and construction period, the map depicting the Parkway as a loop around the community expired and was not incorporated into the *General Plan 2030* update in 2014. The existing Parkway remains mostly a linear rail-trail corridor, with the exception of the segments that parallel Buttonwillow Avenue and Travers Creek.

Figure 1.3. The Construction Phases of the Parkway Reedley, California, 2020⁷

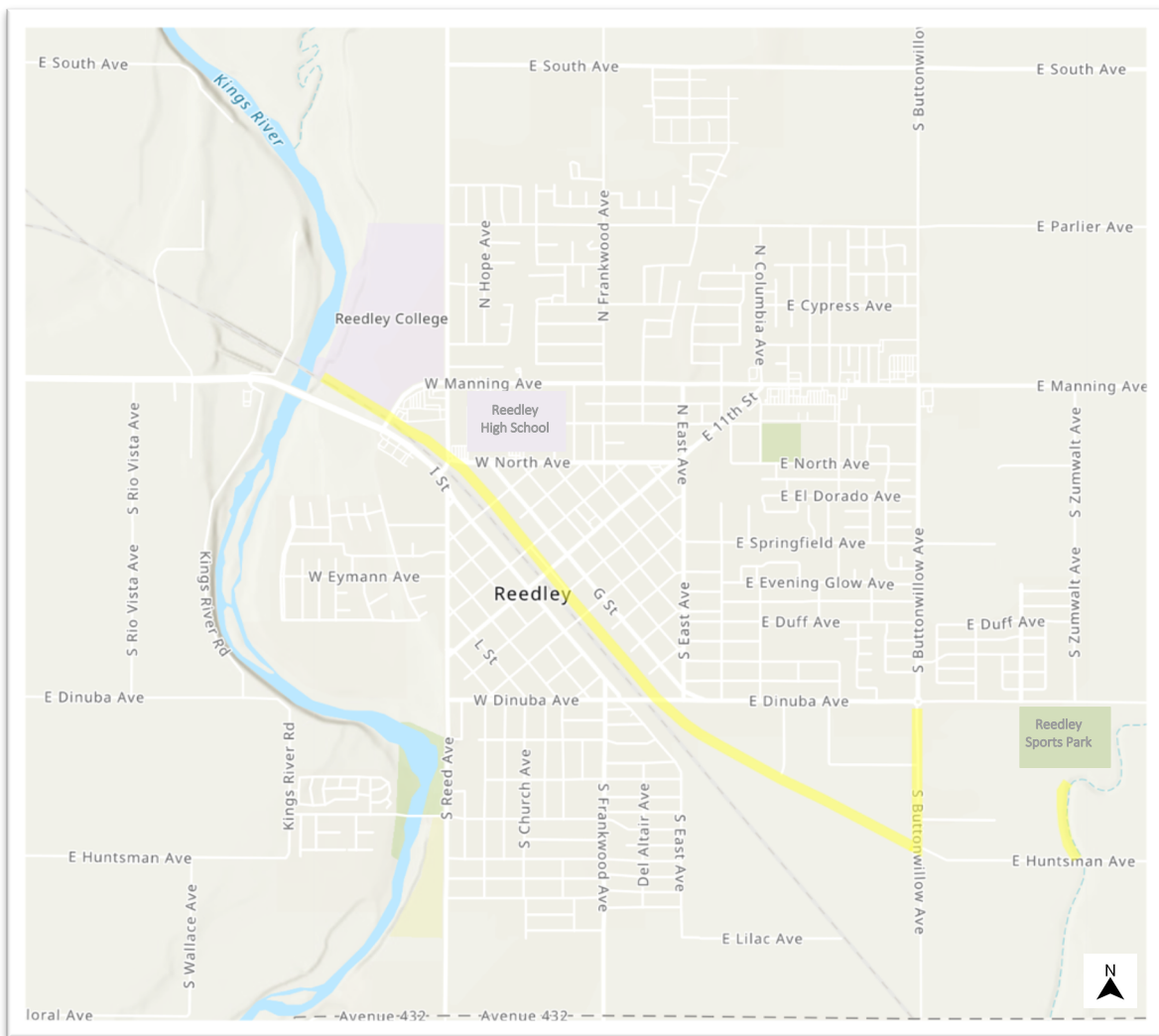


Map Details: The existing Parkway is outlined in yellow and the Class IV bikeway that connects Phases III and V via Huntsman Avenue is outlined in blue. Phase I of the Parkway construction extends from Manning Avenue to 13th Street. Phase II extends from 13th Street to Dinuba Avenue. Phase III picks up south of Dinuba Avenue and extends to Buttonwillow Avenue and then heads north on Buttonwillow. Phase IV completes the quarter mile stretch between Manning Avenue and the Kings River. Phase V begins at Huntsman Avenue and extends toward the Reedley Sports Park.

⁷ This map was created by Jenna Chilingierian using ArcGIS online and data from ESRI, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Fresno County Dept. PWP, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA.

Today, the existing Parkway extends 3.20-miles, ranging in width from 20 feet to 100 feet, depending on rights-of-way and integration with open spaces.⁸ It is situated immediately adjacent to downtown and follows a linear route that extends northwest to southeast from the Kings River near Manning Avenue to the Reedley Sports Park near Huntsman Avenue (Figure 1.4). Along its route, the existing Parkway traverses heavily trafficked arterial streets running in east-west, north-south patterns (i.e., Manning Avenue, Buttonwillow Avenue, and Dinuba Avenue), and notably connects points of community interest including but not limited to the Kings River, Reedley College, Reedley High School, Park-and-Ride facility, downtown, industrial employment area, and Reedley Sports Park. Given its ability for cyclists and pedestrians alike to safely travel to various destinations of interest, the existing Parkway has become an important recreational asset that is valued by many residents.

Figure 1.4. Reedley Parkway System Map, Reedley, California, 2020⁹



Map Details: The existing Parkway is outlined in yellow.

⁸ City of Reedley, Department of Community Services, “Reedley Community Parkway.”

⁹ This map was created by Jenna Chilingierian using ArcGIS online and data from ESRI, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Fresno County Dept. PWP, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA.

History and Current Status of Planning for Active Transportation

The City’s technical analysis and master planning process will build on previous local, regional, and statewide planning efforts to promote non-motorized active travel, such as walking and cycling. Locally, these efforts have resulted in the *Reedley Bicycle Transportation Plan* (2005; 2010), *Reedley General Plan 2030* (2014), and the *Bicycle and Pedestrian Mobility Plan* (2019). The *Mobility Plan* in particular is part of the *Fresno County Regional Active Transportation Plan* (2018) and replaces the earlier editions of the *Bicycle Transportation Plan* (Figure 1.5). These efforts have laid the groundwork for the City’s focus on multi-modal attributes of its transportation network, such as its bicycle and pedestrian facilities and programs that support active travel.

Figure 1.5. Snapshot of Plans

Existing Plans	Year	Jurisdiction(s)
<i>Reedley Bicycle Transportation Plan</i>	2005; 2010	City of Reedley
<i>Reedley General Plan 2030</i>	2014	City of Reedley
<i>Fresno County Regional Active Transportation Plan</i>	2018	Fresno COG
<i>Reedley Bicycle and Pedestrian Mobility Plan</i>	2019	Fresno COG + City of Reedley

The City first adopted the *Reedley Bicycle Transportation Plan* (BTP) in 2005, which was later updated in 2010 per requirements of the California Department of Transportation (Caltrans) and absorbed into the *Reedley Bicycle and Pedestrian Mobility Plan* in 2019. The BTP served as the City’s first long-term guiding document for the development of a bicycle transportation network that (1) set goals, objectives, and policies, (2) defined facility standards, (3) developed a system of paths, lanes, and routes, and (4) identified potential funding sources. With a valid BTP, the City became eligible for statewide competitive grant programs and bikeway funds from Measure C, the local half-cent sales tax.

In the following years, Caltrans established its Active Transportation Program (2013). Program funds cover three components: (1) 50% of funds to a statewide competitive program, (2) 10% of funds to a small urban and rural area competitive program, and (3) 40% of funds to a large urbanized area competitive program (i.e., the Regional Competitive Active Transportation Program).¹⁰ Regional planning agencies are required to facilitate regional competitive programs, in addition to coordinating local and regional active transportation planning efforts. As a member agency, the City participated in the Fresno Council of Governments’ (Fresno COG) adoption process of the *Fresno County Regional Active Transportation Plan* (ATP) in 2018. The ATP serves as the regional guide for implementing bicycle and pedestrian facilities throughout Fresno County.

As a participating jurisdiction, the City consulted with Fresno COG in 2018 to update its BTP for consistency across plans, policies, and programs for bicycle and pedestrian facilities. Applicable plans, policies, and programs include the *Reedley General Plan 2030* (2014), the regional ATP (2018), and the Regional Competitive Active Transportation Program facilitated by Fresno COG. In March 2019, the Reedley City Council adopted the BTP update effecting a name change to the *Bicycle and Pedestrian Mobility Plan* (*Mobility Plan*) to embody the inclusivity of pedestrian facilities as a mode of active travel.

¹⁰ State of California, Caltrans, “Active Transportation Program,” State of California, accessed June 1, 2020, <https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/active-transportation-program>.

Facilitation of regional connectivity and reduction of greenhouse gas emissions and traffic congestion are primary motivators behind the *Mobility Plan's* encouragement of active travel.¹¹ Additionally, the *Mobility Plan* increases the City's competitiveness for grant funding opportunities at the federal, state, and regional levels for planning, development, and maintenance of bicycle and pedestrian facilities.

Following the adoption of the *Mobility Plan* in 2019, the City began considering a trails master plan to further leverage its existing facilities and increase its eligibility for additional funding opportunities. At the time of this report, the City has identified and outlined a framework for trails planning and decision-making (Figure 1.6). The City is currently in steps 3 and 4. In addition to promoting active travel, the *Mobility Plan* is central to this effort because it recognizes the existing Parkway as the city's premiere facility for active transportation. The *Mobility Plan* also highlights the opportunity for Parkway expansion to enhance mobility options and further connect the community by active transportation infrastructure. As such, the *Mobility Plan* is a guiding force behind the City's interest in Parkway expansion. These efforts are led by the City's Departments of Community Development and Community Services with the goal of developing the *Reedley Parkway Master Plan*.

Figure 1.6. City of Reedley's Trails Planning and Decision-Making Framework

1.	Project Kick-Off.
2.	Preliminary Tasks: Timeline & Scope.
3.	Data Collection.
4.	Goals and Policies Formulation & Linkages.
5.	Implementation Measures.
6.	Public Outreach.
7.	Draft & Finalize Plan.
8.	Plan Adoption.

As a supplemental effort, the City is exploring the potential to develop its own, independent active transportation plan per recommendations from Fresno COG. Development of an active transportation plan would be coordinated with the trails master planning process in order to ensure alignment across all active travel related projects. This effort stems in part from newly released guidelines by Caltrans that prioritizes funding allocations to local agencies that have independent active transportation plans, separate from regional entities. Even more, Caltrans has specified greater interest in granting planning dollars to rural local agencies like Reedley to carry out active transportation planning. Overall, the City is in a position to build on its history of promoting active travel, leverage its trails master planning efforts, and capitalize on new funding streams for active transportation planning.

¹¹ City of Reedley, California. (2019). *City of Reedley Bicycle and Pedestrian Mobility Plan*. Fresno Council of Governments Circuit Planner Program, VRPA Technologies, Inc., accessed June 5, 2020, <http://reedley.wpengine.com/wp-content/uploads/2020/03/Reedley-Bicycle-and-Pedestrian-Mobility-Plan-April-2019.pdf>.

Purpose and Approach

This project has been conducted in partnership with the City’s Departments of Community Development and Community Services since September 2019. It builds on the ongoing City efforts to determine the feasibility of expanding the Parkway and to successively develop the *Reedley Parkway Master Plan*. Given the City’s objectives for the Parkway, this project is designed as an initial study (i.e., prefeasibility study) to inform the technical analysis and ensuing master planning efforts. To do so, this report identifies and summarizes:

1. Existing opportunities and constraints for trail development in Reedley;
2. A planning and decision-making framework for trail development;
3. Assessment and analysis of the potential Parkway expansion; and,
4. Reedley-specific implementation recommendations and next steps for its planning process.

In short, this report is intended to serve as a preliminary planning step to inform future analysis and planning efforts that contribute to the development of the *Reedley Parkway Master Plan* by summarizing existing conditions and recommending implementation strategies for the City to consider in its planning and decision-making framework for the Parkway expansion.

Project Approach

To meet these objectives, this project consisted of a mixed-methods approach including advisory meetings, fieldwork, GIS and map analysis, content analysis, and interviews. Each method is described in Figure 1.7, with further details in each chapter of this report.

Figure 1.7. Project Methods of Analysis

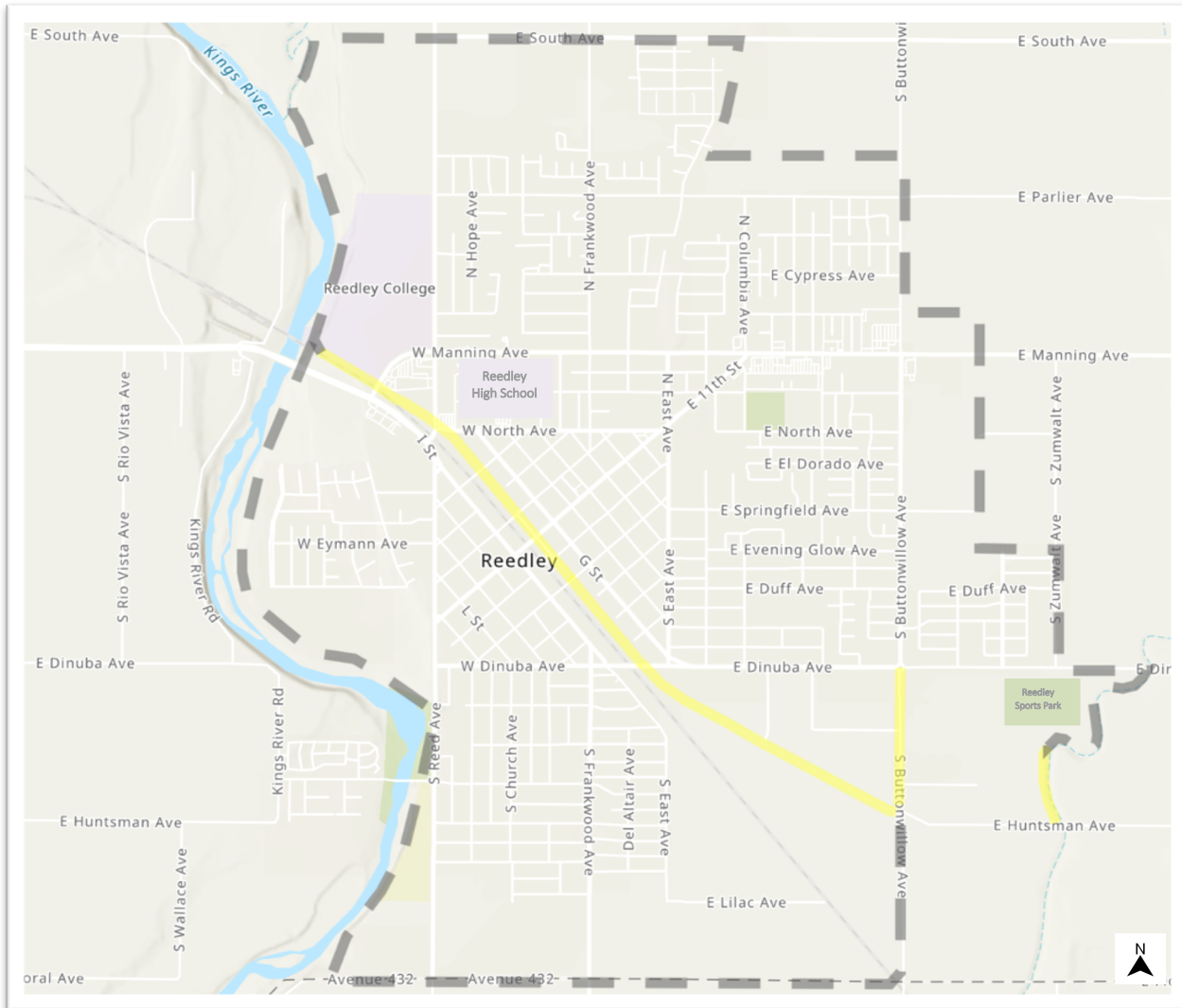
Advisory Meetings	Advisory meetings with City staff were held regularly from October 2019 through the completion of this report in June 2020. The purpose was to check-in on the progress of the City’s trails master planning process, answer questions, and provide notification of developments that may impact the research and analysis (e.g. directions from City Council, Planning Commission, staff or committees).
Fieldwork	Fieldwork consisted of three in-person visits to Reedley to walk, document, and photograph the existing conditions of the potential Parkway alignment and expansion. Documentation included general notes on prospective user experiences, such as presence or absence of crossing treatments, observed traffic speed and volume, scenic and natural landscaping, and overall cohesiveness with adjacent land uses and between segments. This documentation was supplemented by more than 50 photographs taken at what were deemed ‘critical’ connection points between trail segments (e.g. intersections, canals, activity areas).
GIS and Map Analysis	Available GIS data from Fresno COG was utilized to create a study area site inventory for evaluation of general and site-specific opportunities and constraints. The inventory included several characteristics such as schools, parks, planned land uses, and zoning designations. Where GIS data was not current or available, maps from the <i>General Plan</i> , <i>Mobility Plan</i> , Google Earth, and ArcGIS base maps were accessed to fill in data gaps. Major gaps included existing and planned bicycle and pedestrian facilities, street network and circulation, and hydrological and environmental features.

<i>Content Analysis</i>	The trail development process and identification of general opportunities and constraints involved extensive content analysis. More than two dozen trails master plans, feasibility studies, and active transportation plans from other local, regional, and state agencies were collected, reviewed, and synthesized to formulate a ‘typical’ trail development process. This analysis was supplemented by a review of ‘best practices’ for trail development in order to identify examples and resources and then customized for applicability to Reedley. The <i>Reedley General Plan 2030, Mobility Plan</i> , and area-specific plans such as the <i>Kings River Corridor Specific Plan (1990)</i> , in addition to publicly available information on the City’s website.
<i>Interviews</i>	For greater understanding of a typical trail development process, including more specificities of challenges and lessons learned, a series of interviews were conducted with local agency staff in communities near Reedley. A total of eight local agency staff were interviewed from the City of Clovis, CA, City of Fresno, CA, and City of Madera, CA. These communities were selected by the City of Reedley to learn more about strategies for partnerships, design and engineering, and maintenance and management. Interviews were supplemented by content analysis of the various trails and active transportation related planning documents from each local agency.

Study Area

The study area includes approximately 12 miles of potential trail alignment that extends from the north-south endpoints of the existing Parkway and effectuates a ‘loop’ around the community (Figure 1.8). This alignment includes two directional alignments: (1) the North Alignment from Manning Avenue at the Kings River to the Reedley Sports Park near Dinuba Avenue; and (2) the South Alignment from the Reedley Sports Park at Huntsman Avenue to Manning Avenue at the Kings River. To facilitate the presentation of findings, the study area was divided into segments that travel in north-south or east-west directions on or adjacent to existing roadways or hydrological features (e.g. river, creeks, and canals) through developed and undeveloped land. Segments are described in Chapter 4 and Appendix D.

Figure 1.8. Reedley Parkway System Map, Reedley, California, 2020¹²



Map Details: The existing Parkway is outlined in solid yellow and the potential Parkway expansion is outlined in dashed gray.

¹² This map was created by Jenna Chilingierian using ArcGIS online and data from ESRI, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Fresno County Dept. PWP, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA.

Organization of the Report

The remainder of this report is organized into four chapters that each cover a project objective as described above. Additional supporting data and information are included in Appendices.

Chapter 2 – Analyzing the Case for Trails in Reedley, CA identifies the existing conditions of the city’s land use, transportation, demographics, and historical, cultural, and environmental elements that are supportive of the City of Reedley’s objectives to expand the existing Parkway. The purpose is to showcase opportunity areas for the City to enhance and strengthen its case for investing in its trail facilities.

Chapter 3 – The Trail Development Process builds on the existing conditions and opportunity areas identified in Chapter 2 and presents a typical process for developing trails. The purpose is to develop an example planning and decision-making framework with example strategies and resources.

Chapter 4 – Alignment Concept Assessment & Analysis presents the findings from a prefeasibility analysis of the potential Parkway expansion. The purpose is to provide an independent review of the potential Parkway alignment and in doing so, pinpoint likely implications for opportunities and constraints.

Chapter 5 – Recommended Implementation Strategy outlines and describes a recommended approach for the City of Reedley as it carries out trail planning and development.

Chapter 6 – Conclusions provides final words and considerations.

Appendix A – List of Resources provides resources were accessed and used to describe a typical trail development process, as demonstrated in Chapter 3 – The Trail Development Process.

Appendix B – Interview Guide provides the questions used to interview local agency staff from the cities of Clovis, Fresno, and Madera. Interviews are synthesized in Chapter 3 – The Trail Development Process.

Appendix C – Model Code Language includes model code language derived from the development codes of the cities of Clovis and Fresno. Codes are referenced in Chapter 3 – The Trail Development Process.

Appendix D – Segment Profiles details site-specific opportunities and constraints for each segment assessment, based on application of assessment criteria introduced in Chapter 4 – Alignment Concept Assessment & Analysis.

Chapter 2 – Analyzing the Case for Trails in Reedley, CA

This chapter seeks to identify the existing conditions of the city’s land use, transportation, demographics, and historical, cultural, and environmental elements that are supportive of the City’s objectives to expand the existing Parkway. In other words, this chapter intends to showcase the opportunity areas for the City to enhance and strengthen its case for investing in its trail facilities. To do so, this chapter summarizes key findings from analysis of the City’s planning documents including but not limited to the *General Plan 2030* (2014), *Mobility Plan* (2019), past area-specific plans such as the *Kings River Corridor Specific Plan* (1990), in addition to census data and publicly available information from the City’s website. Analysis focused on where active travel was either specifically referenced or blatantly absent. Findings are categorized by general theme and organized as specific observations with corresponding opportunity areas. The chapter concludes with a summary of opportunities.

Key Findings

The following section describes key findings and opportunities for enhancing and strengthening the City’s case for trail investment. Findings and opportunities are categorized as follows:

- Population Characteristics and Planning for Mobility Needs;
- Population Growth and Demand for Urbanized Land;
- Transportation Network Connectivity;
- Greenfield Development;
- Trail-Oriented Development;
- Historical and Cultural Resources; and,
- Environmental Enhancements.

Population Characteristics and Planning for Mobility Needs

Generally, trails benefit people of all ages by providing both a means for recreation and transportation.¹³ Understanding the varying mobility needs of populations can inform the planning and development of bicycle and pedestrian facilities to ensure ongoing use of such facilities. In Reedley, there are certain population groups that represent significant shares of its overall population, namely the youth, senior, and student populations. These shares are likely to increase as the city experiences anticipated population growth over the next 10 years. These observations are illustrated as follows.

- **Reedley’s population is growing.** Reedley has a current population of approximately 25,500 and is expected to reach 47,000 residents by 2030, a nearly 84% increase in population.^{14,15} This population forecast represents a 3% annual growth rate, which is based on the City’s historic population data and average annual growth rate within the past five years.

¹³ Rails-to-Trails Conservancy, “Benefits of Trails,” Rails-to-Trails Conservancy, accessed June 5, 2020, <https://www.railstotrails.org/experience-trails/benefits-of-trails/>.

¹⁴ City of Reedley, California. (2014). *City of Reedley General Plan 2030*. City of Reedley, accessed June 5, 2020, <http://reedley.wpengine.com/wp-content/uploads/2019/12/Reedley-General-Plan-2030-Adopted-February-18-2014-1.pdf>.

¹⁵ U.S. Census Bureau; American Community Survey, 2018 American Community Survey 5-Year Estimates, Table DP05, Demographic and Housing Estimates.

- **Youth and elderly comprise approximately 50% of Reedley’s population.** In 2018, an estimated 32% (8,281) of Reedley’s population consisted of children and teenagers under the age of 19.¹⁶ In addition, approximately 17.3% (4,391) of the population were those between the ages of 55 to 74, an age group commonly termed as the “baby boomer” generation. The City anticipates for these shares of population to increase given the family-oriented, multi-generational nature of the city. The City attributes the sizable proportion of aging residents to its variety of senior living and care facilities (e.g. Sierra View Homes and Palm Village Retirement Community); and its substantial youth population to its schools, recreational amenities, and general community safety that attracts families.
- **Reedley’s population is young, and its average family size is large.** As of 2018, Reedley’s median age is 32 years old, which is the same for Fresno County, but substantially younger than California (36 years) and the U.S. (38 years). Additionally, Reedley’s average family size of 3.89 is larger than averages for Fresno County (3.59), California (3.56) and the U.S. (3.14).
- **K-12 and college age students comprise 86% (22,000) of Reedley’s population.** As of 2020, Reedley public and private K-12 schools have a total enrollment of 9,906 students or approximately 39% of its total population.¹⁷ For the 2018-2019 academic year, Reedley College enrolled 12,148 students, accounting for 47% of Reedley’s total population.¹⁸ Although it is not clear how many students permanently reside in Reedley, the City estimates that roughly 10%, or 1,200, Reedley College students live in the community. This estimate is derived from the amount of on-campus housing offered at Reedley College.

The City has an opportunity to engage these populations as prospective trail users in its trail planning and development process to ensure that the placement and design of the system meets current and future mobility needs. In considering the range of mobility needs, the City can also explore programming options that more specifically address the needs of these user groups. Overall, the City has an opportunity to engage with and learn from these populations.

Population Growth and Demand for Urbanized Land

Generally, population growth equates to an increased demand for urbanized land, which in turn necessitates careful coordination between land use and transportation infrastructure. This coordination ensures sufficient roadway capacity to mitigate traffic congestion and unsafe travel conditions for those walking and cycling. Reedley is currently in a position to coordinate its land use development and transportation investment to address potential impacts from unfettered growth. Observed trends from the City’s planning documents that support this opportunity are outlined and described below.

¹⁶ U.S. Census Bureau; American Community Survey, 2018 American Community Survey 5-Year Estimates, Table DP05, Demographic and Housing Estimates.

¹⁷ “Reedley Public Schools,” Public School Review online, accessed June 1, 2020, <https://www.publicschoolreview.com/california/reedley>.

¹⁸ Reedley College, Office of Research and Evaluation “Student Enrollment and Headcount,” Reedley College, accessed June 1, 2020, <https://www.reedleycollege.edu/faculty-and-staff/college-planning/college-office-of-research-and-evaluation/data-dashboards/student-enrollment-headcount.html>.

- **The City expanded its sphere of influence (SOI) in response to anticipated population growth.** Reedley currently covers a land area of approximately 5.90 square miles within city limits. Taking note of the anticipated population increase, the *Reedley General Plan 2030* expanded the SOI and allocated an additional 5.15 square miles of land for future development, almost doubling the spatial area of the city.
- **The existing street network does not efficiently transition between older and new portions of the city.** In the city's central, older portions, the street network is a diagonal street grid pattern. In contrast, the newer development located in the fringe areas have a standard north-south, east-west grid pattern. As it currently exists, there are many complex and inefficient intersections in the transitional areas that are further complicated by the railroad grid.¹⁹
- **The fringe areas are bounded and bisected by some of the city's busiest arterials.** The four primary entrance points or gateways to the city are Reed Avenue (north), Manning Avenue (west), Frankwood Avenue (south), and Dinuba Avenue (east). Approximately 32% or three miles of the potential Parkway alignment are adjacent to or intersect these roadways.

As the city's fringe areas experience growth in development, the City has the opportunity to carefully coordinate its land use and transportation infrastructure. In this coordinated effort, the City should focus on the transitional points between the older and newer portions of the city with emphasis on safety and accessibility for non-motorized travel. The Parkway expansion can play a significant role in ensuring that the street network meets the mobility needs of current and future residents.

Greenfield Development

Greenfield land can generally be characterized by large parcels of underdeveloped or underutilized land, which may provide for greater development flexibility as compared to sites near existing development and infrastructure. However, depending on where these lands are located, development of greenfields may strain the provision of public services and put additional pressure on a community's transportation network. As such, it is important for communities to manage growth in development when greenfields are involved. Greenfields with development potential in Reedley's fringe areas present an opportunity for the City to seek balance of growth in development and provision of services such as sewer, water, and streets. Observed trends that support this opportunity are as follows.

- **Future development is likely to occur in the city's fringe areas within the expanded SOI.** By 2030, the City anticipates approximately 75% of land within the SOI to be incorporated into the city limits. Of the 75% to be incorporated, approximately 60% are projected to be allocated for residential land uses, 9% for commercial land uses, and 12% for industrial land uses.²⁰ Notably, the entirety of the potential Parkway alignment lies in these fringe areas.

¹⁹ City of Reedley, California. (2019). *City of Reedley Bicycle and Pedestrian Mobility Plan*.

²⁰ City of Reedley, California. (2014). *City of Reedley General Plan 2030*.

- **Greenfields account for a majority of lands within the expanded SOI.** Aerial images (dated 2020) show that a majority of existing land uses within the SOI can be characterized as agricultural, low-density residential, or vacant/undeveloped properties.
- **Within a quarter mile of the potential Parkway alignment, a majority (67%) of land is planned for residential or commercial uses.** A quarter mile is a generally accepted distance for people to choose to travel by walking based on various U.S. transportation studies. GIS analysis shows that a majority of planned land uses within a quarter mile of the potential Parkway alignment are planned for residential uses (43%) followed by commercial uses (24%) (Figure 2.1).

Figure 2.1. Planned Land Uses Within a Quarter Mile of Potential Alignment

Planned Land Use	Potential North Alignment		Potential South Alignment		Potential Full Alignment	
	Acreage	%	Acreage	%	Acreage	%
Commercial	414	23%	354	26%	768	24%
Industrial	47	3%	93	7%	140	4%
Institutional	234	13%	182	14%	416	13%
Open Space	216	12%	266	20%	482	15%
Residential	911	50%	445	33%	1,356	43%
<i>Total</i>	1,822	100%	1,340	100%	3,162	100%

Source: The dataset used to determine planned land uses within a quarter mile of the potential alignment was created by the Fresno Council of Governments; the dataset is for planned land uses in Fresno County.

- **The current City Code does not address pedestrian and bicycle connectivity and accessibility.** As it is currently written, the City’s zoning ordinance and subdivision regulations (i.e., [Section 11-5 – Subdivision Design, Dedications, and Improvements](#)) do not address bicycle/pedestrian and street connectivity or accessibility between points of community interest, such as residential neighborhoods, commercial areas, schools, and parks. Even more, there is no mention of trails or multi-use paths in any of the City’s development regulations.

Based on the residential and commercial planned land uses, the City has an opportunity to strategically plan and design the potential Parkway expansion to serve future residentially and commercially based trail users. In addition to the trails master plan, the City should consider amending development regulations within the City Code (i.e., zoning ordinance and subdivision regulations) to include standards that either require or promote connectivity and accessibility for bicycle and pedestrian facilities. This is imperative because, should greenfields be developed without requirements for pedestrian-oriented infrastructure, there may be portions of the City that will need to be retrofitted or modified for such facilities. Such modifications can be costly. Overall, there is an immediate need to make adjustments to plans and zoning ordinances to ensure that development and trail build out are associated.

Trail-Oriented Development

There is growing literature about reciprocal relationships between bicycle and pedestrian investments and real estate development.²¹ These relationships between the private and public sectors are commonly referred to as “trail-oriented development” whereby investments in active transportation infrastructure are leveraged for real estate investments. Outcomes of this relationship will vary by local or regional context, but studies show increased property values and economic returns as results of the private and public sector investments. As Reedley continues to invest in active transportation, there is an opportunity to work with the private sector to boost appeal of development near trails.

- **The existing Parkway is an example of the City engaging in trail-oriented development.** The city’s original industrial center is located south of downtown along the historic railway. By 2002, this area was characterized by mostly vacant and underutilized properties. With the rail-trail project in progress, the City saw the opportunity to capitalize on the trail investment by developing a master plan that would guide future development around the Parkway (i.e., *Rail Corridor Master Plan*, 2002). The master plan has since been absorbed into the *General Plan 2030*, but the City retained the master plan map and its commitment to encouraging trail-oriented development that will transition underutilized parcels to higher use values.²²
- **Developers are showing interest trails as amenities.** The City has recently processed land use entitlements for development in the Buttonwillow and Duff Annexation Area (i.e., [Rancho Vista Project](#)). In conversations at the Planning Commission meeting, the developer chose to adjust the project design to allow for connections to future active transportation infrastructure. To the City, this behavior indicates that there is a willingness and understanding to coordinate land use and transportation investments in order to build connected and accessible neighborhoods.
- **The City links the existing Parkway to environmental and economic benefits.** In its promotions of the existing Parkway, the City highlights increased mobility, accessibility, and convenience for pedestrians and bicyclists as a result from its trail investment. This is equated with reductions in greenhouse gas emissions from vehicles; the City projects an elimination of 218,000 vehicle trips within the first 20 years of the trail.²³ The City also highlights that the prominent placement of the trail investment near the industrial employment area, Sports Park, and within a City-identified redevelopment project area will likely cause increases in non-motorized travel.²⁴

The City is already engaging in trail-oriented development through its investments in the existing Parkway and its efforts to leverage such investments. Additionally, the City has placed environmental and economic values on its trail investments. With a sizable portion of the potential Parkway expansion within greenfield and fringe areas, the City has the opportunity to continue to pursue reciprocal relationships between its investments and developments in close proximity and should consider development requirements to ensure trail investments occur.

²¹ Trish Riggs, “Trail-Oriented Development: The Next Frontier in People-Friendly Design,” Urban Land Institute, April 25, 2016, accessed June 5, 2020, <https://urbanland.uli.org/industry-sectors/infrastructure-transit/trail-oriented-development-new-uli-report-looks-next-frontier-people-friendly-design/>.

²² City of Reedley, California. (2014). *City of Reedley General Plan 2030*.

²³ City of Reedley, Department of Community Services, “Reedley Community Parkway.”

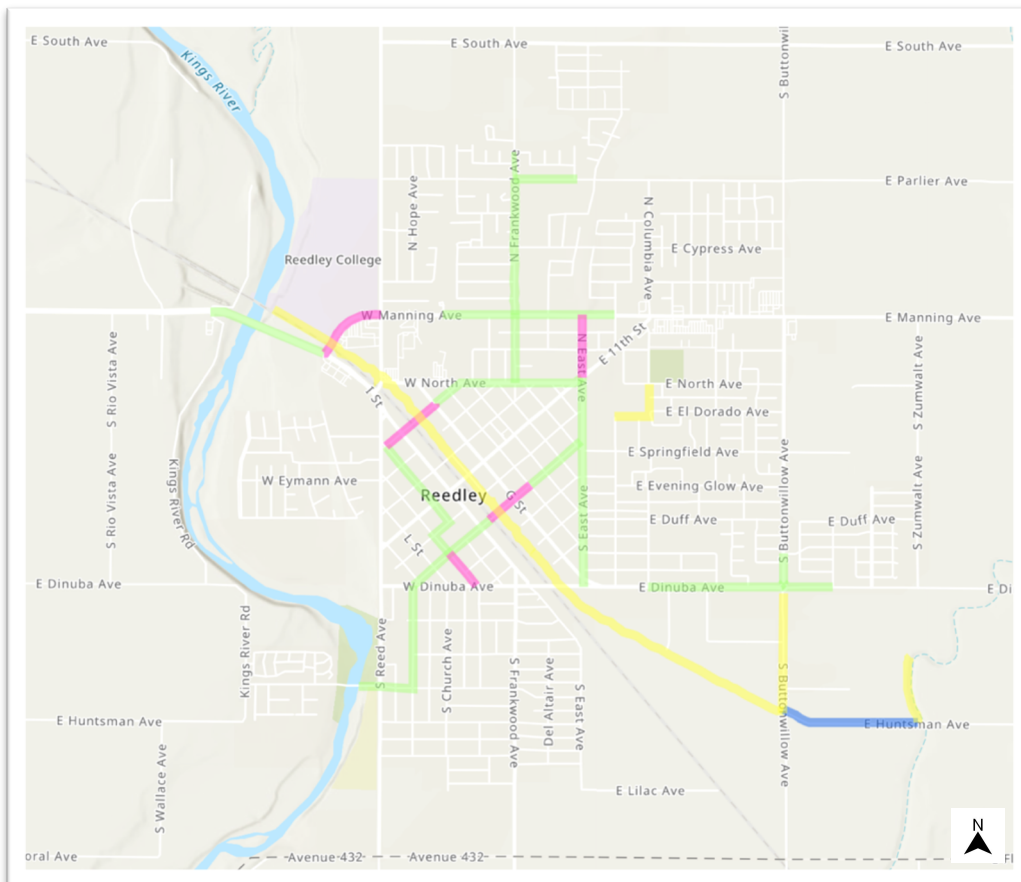
²⁴ Ibid.

Transportation Network Connectivity

Investment in bicycle and pedestrian facilities can be leveraged to build out a well-connected and integrated transportation network that is safe, convenient, and accessible for both motorized and non-motorized travel. Strategic investments that consider a range of transportation-related facilities the integration of such facilities allow communities to move toward creating a multi-modal transportation network. This is especially emphasized for Californian communities pursuant to statewide active transportation and greenhouse gas emission reduction goals (i.e., the [Active Transportation Program](#)). As such, investments can see regulatory implications and funding potential. In its Parkway expansion efforts, Reedley can make strategic investments that leverage its existing transportation network and in turn, meet statewide goals and increase its eligibility for funding. Current conditions are outlined below.

- Reedley has and is planning for bicycle and pedestrian facilities.** There are currently 17 miles of bicycle facilities and 126 miles of sidewalks within city limits (Figure 2.2). In addition to these facilities, the *Mobility Plan* indicates more than 52 miles of bicycle facilities and four miles of sidewalks planned. Planned facilities are focused near schools and along major arterials.

Figure 2.2. Existing Bicycle and Pedestrian Facilities²⁵



Map Details: Existing Class I bike paths are outlined in yellow; class II bike lanes are outlined in green; class III bike routes are outlined in fuchsia; and, class IV separated bikeways are outlined in blue.

²⁵ This map was created by Jenna Chilingierian using ArcGIS online and data from ESRI, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Fresno County Dept. PWP, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA.

- **The youth cycling population is a driver of active transportation investments.** The City has found that the majority of residents who travel by bicycle are elementary school-aged children.²⁶ As such, the City’s approach to planning bicycle and pedestrian facilities is to link residential areas to schools and recreational sites. This is consistent with the planned facilities described above.
- **The City has not prioritized development of bicycle facilities along canals or railroad rights-of-way.** The City has focused development of new bicycle facilities along existing roadways within city limits. Development along canals or within railroad rights-of-way can be more challenging, often involving legal constraints and significant time delays.²⁷
- **The existing Parkway is the only major continuous Class I bicycle facility in the city.** The Parkway extends 3.20 miles through the core of the city, from the Kings River to the northwest and to the Reedley Sports Park to the southeast. The existing Parkway is currently the only major continuous, non-motorized, multi-use transportation corridor and thus plays an important role in supporting existing and proposed bicycle and pedestrian facilities as there are existing Class II, III, and IV bicycle facilities that connect with or intersect the Parkway.
- **The majority of the Reedley workforce is employed outside the city and commutes to work by driving.** As of 2018, a quarter of Reedley’s population works in the city compared to 75% who commute for employment purposes elsewhere.²⁸ Of the working population 16 years and older, approximately 90% commute by driving whereas only 1% commute by walking and 1.2% commute by bicycling.²⁹ This may indicate that trips by non-motorized means of transportation are largely for recreational purposes rather than utilitarian. However, these numbers are likely to change with population growth and investments in active transportation infrastructure.
- **The *Reedley General Plan 2030* does not explicitly define or mention active transportation.** The *Reedley General Plan 2030* does not reference ‘active transportation.’ Rather, the plan focuses on promoting a Complete Streets design.

It is clear that active transportation is present in Reedley and that the City has and continues to consider investment in its bicycle and pedestrian facilities. The City has an immediate opportunity to leverage the potential Parkway expansion to improve its existing active transportation and street network. There may be opportunities for ‘spurs’ or off-shoots from the Parkway expansion directly to existing bicycle/pedestrian facilities. Additionally, the City has an opportunity to investigate what influences active travel behavior to prioritize linkages between points of community interest. This may result in a modified investment approach that considers alternatives for facility placement beyond roadways. The City should ensure that these efforts adequately reflect statewide goals and improve its eligibility for funding. This could be achieved through development of a standalone active transportation plan that encompasses all active transportation-related projects and programs.

²⁶ City of Reedley, California. (2014). *City of Reedley General Plan 2030*.

²⁷ City of Reedley, California. (2014). *City of Reedley General Plan 2030*.

²⁸ U.S. Census Bureau; American Community Survey, 2018 American Community Survey 5-Year Estimates, Table S0801, Commuting Characteristics by Sex; generated by Jenna Chilingirian; using data.census.gov; <https://data.census.gov/cedsci/>; (1 June 2020).

²⁹ Ibid.

Historical and Cultural Resources

History and culture can enliven public spaces and help foster a deeper sense of community. For public spaces such as recreational trails, incorporation of historical or cultural elements can draw attention to the trail as an interactive and educational community asset. Reedley in particular has an opportunity to leverage its historical and cultural resources as part of its Parkway expansion, including but not limited to native populations, agriculture, river culture, its railroad, and diverse populations.

- **The existing Parkway showcases Reedley’s historical and cultural resources.** Within the existing Parkway corridor, the Reedley Historical Society, Fresno Area Workforce Youth Group, the First Mennonite Church, and various groups have actively displayed historical elements that recognize the breadth of Reedley’s history.³⁰ These elements are tied to the community’s industrial sectors (i.e., railroad and agriculture) as well as the diverse populations that have served the community through civic leadership. Elements are showcased as physical artifacts and artwork.
- **The settlement of Reedley is intrinsically linked to agriculture, the Kings River culture, and the railroad corridor.** Agriculture has been a central element of Reedley’s history and economy since the mid-1800s when Thomas Law Reed settled in the area and harvested wheat for Gold Rush miners.³¹ The settlement and subsequent railroad construction marked the early beginnings of what would later become “Reedley.” The use of the Kings River for crop irrigation led to a now century-long tradition of field, tree, and vine fruit production, which led to Reedley’s nickname as the “world’s fruit basket” coined in 1941.³² Strong foundations in agriculture spawned other agriculturally oriented industry that continue to play dominant roles in Reedley’s economy today.
- **Native populations are credited with cultivating the area that would become some of the most agriculturally productive lands in the region.** The Wechikit Yokuts were the first peoples to inhabit the Reedley area. The California State University, Bakersfield Archeological Information Center identifies 30 recorded cultural resources within one square mile area of Reedley; four of which include Native American archeological sites of isolates.³³ In particular, the archeological investigations and data recovery from the “Wahtoke Creek Project” revealed distinct historical settlement patterns that dated back to the Middle Holocene era.³⁴

The existing Parkway follows the historic railroad alignment and already showcases many historical and cultural elements of Reedley’s rich agricultural and rail transportation history. The potential Parkway expansion picks up from the historic rail corridor, travels across farmlands, and parallels the Kings River and Wahtoke Creek. As such, historically and culturally significant resources should be factors considered during the planning and designing of the potential Parkway expansion. Leveraging and celebrating these resources through artifacts, artwork, and educational plaques can increase the community’s connection to and interactions with the trail system.

³⁰ City of Reedley, Department of Community Services. (2019). “The Reedley Parkway.” PowerPoint presentation, City of Reedley, California, December 2019. Accessed June 1, 2020, <http://reedley.wpengine.com/wp-content/uploads/2020/02/19-December-parkway-4.pdf>.

³¹ City of Reedley, California. (2014). *City of Reedley General Plan 2030*.

³² City of Reedley, “History,” accessed June 5, 2020, <http://reedley.ca.gov/about-reedley/history/>.

³³ City of Reedley, California. (2014). *City of Reedley General Plan 2030*.

³⁴ Far Western Anthropological Research Group, Inc., “Wahtoke Creek,” Far Western, accessed June 1, 2020, <https://farwestern.com/wahtoke-creek/>.

Environmental Enhancements

Natural landscapes and habitats are often left fragmented and isolated by patterns of urban development. Trails offer an opportunity to conserve, preserve, and enhance wildlife resources and native plant and animal species.³⁵ For Reedley, the potential Parkway expansion enters natural riparian environments of the Kings River and Wahtoke Creek corridors as well as Travers Creek, a manmade creek for crop irrigation. With approximately 43% of the potential Parkway expansion paralleling the river, creeks, and irrigation infrastructure, there's an opportunity to incorporate environmental conservation, preservation, and enhancement activities into the potential trail development.

- **Reedley's topography is generally flat except for the area within the Kings River corridor.** Slopes within Reedley's SOI are primarily found within the Kings River corridor; other than this area, the city is "flat." Given the city's proximity to the Sierra Nevada Mountains, rain and snowmelt runoff follows a subsurface lateral movement into creeks, irrigation ditches, open space, percolation ponds, and the Kings River.³⁶ These areas are ripe with natural landscapes and habitats.
- **The Kings River is the main river that runs through Fresno County and is a sizable recreational asset to Reedley.** The Kings River is considered the "best and most prominent riparian and wetland habitat" in Fresno County.³⁷ According to the *Kings Basin Integrated Regional Water Management Plan* (2018), "the Kings River, its tributaries, and sloughs are the lifeline of the riverine-riparian habitat that links the Sierra Nevada Mountains to the foothills, to the valley floor."³⁸ Approximately 4.5 miles of the Kings River runs along Reedley's western border.
- **The Kings River is recognized by the City as an important natural resource that should be conserved and preserved.** The City's *Kings River Corridor Specific Plan* (1990) laid the foundation for the City's efforts toward seeking balance between growth, conservation, and preservation of the Kings River corridor. The plan has since been absorbed into the *Reedley General Plan 2030* but serves as a reminder of the importance the City previously placed on developing a river-adjacent trail system that would maximize public enjoyment of the natural riparian environment. The plan detailed concern about the lack of river access points from a trail (i.e., trespassing, vandalism, and littering) and offered several recommendations (e.g. interpretive nature center and trail) for trail development, conservation, and preservation that are still applicable today.

With the potential expansion of the Parkway, there are opportunities within those portions of the city to enhance the environments of the Kings River, Wahtoke Creek, and Travers Creek corridor through concentrated conservation and preservation activities. For the river corridor in particular, these types of activities were detailed in the *Kings River Corridor Specific Plan*. Overall, there is an opportunity to coordinate trail development with conservation and preservation of natural habitats and vegetation.

³⁵ Trails and Greenways Clearing House. (1999). *Enhancing the Environment with Trails and Greenways*. Rails-to-Trails Conservancy, accessed June 1, 2020, <https://www.railstotrails.org/resource-library/resources/enhancing-the-environment-with-trails-and-greenways/>.

³⁶ City of Reedley, California. (2014). *City of Reedley General Plan 2030*.

³⁷ City of Reedley, California. (2014). *City of Reedley General Plan 2030*.

³⁸ Kings Basin Water Authority. (2018). *Kings Basin Integrated Regional Water Management Plan*. Kings Basin Water Authority, accessed June 1, 2020, <https://www.kingsbasinauthority.org/governance/governing-documents/irwmp/>.

Summary of Opportunities

The opportunity areas described throughout this chapter are summarized as follows.

Population Characteristics and Planning for Mobility Needs

- Engage prospective trail users in the trail planning and development process to ensure ongoing trail use.
- Explore programming options that specifically address the mobility needs of prospective trail users.

Population Growth and Demand for Urbanized Land

- Coordinate land use and transportation infrastructure in fringe areas.
- Focus on transition points between older and new portions of the city.
- Emphasize safety and accessibility for non-motorized travel.
- Leverage the potential Parkway expansion to meet mobility needs.

Greenfield Development

- Strategically plan and design the potential Parkway expansion to serve future residentially based trail users.
- Prioritize trail development to serve a residentially and commercially based prospective trail user group.
- Master plan the trail system to ensure trail build out will be concurrent with development.
- Consider amending development provisions within City Code to include standards and regulations that require connected and accessible bicycle and pedestrian facilities.

Transportation Network Connectivity

- Reflect statewide active transportation goals across plans and policies to improve funding eligibility.
- Leverage the Parkway expansion to improve the existing active transportation and street network.
- Leverage interest of youth population by prioritizing gaps between schools, recreational areas, and the potential Parkway alignment.
- Investigate what influences active travel behavior to prioritize linkages between points of interest.
- Change investment approach to consider alternatives for facility placement beyond roadways.

Trail-Oriented Development

- Pursue reciprocal relationships between trail investments and developments in close proximity.

Historical and Cultural Resources

- Factor in the extensive historically and culturally significant resources during the planning and designing of the potential Parkway expansion.
- Leverage and celebrate historically and culturally significant resources to increase connection and interaction with the trail system.

Environmental Enhancements

- Improve the environmental conditions of the Kings River, Wahtoke Creek, and Travers Creek by coordinating trail development and conservation and preservation activities that enhance the city's natural habitats and vegetation.

Summary

This chapter identified the existing conditions of the city's land use, transportation, demographics, and historical, cultural, and environmental elements were found to be supportive of the City's objectives to expand the Parkway. In particular, the chapter showcased the opportunity areas for the City to enhance and strengthen its case for investing in its trail facilities. The next chapter, Chapter 3 – The Trail Development Process, builds on the baseline conditions and opportunity areas and presents a seven-step process for developing trails in order to provide the City and RPC with a model framework for trail planning and decision-making.

Chapter 3 – The Trail Development Process

This chapter builds on the baseline of existing conditions and opportunity areas identified in Chapter 2 – Analyzing the Case for Trails. Specifically, this chapter presents a seven-step process for developing trails that has been adapted from the Rails-to-Trails Conservancy. Within each step is a general description followed by examples and resources that are applicable to Reedley and based on the pre-identified conditions and opportunities. Descriptions, examples, and resources were collected and synthesized from content analysis of trails master plans, feasibility studies, toolkits, guidelines, and presentations by various jurisdictions at the local, regional, and state levels (Appendix A). Additionally, descriptions, examples, and resources were also obtained by conducting interviews with local agency staff from the cities of Clovis, Fresno, and Madera (Appendix B). The purpose of this chapter is to develop a model framework for trail planning and decision-making with specific strategies and resources.

The Trail Development Process

Multi-use trail systems include bicycle and pedestrian facilities (i.e., physical structures such as trails) and amenities (i.e., features that enhance facilities such as lighting or wayfinding) that promote non-motorized travel and increase the connectivity and accessibility for active travel between destinations. The development of these systems is a long-term process rooted in community needs, values, and priorities and requires capacity to obtain and maintain long-standing funding streams and partnerships. The ‘typical’ process can be organized into seven steps as adapted from the Rails-to-Trails Conservancy (Figure 3.1). It is important to recognize that trail planning and development is an incremental, variable process that requires flexibility and adaptability. Each step is described further in the following sections.

Figure 3.1. The Seven Steps to Develop a Trail




Source: This graphic was created by Jenna Chilingirian, adapted from the Rails-to-Trails Conservancy’s trail development process outlined in the [Richmond Industrial Trail Feasibility Study](#), 2018.

Step 1: Identify and Define

The first step in the trail development process is to *identify and define* the community's vision for a trails system which can be attained through community engagement. The vision serves as the foundation for the feasibility and master plan's goals, objectives, and recommendations (See Steps 2 and 3) (Figure 3.2). Engagement should focus on conducting analysis of community needs and values related to trails which, in turn, should conceptualize the necessary actions to achieve the community's overall vision for trails. Typical engagement efforts include hosting open houses, workshops, public meetings, or booths at events. However, agencies have begun to utilize targeted data-driven activities such as interviews, surveys, walking/bicycling audits, and interactive mapping tools to enhance greater trust, commitment, and accountability from the community (Figure 3.3). Here, early engagement lays the groundwork for a network of trail champions that can advocate on behalf of trails through the duration of the process.^{39,40}

Figure 3.2. Example Scope and Vision for a Trails System, San Jacinto, California, 2018



SCOPE AND VISION

The TMP will serve as San Jacinto's active transportation and trails guide for the development of multi-modal projects that best meet the needs of the community. The TMP takes advantage of a committed group of community members, physical opportunities provided by its relatively flat terrain, and its centrally located position within western Riverside County.

The following objectives are addressed within the TMP:

1. Identify gaps and barriers, both perceived and actual, in the existing pedestrian, bicycling, and trail network where high priority corridors are disconnected;
2. Engage with the community to gather local knowledge on existing challenges and opportunities;
3. Analyze the existing infrastructure around activity centers, such as parks and commercial centers, to determine appropriate solutions;
4. Develop a methodology for prioritizing projects that include family-friendly routes, first and last mile connections to transit, and a tiered network that serves both experienced riders and less experienced riders; and
5. Encourage walking and bicycling as viable transportation modes.

Source: City of San Jacinto, California, *Trails Master Plan*, 2018.

A trails committee can be an effective organization and decision-making tool that supplements an agencies' broader community engagement efforts. There are two common types of committees for trails planning and development: (1) stakeholder and (2) technical. Both committees offer advisory opportunities but have different focus areas and member bases. Stakeholder-based committees typically comprise broad groups of individuals (e.g. residents, trail users, advocates, businesses, and donors) that advise on events, funding, engagement, and day-to-day trail use impacts such as

³⁹ Rails-to-Trails Conservancy, Trail Development Department, "Engaging and Empowering Communities," Rails-to-Trails Conservancy, accessed June 1, 2020, <https://www.railstotrails.org/build-trails/trail-building-services/engaging-and-empowering-communities/>.

⁴⁰ Rails-to-Trails Conservancy, Trail Development Department, "Organizing," Rails-to-Trails Conservancy, accessed June 1, 2020, <https://www.railstotrails.org/build-trails/trail-building-toolbox/organizing/>.

maintenance.⁴¹ In comparison, technical-based committees include local, regional, or state agencies, utility companies, service providers, landowners, or others who are able to assist in technical matters and problem solving.⁴² This type of committee provides technical expertise and advice for specific phases of trail planning and development (e.g. Design and Construction Committee) and may be convened for specific projects and then dissolved or reconfigured upon project completion.

Figure 3.3. Examples of Community Engagement Approaches for Trails Projects

City of Riverside, California	The City of Riverside created an Online Input Map for its active transportation plan where visitors can take a survey and provide feedback for trails, on-street facilities, and improvements. Where there is agreement by visitors, they can “vote” for the option.
County of Placer, California	The County of Placer created a website for the its trails master plan where visitors could review the draft plan and provide feedback. In addition to language about the project, the website includes a project timeline, ways to get involved, and related documents.
Town of Windsor, California	The Town of Windsor utilized the ArcGIS online platform to create an outreach Web Map where visitors could add markers, images, and comments on the town’s existing and proposed trails. The map also highlights existing parks and public lands.
City of Clovis, California	During its Active Transportation Plan outreach process, the City of Clovis hosted an Interactive Map Survey to allow public feedback, recommendations, and comments about walking and bicycling in the city. Users could add map features such as markers and lines.
City of Cupertino, California	The City of Cupertino held a “ walkshop ,” or walking workshop, along a proposed trail segment identified in its bicycle master plan. The walkshop consisted of tours led by city and consultants; attendees were invited to submit comments and feedback.
Great Rivers Greenway, MO	To guide engagement efforts, some jurisdictions like the Great Rivers Greenway (MO) develop an engagement strategy that outlines engagement strategies for each step of its process.



Step 2: Study and Analyze

Once an agency has determined the community’s vision for a trails system, the next step is to **study and analyze** the technical possibility, practicality and cost-effectiveness (i.e., feasibility) of planning and developing the envisioned system. Depending on available resources and capacity, feasibility analysis may be conducted by agency staff, consultants, or volunteers. Alternatively, analysis can be conducted in partnership between the agency and volunteers with assistance from consultants.⁴³ For many agencies the effort either results in a published feasibility study or technical memos. The primary purpose of this effort is to conceptualize the trail system vision into trail alignment options that can be studied and analyzed. Alignment options are typically assessed by evaluation criteria, GIS analysis, field visits, and community engagement (Figure 3.4). One example criterion is ‘cost feasibility,’ which considers the total trail costs including design, engineering, studies, surveys, and administration, with an assumption of an additional 10% for environmental studies, documentation, and permitting. Upon completion of feasibility analysis, options with the most favorable scoring are then proposed as “preferred” alignments to be explored in the master planning process (See Step 3).

⁴¹ Great Rivers Greenway. (2018). *Engagement Strategy*. Great Rivers Greenway, MO. Accessed June 1, 2020, <https://greatriversgreenway.org/wp-content/uploads/2018/02/Engagement-Strategy-FINAL.pdf>.

⁴² Ibid.

⁴³ State of Virginia. (2000; updated 2011). *Greenways and Trails Toolbox*. State of Virginia, Department of Conservation and Recreation. Accessed June 1, 2020, <https://www.dcr.virginia.gov/recreational-planning/document/grcwr.pdf>.

Figure 3.4. Evaluation Criteria and Considerations Examples

Little River Trail Feasibility Study State Coastal Conservancy (CA)	Stevens Creek Trail Feasibility Study City of Los Altos (CA)	Highlands Rail Trail Feasibility Study County of Passaic (NJ)
<ul style="list-style-type: none"> • Environmental resources. • Cultural and historical resource protection. • Consistency with adjacent public access and land uses. • Trail management. • Topographical feasibility. • Cost feasibility. • Scenic Experience. 	<ul style="list-style-type: none"> • Land availability. • Land ownership. • Design criteria and guidelines (e.g. CA Highway Design Manual, AASHTO Guide). • Habitat sensitivity and biological resources. • Urban open spaces, including landscaped parks and schools. 	<ul style="list-style-type: none"> • Alternative Options. • Connectivity Factors. • Estimated Construction Costs. • Environmental Sensitivity. • Safety Considerations. • Administrative Challenges.

Source: The title for each study is hyperlinked and also included in Appendix A – Resources List.

The structure and contents of a feasibility study generally include the following components:

1. **Existing Conditions.** Existing conditions will depend on the study or focus area determined by the community, but the feasibility studies reviewed as part of this project broadly addressed existing and future land use, bicycle and pedestrian facilities, trail user demand, and auto demand.
2. **Evaluation Criteria or Assessment Framework.** As mentioned above, evaluation criteria are often used to assess alignment options. Criteria are typically framed as factors that might strengthen or inhibit implementation whereby the results are presented as opportunities or constraints. See Figure 3.5 for examples of preliminary feasibility questions.
3. **Alignment Concepts/Alternatives Analysis.** Of the feasibility studies reviewed, many presented at least three alignment concepts with corresponding evaluation results, maps, and images for justification. The alignment with the most favorable results is ranked highest. Additionally, this component often includes preliminary cost estimates for each alignment.
4. **Implementation Strategy.** This component considers strategies for implementing a trail system including but not limited to land acquisition, design standards, permitting, maintenance, management, and funding.

Figure 3.5. Feasibility Questions for Trail Projects

1. Is there a likelihood that the land can be acquired?
2. Is there public support for the project?
3. Is funding available to acquire property comprising the corridor?
4. Is there an entity willing to take ownership and operate the greenway or trail?
5. Is funding available to develop, operate, and maintain the corridor?

Source: Virginia Department of Conservation and Recreation, *Greenways and Trails Toolbox*, 2011.



Step 3: Plan

Completion of technical analysis marks the beginning of the master *planning* process so long as dollars have been obtained. While technical analysis determines the feasibility of a trails system, the master plan evaluates its future potential and creates a long-term implementation strategy. The components of a master plan can be conceptualized by a framework that answers the *why, what, how, and when* of a trails system (Figure 3.6). The components should offer tangible and visible statements of the vision, goals, and objectives for future conditions in addition to a roadmap for implementation.^{44,45} To ensure long-term application and flexibility, the components should be broad, simple, and concise.⁴⁶ Exact alignments and project details can be assembled and vetted in later steps. The master plan becomes the long-term guiding document that articulates policy, summarizes analysis, and guides future action.

Figure 3.6. Master Plan Conceptualization Framework

1. <i>Why.</i>	The vision or purpose, goals, and objectives for the trails system.
2. <i>What.</i>	The scope, expected costs, and anticipated results of the trails system.
3. <i>How.</i>	The approaches or strategies for implementing the trails system.
4. <i>When.</i>	The timeline, sequencing, and milestones for implementing the trails system.

The specifics involve a multi-phased effort to identify, assess, and prioritize feasible trail segments that, together, form the trail system. Identification includes compiling a list of desired projects and programs. Next, each project and program is assessed for feasibility based on pre-determined factors (e.g. cost, funding availability, environmental conditions) in addition to other considerations including but not limited to: user needs, connections to plans and policies, partnerships, and maintenance and management responsibilities (Figure 3.7).⁴⁷ Following the assessment, the feasible projects and programs are prioritized into a final list of recommendations. Agencies often rely on prioritization tools to assist with ranking. For example, the City of Fresno’s *Fresno Network Expansion Feasibility Plan* (2019 draft) specifies the Active Transportation Priority Tool. Finally, the master plan should identify implementation measures (e.g. design, maintenance, programming).

Figure 3.7. Recommended Contents of a Trails Master Plan

<i>Existing conditions</i>	<ul style="list-style-type: none"> Administrative boundaries and resources: destination points, parks and open spaces, property ownership, and trails plans for adjacent jurisdictions. Physical conditions: site-specific opportunities and constraints, existing facilities, land uses environmental conditions, and historical and cultural resources.
<i>Project definition and circulations plans</i>	<ul style="list-style-type: none"> Determine gaps within the existing multi-modal transportation system. Prioritize trail segments or projects to close identified gaps. Provide access and connections to destination points.
<i>Land Acquisition Strategy</i>	<ul style="list-style-type: none"> Determine approaches to acquiring the trail rights-of-way. Consider uses, completion time, complexity, legalities, and expenses.

Source: Sapphos Environmental Inc., “Working Trails and Greenways into Master Plans,” 2014.

⁴⁴ Sapphos Environmental Inc. (2014). “Working Trails and Greenways into Master Plans.” PowerPoint presentation, California Trails and Greenways Conference, April 8, 2014.

⁴⁵ University of Delaware, Institute for Public Administration, “Complete Communities Toolbox: Benefits of Master Planning,” University of Delaware, accessed June 1, 2020, <https://www.completecommunitiesde.org/planning/healthy-and-livable/benefits-of-master-planning/>.

⁴⁶ Sapphos Environmental Inc. (2014). “Working Trails and Greenways into Master Plans.”

⁴⁷ “The Benefits and Drawbacks of Master Planning,” Project for Public Spaces, December 31, 2008, accessed on June 1, 2020, <https://www.pps.org/article/benefits-and-drawbacks-of-master-planning>.

Development regulations such as zoning and subdivision ordinances are critical to ensuring that the vision, policies, and actions of the trails master plan are implemented as intended. Such regulations can be modified to support the development of pedestrian-oriented infrastructure while also providing guidance for further incorporation with private development (i.e., connectivity of bicycle/pedestrian facilities and streets between private development and public rights-of-way).⁴⁸ For reference, the Institute for Health Research and Policy developed a [primer](#) for practitioners that outlines approaches and details strategies for incorporating pedestrian-oriented provisions into plans and zoning ordinances. Two strategies and accompanying examples from the primer are summarized in Figure 3.8. Additionally, specific pedestrian-oriented provisions from the cases studied for this project (i.e., Clovis, Fresno, and Madera) are included in Appendix C.

Figure 3.8. Strategies to Incorporate Pedestrian-Oriented Provisions into Plans and Zoning Ordinances

	Description	Examples
Zoning Ordinance	Policies that promote the connectivity of bicycle and pedestrian facilities can be implemented through zoning ordinances, either as a permitted use (e.g. “Trails and Paths”) or as additional standards for specific uses and activities. The additional standards that address specifics such as location, width, access, or natural resources can guide integration of the facilities in private development.	Pleasant Hill, Iowa’s <i>Parks, Recreation, and Open Space Plan</i> is directly referenced in its zoning code , which requires minimum trail development standards to be included in site plans.
Subdivision Ordinance	The subdivision process can be utilized as a method for both acquisition and access to fulfill trail development. In terms of acquisition, subdivision regulations can require proposed developments to dedicate or reserve lands that will serve a public purpose (i.e., trails) as identified in planning documents (i.e., trails master plan). For access, provisions for lot size, width, and street standards can require incorporation of trails as design features.	Nashville and Davidson County, Tennessee’s joint subdivision regulations specify design provisions for “walkable subdivisions.” Specifically, the provisions outline specifications for connectivity, block length, sidewalks, and street patterns to increase access through and within subdivisions.

Source: Institute for Health Research and Policy, “[Components of Local Land Development and Related Zoning Policies Associated with Increased Walking: A Primer for Public Health Practitioners](#),” 2018.

⁴⁸ JF Chiqui, E Thrun, A Sanghera. *Components of Local Land Development and Related Zoning Policies Associated with Increased Walking: A Primer for Public Health Practitioners*. Chicago, IL: Institute for Health Research and Policy, University of Illinois at Chicago. January 2018. Accessed June 1, 2020, https://www.ihrp.uic.edu/files/Zoning_Primer_508.pdf.



Step 4: Partner

Developing and formalizing *partnerships* is critical to ensuring that a trails master plan is implementable. Partnerships require close collaboration between agencies and potentially affected parties that can take place either before or after the design and engineering phase (See Step 5). Notably, the agencies interviewed for this project stressed the importance of securing partnerships as early as possible. In some instances, the agencies noted that years of negotiations with landowners ultimately placed trail development processes on indefinite holds. Such negotiations were more common where proposed trails are adjacent to waterways (e.g. rivers, canals, or creeks) or railways. As such, partnerships are important to work through during or near the trails master planning process when concepts are still high-level and relatively flexible. Regardless of where partnerships fall in the process, it is important to address all concerns as they arise, keep communication lines clear, and remain responsive.⁴⁹

Technical analysis and the master planning process should be where agencies are identifying potential concerns and proposing alternatives or solutions to address such concerns. For example, the list of recommended projects and programs should be scrutinized to identify where the agency may have legal exposure. If agencies find that partnerships are necessary to mitigate exposure, then they should move to holding conversations with the landowners, operators, other potentially affected parties to formalize agreements or memorandums of understanding. Depending on interest, agencies may also consider invitations to join a technical advisory committee for further input or involvement in the planning and design decision-making processes. If agencies are finding that consensus cannot be reached as intended, then they should move quickly to reroute or modify its plans or designs before they are codified.

Two potential situations that may raise landowner concerns in Reedley are: (1) developing trails along waterways (e.g. canals, creeks, or the river) and (2) developing adjacent to or through farmland (e.g. Reedley College campus farm). Both situations are likely to raise significant safety and liability concerns by landowners, especially regarding theft and vandalism, littering, operational disruptions, maintenance, and privacy. The Rails-to-Trails Conservancy has studied these types of concerns; specifically in a 2011 [report](#) about trail development adjacent to waterways and through a 2014 national [survey](#) about trails and agriculture.^{50,51} From this analysis, the Rails-to-Trails Conservancy was able to identify various strategies and best practices to mitigate concerns. The strategies and best practices can be boiled down to three categories: (1) liability, (2) management and maintenance, and (3) design. Each category is described below with supplemental examples and resources (Figure 3.9).

⁴⁹ Berry Bergman, James Powell, "Trails and Agriculture: Bridging Productive and Recreational Landscapes." PowerPoint presentation, American Trails, May 20, 2015. Accessed June 1, 2020, <https://www.americantrails.org/files/ppt/Trails-and-Agriculture-Bergman-Powell.htm>.

⁵⁰ Rails-to-Trails Conservancy. (2011). *Development of Trails along Canals, Flood Channels, and other Waterways*. Rails-to-Trails Conservancy, last accessed June 5, 2020, <https://www.railstotrails.org/resource-library/resources/development-of-trails-along-canals-flood-channels-and-other-waterways/>.

⁵¹ Berry Bergman, James Powell, "Trails and Agriculture: Bridging Productive and Recreational Landscapes."

Figure 3.9. Strategies to Mitigate Common Landowner Concerns

	Description	Examples	Resources
<i>Liability</i>	Liability can be the biggest concern for landowners because they do not want to assume responsibility for risks, costs, or damages associated with recreational use on their property especially if they do not provide recreation or transportation facilities. These concerns can be addressed through individual agreements between the agency and landowner. For agriculture uses, there may be unique concerns due to pesticide use and potential for crop-contamination; in addition to agreements, agencies can also think about programmatic solutions that set boundaries and rules for trail use.	<ol style="list-style-type: none"> 1. The City of San Jose (CA) executed a Collaborative Action Plan and Agreement between the City and Water District for development and operation of trail projects. This streamlined the development of public trails, while also defining the roles, responsibilities, and risks. 2. The AG RESPECT Program formed a coalition of concerned landowners and partners along a proposed trail network (e.g. the Napa Valley Vine Trail Coalition) that resulted in a how-to-guide for trail users, inclusion of right-to-farm language, and incorporation of educational signs and rest-stops on farmlands. 	In California, there are existing laws that protect public entities and easement grantors from legal claims: the California Recreational Use Statute and California Recreational Trails Act (California Government Code 831.4, California Civil Code 846). Under these laws, landowners receive broad protection as long as there is (1) no invitation, (2) no fee charged, and (3) no willful or malicious intent.
<i>Management and Maintenance</i>	Most trails do not have a dedicated patrol, and for many jurisdictions this is not a financial priority. If trails facilities are not properly managed and maintained, the likelihood for vandalism, trespassing, and homelessness can deter safe use of facilities. However, there are strategies to facilitate effective management and maintenance including: Adopt-a-Trail, lighting, self-monitoring or trail watch programs, utilization of safety signage, and trainings for police and fire departments.	<ol style="list-style-type: none"> 1. The East Bay Regional Park District is served by the Volunteer Trail Safety Patrol of trained patrol groups that dedicate 6-8 hours per month to monitor trails, report safety issues, and foster positive relations among user groups. 2. The County of Santa Clara established a trail maintenance manual to supplement its trail master plan by setting standards, roles and responsibilities, and priority areas and activities. 	<ol style="list-style-type: none"> 1. The Ohio River Greenway Development Commission produced a manual, Best Practices in Trail Maintenance (2014) that provides cost-effective recommendations. 2. The Minnesota Local Research Board’s maintenance workshop can assist with anticipating and planning a maintenance management strategy. 3. The Virginia Department of Conservation & Recreation’s Greenways and Trails Toolbox includes a chapter on operations and management.

<p><i>Design</i></p>	<p>Privacy also becomes a concern of landowners when trails pass near private property. In general, agencies and developers should attempt to plan trails in a way that does not infringe on privacy. When this is unavoidable, privacy concerns can be addressed through design elements that ensure safe separation between adjacent land uses and trail users. In all cases, design elements should be discussed with landowners.</p>	<ol style="list-style-type: none"> 1. Fencing (e.g. lodge pole or chain link), gates, or bollards. For agricultural uses, ensure adequate spacing to accommodate equipment and allow closure for specific operations. 2. Landscaped buffers (e.g. hedges, shrubs). 3. Setbacks from property or fence lines. 4. Signage – regulatory (e.g. “stay on trail,” or “no trespassing”), etiquette (e.g. “watch for and yield to”), warning, informational, or wayfinding.⁵² 5. Lighting. 	<ol style="list-style-type: none"> 1. The Federal Highway Administration’s manuals detail strategies for trail design and construction. 2. The Rails-to-Trails Conservancy’s Trail Building Toolbox provides guidance on design considerations that cover user type, conflict reduction, accessibility, surface materials (e.g. soft v.hard, life expectancy), drainage and erosion control, signage, bridges, crossings, and lighting
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Source: The titles for resources are hyperlinked and are also included in Appendix A – Resources List.

⁵² Berry Bergman, James Powell, “Trails and Agriculture: Bridging Productive and Recreational Landscapes.”



Step 5: Design and Engineer

As funding is obtained, an agency can advance to **designing and engineering** its recommended projects and programs from a trails master plan. Because there is no “typical cross section” that can be replicated everywhere, designing and engineering can be a lengthy, complex, and nuanced process.⁵³ To give some direction for the process, design standards can be incorporated into trails master plans, public works standards and specifications, or published as a standalone document (Figure 3.10). Setting design standards can play a significant role in promoting uniform and quality design across segments and enforcing compliance with regulations.⁵⁴ Beyond the design work, this step will require environmental review (i.e., CEQA and in some cases, NEPA), surveying, and site-specific concept plans and specs. Agencies can also incorporate plans for implementation, lifecycle maintenance and monitoring, and branding and marketing in addition the standard design and engineering work.

Designing and engineering can be done in-house with agency staff or by outside private consultants, depending on the scale of the project, available resources, and capacity. The City of Clovis is an example of an agency that has moved to in-house design and engineering for almost all of its trail-related projects. After several years of inactivity caused by budget constraints, the City decided to pool its resources for in-house designing and engineering of its award-winning [Dry Creek Trailhead](#). Choosing to do in-house design and engineering helped the City to save money and complete the project quicker than if it were to work with a consultant.

Lastly, agencies should consider ways to engage the community and mobilize its committees to partake in the process and provide feedback. For the community this may occur as design charettes with direct engagement with designers; and for committees, this may entail creating a sub-committee for trail design and construction that includes technical experts and other interested parties (e.g. landowners). Engagement opportunities can help ensure that the final design accurately depicts the community’s vision for its trail system and that all potential conflicts or concerns are addressed.

Figure 3.10. Examples of Setting Trail Design Standards

<p>City of Clovis, CA</p>	<p>The City of Clovis Loma Vista Specific Plan (2003) and Heritage Grove Master Plan and Design Guidelines (2016) are examples of incorporating trail design standards into master plans. The City turned to master planning greenfields in the 1990s as the city’s population and demand for urbanized land began to increase. Both master plans account for development to accommodate 30,000 residents per community. Incorporation of bicycle and pedestrian facilities within these communities was identified to the City as being essential to ensure that trails were built as development occurred. The master plans highlight conceptual design standards (e.g. cross-section and design, landscaping, and amenities) for internal circulation – streets, bikeways, trails, and “paseos” – and connectivity to the larger transportation network, which connects to schools, activity areas, and signalized intersections. For reference, “paseos” are Class I bike paths that originate from a central neighborhood park and are shorter (i.e. less than one-mile) paths with 20-30-foot wide landscaped areas.</p>
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⁵³ “Do You Really Need an Engineer to Design Your Trail?” Prein&Newhof, September 25, 2014. Accessed June 1, 2020, <https://www.preinnewhof.com/you-really-need-an-engineer-to-design-your-trail/>.

⁵⁴ Ibid.

<p>City of Fresno, CA</p>	<p>The City of Fresno Trail Design Guidelines (2017 Draft) is an example of standalone trail design standards. Once finalized, this 90-page guide will accompany the City’s Active Transportation Plan (2016) and pending Trail Network Feasibility Expansion Plan (2019 Draft) to codify the pre-determined standards. Fresno is nearly built out and developed, so planned trails must be retrofitted into existing infrastructure. This raises potential challenges to encourage developers to meet certain design standards without codification and enforcement of such standards. As such, Fresno is developing a standalone, detailed document that covers trail cross-section and design, landscaping, fencing and railings, furnishings, public art, signage, bicycle-pedestrian bridges, ramps, retaining walls, and lighting among other elements.</p>
<p>City of San Jose, CA</p>	<p>The City of San Jose’s Trail Network Toolkit Planning & Design (2018) encompasses the City’s process for studying, planning, designing, and building out its trail system. It details planning and design considerations for joint-agency projects, especially where trails are within riparian areas, public rights-of-way, utility corridors, and approaching adjacent cities. The toolkit supplements the City’s Trail Program Strategic Plan (2016), which describes trail characteristics, programming, and maintenance that is more in line with a master plan.</p>
<p>County of Humboldt, CA</p>	<p>Chapter 6 – “Trail Design Guidelines” of the Humboldt County Regional Trails Master Plan (2010) is an example of incorporating trail design guidelines into a trails master plan. The chapter is one of six chapters that cover everything from the purpose and process, to goals, policies, analysis, and prioritization processes. The design chapter itself details the varying widths, surfaces, grades for each trail type in addition to accessibility considerations, support facilities, and amenities.</p>

Source: The titles for resources are hyperlinked and are also included in Appendix A – Resources List.



Step 6: Build

An agency may implement its site-specific concept plans and specs and **build** a trail project upon obtaining funding. Trail construction is typically a segment-by-segment effort until a corridor or system is completed. Two primary considerations during the construction phase include: *who* is going to build the trail (i.e. in-house crews, volunteers, contractors, developers) and *how* community engagement can be sustained. When considering the entities responsible for construction, an agency should take into account the project scale, available resources, and capacity. A master plan's implementation strategy (i.e. funding sources or partnerships) can provide guidance. Fairfax County, Virginia is an example of an agency that prioritizes in-house construction. The County's [Trail Development Strategy](#) outlines six tools to reduce staff time, decrease project costs, and enable more volunteer-based help; by enhancing in-house abilities for planning, designing, building, and maintaining its trails system, the County anticipates more than 200% in savings, inclusive of labor and material.⁵⁵

Once a trails project has been planned, designed, and engineered, community engagement is likely to wane until the project's grand opening. While there may be plentiful opportunities for involvement in the earlier stages of trail development, similar options may not be readily presented during construction unless an agency engages a volunteer base. Fewer touch points with the trail development process are likely to lead to plateaued excitement levels, which may have long-term impacts for community involvement and connection with the trails (i.e., volunteering, fundraising, or event participation).⁵⁶ To mitigate potential impacts, the Pennsylvania Environmental Council's [Inclusionary Trail Planning Toolkit](#) (2018) offers several strategies to keep the community engaged and excited between planning, groundbreaking, and grand opening. Some strategies are outlined in Figure 3.11.

Figure 3.11. Engagement Strategies for Trail Construction, Pennsylvania Environmental Council, 2018

1. Host a pre-construction party and open house. Celebrate the end of the planning process and recognize those who dedicated their time, highlight what's to come.
2. Program the construction sites. Regularly update signage at the construction site about the project, timeline, and community process. If the construction site has chain link fences, think about decorating the fences with local art or with signs about the history of the area.
3. Keep residents up to date with construction progress. Send regular newsletters or write blogs and social media posts to update residents on construction. For example, a newsletter can profile community leaders who have helped with the trail planning and development process.
4. Plan for ongoing programming. Use the construction period to begin planning regular trail programming. Tap into committees and other engaged groups to develop an actionable plan.
5. To set the tone for trail use and offer an opportunity to re-engage the community, an agency may consider hosting an [opening day celebration](#). Here, they can highlight volunteers, introduce programming, and collect contact information for future correspondence.⁵⁷

Source: Pennsylvania Environmental Council, [Inclusionary Trail Planning Toolkit](#), 2018.

⁵⁵ County of Fairfax, Virginia. *Trail Development Strategy Plan*. County of Fairfax, Virginia, Park Authority, accessed June 1, 2020, <https://www.fairfaxcounty.gov/parks/sites/parks/files/assets/documents/plandev/trail-management/trail-development-strategy-plan.pdf>.

⁵⁶ Julia Raskin. (2018). *Inclusionary Trail Planning Toolkit*. Pennsylvania Environmental Council. Accessed June 1, 2020, <https://www.railstotrails.org/resource-library/resources/inclusionary-trail-planning-toolkit/>.

⁵⁷ Ibid.



Step 7: Open, Maintain, and Manage

Once a trail project is constructed, the remaining and final step is to **open** the trail for use. Opening of a trail comes with the need for routine operation, maintenance, management, and programming, all of which should be addressed in the trails master plan and any supplemental plans derived during design and engineering (e.g. lifecycle maintenance and monitoring). Consistent funding becomes even more significant in this phase to ensure that trails are programmed, promoted, and maintained in good condition as safe and enjoyable means for transportation and recreation for the long-term.⁵⁸ For assistance, committees, nonprofits, and other community-based groups can be engaged and mobilized.

Programming is generally concerned with continued activation of trails by addressing user conflicts, safety issues, and environmental impacts of trail use and may be in the form of maintenance, education, or improvement activities.⁵⁹ In programming, agencies should look to the community-identified needs and values for why the trail was desired in the first place.⁶⁰ One way to understand how and where trail use is occurring is to install equipment that tracks or counts pedestrians and bicyclists. For example, the City of Clovis installed a [counting system](#) along trail segments to conduct annual analysis of usage patterns and make adjustments to facilities and safety resources as needed. The system was funded through Measure C. Overall, programming should be targeted to the community’s needs and values and should include evaluation to understand existing conditions and make modifications as necessary.

In general, fundraising is about raising funds to make projects happen. Typical fundraising sources include private donations, events, or membership campaigns (e.g. Adopt-a-Trail). Dollars fundraised can directly fund operational activities while also building community support and ownership for the trails system. It is important to remain consistent in these efforts to maintain enough support to see financial returns for the time and effort spent. Some trails associations like the [Beaverhead Trails Coalition](#) or the [Fort Wayne Trails, Inc.](#) develop strategic plans to guide this work. Additionally, some communities generate an online presence and platform that provides recognition of those supporting the trail and celebration of accomplishments (i.e., amenities and improvements) (Figure 3.12). This can be helpful to broaden communications, promotional reach, and build more interest and support for the trails system.

Figure 3.12. Examples of Online Interactive Platforms for Trails Communications

City of Laguna Niguel, CA	The City of Laguna Niguel, Department of Public Works developed a CIP Trail Improvements Story Map that walks visitors through each trail project, offering a description, a budget, and images.
County of Springfield-Sangamon, IL	The Springfield-Sangamon County, Regional Planning Commission utilizes a Multi-Use Trail Amenities interactive map that illustrates amenities and sponsorship opportunities.
Town of Parker, CO	The Town of Parker mapped all trails and amenities through ArcGIS online . Users have the ability to click through map elements for details and turn map layers on and off.
City of Raleigh, NC	The City of Raleigh’s Parks, Recreation and Cultural Resources Adopt-a-Trail program is available for viewing on an interactive map . Trails ‘available’ and ‘taken’ for adoption are indicated by color (green/red), and a link is provided for quick adoption.

Source: The titles for resources are hyperlinked and are also included in Appendix A – Resources List.

⁵⁸ City of Whitehorse. (2012). *City of Whitehorse Trail Plan*. Inukshuk Planning & Development. Accessed June 5, 2020, <https://www.whitehorse.ca/home/showdocument?id=246>

⁵⁹ Rails-to-Trails Conservancy, “Trail Use: Evaluation, Programming, and Management,” Rails-to-Trails Conservancy, Trail Building Services, accessed June 5, 2020, <https://www.railstotrails.org/build-trails/trail-building-services/trail-use-evaluation-programming-and-management/>.

⁶⁰ Julia Raskin. (2018). *Inclusionary Trail Planning Toolkit*. Pennsylvania Environmental Council.

Model Framework for the Trail Development Process

The opportunity areas described throughout this chapter are summarized as follows.

Step 1: Identify and Define

- Conduct community engagement to identify and define the needs and values for the trails system. The outcome should be a vision statement with corresponding goals and objectives.
- Engage or involve a committee to support community engagement efforts; consider if committee modification or expansion is needed more adequately address vision, goals, and objectives.

Step 2: Study and Analyze

- Operationalize the vision, goals, and objectives to select at least three trail alignment options and determine evaluation criteria to assess the feasibility of each alignment.
- Assess each alignment for the most feasible or “preferred,” and produce feasibility results in a feasibility study or set of technical memos.

Step 3: Plan

- Identify, assess, and prioritize: (1) compile a list of desired trail projects and programs; (2) assess the feasibility of each project and program based on pre-determined factors and considerations; and (3) rank and prioritize a final list of recommendations. This will require establishing methodology in advance for assessment and prioritization.
- Devise implementation strategy – design guidelines, maintenance procedures, etc.
- Consider potential conflicts, concerns, partnerships, alternatives and solutions.
- Modify plans and codes to incorporate pedestrian-oriented provisions.

Step 4: Partner

- Based on identified potential concerns and legal exposure, develop and formalize partnerships with potentially affected entities (e.g. agreements or memorandums of understanding).
- If consensus cannot be reached, quickly reroute or modify plans or designs.

Step 5: Design and Engineer

- Determine who will design and engineer the recommended projects and programs.
- Design and engineer recommended projects and programs (e.g. environmental review, surveying, and site-specific concept plans and specs).
- Determine detailed plans for implementation, lifecycle maintenance and monitoring, and branding and marketing in addition to the standard design and engineering work.
- Consider opportunities for committee and community engagement (e.g. establish a specialized committee for design and construction or host design charettes).

Step 6: Build

- Determine who will implement and build the site-specific concept plans and specs.
- Build site-specific concept plans and specs, segment-by-segment until corridor or system is completed.
- Determine community engagement opportunities and ongoing programming plans for once construction is completed.

Step 7: Open, Maintain, and Manage

- Develop a strategic plan for fundraising, monitoring, and promoting trail use.
- Determine programming activities based on mobility needs and values.
- Establish a monitoring system to evaluate existing conditions and make necessary modifications.

Summary

Building on the baseline of existing conditions and opportunity areas identified in Chapter 2 – Analyzing the Case for Trails, this chapter presented a seven-step process for development trails. The chapter concluded with a model framework of specific strategies for trail planning and decision-making. The next chapter, Chapter 4 – Alignment Concept Assessment & Analysis will present the findings from the assessment and analysis of the potential Parkway expansion.

Chapter 4 – Alignment Concept Assessment & Analysis

This chapter presents the findings from a prefeasibility assessment and analysis of the potential Parkway expansion. The purpose of this chapter is to provide the general results from an independent review of the potential Parkway alignment and, in doing so, pinpoint implications for opportunities and constraints that are likely to result from implementing the alignment. The chapter begins with an overview of the assessment criteria and extents of the potential expansion. Findings are then synthesized into key themes at the end of the chapter for further consideration by the City and the RPC. Individual segment profiles that highlight site-specific opportunities and constraints are included in Appendix D.

Assessment Criteria

Assessment criteria were used to guide the prefeasibility analysis of the potential Parkway expansion. Selected criteria are grounded in the primary City objective to create a continuous, non-motorized multi-use trail system that loops the entire community and provides safe and convenient active transportation options. The pre-identified conditions and opportunities outlined in Chapter 2 were used to operationalize the City’s objective into the following values: an **accessible** and **safe** trail system that is **connected** to destinations and **integrated** into the existing and future design, land use, and transportation infrastructure. From here, four categories were identified: (1) community connections, (2) transportation network connectivity, (3) trail design opportunities, and (4) property use (Figure 4.1).

Figure 4.1. Assessment Criteria

	Description	Metric
<i>Community Connections</i>	The availability of destinations of interest, such as schools, parks, residential neighborhoods, commercial, and employment areas within a quarter mile of a potential segment.	<ul style="list-style-type: none"> Proximity to/types of existing land uses Proximity to/types of planned land uses
<i>Transportation Network Connectivity</i>	The connectivity and integration of a potential segment within the existing and planned transportation network.	Presence and absence, continuity, and directness of connections, facilities, and treatments including: <ul style="list-style-type: none"> Locally significant roadways Bicycle and pedestrian facilities Crosswalks and treatments Transit stations
<i>Trail Design Opportunities</i>	The quality of a potential segment from the perspective of a trail user, such as design and scale, visibility, safety and comfort, and overall ease of use.	<ul style="list-style-type: none"> Directness between destinations Presence/absence of offsite improvements in the rights-of-way (e.g. curb, gutter, sidewalk, lighting) Proximity to roadways; traffic speed and volume
<i>Property Use</i>	The straightforwardness of integrating the potential segment into the existing property or land use; and, whether the integration constitutes a need for partnerships to mitigate liability, privacy, or safety concerns.	<ul style="list-style-type: none"> Type of use (e.g. canal, farmland, residence) Probability of land acquisitions, easements, or dedications Rights-of-way constraints

Overview of the Potential Parkway Expansion

As introduced in Chapter 1, there are approximately 12 miles of potential trail expansion that extend from the north-south endpoints of the existing Parkway (i.e. “potential alignment”). The potential alignment can be categorized by direction: (1) a northern alignment from the Kings River at Manning Avenue to the southern portion of the Reedley Sports Park near Huntsman Avenue; and (2) a southern alignment from Huntsman and Buttonwillow Avenues to the Kings River at Manning Avenue. Together, the combined north-south alignment effectuates a loop that circles the community. The loop travels in north-south or east-west directions, primarily on or adjacent to existing roadways or hydrological features (e.g. river, creeks, and canals) and through developed and undeveloped land within the city’s SOI. To facilitate the presentation of findings, the potential north-south alignment was further divided into nine trail segments (Figure 4.4). The extents of the alignments are described as follows.

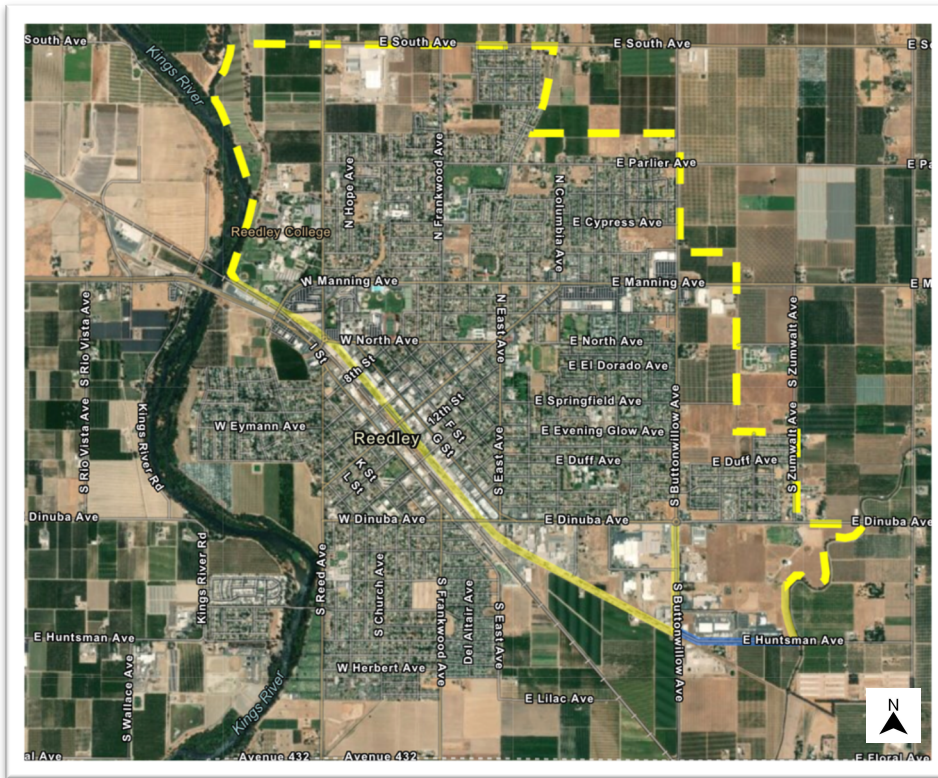
Potential Northern Alignment Extents

The potential northern alignment begins at the north endpoint of the existing Parkway at Manning Avenue and travels north, parallel to the Kings River, Wahtoke Creek, and the Reedley Community College campus and farm for approximately one mile before turning east through the Reedley College farm to connect with South Avenue at Reed Avenue (Figure 4.2). The alignment then turns south and runs parallel to the East Reedley Irrigation Ditch/Canal for approximately 0.25 miles, turning east again toward Buttonwillow Avenue. The next stretch of the alignment follows Buttonwillow Avenue until just north of Manning Avenue and turns east at the newly developed United Health Center toward Tobu Avenue (future). From Tobu Avenue (future), the alignment crosses Manning Avenue and parallels the Buttonwillow Irrigation Ditch/Canal for approximately 0.50 miles until it reaches north of Evening Glow Avenue. The alignment then travels east to Zumwalt Avenue. From Zumwalt Avenue, the alignment travels south toward the Reedley Sports Park, crosses Dinuba Avenue, and travels east toward Travers Creek. The remaining alignment follows Travers Creek until connecting with the existing Parkway south of the Sports Park and north of Huntsman Avenue. *Approximately 6.55 Total Miles*

Potential Southern Alignment Extents

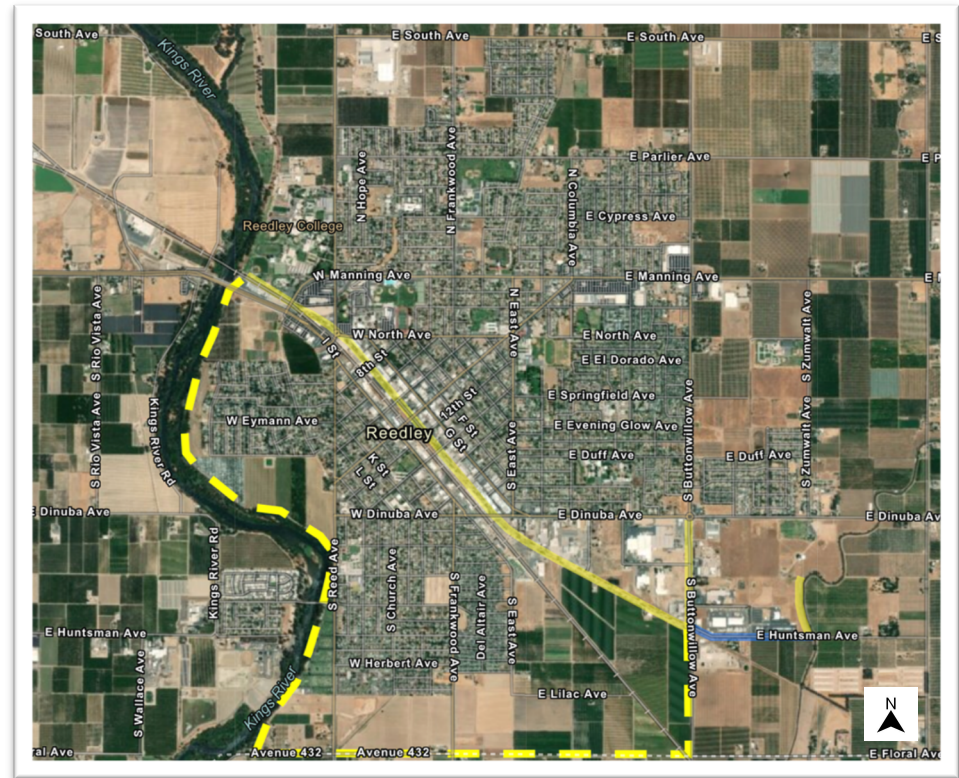
From where the potential northern alignment meets the existing Parkway, there are two quarter mile segments that connect to the potential southern alignment (Figure 4.3): the existing Parkway extends for a quarter mile from Travers Creek to Huntsman Avenue, followed by a quarter mile of Class IV separated bikeway that travels west on Huntsman Avenue to Buttonwillow Avenue. The potential southern alignment picks up from the existing Parkway and Class IV separated bikeway at Buttonwillow Avenue and Huntsman Avenue. From here, the alignment travels south on Buttonwillow Avenue toward Floral Avenue for approximately 0.55 miles, crossing a railway, and heads west across approximately 1.85 miles of existing farmland toward the Kings River. Near where Road 48 bisects Floral Avenue, the alignment heads north along the Kings River for 2.50 miles until it reaches Manning Avenue. The alignment then crosses Manning Avenue and connects with the existing Parkway and the starting point for the potential northern alignment. *Approximately 4.90 Total Miles*

Figure 4.2. Extents of the Potential Northern Alignment of the Parkway⁶¹



Map Details: The existing Parkway is outlined in yellow and class IV separated bikeway is outlined in blue. The potential northern alignment is depicted as the dashed yellow line.

Figure 4.3. Extents of the Potential Southern Alignment of the Parkway⁶²



Map Details: The existing Parkway is outlined in yellow and class IV separated bikeway is outlined in blue. The potential southern alignment is depicted as the dashed yellow line.

⁶¹ This map was created by Jenna Chilingierian using ArcGIS online and data from ESRI, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Fresno County Dept. PWP, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA.

⁶² Ibid.

Summary of Segments

Nine segments were selected from the potential north-south alignment based on natural division points (e.g. streets, canals, rivers). Segment extents are summarized in Figure 4.4.

Figure 4.4. Summary of Segments

Segment Name	Abbrev.	Extents	Cross Street	Mi.
Northern Segment 1	N-1	Manning Avenue to Reed Avenue	N/A	1.40
Northern Segment 2	N-2	Reed Avenue to East Reedley Irrigation Ditch/Canal	South Avenue	1.00
Northern Segment 3	N-3	South Avenue to Buttonwillow Avenue	N/A	1.00
Northern Segment 4	N-4	Cambria Lane (future) to Manning Avenue	Buttonwillow Avenue	0.90
Northern Segment 5	N-5	Manning Avenue to Zumwalt Avenue	Tobu Avenue (future)	1.00
Northern Segment 6	N-6	Evening Glow Avenue to Dinuba Avenue	Zumwalt Avenue	0.40
Northern Segment 7	N-7	Dinuba Avenue to Travers Creek	N/A	0.85
Southern Segment 1	S-1	Huntsman Avenue to Kings River	Buttonwillow Avenue	2.40
Southern Segment 2	S-2	Floral Avenue to Manning Avenue	N/A	2.50
Total Miles				11.45

Segment Profiles

Appendix D provides profiles for each segment. The profiles detail site-specific opportunities and constraints that are based on application of the assessment criteria. Each segment profile includes a map, summary table of opportunities and constraints, and images that depict and describe the site-specific observations. For the purposes of this project, site-specific opportunities and constraints are pinpointed to direct observations at a location in or around the potential segment corridor.

General Themes

The following section presents the general locational themes identified from the overall analysis and assessment of the potential segments. As found, these locational themes have implications for opportunities and constraints. Particular observed traits are drawn together and organized into summary statements and then briefly described. To help the City visualize the possibilities or future planning scenarios based on the potential trail alignment, images of trail systems were captured from the nearby communities of Clovis and Fresno. Selected images follow each general theme description.

1. A sizable portion of the potential Parkway alignment is proposed along or adjacent to waterways. Approximately 43% or five miles of the potential alignment travels along or adjacent to waterways; namely, the Kings River, Wahtoke Creek, Travers Creek, East Reedley Irrigation Ditch/Canal, and Buttonwillow Irrigation Ditch/Canal. Of the 43%, a majority (30%) travels adjacent to the Kings River and Wahtoke Creek, followed by 11% along Travers Creek, and the remaining along irrigation canal infrastructure. These features provide unique opportunities for trail collocation (i.e., scenic landscaping, education, conservation), but will likely require the formation of partnerships (e.g. Army Corps of Engineers, Alta Irrigation District) and careful consideration of balancing natural habitation, landscaping, and operational uses with provision of safe and accessible trail facilities that also take into account threats of flooding or other environmental damages.

Planning scenarios for trail development that is integrated with waterways:



Dry Creek Trail

This is an image from the Clovis Dry Creek Trail, located between Herndon and Alluvial Avenues along the Dry Creek in Clovis, CA.

Image Source: Jenna Chilingirian



Dry Creek Trail

This is an image from the Clovis Dry Creek Trail, located on Herndon and Sunnyside Avenues along the Dry Creek in Clovis, CA.

Image Source: Jenna Chilingirian



Dry Creek Trail

This is an image from the Clovis Dry Creek Trail, located on Herndon and Sunnyside Avenues along the Dry Creek in Clovis, CA.

Image Source: Jenna Chilingirian

2. A sizable portion of the potential Parkway alignment is proposed adjacent to locally significant roadways. Approximately 32% or three miles of the potential alignment travels adjacent to locally significant roadways, including Reed, South, Buttonwillow, Manning, Zumwalt, Dinuba, and Floral Avenues. Currently, portions of these roads where the potential alignment is proposed are either outside the city limits, designated as truck routes, or considered primary entrance points to the city; as a result, these roads experience high traffic volume and speeds. Additionally, portions of these roads currently lack offsite improvements in the rights-of-way (i.e., curb, gutter, sidewalk, lighting, utility undergrounding) and crossing treatments, are located in areas predominately characterized by greenfields, or are constrained by private drive approaches that intersect with the roadway. Generally, siting trail facilities adjacent to or near roadways can be valuable for design (i.e. the long, linear nature of both types of infrastructure) and circulation of the overall transportation network if improvements are coordinated and balanced with improvements and developments. However, there is also the potential for such improvements to be costly or challenged with property infringement concerns.

Planning scenarios for trail development that is integrated with street improvements:



Sugar Pine Trail

This is an image from the Fresno Sugar Pine Trail, located on Willow and Herndon Avenues.

Image Source: Jenna Chilingirian



Sugar Pine Trail

This is an image from the Fresno Sugar Pine Trail, located on Somerville Drive and Chestnut Avenue.

Image Source: Jenna Chilingirian

3. A portion of the potential Parkway alignment traverses through greenfields or undeveloped lands. Approximately 25% or 3 miles of the potential alignment traverses through areas characterized by greenfields or undeveloped lands within the SOI. As noted in Chapter 2, a majority (67%) of land is planned for residential (43%) or commercial (24%) uses within a quarter mile of the potential Parkway alignment. Development of these areas will require annexation, which can be a lengthy, complex process that may also necessitate land acquisition for city services. For trail development, there three likely options: (1) the city acquires the land and builds the trail; (2) the city's subdivision or land development process requires fulfillment of trail development that is concurrent with development; or (3) a hybrid approach whereby the subdivision or land development process requires dedication or reservation of lands that will serve a public purpose (i.e., trails) and the city or future developer builds the trail. Development regulations become especially critical to support the development of pedestrian-oriented infrastructure while also providing guidance for incorporation with private development. Overall, there are regulatory and financial implications for greenfield and trail development.

Planning scenarios for trail development that is integrated with development:



Paseo System

This is an image of a paseo system between subdivisions in Clovis on Temperance Avenue between Sierra and Bullard Avenues.

Image Source: Jenna Chilingirian



Fresno Clovis Rail-Trail

This is an image of the Fresno-Clovis Rail-Trail connection to the Parkways Trails shopping center. The rail-trail runs directly adjacent to/behind the shopping center.

Image Source: Jenna Chilingirian



Fresno Clovis Rail-Trail

This is an image of the Fresno-Clovis Rail-Trail connection to a cul-de-sac of a residential subdivision on Peach Avenue between Needs and Alluvial Avenues.

Image Source: Jenna Chilingirian

Summary

This chapter presented the findings from analysis and evaluation of the potential Parkway expansion. The chapter described the potential expansion alignments and segments and the criteria used for analysis and assessment. Individual segment profiles that highlight site-specific opportunities and constraints are included in Appendix D. The chapter then concluded with general locational themes that emerged from the segment-by-segment analysis and assessment, providing considerations for the implications that may influence opportunities and constraints. Overall, this chapter offers basic information about the potential Parkway expansion that may be used by the City as it determines the next steps in its trail development process. Reedley-specific recommendations based on Chapters 2-4 will be presented in the next chapter.

Chapter 5 – Recommended Implementation Strategy

As described in the purpose statement, this prefeasibility study and report builds on ongoing City efforts to determine the feasibility of expanding the Parkway and to successively develop the *Reedley Parkway Master Plan*. Chapters 2-4 outlined existing conditions and opportunity areas, a model framework and strategies for trail development, and general considerations and implications for implementing the potential Parkway alignment. This next chapter builds on these findings and synthesis to outline a recommended implementation strategy of next steps or actions that can be achieved in the immediate or short-term (i.e. the next four to 24 months). The recommended implementation strategy is intended to be flexible and adaptable, recognizing that trail planning and development is inherently an incremental and variable process. The ordering of steps is meant to offer an attainable, usable, and integrated course of action that can be inserted into the City’s existing decision-making framework.

Recommended Implementation Strategy

The following section identifies a set of eight next steps that together form a recommended implementation strategy for consideration by the City and RPC. The recommended next steps are summarized below, followed by detailed descriptions and suggestions.

1. Engage and inform local trail-related committees and commissions.
2. Create a technical advisory committee.
3. Engage stakeholders and ownership entities.
4. Conduct targeted, data-driven activities for community input.
5. Identify active transportation gaps in long-term plans and development regulations.
6. Establish an internal procedure for reviewing development proposals.
7. Study the feasibility of the Parkway expansion.
8. Master plan the envisioned and preferred trail system.

1. Engage and inform local trail-related committees and commissions.

Immediate, 4-6 months

Engage the local trail-related committees and commissions, such as the RPC, Parks and Recreation Commission, Community Services Commission, and other major interest groups that have been involved in the Parkway. Use this prefeasibility study to guide conversations around identification of resources, public participation and outreach, and general opinions for building community support and political will to carry out the trail development process. Consider organizing site tours or “walkshops” with local agency staff, committee members, and commissioners to view and discuss the alignment, accessibility and connectivity opportunities, and foreseeable hazards or concerns.

2. Create a technical advisory committee.

Immediate, 4-6 months

Create a technical advisory committee to steer specific phases of the trail development process, such as plan and code updates, feasibility analysis, and master planning. Committee members should be equipped to provide professional input on specific project elements ranging from environmental analysis, planning, liability, and design and engineering among other issue areas. Suggestions for the technical advisory committee membership are listed below.

- Local agency staff from all departments.
- Committee members from the RPC and commissioners from the Parks and Recreation Commission, Community Services Commission, and Planning Commission as needed.
- City Attorney or legal counsel as needed.
- Businesses and business organizations.
- Major landowners.
- Facility users.
- Historic preservation and environmental conservation groups.
- Private developers.

3. Engage stakeholders and ownership entities.

Immediate, 6-8 months

Identify potentially affected stakeholders and ownership entities from conversations with agency staff, committee members, commissioners, and other interest groups. Engage the stakeholders and ownership entities in conversations to determine preliminary safety, liability, and maintenance concerns. Use the information gathered from discussions to outline a strategy for trail development that considers agreements and acquisition options. Consider factors for design and engineering of collocated facilities. Key takeaways should inform the subsequent feasibility analysis and planning processes. Examples of key stakeholders and ownership entities include:

- Alta Irrigation District.
- Army Corps of Engineers.
- State Center Community College District.
- Private developers.
- Other large, private landowners.

4. Conduct targeted, data-driven activities for community input.

Immediate, 6-8 months

Launch an online, interactive mapping tool (e.g. [ArcGIS Online](#)) and survey (e.g. [Survey Monkey](#)) to capture the current mobility needs and values of the community and understand what influences local active travel behavior. Using the mapping tool, solicit place-based comments on the existing and future trail corridor and allow users to suggest routes, pinpoint destinations, and highlight areas of safety concerns. The survey can be a supplemental tool for general comments about usage, function, amenities, values, and concerns, targeting trail users, property owners, businesses, and others who use or may be impacted by the facilities. The map and survey should be housed in a single place online such as the City's Parkway webpage. Data gathered from the mapping tool and survey can then be operationalized to inform and refine the vision, goals, and objectives for the potential alignment.

5. Identify active transportation gaps in long-term plans and development regulations.

Immediate, 6-8 months

Consistency across plans, policies, and code will be critical to ensuring active transportation infrastructure is implemented as intended. With the leadership of the technical advisory committee, conduct a gap analysis of the existing long-term plans (i.e., *Reedley General Plan*) and development regulations (i.e., development code and subdivision ordinance) to determine where provisions are needed for active transportation and bicycle/pedestrian connectivity and accessibility. In this analysis, consider whether long-term plans and development regulations need to be revised and if so, establish a strategy to carry out such revisions.

6. Establish an internal procedure for reviewing development proposals to ensure that implemented policies encourage development of active transportation infrastructure.

Immediate, 8-12 months

Building from the gap analysis and strategy for revisions, create an internal policy and procedure for the City's Development Review Committee. The policy and procedure should detail a checklist of active transportation elements and requirements to be considered during the development review process. For example, the committee may be prompted to consider if and how well the project: 1) connects to the existing transportation network or 2) promotes active travel to nearby destinations through design, access, and proximity. This approach can help ensure consistency within the review process across applications, especially for communications with and notes to applicants.

7. Study the feasibility of the Parkway expansion.

Immediate, 8-12 months

Building on this prefeasibility study and findings from engagement efforts, conduct targeted technical analysis of the alignment option(s) that considers various geographic, administrative, political, and financial components. Establish an evaluation framework from the community-identified vision, goals, and objectives as the tool to assess and prioritize the alignment option(s). Review and confirm the analysis with committees and produce a formal feasibility study or set of technical memos. Suggestions for specific tasks are outlined below.

-
- Collect data of the geographic, administrative, political, and financial conditions, including but not limited to land ownership, historical alignment concepts (e.g., Kings River Corridor), environmental factors, cost estimates, planned land uses, and pending developments.
 - Refine and solidify opportunities and constraints based on existing and future conditions.
 - Determine potential directions for advancement and implementation of the alignment, taking into account acquisition strategies, funding, partnerships, designs and specifications.

8. Master plan the envisioned and preferred trail system.

Short-term, 12 – 24 months

Conduct a multi-phased, master planning effort to identify, assess, and prioritize feasible trail segments that, together, form the envisioned and preferred trail system. Below are suggestions for specific tasks.

- Perform public outreach and community engagement.
- Conduct specific site and program analysis.
- Develop and prioritize project and programs.
- Strategize implementation for (1) land acquisition, (2) maintenance procedures, (3) financial resources, (4) engagement strategies, (5) branding and marketing, and (6) programming.
- Draft, review, and adopt the plan.

Summary

This chapter built on the findings and synthesis from chapters 2-4 to outline a recommended implementation strategy of next steps or actions that can be achieved in the immediate or short-term (i.e. the next four to 24 months). The recommended implementation strategy is intended to be flexible and adaptable, and the ordering of steps is meant to offer an attainable, usable, and integrated course of action that can be inserted into the City's existing decision-making framework.

Chapter 6 – Conclusions

This project was designed as an initial, prefeasibility study to inform the City of Reedley's future technical analysis and master planning efforts for the Reedley Parkway. To do so, this report identified and summarized existing conditions for trail development in Reedley (Chapter 2), a planning and decision-making framework for trail development (Chapter 3), site-specific opportunities and constraints for the potential Parkway expansion (Chapter 4), and Reedley-specific implementation recommendations and next steps for its planning process (Chapter 5). This prefeasibility study will be reviewed and used by the City and RPC.

In exploring the several components of the trail planning and development process, this prefeasibility study illustrates two major challenges. First, obtaining ongoing funding is critical to ensure that plans are conceptualized and implemented. And second, the City's ability to build the necessary infrastructure to promote active transportation will depend on the City's approach to acquiring land, regulating land, or requiring dedications as development proceeds. Community support and political will are intrinsically linked to these challenges. Additionally, the anticipated population growth and growth in development further complicate these challenges, given the varying considerations for mobility needs, historical and environmental resource protection, and balanced coordination in land use and transportation infrastructure. This prefeasibility study provides opportunity areas, suggestions, examples, and resources that may assist the City with addressing such challenges.

Through advisory meetings, fieldwork, GIS and map analysis, content analysis, and interviews, the results of this prefeasibility study provide a starting point of considerations for the City and RPC as they move forward in exploring the feasibility of Parkway expansion and successive development of the *Reedley Parkway Master Plan*. It should be noted that the potential expansion will not follow the traditional rail-trail development whereby a trail corridor follows the railbanked rights-of-way. As this study's alignment assessment and analysis show, the potential expansion exists within three locational contexts and within each context, there are various regulatory, financial, and administrative implications that will affect opportunities and constraints for implementation. However, this prefeasibility study also exemplifies the groundwork for trail investments that the City and RPC have already laid out and the various opportunity areas from which the City and RPC can strengthen and build upon. This prefeasibility study should be used as a tool and reference point to continue such work.

Appendices

Appendix A – List of Resources provides resources were accessed and used to describe a typical trail development process, as demonstrated in Chapter 3 – The Trail Development Process.

Appendix B – Interview Guide provides the questions used to interview local agency staff from the cities of Clovis, Fresno, and Madera. Interviews are synthesized in Chapter 3 – The Trail Development Process.

Appendix C – Model Code Language includes model code language derived from the development codes of the cities of Clovis and Fresno. Codes are referenced in Chapter 3 – The Trail Development Process.

Appendix D – Segment Profiles details site-specific opportunities and constraints for each segment assessment, based on application of assessment criteria introduced in Chapter 4 – Alignment Concept Assessment & Analysis.

Appendix A: Resources List

The following resources were accessed and used to describe a typical trail development process, as demonstrated in Chapter 3 – The Trail Development Process. These resources are in addition to the various resources linked and referenced in Chapter 3. All resources were last accessed on June 5, 2020.

Master Plans

- Cities of Monmouth and Independence, *Monmouth Ash Creek Trail Master Plan* (2005)
- City of Charleston, *People2Parks: Bike-Walk Plan* (2016)
- City of Clovis, *Active Transportation Plan* (2016)
- City of Clovis, *Loma Vista Specific Plan* (2003)
- City of Clovis, *Heritage Grove Master Plan and Design Guidelines* (2016)
- City of Elk Grove, California, *Bicycle Pedestrian and Trails Master Plan* (July 2014)
- City of Fresno, *Active Transportation Plan* (2016)
- City of Guelph, *City Wide Trail Master Plan* (2003)
- City of Jenkins, *Devil John Wright Trail Linkage and Enhancement Master Plan* (2014)
- City of Lebanon, *Parks Master Plan* (2006)
- City of Palo Alto, *Parks, Trails, Natural Open Space and Recreation Master Plan* (2017)
- City of Pleasant Hill, *Parks, Recreation, and Open Space Plan* (2015)
- City of Portland, *North Portland Greenway Trail Alignment Plan* (2013)
- City of Raleigh, *BikeRaleigh Plan: Prioritization and Ten-Year Plan* (2016)
- City of San Jacinto, *Trails Master Plan* (2018)
- City of Visalia, *Waterways and Trails Master Plan* (2010)
- County of Humboldt, *Regional Trails Master Plan* (2010)
- County of Santa Cruz, *Monterey Bay Sanctuary Scenic Trail Network Master Plan* (2013)
- Madera County Transportation Commission, *Active Transportation Plan* (2018)
- Town of Normal, *Bicycle and Pedestrian Master Plan* (2009)

Feasibility Studies

- California State Coastal Conservancy, *Little River Trail Feasibility Study* (2014)
- City of Cupertino, *Regnart Creek Trail Feasibility Study* (2018)
- City of Dublin, *Iron Horse Trail Feasibility Study* (2017)
- City of Fresno, *Network Expansion Feasibility Plan [draft]* (2019)
- City of Rancho Cordova, *Creek to Trail Feasibility Study* (2019)
- County of Camden, *Cross Camden County Trail Feasibility Study* (2017)
- County of Passaic, *Highlands Rail Trail Feasibility Study* (2017)
- County of Sonoma, *Sonoma Valley Trail Feasibility Study [draft]* (2016)
- County of Santa Clara, *Countywide Trails Prioritization and Gaps Analysis* (2015)
- Joint Cities Working Team (Cities of Sunnyvale, Cupertino, Los Altos, Mountain View, Santa Clara Valley Water District), *Joint Cities Coordinated Stevens Creek Trail Feasibility Study* (2015)
- Town of Danville, *Diablo Road Trail: Conceptual Alignment and Feasibility Analysis* (2018)
- Township of O'Hara Allegheny County, *Feasibility Study for Community Trails Initiative, Multi-Municipal Trails and Greenways Development Partnership* (2011)
- Rails-to-Trails Conservancy, *Richmond Industrial Trail Feasibility Study* (2018)

Toolkits/Guidelines/Strategic Plans

- American Association of State Highway and Transportation Officials, *Guide for the Development of Bicycle Facilities* (2012)
- Beaverhead Trails Coalition, *Strategic Plan* (2018)
- California State Parks, *Trails Handbook* (2019)
- Caltrans, *Highway Design Manual, Chapter 1000* (2018)
- City of Happy Valley, *Trail Development Handbook* (2009)
- City of Cupertino, *Walkshop Summary* (2017)
- City of Fresno, *Trail Design Guidelines [draft]* (2017)
- City of San Jose, *Trail Network Toolkit: Planning & Design* (2018)
- County of Jefferson, *Trails Development Handbook* (2016)
- County of Marin, *Road and Trail Management Plan* (2014)
- County of Placer, *Parks and Trails Master Plan Webpage*
- County of Santa Clara, *Trail Maintenance Manual*
- Government of Western Australia, Department of Biodiversity, Conservation, and Attractions, and Department of Local Government, Sport, and Cultural Industries, *Trails Development Series, Part A: A Guide to the Trail Development Process* (2019)
- Great Rivers Greenway Partnership, *Engagement Strategy* (2018)
- Fairfax County Park Authority, *Guide to Trail Management*
- Fairfax County Park Authority, *Trail Development Strategy Plan*
- Fort Wayne Trails, *Strategic Plan* (2017-2018)
- Ohio River Greenway Development Commission and Indiana Local Technical Assistance Program, *Best Practices in Trail Maintenance* (2014)
- Rails-to-Trails Conservancy, *America's Rails-with-Trails: A Resource for Planners, Agencies, and Advocates on Trails Along Active Railroad Corridors* (2013)
- Sonia Szczesna, *Missing Links: Trail Development Strategies and Creating Trail Connections in the Circuit Trails Region* (2019)
- State of Minnesota, Department of Natural Resources, *Trail Planning, Design, and Development Guidelines* (2007)
- State of New Hampshire, Department of Resources and Economic Development, Division of Parks and Recreation, *Best Management Practices for Erosion Control During Trail Maintenance and Construction* (1994; updated 2004)
- State of Virginia, Department of Conservation and Recreation, *Greenways and Trails Toolbox* (2000; updated 2011)
- U.S. Department of Transportation, *Rails-with-Trails: Lessons Learned* (2002)
- Virginia Department of Transportation, *Community Trail Development Guide* (2019)

Maps

- City of Laguna Niguel, [CIP Trail Improvements Story Map](#)
- City of Raleigh, [Adopt-a-Trail Interactive Map](#)
- City of Riverside, [Online Input Map for the Riverside PACT](#)
- County of Sangamon, [Trails Network Map](#)
- Town of Parker, [Trails Map](#)
- Town of Windsor, [Class I Bicycle and Pedestrian Trails Public Outreach Map](#)

Presentations

- ASCENT Environmental, [“Practical CEQA for Trail Projects,”](#) presented as a PowerPoint on May 9, 2013 to the California Trails and Greenways Conference
- KTU+A, [“Technology for Fun Sustainable Trails,”](#) presented as a PowerPoint on April 11-13, 2011 to the California Trails and Greenways Conference
- Sapphos Environmental Inc., [“Working Trails and Greenways into Master Plans,”](#) presented as a PowerPoint on April 8, 2014 to the California Trails and Greenways Conference
- SRF Consulting Group, Inc., [“Maintenance of Recreational Trails,”](#) presented as a PowerPoint on November 2011.
- U.S. Department of Transportation, [“Rails-with-Trails: Lessons Learned,”](#) presented as a PowerPoint on April 30, 2019

Appendix B: Interview Guide

The following interview guide was used to interview local agency staff from the cities of Clovis, Fresno, and Madera. Interviews are synthesized in Chapter 3 – The Trail Development Process.

1. What has been your involvement in trail planning and development for your jurisdiction?
2. Can you describe the planning and development history of the trail system?
 - a. What were some of the milestones within that timeline?
 - b. What types of documents resulted from the planning and development process?
 - c. How were trail segments evaluated and prioritized?
3. Who were the stakeholders/entities involved in the process?
 - d. In what capacity was their involvement?
 - e. How was the relationship among and across such entities?
4. What are the jurisdiction's methods for land acquisition?
5. How is/was the planning and development process integrated with land use planning?
6. Can you describe the jurisdiction's experience with zoning for trail uses?
 - f. [if any issues with this, ask about how the issues were addressed]
7. Can you describe the jurisdiction's experience with historical or environmental elements?
 - g. [if any issues with this, ask about how the issues were addressed]
8. How have trail design standards been integrated within or applied to the planning and development process? (e.g. are there standalone guidelines, integrated into a master plan, or addressed on a case-by-case basis?)
9. What were/are the major funding sources for planning and development?
10. What were/are the major funding sources for management and maintenance?
11. Have there been challenges/challenges to obtaining funding for trail planning, development, maintenance, and management?
 - h. [if so, ask about any measures taken to address these barriers]
12. Who is responsible for the management and maintenance of the trail system?
13. How has the jurisdiction addressed any liability issues with the management and maintenance of the trail?
14. Can you describe any safety measures undertaken within the management and maintenance of the trail system?
15. Have there been beneficial effects of the trail system for the jurisdiction? Any negative effects?
16. What programming is/has been associated with the trail system?
17. Have there been any influential policies enacted for trail planning and development?
18. What challenges to trail development has the jurisdiction experienced, if any?
19. What advice would you give to a jurisdiction undergoing trail planning and development?

Appendix C: Model Code Language

The following model code language is derived from the development codes of the cities of Clovis and Fresno. The model code language is referenced in Chapter 3 – The Trail Development Process.

City of Clovis

The excerpt below are from the [City of Clovis Municipal Code](#), Title 9, Development Code – Division 7. Subdivisions. The section is hyperlinked, model language is included verbatim, and some sub-sections are omitted for brevity.

[Section 9.110.050 Subdivision improvement requirements.](#)

A. Bicycle/walking paths and hiking/equestrian trails. The subdivider shall construct bicycle paths, multiple use trails, and/or access to multiple use trails within an approved subdivision in compliance with the Circulation, Open Space, Conservation and Recreation Plan Elements of the General Plan and any applicable specific plan.

[B – L omitted for brevity]

City of Fresno

The excerpts below are from the [City of Fresno Municipal Code](#), Chapter 15, Citywide Development Code – Part IV: - Land Divisions (i.e., subdivisions). Sections are hyperlinked, model language is included verbatim, and some sub-sections are omitted for brevity.

[SEC. 15-4107. - CONNECTIVITY.](#)

Subdivisions of one-half acre or more in non-residential districts or resulting in five or more residential lots shall provide vehicular, bicycle, and pedestrian connectivity to all uses within a subdivision, to adjacent development, and to the surrounding street system in accordance with the following:

A. Continuous Street System. All streets, alleys, bicycle facilities, and pedestrian ways shall connect to other streets, alleys, bicycle facilities, and pedestrian ways to form a continuous vehicular, bicycle, and pedestrian network with numerous connections within the subdivision and to adjacent development.

[B – F omitted for brevity]

G. Pedestrian and Bicycle Paths. Continuous and convenient bicycle and pedestrian access shall be provided from every home within a subdivision area to the nearest neighborhood center, school, and park.

- 1. Safe Routes to Schools.** Pedestrian and bicycle routes to schools shall be identified at the time of project submittal.
- 2. Barriers.** Fencing, sound walls, and other barriers between residential and non-residential uses shall provide openings or other mechanisms to allow bicycle and pedestrian access between uses. If the residential use is a private, gated community, such openings may be locked if all residents have a code, key, or other means of access.

3. **Links between Residential and Non-Residential Areas.** Pedestrian paths from residential areas shall be provided to adjacent Commercial, Mixed-Use, and Office districts. Pedestrian paths shall be a minimum of 15 feet in width, lit, and provided at a rate of approximately 1 per 600 feet. The exact locations may be adjusted at the discretion of the Review Authority based on site conditions, safety, and pedestrian convenience. If existing development blocks all possible access points to adjacent Commercial, Mixed-Use, and Office districts, this section shall not apply.
4. **Access to Major Streets.** For subdivisions adjacent to a Major Street, a pedestrian path (including sidewalks and trails) to the Major Street shall be spaced no more than 600 feet apart. For dead-end streets, except where there's no existing or planned pedestrian facilities, refer to Subsection 15-4108-K, Cul-de-Sacs and Dead-End Streets.
5. **Access to Bus Stops.** For subdivisions adjacent to a Major Street, future bus stops locations shall be identified and pedestrian access shall be identified to minimize circuitous routes for pedestrians except in locations with no existing or planned pedestrian access.

SEC. 15-4108. - STREET DESIGN.

Streets shall be designed and constructed consistent with the City's Standard Drawings and Specifications and Public Works Director approval and as provided below.

[A – J omitted for brevity]

K. Cul-de-Sacs and Dead-End Streets.

1. The combined length of all cul-de-sacs and other dead-end streets in any subdivision shall not exceed 35 percent of the combined total length of all local residential streets within the subdivision. Cul-de-sacs that are connected by a trail shall be exempt from this calculation. Additional exceptions may be made at the discretion of the Review Authority if any of the following circumstances apply:
 - a. The average block length of all blocks in the proposed subdivision is 400 feet or less;
 - b. The applicant can demonstrate, to the satisfaction of the City Engineer, that the subdivision design will result in a rate of Vehicle Miles Travelled which is equal to or less than a subdivision which follows the cul-de-sac limit in item K-1 above;
 - c. The site is 6 acres or less in gross area;
 - d. The site is surrounded by developed properties which lack stubs to connect to;

or
 - e. The site is blocked by canals and expressways.
2. Cul-de-sacs and dead-end streets may not exceed 600 feet unless there are unforeseen issues or topographical challenges or other opportunities to promote pedestrian connectivity such as access to another street or trail.
3. All cul-de-sacs and dead-end streets shall have a turnaround per Public Works Standards.

4. A cul-de-sacs and or dead end street may be approved as a temporary facility, without a turnaround, provided the street is designed to provide access to adjoining land that is not yet subdivided or developed. A temporary turnaround or access may be required.
5. Cul-de-sacs and dead-end streets shall provide pedestrian and bike connections to neighboring streets, trails, commercial centers, etc.

[L-O omitted for brevity]

SEC. 15-4109. - INCORPORATION OF SITE CONSTRAINTS.

Areas with development constraints shall be incorporated into the overall subdivision design and layout to support and enhance park and open space amenities.

A. Major Utility Easements. Easements for major utilities such as high-tension lines and utility trunk lines shall be integrated into the proposed subdivisions such they are incorporated as open space or recreation use and shall be developed as a regional trail system. Such easements shall be designed as part of an overall open space or recreation element. Said easements shall not be blocked by fences, yards, gates, and other similar barriers. The use and treatment of such easements is subject to the policies and restrictions of the utility provider and City.

B. Trails and Natural Features. Proposed subdivisions that are adjacent to a trail or a canal shall incorporate them into the subdivision plan as a design feature in conformance with the City's trails plan and the following:

1. Proposed subdivisions that are adjacent to a trail shall incorporate it into the subdivision plan as a design feature. Development adjacent to a trail shall be planned to provide pedestrian access to the trail(s) at intervals identified below.
2. Homes should front onto a trail, or other communal area, unless
 - a. Topographic conditions justify a variation from this requirement;
 - b. The proposed homes would face a Major Street; or
 - c. The Review Authority determines that there are no feasible alternatives.
3. Development adjacent to a trail shall be planned to provide pedestrian access to the trail(s) at intervals of approximately 1 per 600 feet if homes or a commercial center back onto to the natural feature. The exact locations may be adjusted at the discretion of the Review Authority based on site conditions, safety, and pedestrian convenience. Should cul-de-sacs terminate near the feature, each cul-de-sac shall provide a path to the feature.
4. Where development is backed onto an adjacent trail, privacy walls and security walls shall be set back from the trail by a minimum distance of 10 feet and such setback shall be landscaped to be compatible with the trail landscape.
5. Subject to approval by the Fresno Irrigation District, where canals are piped, the area above shall be integrated into the subdivision as a trail or part of an open space and/or trail system subject to Fresno Irrigation District approval.

[C omitted for brevity]

Appendix D: Segment Profiles

The following appendix provides profiles for each segment. The profiles detail site-specific opportunities and constraints that are based on application of the assessment criteria. Each segment profile includes a map, summary table of opportunities and constraints, and images that depict and describe the site-specific observations. For the purposes of this project, site-specific opportunities and constraints are pinpointed to direct observations at a location in or around the potential segment corridor.

Summary of Segments

Nine segments were selected from the potential north-south alignment based on natural division points (e.g. streets, canals, rivers). Segment extents are summarized below, followed by detailed profiles.

Segment Name	Abbrev.	Extents	Cross Street	Mi.
Northern Segment 1	N-1	Manning Avenue to Reed Avenue	N/A	1.40
Northern Segment 2	N-2	Reed Avenue to East Reedley Irrigation Ditch/Canal	South Avenue	1.00
Northern Segment 3	N-3	South Avenue to Buttonwillow Avenue	N/A	1.00
Northern Segment 4	N-4	Cambria Lane (future) to Manning Avenue	Buttonwillow Avenue	0.90
Northern Segment 5	N-5	Manning Avenue to Zumwalt Avenue	Tobu Avenue (future)	1.00
Northern Segment 6	N-6	Evening Glow Avenue to Dinuba Avenue	Zumwalt Avenue	0.40
Northern Segment 7	N-7	Dinuba Avenue to Travers Creek	N/A	0.85
Southern Segment 1	S-1	Huntsman Avenue to Kings River	Buttonwillow Avenue	2.40
Southern Segment 2	S-2	Floral Avenue to Manning Avenue	N/A	2.50
Total Miles				11.45

All aerial imagery in the following profile segments was sourced from maps created by Jenna Chilingirian using ArcGIS online and data from ESRI, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Fresno County Dept. PWP, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA.

Segment N-1 | Manning Avenue to Reed Avenue, 1.40 miles



Segment Summary:

Segment N-1 is located in the northwestern corner of the city within the northern Kings River corridor. The northern river corridor is a 423-acre planning subarea that includes the Kings River, Wahtoke Creek, and nearly 260-acre Reedley Community College campus and farm. Within this corridor, existing and planned land uses are public/institutional facilities and park and open space. Immediately southeast of this area is a commercial center, high school, and the entrance to the downtown commercial district; continuing north on Reed Avenue are various residential neighborhoods. Segment N-1 begins at Manning Avenue from the northern end point of the Reedley Parkway. It then travels north parallel to the Kings River until it breaks and follows the Wahtoke Creek, heading east through the Reedley College farm to connect with South Avenue at Reed Avenue (major arterials), a primary entrance point to the city.

	<i>Opportunities</i>	<i>Constraints</i>
<i>Community Connections</i>	Reedley College, Kings River, and nearby commercial, residential, and public/institutional facilities.	N/A
<i>Transportation Network Connectivity</i>	Access points at Manning and Reed Avenues; proximity to park-and-ride, campus transit station, and Parkway.	Connectivity to and through the campus for greater access by trail users, especially emergency service vehicles.
<i>Trail Design Opportunities</i>	Natural habitats and landscaping of Kings River and Wahtoke Creek; scenic, educational, conservation experiences.	Safety along waterways – potential for lighting, fencing, mileage marker posts with emergency contacts.
<i>Property Use</i>	Partnerships and agreements with State Center Community College District and Army Corps of Engineers	Potential safety, liability, and privacy concerns for trail use through or adjacent to farmland/waterways.

Site-Specific Observations:



Parkway at Manning Avenue and Kings River (north); Image Source: Jenna Chilingierian

- The existing Parkway terminates north of Manning Avenue at the Kings River, just south of the Reedley College campus.
- The Reedley College campus and farm span nearly 260 acres of the northern Kings River Corridor, which altogether is 423 acres.
- Existing and planned land uses in this corridor are public/institutional facilities and park and open space. Low-density residential is planned for north of the corridor.
- The *Kings River Corridor Specific Plan* (1990) recommends this area for a nature interpretive center and trail.



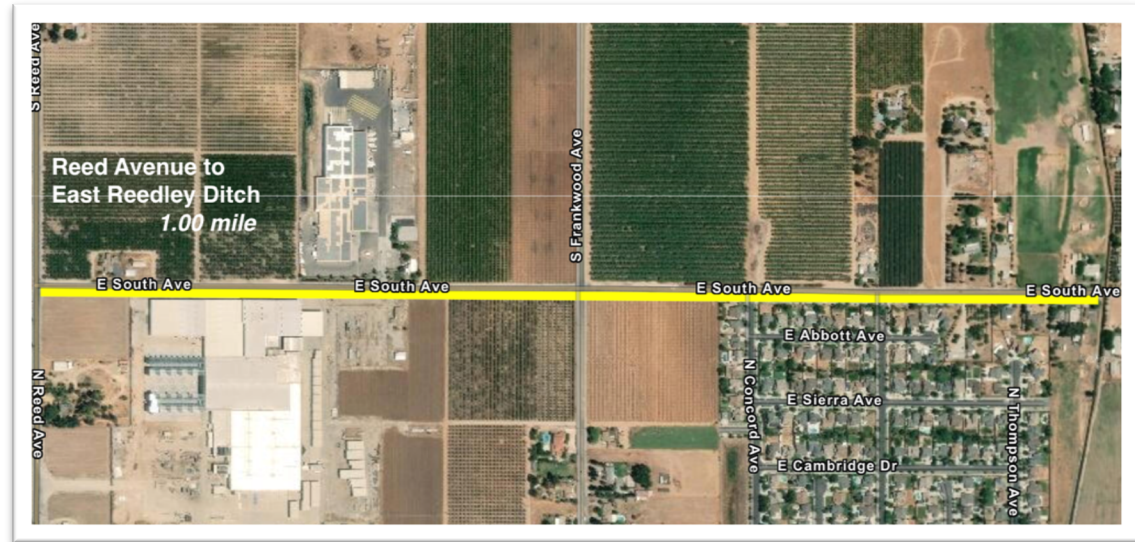
Reed Avenue at South Avenue (eastward); Image Source: Jenna Chilingierian

- A majority of the segment parallels the Kings River and Wahtoke Creek. There appear to be existing walking paths, but there may be a need for restoration efforts (e.g. re-grading, smoothing contours) in tandem with trail development. These efforts will need to be coordinated with the Army Corps of Engineers.
- Approximately 0.40-miles of the segment is proposed to travel through farmland. Traveling through farmland may bring unique challenges and concerns for the trail users and the farmland operators (e.g. spraying schedules, moving of farm equipment). This will need to be addressed with the State Center Community College District.

Segment N-2 | Reed Avenue to East Reedley Irrigation Ditch/Canal, 1.00 mile

Segment Summary:

Segment N-2 is within the Frankwood and South Annexation Area, an area in which the City has recently processed land use entitlements for development (i.e., [Frankwood Commons](#)). Existing land uses are agricultural and low-density residential. Planned land uses range from industrial near Reed Avenue, to low-, medium-, and high-density residential, commercial, park and open space, and public/institutional east from Frankwood Avenue. From the Reedley College farm, Segment N-2 crosses Reed Avenue (major arterial) and parallels the southerly portion of South Avenue (major arterial) toward the East Reedley Ditch/Irrigation Canal (Alta Irrigation District). The segment passes Ito Packing, a 35-acre residential subdivision, and private residences and crosses South and Frankwood Avenues (arterials) and Concord Avenue and Sunny Lane (local). Currently, South and Frankwood Avenues are two-lane streets with one travel lane in each direction; the posted speed limit is 40 mph when within the city limits. Offsite improvements in the rights-of-way are limited, curb, gutter, sidewalk, and lighting in addition to crossing treatments.



	<i>Opportunities</i>	<i>Constraints</i>
<i>Community Connections</i>	Existing residential and industrial; extensive variety of planned uses, Frankwood Commons.	N/A
<i>Transportation Network Connectivity</i>	Direct access to arterials and local streets; visibility at primary entrance points (South/Reed Avenues).	Limited crossing treatments, no bicycle/pedestrian facilities with exception of subdivision frontage.
<i>Trail Design Opportunities</i>	Long, linear roadway with limited offsite improvements in rights-of-way may allow for out lot dedications; directional signage; bollards.	Higher traffic volumes; overhead utility lines, rights-of-way limitations adjacent to subdivision and potentially private residences .
<i>Property Use</i>	Several greenfields that lack offsite improvements in the rights-of-way; high development potential.	Private residences and drive approaches; timing planned development with trail development.

Site-Specific Observations:



Reed Avenue at South Avenue (eastward);
Image Source: Jenna Chilingierian

- No curb, gutter, or sidewalk; no crossing treatments; no bicycle lanes or paths.
- Reed Avenue and South Avenue are major arterials and primary access points into the city. Can anticipate greater traffic volumes and speeds in this area. There may be potential for a Pedestrian Hybrid Beacon for crossing.
- As a primary entry point to the city, there's an opportunity to incorporate directional signage, with clearly marked signage for the agricultural uses at the Reedley College farm.
- Determine if bollards or fencing is needed for the farm.



Reed Avenue at South Avenue (eastward);
Image Source: Jenna Chilingierian

- No curb, gutter, or sidewalk; no crossing treatments; no bicycle lanes or paths.
- Between Reed Avenue and Frankwood Avenue, there is a mix of agricultural and residential uses.
- Southern portion of South Avenue appears to have flexibility for out lot or easement dedications. Potential for curb, gutter, landscaping buffer, and trail without sidewalk.
- Approximately 1,600 ft. of aboveground utility on southern portion of South Avenue.



South Avenue at Frankwood Avenue (eastward);
Image Source: Jenna Chilingierian

- No curb, gutter, or sidewalk; no crossing treatments; no bicycle lanes or paths.
- Between Frankwood Avenue and the East Reedley Ditch/Canal, there is a mix of agricultural and residential uses.
- Southern portion of South Avenue beyond Frankwood Avenue continues to show flexibility for out lot or easement dedications.
- Approximately 300-400 ft more. of aboveground utility on southern portion of South Avenue beyond Frankwood Avenue.



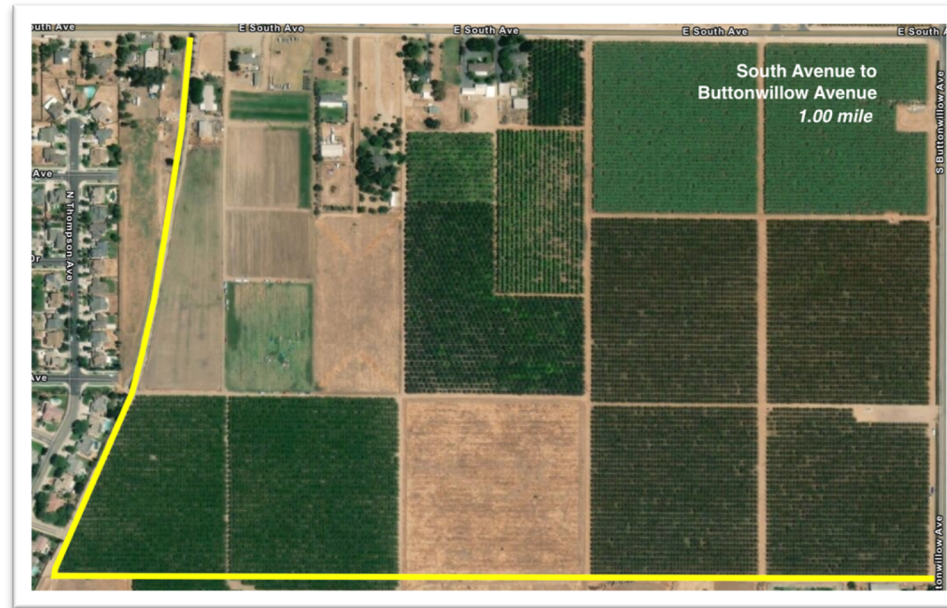
South Avenue at Sunny Lane (eastward);
Image Source: Jenna Chilingierian

- 35-acre residential subdivision has two main entrances off of South Avenue: Concord Avenue and Sunny Lane. Both local streets feed into Locke Avenue, which is a potential connection for the next segment that parallel the East Reedley Ditch/Canal.
- Consider modifying or reconfiguring pedestrian facilities fronting the residential subdivision as a Class I trail facility; or carefully redirect bicyclists to South Avenue through a bike lane or bikeway that reconnects with the trail at the ditch/canal.

Segment N-3 | South Avenue to Buttonwillow Avenue, 1.00 mile

Segment Summary:

Segment N-3 is within an area of a mix of greenfields and smaller, noncontiguous parcels. Existing land uses are almost entirely agricultural or low-density residential, with some industrial uses near Parlier Avenue. Land north/south of South Avenue is planned for low-density residential, with commercial and park space to the northwest of South and Buttonwillow Avenues. Southwest of Parlier Avenue is Citizens' Park and Thomas Law Reed School. Segment N-3 begins at South Avenue and heads south, parallel to the East Reedley Irrigation Ditch/Canal. The segment parallels the ditch/canal for 0.40 miles and then turns east toward Buttonwillow Avenue. Currently, South and Buttonwillow Avenues (major arterials) are two-lane streets with one travel lane in each direction; the City classifies these streets as primary access points or entrances to the city. The portions of these streets within this segment area are outside the City's posted speed limit jurisdiction. Buttonwillow Avenue is a designated truck route.



	<i>Opportunities</i>	<i>Constraints</i>
<i>Community Connections</i>	Existing residential, industrial, park and open space, and public/institutional; extensive variety of planned uses.	N/A
<i>Transportation Network Connectivity</i>	Direct connections to arterials and potentially local and collector streets Complete trail connection/spur to parks.	Addressing integrated and connected internal circulation plans across future residential developments.
<i>Trail Design Opportunities</i>	Trail design integration into development proposals/master plans; strategize land acquisition for dedication of out lots or easements.	Higher traffic volumes/speeds, truck route on Buttonwillow Avenue; private residences and drive approaches.
<i>Property Use</i>	Partnership and agreement with Alta Irrigation District.	Potential safety, liability, and privacy concerns for trail use through or adjacent to private lands; timing planned development with trail development.

Site-Specific Observations:



South Avenue at East Reedley Irrigation Ditch/Canal (westward); Image Source: Jenna Chilingerian

- On the southerly side of South Avenue, there are five private residences east of the residential subdivision. Three are without curb, gutter, or sidewalk, with drive approaches or yards that front directly onto South Avenue. Offsite improvements have been made to the other two private residences.
- Existing land uses are primarily low-density residential and agricultural; this area is planned for low-density residential with commercial and park and open space at the northwest corner of South Avenue and Buttonwillow, approximately 0.25 miles to the east of this site.



South Avenue at East Reedley Irrigation Ditch/Canal (southward); Image Source: Jenna Chilingerian

- East Reedley Irrigation Ditch/Canal at South Avenue extends for 0.40 miles south, parallel to private residences on the east and backyards of the residential subdivision to the west.
- Citizens' Park is 0.25 miles south of the ditch/canal.
- Existing land uses east of the ditch/canal from South to Manning Avenue are agricultural and residential. This area is planned exclusively for low-density residential.
- Columbia Avenue is a planned, future collector that will travel just west of the ditch/canal toward Parlier Avenue; as such, there is the potential for pipelining the ditch/canal as development occurs.

Segment N-4 | Cambria Lane (future) to Manning Avenue, 0.90 miles



Segment Summary:

Segment N-4 is within the Manning and Buttonwillow Annexation Area (northeast of Buttonwillow at Manning Avenue), an area in which the City has recently processed land use entitlements for development (i.e., [United Health Center](#)). Existing land uses are agricultural and residential, but a majority of land is planned for residential, commercial, park and open space, and public/institutional facilities. Segment N-4 crosses Buttonwillow Avenue (arterial) and turns south toward Manning Avenue, crossing Parlier Avenue (collector). The segment turns east, immediately north of a multi-phased, 19-acre mixed-use development across from the Reedley Shopping Center. From here, the segment travels east toward Tobu Avenue (future collector) for approximately 0.25 miles and then turns south to reach Manning Avenue (major arterial). Currently, these portions of Buttonwillow and Parlier Avenues are two-lane streets with one travel lane in each direction. The posted speed limit for Buttonwillow is 45 mph and 35 mph for Parlier. There is limited curb, gutter, sidewalk, lighting and crossing treatments, and no existing bicycle lanes or paths.

	<i>Opportunities</i>	<i>Constraints</i>
<i>Community Connections</i>	Nearby residential and commercial, with a variety of planned uses, some in progress.	N/A
<i>Transportation Network Connectivity</i>	Direct access to arterials, collectors, and local streets; transit station at shopping center.	Limited crossing treatments, no bicycle/pedestrian facilities.
<i>Trail Design Opportunities</i>	Long, linear roadway with limited offsite improvements in rights-of-way may allow for out lot dedications.	Higher traffic volumes and speeds; overhead utility lines; canal crossing.
<i>Property Use</i>	Several greenfields that lack offsite improvements in the rights-of-way; high development potential.	Retrofitting into approved and in-progress projects. Potential safety, liability, and privacy concerns of property owners.

Site-Specific Observations:



Buttonwillow at Cambria Ln. (westward); Image Source: Jenna Chilingirian

- No curb, gutter, or sidewalk; no crossing treatment for canal or across Buttonwillow Avenue. Potential for Pedestrian Hybrid Beacon for crossing Buttonwillow Avenue, unless incorporated in future development on easterly side.
- Potential safety, liability, and privacy concerns of property owners adjacent to/south of segment; specifically, Trees 'N' More Nursery (side yard and driveway) and Alta Irrigation District (irrigation ditch/canal).
- Overhead utility placement within canal embankment.



Buttonwillow Avenue at Parlier Avenue (north); Image Source: Jenna Chilingirian

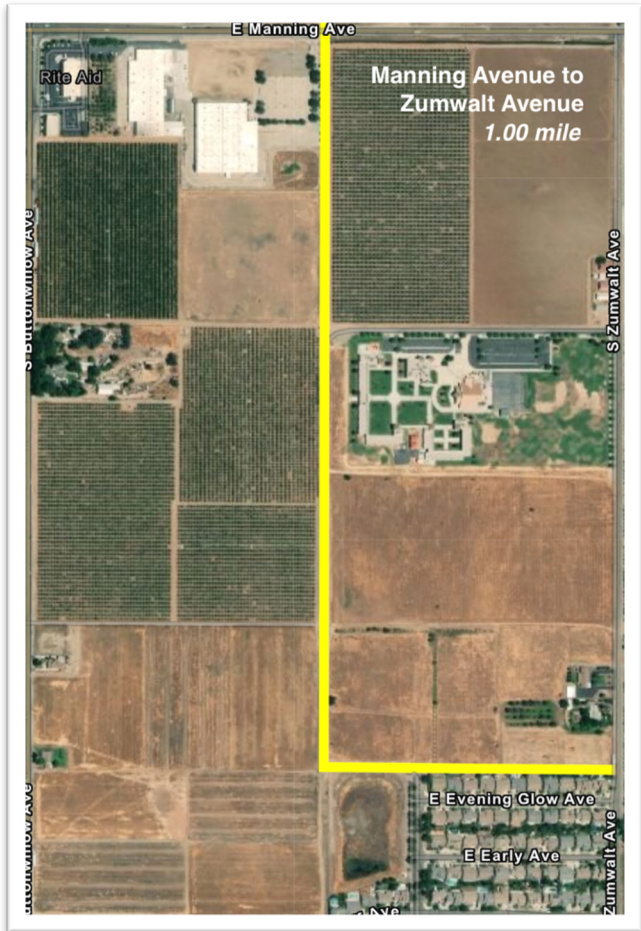
- No curb, gutter, or sidewalk on the easterly side of Buttonwillow Avenue from Parlier to Manning Avenues; no crossing treatments at Parlier Avenue.
- Between Parlier and Manning Avenues, the easterly side of Buttonwillow Avenue is primarily farmland with one private residence and a multi-phase mixed-use development. A subdivision and shopping center are located on the west side.
- The easterly side of Buttonwillow is planned for medium- to high-density residential with commercial and park and open space.
- Approximately 2,500 ft. of overhead utility.



Buttonwillow Avenue at Manning Avenue (east); Image Source: Jenna Chilingirian

- A United Health Center is being constructed at the corner of Buttonwillow and Manning Avenues as part of a 19-acre mixed use development that will include commercial and residential uses. The project has been approved and is in progress.
- Manning Avenue is a primary entrance for the city, classified as a major arterial with a posted speed limit of 40 mph. Average daily traffic counts at this intersection are 102.
- In the shopping center across the street there is a Fresno County Rural Transit Agency transit station. Other than sidewalks, there appear to be no bicycle/pedestrian facilities in the general area along Buttonwillow or Manning Avenues.

Segment N-5 | Manning Avenue to Zumwalt Avenue, 1.00 mile



Segment Summary:

Segment N-5 is within three critical areas for development including the Buttonwillow and Springfield area, Buttonwillow and Myrtle area, and Buttonwillow and Duff Annexation Area. The City has recently processed land use entitlements for development in the Buttonwillow and Duff Annexation Area (i.e., [Rancho Vista Project](#)). Existing land uses include a mix of agriculture, low-density residential, industrial, and public/institutional (e.g. Silas Bartsch School). Three out of four corners at Manning and Tobu Avenues are planned for commercial; the third corner is planned for industrial. Land south of Manning Avenue, bounded by Zumwalt and Buttonwillow Avenues, is primarily planned for residential and park and open space. Segment N-5 crosses Manning Avenue (major arterial) at Tobu Avenue (collector) and then continues south on Tobu Avenue – which parallels the Buttonwillow Ditch/Irrigation Canal – for approximately 0.50 miles until it reaches north of Evening Glow Avenue, a local street of a residential subdivision. From here, the segment turns east to connect with Zumwalt Avenue (future arterial).

	<i>Opportunities</i>	<i>Constraints</i>
<i>Community Connections</i>	Nearby commercial, industrial, residential, and public/ institutional with variety of planned uses; Rancho Vista Project.	N/A
<i>Transportation Network Connectivity</i>	Direct access to arterials and collectors, and future local streets.	Addressing internal circulation plans across future and in-progress developments.
<i>Trail Design Opportunities</i>	Strategize land acquisition for internal system across neighborhoods that connect with roadways/intersections.	Higher traffic volumes and speeds at Manning Avenue; utility line at Zumwalt Avenue.
<i>Property Use</i>	Several greenfields; high development potential.	Retrofitting the segment into approved and in-progress projects. Potential safety, liability, and privacy concerns of landowners with abutting backyards.

Site-Specific Observations:



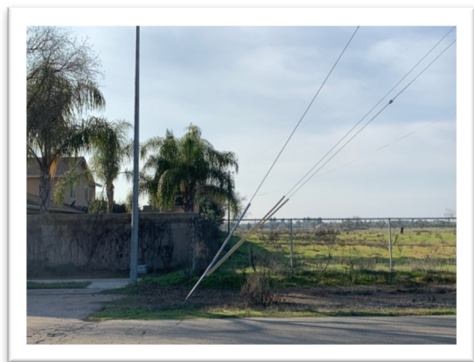
Manning Avenue at Tobu Avenue (north); Image Source: Jenna Chilingierian

- Manning Avenue is a major arterial and designated truck route; Tobu Avenue (future) is classified as a collector street.
- Manning Avenue at Tobu Avenue (future) is slated to become a predominately commercial area; three out of four corners are planned for community commercial and the southwest corner is to remain for light industrial uses.
- There may be potentially higher traffic volume on Manning and Tobu Avenues resulting from these uses.



Manning Avenue at Tobu Avenue (south); Image Source: Jenna Chilingierian

- Tobu Avenue (future) follows the Buttonwillow Irrigation Ditch/Canal, which will likely be pipelined underground as development occurs.
- Between Manning and Zumwalt Avenues, the eastside of Tobu Avenue (future) is primarily farmland, with some private residences and a school (Silas Bartsch). The westside is mostly agricultural, with some light industrial and private residences. A majority of the existing farmland is planned for low-density residential, including the 40-acre Rancho Vista project.



Zumwalt Avenue near Evening Glow (west); Image Source: Jenna Chilingierian

- Given the extent of planned residential uses between Manning and Zumwalt Avenues, there is an opportunity to consider internal circulation plans that connect bicyclists and pedestrians within and between the neighborhoods and to the existing street network.
- Potential safety, liability, and privacy concerns of property owners with backyards adjacent to this segment.
- Overhead utility on Zumwalt Avenue.

Segment N-6 | Evening Glow Avenue to Dinuba Avenue, 0.40 miles



Segment Summary:

Segment N-6 is outside of the current city limits but is within the expanded SOI. Existing land uses west of Zumwalt Avenue are primarily low-density residential; on the easterly side, land uses are mainly low-density, with some agricultural and commercial uses. Planned land uses on both sides of Zumwalt Avenue are nearly exclusively low-density residential, with the exception of high-density residential and community commercial near Dinuba Avenue. The segment picks up north of Evening Glow Avenue (local) and crosses Zumwalt Avenue (arterial), traveling south toward Dinuba Avenue (arterial). The segment crosses Dinuba Avenue to reach the Reedley Sports Park, a 50-acre recreational site to be developed in phases. Currently, these portions of Zumwalt and Dinuba Avenues are two lane streets with one travel lane in each direction; this portion of Zumwalt Avenue is outside the City's posted speed limit jurisdiction. There is limited curb, gutter, sidewalk, and lighting on the easterly side of the street compared to the westerly side that has a stretch of offsite improvements fronting a residential subdivision. There are no crossing treatments across Zumwalt Avenue.

	<i>Opportunities</i>	<i>Constraints</i>
<i>Community Connections</i>	Nearby residential, commercial, and park and open space with variety of planned uses.	N/A
<i>Transportation Network Connectivity</i>	Direct access to arterials and local streets.	Property setbacks and street width on Zumwalt Avenue. Maybe not full trail, modified trail.
<i>Trail Design Opportunities</i>	N/A	Setbacks and limitations to rights-of-way may require modifications to accommodate both trail and driveways.
<i>Property Use</i>	N/A	Land acquisition; rights-of-way constraints; accommodations for drive approaches. Potential safety, liability, and privacy concerns of landowners with property that fronts onto the trail.

Site-Specific Observations:



Zumwalt Avenue at Evening Glow Avenue (south); Image Source: Jenna Chilingierian

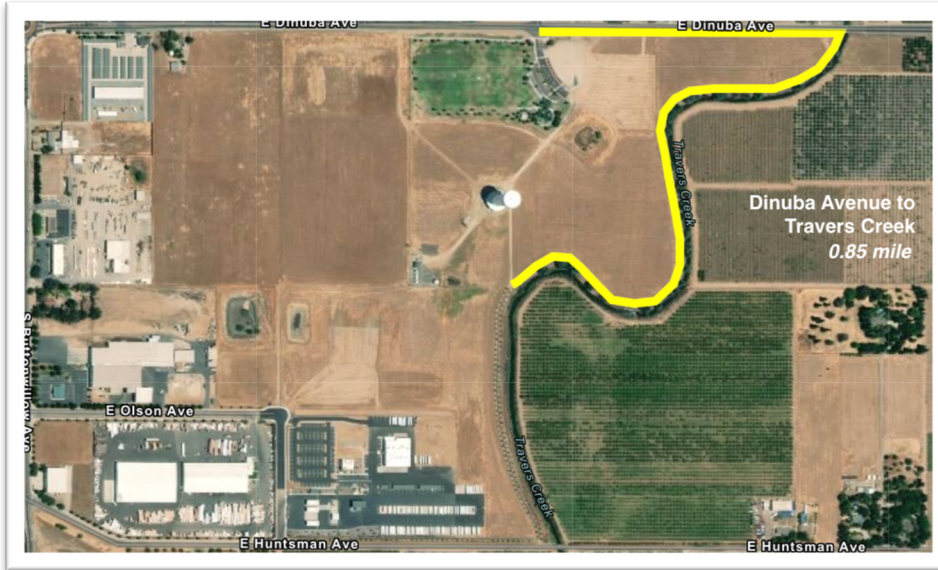
- Development to the east/west of Zumwalt Avenue between Evening Glow and Dinuba Avenues, is a mix between low-density and suburban residential, with some farmland.
- Offsite improvements – curb, gutter, sidewalk, and city facilities- are built out on the westside of Zumwalt Avenue fronting a residential subdivision. Offsite improvements within the rights-of-way are limited to this portion of the street.
- The residential subdivision has two main entrances off of Zumwalt Avenue: Evening Glow, Early, and Duff Avenues.
- No crossing treatments across Zumwalt Avenue.
- 15+ private drive approaches intersect with Zumwalt Avenue.
- Little to no setbacks on eastside of Zumwalt Avenue.



Zumwalt Avenue at Dinuba Avenue (north); Image Source: Jenna Chilingierian

- On three out of four corners at Zumwalt and Dinuba Avenues, there are no bulb outs or extensions of curb, gutter, or sidewalk. There are no crossing treatments at this intersection.
- Zumwalt Avenue aligns with entrance of Reedley Sports Park, a 50-acre recreational site to be developed in phases.
- The nearest residential neighborhood begins at the northwest corner of Dinuba and Zumwalt Avenue; high-density residential is planned for northeast corner.

Segment N-7 | Dinuba Avenue to Travers Creek 0.85 miles



Segment Summary:

Segment N-7 is within the master planned area of the [Reedley Sports Park Project](#). The Sports Park is a 50-acre specialized recreational area that will be developed in seven phases, including a “creek corridor phase” with a pedestrian trail that parallels Travers Creek and plans for creek restoration. Offsite improvements on Dinuba Avenue – curb, gutter, sidewalk, lighting, and undergrounding of utilities, will also take place as part of the park development. The Sports Park area is bounded by Travers Creek to the east, and a proposed 40-acre, mixed-use development (i.e., [Kings River Village](#)) to the west; south is the school district’s transportation center. Immediately outside of this area, existing uses south of Dinuba Avenue are primarily agricultural or vacant lands planned for commercial, industrial, and public/institutional facilities. Segment N-7 begins at the entrance of the Sports Park and travels east on the southerly portion of Dinuba Avenue for 0.30 miles toward Travers Creek. At Travers Creek, the segment turns south and parallels the creek for 0.55 miles until it reaches the existing Parkway’s southern end point at the southerly side of the Sports Park. Currently, Dinuba Avenue is a two-lane street with one travel lane in each direction; the posted speed limit in this area is 45 mph. Dinuba Avenue is designated as a truck route. There is currently limited curb, gutter, sidewalk, lighting, and crossing treatments on either side of the street.

	<i>Opportunities</i>	<i>Constraints</i>
<i>Community Connections</i>	Nearby residential and recreational uses, with a variety of planned uses, some in progress; Kings River Village and Sports Park.	N/A
<i>Transportation Network Connectivity</i>	Direct access to arterials, local streets, Parkway, and Class IV facility. Coordination with planned improvements on Dinuba Avenue.	No existing crossing treatments across Zumwalt or Dinuba Avenues.
<i>Trail Design Opportunities</i>	Natural habitats and landscaping of Travers Creek; scenic, educational, volunteer experiences.	N/A
<i>Property Use</i>	Partnerships and agreements with Alta Irrigation District and Army Corps of Engineers. Limited land acquisition needed.	N/A

Site-Specific Observations:



Zumwalt Avenue at Dinuba Avenue (east); Image Source: Jenna Chilingierian

- No curb, gutter, sidewalk for entire stretch of Dinuba Avenue east toward Travers Creek; improvements planned for sidewalk, curbs, gutters, landscaping, and lighting as part of future development phases for the Reedley Sports Park.
- Approximately 1,000 ft. of overhead utility on southern portion of Dinuba Avenue; undergrounding of these utilities is to be coordinated with improvements of the Sports Park.
- Land immediately adjacent to the southside of Dinuba Avenue and Travers Creek is planned for soccer fields and tennis courts; lands to the north are planned for residential and commercial.



Travers Creek at Dinuba Avenue (south); Image Source: Jenna Chilingierian

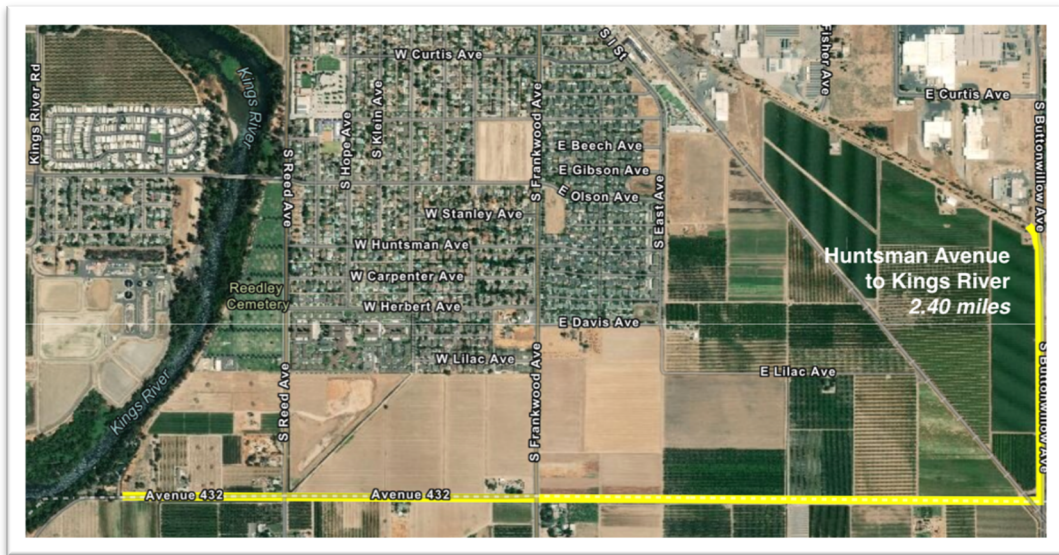
- This portion of Travers Creek remains undisturbed compared to the southern portion adjacent to the existing Parkway; there are planned improvements for creek restoration including re-grading, smoothing contours, and planting native trees and grasses as part of the Sports Park improvements.
- There are 40+ cedar trees along this portion of the creek; with proper restoration, this segment can provide scenic and educational experiences for prospective trail users and conservation and maintenance opportunities for prospective volunteers.



Parkway at Huntsman Avenue, facing the Sports Park (north); Image Source: Jenna Chilingierian

- The existing Parkway connects roughly a half mile south on the creek, which completes approximately a total 0.80-mile stretch of trail along the creek and connects the facility to a Class IV bikeway at Huntsman Avenue.
- The Class IV bikeway extends west for a quarter mile toward Buttonwillow Avenue, where it connects with the next stretch of the existing Parkway that flows through the downtown corridor, and a Class I bikeway that runs north on Buttonwillow Avenue toward Dinuba Avenue.

Segment S-1 | Huntsman Avenue to Kings River, 2.40 miles



Segment Summary:

Segment S-1 is almost entirely outside of current city limits. It lies within the expanded SOI toward the southernmost portion of the city just north of the Fresno/Tulare County line. Existing land uses are almost exclusively agricultural, with some residential and vacant lots on Floral Avenue between Frankwood Avenue and the Kings River. As the city grows south, planned land uses are varied – industrial, public/institutional, residential, and park and open space. Segment S-1 begins from the existing Parkway and Class IV separated bikeway at Buttonwillow Avenue and Huntsman Avenue, and then travels south on Buttonwillow Avenue toward Floral Avenue for approximately 0.55 miles. At Floral Avenue, the segment crosses a railway and heads west for approximately 1.85 miles toward the Kings River. Floral Avenue (arterial/future arterial) breaks for approximately 1.00 mile from Buttonwillow to Frankwood Avenue and continues west to the Kings River. Currently, Floral Avenue is a two-way street with one travel lane in each direction. There are no offsite improvements – curb, gutter, sidewalk, lighting – or crossing treatments.

	<i>Opportunities</i>	<i>Constraints</i>
<i>Community Connections</i>	Planned variety of uses – potential for recreational and utilitarian trips.	Distance from urbanized, developed areas.
<i>Transportation Network Connectivity</i>	Direct access to Parkway, Class IV bikeway, bicycle/pedestrian facilities. Access to arterials.	Discontinuation of Floral Avenue, lack of local or collector streets, no existing bicycle/pedestrian facilities.
<i>Trail Design Opportunities</i>	Lack of offsite improvements in the right-of-way. Options for out lot dedications as area is developed.	Potential conflict points with high volume, high speed traffic, truck route, and train crossings.
<i>Property Use</i>	Several greenfields that lack off-site improvements in the rights-of-way; high development potential.	Working with railroad.

Site-Specific Observations:



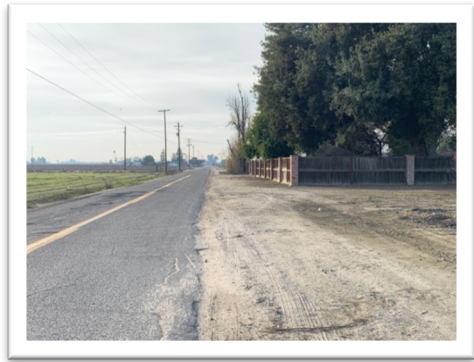
Buttonwillow Avenue at Huntsman Avenue (south); Image Source: Jenna Chilingierian

- The existing Parkway terminates at Buttonwillow and Huntsman Avenues, before picking up at Travers Creek. There is a crossing treatment that connects the Parkway and Class IV bikeway.
- Existing land uses east/west of Buttonwillow Avenue between Huntsman and Dinuba Avenues are almost entirely industrial, with some commercial and public/institutional facilities.
- North of Huntsman Avenue, the easterly side of Buttonwillow Avenue has existing bicycle/pedestrian facilities that continue north toward Dinuba Avenue.
- There are no bicycle/pedestrian facilities on Buttonwillow Avenue south of Huntsman Avenue.



Buttonwillow Avenue at Floral Avenue (west); Image Source: Jenna Chilingierian

- Existing land uses east/west of Buttonwillow Avenue between Huntsman and Floral Avenue are primarily agricultural; this area is planned for industrial uses.
- Buttonwillow Avenue is a designated truck route and primary access point to the city from communities to the south, including Dinuba and several unincorporated communities. The posted speed limit in this area is 55 mph, dropping to 40 mph north of Huntsman Avenue.
- Buttonwillow Avenue south of Huntsman Avenue is outside the existing city limits but is within the SOI.
- There is a railway at Buttonwillow and Floral Avenues that the potential segment would need to cross.



Floral Avenue at Frankwood Avenue (west); Image Source: Jenna Chilingierian

- Floral Avenue discontinues between Buttonwillow and Frankwood Avenues (appx. 1.00 mile).
- Floral Avenue between Frankwood and the Kings River does not have curb, gutter, sidewalks, or crossing treatments.
- North of Floral Avenue, Frankwood and Reed Avenues have posted speed limits of 55 mph before dropping upon entering residential areas.
- Frankwood and Reed Avenues are both designated as truck routes.

Segment S-2 | Floral Avenue to Manning Avenue, 2.50 miles



Segment Summary:

Segment S-2 is within the Kings River Corridor, bounded to the south by Floral Avenue to the north by Manning Avenue, the Kings River to the west, and Reed Avenue to the east; the two access points across the river within this area are Manning and Olson Avenues. Existing land uses east of and closest to the Kings River are park and open space, agricultural, and public/institutional facilities, followed by residential and commercial uses. The types of planned land uses mirror existing uses. Within the corridor there are active recreational sites including Monument Hill Park, Cricket Hollow Park, and Reedley Beach. Segment S-2 continues from Floral Avenue near the Kings River and parallels the Kings River north toward Manning Avenue. It crosses Olson (arterial) and Manning (major arterial) Avenues. When the segment reaches Manning Avenue, it reconnects with the Parkway and the starting point of the potential north alignment. The posted speed limits for the portions of Olson and Manning Avenues in this area are 35 and 55 mph. Both streets are designated as truck routes.

	<i>Opportunities</i>	<i>Constraints</i>
<i>Community Connections</i>	Nearby residential, recreational, and public/institutional uses, with a variety of planned uses.	N/A
<i>Transportation Network Connectivity</i>	Potential extensions of Dinuba and Manning Avenues with residential subdivision adjacent to river. Proximity to Class II bike lanes.	Connectivity to and through neighborhoods for greater access by trail users, especially emergency service vehicles.
<i>Trail Design Opportunities</i>	Natural habitats and landscaping of Kings River; scenic, educational, volunteer experiences.	Safety along waterways – potential for lighting, fencing, mileage marker posts with emergency contacts.
<i>Property Use</i>	Partnership and agreement with Army Corps of Engineers.	N/A

Site-Specific Observations:



Kings River at Olson Avenue (south); Image Source: Jenna Chilingirian

- From Floral to Olson Avenues, existing uses adjacent to the Kings River are primarily agricultural with a few residences in addition to the Reedley Cemetery District abutting the river. There are also some bouts of purely riparian areas.
- Lands between Floral to Olson Avenues, bounded by Reed Avenue are planned for park and open space, low density residential, and public/institutional facilities. Lands east of Reed Avenue are almost exclusively residential.
- Reed Avenue in this area is a designated truck route.



Reed and Olson Avenues (north); Image Source: Jenna Chilingirian

- At Olson Avenue, Kings River meets Reed Avenue before the river curves northwest to eventually meet Manning Avenue.
- Monument Hill Park is immediately north of Olson Avenue on the east side of the river; Cricket Hollow Park (4.50 ac.) is off of Olson Avenue on the west side of the river. Continuing north from Monument Hill Park is Reedley Beach (0.30 ac.) a specialized recreational area with public access to the river.
- Immanuel High School is at the northeast corner of Olson and Reed Avenues, across from Monument Hill Park.
- A Class II bike lane that originates near downtown Reedley crosses Olson Avenue.



North of Manning Avenue at Kings River and the existing Parkway (south); Image Source: Jenna Chilingirian

- From Dinuba Avenue to Manning Avenue, Kings River meanders northwest. Within this portion, existing uses adjacent to the river are primarily agricultural, residential, and commercial. Planned land uses are park and open space closest to the river followed by residential and commercial.
- A westward extension of Dinuba Avenue as a collector is planned to connect with Kingswood Parkway, a local street within the residential subdivision adjacent to the river. Similarly, a southward extension of Manning Avenue is planned to connect at the north end of Kingswood Parkway.
- There is no direct access point for vehicles to reach the river area within this portion of the corridor, except for at Manning Avenue.
- A Class II bike lane crosses Manning Avenue and intersects with the existing Parkway.