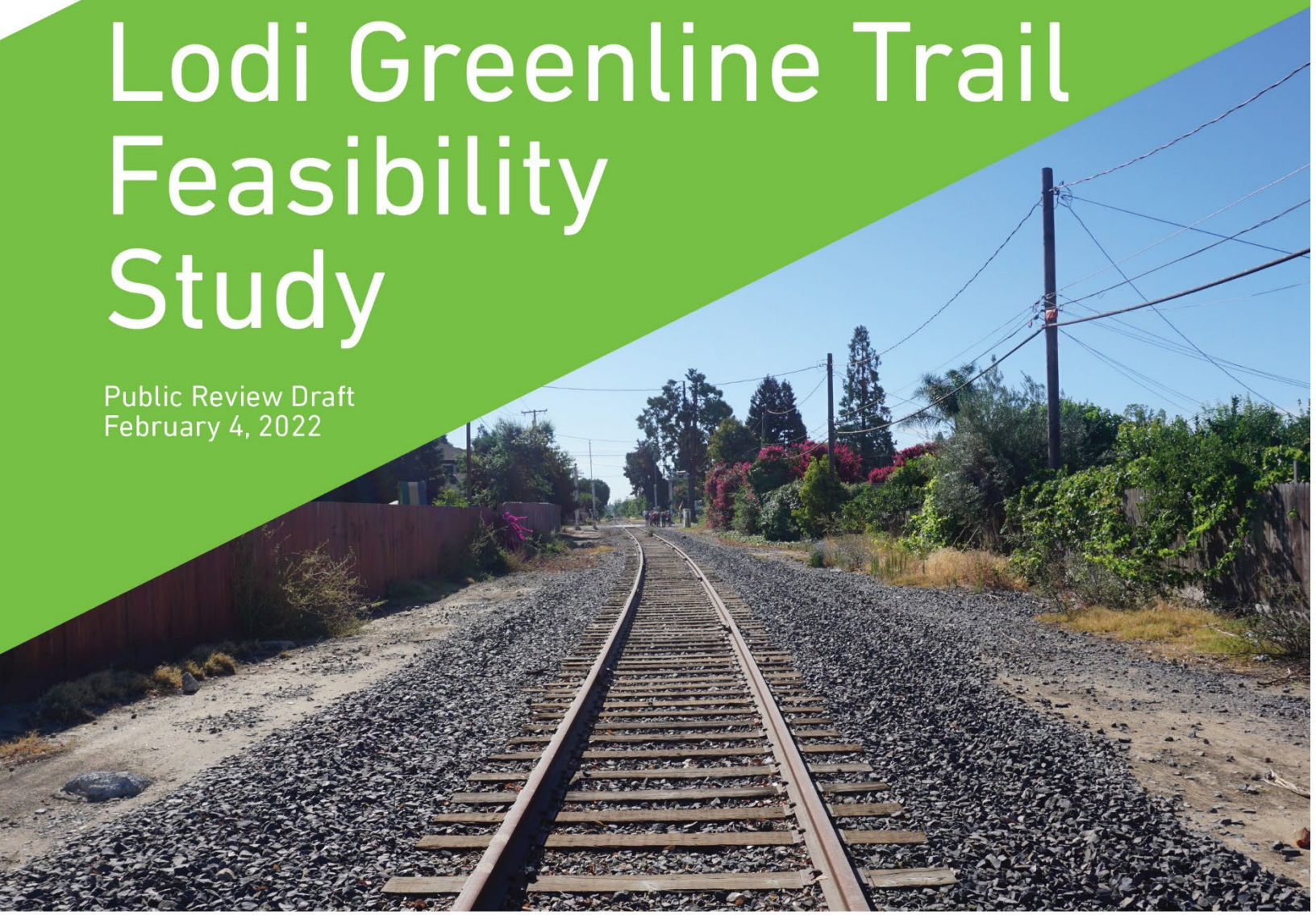
Lodi Greenline Trail

Lodi Greenline Trail Feasibility Study

Public Review Draft
February 4, 2022



San Joaquin Council of Governments

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Introduction and Project Summary

The City of Lodi (City), in partnership with Bike Lodi and the San Joaquin Council of Governments (SJCOG), undertook this study to assess the feasibility of converting a 1.75 mile Union Pacific Rail Road spur from Lodi to Woodbridge into a Class I multipurpose trail (Figure 3 and Figure 4). Bike Lodi was instrumental in preparing the grant application to obtain funding from Caltrans. The study's goal was to understand the issues and impacts involved in developing a trail along the UPRR rail corridor.

The railroad property, owned by Union Pacific Railroad (UPRR), extends between the UPRR Fresno Subdivision (downtown Lodi) to Lodi Lake and Woodbridge. The spur line was used exclusively by the General Mills factory from 1946 until 2015 (Figure 1), when the General Mills plant on the southwest corner of West Turner Rd and North Mills Ave shut down. The site has since been occupied by Bond Manufacturing; however, the rail line is not currently being used.

The Union Pacific Railroad spur between the plant and downtown Lodi can be seen in the top of the image. Image from the Lodi News Sentinel:

"The General Mills plant along Turner Road was 3 years old when this aerial photograph of the operation was taken in 1949. In 1946, General Mills, the largest flour producer and one of the largest breakfast cereal and animal feed producers at the time, announced it was building a plant in Lodi to expand its West Coast market and reach Asian countries. The plant was built on Ray Gerard's 20-acre cherry orchard across from Lodi Lake. The $2 million plant officially opened on June 5, 1948." Ralph Lea/courtesy photograph.

Figure 1. General Mills Plant, looking north (1949).

The proposed Lodi Greenline Trail would connect Downtown Lodi to Lodi Lake and Woodbridge, as well as provide access to small businesses, residences, and community spaces along the way.

By creating a safe off-street bike/pedestrian path for residents, visitors, and disadvantaged community members to travel to Lodi Lake, or other local destinations The project draws on inspiration from nearby rails-to-trails conversions, such as Manteca's Tidewater Trail and Modesto's Virginia Corridor Trailway. Based on the experiences of those communities, Bike Lodi, as the project's champion, envisions the following benefits of a trail along the rail corridor:

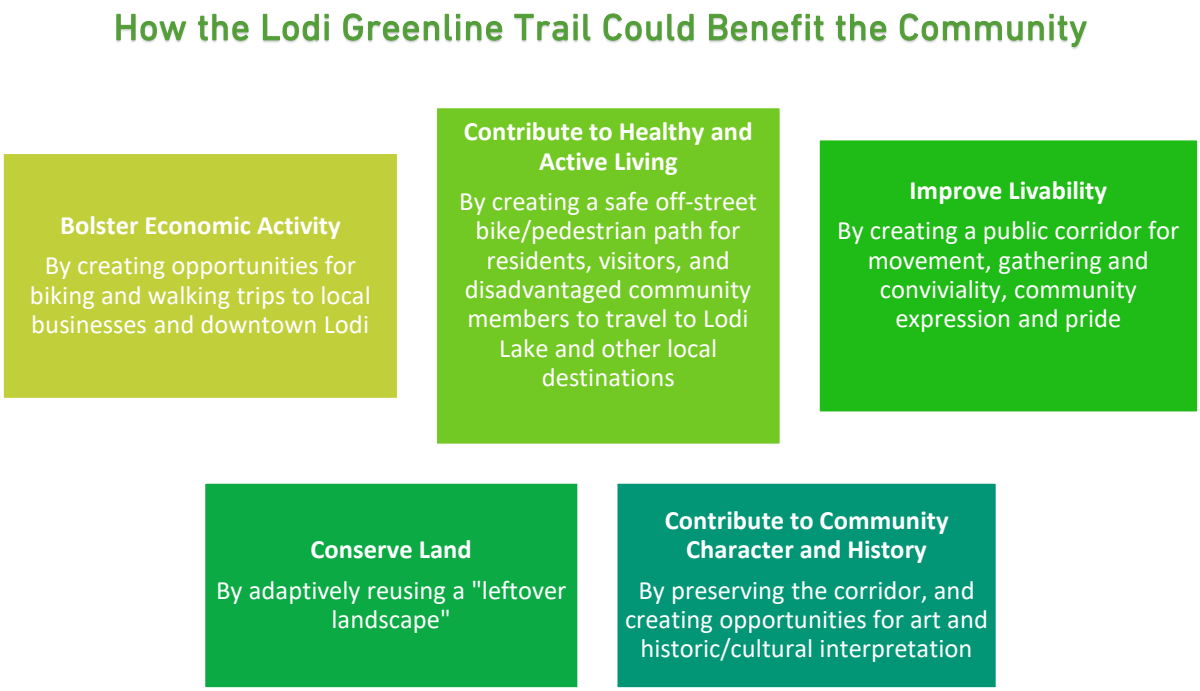


Figure 2. Project goals and benefits

Trail Types

The information in this study is intended to help the City of Lodi and its partners determine next steps for the Lodi Greenline Trail project and is part of a decision-making process that does not yet have a set outcome. Should the City decide to pursue the project, the community should be assured that any next steps will involve additional planning and analysis as well as public and stakeholder engagement to more fully understand the implications of developing the corridor for public use.

Rail-Trail and Rail-with-Trail
From Trail Building Basics, by the Rails to Trails Conservancy

What Is a Rail-Trail?
Rail-trails are multipurpose public paths created from former railroad corridors. These paths are flat or gently sloping, making them easily accessible and a great way to enjoy the outdoors. Rail-trails are ideal for many types of activities--depending on the rules established by the local community--including walking, bicycling, wheelchair use, inline skating, cross-country skiing and horseback riding.

What Is a Rail-with-Trail?
A rail-with-trail is a public pathway that runs parallel to an active rail line. As of 2021, there are more than 399 rails-with-trails in the United States.
The relationship between the trail and the rail varies depending on the community, and rails-with-trails operate under a wide variety of conditions. The rail and trail share an easement and are sometimes separated by extensive fencing. Some trails are adjacent to high-speed, high-frequency trains while others run alongside tourist railroads and slow-moving excursion trains. Rails-with-trails can also provide a unique opportunity for connecting non-motorized transportation with public transportation, such as when a trail leads to a train station.

Study Overview

The feasibility study was conducted over a ten-month period, from the Spring of 2021 to the Winter of 2022. The study comprises the following elements.

Existing Conditions

The plan undertook an existing conditions study that included the following analyses:

Plan and Policy Review: to set the framework and context for the project, it summarized the following elements:

- Site and project history
- Relevant plans and policies
- Planned transportation projects
- Statewide and regional trail design guidelines

Corridor Opportunities and Constraints: to understand the physical landscape of the corridor and inform the development of alternative uses for the rail corridor. It summarizes the corridor constraints and opportunities and considers and evaluates potential trail access points and roadway crossings, to address how the rail corridor interacts with the urban fabric.

Destinations and User Needs Analysis: a spatial analysis of destinations and land uses accessible within a walking distance of the rail corridor, as a way of predicting how the proposed Lodi Greenline Trail could serve users. The analysis also examines the utility corridors and infrastructure that may affect the design of the proposed Lodi Greenline Trail.

Full Rail Corridor Appraisal and Review Appraisal: performed by separate credentialled appraisers, per Caltrans standards, to determine the value of the corridor.

Railroad Use Analysis: presents best practices for potential Lodi Greenline Trail use of the rail corridor, including access/trespass, safety and security, and liability. It also provides considerations for rail corridor preservation through railbanking, acquisition, and trail use.

Public Engagement

The project team engaged the community over the fall and winter of 2021/2022, primarily on virtual platforms due to the ongoing Covid-19 pandemic, to inform the public about the project, exchange information, and solicit input on the concept design.

Concept Plans, Estimates, and Analysis

The project team, including SJCOG and City of Lodi staff and Bike Lodi members, conducted a site visit in summer of 2021. The impressions taken from this field visit, along with the existing conditions analysis and early engagement were all synthesized in the development of conceptual alignment plans showing the two proposed scenarios:

1. Alternative A. A rail-to-trail[1] design where the tracks would be removed and the corridor would be redeveloped as a Class I shared use path corridor and
2. Alternative B. A rail-with-trail[2] design where the existing tracks would remain and a Class I shared use path would be added to the corridor, allowing for concurrent rail use.

Design features were explored and an analysis of the two designs was conducted to highlight the issues involved in developing either scenario.

Next Steps

The plan includes strategies for moving forward with UPRR coordination, design, and management, should the City decide to move the project forward.

[1] A Rail-to-Trail converts a railroad into a multipurpose trail corridor supporting recreation, mobility, and community gathering

[2] A Rail-with-Trail concept preserves the railroad and constructs a multipurpose trail parallel to the active rail line

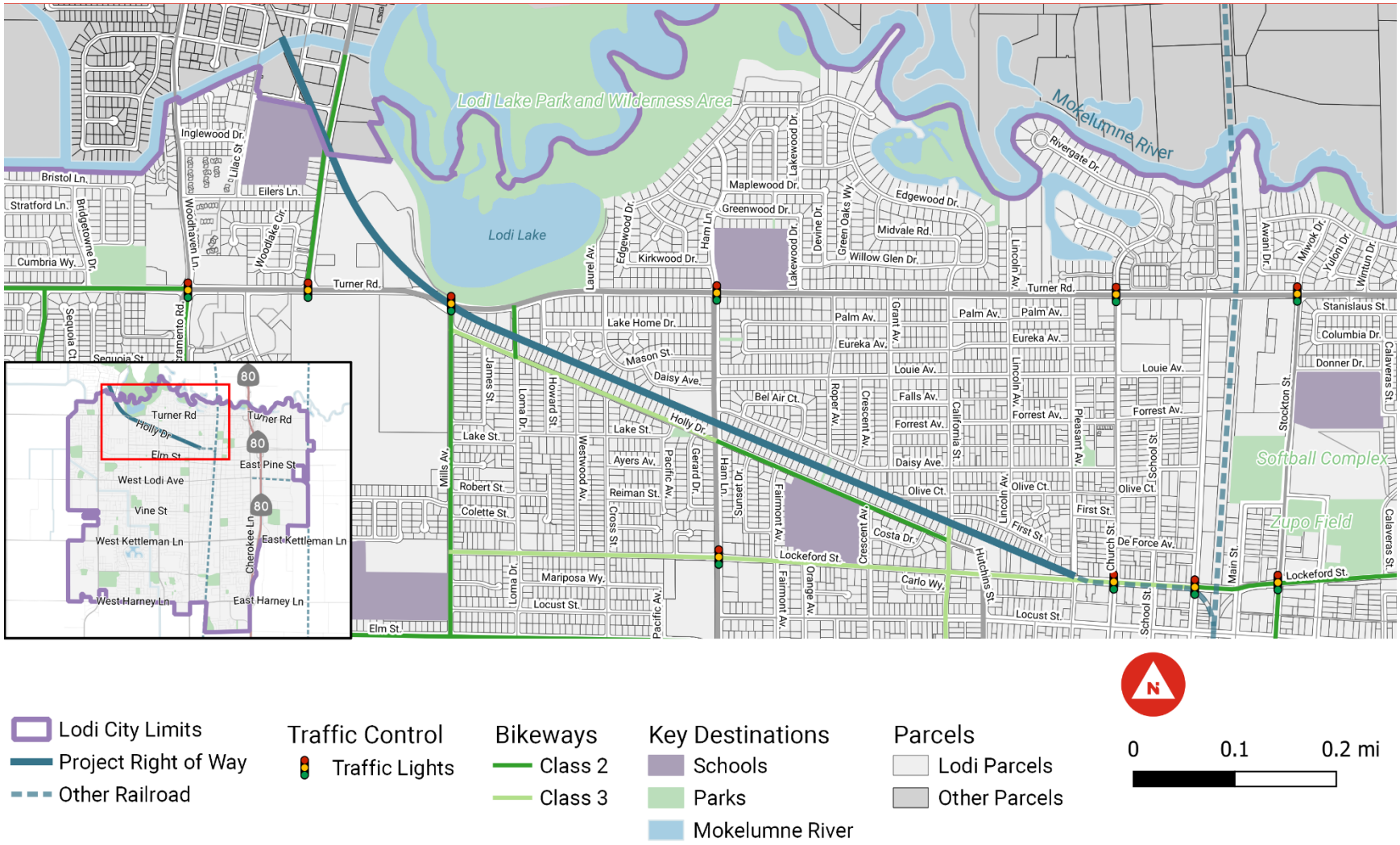


Figure 3. Project Area and Rail Corridor Right of Way

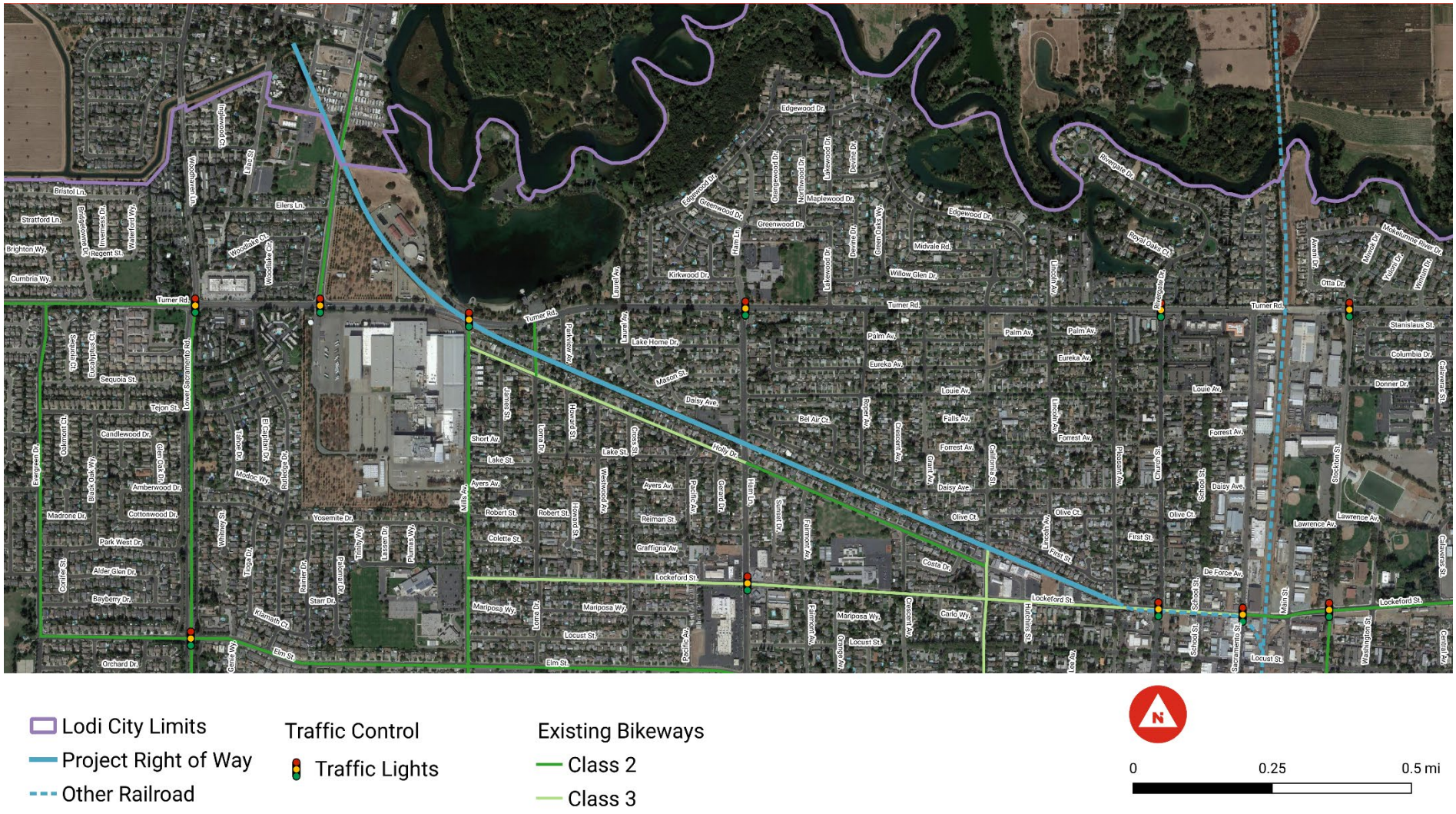


Figure 4. Aerial view of corridor

Feasibility Study Findings

This study demonstrates that it is feasible to build a trail along the Union Pacific rail corridor from Woodbridge/Lodi Lake to downtown Lodi, based on the following criteria:

- **Available space:** The corridor is 60 feet wide and thus provides adequate space for a Class I shared use path, meeting Caltrans design guidelines for paved paths, including shoulders, clear zones, and landscaping. The evaluation below provides more information about how the trail would be accommodated in each scenario
- **Lack of Utility Conflicts**: There are no major utility conflicts along or within the corridor. In fact, development of the corridor for a trail could provide potential opportunities for utility location along the corridor, providing revenue potential for the City through franchise agreements.
- **Safety:** There are five roadway crossings of the rail corridor, and three are arterial roadways. Each of these could be reconfigured to correct minor visibility and alignment issues and create safe and intuitive crossings. There are additional access points along the corridor that would provide trail users opportunities to both enter and exit the corridor at regular intervals, thereby limiting any sense of physical or visibility isolation and inaccessibility.
- **Connectivity and Land Use:** As the corridor is situated within a residential area and connects Lodi Lake Park and commercial and civic destinations on either end, it has the potential to provide connectivity to destinations that can be served by walking and biking.
- **User experience:** Although the corridor has not been used for rail services for the past seven years, there are few nuisance issues like dumping, camping, or vandalism, suggesting reduced obstacles for development. The corridor very much feels like a part of the neighborhood. Fences along the edges of the corridor through the residential area provide a sense of boundary between private property and a potential public trail. Proposed landscaping and shade trees would create a vegetated buffer and enhance the user experience. There

Is space along the corridor and at crossings to accommodate trailside amenities like wayfinding/interpretive kiosks, benches, or public art.

Evaluation of Scenarios

A rail-to-trail scenario is most feasible given the width of the corridor and railroad setback requirements. The width constraints of the corridor would make a rails-with-trail scenario challenging to implement, but the corridor allows sufficient space to convert the rail line into a trail that balances mobility with recreation, art, and green canopies. This design also best accommodates improvements at the trail crossings, as it would remove the rail crossing infrastructure.

A rail-with-trail scenario would not meet current UPRR design guidelines for trail and rail operation but is still feasible. In examples across the nation, rail-with-trail operations have been safely and successfully designed and constructed, depending on the operational characteristics of the corridor. For example, the frequency and speed of the trains were low during General Mills' use of the corridor and would likely be low for potential future uses, given that the UPRR corridor is a spur serving one industrial property in the area. Additionally, separation between rail operations and the trail can be designed to compensate for the lack of physical space separation. In summary, with coordination and negotiation, a rail-with-trail scenario could potentially be achieved to be mutually beneficial to all parties.

Community Benefit

The proposed Lodi Greenline Trail is an exciting vision for the future of how this corridor could serve the community by providing opportunities for active transportation and recreation. The construction of the Lodi Greenline Trail would provide a vital connection to key community destinations that strengthen community ties, foster economic activity, and promote public health.

Lodi Greenline Trail

Chapter 1: Context

Understanding the history of the project area helps to demonstrate the value of the rail corridor to the community.

Site History

To provide a more context, a brief history of the area is outlined below.

- Mokelumne River is Miwok for "People of the Fish Net". The Miwok and Yokut Indians (approximately 60 tribes) inhabited the Sacramento-San Joaquin River Delta area until European settlers arrived in 1850s and enacted the 'California Genocide'.
- 1906 - Lodi is officially incorporated as a city.
- 1907 - Central California Traction Company line is formally opened, eventually controlling all rail lines in the area.
- 1946 - General Mills buys 20-acre cherry orchard at Turner Road and Lower Sacramento Road, building a plant and railroad spur to downtown Lodi[3].

[3] Lodi News. *Vintage View: General Mills Comes to Lodi.* 2014. https://www.lodinews.com/features/vintage_lodi/article_86e16fd4-fe88-11e3-b7e7-0019bb2963f4.html/

- 2014, September 18 - General Mills announces preliminary closure of plant, due to declining consumer demand for cereals[5].
- 2015 - Cereal production at General Mills plant ends[4].
- 2015, February 29- RRM Enterprises, an investment group that owns Bond Manufacturing, a manufacturer and distributor of outdoor-living products, purchases the property[5].
- 2019 - Caltrans awards City of Lodi a grant to study the feasibility of creating a rail trail, named the Lodi Greenline[6].

Figure 5. Mokelumne River. Photo via: www.Lodiwin.com/blog/a-history-of-lodi-winegrowing--part7--the-Mokelumne-River-viticultural-area

[4] Benapfl, J. *Done Deal: Former General Mills Site Purchased by Outdoor Products Company.* 2016. Lodi News. https://www.lodinews.com/news/article_9f735bb6-01d3-11e6-86f9-7bed71aa97f2.htmlIbid.

[5] Ibid/

[6] Highfill, Bob. Lodi Greenline Grant Could Turn Rails in Trails. Lodi New-Sentinel. 24 May 2019. https://www.pressreader.com/

Lodi Today

Demographics

Figure 6. Lodi Arch, by Brad Wood. Bradthephotog.com

Lodi has a growing population of 67,000 people according to the 2020 U.S. Census. Almost half of the City's residents (45%) are either over 65 years old or under 18, with nearly 1 in six residents over 65 years old. The age gap in the City's most prominent age demographics highlights a shifting racial demographic, with an aging white population and growth in non-white, Hispanic families. While just three percent of Lodi's workforce commutes to work by walking or biking, according to 2019 American Community Survey 5-year Estimates, the City's age demographics indicate a need for investment in safe spaces that provide active travel for non-work commute trips, such as schools, parks, shopping, dining, and health services.

Economy

Lodi's economy is anchored by wine, agriculture, health care, and manufacturing. Currently, bicycle tourism represents $2 million revenue source for the City of Lodi. The Lodi Greenline Trail would help bring some of the economic activity created by bicycle tourism into Lodi's historic downtown district, which offers a local destination for food, culture, shopping, and recreation. Studies show that designing for active transportation has significant economic benefits for local businesses, particularly businesses located in "Old Town" commercial districts that were designed for active modes, such as Downtown Lodi[7]. Active transportation connections to these commercial districts helps to reduce parking constraints, congestion, and increases visibility of businesses, which helps retain grow businesses and job opportunities. The Lodi Greenline would provide a backbone transportation network that better links to the City's land use and urban form.

[7] Rails-to-Trails Conservancy. *Active Transportation Transforms America: The Case for Increased Public Investment in Walking and Biking Connectivity.* 2019. https://www.railstotrails.org/media/847675/activetransport_2019-report_finalreduced.pdf

However, an economic argument can be made for the impact of retaining the rail corridor to preserve manufacturing and distribution jobs offered at the former General Mills site. Further analysis and conversations with the railroad and property owners will be needed to understand the relationship between the rail corridor and future uses at the General Mills site.

Land Use and Urban Form

Land uses along the rail corridor are predominantly zoned for low density residential, especially between Turner Road/Mills Avenue and California Street/Holly Drive. Land uses are more diverse in the corridor's eastern end, near Downtown Lodi. Here, the rail corridor is connected to commercial, civic and social services, public spaces, as well as planned mixed-use developments (see Figure 7). The rail corridor's western end, near the Woodbridge/Lodi border, has more diverse land uses. Parcels within the walkshed at this access point are zoned for medium density residential and commercial uses and offer access to parks and recreation by Lodi Lake and the Mokelumne River. Furthermore, there are two schools along the route: George Washington Elementary and Woodbridge Elementary.

Table 1. Land Use Statistics

ZONE	NUMBER OF PARCELS	PERCENTAGE OF ALL PARCELS
Low Density Residential	1356	63%
Medium Density Residential	345	16%
High Density Residential	75	3%
Commercial	103	5%
Downtown Mixed-Use	103	5%
Mixed-Use Corridor	159	7%
Office	5	0%
Open Space	3	0%
Public/Quasi-Public	14	1%
Industrial	5	0%
Total	***2168***	***100%***

While overall, most of the rail corridor area is zoned low density residential (see Table 1), the land use patterns suggest that the Lodi Greenline Trail offers recreational opportunities for residents living close to the rail corridor, as well as convenient access to important social, civic, public and commercial spaces in downtown Lodi.

Figure 7. Conditions along the corridor and the adjacent neighborhood

Landmarks

The eastern access point at Lockeford Street and Pleasant Avenue provides access to landmarks in Lodi's Downtown. Table 2 lists the landmarks in the walkshed and their type. Figures 9 and 10 illustrate the concentration of landmarks that fall within the walkshed.

Table 2. Local Landmarks

LANDMARKS	Category
City Hall	Civic
Superior Court	Civic
Fire Station	Civic
Library	Civic
Van Buskirk Park	Public Space
Candy Cane Park	Public Space
Police Station	Civic
Lodi Cinema 12	Social

Active Transportation and Planned Projects

There are currently only two bike facilities near the rail corridor, Class II bikeways on Mills Avenue and the eastern half of Holly Drive. Lodi's 2018 Bicycle and Pedestrian Master Plan (Figure 8) sets forth proposed bicycle network recommendations. The Lodi Greenline Trail would cross the following existing and proposed City of Lodi bicycle facilities:

- Proposed Class III Bike Route on Turner Road
- Proposed Class III Bike Route on Ham Lane
- Proposed Class III Bike Route on Lockeford Street
- Proposed Class III Bike Route on California Street
- Proposed Class II Bike Lane on Church Street

Lodi's bicycle network map indicates that a high concentration of bicycle facilities either exist or are planned in the vicinity of the proposed Lodi Greenline Trail. The presence of on-street bicycle facilities ensures that potential bicyclists can safely access the Lodi Greenline Trail and that users can safely reach their destinations.

A road diet and the addition of a Bike Lane was completed in 2021 on Church Street from Lodi Avenue to W Lockeford St. This project is located one block from the southern edge entrance of the rail corridor and will accommodate the installation of bike facilities to provide vital access to public institutions, the core of Downtown Lodi, and the Lodi Train Station.

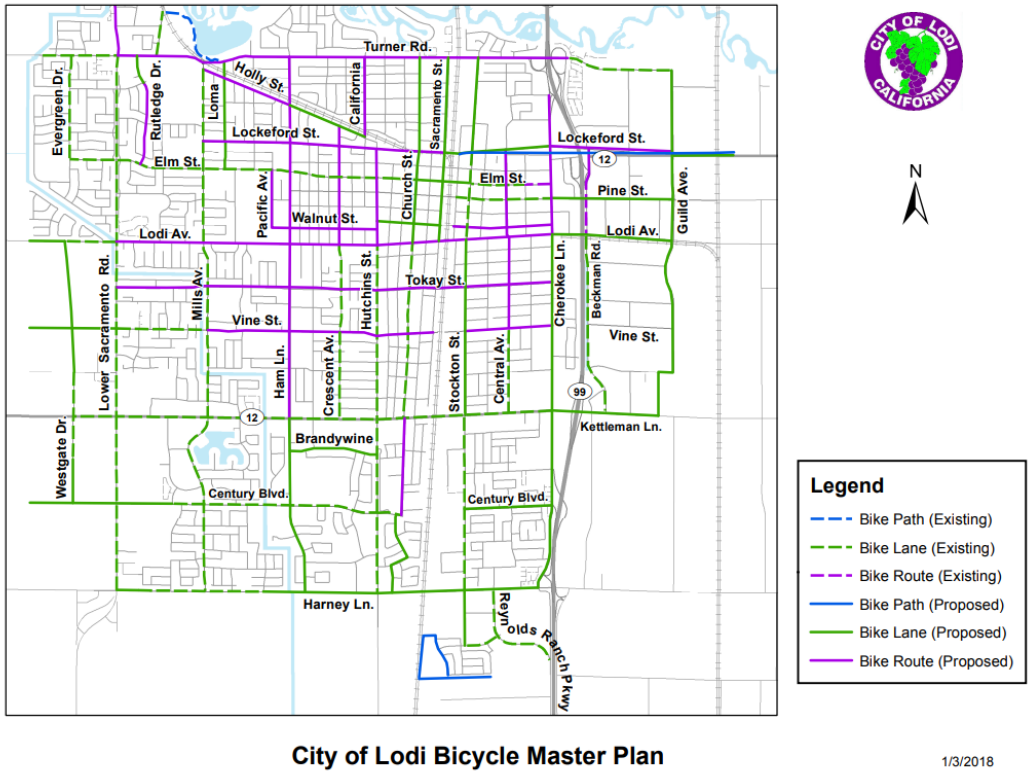


Figure 8. Lodi Bike Master Plan, 2018

Destination and User Needs Analysis

To determine how many activities are accessible within a walking distance of the rail corridor, how many access points are along are the rail corridor, and to derive a quarter-mile walkshed, a spatial analysis was performed. Land uses, parcels, and landmarks that fall within the walkshed buffer are included in the spatial analysis (see Figures 9 and 10).

This analysis shows that many activities, such as shopping, recreation, dining and health services, are located with a ¼-mile of the Greenline. The Lodi Greenline Trail presents an excellent opportunity to connect people on foot and bike to recreational, civic, commercial, and public spaces.

Further, utilities mapping showed that there are no utilities that run directly along the rail corridor right of way. Rather, they run parallel to the rail corridor and cross over at a few intersections (see Appendix C). The lack of utilities along the rail corridor right of way means reduced need to coordinate with utility providers and technical studies to evaluate the Greenline's impact on utilities.

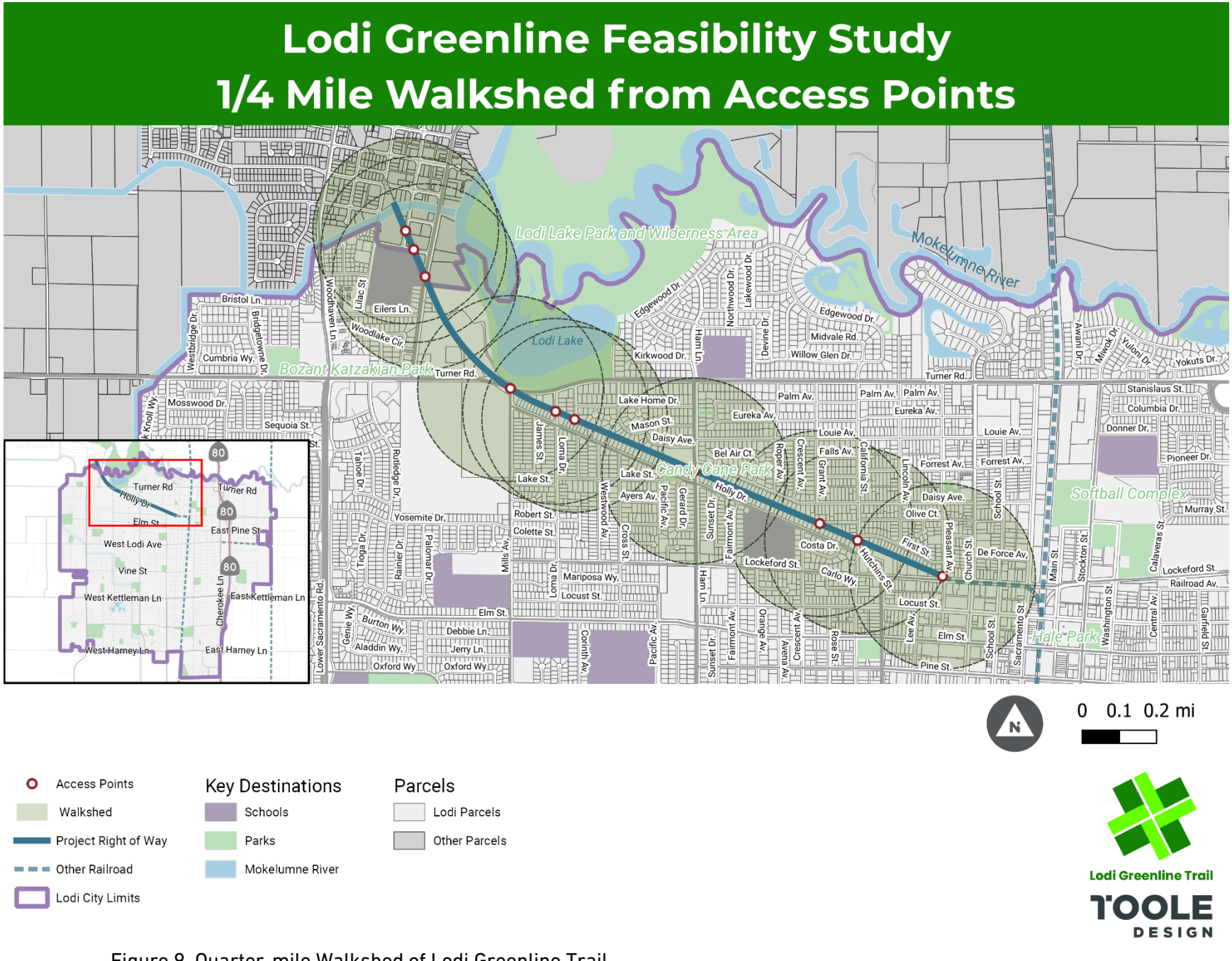


Figure 9. Quarter-mile Walkshed of Lodi Greenline Trail

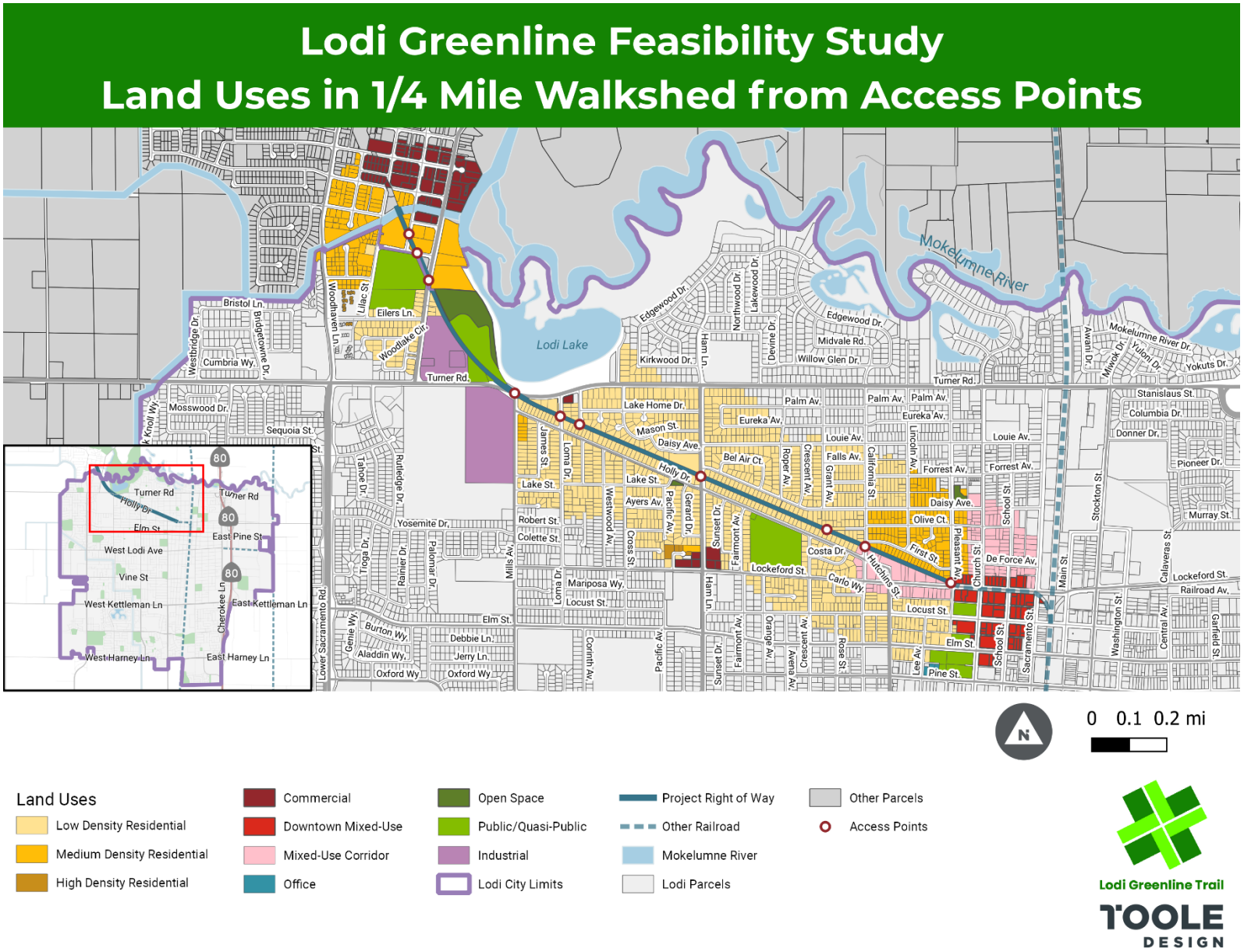


Figure 10. Quarter-mile Walkshed with Land Use

Lodi Greenline Trail

Chapter 2: Public Engagement Summary

Engagement Plan and Events

Three engagement events were planned for the project, two before the concepts were developed and one afterward. Due to the ongoing COVID-19 pandemic and limitations on in-person events, one in-person event was held, and the other two were on digital platforms. These are described below.

Social media, the project web page, and flyers were used to promote public engagement events.

At the Site Tour on July 7th, 2021, the Project Team assembled stakeholders from the City of Lodi and Bike Lodi for a walking tour of the rail corridor (Figure 11). Stakeholders noted potential challenges, opportunities, and

Figure 11. Stakeholders convene for walking tour at the Lodi Greenline Site

visions for the development of the Lodi Greenline Trail. Key takeaways from the site tour include:

- Identification of access points and crossings.
- Discussion of potential crossing issues.
- Documentation of destinations.
- Understanding the relationship between the rail corridor and adjacent properties.

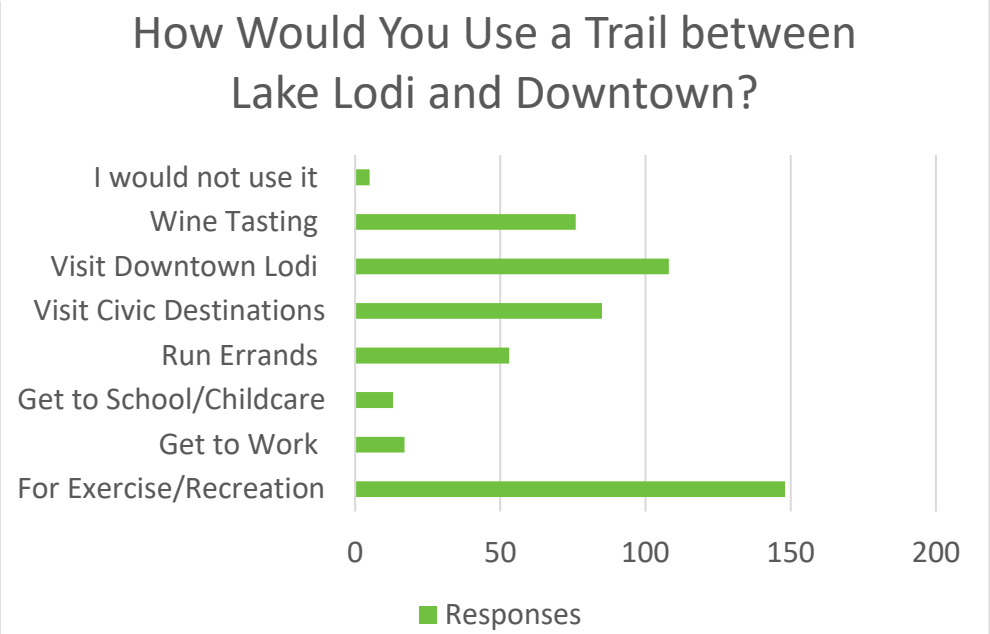
Online Survey

From October 11th to November 26th, 2021, the Project Team administered an online survey to assess interest in the project and preferred trail types and amenities. Survey outreach was conducted through mass emails and the City's social media platforms. The survey received 159 total responses, with 88% of responses coming from people residing in Lodi and Woodbridge.
The survey focused on the following themes: trail use and trail design

Input on Trail Use

Respondents indicated sometimes using trails for recreation. When asked how they would use the Lodi Greenline Trail, respondents indicated that they would use the trail for recreation, visiting Downtown Lodi and other civic destinations, and for wine tastings (Table 3). These responses indicate the potential positive impact the Lodi Greenline Trail could have on the City's economy.

Table 3. Potential use of the corridor.



Input on Trail Design

The survey asked respondents to describe the area around the rail corridor. Respondents indicated that they perceive the area to be "quiet", "quaint", "safe", and "neighborly". Respondents also pointed to potential traffic safety issues at the rail crossings, such as high vehicle speeds, lack of traffic control, and lack of safe bicycle connections.

Table 4. Preferred Trail Amenities

Amenity	Number of Responses
Shade Trees or Plantings	148
Lighting	147
Wayfinding	122
Benches/Seating	112
Art/Garden/Community Elements	109
Hydration Stations	104

Respondents were also asked about preferred amenities (Table 4) and preferred trial type (Table 5). Overall, respondents indicated a desire for a balanced trail that combined a space for safe and active mobility with seating areas, trees, plants, and art installations.

Table 5. Preferred Trail Type

Trail Type	Number of Responses
Balanced – mobility with seating areas	148
Green – plenty of trees and plants	79
Artistic – Art incorporated along corridor	70
Functional – simple and straightforward	69
Low-Tech – Soft Surface	36

Virtual Community Meeting

A virtual community meeting was held on Saturday, January 29th from 11 a.m. to 1 P.M. Fifty-three people attended the workshop, which was offered in two 45-minute sessions. Attendees indicated support for the Lodi Greenline, and offered considerations for future design phases, engagement, and policy. These themes are summarized below.

Engagement Themes

Feedback received during the Community workshop is summarized below in the following themes: Trail Design, Trail Amenities, Trail Landscaping, Trail Crossing, and Trail Safety & Security.

Trail Design

Workshop attendees expressed a desire for design consistency between the Lodi Greenline and the trails at Lodi Lake. An example includes offering mixed trail

surfaces, e.g., a soft surface trail adjacent to a hard surface. Residents indicated that the soft-surface trail is very popular among kids and dog walkers. In addition to people walking and biking, some attendees requested that horses be permitted on the Greenline.

Trail Amenities

Workshop attendees indicated a desire for the following trail amenities: lighting, seating, and wayfinding. Attendees expressed a need for pedestrian-level lighting that provide adequate lighting for the trail while keeping ambient light away from adjacent properties.

Seating was also a topic of discussion, where attendees indicated that they would prefer seating at Trail Access points and away from property lines, so that property owners are not inconvenienced by conversation happening on the trail. Finally, wayfinding was suggested as a strategy to connect people to local destinations.

Trail Landscaping

Workshop attendees expressed overwhelming support for a nature-oriented design, an extension of the Lodi Lake nature trail. Attendees expressed a desire for native plants and drought-tolerant landscaping that we reduce burden on scarce water resources and maintenance costs.

Attendees also pushed for vegetation or trees as a buffer between the Greenline and property lines. However, some residents cautioned that landscape design should consider interaction with property lines and preventing disruption to landscaping in property owner's backyards.

Trail Crossings

Workshop attendees expressed safe crossings and access as a prerequisite for the trail. Attendees pointed to existing safety issues on roadways such as Ham Lane and Turner Road related to vehicular speed. While many believed that the proposed crossing treatments may address existing safety concerns, residents expressed concerns over the Trail's proposed endpoints at Turner Road and Lockeford Street. Residents do not want a trail to lead users on an unsafe path of travel once the trail ends, instead residents would prefer safe facilities providing access to Lodi Lake and Downtown Lodi.

Trail Safety & Security

Trail safety and security was major topic of discussion during the workshop sessions, especially among homeowners living along the corridor. Safety and security concerns included crime, noise, and maintenance. To address these concerns, residents proposed CPTED methods, Crime Prevention Through Environmental Design. Such a design strategy could include placing seating at trail access points and away from property lines, seating that discourages sleeping, and barriers at access points that prevent vehicular access onto the trail while allowing access to emergency and maintenance vehicles. Landscaping should provide adequate buffer between the trail and property lines, and the trail should not allow direct sightlines into backyards.

However, residents remain skeptical that the City of Lodi and Lodi PD have the capacity to adequately address safety and maintenance issues on the Greenline. Attendees indicated that the Railroad police, which currently has enforcement jurisdiction on the corridor, is typically responsive to calls and question whether the City would have the same responsiveness.

Lodi Greenline Trail

Chapter 3. Corridor Analysis and Concept Designs

The rail corridor was evaluated to understand the physical landscape of the corridor, potential trail access points, roadway crossings, and how the Lodi Greenline Trail would integrate with the Lodi cultural and community fabric. The rail corridor constraints and opportunities, as they relate to the potential development of the Lodi Greenline Trail, in terms of trail access and crossings, are summarized below and in Figure 12.

Rail Corridor Constraints

The width of the rail corridor is approximately 60 feet throughout the entire corridor with property lines set back approximately 30 feet from the track centerline (see Figure 12).

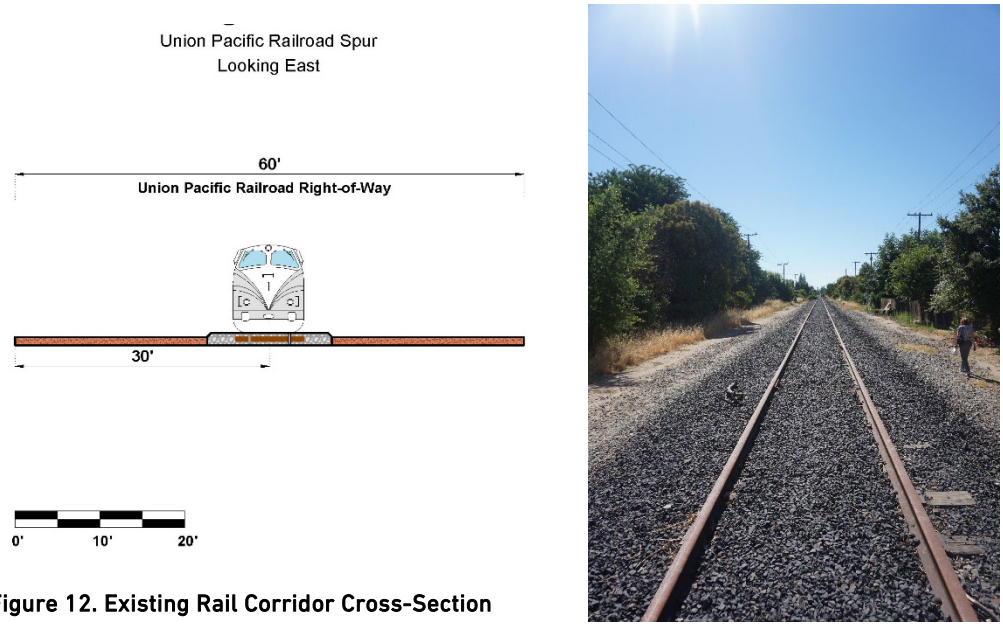


Figure 12. Existing Rail Corridor Cross-Section

Figure 13. Example of encroachments along the corridor.

Property improvements for many residences along the rail corridor, particularly between Ham Lane and California Street, encroach onto to the corridor's right-of-way, further constraining the space (see Figure 13). Robust engagement with residents along the rail corridor will be necessary to address encroachments onto the right-of-way. Finally, vegetation growing on the rail corridor will need to be removed if a trail is constructed on the right-of-way.

Rail Corridor Opportunities

The width of the rail corridor would accommodate a wide trail (12-14 feet wide) with requisite shoulders and clear zones, a vegetative buffer, and other amenities such as shade trees, benches, and wayfinding signage.

For a rail-with-trail development scenario, FHWA and Caltrans guidance recommends a setback between the track centerline and a shared-use path of at least 30 feet (FHWA, 2020; Caltrans, 2020). Thus a rail-with-trail option in this corridor would not meet these guidelines without requesting a design exception. Exceptions have been granted across the nation, indicating that rail-with-trail operations have been safely and successfully designed and constructed, depending on the operational characteristics of the corridor[8]. For example, the frequency and speed of the trains were low during General Mills' use of the corridor and would likely be low for potential future uses, given that the UPRR corridor is a spur serving one industrial property in the area. Additionally, separation between rail operations and the trail can be designed to compensate for the lack of physical space separation. In summary, with coordination and negotiation, a rail-with-trail scenario could potentially be achieved.

Access Points and Crossings

Access points and crossings are the places where the Lodi Greenline Trail will connect to neighborhoods and city resources and points of interest. Trail crossings should be safe, intuitive, and comfortable for all users. Access points should be visible to find and obvious (see Figure 14). Tables 6 and 7 below indicate the location and character of access points and roadway crossings with suggested design treatments.

Figure 14. Example of a street end along the corridor that could become an access point.

[8] FHWA. *Rails with Trails: Best Practices and Lessons Learned*. 2021.

Table 6. Potential Access Points

	Location	Characteristics AND Design Considerations
1	W Turner Road at N Mills Avenue	Major intersection, high visibility
2	Parkview Avenue	Cul-de-sac, consider wayfinding signs
3	Olive Court	Cul-de-sac, consider wayfinding signs
4	N. Pleasant Avenue at W Lockeford St	Major intersection, high visibility

Table 7. Potential Trail Crossing Locations

	Location	Characteristics AND Design Considerations
1	W Turner Road	Wide, higher volume crossing (4 travel lanes) serving Lodi Lake, General Mills site, and the Surface Water Treatment Facility. Consider curb bulb-outs to reduce crossing distances for people walking and add a bicycle and pedestrian signal phase.
2	N Loma Drive	Low volume crossing (2 travel lanes, bike lanes) serving residential land use. Consider signage alerting drivers of trail crossing, vehicle speed reduction strategies, and red curb striping prohibiting parking near the crossing to improve sight distance.
3	N Ham Lane	Higher volume crossing (4 travel lanes) serving residential land use. Consider traffic calming, a flashing-beacon or HAWK signal at the crossing, signage, and red curb striping to improve sight distance.
4	N California Street	Higher volume crossing (2 lanes with curbside parking, signed bike route) serving mixed land use. Consider signage, red curb striping to improve sight distance, and wayfinding.
5	W Lockeford Street	Higher volume crossing (4 travel lanes with curbside parking) serving commercial and residential uses.

	Location	Characteristics AND Design Considerations
		Consider providing a connection from the Lodi Greenline Trail to Downtown Lodi by implementing a road diet on W Lockeford Street, providing a signalized crossing across W Lockeford Street, converting N Pleasant Avenue from a northbound one-way to a southbound one-way, and adding wayfinding signage

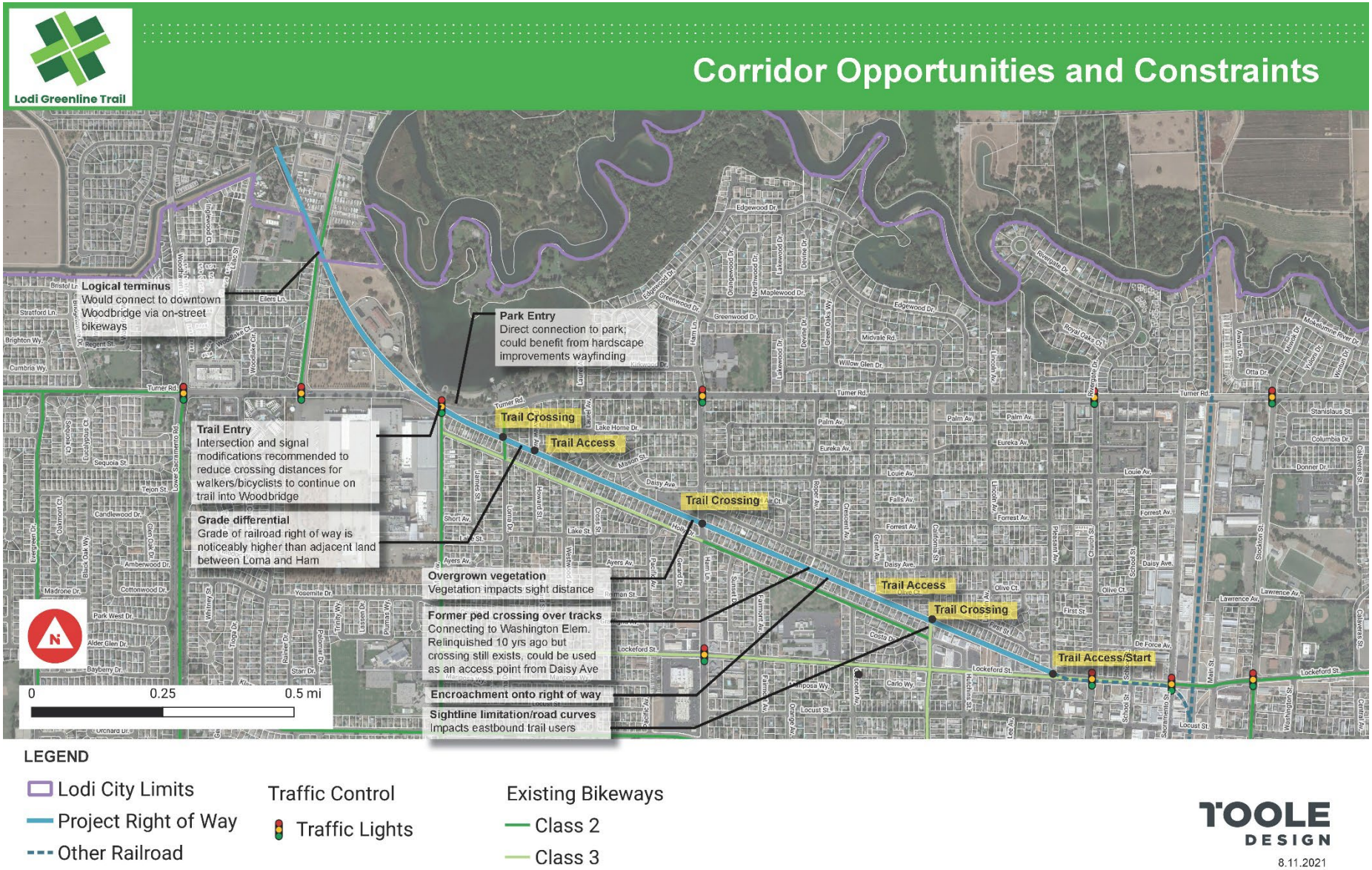


Figure 15. Railroad Corridor Constraints, Opportunities, Access, and Crossings

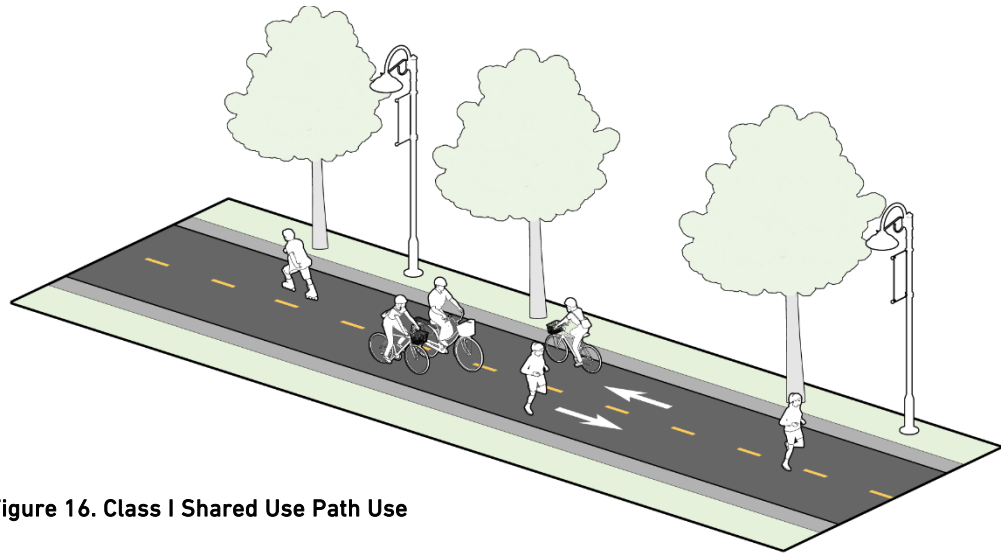


Figure 16. Class I Shared Use Path Use

Typical Cross-Section

The first step in trail design is determining a typical cross-section. The cross-section is based on relevant design standards and guidance, the type and mix of potential trail users, and the overall context.

A cross-section of 12 feet wide, with 2 foot wide clear zones on either side, is proposed for the Lodi Greenline Trail. This cross-section is consistent with guidance in the forthcoming edition of the American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*; as well as the Caltrans Guidelines for Class I trails. A consistent, 12 foot wide trail, wherever feasible, will allow for groups of trail users to more comfortably pass one other whether they are walking, running, on bikes, or using mobility devices. This cross-section in Figure 16 was tested for the two proposed design scenarios.

The two designs are evaluated in Table 8.

Alternative A. Rail to Trail

As the existing rails are located in the middle of the corridor (see Figure 17); removal of the rails allows the trail to be centered in the middle of the corridor, providing an equal buffer of 22 feet from the private properties on either side of the trail. This cross-section meets the relevant trail design guidelines. The full concept plans are found in Appendix I.

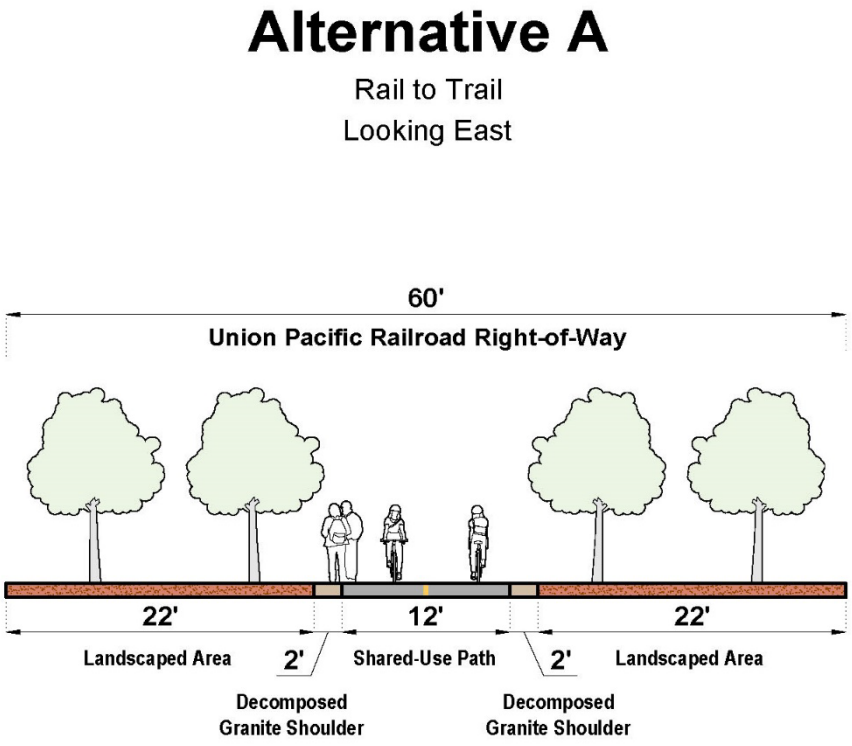


Figure 17. Cross-section for Alt. A

Alternative B. Rail-with-Trail

(Figure 18) For a rail-with-trail development scenario, FHWA and Caltrans guidance recommends a setback between the track centerline and a shared-use path of at least 30 feet (FHWA, 2020; Caltrans, 2020). The 60 foot corridor width will not accommodate this setback. The proposed cross-section narrows the trail to the minimum width recommended by the design guidelines, 10 feet, and keeps the required 2 foot shoulders/clear zones. This leaves approximately nine feet of setback from the edge of the rail (16 feet from the track centerline). The trail is proposed to be located on the north side the tracks to connect with the cut-throughs at Parkview Avenue and Olive Court. The full concept plans are found in Appendix I.

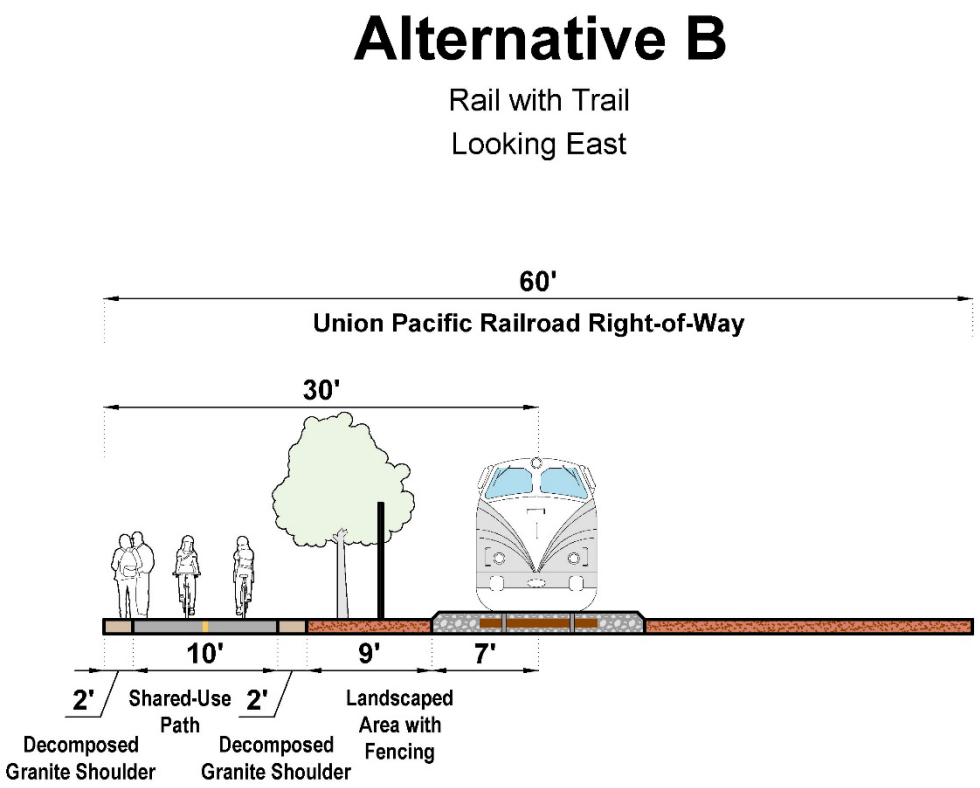


Figure 18. Cross-section for Alt. B.

Table 8. Feasibility Evaluation

Design Considerations	Alternative A. Rail to Trail	Alternative B. Rail-with-Trail
AVAILABLE SPACE		
Meets Caltrans/AASHTO trail width guidance	Yes	No
Provides ample buffers from private properties and/or railroad	Yes	No
POTENTIAL CONFLICTS AND SAFETY		
Allows for roadway crossing improvements to create safe and predictable crossings	Yes	Somewhat
CONNECTIVITY		
Connects to destinations and land uses	Yes	Yes
USER EXPERIENCE		
Allows space for amenities along corridor	Yes	Somewhat
FLEXIBILITY		
Allows for future heavy rail use	No	Yes

Design Considerations

Landscape Plantings, Ecological Design, and Sustainability

The community indicated interest in a trail with green elements such as trees and native plants. Ecological landscape design practices should be used to create a natural and sustainable trail character. These practices include the following: Shade trees and native plantings requiring minimal irrigation and can cool the area. Plantings in swales or on slopes can serve as multifunctional green infrastructure: detaining stormwater runoff or reducing erosion of the trail surface, providing habitat resources for local wildlife, and beautifying the corridor for the community. Reducing trail runoff and erosion not only benefits trail users but also mitigates impacts of the trail on adjacent ecosystems. Native groundcover plants can also reduce the need for mowing along the trail.

Figure 20. Shade trees and shrubs along a trail

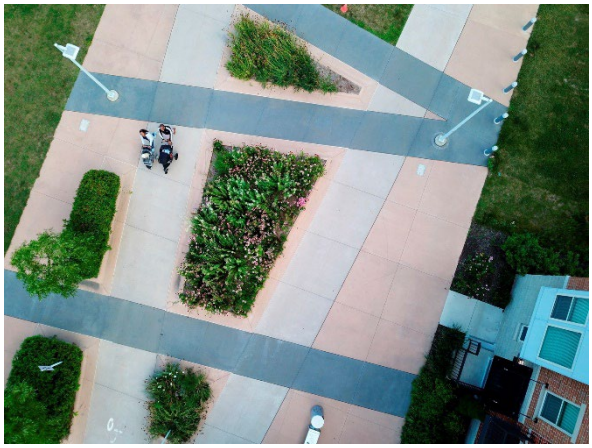


Figure 19. Ornamental plantings along a trail

Attractive plantings with colorful flowers or fall foliage can make trail crossings and access points inviting and celebratory (Figure 19 and Figure20). Removing invasive species is critical to ensure that native plantings can flourish.

Safety Countermeasures

Similar to many trails in a built out urban environment, the Lodi Greenline Trail intersects multiple streets with each one presenting unique challenges. While no two street crossings are the same, the overall goal is the same: to elevate the presence and priority of trail users, increase the measured and perceived safety of the intersections, and allow the trail to be accessed by all users regardless of age, ability, or mode of travel. The following section describes the toolbox of recommended countermeasures to be employed at each trail crossing to realize the stated goals of the project. Full conceptual designs are included in Appendix G. Context specific safety countermeasures, consistent with state and federal guidelines and best practices, are proposed at each location (Table 7), dependent on the roadway characteristics, conversations with stakeholders, and community feedback. Countermeasures include:

- Trail crossing signs
- Realigned and repainted crosswalks
- Prune/cut back vegetation
- Curb ramps
- Curb extensions
- Raised crosswalks
- Rectangular Rapid Flashing Beacons (RRFBs)
- Streetlights

These safety countermeasures are proposed in various combinations to provide safe, accessible crossings that rise to the level of need. See Appendix G for more details.

The following design treatments are proposed for the roadway crossings along the trail.

Table 9. Proposed Crossing Treatments

Location	Design Treatment
Lower Sacramento Road (See Appendix I, Plan sheet #2)	Raised crossing and curb bulb-outs
W Turner Road (See Appendix G, Plan sheet #6	Realigned crossing to reduce crossing distance, separated bicycle and pedestrian crossing, wide curb ramps
N Loma Drive (See Appendix I, Plan sheet #8	Raised crossing and curb bulb-outs
N Ham Lane (See Appendix I, Plan sheet #12	Realigned crossing, HAWK signal, signage, and red curb striping to improve sight distance.
N California Street (See Appendix I, Plan sheet #12	Raised crossing, curb bulb-outs, Rectangular Rapid Flashing Beacon
W Lockeford Street (See Appendix I, Plan sheet #119	High visibility crosswalk markings, wide curb ramps

Trail Amenities

Wayfinding signage and other amenities are proposed in various locations along the trail and at crossings, with careful consideration to not add visual clutter. The goal is to provide modern amenities and useful signage while maintaining the natural character of the trail. Proposed amenities include:

- Wayfinding signage
- Information kiosks
- Trash receptacles
- Bike racks
- Benches
- Shade trees

To avoid altering the secluded feel of the trail, these features should be consolidated as much as possible in **amenity nodes** at select intersections where more space is available. These nodes can be described as "gateways" or prominent entranceways to the trail, reflecting the character of Lodi. Amenity nodes are shown on the plans (Appendix I) and in Table 8, and more information about amenities can be found in Appendix G.

Table 10. Proposed Amenities

Location	Amenities
Throughout corridor	Benches at regular intervals Pedestrian scale lighting along the trail
Lower Sacramento Road Plan sheet #2	Shade structure, trash receptacle, bike parking, picnic table
W Turner Road Plan sheet #6	Shade structure, trash receptacle, bike parking, picnic table, wayfinding exhibit
N Loma Drive, Connector to Parkview Ave Plan sheet #8	Wayfinding exhibit at crossing Wayfinding exhibit, bike parking, bench at connector
N Ham Lane Plan sheet #12	Wayfinding exhibit
N California Street Plan sheet #12	Wayfinding exhibit

Location	Amenities
W Lockeford Street Plan sheet #119	Shade structure, trash receptacle, bike parking, picnic table, wayfinding exhibit

Management and Community Considerations

Liability

Were the trail to be developed and managed by the City, it would have the same kind of legal protection other public places like parks do, by means of the State of California's recreational immunity exceptions.[9] This means, essentially, that community members use the facilities at their own risk and the City is not obligated to keep it safe or warn about hazardous conditions when the visitor is entering the property for a recreational purpose. See Appendix D for more information about liability along rail-with-trail corridors.

Maintenance

Maintenance is an important consideration for the design, development, and ongoing management of trails. While trails tend not to need extensive or expensive maintenance, it is important for agencies to plan for and budget for care of their trails. Maintenance would be similar to that for a public park, for example trash removal, vegetation management/irrigation, graffiti removal, repairs to surfaces and site furnishings. Sometimes agencies enter into partnerships with non-profits or other groups for maintenance assistance as a way of reducing their maintenance cost burdens. The design of the trail can also be adapted for low-maintenance.

Nuisance Activities

When trails are implemented in undeveloped or underused areas, they have the potential to shift the public's estimation of the value of the area and shape what kind of activities take place. With the improvements like landscaping and lighting and the increased activity trails bring, nuisance activities like dumping, camping,

[9] CA Civil Code Division 2. Property. https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=CIV&sectionNum=846

and nuisance activities tend to decrease. Urbanist Jane Jacob's adage that "eyes on the street" increase safety has been found to be true: the more activity in an area, the less attractive it is for nuisance activities.[10]

For people who live along newly developed trails, increases in activity and the potential for noise may be unsettling. It is important to note that trail users are moving, so noise impacts are fleeting. If the City wants to discourage nighttime use, they can chose not to provide lighting along the trail and provides signs with hours of operation.

Property Values

Today many people's definition of an attractive urban neighborhood is one in which they can walk and bike easily to businesses, schools, and parks. Trails can be seen as linear parks, and as such, provide the potential for more passive recreation as well, such as bird/nature watching, a place to enjoy nice weather, or a gathering space for friends. Thus trails contribute to the livability of neighborhoods by providing opportunities for both active transportation and recreation. If they are designed to provide neighborhood access and yet maintain privacy, they have been found to increase property values.[11] In fact, the better the access to the trail, the higher the value of the property.[12]

[10] "Eyes on the Street."NPR. 9/28/2016. https://www.npr.org/2016/09/28/495615064/eyes-on-the-street-details-jane-jacobs-efforts-to-put-cities-first

[11] Measuring Trail Benefits: Property Value. Headwaters Economics. Spring 2016.http://headwaterseconomics.org/wp-content/uploads/trails-library-property-value-overview.pdf

[12] The Impact of Trails and Greenways on Property Value. National Park and Recreation Association. 4/23/20. https://www.nrpa.org/parks-recreation-magazine/2020/may/the-impact-of-trails-and-greenways-on-property-values/

Lodi Greenline Trail

Chapter 4. Trail Development Strategies

The following trail development strategies can guide the City's next steps if it chooses to proceed with development of the trail. More planning, research, and engagement should be conducted to determine the best course of action.

Appendix D provides more detail about issues of liability, safety, design specific to rails-with-trails projects. FHWA recently produced an excellent resource that provides more detailed information and examples for trail development: Rails with Trails: Best Practices and Lessons Learned (2021).

Recommended Rail-with-Trail Strategy

Corridor Preservation through Railbanking

Acquisition of rail corridors for rails-with-trails involve some unique legal issues as railroads are federally regulated. One such best practice strategy is corridor preservation through railbanking. This allows the railroad to "bank" a corridor for

future rail use if necessary. During the interim, alternative trail use is a viable option.

Railbanking is a method by which railroad corridors that would otherwise be abandoned can be preserved for future rail use through conversion to a trail in the meantime. Railbanking can be beneficial to both the City of Lodi and Union Pacific. The City is granted the right to construct a trail on the corridor, while ownership of the corridor remains with Union Pacific, leaving open the possibility that the corridor may be used for rail uses in the future.

The federal government adopted as the concept of rail banking in 1983 as part of its National Trails System Act to facilitate the conversion of rail to trail. Rail banking allows the owners of the rail corridor to convert the railroad to a pedestrian trail, while preserving ("banking") the right to re-establish a rail service along the line should that ever be needed or desired. The federal Surface Transportation Board (STB) oversees the railbanking process, which could take anywhere from six to 12 months, depending on response time of the STB. Once the entire corridor is approved by the STB, municipalities are free to begin work converting the rails to a trail on their own schedules.

Recommended Rail-to-Trail Strategy

Acquisition

There are several types of acquisition, as follows:

- Full Transfer of ownership. This provides the most flexibility for design and construction. However, railroads are rarely willing to sell their land.
- Acquisition of the railroad easement.
- Leasing or licensing. Easements and leasing accounts for 52% of Rails-with-trails. See Table 11 for more details.

Table 11. Easement Agreements

From the trail manager's perspective, an easement agreement should:	From a railroad's perspective, an easement agreement should:
1. Guarantee exclusive use. 2. Be granted in perpetuity. 3. Include air rights if there is any possible need for a structure. 4. Broadly define purpose of the easement and identify all conceivable activities, uses, invitees, and vehicular types allowed to avoid any need to renegotiate with the landowner in future. 5. State that all structures and fixtures installed as part of trail are property of grantee. 6. Limit grantor indemnification to trail-related activities only.	1. Provide conditions for termination of the easement, such as discontinuance of use of, or failure to maintain, the trail, or if the trail becomes a significant safety or liability problem. 2. Indemnify the railroad against trail-related trespasser and other trail-related activities, consistent with applicable law. 3. Place responsibility for ensuring reasonable railroad access to the tracks, and for needed trail repairs or improvements, on the public agency. 4. Outline maintenance and management procedures and responsibilities. 5. Retain approval rights for any improvement on the land subject to the easement.

Best Practices for Engaging UPRR

Engaging the Union Pacific Railroad and the property owner of the former General Mills site is an important feasibility consideration. Establishing an on-going relationship with these stakeholders will be especially critical if the City chooses to implement a Rail-with-Trail option. To this point, there has been a lack of engagement with the Union Pacific Railroad and the property owner of the former General Mills site. The following strategies are best practices that the City of Lodi can follow when engaging with Union Pacific.

Coordination

- Engage railroads early and often, with communication coming from ranking elected officials like Mayor or City Manager (Short-term). The initial communication sent during the grant application period (2019) should be followed up upon as soon as possible.
- Also engage freight customers and industrial landowners, i.e., Bond Manufacturing.

- Incentivize the railroad's approval or support by proposing infrastructure improvements, such as at crossings, and critically, financial compensation (Short-term).
- Include intermediaries in the negotiation process, such as Caltrans, who can offer incentives to railroads (long-term).

Involve Supporting Stakeholders

The current project partners (SJCOG, Bike Lodi, City of Lodi, and Caltrans) demonstrate the value in public-private partnerships to explore ideas and move the conversation forward. Continued work in this realm will be important, especially in working with UPRR. Ideas for additional stakeholders to involve include:

- Utility companies and franchises that may have an existing investment or interest in using the corridor
- State and local transportation, parks, recreation, and health departments
- Adjacent landowners
- Trail user/advocacy groups
- Community groups
- General public

Come Prepared with Feasibility Information

- Determine land ownership (if the corridor is not owned by the railroad) and likely acquisition methods (Short-term).
- Conduct stakeholder engagement to assess and understand local issues and develop community support (Short-term).
- Understand design and construction considerations, particularly for crossings (Short-term).
- If possible, develop potential trail user projections as a way of demonstrating need and support (Long-term).
- Develop funding mechanisms for acquisition, design, and development (Short-term).
- Develop a plan for conducting and funding maintenance (Short-term).

Environmental Review

It may be advisable, depending on site characteristics, to include a thorough environmental review that addresses the following considerations:

- Potential for light, glare, and noise impacts to adjacent properties.
- Aesthetic changes as a result of changing corridor use (typically an improvement, but there may be specific stakeholder concerns).
- Existing and future land use.
- Potential contaminants (residual and industrial).
- Geology, soils, and hydrology, as relevant.
- Riparian Zones and biological resources (not likely relevant to this site).
- Cultural Resources, as relevant.
- Develop a solid understanding of existing physical and environmental conditions.

Lodi Greenline Trail

Chapter 5. Funding and Next Steps

Appraised Value of Corridor

Per the appraisal, the value of the corridor is estimated at $3,850,000

See Appendix for the full appraisal documentation and review.

Opinion of Probable Constructions Costs

Alternative A: Rail-to-Trail: $5,587,000
Alternative B: Rail-with-Trail: $4,745,000

See Appendix J for the full opinions of probably construction costs.

Funding Sources

Multiple sources of funding can be combined to finance different aspects of the Lodi Greenline Trail. Dedicated, recurring funding is the most reliable way to build and maintain a trail. Table 13 outlines such funding sources offered by regional, state, and federal agencies. In addition to these sources, the City should review alternative financing structures, such as reallocating existing funding, taking out infrastructure bonds, or establishing development impact fees to determine the approach that best fits with its financial strategy and will result in a sustainable revenue source. Because this project has both transportation and recreation benefits, funding sources from both domains may be considered.

The Lodi Greenline Trail is an ideal project for several federal and state funding sources. Grant programs are available for the design work needed to develop construction ready plans and for the construction itself. Signage for trail gateways, wayfinding and destinations, and for interpretive wayside rest areas is also available and should be considered concurrently with construction funding. Programs that provide incentives for private property owners to donate land or enter into trail maintenance agreements with public agencies can also be pursued, especially where the trail would beautify or otherwise enhance the property. These incentives typically are a type of tax benefit, such as a tax credit. Techniques used include a land conservation trust or easements.

The funding sources included in this plan are current as of the plan's publication date. It is recommended that the City of Lodi update this list as part of developing a funding plan as work begins on implementing each trail segment.

Table 12. Potential Funding Sources

Program Name	Funding Source	Description
Measure K	San Joaquin Council of Governments	Measure K is a half-cent sales tax that funds transportation projects in San Joaquin County. 30% of the approximately $2.6 billion fund is dedicated to improving conditions for people using active modes.
Active Transportation Program (ATP)	California Department of Transportation (Caltrans)	The ATP consolidates existing federal and state transportation programs to fund transportation projects that increase the proportion of trips taken by biking and walking, increases safety and mobility for non-motorized users, helps achieve the State's climate change adaptation goals, and enhances public health. ATP grants are awarded every two years, with the next application period opening in 2023.

Program Name	Funding Source	Description
Recreational Trails Program (RTP)	California Department of Parks and Recreation	This annual program provides funds for recreational trails and trails-related projects. The 2021 RTP grant cycle is expected to distribute over $2.7 million to trail projects across California. Applicants are expected to provide a 12% match of the total project cost, while the RTP will fund 88%.
Sustainable Transportation Planning Grants	Caltrans	This annual program funds planning studies and design work for active transportation projects, such as trails.
Urban Greening Program	California Natural Resources Agency	This annual program funds greening and forestry projects that reduce green gas emissions, such as trails and greenways. The guidelines indicate that the application process will include an Extreme Heat Threat Assessment, cost estimates, and a site visit.
Transformative Climate Communities Program	California Strategic Growth Council	This annual program focuses on reducing greenhouse gas emissions, improving public health, and creating economic opportunity, especially in disadvantaged communities. The program funds bicycle and pedestrian facilities, such as trails.
FAST ACT-Surface Transportation Block Grant	Federal Highway Administration (FWHA)	Under the FAST Act, the Surface Transportation Program (STP) was renamed the Surface Transportation Block Grant Program. Bicycle and pedestrian activities are broadly eligible under this large and flexible program. The Surface Transportation Block Grant program (STBG) provides flexible funding that may be used by States and

Program Name	Funding Source	Description
		localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.
Congestion Mitigation and Air Quality Program	FHWA, Fast Act	This program if offered every four years to fund transportation projects or programs that will contribute to attainment or maintenance of the national ambient air quality standards (NAAQS).
Transportation Alternatives Program (TAP)	Federal Highway Administration (FWHA)	TAP funds projects that create bicycle and pedestrian facilities and convert abandoned railway corridors to pedestrian trails, among others. Caltrans controls a share of the funds to distribute locally through a competitive process. Eligible activities include pedestrian and bicycle facilities and educational programs, landscaping, rail-to-trail conversions, among others. All potential TAP projects require a sponsor for a minimum of 20% of the project costs.
Land and Water Conservation Fund (LWCF)	National Park Service/California Department of Parks and Recreation	The LWCF is a biennial opportunity to fund the acquisition or development of land to create new outdoor recreation opportunities that enhance health and wellness.

Program Name	Funding Source	Description
RAISE Transportation Discretionary Grants	US Department of Transportation	Formerly known as Better Utilizing Investments to Leverage Development (BUILD), and TIGER grants, fund a broad array of road, rail, transit, and bicycle and pedestrian projects. Projects for RAISE funding will be evaluated based on merit criteria that include safety, environmental sustainability, quality of life, economic competitiveness, state of good repair, innovation, and partnership. Applications are submitted by Caltrans annually.
Highway Safety Improvement Program (HSIP)	Federal Highway Administration (FHWA)	HSIP funds are available for safety projects aimed at reducing traffic fatalities and serious injuries. Bike lanes, roadway shoulders, crosswalks, intersection improvements, underpasses and signs are examples of eligible projects. Projects in high-crash locations are most likely to receive funding. States that have identified bicycle safety and pedestrian safety as Emphasis Areas are more likely to fund bicycle and pedestrian safety projects.
Safe Routes to Schools	Federal Highway Administration (FWHA)	This program provides funding for education, enforcement, evaluations, and infrastructure improvements near elementary and middle schools that promote students walking and cycling to school.

Additional Recommendations

Throughout the process of speaking with SJCOG and city staff, stakeholder groups and community members, and with the support of best practice research, additional recommendations were formed to develop a framework for managing the Lodi Greenline Trail as it connects to a regional system and use increases. These recommendations go beyond the realm of infrastructure to establish a forum for dialogue around trail improvements and connections moving forward. Key recommendations are provided below, to align with these time frames:

- Short term: Within the next 3 years
- Medium-Term: 3-5 years
- Long Term: 5+ years

While Bike Lodi has been an important project champion, it might be useful to form a dedicated committee to help determine next steps for trail development, programming, and management, such as the "Friends of the Lodi Greenline Trail". Members could include representatives from the community, as well as elected city officials.

» Time frame: Short-term
» Responsible parties: City of Lodi, Bike Lodi, others

Update the City of Lodi Active Transportation Plan and SJCOG's regional transportation plans to plan for and create momentum to connect residents to the trail and fully leverage the trail as an asset within a broader walking and biking network.

» Time frame: Medium-term
» Responsible parties: City of Lodi

Schedule annual coordination meetings with SJCOG staff and staff of jurisdiction with nearby/connected trails to foster coordination across municipal boundaries and work to provide a consistent experience for trail users throughout the broader regional network. Consider mapping coordination as a key aspect of this coordination.

» Time frame: Long-term
» Responsible parties: City of Lodi, "friends committee" to be determined

Conclusion

The development of rail corridors for trails – with and without rail use -- is a complex endeavor. Safety, liability, and acquisition/ easement scenarios are make or break issues. The fact that the corridor is currently not being used for rail provides a unique opportunity for the City of Lodi and SJCOG to conduct additional research, explore trail development scenarios, and build partnership with stakeholders and project champions without a sense of urgency.

This study provides the City of Lodi and SJCOG with a feasibility analysis that will allow them to identify next steps. As communication with railroad companies can take time, it is recommended that coordination with UPRR continue.