



TECHNICAL MEMORANDUM #5

Pendleton TSP Pedestrian, Bicycle, & Transit Update

Analysis of Alternative Travel Conditions – Preliminary Draft for Advisory Committee Discussion

Date: January 23, 2016 Project #:18685
To: Project Management Team (PMT)
From: Matt Hughart (KAI), Sara Muse (KAI), Stephanie Wright (N\N), Mathew Berkow (N\N)
cc: Advisory Committee (AC)

This memorandum provides an assessment of pedestrian, bicycle, and transit alternatives for consideration in the Pendleton TSP Pedestrian, Bicycle, & Transit Update. These preliminary recommendations will be reviewed with the Advisory Committee (AC) and Project Management Team (PMT). Following a review by these committees and feedback from a second set of youth workshops and a community open house, the project list will be refined and advanced to the draft TSP update.

BACKGROUND

The Pendleton TSP Pedestrian, Bicycle, & Transit Update will identify and coordinate opportunities to create seamless connections between key city attractions/destinations/schools/neighborhoods and the pedestrian, bicycle, multi-use trail, and transit infrastructure. The intent of the TSP is to identify key active transportation and transit connections to the existing system and to identify key gaps and deficiencies for future implementation.

PLAN ELEMENTS

This alternatives assessment is broken down into the following initial project elements, which will be prioritized in the final Plan:

- Projects – capital investments made to improve the existing active transportation and transit system. Examples include new shared-use paths, bicycle lanes, sidewalks, crosswalks, and transit amenities. In some cases, these projects could be implemented as pilot, or test, projects for a certain time period and then modified based on the evaluation during this period for final implementation.
- Future Studies – research and investigation to be completed after the Pendleton TSP update is completed.
- Policies – statements adopted in the Pendleton TSP that are intended to influence and guide decisions and actions related to active transportation and transit planning. As an

example, policies could relate to requirements for new developments to incorporate bicycle parking or provide pedestrian and bicycle facilities.

ALTERNATIVES EVALUATION

Projects have been developed to address the gaps and deficiencies identified in the Existing and Future Transit Operations and Transportation System Assessment Technical Memorandum. These gaps and deficiencies were identified from feedback from the general public and project advisory committees and the project team's evaluation. In many instances, multiple alternative projects for a single gap or deficiency are presented in this memorandum, along with the project team's assessment of the options. Project alternatives are based on feedback from the advisory committee and the general public, the 2007 Pendleton Transportation System Plan, and the project team's experience with developing active transportation and transit projects.

Pedestrian Improvement Alternatives

Improvements to the pedestrian network include the development of sidewalks and multi-use pathways along corridors that serve key destinations such as parks, schools, commercial areas, transit lines, and employment centers. Table 1 identifies the list of potential projects along with a summary evaluation of each. Figure 1 depicts the project location and extent, relative to the existing pedestrian-oriented infrastructure.

Bicycling Improvement Alternatives

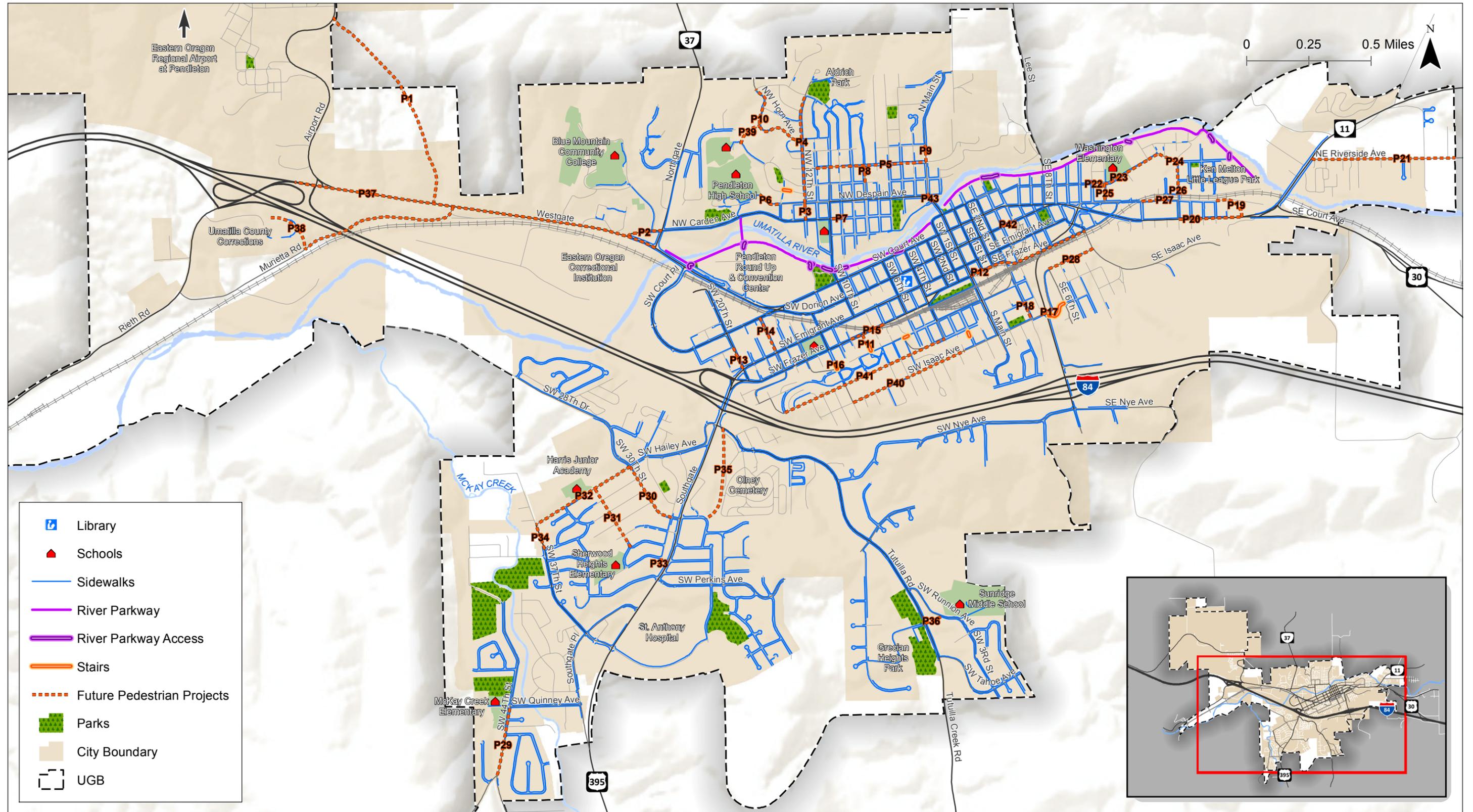
Improvements to the bicycle network include the development of formal Bicycle Routes, which are streets where low traffic volumes and speeds make for comfortable conditions for riding on the street without dedicated bicycle facilities or lanes. These designations will benefit bicyclists by providing formalized signed routes that are intended to be shared by both motorists and bicyclists. Bicycling improvements also include bike lanes on higher volume/speed roads where dedicated facilities will provide improved riding conditions for all levels of cyclists. Wayfinding is proposed to identify the network and direct bicyclists to destinations, trail entrances and transit stops. Table 2 identifies the list of potential bicycle projects along with a summary evaluation of each. Figure 2 depicts the project location and extent, relative to the existing bicycle infrastructure.

Table 1 – Future Pedestrian Project Considerations

ID*	Location	Issues	Project Description	Benefits	Cost *	Considerations
P1	Old Airport Road from Westgate to Airport Road	There are currently no pedestrian connections to the Airport or surrounding industrial lands.	Repurpose the Old Airport Road as a dedicated walking/biking route.	A multi-purpose walking/biking route on Old Airport Road would provide pedestrian access to this emerging employment center on a facility with no vehicular or truck traffic.	>\$500k	<ul style="list-style-type: none"> US 30/Westgate currently lacks sidewalks, effectively disconnecting Airport Road from the rest of the City.
P2	Carden Avenue from US 30 (Westgate) to OR 37 (Northgate)	This key access road to/from Blue Mountain Community College lacks sidewalks on the north side of the street between the community college drive and US 30.	Install a formal sidewalk on the north side of Carden Avenue between OR 37 and the Blue Mountain Community College access drive.	There is a significant amount of pedestrian travel between Pendleton High School and Blue Mountain Community College. These sidewalks will provide a formal pedestrian connection between these two educational facilities. This project will improve pedestrian MMLOS score from Fair to Good.	<\$100k	<ul style="list-style-type: none"> No significant considerations.
P3	NW 12 th Street from Carden Avenue to Despain Avenue	The majority of the NW 12 th Street corridor has sidewalks on both sides of the street. There is a gap on NW 12 th Street between Carden Avenue and Despain Avenue.	Install sidewalks on both sides of NW 12 th Street between Carden Avenue and Despain Avenue.	This segment represents a significant sidewalk gap in the NW 12 th Street corridor. The pedestrian MMLOS score will improve from Poor to Good.	\$100-\$500k	<ul style="list-style-type: none"> Installation of sidewalks would likely require some right-of-way acquisition and utility relocations. Some gaps could be filled in as part of future redevelopment of adjacent properties.
P4	NW 12 th Street from Despain Avenue to King Avenue	Several sidewalk gaps exist on NW 12 th Street from NW Despain Avenue to NW King Avenue.	Fill in the sidewalk gaps (King Avenue to Johns Avenue, Ingram Avenue to Horn Avenue, Despain Place to Despain Avenue)	NW 12 th Avenue is a significant north/south corridor serving the residential neighborhoods on the north side of town. It will ensure a continuous sidewalk network from Despain Avenue to Aldrich Park.	\$100-\$500k	<ul style="list-style-type: none"> Some segments will require right-of-way acquisition and/or utility relocation. Some gaps could be filled in as part of future redevelopment of adjacent properties.
P5	NW Furnish Avenue from NW 12 th Street to Main Street	Several sidewalk gaps exist on NW Furnish Avenue, limiting east-west pedestrian travel on the north side of town.	Fill in the sidewalk gaps.	NW Furnish Avenue is an important east-west travel way and the last continuous east-west corridor north of NW Despain Avenue.	\$100-\$500k	<ul style="list-style-type: none"> Some segments will require right-of-way acquisition and/or utility relocation. Some gaps could be filled in as part of future redevelopment of adjacent properties.
P6	NW Despain Avenue from SW 14 th Street to Pendleton High School	The existing sidewalk on the north side of the street is narrow. Cars parking along this side of the road often park on the sidewalk due to its low profile and lack of a defined curb.	Reconstruct the sidewalk and curb section.	This is a heavily traveled pedestrian route to/from Pendleton High School. It is also a heavily traveled route for vehicles during peak school time periods. A wider/safer sidewalk will provide enhanced pedestrian connection to the residential neighborhoods to the east.	\$100-\$500k	<ul style="list-style-type: none"> Sidewalk widening will likely require some right-of-way acquisition and retaining wall construction.
P7	NW Carden Avenue from NW 10 th Street to NW 9 th Street	There is an existing sidewalk gap on the north side of the street.	Fill in the sidewalk gap and reconstruct the northwest corner of the NW Carden Avenue/NW 9 th Street intersection.	This segment represents the last remaining gap in the sidewalk network along NW Carden Avenue. It will ensure a continuous east-west sidewalk environment that links the Aquatic Park, Pendleton High School, and Pioneer Park.	<\$100k	<ul style="list-style-type: none"> Redevelopment of and adjacent parcel would likely address this gap.
P8	NW 7 th Street from Ellis Avenue to Furnish Avenue	There is a sidewalk on the west side of this segment of NW 7 th Street, but no sidewalk on the east side.	Install sidewalk on the east side of the street.	Installing sidewalks on the east side of the street will fill in a significant gap on the NW 7 th Street corridor.	\$100-\$500k	<ul style="list-style-type: none"> Installation of sidewalks would require some right-of-way acquisition and utility relocations.
P9	Main Street north of Furnish Avenue	Sidewalks are incomplete on a short segment of the east side of Main Street just north of Furnish Avenue.	Install sidewalks on the east side of the street.	This segment is the last remaining sidewalk gap along Main Street. Will ensure a pedestrian MMLOS score of Good along the entire corridor.	<\$100k	<ul style="list-style-type: none"> Main Street is wide enough to accommodate the sidewalk without impacting the adjacent property owners front lawn/landscaping.
P10	NW Horn Avenue from NW 12 th Street to King Avenue	There are no sidewalks on this portion of Horn Avenue.	Install sidewalks on both sides of the street.	NW Horn Avenue provides indirect access to the West Hills Intermediate School and Pendleton High School via several unofficial pathways. A complete sidewalk network along Horn Avenue will provide enhanced pedestrian connections between the two schools and the residential neighborhoods to the northeast.	>\$500k	<ul style="list-style-type: none"> Installation of sidewalks would impact multiple home frontages and require utility relocations. Installation of sidewalks on the east/north side of Horn Avenue will require some retaining wall construction.
P11	SW 10 th Street south of Frazer Avenue	There are no pedestrian accommodations on SW 10 th Street between Frazer Avenue and the existing pedestrian stairway.	Install a sidewalk on the east side of SW 10 th Street	Would provide a walking environment for all pedestrians using the stairway that is more formally defined and separated from the adjacent parking areas.	<\$100k	<ul style="list-style-type: none"> Will require a modification of the parking lot currently serving the adjacent preschool.
P12	Frazer Avenue from Main Street to SE 10 th Street	Sidewalks are incomplete on both sides of the street.	Install sidewalks on both sides of the street.	Would complete the sidewalk network along the four key east-west arterials through downtown Pendleton. Would improve the pedestrian MMLOS score from Fair/Poor to Good.	>\$500k	<ul style="list-style-type: none"> Sidewalks on the south side of Frazer Avenue would likely require the removal of some old railroad lines.
P13	SW 20 th Street from Emigrant Avenue to Dorion Avenue	There is a sidewalk on the east side of the street, but no sidewalk on the west side. This represents a significant gap in the pedestrian network given that the segment is part of the link that connects South Pendleton to the Wal-Mart/Safeway shopping area.	Install sidewalk on the west side of the street.	Adding a sidewalk on the west side of the street will complete the pedestrian environment on SW 20 th Street from Walmart to SW Emigrant Avenue. Would improve the pedestrian MMLOS score from Poor to Good.	\$100-\$500k	<ul style="list-style-type: none"> This portion of SW 20th Street is identified for future realignment as part of the I-84/US 395 Interchange Area Management Plan.
P14	SW 17 th Avenue from Emigrant Avenue to Court Avenue	There is a sidewalk gap on the west side of 17 th Street.	Complete the sidewalk on the west side of the street between SW Court Avenue and SW Emigrant Avenue.	Completing the sidewalk between SW Court Avenue and SW Emigrant Avenue will enhance connectivity to the adjacent commercial uses.	\$100-\$500k	<ul style="list-style-type: none"> May require some utility relocation.
P15	Frazer Avenue from SW 11 th Street to SW 8 th Street	The sidewalk on the north side of Frazer Avenue is very narrow on either side of the railroad tracks and there are utility poles in the middle of the narrow sidewalk.	Replace the sidewalk with a wider more accessible version.	Provides for a safer walking environment and better defines the crossing of the railroad tracks. Would improve the pedestrian MMLOS score from Fair to Good.	\$100-\$500k	<ul style="list-style-type: none"> Will require utility relocation. Will likely require additional right-of-way from adjacent properties. Will require coordination with Union Pacific Railroad.

ID*	Location	Issues	Project Description	Benefits	Cost *	Considerations
P16	SW 13 th Street Stair Reconstruction	The existing stairway connecting the lower and upper portions of SW 13 th Street has been deemed unsafe and unfit for continued use.	Replace the existing stairway.	One of two pedestrian stair connections linking the adjacent hillside neighborhoods to Downtown Pendleton, commercial areas, and Hawthorn School. Improves the overall safety of the stairway.	>\$500k	<ul style="list-style-type: none"> No special considerations.
P17	OR 11/Issac Avenue Intersection	This is an existing uncontrolled pedestrian crossing.	Install an enhanced pedestrian crossing at the intersection when warranted/needed.	Would provide a safer pedestrian crossing opportunity on a high speed, high volume arterial and improve pedestrian access to May Park and nearby school bus stops.	\$100-\$500k	<ul style="list-style-type: none"> Would be installed when warranted by a more detailed study.
P18	SE 3 rd Street from Hailey Avenue to Isaac	There are sidewalks on the east side of the street, but no facilities on the west side of SE 3 rd Street.	Install sidewalk on the west side of the street.	This is a residential neighborhood and constructing sidewalks on both sides of the street will make the area safer for children to access May Park.	\$100-\$500k	<ul style="list-style-type: none"> Gap could be filled in a part of a future redevelopment project of the adjacent property.
P19	SE Court Place from SE 19 th Drive to SE Court Avenue/US 30.	SE Court Place currently dead ends before connecting to SE Court Avenue/US 30.	Install a multi-use pathway connection through the vacant filed separating the end of SE Court Place and SE Court Avenue/US 30.	This pedestrian/bicycle connection would help establish SE Court Place as a lower speed/lower volume east-west alternative to SE Court Avenue.	>\$500k	<ul style="list-style-type: none"> The establishment of a multi-use pathway would require right-of-way acquisition through the vacant field. There is a significant grade differential between SE Court Place and SE Court Avenue through the vacant field.
P20	Highway 30 from SE 17 th Street to SE 20 th Street/OR 11	There are sidewalks on the north side of the street, but no facilities on the south side of Highway 30.	Install sidewalk on the south side of the street.	Given this facility is an arterial and heavily utilized by vehicles, filling in the sidewalk gap will make the area more comfortable for pedestrians and provide enhanced connectivity to the businesses on the south side of the highway. This project would improve the pedestrian MMLOS score from Poor to Good conditions.	>\$500k	<ul style="list-style-type: none"> Sidewalk construction will likely require some retaining walls and utility relocations.
P21	NE Riverside Avenue to east city limits	NE Riverside Avenue currently lacks sidewalks or other pedestrian accommodations.	Install a multi-use pathway along the south side of NE Riverside Avenue.	Would provide a formal active transportation zone in an area that is underserved from a pedestrian perspective. This project would result in a pedestrian MMLOS score of Good.	>\$500k	<ul style="list-style-type: none"> Would likely require the removal on on-street parking along one side of NE Riverside Avenue. Many of the adjacent residents utilize the on-street parking.
P22	Byers Avenue from SE 11 th Street to SE 12 th Street	There are sidewalks on the north side of the street, but no facilities on the south side of Byers Avenue. This is a significant sidewalk gap that is adjacent to Washington Elementary School.	Install sidewalk on the south side of the street.	This portion of Byers Avenue one block east of Washington Elementary School. There is heavy pedestrian and vehicle traffic during peak school periods. Installing sidewalks on both sides of the street will create a safer route to school for children.	\$100-\$500k	<ul style="list-style-type: none"> Sidewalk construction may require some utility relocation.
P23	Byers Avenue from SE 12 th Street to SE 15 th Street	There are sidewalks on the north side of the street, but sidewalks are incomplete on the south side of Byers Avenue.	Install sidewalk on the south side of the street.	This portion of Byers Avenue is directly in front of Washington Elementary School. There is heavy pedestrian and vehicle traffic during peak school periods. Installing sidewalks on both sides of the street will create a safer route to school for children and better connect the school to the Ken Milton Little League Park.	\$100-\$500k	<ul style="list-style-type: none"> Sidewalk construction may require some utility relocation.
P24	Byers Avenue from SE 15 th Street to SE 17 th Street	Sidewalks are incomplete on the north side of the street and there are no facilities on the south side of the street.	Install sidewalks on both sides of the street.	This portion of Byers Avenue is one block west of Washington Elementary School. There is heavy pedestrian and vehicle traffic during peak school periods. Installing sidewalks on both sides of the street will create a safer route to school for children and better connect the school to the Ken Milton Little League Park.	\$100-\$500k	<ul style="list-style-type: none"> Will require some right-of-way acquisition and modification to fence lines on the south side of the street.
P25	SE 12 th Street from Court Avenue to Byers Avenue	There are sidewalks on the east side of SE 12 th Street, but no facilities on the west side of the street. This is a significant sidewalk gap that is adjacent to Washington Elementary School.	Install sidewalks on the west side of the street.	This portion of SE 12 th Street is one block south of Washington Elementary School. There is heavy pedestrian and vehicle traffic during peak school periods. Installing sidewalks on both sides of the street will create a safer route to school for children.	\$100-\$500k	<ul style="list-style-type: none"> Sidewalk construction may require some right-of-way acquisition and utility relocation.
P26	SE 17 th Street from Court Place to Byers Avenue	There are sidewalks on the east side of SE 17 th Street, but no facilities on the west side of the street.	Install sidewalks on the west side of the street.	SE 17 th Street is a major north-south corridor linking Court Avenue to SE Byers Avenue. It is also the only corridor that crosses the railroad tracks in this part of the City. This project would improve access to Ken Milton Little League Park.	\$100-\$500k	<ul style="list-style-type: none"> Sidewalk construction will likely require some retaining walls and utility relocations.
P27	Court Place from SE 14 th Street to SE 17 th Street	There are sidewalks on the south side of Court Place, but sidewalks are incomplete on the north side of the street.	Install sidewalk on the south side of the street.	Completing the sidewalks on the north side of the street will enhance Court Place as an alternate east-west walking corridor to Court Avenue. This project would improve access to Ken Milton Little League Park.	\$100-\$500k	<ul style="list-style-type: none"> Sidewalks could be constructed on the old parking area for the former hospital (between Court Place and the railroad tracks).
P28	SE Goodwin Avenue from SE 6 th Street to SE 10 th Street	There are multiple sidewalk gaps along the SE Goodwin Avenue corridor.	Install sidewalks on both sides of the street.	The residential neighborhood served by Goodwin Street would have better connectivity and access to Downtown Pendleton.	\$100-\$500k	<ul style="list-style-type: none"> Sidewalk construction will likely require some retaining walls and utility relocations.
P29	SW 44 th Street from Quinney Avenue to UGB (South)	There are incomplete sidewalks on both sides of the street south of SW Sheridan Avenue.	Install sidewalks on both sides of the street.	There is heavy pedestrian and vehicle traffic in this area since it is one block south of McKay Elementary School. Installing sidewalks on both sides of the street will provide a safer walking environment for parents and students living south of Sheridan Avenue. This project would improve the pedestrian MMLOS score from Poor to Good conditions.	\$100-\$500k	<ul style="list-style-type: none"> No special considerations.
P30	SW 30 th Street from SW 28 th to Hailey Avenue	There are no sidewalks on this segment of SW 30 th Street. SW 30 th Street is a major travel corridor between the adjacent residential neighborhoods and US 395.	Install sidewalks on both sides of the street.	Residents indicated SW 30 th Street is one of the primary routes children use to access Sherwood Heights Elementary and Harris Junior Academy. This project would improve the pedestrian MMLOS score from Poor to Good conditions.	>\$500k	<ul style="list-style-type: none"> Installing sidewalks will impact the front yard and landscaping of all adjacent residences. Some sidewalk construction will likely require retaining walls and utility relocations.

ID*	Location	Issues	Project Description	Benefits	Cost *	Considerations
P31	SW 31 st Street from SW Hailey Avenue to SW Marshall Avenue	SW 31 st Street is a major walking route for students attending Sherwood Heights Elementary School. It currently lacks sidewalks.	Install sidewalks on both sides of the street or install a multi-use pathway along the south side of the road.	Would provide a dedicated walking/biking lane, enhancing safe routes to school initiatives.	\$100-\$500k	<ul style="list-style-type: none"> The multi-use pathway would likely eliminate on-street parking on the south side of the road.
P32	Hailey Avenue Upgrade from SW 30 th Street to SW 37 th Street	There are no sidewalks on this portion of Hailey Avenue and it is a major north-south travel corridor west of US 395.	Install sidewalks on both sides of the street.	Residents indicated Hailey Avenue is one of the primary routes children use to access Harris Junior Academy and Sherwood Heights Elementary. This project would improve the pedestrian MMLOS score from Poor to Good conditions.	>\$500k	<ul style="list-style-type: none"> Would likely need to be accompanied by a major roadway improvement project.
P33	SW 28 th Street from SW Nye Avenue to Athletic Club	There is no formal pedestrian connection between SW Nye Avenue and the commercial uses at the US 395/SW Perkins Avenue intersection	Install a sidewalk along the west side of SW 28 th Street.	Would provide a formal pedestrian connection between the adjacent neighborhood and the US 395 corridor.	<\$100k	<ul style="list-style-type: none"> No special considerations
P34	SW 37 th Street from Jay Avenue to SW Hailey Avenue	There are no sidewalks on the existing portion of SW 37 th Street north of Jay Avenue.	Install sidewalks on the south side of the street.	SW 37 th Street provides access to the Pendleton Community Park. This project would improve the pedestrian MMLOS score from Poor to Good conditions.	\$100-\$500k	<ul style="list-style-type: none"> May require right-of-way acquisition and utility relocations.
P35	Western edge of Olney Cemetery	There is a narrow asphalt sidewalk along US 395, but no parallel north-south walking routes.	Install a walking pathway along the western edge of Olney Cemetery connecting Tutuila Road to SW 30 th Street	Would provide a parallel walking route to US 395. Portions of the US 395 corridor have a pedestrian MMLOS score of Fair.	>\$500k	<ul style="list-style-type: none"> Cemetery officials may not want pedestrian access through the cemetery. There are grade challenges connecting to SW 30th Street.
P36	Tutuila Road to Runnion Avenue	There is an unofficial pedestrian pathway connecting Tutuila Road to Runnion Avenue that students use to access Sunridge Middle School	Formalize the pathway with a multi-use trail connection	Would better connect Sunridge Middle School to Grecian Heights Park and the residential neighborhood to the west of the park.	\$100-\$500k	<ul style="list-style-type: none"> Would require right-of-way acquisition. Significant grade challenges. Would require a formal pedestrian crossing on Tutuila Road.
P37	US 30/Westgate Upgrade from Oregon 37 to I-84	There are no sidewalks on this portion of Westgate and pedestrians are forced to walk in the paved shoulder.	Install sidewalks on both sides of the street.	Installing sidewalks on this portion of Westgate was highly recommended by Pendleton residents. The speed limit along Westgate is 35 mph, and without any pedestrian facility, it is unsafe for pedestrians to walk on. This project would improve the pedestrian MMLOS score from Fair to Good conditions.	>\$500k	<ul style="list-style-type: none"> A multi-use path located on the north side of US 30 might make more sense from a constructability standpoint.
P38	Murrietta Road from US 30/Westgate to Umatilla County Corrections	There are no sidewalks on this segment of Murrietta Road.	Install sidewalks on the south side of the street.	Would provide a low volume/low speed alternative to US 30 and the I-84 interchange overpass (which lacks sidewalks). Would connect the Umatilla County Corrections facility to the rest of Pendleton.	>\$500k	<ul style="list-style-type: none"> Would have some grade challenges near US 30/Westgate.
P39	Undeveloped land between NW Horn Avenue and NW 15 th Drive	There is an unofficial pathway that has been created by kids through the undeveloped parcel between NW Horn Avenue and NW 15 th Drive.	Formalize the pathway with a multi-use trail connection	Would better connect the West Hills Intermediate School and Pendleton High School with the residential neighborhoods to the north and east.	\$100-\$500k	<ul style="list-style-type: none"> Would require right-of-way acquisition. Significant grade challenges.
P40	SW Isaac Avenue from SW 3 rd Street to SW 14 th Street	There are no sidewalks along this segment of SW Isaac Avenue and there is a major bus stop located near the Main Street/SE Isaac Avenue intersection.	Install sidewalks on the north side of the street.	Installing a complete set of sidewalks on Isaac Avenue will provide a continuous sidewalk network and make it easier/safer for kids to walk to the school bus stop near the Main Street/SE Isaac Avenue intersection. This project would improve the pedestrian MMLOS score from Poor to Good conditions.	>\$500k	<ul style="list-style-type: none"> Would require right-of-way acquisition. Significant grade challenges.
P41	SW Hailey Avenue from SW Goodwin Place to SW 5 th Street	There are no sidewalks along this segment of SW Hailey Avenue.	Install sidewalks on the south side of the street.	Installing a complete set of sidewalks on SW Hailey Avenue will provide a continuous east-west pedestrian network in this residential neighborhood. This project would improve the pedestrian MMLOS score from Poor to Good conditions.	>\$500k	<ul style="list-style-type: none"> Would require right-of-way acquisition. Significant grade challenges.
P42	SE Dorion Avenue from SE 5 th Street to SE 6 th Street	Sidewalks are limited along this portion of Dorion with large parking lot curb cuts that break up the sidewalk network.	Install sidewalks on both sides of the street.	Would provide a complete sidewalk network along the entire length of Dorion Avenue. Would improve access to nearby transit stops.	\$100-\$500k	<ul style="list-style-type: none"> Would need to be completed in cooperation with adjacent property owners to modify driveways and parking areas.
P43	Main Street/NW Despain Avenue intersection	This is a very popular and very difficult pedestrian crossing. There is limited sight distance in both directions. Drivers going from North Main onto Despain go too fast to see people crossing Despain, and those going the other direction go too fast to see people crossing Main Street in front of the Art Center.	Perform a geometric refinement study.	Would potentially "calm" the intersection through the use of narrower travel lanes, pedestrian bulb-outs, and enhanced pedestrian crossings.	<\$100k	<ul style="list-style-type: none"> No special considerations.



Future Pedestrian Project Alternatives
Pendleton, Oregon

Figure
1



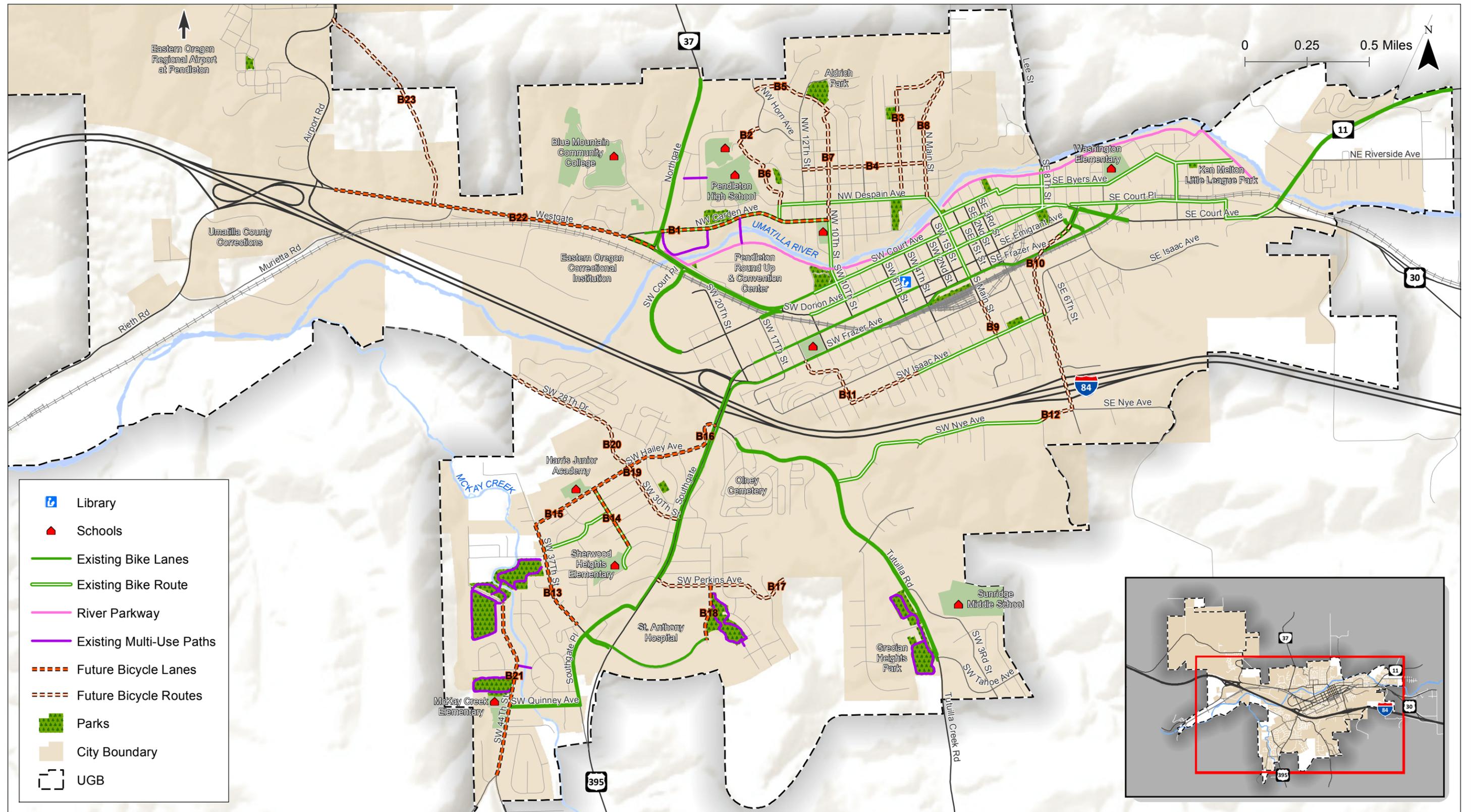
H:\proj\118685 - Pendleton TSP Update\gis\01 Future Pedestrian Projects.mxd - jsmmerville - 9:37 AM 1/25/2016

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: The City of Pendleton

Table 2 – Future Bicycle Project Considerations

ID*	Location	Issue	Project Description	Benefits	Cost Estimate*	Considerations
B1	NW Carden Avenue from 10 th Street to Highway 30 (Westgate)	This segment of NW Carden Avenue is classified as an existing bike route. Sufficient width exists to stripe in a formal set of bicycle lanes.	Install bicycle lanes on both sides of the street.	Bicycle lanes will provide a formal east-west bicycle connection along Carden Avenue, linking Blue Mountain Community College, the aquatic center, Pendleton High School, and 10 th Street. Installing bicycle lanes would also improve the bicycle LTS score from existing conditions.	<\$100k	<ul style="list-style-type: none"> Sufficient width exists to stripe in the bicycle lane. Would require the removal of on-street parking.
B2	Undeveloped land between NW Horn Avenue and NW 15 th Drive	There is an unofficial pathway that has been created by kids through the undeveloped parcel between NW Horn Avenue and NW 15 th Drive.	Formalize the pathway with a multi-use trail connection.	Would better connect the West Hills Intermediate School and Pendleton High School with the residential neighborhoods to the north and east.	\$100-\$500k	<ul style="list-style-type: none"> Would require right-of-way acquisition. Significant grade challenges.
B3	NW 4 th Street from NW Johns Lane to Despain Avenue	There are no bicycle facilities or recognition of this significant north-south corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	This segment of NW 4 th Street connects Vincent Park to Furnish Avenue and Despain Avenue. Formalizing the segment as a bicycling route will make drivers more aware of the potential for bicycle usage in this predominately residential area.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B4	NW Furnish Avenue from N Main Street to NW 12 th Avenue	There are no bicycle facilities or recognition of this significant east-west corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	NW Furnish Avenue is the last continuous east-west corridor through the residential neighborhoods of North Pendleton. Formalizing the segment as a bicycling route will make drivers more aware of the potential for bicycle usage in this predominately residential area.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B5	NW King Avenue from NW Horn Avenue to NW 10 th Street	There are no bicycle facilities or recognition of this significant east-west corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	NW King Avenue connects Horn Avenue to Aldrich Park and other significant north-south travel corridors.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B6	NW 15 th Drive from NW 14 th Street to West Hills Intermediate School	There are no formal bicycle route designations on these roadways that connect NW Despain Avenue to the West Hills Intermediate School.	Install bike route/mixed-traffic signage on both sides of the corridor.	Formalizing the segment as a bicycling route will make drivers more aware of the potential for bicycle usage in this predominately residential area.	<\$100k	<ul style="list-style-type: none"> There is already some bicycle striping on NW 14th Street.
B7	NW 10 th Street from Carden Avenue to NW King Avenue	There are no bicycle facilities or recognition of this significant north-south corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	This segment of NW 10 th Street connects Aldrich Park to NW Carden Avenue and ultimately to Roy Raley Park. Formalizing the segment as a bicycling route will make drivers more aware of the potential for bicycle usage.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B8	N Main Street from NW Despain Avenue to NW Johns lane	There are no bicycle facilities or recognition of this significant north-south corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	This segment of N. Main Street connects Downtown Pendleton to the residential neighborhoods on the north side of town.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B9	South Main Street from Frazer Avenue to Isaac Avenue	There are no bicycle facilities or recognition of this significant north-south corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	Bicycle lanes are installed on Main Street from SW Frazer Avenue to SW Goodwin Avenue. Formalizing this extended segment south of the railroad tracks to Isaac Avenue will make drivers more aware of the potential for bicycle usage.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B10	Oregon 11 from Nye Avenue to SE 10 th Street	There are no bicycle facilities on this major north-south route.	Install bike route/mixed-traffic signage on both sides of the corridor.	Would provide bicyclists with a formal connection to the north and south ends of town without having to travel through Downtown.	\$100-\$500k	<ul style="list-style-type: none"> Higher travel speeds may require a more in depth study of the appropriateness of shared-use facilities.
B11	SW 15 th Street/SW Goodwin Lane/SW 13 th Street	There are no bicycle facilities on this route connecting the south Pendleton neighborhoods to Downtown Pendleton and the commercial facilities.	Install bike route/mixed-traffic signage on both sides of the corridor.	Would better connect the south Pendleton neighborhoods to Downtown Pendleton, the commercial centers, and the Hawthorne School.	\$100-\$500k	<ul style="list-style-type: none"> No special considerations.
B12	SW Nye Avenue from SE 3 rd Street to OR 11 interchange	There is a gap in the SW Nye Avenue Bike Route designation	Install bike route/mixed traffic signage on both sides of the corridor.	Will complete the bike route designation for SW Nye Avenue	<\$100k	<ul style="list-style-type: none"> No special considerations.
B13	SW 37 th Street from Southgate Place to Hailey Avenue	There are bicycle lanes 400-feet west of the SW 37 th Street and Southgate Place intersection, but no other facilities are provided on SW 37 th Street.	Install bicycle lanes on both sides of the street consistent with the existing segment near Southgate Place.	Would provide a more formal bicycle route that bisects the southwest Pendleton neighborhoods and links US 395 to Pendleton Community Park.	\$100-\$500k	<ul style="list-style-type: none"> Would likely require the removal of on-street parking along the north/east sides of NW 37th Street.
B14	SW 31 st Street from SW Hailey Avenue to SW Marshall Avenue	SW 31 st Street is a major walking/biking route for students attending Sherwood Heights Elementary School. It currently lacks sidewalks.	Install sidewalks on both sides of the street or install a multi-use pathway along the south side of the road.	Would provide a dedicated walking/biking lane, enhancing safe routes to school initiatives for Sherwood Heights Elementary School and the Harris Junior Academy.	>\$500k	<ul style="list-style-type: none"> The multi-use pathway would likely eliminate on-street parking on the south side of the road.
B15	Hailey Avenue from SW 30 th Street to SW 37 th Street	There are no bicycle facilities on this portion of Hailey Avenue.	Install bicycle lanes on both sides of the street.	Residents indicated Hailey Avenue is one of the primary routes children use to access Harris Junior Academy, Sherwood Heights Elementary, and Pendleton Community Park.	>\$500k	<ul style="list-style-type: none"> Would likely require the removal of on-street parking.
B16	SW Hailey Avenue from US 395 to SW 30 th Street	There are no bicycle facilities on this portion of Hailey Avenue.	Install bicycle lanes on both sides of the street.	Would provide an alternate bicycle route to access the southwest Pendleton neighborhoods compared to US 395 which has a high bicycle LTS score.	<\$100k	<ul style="list-style-type: none"> The existing roadway width can accommodate bicycle lanes.
B17	SW Perkins Avenue from US 395 (Southgate) to End	There are no bicycle facilities or recognition of this significant east-west corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	This is a residential area with nearby schools and parks; therefore, installing bicycle facilities will encourage people to use alternative modes of transportation to access nearby facilities.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B18	SW 24 th Street from SW Perkins Avenue to SW 37 th Street	There are no bicycle facilities on this roadway segment	Install bicycle lanes on both sides of the street.	Would complete the bicycle route that has emerged with the development of St. Anthony Hospital. This project would also	<\$100k	<ul style="list-style-type: none"> No special considerations.

ID*	Location	Issue	Project Description	Benefits	Cost Estimate*	Considerations
				improve access to Rice-Blakey Park.		
B19	SW 30 th Street from US 395 to SW Hailey Avenue	There are no bicycle facilities or recognition of this significant east-west corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	Would provide a more formal bicycle route that bisects the southwest Pendleton neighborhoods.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B20	SW 28 th Drive from SW Hailey Avenue to City Limits	There are no bicycle facilities or recognition of this significant east-west corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	Would provide a more formal bicycle route that extends a potential bike route along SW 30 th Street.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B21	SW 44 th Street from SW Sunset Drive to Pendleton Community Park	There are no bicycle facilities or recognition of this significant north-south corridor as a potential bicycling route.	Install bike route/mixed-traffic signage on both sides of the corridor.	SW 44 th Street is an important north-south corridor that links residential neighborhoods to McKay Creek Elementary School and Pendleton Community Park. Formalizing the segment as a bicycling route will make drivers more aware of the potential for bicycle usage.	<\$100k	<ul style="list-style-type: none"> No special considerations.
B22	US 30/Westgate Upgrade from Oregon 37 to I-84	There are no bicycle facilities on this portion of Westgate except a narrow shoulder	Install a wide shoulder on both sides of the street.	Would link the western part of Pendleton from a multi-modal perspective. This project would also provide a stronger connection between the skatepark, Pendleton High School, the Round-Up Stadium, and the Umatilla County Corrections center. Installing a wider shoulder will improve bicycle LTS score from existing conditions.	>\$500k	<ul style="list-style-type: none"> A shared multi-use path located on the north side of US 30 might make more sense from a constructability standpoint.
B23	Old Airport Road from Westgate to Airport Road	There are currently no formalized bicycle connections to the Airport or surrounding industrial lands.	Repurpose the Old Airport Road as a dedicated walking/biking route.	A multi-purpose walking/biking route on Old Airport Road would provide comfortable bicycle access to this emerging employment center on a facility with no vehicular or truck traffic. It would also provide an alternative biking route to Airport Road which is characterized as an uncomfortable biking environment for most levels of cyclists.	>\$500k	<ul style="list-style-type: none"> No special considerations
B24	Tutuila Road to Runnion Avenue	There is an unofficial pedestrian pathway connecting Tutuila Road to Runnion Avenue that students use to access Sunridge Middle School	Formalize the pathway with a multi-use trail connection	Would better connect Sunridge Middle School to Grecian Heights Park and the residential neighborhood to the west of the park.	\$100-\$500k	<ul style="list-style-type: none"> Would require right-of-way acquisition. Significant grade challenges. Would require a formal pedestrian crossing on Tutuila Road.



Future Bicycle Project Alternatives
Pendleton, Oregon

Figure
2



Multi-Use Trail Alternatives

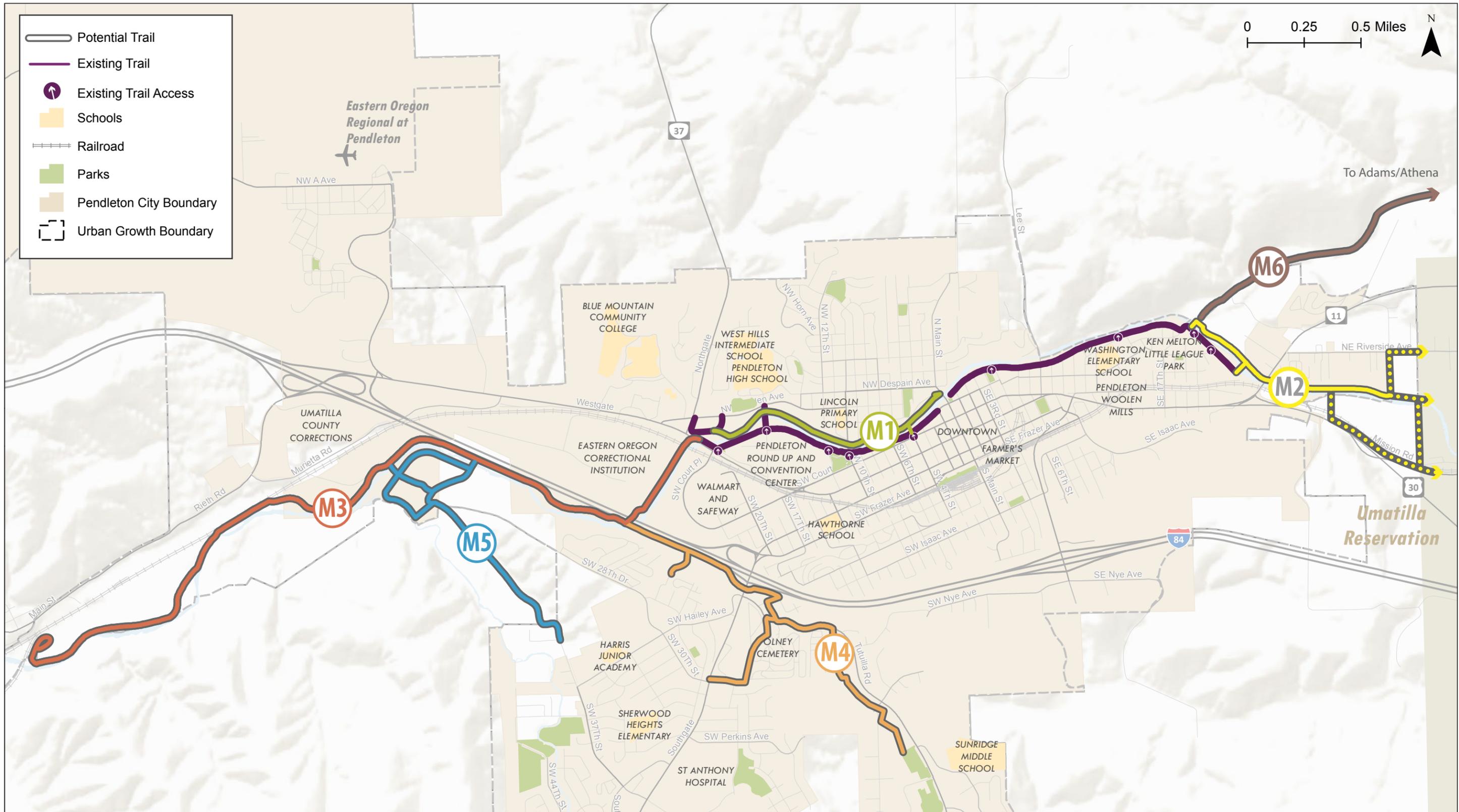
Pendleton's existing River Parkway (River Walk) is a valuable community asset that provides access to the Umatilla River and serves both recreational and utilitarian trips. There are a number of places throughout Pendleton where possibilities exist to build off of the success of the River Walk and develop additional multi-use trails to create new recreational opportunities as well as connections to community destinations. Table 3 identifies the list of potential multi-use trail expansion projects along with a summary evaluation of each. Figure 3 depicts the project location and extent, relative to the existing River Walk trail.

Detailed summary and evaluation maps for each of the six identified multi-use trails are provided in Appendix A.

.

Table 3 – Multi-Use Trail Project List

ID*	Location	Issue	Project Description	Benefits	Cost Estimate*	Considerations
M1	North side of Umatilla River	A trail exists on only one side of the Umatilla River through the center of Pendleton, limiting trail access for residences and destinations on the north side of the river.	Paved multi-use trail from Westgate to S Main Street for 1.2 miles along the north side of the Umatilla River.	Trail would provide school connections, recreational opportunities for residences on the north side of the Umatilla river, and opportunities for loop walks along both sides of the river.	TBD	<ul style="list-style-type: none"> • Most of alignment is on city-owned land • Trail could include new bridge at 4th, which would require consideration of environmental impacts • A few parcels are privately owned
M2	River Walk extension to east city limits	There is no comfortable bicycle route to connect jobs and housing on the Umatilla Indian Reservation and in Mission to the City of Pendleton.	Paved multi-use trail extending from the eastern terminus of the River Walk for 1.4 miles along an existing levee on the south side of the river to Pendleton city limits.	A River Walk extension would provide a comfortable off-street connection between Pendleton and the Umatilla Indian Reservation, with the potential for CTUIR to develop a trail on the reservation creating an off-street connection to Mission and employment at the CTUIR Governance Center.	TBD	<ul style="list-style-type: none"> • New bridge required to connect to existing River Walk; requires consideration of environmental impacts • Coordination with CTUIR required to connect with a potential alignment on the Reservation
M3	Trail along District #1 levee	An existing levee could be leveraged into a recreational asset for the community at a relatively low cost per mile.	Multi-use trail (hard surface, soft surface, or both) extending 3.9 miles from the western terminus of the River Walk along the Flood District #1 levee.	This trail would provide recreational opportunities to walk, horseback ride or mountain bike to areas west of Pendleton. Completion of the eastern portion of this trail opens up opportunities for several other potential trails in the western and southern parts of the city.	TBD	<ul style="list-style-type: none"> • Trail could be implemented in two phases • Crossing under I-84 would require excavation • City could take over levee from Umatilla County Commissioners • Extending the trail beyond the existing levee to Rieth Road would be a separate project due to additional coordination needed to cross an active rail line.
M4	Sewer easement to Grecian Heights Park	Lack of a comfortable walking and bicycling route between Southgate and destinations such as Sunridge Middle School, Grecian Heights Park and adjacent neighborhoods.	Paved multi-use trail extending 2.0 miles trail along Tutuilla Creek and then along a sewer easement out to Grecian Heights Park.	Trail would enhance walk and bicycle access to a school and Grecian Heights Park, providing an alternate route to both Southgate Road and Tutuilla Road. Trail would also create recreational opportunities and a connection to the beautiful trails in Olney Cemetery which are open to the public during the day.	TBD	<ul style="list-style-type: none"> • High-visibility crosswalk needed near Tutuilla and 2nd Street • Potential environmental impacts near the culvert under Hwy 395 • Trail would require upgrades along two private property frontages
M5	McKay Creek Drainage	Lack of access to a multi-use trail for the densely populated neighborhoods west of Hwy 395.	Paved multi-use trail extending 1.2 miles project from the Umatilla River to SW 37th Street along the McKay Creek drainage channel.	This trail would provide recreational opportunities and, with the completion of other trails, could form a comfortable alternative route to Southgate Road.	TBD	<ul style="list-style-type: none"> • Requires coordination with three property owners to ensure public access to trail
M6	Trail to Adams/Athena	Old rail right-of-way represents a potential untapped recreational opportunity.	A soft-surface multi-use trail extending along an old rail right-of-way east of Pendleton out to Adams and Athena.	This trail would create recreational opportunities walking, mountain biking, and equestrian trips of various lengths.	TBD	<ul style="list-style-type: none"> • Requires identifying all applicable property owners and establishing an old right-of-way. • New bridge is required to connect to the existing River Walk • Coordination with Umatilla County as project is outside city limits



**Multi-Use Trails Overview
Pendleton, Oregon**

**Figure
3**

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: The City of Pendleton

Transit Projects, Programs and Policies

The City of Pendleton enjoys a unique situation – the city funds demand-response transit through taxi vouchers but also has a significant amount of fixed-route service available provided by Kayak Public Transit. The city’s transportation program has grown enormously during the past several years, from 23,000 riders in 2010 to 33,000 in 2015 – a 43.5% increase in riders. At the same time, costs rose to more than \$226,000 in operations, of which the city provides \$20,000.

A transit survey revealed that a large number of Pendleton residents who do not take transit would be interested in trying service – and the types of service most popular were intercity services such as to Walla Walla or Tri-Cities, and a local Pendleton Circulator (See Appendix B). A local transit route was a recommendation from the previous TSP, and interest in such a service remains high. Given that no major increases to transit support are anticipated, Pendleton may need to transition some resources from Let’Er Bus to another type of service desired by the community. Transit service always requires a balance between providing coverage over a large service area with infrequent transit that operates door-to-door versus service focused upon transit corridors that runs more frequently but is less accessible to those with mobility limitations.

The decision on how to operate services depends on what system the city wishes to support. The city may choose to continue running demand-response combined with marketing around Kayak’s routes. Or the city may choose to portion part of its resources toward running its own local fixed route or flex route service and reduce the amount of demand-response provided. Or, the city might decide to contract 100% of service to an outside entity. While the city contracts the bulk of service to Elite Taxi, city staff are still responsible for ticket distribution, capital purchasing, capital maintenance, and reporting. Contracting out all operations to a regional transit provider would relieve the city of being in the transit business.

Transit Corridors

In terms of where transit could succeed, Figure 4 shows potential transit corridors overlaid with the transit dependency index presented in Tech Memo #3. The unique geography of Pendleton results in several barriers to fixed-route transit, which works best in a gridded network.

Figure 4 – Potential Transit Corridors

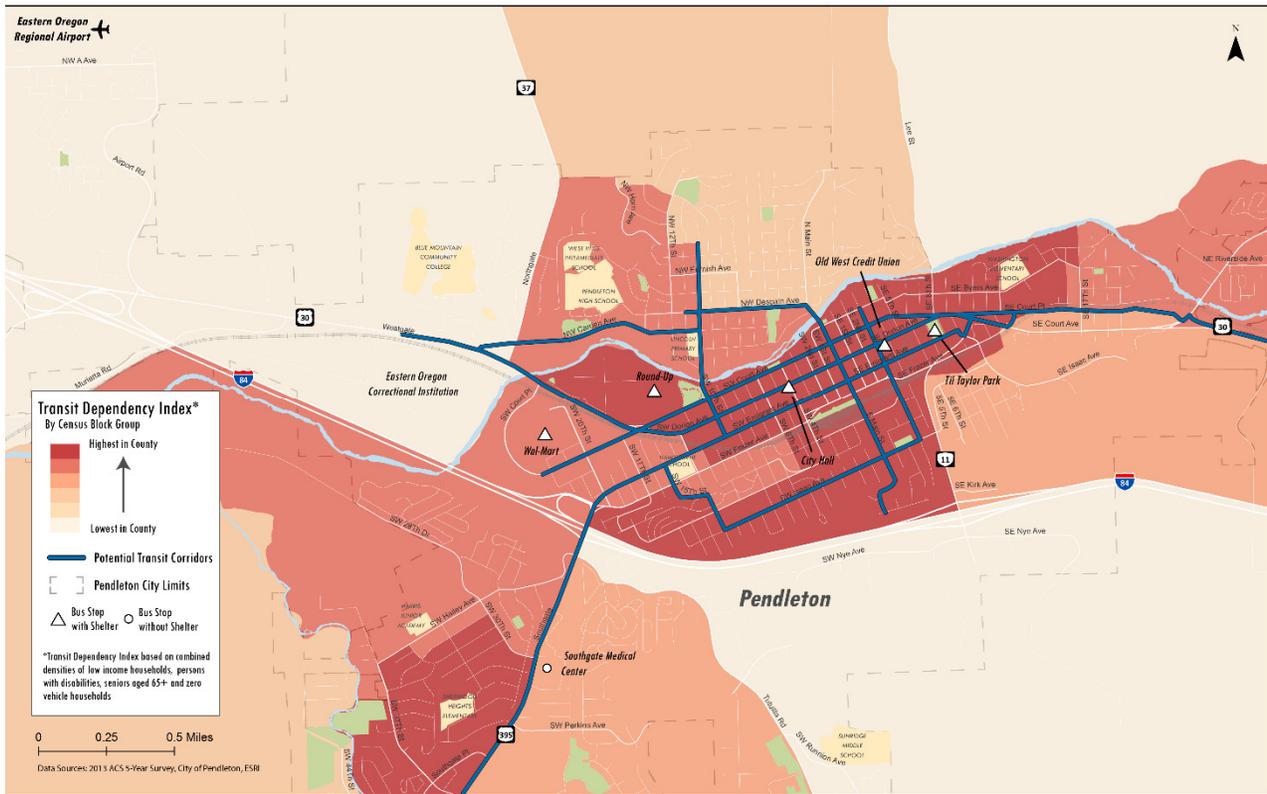


Figure 5 shows where Let'er Bus passengers board and alight today over two typical weekdays. The bulk of riders travel through the downtown core, between Court and Emigrant Avenues from 20th Street to SE 3rd Street. A large number of riders travel to BMCC, the Round Up, Walmart, Safeway, the Southgate area, and a spot along Tutuilla Road. The community survey destinations reported were overwhelmingly Safeway and Walmart (Figure 6). Given the large number of people traveling to the same destinations, fixed service to those destinations could attract more riders and be cost-effective.

Figure 5 - Let'er Bus Ons and Offs

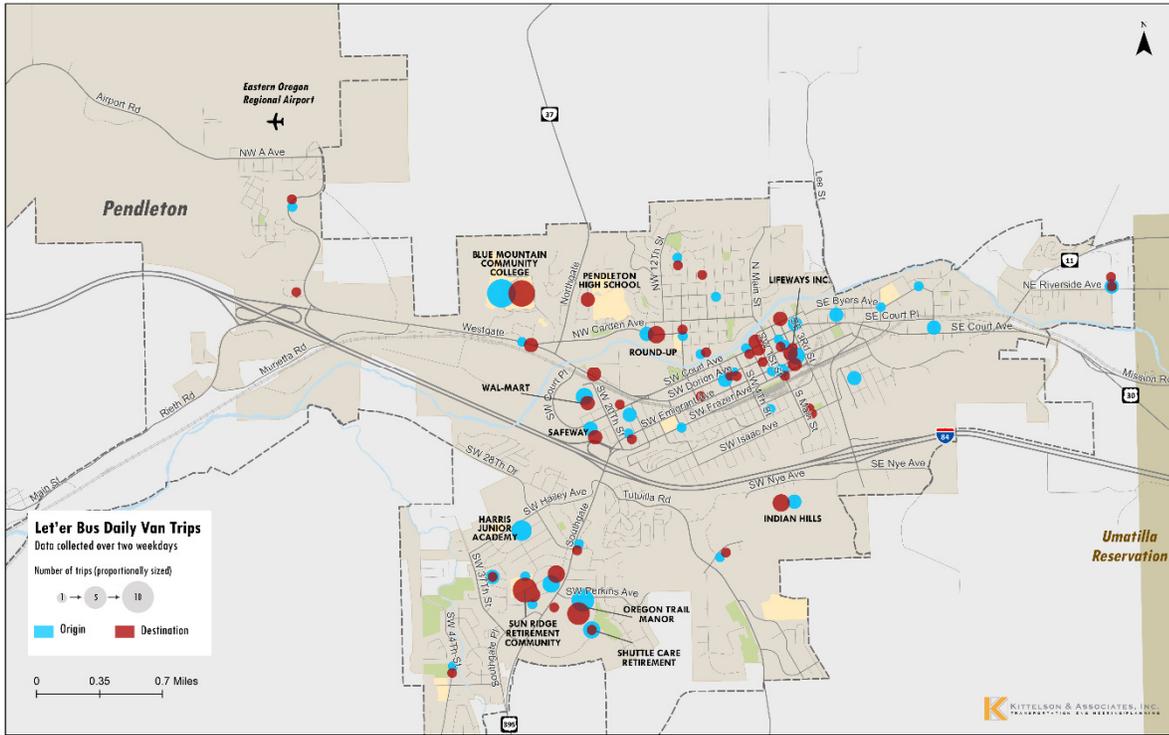
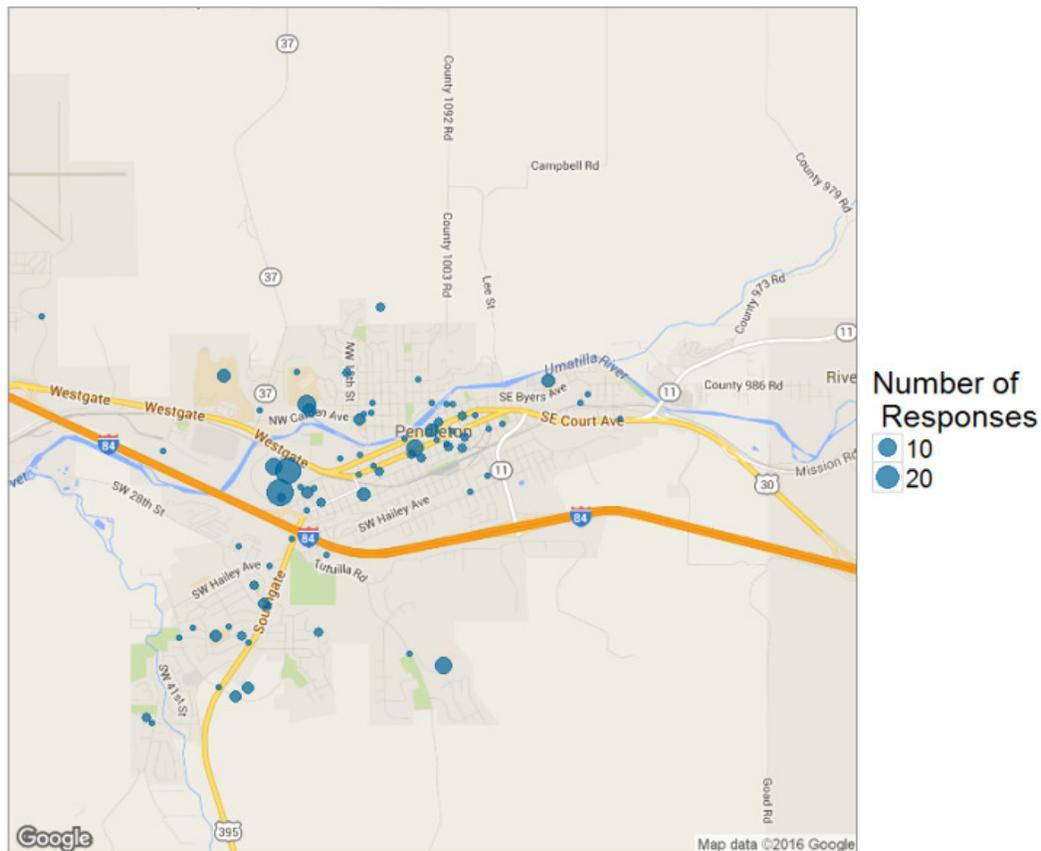


Figure 6 - Community Destinations Reported in Survey



Allowable residential densities affect the success of transit service. The denser an area, the more customers and destinations exist. Density also affects the frequency of transit service, as illustrated in Figure 7. A community could provide high frequency transit in low-density areas, but the service would not be productive. The City of Pendleton’s Community Development Department publishes a density calculator for residential land uses including minimum and maximum units per acre. The densities for R-2 and R-3 support service every 60 minutes or better, while R-1 density maximums are on the edge of the 60-minute threshold.

Figure 7 - Density and Transit Service Supported (Left) and Pendleton Residential Densities (Right)

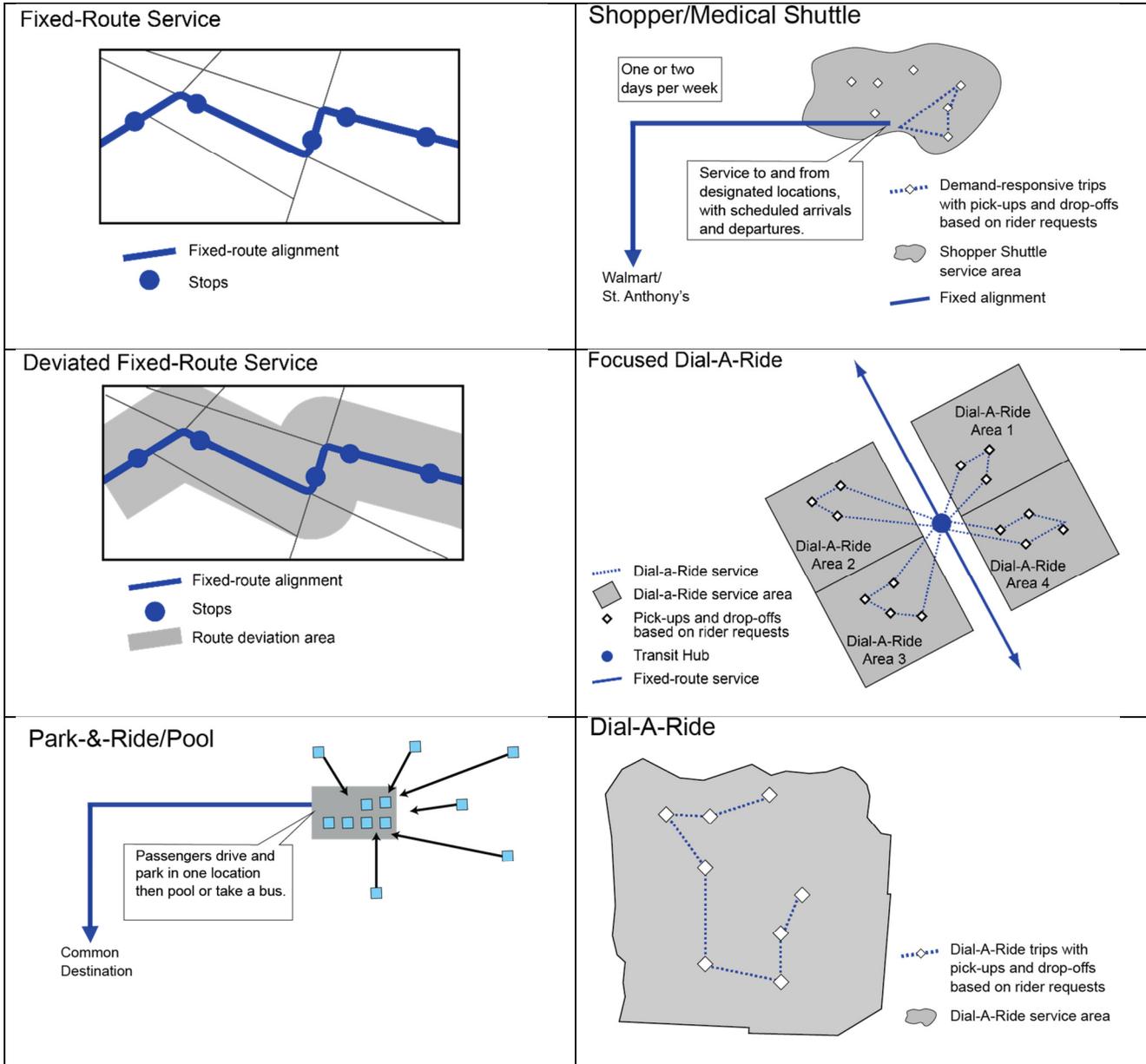


Zone	Minimum units per acre	Maximum units per acre
R-1	3.9	9
R-2	6	18
R-3	12	35

Transit Service Types

Figure 8 displays the transit service types applicable to Pendleton.

Figure 8 - Service Types



Over the long term, the city could employ one or more of the service types in Figure 8. An example of the various service options are summarized in Table 4. One word of caution regarding fixed-route service is that it incurs the need to provide ADA complementary paratransit, and with this change comes the need to create an eligibility process. ADA providers must also have policies and procedures in place to ensure no trips are denied. Thus although Elite Taxi provides accessible services in Pendleton today, going to a fully ADA paratransit system could incur significant costs. These costs depend on the

operator, the level of procedures already in place, and the hours of service fixed-route is offered. Deviated fixed-route service or flex service does not fall into the fixed-route category, therefore does not trigger an ADA requirement.

Table 4 – Descriptions and Operators

Service Type	Description	Operator
Demand-Response	Continue taxi voucher program and introduce incentives for grouping trips	Elite Taxi
Demand-Response	Contract dial-a-ride to transit operator	Kayak Public Transit
Demand-Response	Contract dial-a-ride to community non-profit (similar to NEO Transit model in Baker/Wallowa/Union Counties)	CAPECO (potential operator as part of human services coordinated plan)
Demand-Response	Create volunteer driver program for long-distance trips	Umatilla County Department of Human Services runs a volunteer program
Shuttle	Provide 4-6 daily trips from hotels through downtown to convention center (could start with major events)	Elite Taxi
Fixed-Route	Begin a local Pendleton route that fills in gaps in Kayak services and provide ADA complementary paratransit	Elite Taxi for fixed route; Kayak for ADA
Fixed-Route	Have Kayak existing routes stop at more Pendleton destinations	Kayak Public Transit
Flex Route	Begin a local Pendleton route that allows for requested deviations and circulates throughout downtown along east-west and north-south corridors	Elite Taxi or Kayak Public Transit
Park and pool / Park and ride	Designate spaces at Walmart or Main & Frazer for carpool/ park and ride parking. Beginning of city's transit center.	City of Pendleton
Shopper/ Medical shuttle	Serve different quadrants or areas of the city on different days of the week with a shuttle to Walmart/Safeway and to St. Anthony's	Elite Taxi
Shopper/ Medical shuttle	Create shuttle schedule taking people to Tri-Cities	Elite Taxi

In terms of cost estimation, current Let'er Bus costs as well as costs from a neighboring operator, Milton-Freewater, were used. Milton-Freewater runs one fixed route to College Place / Walla Walla and also operates a DAR/ADA service open to anyone over age 60 or with a certified disability. In terms of passengers per hour, Let'er Bus shows strong ridership for demand response; however, this data, as reported to NTD, also includes routes such as the Aquatic Center that are free and have very high ridership and low service hours. Therefore, Let'er Bus costs and productivity are likely lower than reported to NTD. For this analysis, however, the data in Table 5 provides a solid starting ground. A cost of \$24.78 (Let'er Bus current cost per hour) for demand-response services and \$58.08 (Milton-Freewater fixed-route cost per hour) was used in the subsequent analysis.

Table 5 - Cost Per Hour Assumptions

Transit Provider	Community Population (Census 2014)	Fixed Route	Flex Route	DAR	ADA Paratransit	Annual Passengers	Annual Revenue Hours	Passengers per Hour	Operating Costs	Operating Cost/Hour
City of Milton-Freewater	7,088	X				6,923	1,785	3.9	\$103,669	\$58.08
City of Milton-Freewater	7,088				X	6,976	3,519	2	\$92,758	\$26.36
Let'er Bus	16,935			X		33,261	9,153	3.6	\$226,847	\$24.78

Source: NTD

Table 6 - Transit Capital Projects List

ID*	Location	Issue	Project Description	Benefits	Cost Estimate*	Considerations
T1	Northwest corner of Til Taylor Park; southeast corner of Emigrant Avenue and SE 3 rd or 2 nd ; south side of City Hall parking lot; southeast corner of Dorion Avenue and SW 10 th Street; Southgate Medical Center	Circuitous existing downtown routing to serve bus shelters (triangles). 	Install bus shelters at locations described.	Kayak routes will no longer have to make circuitous routing through downtown to serve shelters. This produces travel time savings and makes routes more legible to customers.	\$2,000-\$10,000 capital plus maintenance	<ul style="list-style-type: none"> Additional city maintenance would be needed Existing shelters were purchased with ARRA – funding may not be readily available for new shelters
T2	Walmart Transit Center	Park and ride and park and pool is implicitly allowed at Walmart but not officially.	Install signage stating that parking allowed for park and ride or park and pool. Publish brochure promoting service. Install additional shelters, landscaping, bicycle parking, and other amenities as described in Appendix C.	Those whose schedules align with Kayak services can take the bus to work or school. By providing secure park and ride / park and pool spaces, the city can use underutilized parking.	Signage: \$0.75-\$2.75 per square foot Shelters: \$2,000-\$10,000 Trees: TBD Bike rack: \$660 ¹ Bike lockers: \$2,090 ² Lighting: \$300-\$13,900 (depends on fixture type and utilities) ³ Sidewalk/landscaping modifications for bus stops	<ul style="list-style-type: none"> Paves the way for a shared parking ordinance Need to minimize disruption on Walmart lot during Roundup, when RVs park on site. The current bus turnaround on 20th Avenue by Walmart is technically illegal and a transit center design includes that illegal turn.
T3	Main & Frazer Transit Center	Park and ride and park and pool is implicitly allowed at Walmart but not officially.	Install signage stating that parking allowed for park and ride or park and pool. Publish brochure promoting service. Install additional shelters, landscaping, bicycle parking, and other amenities as described in Appendix C.	Those whose schedules align with Kayak services can take the bus to work or school. By providing secure park and ride / park and pool spaces, the city can use underutilized parking.	See T2	<ul style="list-style-type: none"> Paves the way for a shared parking ordinance Potential development at the site at the southeast corner of Main and Frazer Streets must be considered when moving forward with infrastructure investments into a transit center.
T4	None	The current Let'er Bus program has more demand than funding; about two months' worth of trips are turned away each year because the city has run out of funding.	Purchase scheduling software and require contractor to group trips to accommodate more customers. Evaluate trip times and determine if current service hours (22 hours per day on Elite	Serve more people with the same resources. Acquire data to understand system usage and how to modify service to better meet demand.	Basic scheduling software includes RouteMatch, Ecolane, or Schedule View.	<ul style="list-style-type: none"> Scheduling programs have various strengths; need to pick the one most suitable to Pendleton.

¹ http://www.pedbikeinfo.org/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf

² http://www.pedbikeinfo.org/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf

³ http://www.pedbikeinfo.org/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf

			Transit) are warranted.		Schedule View is on the low end of the price spectrum at \$1200 capita purchase and no maintenance fee.	
T5	Til Taylor Park bus stop (southeast corner)	No curb ramps exist to access the current stop	Prioritize ADA-compliant ramps at this location as funding is available, given that this stop serves a significant number of riders per day as observed through fieldwork.	Curb ramps assist everyone – including older adults, people with strollers, or people with disabilities – navigate the community.	\$4,000-\$15,000 per ramp depending upon utilities and drainage ⁴	

Table 7 - Transit Programs, Policies, and Coordination List

ID*	Location	Issue	Project Description	Benefits	Cost Estimate*	Considerations
T6	None	Kayak service routing is circuitous and difficult to understand; however, a fairly high level of service is provided to key destinations in downtown Pendleton (see Figure 12).	Ride all routes and create a system map and brochure geared toward Pendleton residents. Keep up to date on service changes.	Information is often the biggest barrier to using a service. Information tailored to Pendleton residents can overcome this barrier.	Staff time to ride routes. Cost to create maps. Printing cost typically 40 cents per map depending on quantity. ⁵	<ul style="list-style-type: none"> Need to keep up to date with any Kayak service changes City has no control over Kayak service quality
T7	None	Over time, the city has added more programs to handle demand. This resulted in several programs that are funded and operated similarly but are administered separately.	Consolidate Let'er Bus programs: Daily Van, senior and disabled taxi, Elite Transit. Create a registration system to track ridership. Consider trip number limits or fares by distance, to control demand and ensure everyone has access to the service.	One transit program allows for better understanding of system costs and ridership; reporting; and utilization. For example, Daily Van boarding and alightings are not recorded, whereas Elite Transit data is recorded.	Staff time	
T8	None	Pendleton includes several major employers and trip generators. The state's Transportation Options plan is geared toward getting people aware of alternate transportation options.	As part of the state's Transportation Options implementation project, determine status of a TO coordinator for the Pendleton area; have that person work to implement vanpools, promote transit service, work with businesses and employers, etc.	In small communities, sometimes ridepool and vanpool are the most attractive options.	Staff time	
T9	None	Kayak serves a number of Pendleton destinations (Southgate medical complex, BMCC, Airport) as "flag" stops meaning the bus only goes there if a passenger requires a drop-off.	Work with Kayak to convert flag stops to set stops and pair with publicity around Pendleton.	Schedules should already accommodate flags, thus this action should not incur operating expenses for Kayak. Make more use of existing services by getting riders onto buses already serving major Pendleton destinations.	Cost neutral as this does not require Kayak to run any additional operating hours; may require nominal funding for coordination	
T10	None	Many stakeholders and community residents are interested in linking the hotels just south of I-84 with downtown and the Convention Center.	As BID formation continues, work with hotels, convention center, and business leaders to evaluate feasibility for a downtown shuttle.	Shuttles reduce the amount of people trying to drive and park in downtown.	Staff time	<ul style="list-style-type: none"> The hotels already run shuttles. Ideally these shuttles become also open to the general public, but this may present challenges in terms of funding and operations.
T11	None	Numerous transportation providers serve the Pendleton area, including public and private operators (Kayak, CAPECO, Safe T Transport, Clearview Mediation, Mid-Columbia Bus Company, Paul's Medical Taxi, hotel shuttles, etc.) but coordination between providers has not been present.	Umatilla County has been exploring hiring a mobility manager for several years. Hire a mobility manager at a regional agency or at the county to support transportation marketing and information, service coordination, and service promotion.	Especially in rural areas, mobility managers provide both a personalized touch as well as transportation expertise to make sure that people are aware of transportation options available. Often times a mobility manager engages in travel training, outreach events, and trip planning.	A typical mobility management grant covers a person's salary, ranging from \$40,000-\$60,000 depending on the market. This could be funded through 5310.	

⁴ Based on data from the City of Portland

⁵ Based upon data from Cascades East Transit, who used Connexion Printing using 18" x 20" maps printed in color. CET ordered 5,000 maps at a cost of \$2,049.50 total.

Table 8 - Transit Service Options

ID*	Location	Issue	Project Description	Benefits	Cost Estimate*	Considerations
T12	Throughout city, see Figure 11.	A local Pendleton circulator has been of interest since the previous TSP. Allowable densities in the city support transit service.	Create fixed-route transit route using one of Pendleton's buses and using Kayak for east-west service. This allows Pendleton buses to serve the area north of downtown, downtown, Walmart/ Safeway, and the Southgate area every 60 minutes seven days per week. Kayak's services would run as they do today, but all current flag stops would become set stops. Provide ADA paratransit service ¼-mile around fixed-route.	This option joins forces with Kayak routes and supplements its service with north-south transit, which is currently lacking in the Kayak network. Due to the high demand at Southgate, both Kayak and Pendleton would serve that area.	Operating: \$346,868 Capital: \$80,000-\$100,000 per vehicle	<ul style="list-style-type: none"> The ADA paratransit requirement would mean another vehicle or two dedicated to ADA; in addition, the city would need policies/procedures in place to ensure eligibility processes. This avoids duplicating service by building upon what Kayak already provides.
T13	Throughout city, see Figure 12.	A local Pendleton circulator has been of interest since the previous TSP. Allowable densities in the city support transit service.	Create city-run fixed route network using two of Pendleton's buses serving east-west and north-south corridors. Maintain taxi voucher program only for those who meet ADA requirements. This service would require two vehicles – east-west service every hour and north-south service every 90 minutes.	This option provides a local counterpart to Kayak services.	Operating: \$693,736 Capital: \$80,000-\$100,000 per vehicle	<ul style="list-style-type: none"> The ADA paratransit requirement would mean another vehicle or two dedicated to ADA; in addition, the city would need policies/procedures in place to ensure eligibility processes.
T14	Throughout city, see Figure 12 and Table 9	A local Pendleton circulator has been of interest since the previous TSP. Allowable densities in the city support transit service.	Implement either T11 or T13 but make city service flexible, meaning drivers can deviate a certain distance off-route to serve pick-ups requested in advance. This would cover the city's ADA requirement.	This option does not require ADA paratransit because it does not operate as a fixed-route	Operating: \$243,123-\$486,246 Capital: \$80,000-\$100,000 per vehicle	<ul style="list-style-type: none"> The operator would still continue to have to dispatch and schedule trips for those who cannot access the fixed route.
T15	Pendleton to Tri-Cities / Walla Walla	Many survey respondents stated they would use transit to travel to intercity locations.	Create an intercity weekend shuttle using Pendleton vans to Tri-Cities, Walla Walla, or other major regional destinations.	As trips become longer, people are willing to sacrifice some level of convenience to take transit and avoid driving a car or have time to do something else during the ride to a regional destination.	Varies	

Figure 9- Transit Project Map

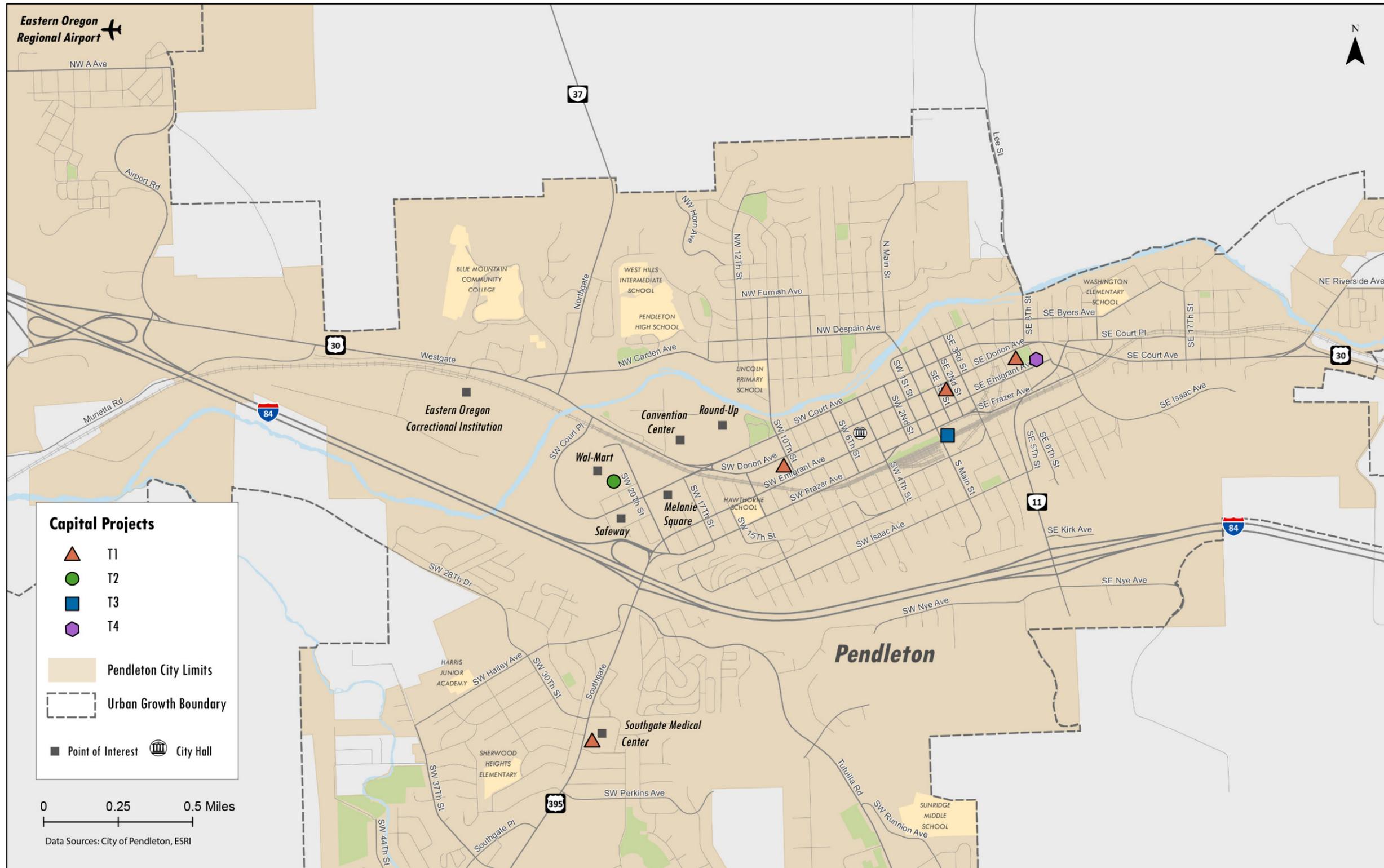


Figure 10 - Morning Service Departing City Hall

AM		
WB	City Hall Stop	EB
	4:51 AM (Walla Walla)	→
	5:15 AM (La Grande)	→
←	5:47 AM (Hermiston)	
←	6:08 AM (Pilot Rock)	
	6:57 AM (Mission)	→
←	8:39 AM (Hermiston)	
	8:41 AM (Walla Walla)	
	9:27 AM (Mission)	→
	9:32 AM (La Grande)	→
←	10:29 AM (Pilot Rock)	
	11:14 AM (Tutuilla)	→
	11:43 AM (Mission)	→

Note – does not include arriving buses ending their route in Pendleton.

Table 9 - Cost of One-Bus Pendleton System

Weekday			Weekend				Total			
Service Hours	Frequency	Annual Hours	Service Hours	Frequency	Hours per Day	Annual Hours	Total Hours	Fixed Route Cost	ADA Cost	Total Operating Cost
6 am – 7 pm	60	13	3,250	9 am – 6 pm	120	9	936	4,186	\$103,745	\$346,868

Figure 11- Potential Fixed-route Network Using One Bus (City of Pendleton) Plus Kayak

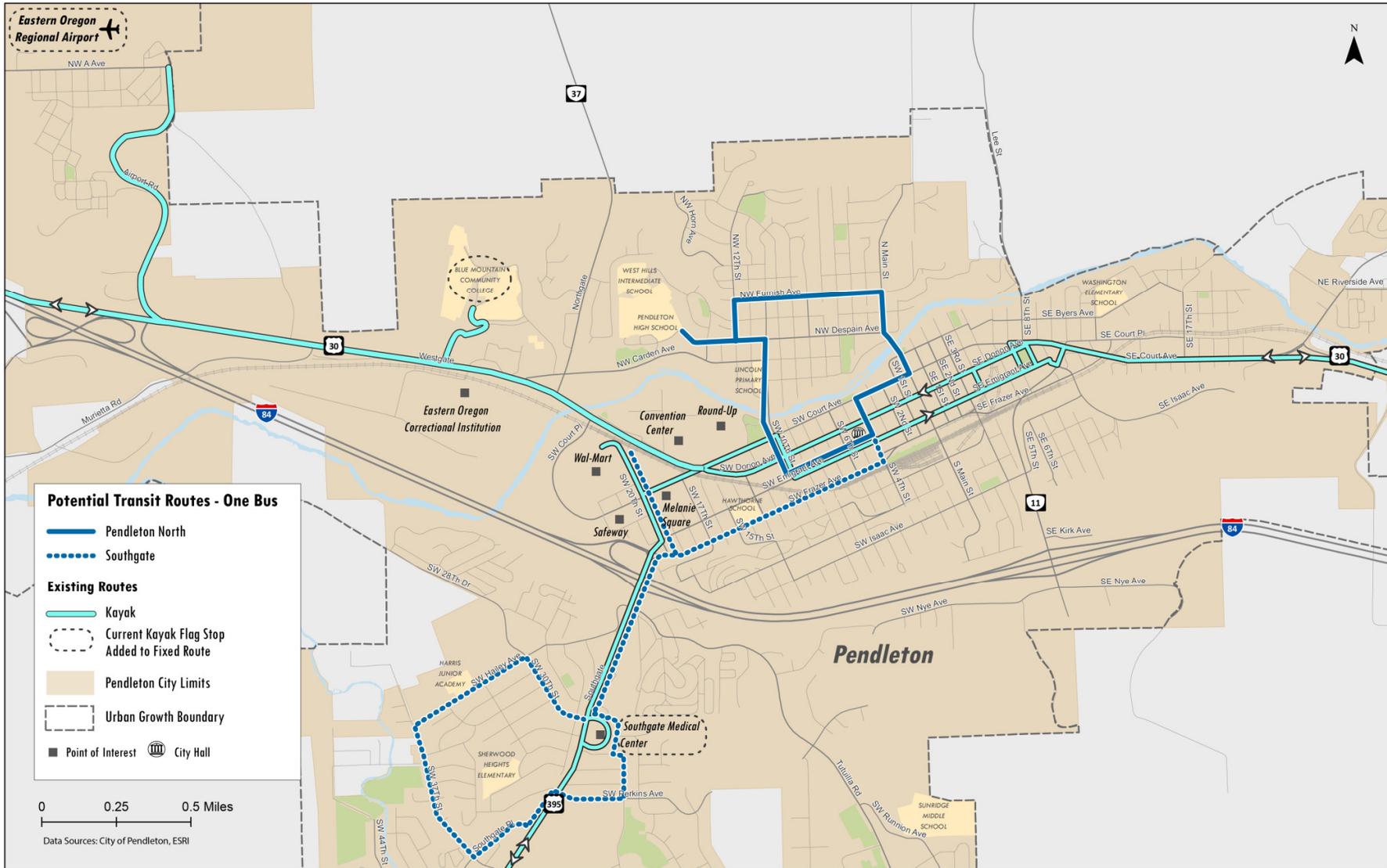
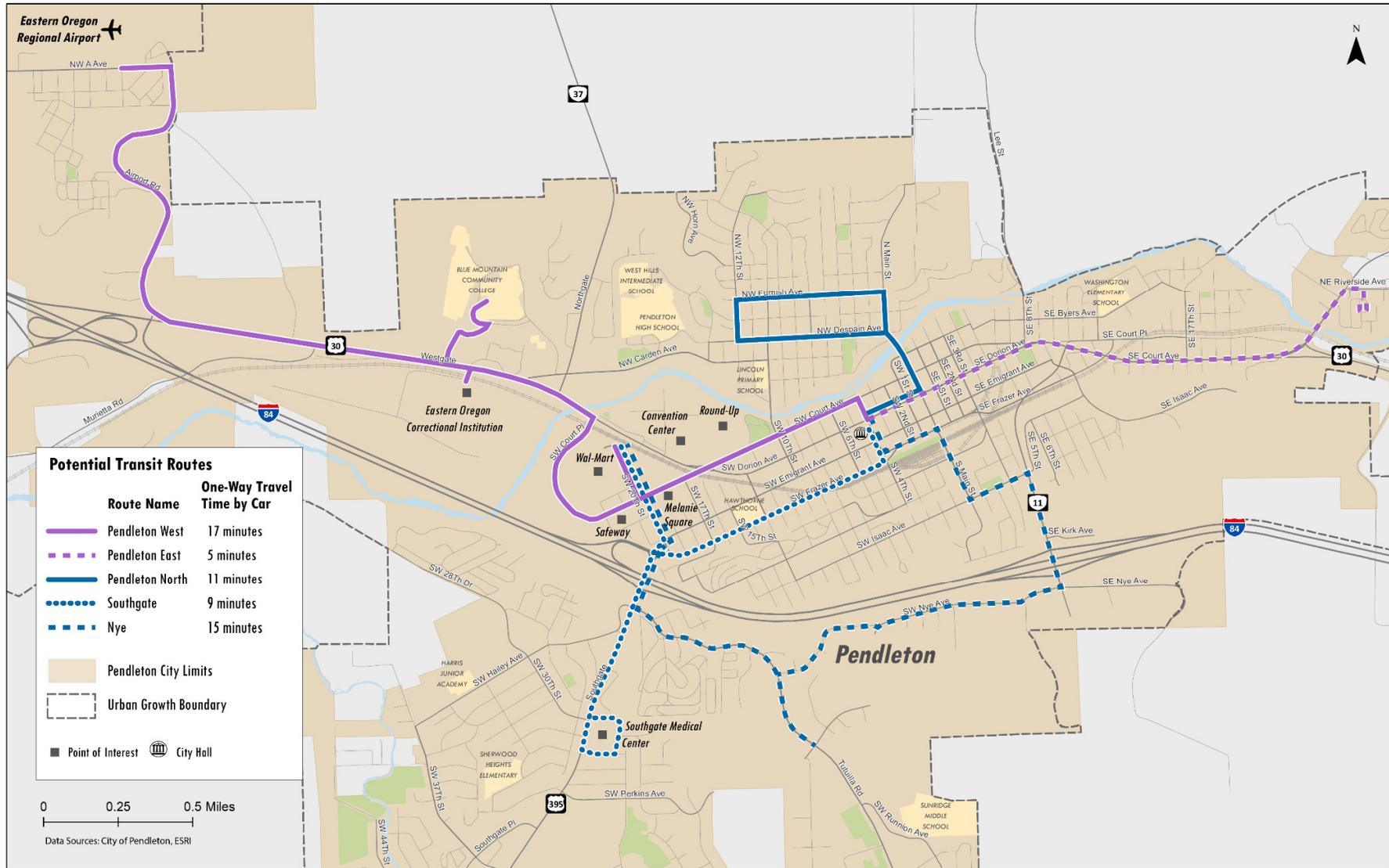


Figure 12 - Potential Fixed-Route Network Using Two City of Pendleton Buses



Appendix A Detailed Multi-Use Trail Maps

NORTH SIDE OF UMATILLA RIVER

EXTENT

From Westgate to S Main Street

LENGTH

1.2 miles

DESTINATIONS

- Pendleton High School
- Aquatic Center
- Pioneer Park
- Pendleton Center for the Arts
- Rudy Rada Skatepark

POTENTIAL BENEFIT

- Connections to schools.
- Recreational opportunities for residences on north side of river.
- Opportunities for loop walks along both sides of the river.

OPPORTUNITIES

- The majority of this alignment is on city owned land, including an abandoned railroad alignment, which reduces costs.
- There is adequate room for a trail to pass under the 10th Street Bridge.
- Trail could include a new pedestrian and bicycle bridge at 4th to create a connection to the existing River Walk at Pioneer Park.
- The pedestrian/bicycle bridge could be implemented as a stand alone project, which would reduce the cost of this project.

CONSTRAINTS

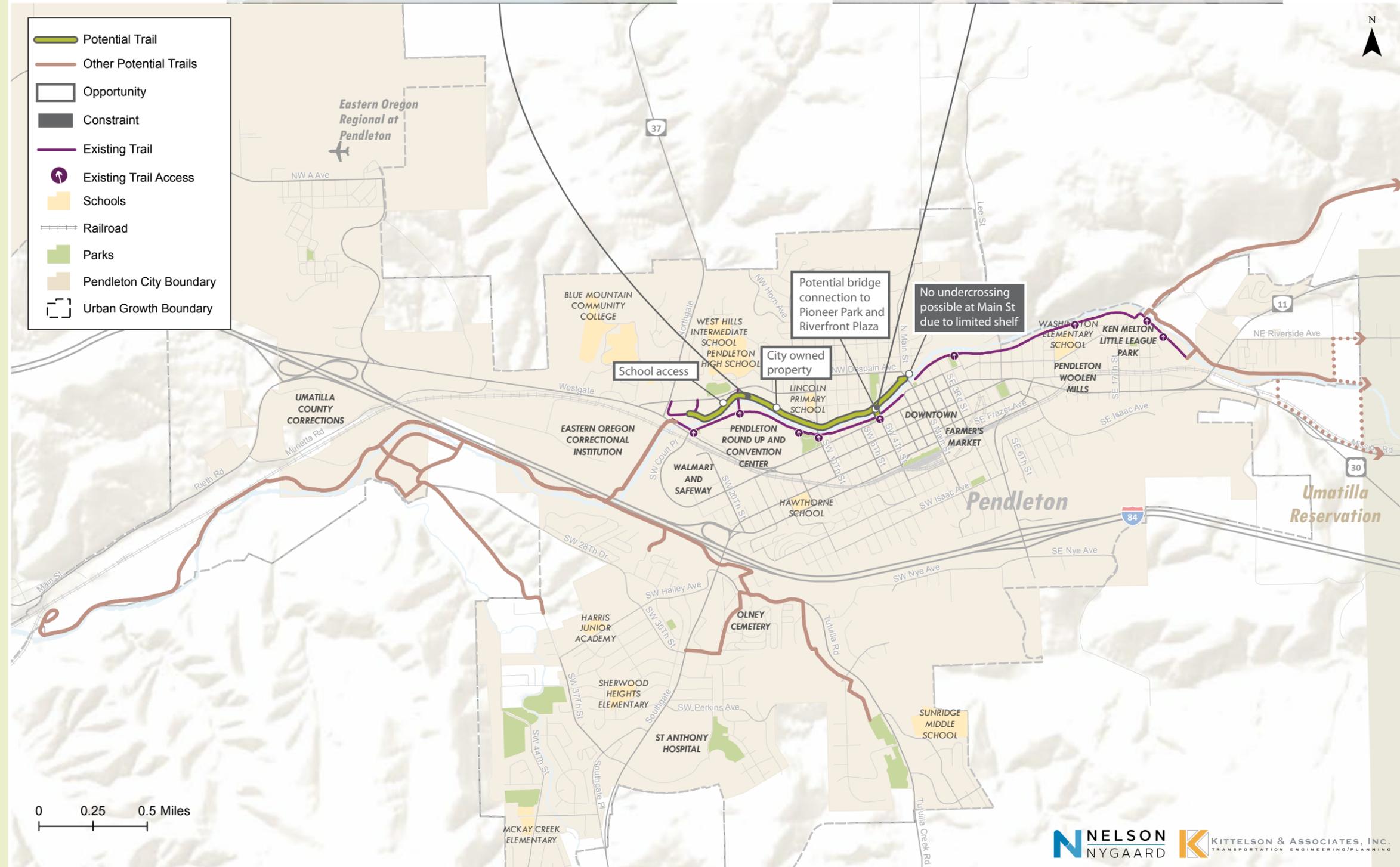
- A few parcels in this alignment are not owned by the city, necessitating coordination with property owners to identify partnering opportunities.
- The new potential connection to the River Walk via a new bridge at 4th would require a look at environmental impacts.



This trail would enhance access to the north side of the Umatilla River. Source: Wikimedia Commons / Alex Bakharev



A new pedestrian and bicycle bridge at 4th could be included as part of this project to create a connection to the existing River Walk at Pioneer Park.



RIVERWALK EXTENSION TO EAST CITY LIMITS

EXTENT

From eastern extent of River Walk to city limits

LENGTH

1.4 miles

DESTINATIONS

- Umatilla Indian Reservation/Mission
- Downtown Pendleton

POTENTIAL BENEFIT

- Would provide a comfortable off-street connection between jobs and housing in the Umatilla Indian Reservation/Mission and the City of Pendleton.
- Would provide an off-street connection to CTUIR Governance Center, which is the largest employer in the region.

OPPORTUNITIES

- Project would come off of the existing levee on the south side of river. There is no levee on north side of river, but the city does have some easements that could be used for public trail access on the north side.
- There are multiple potential alignments possible for community discussion with regards to the proximity of the trail to the river.
- There is the potential to add a barrier to the north side of Mission Road to create a two-way separated bicycle facility to Mission. This would require approximately two feet of additional pavement and no additional right-of-way.

CONSTRAINTS

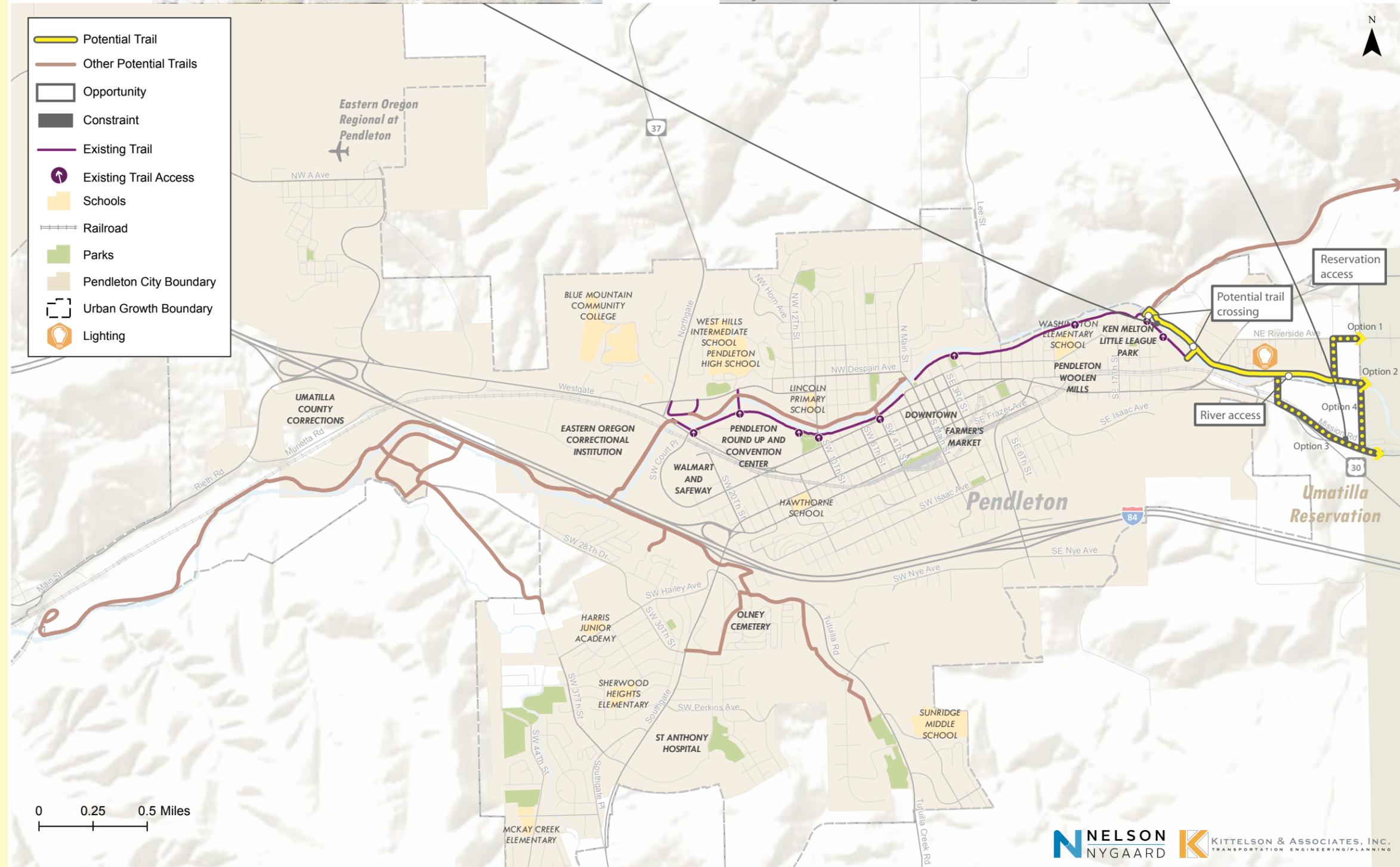
- New bridge required to connect with the existing River Walk (impacts cost and need to assess environmental impacts).
- Coordination with the CTUIR in regards to a future alignment within the Umatilla Indian Reservation, to inform Pendleton's decision on whether the trail within Pendleton should traverse above the Umatilla River or along it.



This project would extend the River Walk east of its current end point. Source: PedBikeImages.org / Dan Burden



There is an opportunity to create a barrier-separated bicycle facility to Mission along Mission Road.



TRAIL ALONG DISTRICT #1 LEVEE

EXTENT

From Westgate Pl southwest along Flood District #1 levee to cul-de-sac near the train tracks

LENGTH

3.9 miles

DESTINATIONS

- Eastern Oregon Correctional Institute
- Umatilla River

POTENTIAL BENEFIT

- Would provide recreational opportunities and a comfortable facility for kids and other members of the community to access downtown Pendleton.
- Would provide access to large employment area, and opportunities for fishing and/or boating access.
- This trail alignment would form the backbone for other potential trail alignments.

OPPORTUNITIES

- Opportunity for the city to discuss taking over the Flood District #1 levee from the Umatilla County Commissioners and maintain it at some level of flood protection.
- Opportunity to provide parallel hard and soft surface trails to accommodate equestrian and mountain bike demand.
- This trail could be implemented in two phases.

CONSTRAINTS

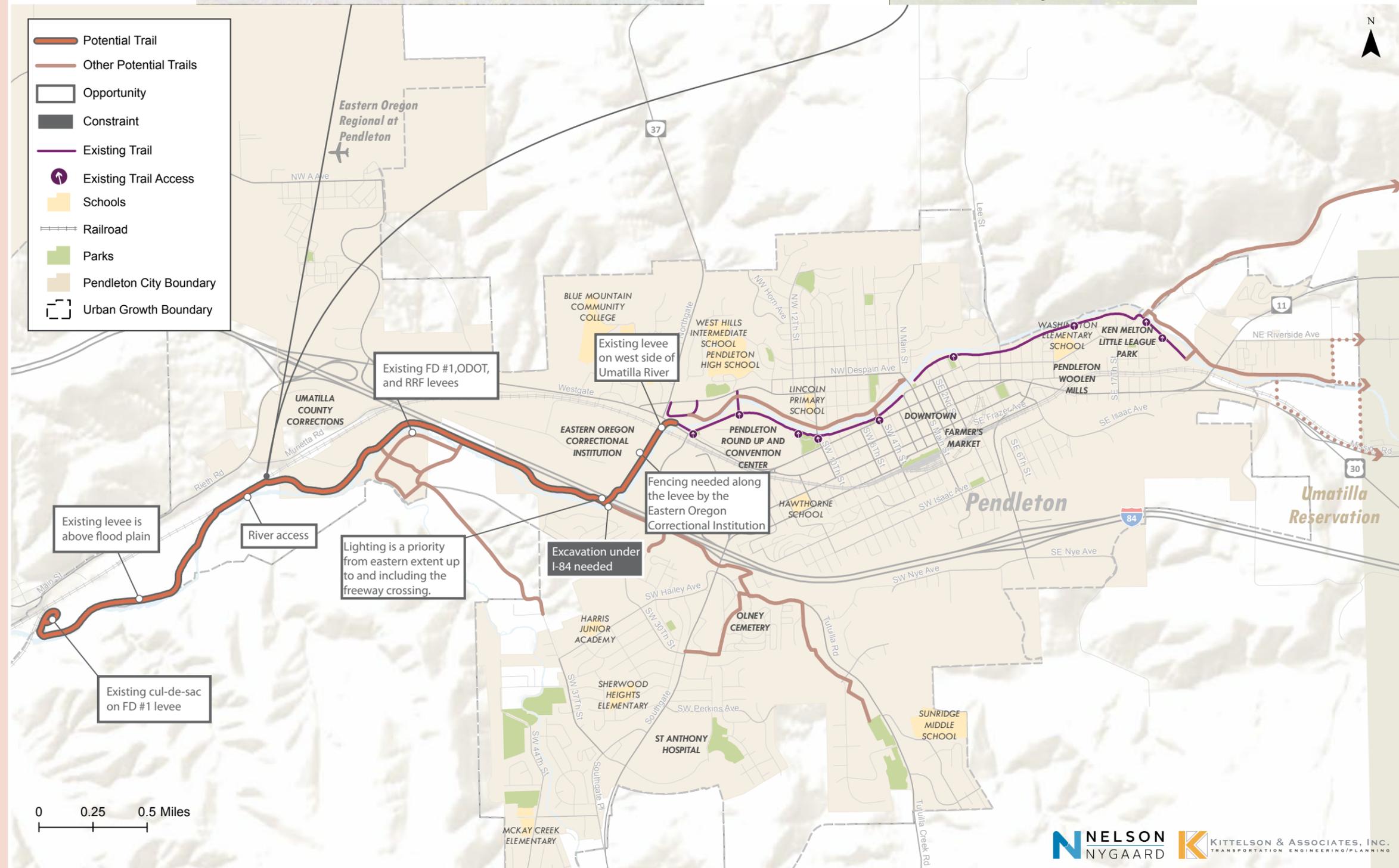
- Crossing under the I-84 bridge will require excavation.
- Extending the trail beyond the existing levee to Rieth Road would be a separate project due to additional coordination needed to cross an active rail line.



This trail would serve equestrian demand in this area.
Source: BLM Oregon



This trail would open up opportunities for a variety of other trails that could become part of a network of off-street paths in Pendleton and beyond.



SEWER EASEMENT TO GRECIAN HEIGHTS PARK

EXTENT

From Tutuilla Creek to Grecian Heights Park

LENGTH

2.0 miles

DESTINATIONS

- Grecian Heights Park
- Olney Cemetery
- Sunridge Middle School

POTENTIAL BENEFIT

- Opportunity to create a connection that would enhance access to schools and residential walking and biking access to Grecian Heights Park.
- Would create an alternate route to Southgate and take advantage of the beautiful trails in the Cemetery which are open to the public during the day, which is not currently well known to the public.

OPPORTUNITIES

- City owned right of way along the edge of Olney Cemetery and an existing sewer easement leading to the northwestern edge of Grecian Heights Park reduces right-of-way costs.
- The low speed, low traffic environment along 2nd Street represents a potential on-street connection to Hwy 395 at the northern edge of this alignment.

CONSTRAINTS

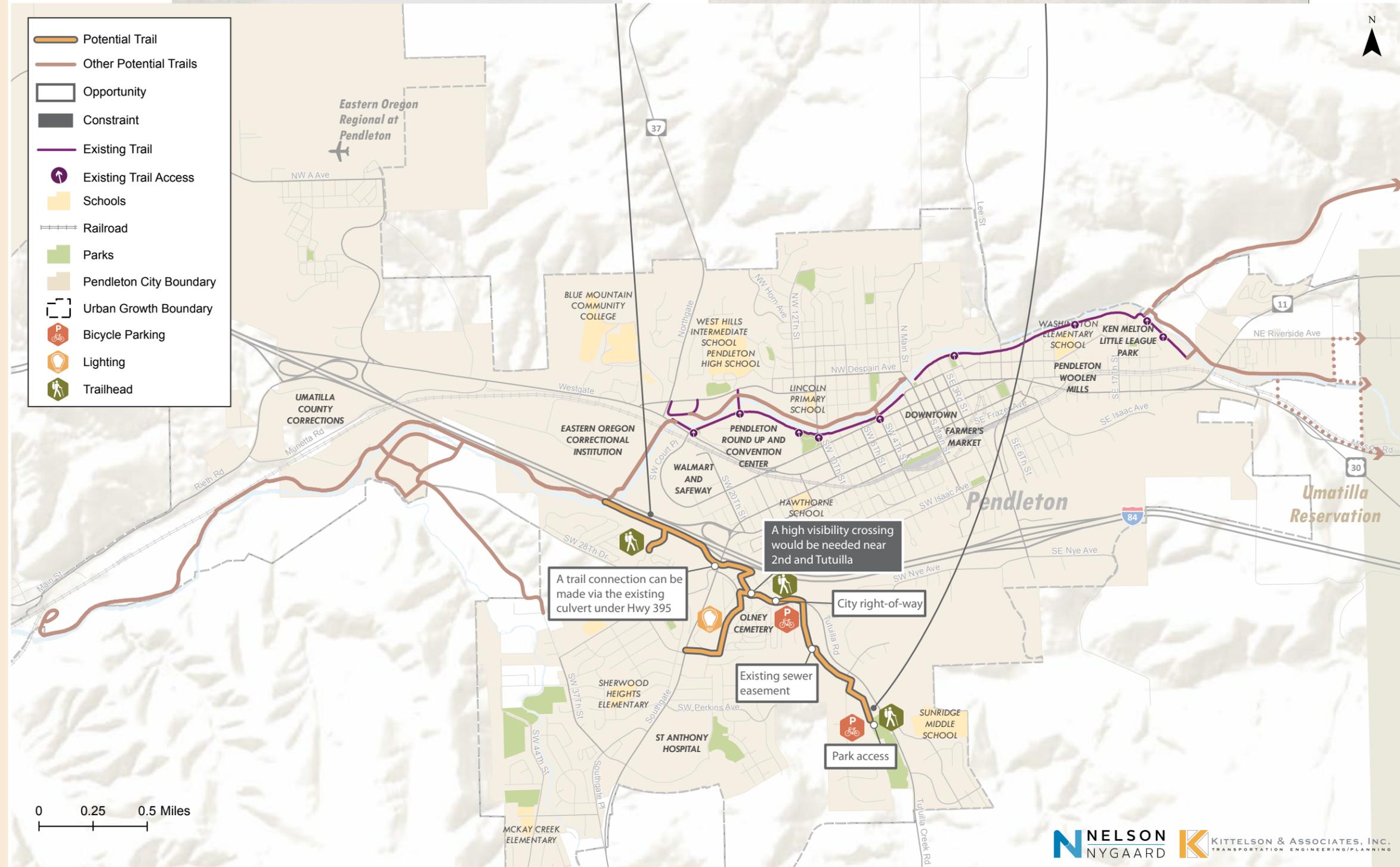
- Requires developing a high visibility crossing at or near Tutuilla and 2nd Street to facilitate safe passage to the sewer easement on the south side of Tutuilla.
- Potential wetland issues near the area of the culvert under Hwy 395. Requires frontage upgrades along private property on Tutuilla (two property owners).



Portions of this trail would travel alongside the I-84 corridor. Source: Flickr / Daniel Oines



This trail would provide access to Grecian Heights Park and Sunridge Middle School.



MCKAY CREEK DRAINAGE

EXTENT

From Umatilla River to SW 37th Street

LENGTH

1.2 miles

DESTINATIONS

- Umatilla River
- Downtown Pendleton (with completion of westward River Walk extension)
- Community Park
- McKay Park
- Harris Junior Academy
- Sherwood Heights Elementary
- McKay Creek Elementary

POTENTIAL BENEFIT

- Offers a recreational opportunity in the densely populated area west of Hwy 395.
- Would provide off-street trail access to the trail along Flood District #1 Levee (see potential trail #3) and potentially downtown Pendleton.
- This trail would provide a comfortable alternative to traveling along Southgate Road.

OPPORTUNITIES

- City-owned property near Umatilla River and a sewer easement to SW 37th Street reduces right-of-way costs.

CONSTRAINTS

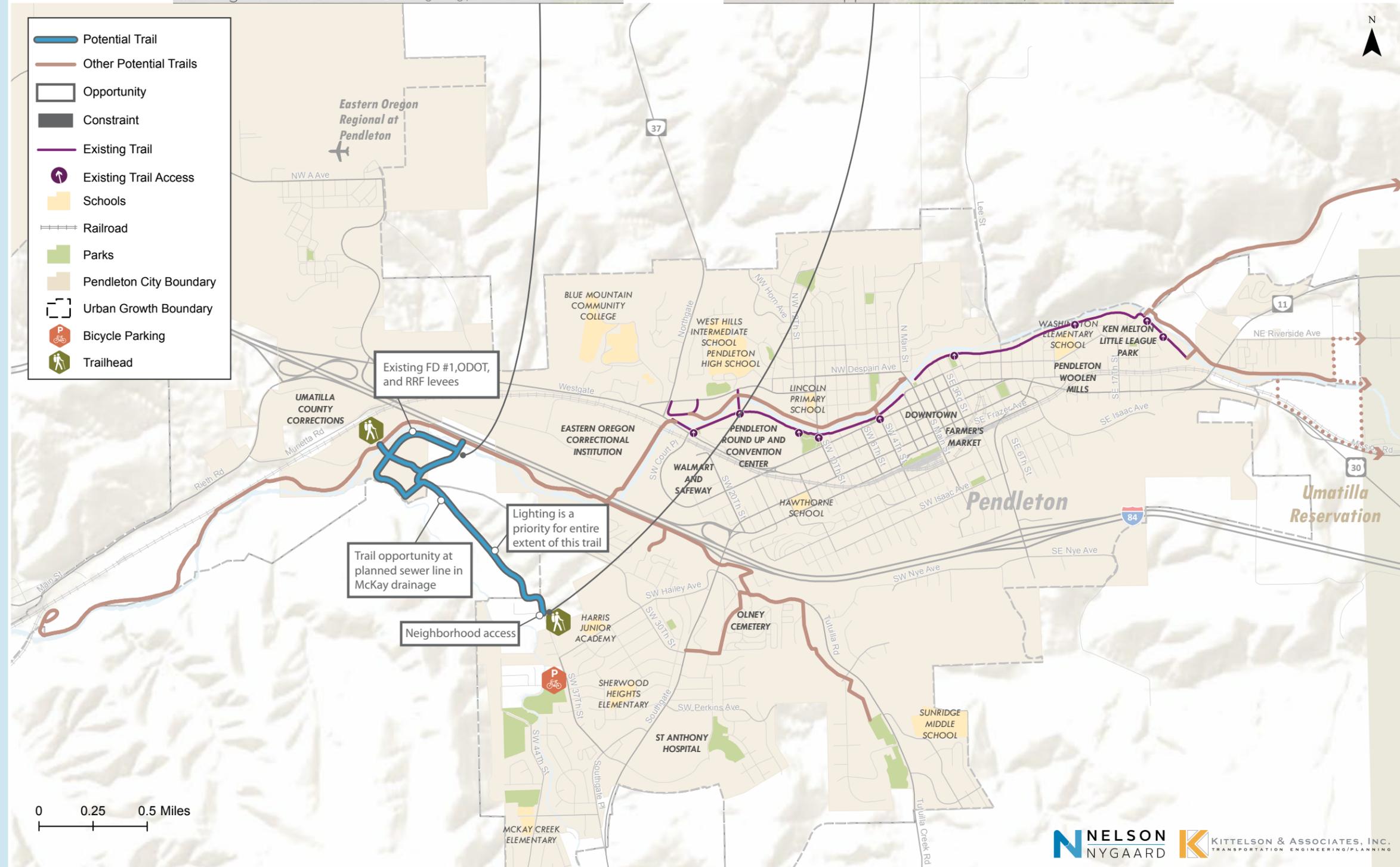
- Requires coordination with three property owners to make sewer easement open to public access.



This trail would provide for recreational opportunities and a comfortable alternative to traveling along Southgate Road. Source: PedBikeImages.org / Carl Sundstrom



Neighborhood access points to the trail can include signage directing residents to destinations and recreational opportunities. Source: Flickr / Chris Phan



TRAIL TO ADAMS/ATHENA

EXTENT

From Pendleton city limits to Adams/Athena

LENGTH

~12 to 15+ miles to Adams
 ~17 to 20+ miles to Athena

DESTINATIONS

- Adams
- Athena
- Westin
- Blue Mountains

POTENTIAL BENEFIT

- Potential for longer walks or bicycle rides, as well as a connection to Adams and Athena for long distance recreational riding.
- This would be a soft-surface trail for walking, equestrian and mountain bike use.
- This trail could eventually continue past Athena to Weston and then connect to the Blue Mountains, which would create an incredible long distance bike route.

OPPORTUNITIES

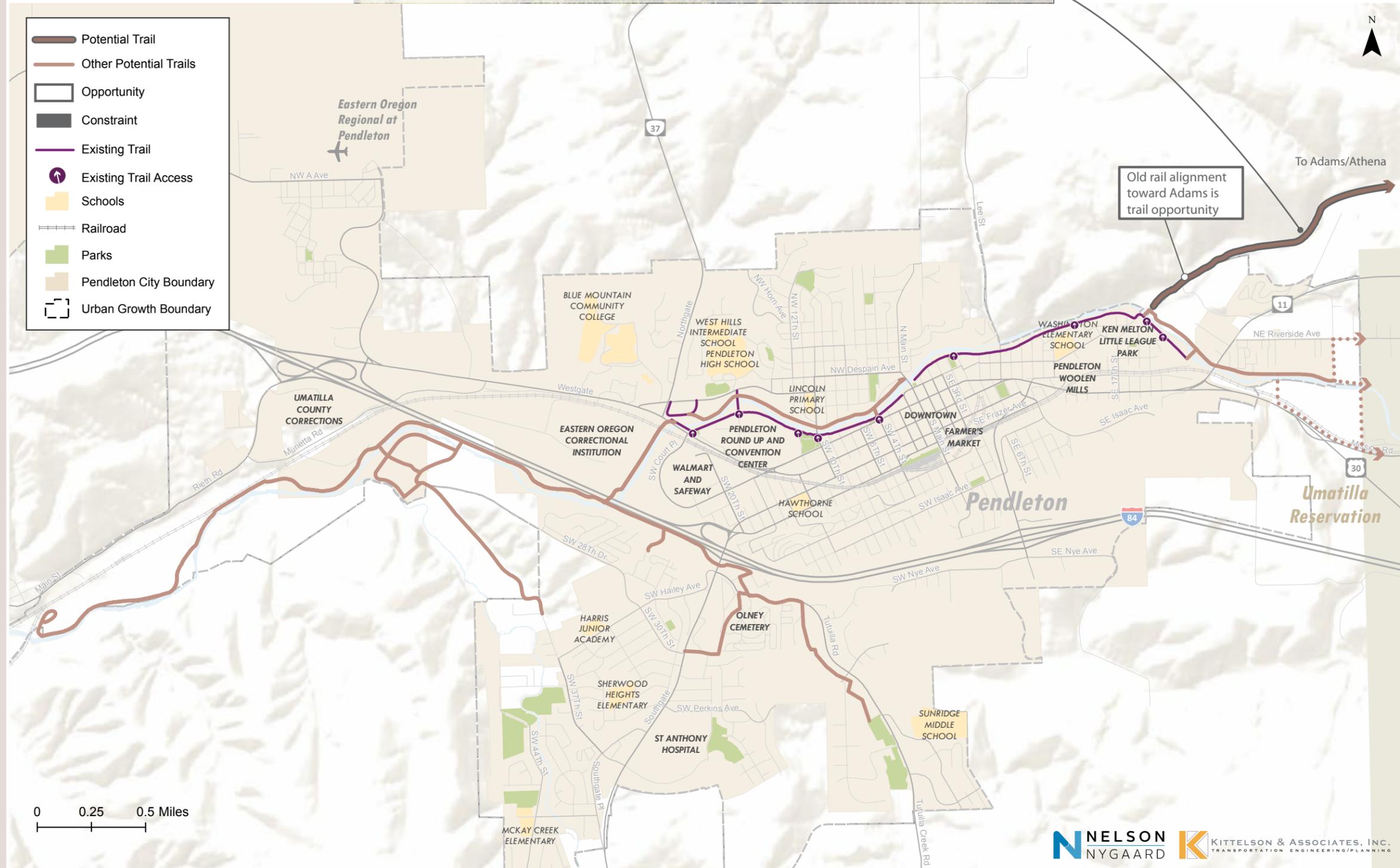
- Old railroad grade that extends from the Pendleton little league parks out to Adams and Athena.

CONSTRAINTS

- New bridge required to connect with existing River Walk (cost and need to assess environmental impacts).
- Would require partnerships with Umatilla County to develop this project as it is outside of the Pendleton city limits.
- Requires identifying all applicable property owners and establishing an old right-of-way.



This trail would be soft surface and open to people on foot, mountain bikes and horses.



Appendix B Transit Survey

In Fall 2015, a brief survey was distributed around the City of Pendleton to understand the public's thoughts regarding transit service. Surveys were distributed using the following methods:

- An online version (using SurveyMonkey)
- Hard copies distributed at the Pendleton Public Library
- Hard copies distributed through the city's demand-response transportation provider, Elite Taxi

Results were aggregated for a total of 142 respondents. Key findings are presented and summarized below.

KEY FINDINGS

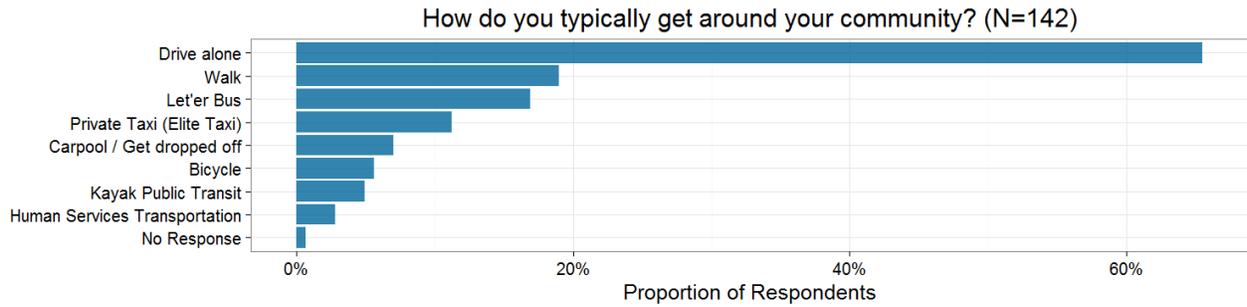
Key findings from the survey response analysis are presented below:

- **Kayak Public Transit is likely underutilized among survey respondents.** Intercity service was the most highly desired improvement among survey respondents, but Kayak is already providing this service. Kayak was among the lowest used transportation services of respondents. This may be due to a lack of information – many respondents indicated they did not know where service exists – or current service inadequacies of Kayak – respondents indicated they would use transit more if it ran earlier/later or at a more frequent service level. One-quarter of respondents indicated they have tried Kayak, but less than 5% typically used it.
- **Shopping access is important for transit users.** The top destinations of respondents were Walmart and Safeway, and shopping was the second most common destination type. Half of respondents say they would be interested in using public transportation for shopping trips.
- **Transit service is important to residents of Pendleton.** Only 65% of survey respondents indicated they typically traveled using a personal vehicle, and a combined 85% of respondents indicated they thought transit service was important or very important.

TRANSPORTATION PREFERENCES

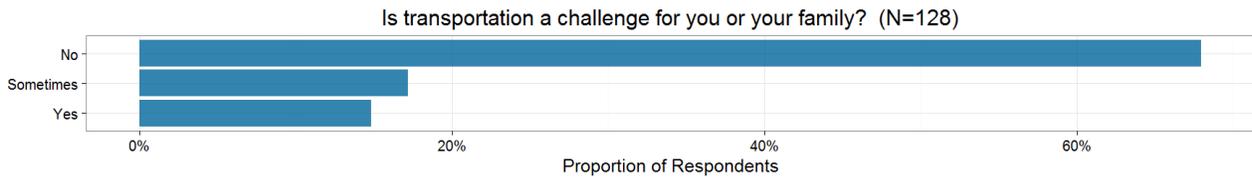
Respondents were first asked to indicate how they typically travel; they were allowed to select multiple responses. The majority of respondents indicated that they drive alone (64%).

Chart 1 - Typical Transportation Mode/Service Response Distribution



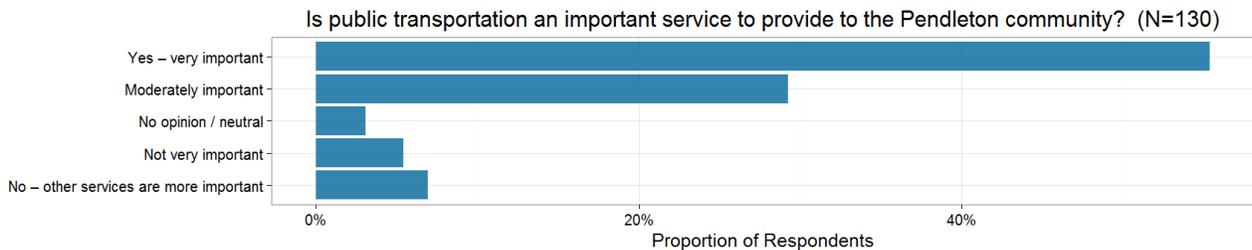
When asked if transportation was a challenge for respondents or their families, 2/3 of respondents said that it was. The remainder of respondents was split between stating that transportation was occasionally a challenge and that it was typically a challenge. The distribution of responses is illustrated in Chart 2.

Chart 2 - Transportation Challenges Response Distribution



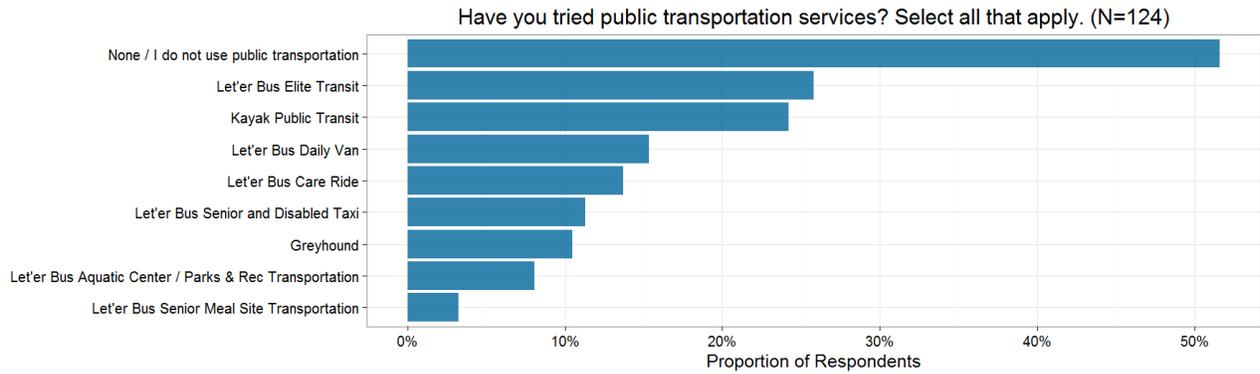
Respondents were asked the degree to which they thought public transportation was an important service to provide to the Pendleton community; the distribution of responses is presented in Chart 3. Over half (55%) of respondents thought public transportation was a very important service, and an additional 29% thought it was moderately important.

Chart 3 - Public Transportation Importance Response Distribution



Respondents were asked which public transportation services offered in Pendleton they have tried, if any; the distribution of responses is presented in Chart 4. Half of respondents indicated they did not utilize any of the services. The second and third highest frequency responses were Let'er Bus Elite Transit (26%) and Kayak Public Transit (24%), respectively.

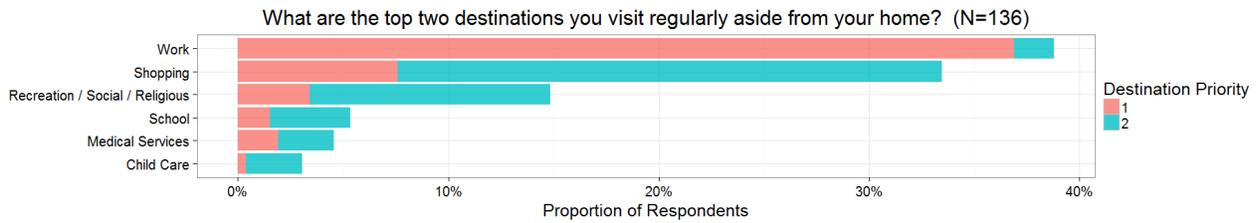
Chart 4 - Use of Public Transportation Response Distribution



DESTINATIONS

Survey respondents were asked the top two destination types they visit regularly aside from their residence; the response distribution is presented in Chart 5. Over one-third of respondents (39%) said work was one of their most frequently visited destinations, while another one-third of respondents (33%) said that shopping was one of their most frequently destinations.

Chart 5 - Destination Type Distribution



Respondents reported their top destinations, shown in Chart 6 and Figure 13. The most popular destinations were Walmart and Safeway. The other destinations included schools, the public library, Pendleton’s Main Street, the Wildhorse Resort and Casino, and others. The maps in Figure 13 show the geographic distribution of popular destinations, with most destinations concentrated in Pendleton.

Chart 6 - Top Destinations among Respondents

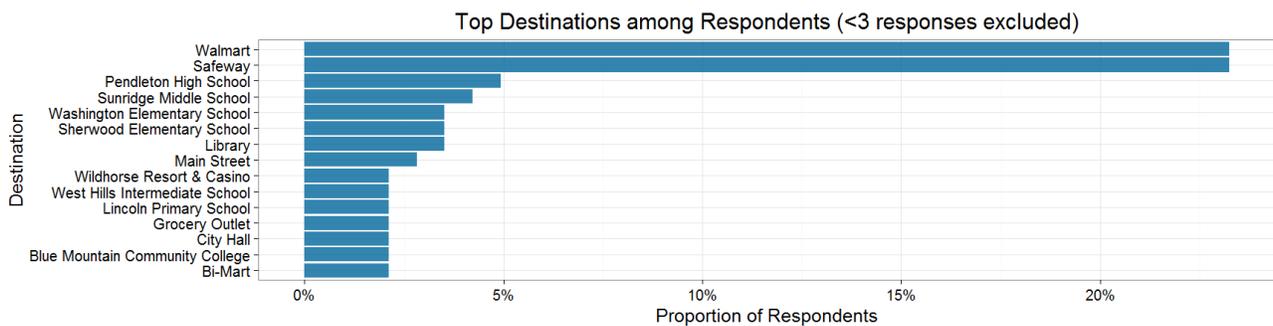
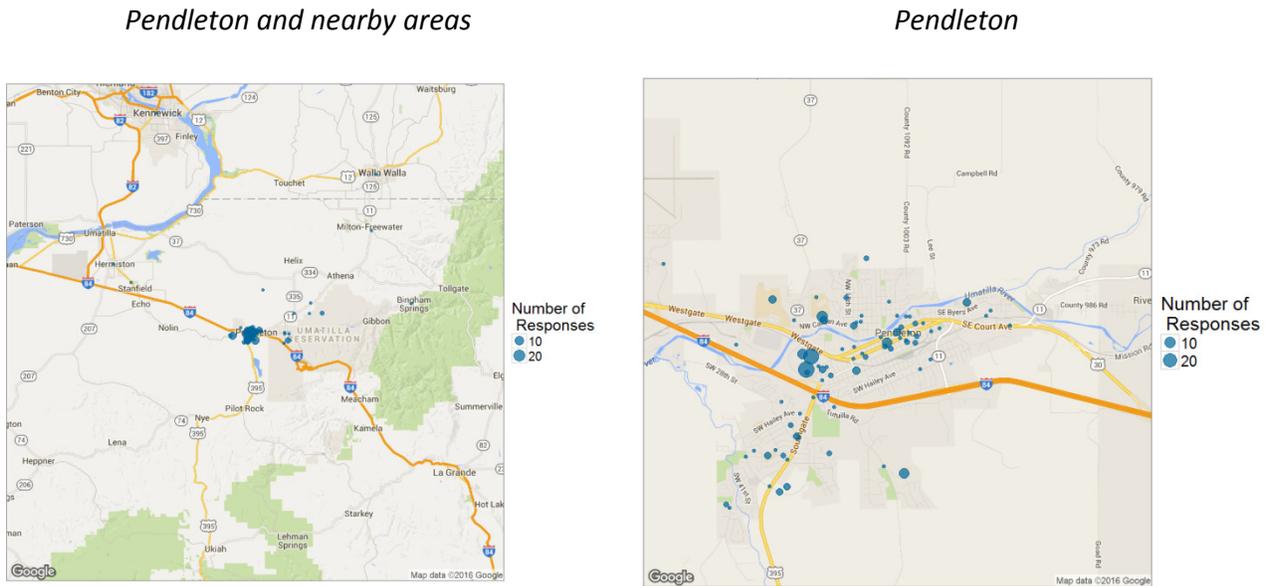


Figure 13 - Destinations Map

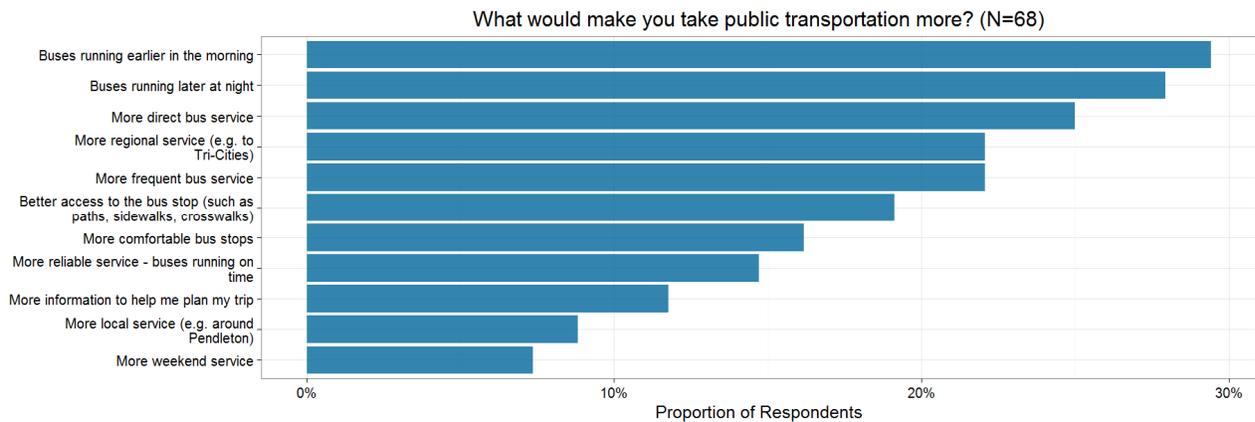


TRANSIT OPPORTUNITIES

Respondents were asked several questions related to future transit service planning.

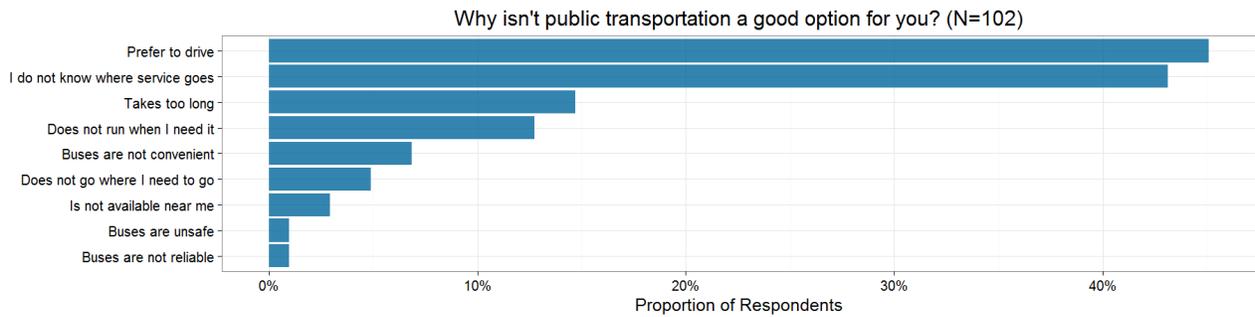
They were first asked to indicate which improvements would encourage them to utilize public transportation more (selecting one or more); the distribution of responses is illustrated in Chart 7. Service span (buses running earlier or later) was the top improvement with approximately 28% of respondents.

Chart 7 - Public Transportation Preferences Response Distribution



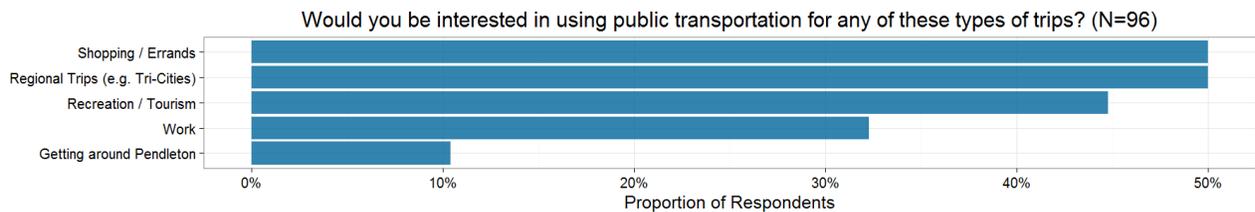
Respondents were asked why public transportation is currently not a good option for their needs; the response distribution is presented in Chart 8. Nearly half of respondents said they prefer to drive, and 43% indicated they do not know where service goes.

Chart 8 - Public Transportation Issues Response Distribution



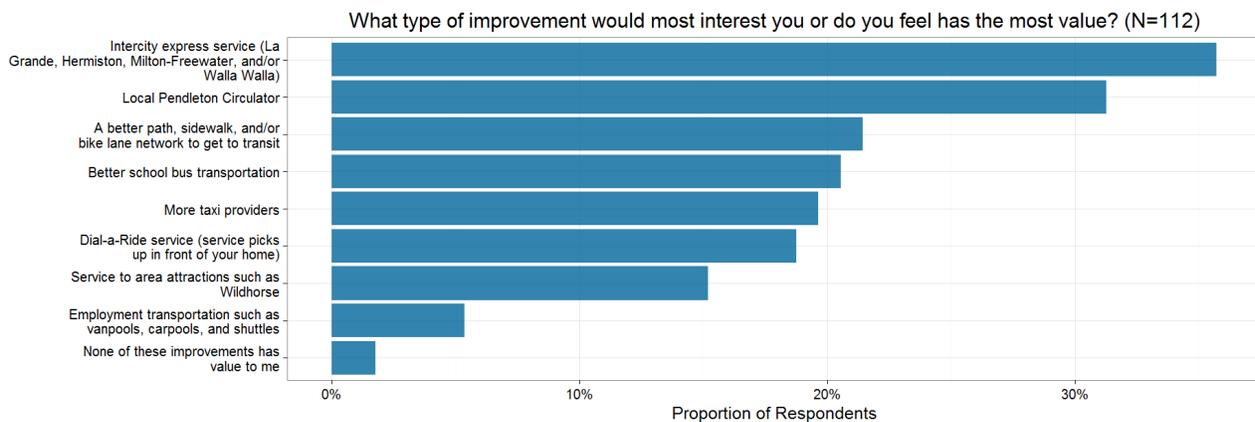
Respondents were asked which trip purposes they would be likely to utilize public transportation for; the response distribution is presented in Chart 9. Shopping/errands and regional trips were each selected by half of the respondents.

Chart 9 - Public Transportation Trip Purposes Response Distribution



The final question presented several service improvements and asked respondents to select which improvement they felt had the most value; the distribution of responses is presented in Chart 10. One-third selected intercity express service and 31% selected a local Pendleton circulator as valuable improvements.

Chart 10 - Preferred Public Transportation Improvements Response Distribution



Appendix C Transit Center

On December 7, 2015, two transit center concepts were presented at the community charrette held at the Convention Center. Participants were asked how they would design each site to accommodate buses but also park and ride, park and pool, and access to transit amenities such as crosswalks and bike lockers. Information kiosks and indoor waiting areas were also discussed. The city has explored two sites for a transit center – the Walmart parking lot and the parking lot at the southeast corner of Main and Frazer Streets. Figure 14 shows a concept for the Walmart transit center. Along Main and Frazer Streets, some uncertainty was voiced as to whether the site in question would become a year-round farmer’s market, therefore the group considered both the site currently designated as 10-hour parking as well as the site in front of the heritage museum, shown in Figures 15 and Figure 16.

Figure 14 - Walmart Site Option

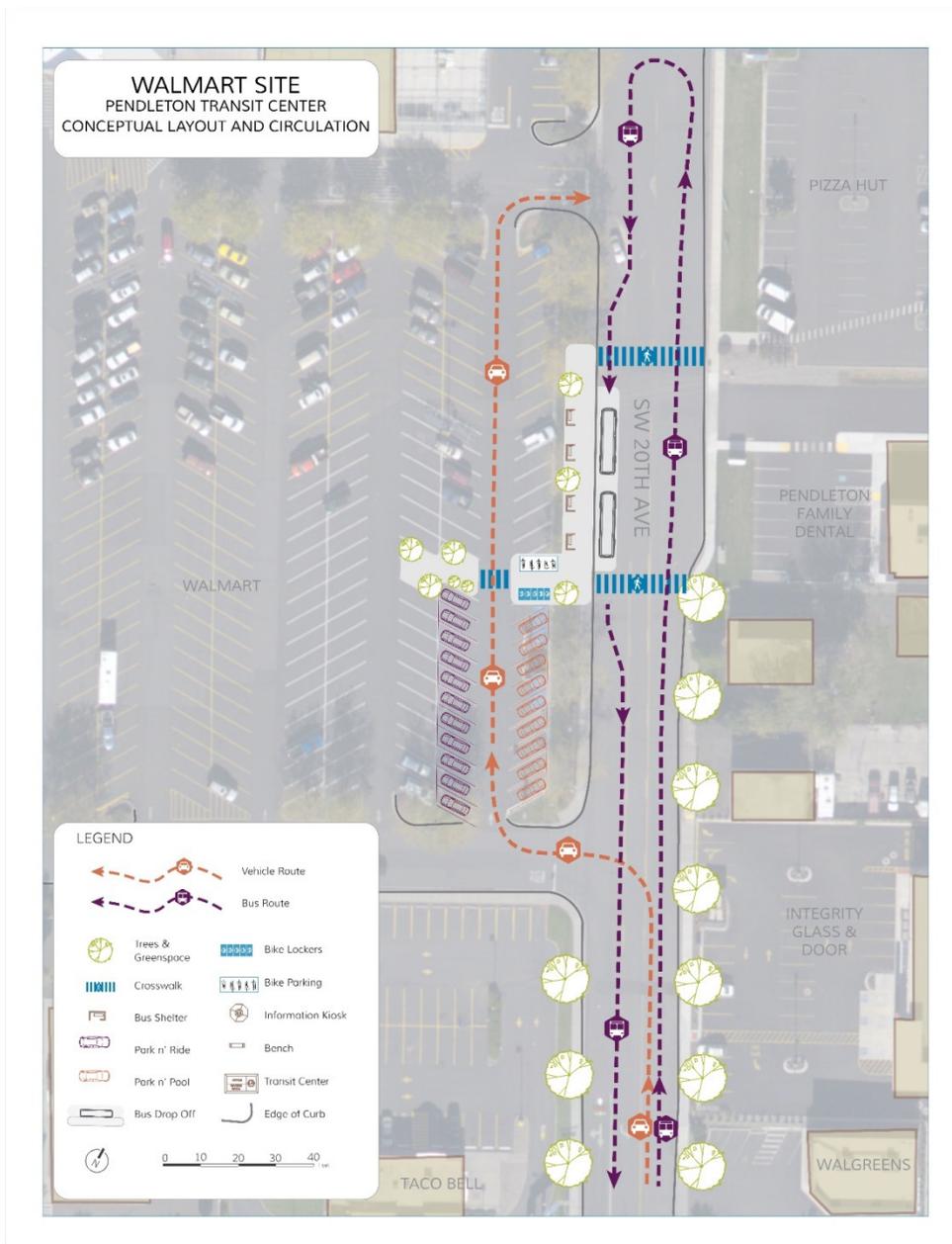


Figure 15 - Downtown Site Option 1

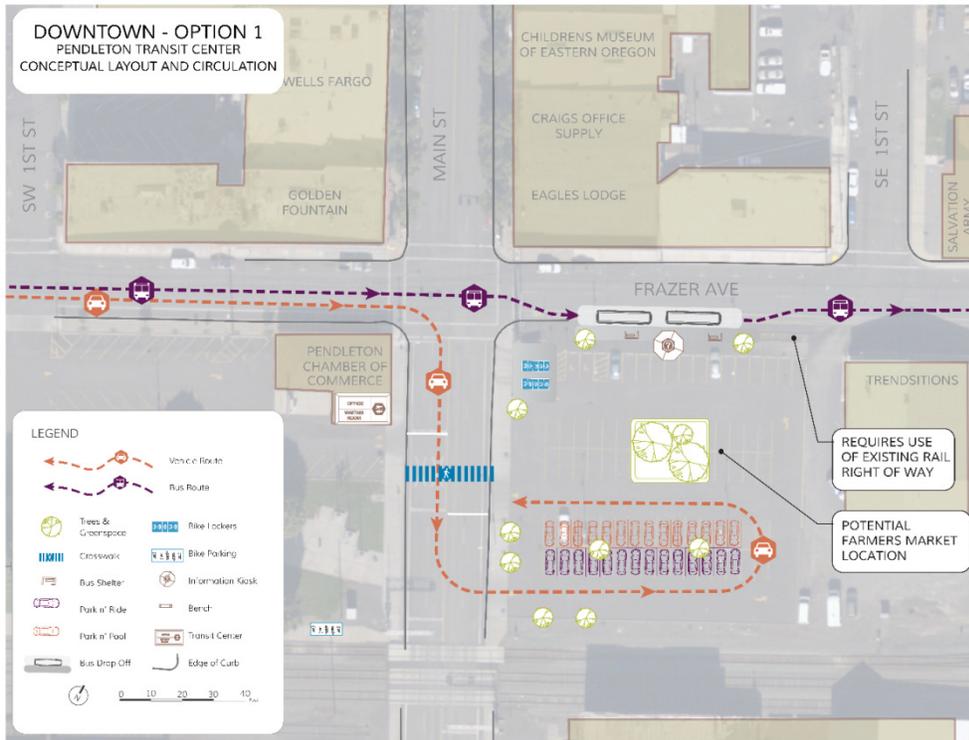
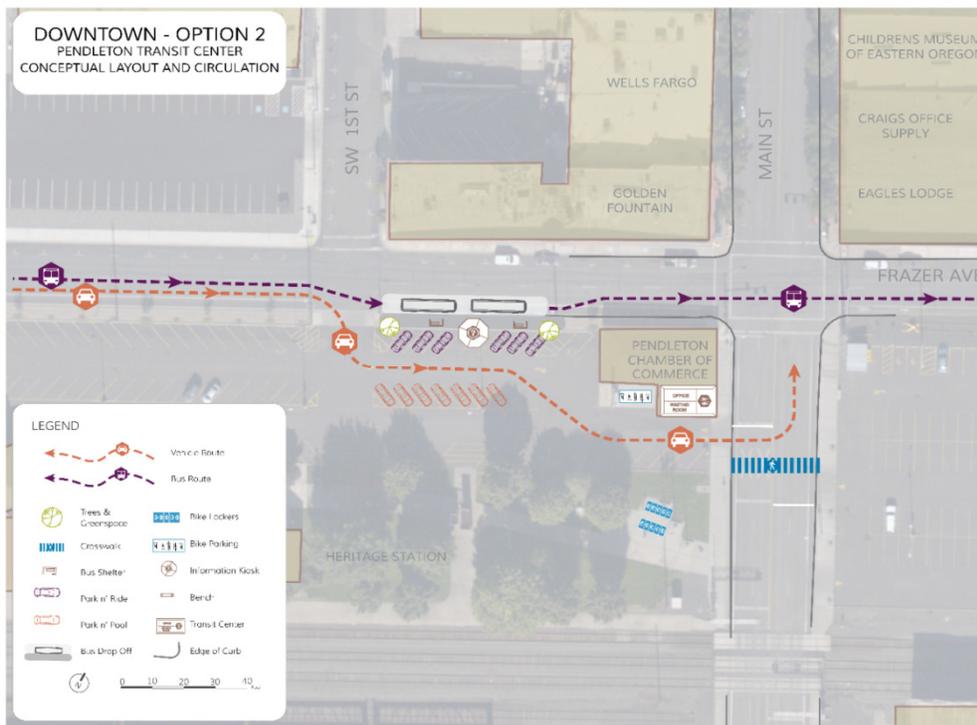


Figure 16 - Downtown site option 2



Appendix D Interactive Online Map
Summary

INTERACTIVE ON-LINE MAP FEEDBACK SUMMARY

As part of Task 4.2 of the Pendleton Transportation System Plan (TSP). Kittelson & Associates prepared an Interactive Online Map which allowed the residents and stakeholders of the City of Pendleton to provide feedback about location-specific issues via an online map. Three (3) comments were received during the period the Interactive Online Map was posted. The comments were as follows:

- The intersection of SE Dorion Avenue and SE 5th Street has no sidewalk facilities and feels dangerous to pedestrians due to close proximity to cars and lack of curb/boundary. This segment of SE Dorion Avenue also experiences mid-to-heavy traffic volumes which reduces the level of comfort for pedestrians.
- The intersection of SW Frazer Avenue and SW 9th Street poses difficulties for pedestrians crossing the railroad tracks located on the north side of the street. The sidewalk is approximately seven (7) feet wide with telephone poles in the middle of the sidewalk at multiple locations. Residents have expressed the need to walk in the vehicle right-of-way to avoid unsafe conditions on the sidewalk.
- N Main Street and Despain Avenue intersection is a popular location for pedestrians; however, residents have expressed concern with the geometric layout of the intersection. There is limited sight distance for vehicles traveling northbound and southbound on N Main Street. Vehicles travel at high speeds and fail to see pedestrians attempting to cross eastbound and westbound on Despain Avenue.

Appendix E

Alternatives
Evaluation

Table 10- Pedestrian Projects Evaluation Matrix

Project ID	Feasibility	Connectivity	Accessibility	Destination Served	Safety Impact	Population Served	Economic Impact	Cost	Cost Efficiency
P1	●	○	○	○	○	○	○	●	●
P2	●	●	●	●	●	●	○	○	○
P3	○	●	○	○	○	○	○	○	○
P4	○	○	○	○	○	○	●	○	○
P5	○	○	○	○	○	○	○	○	○
P6	●	●	●	●	●	●	○	●	●
P7	○	○	○	○	○	○	○	○	○
P8	○	○	○	○	○	○	○	○	○
P9	○	○	○	○	○	○	○	○	○
P10	○	○	○	○	○	○	○	○	○
P11	○	○	○	○	○	○	○	○	○
P12	●	○	○	○	○	○	○	○	○
P13	○	○	○	○	○	○	○	○	○
P14	○	○	○	○	○	○	○	○	○
P15	●	○	○	○	○	○	○	○	○
P16	○	●	○	○	○	○	○	○	○
P17	○	○	○	○	○	○	○	○	○
P18	○	○	○	○	○	○	○	○	○
P19	○	○	○	○	○	○	○	○	○
P20	○	○	○	○	○	○	○	○	○
P21	○	○	○	○	○	○	○	○	○
P22	○	○	○	○	○	○	○	○	○
P23	○	○	○	○	○	○	○	○	○
P24	○	○	○	○	○	○	○	○	○
P25	○	○	○	○	○	○	○	○	○
P26	○	○	○	○	○	○	○	○	○
P27	○	○	○	○	○	○	○	○	○
P28	○	○	○	○	○	○	○	○	○
P29	○	○	○	○	○	○	○	○	○
P30	○	○	○	○	○	○	○	○	○
P31	○	○	○	○	○	○	○	○	○
P32	○	○	○	○	○	○	○	○	○
P33	○	○	○	○	○	○	○	○	○
P34	○	○	○	○	○	○	○	○	○
P35	○	○	○	○	○	○	○	○	○
P36	○	○	○	○	○	○	○	○	○
P37	○	○	○	○	○	○	○	○	○
P38	○	○	○	○	○	○	○	○	○
P39	○	○	○	○	○	○	○	○	○
P40	○	○	○	○	○	○	○	○	○
P41	○	○	○	○	○	○	○	○	○
P42	○	○	○	○	○	○	○	○	○
P43	○	○	○	○	○	○	○	○	○

Note: ○ denotes "Low"; ● denotes "Medium"; ● denotes "High"

Table 11 - Bicycle Projects Evaluation Matrix

Project ID	Feasibility	Connectivity	Accessibility	Destination Served	Safety Impact	Population Served	Economic Impact	Cost	Cost Efficiency
B1	●	○	●	●	○	●	○	○	○
B2	○	●	○	○	●	○	○	○	L
B3	●	●	○	○	●	○	○	○	L
B4	○	○	●	●	○	●	○	○	○
B5	●	○	○	○	●	○	○	○	○
B6	●	○	○	○	●	○	○	○	○
B7	○	○	○	●	○	●	○	○	○
B8	●	○	○	○	○	●	○	○	○
B9	●	○	○	○	○	○	○	○	○
B10	○	●	●	●	●	○	●	○	○
B11	○	○	○	○	○	○	○	○	○
B12	○	●	●	○	●	○	○	○	○
B13	○	●	●	●	●	●	○	○	●
B14	○	●	●	●	●	●	○	●	●
B15	○	●	●	●	●	●	○	●	●
B16	●	○	○	○	●	○	○	○	○
B17	●	○	○	○	○	○	○	○	○
B18	●	○	○	○	○	○	○	○	○
B19	●	○	○	○	○	○	○	○	○
B20	●	○	○	○	○	○	○	○	○
B21	●	○	○	○	○	○	○	○	○
B22	●	○	○	○	○	○	○	○	○
B23									

Note: ○ denotes "Low"; ● denotes "Medium"; ● denotes "High"

Table 12 - Multi-Trail Projects Evaluation Matrix

Project ID	Feasibility	Connectivity	Accessibility	Destination Served	Safety Impact	Population Served	Economic Impact	Cost	Cost Efficiency
M1	●	○	●	●	○	●	●	○	○
M2	○	○	●	○	○	○	○	○	○
M3	●	○	●	○	○	○	○	○	○
M4	○	●	●	●	●	●	●	●	○
M5	○	○	●	○	○	○	○	○	○
M6	○	○	○	○	○	○	○	○	○

Note: ○ denotes "Low"; ● denotes "Medium"; ● denotes "High"

Table 13 – Transit Projects Evaluation Matrix

Project ID	Feasibility	Connectivity	Accessibility	Destination Served	Safety Impact	Population Served	Economic Impact	Cost	Potential Funding Mechanisms	Cost Efficiency
T1	●	○	●	●	●	●	○	○	5339, city capital funds	●
T2	● (P&R/P&P)	○	○	●	○	●	●	○	5339, city capital funds	●
T3	● (P&R/P&P)	○	○	●	○	●	●	○	5339, city capital funds	●
T4	●	●	●	●	○	●	○	○	STF, 5311	●
T5	●	○	●	●	●	○	○	○	City capital or maintenance funds	●
T6	●	●	●	○	○	●	●	○	General funds	●
T7	●	○	●	○	○	●	○	○	Cost-neutral	●
T8	●	●	●	○	●	●	●	○	TO funds	●
T9	●	●	●	●	○	●	○	○	Cost-neutral	●
T10	●	●	●	●	○	○	●	○	BID income	○
T11	●	●	●	●	○	●	○	○	5311 or 5310	●
T12	●	●	●	●	○	●	●	●	STF, 5311, 5310	●
T13	○	●	●	●	○	●	●	●	STF, 5311, 5310	●
T14	●	●	●	●	●	●	○	●	STF, 5311, 5310	●
T15	●	●	●	●	○	●	●	●	5311f, 5310	●

Note: ○ denotes "Low"; ● denotes "Medium"; ● denotes "High"