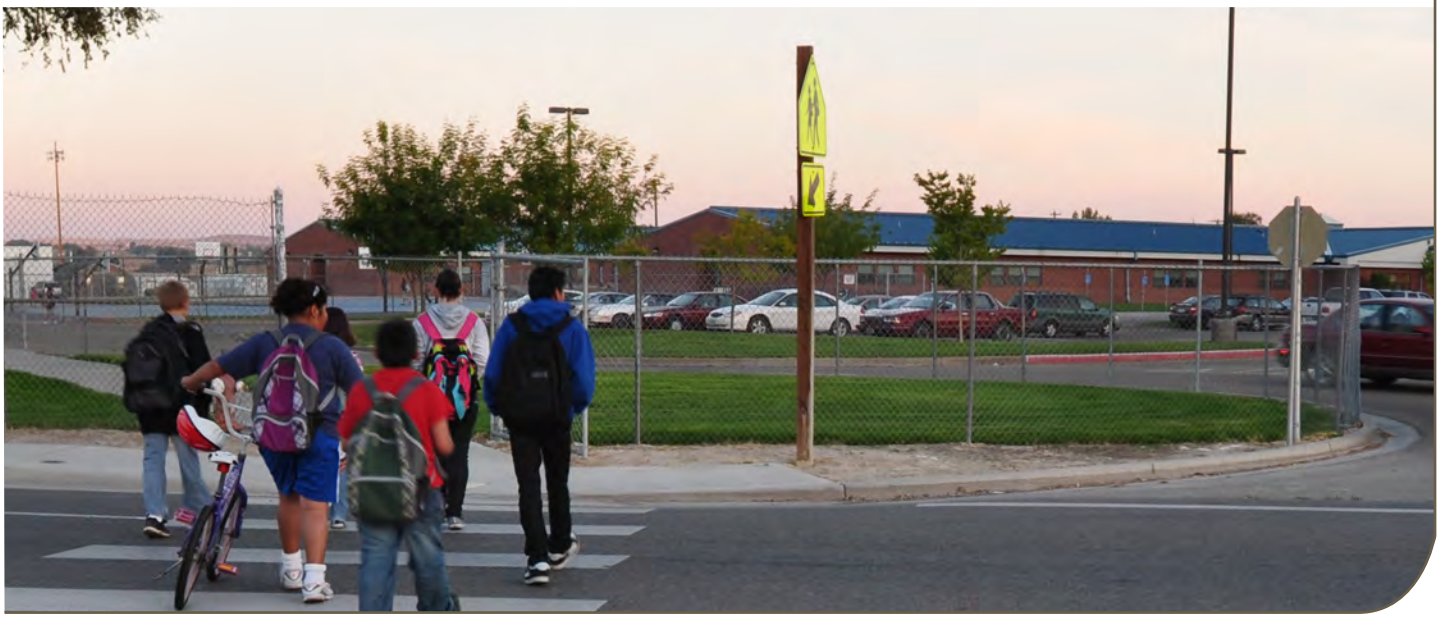
City of Nyssa

Transportation System Plan Update

June 2011



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ACKNOWLEDGEMENTS

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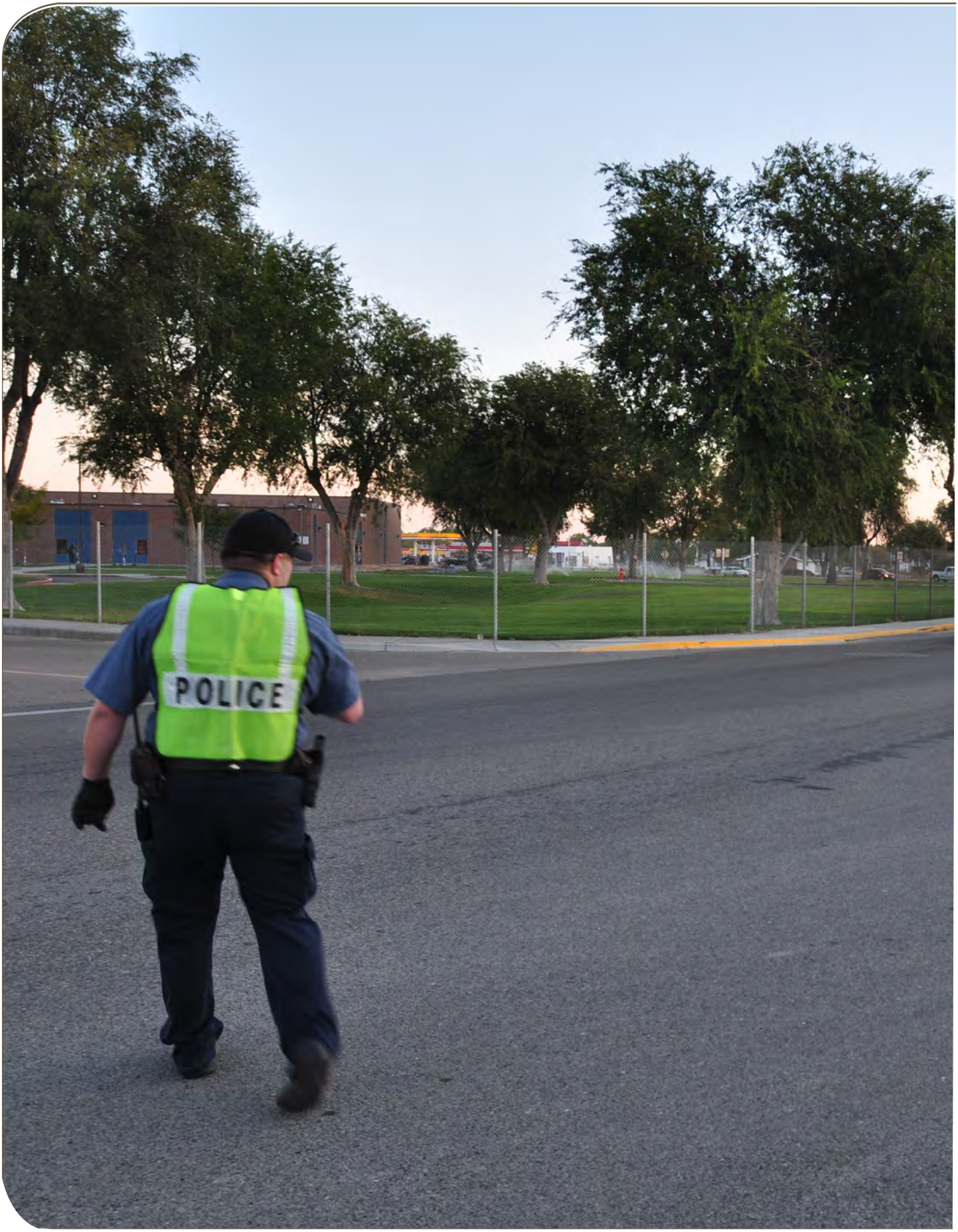
The development of the City of Nyssa's Bicycle and Pedestrian Transportation System plan elements was coordinated by a collection of engaged and dedicated people. Their commitment and dedication has led to the development of a foundation of projects and policy, which has the opportunity to greater improve the quality of life and experience for residents and guests for years to come.


POLICE

Contents

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and state of Oregon funds. The contents of this document do not necessarily reflect views or policies of the state of Oregon.

ODOT State Traffic Engineer approval is required for any changes to State Highways.

Some planning concepts described in the following plan potentially reduce the vehicle-carrying capacity of State Highways. Further evaluation of the project design will be required at the time of implementation to assure compliance with ORS 366.215.

Non-motorized transportation system

Executive summary

This amendment to the City of Nyssa's Transportation System Plan updates the non-motorized elements of the current plan. The recommendations included here are intended to improve safety and mobility for non-motorized transportation modes including walking, bicycling, wheelchair use, skateboarding, and others. In addition, improvements to non-motorized facilities including sidewalks, trails, and improved pedestrian environments, often have secondary benefits of improving a sense of community, enhancing quality of life, and contributing to economic development in communities.

THE PLANNING PROCESS

The update to the non-motorized plan was developed with guidance from City elected officials, City staff, a stakeholder Technical Advisory Committee (TAC), and the general public. Outreach included public workshops, public open houses, and presentations to City Council. Additionally, the planning process included workshops with high school students, coordination with the school district, and coordination with the Oregon Department of Transportation (ODOT).

NEED FOR THE PLAN UPDATE

The current Transportation System Plan was adopted in 1998. Since that time some major improvements, primarily the downtown streetscape project, have been completed. Also since that time practices for developing safe and attractive facilities for non-motorized travel have undergone significant change. The City has not, to date, experienced high accident rates for non-motorized travel within the community. There are, however, perceived safety concerns related to inadequacies in current non-motorized facilities. There are also newly-identified opportunities for development of non-motorized trail facilities that could enhance the community. This plan update responds to these needs by:

- Updating standards for non-motorized facilities associated with local streets and state highways within the planning area.
- Identifying potentially unsafe locations for non-motorized travel and recommending appropriate improvements
- Identifying trail opportunities and connections between proposed trails and the on-street non-motorized network.

MAJOR ELEMENTS OF THE PLAN

The major elements of the plan update include both system-wide recommendations and projects identified for specific locations. Three primary types of non-motorized routes are identified in the non-motorized system plan:

- Routes with on-street bike lanes: A few higher volume streets are identified for dedicated on-street lanes to provide bicycle circulation, and sidewalks on one or both sides to accommodate safe pedestrian travel.
- Non-motorized priority routes: Typical local streets identified as priority non-motorized routes make up the majority of the non-motorized system. These streets would include pavement markings to indicate that bicycles are sharing the road with motor vehicles, would include sidewalks on one or both sides for pedestrian circulation, and would be emphasis streets for improving pavement and sidewalk quality. Certain intersections with safety concerns would be considered for potential traffic calming measures, with an emphasis on traffic circles.
- Non-motorized trails: Dedicated non-motorized trails would be developed in their own rights-of-way. These trails would be for non-motorized use only, with the exception of maintenance and emergency vehicles. Trails would typically be paved, and may include accessory features such as trailheads, parking, viewpoints, and recreational facilities such as water access points.

These three types of facilities are intended to complement each other, and ultimately to create a connected non-motorized system serving the entire community.

Projects in the plan identified for specific locations respond to safety or access concerns. These locations are primarily crossing locations, and typically are part of routes to the school property:

- Main Street / Thunderegg Boulevard: Improve the current signalized crossing with enhanced striping, a potential pedestrian island, and improved ADA ramp landing adjacent to the school. In coordination with the school district, this intersection could be improved with a small plaza area, better pedestrian connections into the school property, and a more direct pedestrian route connecting Thunderegg and Adrian Boulevards.
- Main Street / River Park / 5th Street: Install pedestrian crossing improvement across Main Street / State Route 20/26, for connecting to proposed multi-use trail along the Snake River and proposed Main Street bike lane extensions.

- Bower Avenue / Thunderegg Boulevard: Install crosswalk to improve pedestrian crossing safety from the school campus across Thunderegg Boulevard at the intersection with Bower Avenue (SR 26 and Highway 201).
- Good Avenue / Adrian Boulevard: improve existing pedestrian crossing with pedestrian warning light, flasher, and/or improved signage and illumination to increase the safety of the existing school crossing location.
- 11th Street / King Avenue / Adrian Boulevard: install pedestrian crossing improvements such as crosswalk and curb ramps to define a safe place for crossing Adrian Boulevard near 11th Street and King Avenue, for accessing the school campus.

IMPLEMENTATION

A prioritized project list with planning-level cost estimates for individual improvements is included in section 4. In general, the non-motorized projects identified in the plan will be implemented through a variety of funding strategies:

- In some cases, non-motorized improvements can be funded as part of a larger multi-modal project, for example an arterial improvement project that can be planned to include effective sidewalks and the appropriate on-street bicycle facilities.
- Projects that improve non-motorized safety on school routes may be eligible for grant funding through dedicated programs for safe routes to school.
- Non-motorized trails may also be eligible for grant funding through state or federal grants that support trail development.
- Many of the smaller non-motorized improvement projects, for example infilling missing sidewalk or improving the paving quality on a priority non-motorized street, can be completed as part of the City's regular maintenance program.

1 Non-motorized transportation benefits and needs

Non-motorized transportation–whether walking, biking, rolling in a wheelchair, or skateboarding down the sidewalk– is an important element of community life. For many travelers it is a necessary means to reach their destination. For others it is a choice that improves their quality of life, contributing to their health and providing a connection to the community. Whatever the motivation, non-motorized transportation provides a variety of benefits to both individuals and communities:

- Reductions in motor vehicle traffic and emissions.
- Improved health and wellness.
- Inexpensive access and mobility.
- Opportunities for personal connections and interaction.

Planning for non-motorized transportation focuses on opportunities to make walking and rolling safe and convenient options within a community. Where safe and convenient opportunities for non-motorized travel are available, people will use them; when they are not available, or when travelers feel that they are at risk, they will often choose to travel by car or avoid areas they perceive as unsafe.

Design features of non-motorized transportation facilities, whether they are located as part of a shared street or separated from motor vehicles, influence both their safety and attractiveness. Sidewalks with smooth surfaces and safe crosswalks are more conducive to walking than busy streets with no sidewalks. Similarly, bike lanes along busy roads provide separation from vehicles and encourage skilled bicyclists to be off the sidewalks. The non-motorized element of the transportation system plan addresses both the recommended locations and design characteristics of non-motorized facilities for Nyssa.

Much of the travel within Nyssa can be made by foot or by bike today. However, there are a variety of opportunities to improve non-motorized conditions and facilities to further encourage walking, bicycling, and other non-motorized travel. It is important that non-motorized travel be safe and convenient for as many different users as possible. This can be a challenge for users with limited mobility. However, with

careful planning and design many of the limitations to mobility can be overcome. Travel areas can be free of obstructions, have controlled grades and smooth surfaces, and provide special guidance for the seeing impaired.

Providing non-motorized options for Nyssa residents and visitors is an important contribution to a vital community. As much as non-motorized travel is important for the mobility of local residents, a pleasant walking environment is critical to the success of downtown retail, contributes to community livability, and strengthens relationships between community members.

Purpose Of This Walking And Bicycling Amendment

This plan amends the existing Transportation System Plan, adopted in 1999. The purpose of this amendment is to document the efforts that Nyssa residents, students, city staff, and other stakeholders undertook to better the walking and bicycling environment in Nyssa. Also, the purpose is to develop an implementation plan and identify funding sources to construct those walking and bicycling improvements.

This plan provides an updated framework for improving quality of life by establishing a foundation of projects developed by locals and stakeholders. These projects are tailored to meet the current and potential future needs for walking and bicycling in and around Nyssa. This plan recommends an updated set of city ordinances, which support bicycle and pedestrian travel.

Local Coordination And Involvement

This plan was developed as part of a coordinated effort between residents, city staff, city leadership, the Oregon Department of Transportation (ODOT), and stakeholders.

A technical advisory committee (TAC) was formed consisting of engaged and committed people (acknowledged at the beginning of this plan). These people directed the development of this plan.

On July 13th a group of citizens, city staff, members of council, and the mayor toured Nyssa by foot and by wheels. The tour developed the foundation of opportunities and constraints for improving mobility for walkers and bicyclists. The tour explored ways to improve access, safety, and amenities at a number of key destinations in Nyssa, including Main Street, the Snake River, school campus, parks and open spaces, and local roadways.

A workshop for students was held September 22nd, 2010 at the Nyssa Middle School. Students.

A study session was held with the city council to present the opportunities and constraints identified by the TAC.

On September 22, 2010 a public workshop was held in the Council Chambers, which was open to all residents.

Plan Contents

Subsequent chapters contain potential solutions for improving Nyssa's bicycling and walking infrastructure. This plan explores the possibilities and opportunities for improving access, connectivity, mobility and safety.

Because there are gaps in data describing the status of existing infrastructure, some of the improvements and objectives are applicable to a broader area—for example, improved sidewalks throughout the city.

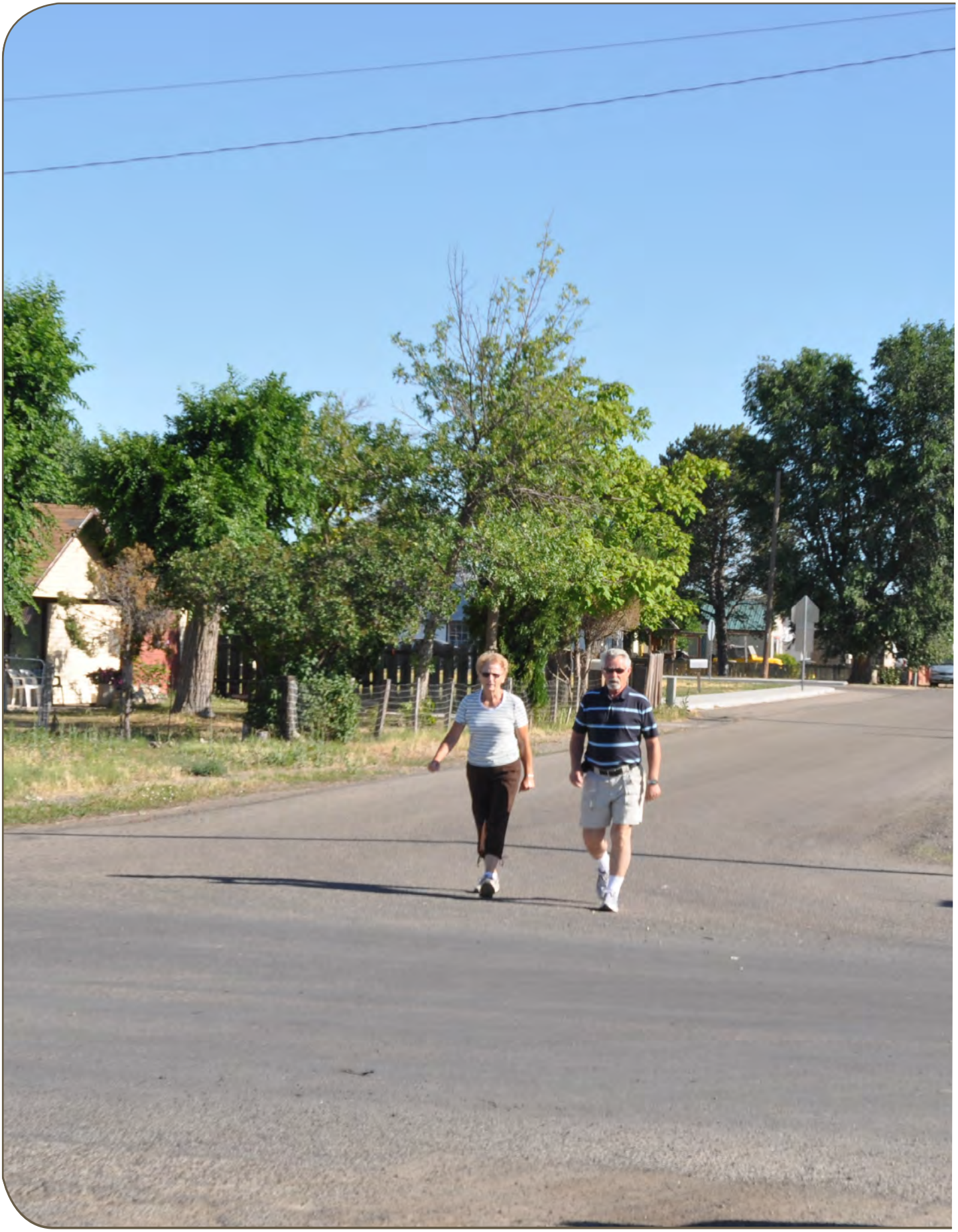
The opportunities presented in this plan demonstrate how the pedestrian and bicycle environment could be improved to meet the needs of current and future travel.

Chapter 1: Provides a description of non-motozied transportation benefits and needs in Nyssa.

Chapter 2: Identifies existing conditions in the form of opportunities and constrains related to transportation in Nyssa. Topics include access and connectivity, comfort and safety, and destinations.

Chapter 3: Presents the Plan's non-motorized elements and describes the need for updating the plan. A map of the proposed system improvements is also included.

Chapter 4: The basic financial element of the plan which includes costs for improvements, project prioritization, potential funding programs, and the implementation strategy.



2 Existing conditions

The City of Nyssa is a community offering a quiet and relaxed place for living for approximately 3,200 residents. People residing in Nyssa or those just passing through enjoy the many scenic parks and open spaces, access to the Snake River, the thrill of the thunderegg hunt, and the quaint downtown shopping area. Many of the parks are well used by residents and visitors alike, and are home to minor league baseball and soccer.

People walking or bicycling around town on local neighborhood streets often use the street. In places the sidewalks are nonexistent or in disrepair, but people generally feel comfortable walking in the street due to the relatively low numbers of autos passing by. Street intersections in neighborhoods have informal control (few stop or yield signs). All of these elements function well together where people are aware of other users and traveling at appropriately slow speeds.

Most of the auto traffic is concentrated to the major roadway connections through town. People passing through the city primarily use state highways 20 and 26 (SR 20/26) or county route 201 (CR 201). However, some of these quiet neighborhood streets can have significant seasonal increases in truck traffic. Nyssa is a focal point for local area agriculture and processing with storage and processing sheds to the south and amalgamated sugar to the east.

Nyssa is home to the Bulldogs—the public school campus located in town has approximately 1,300 students. The school's property is bounded to the east and south by state and county highways. Most of the students and teachers traveling to school must use or cross these major roadways.

There are numerous parks and open spaces in and around Nyssa. Parks are the places for minor league baseball and soccer, places for lunch, and for relaxation. Another recreational resource is the Snake River, which has only one formal access point at River Park.

Access and connectivity

Access and connectivity are critical components of a transportation system in order for it to be usable by the greatest number of people. Access concerns giving people the means of entering or approaching a place. It also includes giving people the right or opportunity to experience or make use of places. Connectivity is about linking people to places and other choices of travel and providing direct routes of travel.

Because most of Nyssa's roadways adhere to a basic north-south and east-west grid alignment, people can commonly travel different routes to reach their destination—this is typical of a city with a roadway system providing good access and connectivity. People can also complete the majority of trips safely and conveniently by auto, walking, and bicycling. Because of Nyssa's smaller community size, connectivity between different types of travels, such as walking to a bus stop and taking transit to work, or linking multiple bus schedules together, connectivity is more about establishing route connections between places. Connectivity is about providing transportation choices to meet the needs of people using the corridor.

Constraints and opportunities

There are natural and constructed barriers that impede access and connectivity in Nyssa. These barriers include the railroad corridor, the Snake River, major roadways and truck routes, and large drainage ditches. For most of these barriers, the impact to walking and bicycling can be overcome with good design and a little out of the way travel. These opportunities and barriers to transportation in Nyssa are illustrated on the following page and described in detail following.

The Railroad Corridor

The railroad corridor runs primarily north-south through the eastern portion of town. Its impact on access and mobility mostly concerns freight trucks and crossing. The Locust Avenue railroad crossing has a steep approach that larger trucks do not have the clearance to navigate, which limits their routes to Main Street. Although not directly an access issue, it does degrade the walking environment slightly. The railroad corridor can be crossed at three locations in town. Pedestrians and bicyclists may require some out of direction travel to reach their destination. However, a number of the key destinations are accessed from the railroad crossings, which limits the railroads impact on access and connectivity. There is a grade separated crossing where Main Street goes underneath the rail lines. This crossing treatment (grade separation) provides a great deal of safety for both autos and pedestrians. North of Main Street, two at-grade railroad crossings are available at Locust Avenue and Columbia Avenue.

The Snake River

The Snake River is the border between Oregon and Idaho. Because most of the town is located west of the river, access and connectivity within town for walking and bicycling is not directly impacted. The primary destination east of the Snake River would be for bicyclists traveling longer distances, such as touring riders. An indirect impact of the river is the availability of only one crossing point. This serves to funnel the majority of traffic to Main Street, which means more autos and trucks passing through crosswalks and beside on-street bicyclists. The Snake River and adjacent land is a wonderful opportunity for open space development, an area for wildlife to flourish, and creates a buffer between different land uses. These

areas along the Snake River can be a strategic place for the City of Nyssa to improve transportation choices, such as a non-motorized trail hugging the river.

Major Roadways and Truck Routes

The State Routes through town and 3rd Street north of Main Street have the highest number of autos and trucks traveling along them. These higher volume roadways have a greater need for maintaining a positive pedestrian and bicycling environment. This means incorporating good design principals to increase access and safety. Examples of positive improvements in Nyssa include bicycle lanes and curb extensions along most Main Street through downtown.

Drainage Ditches and Dikes

Large drainage ditches and raised dikes can become access restrictions as ditches require bridges to cross and dikes may have restricted access. These features can interrupt connectivity between destinations as people have to travel greater distances around the drainage ditch to reach potential destination. Dikes are often located close to water features, such as a river, which can influence where roadways converge an connect to reach existing crossing locations. In some areas, dikes can impact the ability to reach river access points. However, the only large drainage ditch in Nyssa is located in the northwest end of town and has little negative impact on access and connectivity. In fact, the drainage ditch provides an opportunity for an alternative connection and is commonly used by pedestrians and bicyclists. The dike along the Snake River also provides an opportunity for travel as it used by walkers, bicyclists, and equestrians. Informal river access can be reached by crossing the dike.

Non-motorized travel destinations

Destinations are where people want to go and how they travel to those destinations is important to understand. By understanding where these destinations are, what people are doing when they arrive there, and how they are traveling to them, we can design better roadways for their use.

The following discussion of destinations includes the major parks, streets, businesses, and civic buildings in Nyssa. Opportunities and constrains for improving connections to these destinations is presented in subsequent chapters.

Main Street (SR 20/26)

Main Street is one of the busiest corridors in Nyssa in terms of auto and truck volumes as well as pedestrians and bicyclists. It provides the only crossing of the Snake River between the Oregon and Idaho state borders in Nyssa. Most days, the sidewalks are bustling with students, people heading to lunch, and those shopping and strolling around town. The bicycle lanes between N 7th and N 1st are frequent by morning commuters and throughout the day by residents and touring cyclists. The frequency of use can be dependent on the season and the weather. On-street parking is available free of charge on both sides of the streets. East of the rail tracks, parking is limited due to truck staging for the sugar factory. Because Main Street is a truck route, trucks regularly turn from Main Street onto other city streets. Trucks turning from Main to travel north on 3rd often enter into opposing travel lanes because of the reduction in turning space from the curb extensions.

Nyssa Schools Complex

Nyssa's elementary, middle, and high schools are co-located on a campus area at the intersection of Main Street, Thunderegg Boulevard, and Adrian Boulevard. Parking and drop-off for all three schools are primarily from Adrian Boulevard, although there are recent efforts to relocate elementary school drop-off to Bower Avenue. Students walk to the campus from all directions, although they come primarily from the northeast and southeast. Many students walk or bike to school, and need to cross at least one of the state highways to access the campus.

Thunderegg Boulevard

Thunderegg Blvd. is a major roadway on the west side of town. It is also known as County Route 201 and State Route 20/26. It experiences heavy truck and auto volumes and provides access to the north out of downtown. It is a wide roadway with intermittent sidewalks on both sides of the roadway. On-street parking is available and many of the businesses along this roadway have driveway access. The development along this roadway is mostly commercial and light industrial. Due to Thunderegg Blvd.'s skewed alignment through town, a number of local streets intersect near or at this roadway creating large and complex intersections. The majority of students living north of Main Street must cross this roadway when traveling to school.

Adrian Boulevard

Adrian Blvd. / Succor Creek Highway is a major roadway on the west side of town. It experiences heavy truck and auto volumes and provides access to the southwest out of downtown. During harvest season, the truck volumes dramatically increase between the city limits and King Avenue, where beat trucks turn to access the storage and transfer sheds. This roadway is the primary access to the high school and middle school. It is a wide roadway with sidewalks on both sides of the roadway throughout most of town. On-street parking is available but often occupied by school buses during the morning and late afternoon. The majority of students living south of Main Street must cross this roadway when traveling to school. The intersection of Adrian Blvd., Thunderegg Blvd., and Main Street is the only signalized intersection in Nyssa.

South Park

South Park is the largest park in Nyssa and sometimes referred to as "shady park" due to its abundance of large trees. It is often busy throughout the day as people enjoy lunch, and in the evening to attend minor sports activities. People filter into South Park along neighborhood streets arriving by auto, bicycle, and foot. From the north, both 4th Street and 5th Street connect residential areas to the park. This park provides a skateboard area, ball diamond, soccer fields, play equipment, picnic shelter, rest rooms, drinking fountain, and on-street parking. 5th Street is currently used by trucks between Main Street and the onion sheds on Commercial Street. Public concern was expressed regarding the speed of vehicles traveling on roadways adjacent to the park and the preference for speed control measures to be evaluated.

North Park

North Park is another large park in Nyssa with giant shade trees. People filter into South Park along neighborhood streets by auto, bicycle, and foot. From the south,

5th Street connects the downtown and residential areas to the park. Amenities at this park include an improved ball diamond, a soccer area, playground equipment, a picnic shelter, rest rooms, drinking fountain, and on-street parking.

Lions Park

Lions Park is a quaint park on the north end of downtown. Amenities at this park include a playground area, basketball court, shelter, rest rooms, drinking fountain, sparse shade and on-site parking.

River Park

River Park is located on the far east end of downtown on the shoreline of the Snake River. This park serves as the primary access point to the Snake River with a boat launch and parking for approximately six vehicles with trailers, tie-up points on a floating dock, rest rooms, and information stand. Most people visiting this park arrive in private auto although connections by walking and bicycling are possible along Main Street. A dedication sign to bicycle Oregon is located at this park. The desire to expand this park to have family-based amenities is desirable. Although, it would likely require acquisition or easements from the adjacent property owners.

City Hall and Council Chambers

Nyssa City Hall is located adjacent the intersection of 3rd Street and Main Street. It is easily accessible by walking and bicycling along Main Street. Similar to other buildings along Main Street, it is pedestrian-orientated—the primary entrance way is at the back of sidewalk and parking is provided at the rear of the building or on-street. The council chambers are located immediately south of City Hall on 3rd Street.

Library

The library is accessed via Main Street near 5th Street. Out front of the library, a bicycle rack is furnished. Auto parking is available in a small parking lot on the side of the building or on-street.

Future Sports Complex and Park Facility

A future sports complex and park facility is currently being discussed by city staff, council, and residents. The sports complex is proposed to include ball diamonds, soccer fields, and a pool. Two potential locations for this park complex are near Ehrgood Street or Columbia Avenue and the Snake River. The sports complex is envisioned to be connected to downtown and other areas of Nyssa via a non-motorized trail system and local roadways for auto access. These connections to the park would require improvements such as paved roadways, sidewalks, bicycle facilities, a non-motorized trail, and parking.

Comfort and safety

The level of comfort and degree of safety a transportation network provides its users can be challenging to measure. The lack of reported bicycle and pedestrian collisions in Nyssa suggests people are relatively safe as they travel. Although when considered independently, it does not tell the complete story. In practice, accidents are localized and result from events that would be difficult to prevent. Also, reported collisions do not capture the near-misses or places people avoid because

they don't feel comfortable or safe walking or bicycling. Comfort and safety has a number of components, which includes careful planning, visibility, location, and communication. Generally, to improve comfort, pedestrians and bicyclists prefer some separation or protection from vehicular traffic, such as a dedicated bike lane, wide shoulder, or sidewalk. Crossing locations, like those around the school campus, could be enhanced to provide greater visibility for drivers of the formal crossing locations. Other areas where safety could be improved include the at-grade railroad crossings, and streets and intersections with high truck and auto volumes.

Future Traffic Analysis

As described in the Nyssa Transportation System Plan Update: Traffic and Crash Analysis Report, January 2011, the study area included the following intersections:

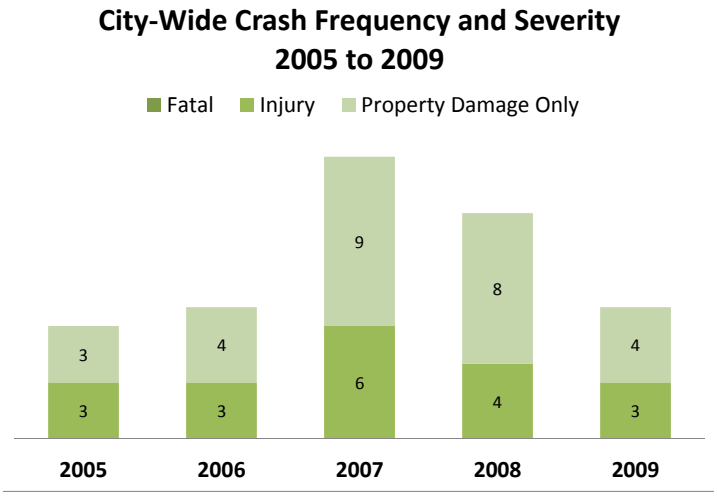
- Thunderegg Boulevard / Locust Avenue
- Main Street / Succor Creek Highway
- Main Street /3rd Street

All three of the study area intersections are projected to operate substantially better than its respective existing mobility standard (for example, the worse condition is the AM peak for the Main Street / Succor Creek Highway intersection with a volume to capacity rating of 0.28, which is significantly lower than the 0.85 allowable rating for the existing ODOT mobility standard (all intersection were within a range from 0.09 to 0.28, which generally represents traffic conditions experiencing little to no congestion). Also, each intersection has a significantly lower crash rate (range of 0.14 to 0.23 crashes per million entering vehicles) compared to an industry standard of 1.0 or greater. The traffic conditions project for 2030 estimate the volume to capacity rating will range between 0.08 and 0.28 for all intersection.

Because Main Street has already been improved by the Oregon Department of Transportation to include bike lanes and sidewalks, and none of the adjacent streets preclude walking or bicycling, the proposed re-focusing of roadway connections for bicycle and pedestrian traffic would have little to no impact on the transportation system. The designation of preferred alignments for walking and bicycling may concentrate the number of people crossing the roadway at a particular location; however, because these locations are unsignalized, except for the Main Street / Thunderegg Boulevard intersection, pedestrians yield to vehicular traffic and do not create substantial delay for vehicular traffic.

Collision Review

A City-wide crash analysis was completed for the five most recent, complete, and consecutive years (2005-2009). The results of the traffic and collision analysis can be found in the "Nyssa Transportation System Plan Update: Traffic and Crash Analysis Report" 2011. This report states that between 2005 and 2007, the frequency of crashes increased; however, between 2007 and 2009 the amount of crashes has decreased. Because the total number of annual crashes (between 6 and 15) is relatively low, the annual differences may be the result of stochasticities (see adjacent chart).



In the traffic analysis report, three intersections were analyzed in greater detail to summarize the types of collisions occurring and the crash-rate. Between 2005 and 2009, the study intersections experienced 2 to 5 crashes each. The daily entering volumes, which were used to calculate the crash rates, were based on the evening peak hour turning movement counts collected on October 27, 2010. Based on the number of crashes and daily entering volumes, the crash rates were calculated to be 0.14 to 0.23 crashes per million entering vehicles (Crashes/MEV). These crash rates are substantially lower than a standard of 1.00 Crashes/MEV that signifies a high crash frequency. No apparent trends in the crash type are evident due to the low number of crashes.

Location	Fixed Object	Rear-End	Turning	Angle	Total	5-Yr Annual Average	Crashes/ MEV
Thunderegg/Locust	1	1			2	0.40	0.23
Main/3rd	2	1	1	1	5	1.00	0.39
Succor Creek Hwy/Main		2			2	0.40	0.14

Existing Sidewalk Facilities

The following map identifies areas of improved sidewalk and bicycle facilities in Nyssa. Since the previous Transportation Plan, some bicycle and pedestrian improvements have been constructed; such as the bicycle lanes on Main Street. Refer to the map below for a complete summary of improvements.

Bicycle lanes
Sidewalk with planting strip
Sidewalk adjacent to curb

Student workshop and survey feedback

A student access school workshop was held at the high school on September 21, 2010 with a Social Studies class. Prior to the in-class work, students were requested to complete a trip log—students logged a trip they made to school, including any stops along the way and a trip during the weekend. The reasons for choosing their route to in-between destinations and the final destination was discussed as well as how the trip was completed (bike, bus, walk, and/or drive).

Key recommendations:

Improve routes to school, which includes difficult roadway crossings.

Develop sports complex with baseball fields.

Improve main street image and signing and striping for destinations, such as parks and the mural tour.

Develop river trail with river access points along the Snake River.

The class was engaged and interested in improving bicycle and pedestrian connections in town. Students discussed potential location for facility improvements and ways to improve the quality of life and increase the attractiveness of Nyssa to outside visitors. The students captured their concerns and opportunities on large scale maps, which they presented at the Public Meeting in the evening.

A summary of the student interests and concerns included:

- Identifying potential problem areas along their trip such as challenging intersection, crossing locations, and incomplete pedestrian and bicycle system (connectivity of sidewalk and bicycle routes)
- Improving the destinations within the City to walk and bicycle too.

Problem areas
Stops on the way to school
Cool places


ATM
Tiger Mart

3 Non-motorized plan elements

This amendment to the City of Nyssa's Transportation System Plan updates the non-motorized elements of the current plan. The recommendations included here are intended to improve safety and mobility for non-motorized transportation modes including walking, bicycling, wheelchair use, skateboarding, and others. In addition, improvements to non-motorized facilities including sidewalks, trails, and improved pedestrian environments, often have secondary benefits of improving a sense of community, enhancing quality of life, and contributing to economic development in communities.

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- Updating standards for non-motorized facilities associated with local streets and state highways within the planning area.
- Identifying potentially unsafe locations for non-motorized travel and recommending appropriate improvements
- Identifying trail opportunities and connections between proposed trails and the on-street non-motorized network.

Targeted Transportation System Improvements

The bicycle and pedestrian improvements recommended in this plan supersede or compliment the recommendations of the July 1998 City of Nyssa Transportation System Plan and the 2003 Main Street Revitalization Plan; however, the plan for other modes remain in place. The following is a discussion of modification to the elements included in the 1998 and 2003 plan.

Pedestrian System

The improvements recommended for improve the intersection of Adrian Boulevard and 11th Street (formally referred to as Becks Road) is similar to the previous H-6 project, except the location of the crossing improvement is at the Adrian Boulevard / 11th Street / King Street intersection.

Bicycle System

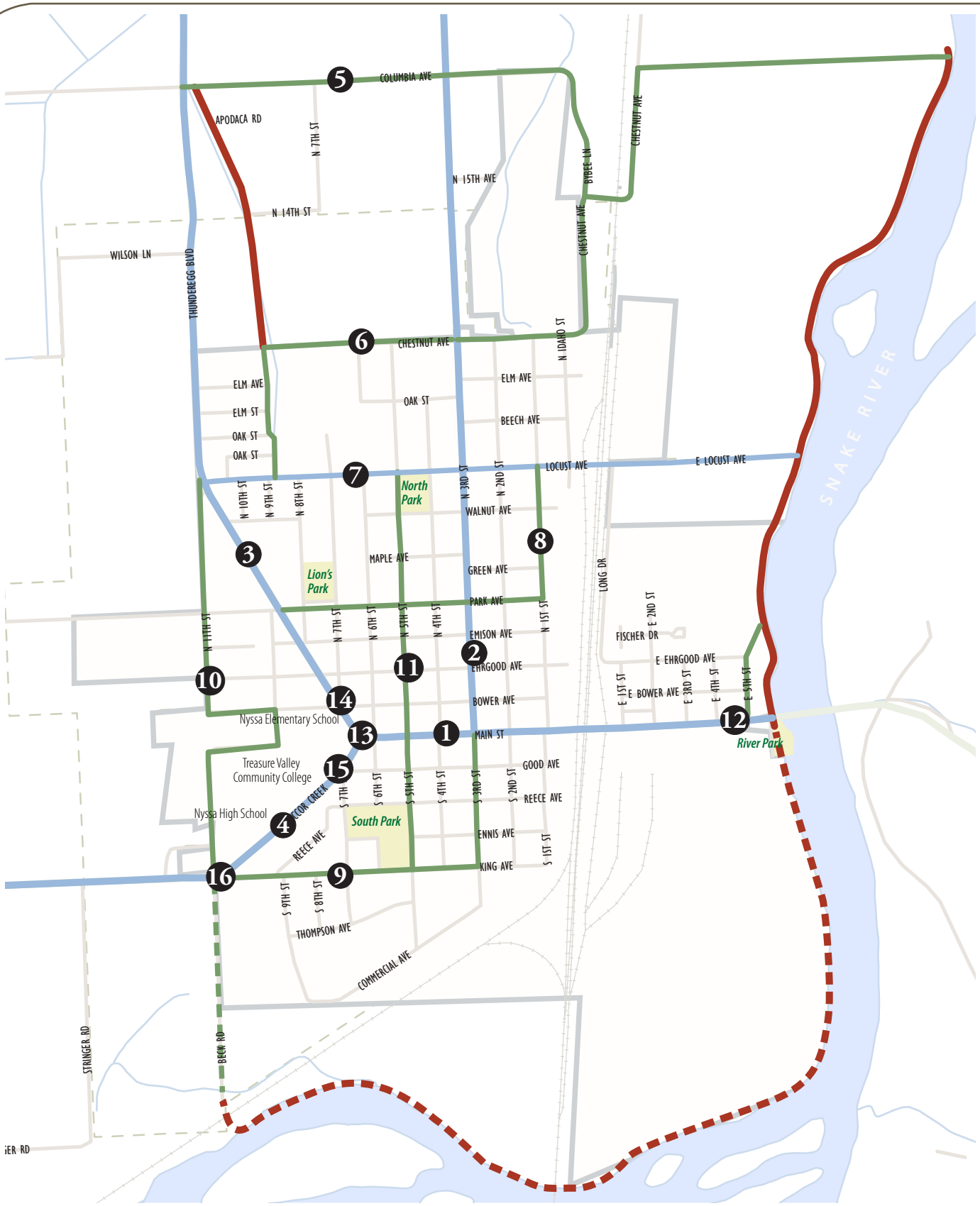
A number of the needs mentioned in the previous 1998 were reiterated by participants in the current update of the Nyssa Bicycle System. Slight modifications to the proposal of previous projects were made in some cases. For example, the previous high priority project (H-7) recommendation to install sidewalk on both sides of the street and to stripe travel lanes and shoulder to provide shoulder bike lanes is similar to the improvement recommended for Adrian Boulevard in the current plan, which recommends striping to provide bike lanes and retain parking on one side of the street, if possible. Also, medium priority project (M-5) would clarify the preference for bike lanes. Also, the ODOT project for Main Street led to the completion of project M-3, which provides bike lanes on Main Street along with pedestrian sidewalk and crossing improvements in the form of curb ramps, curb extensions, and painted crosswalks.

Intersection and Safety Refinements

Carrying forward from the previous plan is the preference to improve the crossing locations along the skewed section of Thunderegg Boulevard and Adrian Boulevard as they diverge from Main Street—these roadways create large intersections where the bisect Nyssa's street grid system. Wherever possible, these intersections should be modified to reduce the number of access roads at the intersection and clarify and improve the pedestrian crossing areas with crosswalks and curb ramps.

Trail System

The previous plan did not consider a trail system.



BICYCLE AND PEDESTRIAN SYSTEM PLAN

Map Key

Bike Lanes

① Main Street: extends the existing bike lane east to Riverfront Park and west through Thunderegg Boulevard Intersection.

② 3rd Avenue: install new bike lane from Main Street to the north out of town.

③ Thunderegg Boulevard: Extends bike lanes along Thunderegg Boulevard to the north. Would likely become widened shoulders north of Locust Street intersection

④ Adrian Boulevard: Construct bike lanes in the Adrian Boulevard corridor, transitioning to widened shoulders west of King Street.

Bike Routes

⑤ Columbia: connects between Thunderegg Boulevard the proposed ditch access road trail and the proposed Snake River Trail. Makes connection across railroad tracks using Bybee and Chestnut.

⑥ Chestnut: connects between proposed ditch access road trail/9th and Columbia to connect to the proposed Snake River Trail.

⑦ Locust Avenue: connects between Thunderegg Boulevard/11th and the proposed Snake River Trail.

⑧ Park and 1st: connects between Thunderegg Boulevard and Locust and eventually to proposed Snake River Trail.

⑨ King Avenue: connects between Adrian Boulevard, Commercial, and 3rd Street to Main Street.

⑩ 11th Street: connects Adrian Boulevard and Locust Avenue behind the school campus.

⑪ 5th Street: connects between King Street and South Park to Locust Avenue and North Park.

Improved Pedestrian Crossing Locations

⑫ Main Street at River Park: connects River Park to proposed trail along the Snake River.

⑬ Main Street at Thunderegg Boulevard: connects school campus to the neighborhoods to the east.

⑭ Thunderegg Boulevard at Bower: Provides an improved crossing at a location with high pedestrian use connecting the school campus to neighborhoods to the northeast.

⑮ Adrian Boulevard (Hwy. 201) at Good Street: Optional project to enhance existing crossing with pedestrian-activated warning signal. This crossing is patrolled by a crossing guard at school drop-off and pickup times. The location has relatively high use at other times also, and could benefit with improved driver notification.

⑯ Adrian Boulevard (Hwy. 201) at King Avenue: Improves pedestrian safety at a well-used school crossing connecting from King Ave. to the school campus.

Bike lanes / sidewalks / paved shoulders

Bike lanes provide dedicated space on roads for bicyclists to travel, which is adjacent to vehicular traffic. Bike lanes can attract new cyclists to roadways as they can increase a cyclist's safety and comfort. However, the design and placement of bike lanes at intersection should consider the continuation of bike lanes through busy intersections. Intersections are locations where street space can be constrained and providing the additional space for bike lanes is challenging. Generally, bike lanes are found on streets with higher vehicle volumes. Bike lanes on lower volume roadways or roadways that experience very high bicycle traffic can be beneficial to less experienced riders.

The typical white lane stripe, stencil depicting a bike lane, and appropriate signage is typically adequate for marking a bike lane along a roadway. However, where increased safety for cyclists is required, the visibility of a bike lane can be increased by coloring the bike lane. In the United States, increasing bike lane visibility is done by painting the bike lane a different color than the roadway, usually green or blue. Careful consideration to paint lane standards is necessary to ensure the bike lane does not become slippery when wet, creating a dangerous situation for cyclists.

There are a number of ways in which bike lanes can be accommodated in a corridor. The least expensive option for adding bike lanes is to narrow lane widths or to paint defined lane lines, providing the existing roadway has adequate space—a cross section of 34 feet is recommended for two bike lanes and two lanes of traffic. More expensive options include widening the paved section of the roadway and if necessary, installation of storm water management, replacement of sidewalks and planting strips, and potentially property acquisition.

For the development of bike lanes on Oregon State highways, the City will need to consider ORS 366.215 No Reduction of Capacity statute. The ODOT Region Mobility Liaison should be coordinated with to establish a process for early communication with Motor Carrier Transportation Division (MCTD) and freight stakeholders to help implement State highway projects.

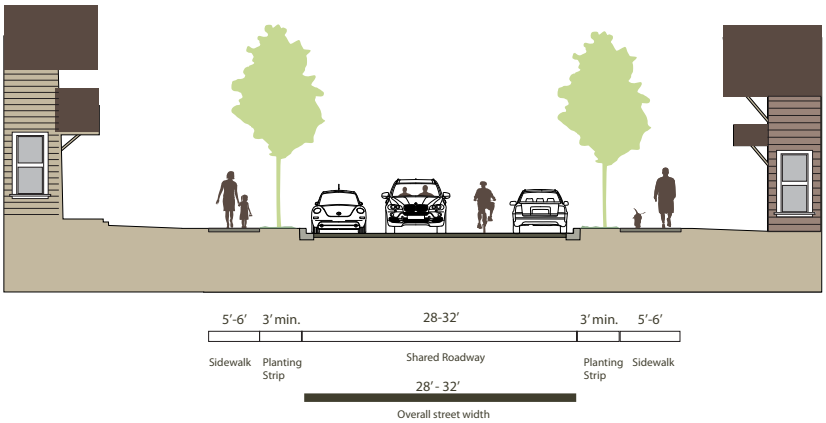
Bike lane facilities recommended for the City of Nyssa include:

Main Street Extension-East: (1.74 miles) extend the existing bike lanes on Main Street to the east to connect to Riverfront Park (approximately 0.34 miles). The purpose of this connection is to provide on on-street connection to the existing River Park and future trailhead for the Snake River multi-use trail. Careful consideration will be required for the section east of the railroad bridge where trucks queue to enter the property to the south.

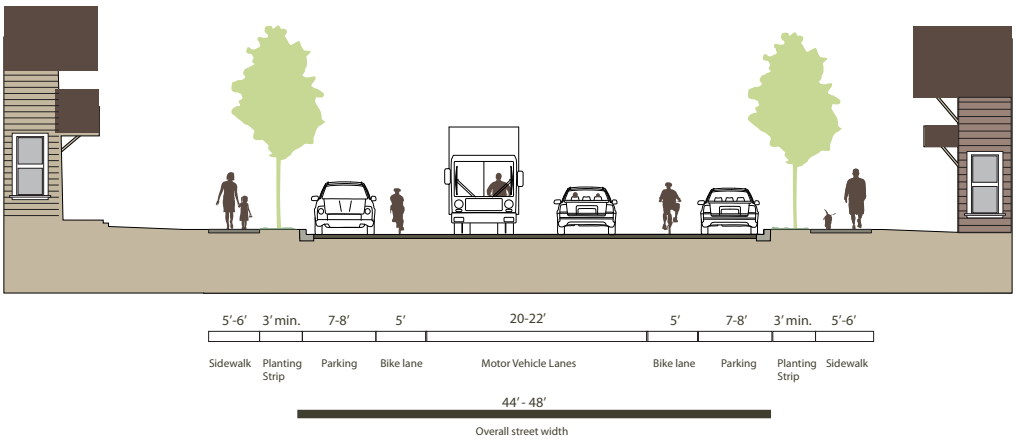
Main Street Extension-North: (1.4 miles) extend the existing bike lanes on Main Street through the Thunderegg Boulevard intersection and to the north (Columbia Avenue for estimating purposes). The purpose of this connection provides a safe on-road facility on a busier road in Nyssa, and connects north to the proposed Locust Avenue and Columbia Avenue facilities.

3rd Avenue: (1.3 miles) bike lanes or paved shoulder connecting from Main Street to the north city limits (Columbia Road for estimating purposes). The purpose of this street is to provide a safe on-street facility on a busier road, especially during harvest season, for bicyclists traveling to the north of Nyssa and potentially using an alternative route to connect to Ontario.

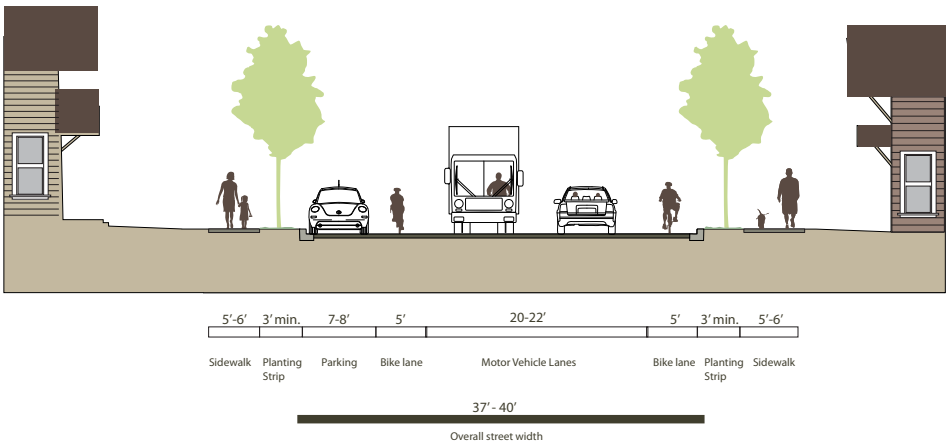
Adrian Boulevard: Add bike lanes to Adrian Boulevard from Main Street to approximately King Street. This section improves bicycle access to the schools campus from the existing bike lanes on Main Street.



Example section for a bike route street



Example section for a bike lane street with parking both sides



Example section for a bike lane street with parking on one side only

TYPICAL SECTIONS FOR STREETS WITH BIKE LANES AND DESIGNATED BIKE ROUTES

Bike routes

Bike routes are streets where bicycles travel in the same lane as vehicular traffic with no buffer between bicycles and vehicular traffic. Although bicycles are allowed to travel on all streets, except access restricted facilities such as interstates, bike routes let cyclists know they are using a preferred street and provide guidance on bicycle positioning through street markings, such as sharrows. Bike routes typically provide a higher level of comfort for bicyclists compared to adjacent streets—they often link destinations, experience less vehicle and truck traffic, and have less hills or lower grades.

Example of a 'Sharrow' pavement symbol used to mark bike routes. Bicycles should travel over the 'sharrow' symbol. The placement, size and graphic design for sharrow marking can be found in current editions of the Manual for Uniform Traffic Control Devices (MUTCD). For neighborhood streets sharrows will typically be placed in the center of the travel lane.

Guidance for bicycle positioning along a bike routes is typically shown as a 'sharrow', which is a symbol painted in the street as shown in Figure 2—one example of a sharrow appears as a bicycle with two chevrons above it indicating the direction of bicycle travel.

Bike routes provide additional focus to the use of roadways and corridors by bicyclists. Because the proposed routes in the City are low volume and low speed roadway, the designation of roadways as bike routes will have little impact on traffic movements and congestion. The increased visibility and awareness should improve bicycle and pedestrian circulation by providing dedicated routes that are likely to received increased priority for roadway enhancements, such as resurfacing and intersection control upgrades.

Because bike routes provide a favored connection between destinations within the City and other bicycle facilities, these same routes are typically favorable to pedestrians, especially the alignments connecting schools and parks. The bike route corridors would also provide preferred routes for sidewalk construction or in-fill of sidewalk, and where possible, the consolidation or re-defining of property access, such as driveways.

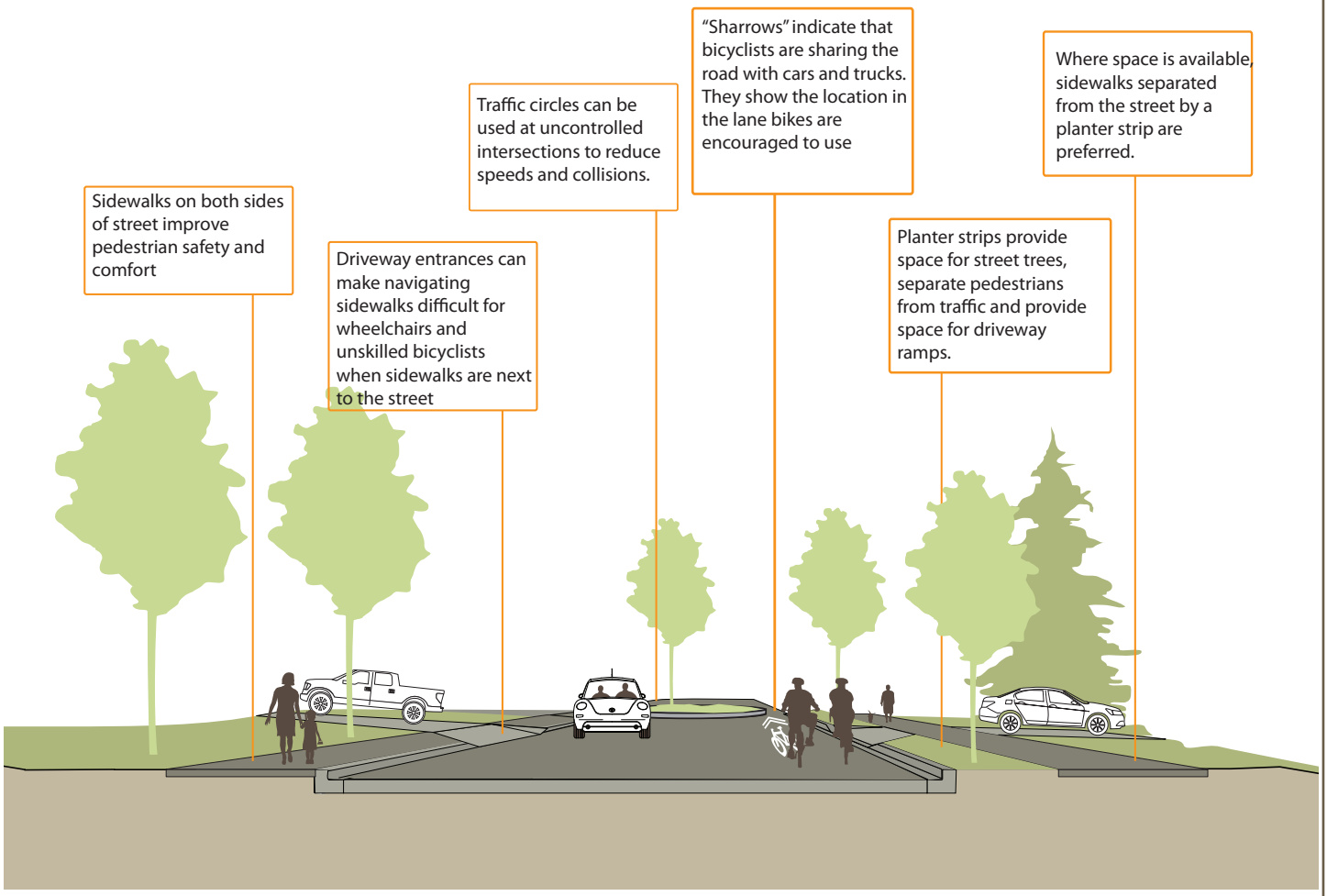
Bike route facilities recommended for the City of Nyssa include:

Columbia Avenue: (1.8 miles) bike route would connect proposed bike lanes on Thunderegg Boulevard , the proposed Ditch Road Trail / 9th Street connection, and the proposed Snake River Trail (the Columbia Ave connection is made using Bybee Lane and the at-grade railroad crossing along Chestnut Avenue).

Chestnut Avenue: (0.67 miles) bike route connects between proposed ditch access road trail / 9th Street and Columbia Avenue, east of Idaho Avenue, and the proposed Columbia Avenue bike route. This route would provide an additional east-west connection in the north part of town and provide a mid-route access to the proposed Ditch Road Trail / 9th Street facility.

Locust Avenue: (0.85 miles) bike route connects between Thunderegg Boulevard/11th Street and the proposed Snake River Trail (would require a trail extension from the end of Locust Avenue to the proposed trail). The purpose of this route is to connect 11th Street, which is used to access the Nyssa school campus to the south, to the proposed Snake River Trail. This route would also connect to North Park and provide a continuous east-west route through Nyssa and provides an at-grade railroad crossing (one of the three places to cross the tracks).

Park Avenue and 1st Street: (0.75 miles) bike route connects between Thunderegg Boulevard and Locust Avenue, which connects to the Locust Ave route leading to the Snake River Trail. The purpose of this route is to provide another east-west connection in Nyssa, which would provide another route for students and also connect to the north along 1st Street, as an alternative to 3rd Street, to Locust Avenue (and eventually the proposed Snake River Trail).



Designated bike routes also include sidewalk facilities to accommodate safe pedestrian movement

11th Street: (0.76 miles) bike route connects Adrian Boulevard and Locust Avenue behind the school campus. The purpose of this route is to provide additional preference for the use of this route as a bike connection serving the local neighborhood and the Nyssa school campus.

5th Street: (0.76 miles) bike route connects between King Avenue and Locust Avenue, providing a connection between South Park and North Park.

Street Crossings

Street crossings can occur anywhere along a street at marked and unmarked locations, unless prohibited. A safe street crossing considers the type of street and the traffic it conveys, the type of pedestrians, where crossing locations should be placed, and how they appear to pedestrians and motorists. Also, pedestrian safety is improved by motorists and pedestrians being able to see each other and being able to anticipate each others movements.

The appropriate type of street crossing treatments are based on the number of vehicles and trucks, presence of a school or a non-motorized trail, type of pedestrians commonly using the crossing, and safety concerns. Some examples of safety concerns include a history of collisions, and difficulty for pedestrians and motorists being able to see each other. Improved street crossing areas are generally categorized as Intersection Street Crossing or Midblock Crossings.

Intersection street crossings

How pedestrians are accommodated at intersections can be decided based on a number of factors, some of which include: adjacent land use; vehicular volumes on the surrounding streets; size and configuration of the roadway and speed limit; collision history; and, the number of pedestrians or bicyclists crossing at a location. Intersections at busy streets usually provide greater accommodation for pedestrians to offset the greater potential for conflict with higher vehicular volumes, speeds, and larger roadways. Intersections of streets with lower auto volumes may provide little to no indication for pedestrian crossings.

Intersections of streets with a high number of autos are typically controlled by a traffic signal or a roundabout to reduce congestion and improve the predictability of people passing through the intersection. The presence of a traffic signal requires pedestrian signals. Presently, the Main Street / Thunderegg Boulevard intersection is the only signalized intersections in Nyssa.

Some of the elements of intersection pedestrian street crossings include the following:

- Crosswalks: marked crosswalks provide clear indication to pedestrians and motorists where crossings will occur. A wide variety of crosswalk treatments are available to increase the visibility of the crosswalk.
- Curb Ramps: curb ramps provide a smooth transition from the sidewalk to the street surface. Curb ramps should face straight into the crosswalk and include a tactile surface to indicate the transition from sidewalk to street.
- Pedestrian Signals: the preferred pedestrian signal is a ‘pedestrian countdown timer’, which shows when to walk, when not to walk, and the time remaining to cross the street.

- Signs: signs are used to provide instructions to pedestrians on where they should cross and how to operate the signal. Signs for drivers clearly indicate a pedestrian crossing.
- Intelligent Signals: signals that provide feedback to pedestrians are comforting and assist the visual impaired. Signals can also automatically detect where pedestrians are waiting to cross and provide an indication that the call button (on signals where pedestrians must activate the signal to cross) has been pressed.
- Curb Extensions: sometimes referred to as curb bulbs, shorten the distance people are required to cross and allow people to safely see around parked cars before crossing. Many of the intersections in downtown include curb extensions.

Intersection improvements recommended for the City of Nyssa include:

Main Street / Thunderegg Boulevard: install pedestrian crossing improvements such as enhanced crosswalk and connection through property on north side of Thunderegg Boulevard. This crossing provides a critical connection to the Nyssa school campus.

Main Street / River Park / 5th Street: install pedestrian crossing improvement across Main Street / State Route 20/26, for connecting to proposed multi-use trail along the Snake River and proposed Main Street bike lane extensions.

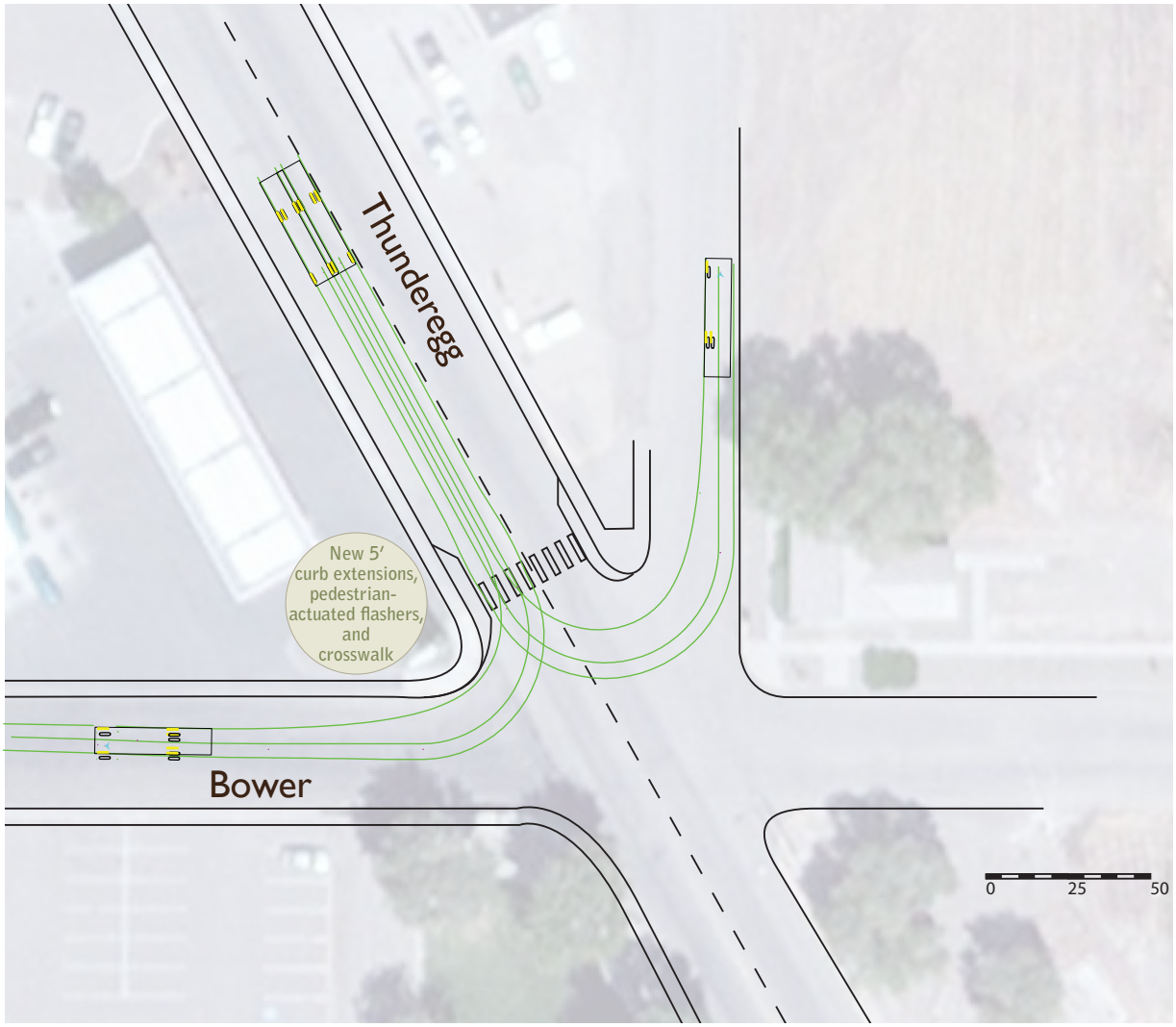
Bower Avenue / Thunderegg Boulevard: install pedestrian crosswalk to improve pedestrian crossing movement from the school campus across Thunderegg Boulevard (SR 26 and Highway 201).

Good Avenue / Adrian Boulevard: improve existing pedestrian crossing with pedestrian warning light, flasher, and/or improved signage and illumination to increase the safety of the existing school crossing location.

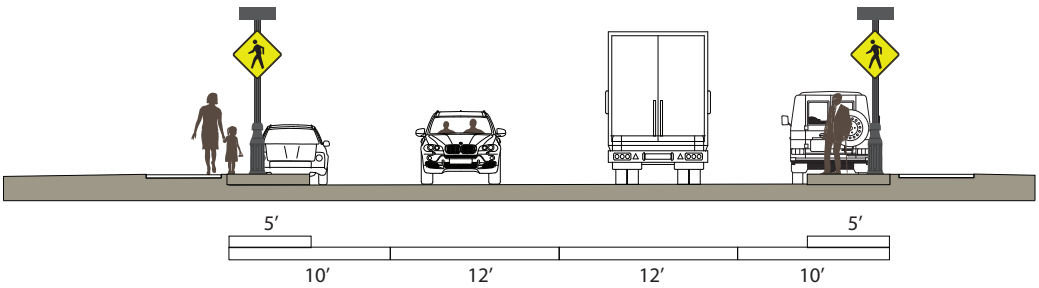
11th Street / King Avenue / Adrian Boulevard: install pedestrian crossing improvements such as crosswalk and curb ramps to define a safe place for crossing Adrian Boulevard near 11th Street and King Avenue, for accessing the school campus.

School Area Improvements

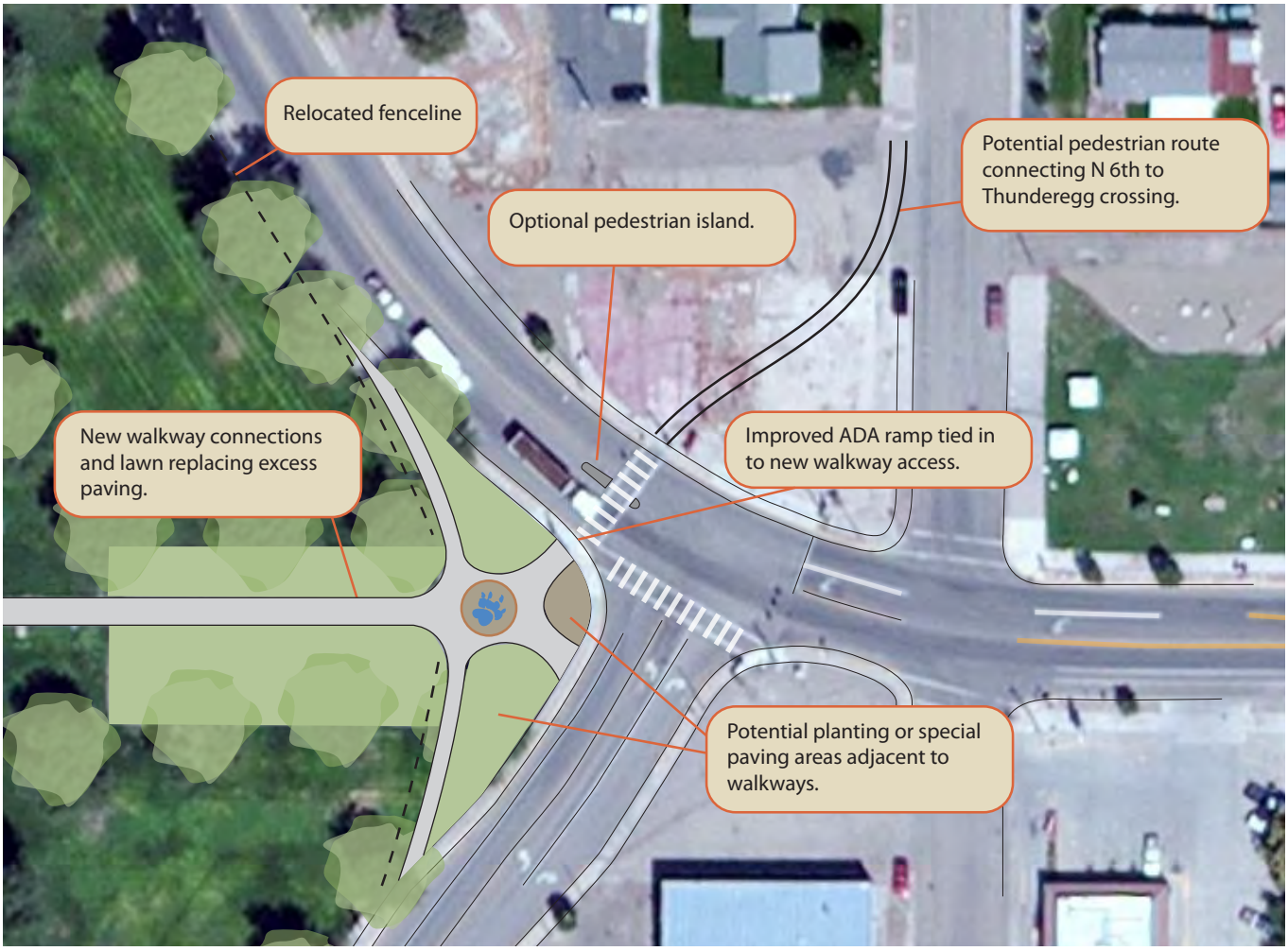
Improved Crossing at Thunderegg Boulevard and Bower Avenue



Pedestrian crossing improvements at Thunderegg and Bower showing school bus turning requirements. The improved crossing includes Continental style crosswalk striping, 5' curb extensions, and pedestrian-activated warning lights.



Improved Crossing at Thunderegg Boulevard, Adrian Boulevard, and Main Street



In partnership with the Nyssa School District, this project adds a secondary pathway connecting sidewalks along Thunderegg Boulevard and Adrian Boulevard, improving safety and providing a more direct route of travel, and also improves the landing for pedestrians on the west side of the intersection, allowing for improved ADA access. To reduce out-of-direction travel and provide more flexible travel paths, the project also develops a paved plaza area at the apex of the intersection between Thunderegg and Adrian Boulevards, with an opportunity to provide decorative accents with colored concrete or other smooth, ADA appropriate paving surface.

General Intersection Control: consideration should be given to intersections on bicycle routes and routes to school for defining the type of control at the intersection, such as traffic circles, stop signs, and yield signs.

Some of the elements of intersection pedestrian street crossings include the following:

- Crosswalks: marked crosswalks provide clear indication to pedestrians and motorists where crossings will occur. A wide variety of crosswalk treatments are available to increase the visibility of the crosswalk.
- Curb Ramps: curb ramps provide a smooth transition form the sidewalk to the street surface. Curb ramps should face straight into the crosswalk and include a tactile surface to indicate the transition from sidewalk to street.
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- Curb Extensions: sometimes referred to as curb bulbs, shorten the distance people are required to cross and allow people to safely see around parked cars before crossing. Many of the intersections in downtown include curb extensions.

Midblock Crossings

A midblock crossing is a formal pedestrian crossing location, which occurs somewhere between two intersections. These crossings are constructed to improve pedestrian access and circulation and to avoid unnecessary out of the way travel. They can be used to avoid major intersection crossings thereby reducing any conflicts created with turning vehicles not checking for pedestrians crossing.

Many of elements used to mark midblock crossings are the same used for intersection street crossings. Most midblock crossings include curb ramps, high visibility signs, and may have lighted flashing beacons. In some areas, crossing locations have orange flags for pedestrians to carry when crossing to improve visibility.

A midblock crossing can include a traffic signal component based on criteria outlined in the Manual of Uniform Traffic and Control Devices, which is published by the American Associate of State Highway Traffic Officials. The guidelines are in place to assist in the decision making process by requiring threshold numbers of pedestrians and gaps in the traffic flow for safe crossings. Installing signalized midblock crossings with low pedestrian use have a number of safety concerns. These safety concerns result from low driver expectation that a pedestrian will cross and therefore drivers may have a slower reaction time to the signal indicator.

An example of an innovative midblock signal is the HAWK Signal—or high-intensity activated walk signal. These signals are activate by pedestrians (push button or automated detection) and provide instructions for auto traffic to come to a stop and indicate to pedestrians when it is safe to cross.

Traffic Calming

Traffic calming measures are commonly classed into two groups including volume control measures and speed control measures. Volume control measures are used to address cut-through traffic problems by restricting certain movements or making those movements inconvenient. Currently, there are no locations in Nyssa experiencing cut-through problems.

Speed control measures are used to passively mitigate vehicle speed. They modify the design of the roadway to slow vehicles down by adding directional travel curves, raising sections of the roadway, and even narrowing travel lanes.

Where high speeds at uncontrolled intersections are a concern, traffic circles should be considered to reduce speeds and improve safety for motorized and non-motorized traffic.

Street Furnishings

Street furnishings can enhance the pedestrian and bicycle environment. Street furnishings include bike racks, trash receptacles, seating, pedestrian scale lighting, and more. For example, bike racks could be provided at major destinations (schools, park, and recreation facilities) and in the downtown area to provide necessary facilities.

Multi-Use Trails

Multi-use trails can be an important component of non-motorized transportation systems, providing protected routes for a wide variety of users, and serving as both transportation and recreation facilities. Typically, multi-use trails are developed in their own rights-of-way, separated from roadways and sidewalks. The most challenging consideration for developing multi-use trails is typically securing continuous right-of-way. Most often these trails are developed in abandoned rail corridors, along levees, following power lines, or in some a similar established linear right-of-way.

Multi-use trails can be paved, unpaved, or a combination of both, depending on community preferences and the intended use of the trail. They are relatively straightforward transportation facilities to design, build, and operate. Depending on community preferences, trails can be simple, with few amenities or associated design elements, or more complex, including elements like developed trailheads, off-trail locations for resting, interpretive sites, viewpoints, or associated recreational elements like boat launches or mini-parks. Trail systems are often built in phases, with new trail segments and community amenities being added over time.

Multi-use trails offer a variety of benefits:

- Safety—Multi-use trails separate non-motorized traffic from motor vehicles, and are generally safer both for children and other users.
- Non-motorized transportation—when multi-use trails are part of an integrated non-motorized system, or connect to major destinations, they can encourage more non-motorized trips and reduce motor vehicle miles traveled.
- Health—Multi-use trails are popular exercise facilities, and can support a variety of health-promoting activities.
- Recreation—Multi-use trails are effective recreational facilities, complementing community parks.

For Nyssa, there is a good opportunity to develop a trail following the Snake River, and connecting from downtown to the northern end of the wastewater treatment facility. Segments of this right-of-way are currently in public ownership, and acquisition of property or easements from adjacent landowners could provide some continuous right-of-way. At some time in the future, there may be an opportunity to develop a second phase of the trail following the river south from the current boat launch adjacent to the sugar beet plant. The southerly trail segment may not be feasible with the current use, but could be identified as a desired trail route if the operation of the sugar beet plant changes, or if the site is redeveloped with a different use.

Trails as an element of Nyssa's non-motorized transportation system

While longer trails function well as independent facilities, shorter trails are most effective as part of a larger non-motorized system. Connections between trails and other biking and walking routes can improve access to the trail system, create options for longer itineraries and loops, and improve safety for trail users as they move from a starting point, to the trail, and then to another destination. The Snake River trail connects with designated on-street bike routes and priority pedestrian routes to create integrated opportunities for longer trips and connect with the major neighborhoods and non-motorized destinations in the city. The railroad corridor provides a challenge to better connectivity, and an improved crossing may be

required to connect the northern end of the trail back into the western part of the city at Chestnut Avenue.

General constraints to trail construction

Specific constraints for each of the trail sections identified in the plan are described in more detail below, however there are also some considerations that are relevant to trail development in general.

- Right-of-Way
  The most difficult step in trail development is often acquisition of a continuous right-of-way. Existing rights-of-way often used for trail development include rail lines, road rights-of-way, utility rights-of-way or easements, and levees. Piecing together a trail right-of-way can often take years of persistent work. Although it is used infrequently, eminent domain can be used to acquire trail right-of-way if there is not a willing seller. In area where land is being developed or re-developed, dedication of a trail route can be made a condition of the required land use permits.
- Adjacent landowner concerns
  In areas where a right-of-way may be available but there has not been public access in the past, adjacent landowners are often concerned about loss of privacy and increased trespass. Effective outreach to adjacent landowners is important to clearly understand their concerns, identify potential mitigation, and provide them with accurate information about any proposed project.
- Terrain
  Hilly areas or rough terrain can be difficult for trail development, increasing cost and often significantly increasing the right-of-way required for trail development. Relatively flat routes are strongly preferred for multi-use trails, and even short sections of difficult terrain or steep grades can be a significant feasibility challenge for trails.
- Crossings
  Trails must be carefully designed when crossing roadways, driveways, or train tracks. In many cases potential crossing locations will be limited, and may require acquisition of additional right-of-way to allow access to an acceptable location.
- Sensitive Areas
  Finally, sensitive areas including wetlands, floodplains, shorelines, or stream crossings may be impacted by trail development or require additional permit review. Trail alignments should be evaluated for their compatibility with sensitive natural areas

Design standards for multi-use trails

Surfacing

Trails may be designed with either a paved surface (generally asphalt) or compacted gravel. In general, gravel trails have a lower initial cost, but require a much higher level of annual maintenance to maintain a usable, smooth, and weed-free surface. Paved trails have a higher initial cost, but require less regular maintenance. Paved trails also accommodate the widest range of non-motorized users, from walkers to wheelchairs. With the increasing popularity of mountain bikes, unpaved trails are able to serve a wider population. However, they are still not suitable for wheelchairs, parents with strollers, in-line skates, or skateboards. Where possible

multi-use trails serve the broadest user groups when they include a paved primary trail, and soft-surface shoulders for some runners and walkers.

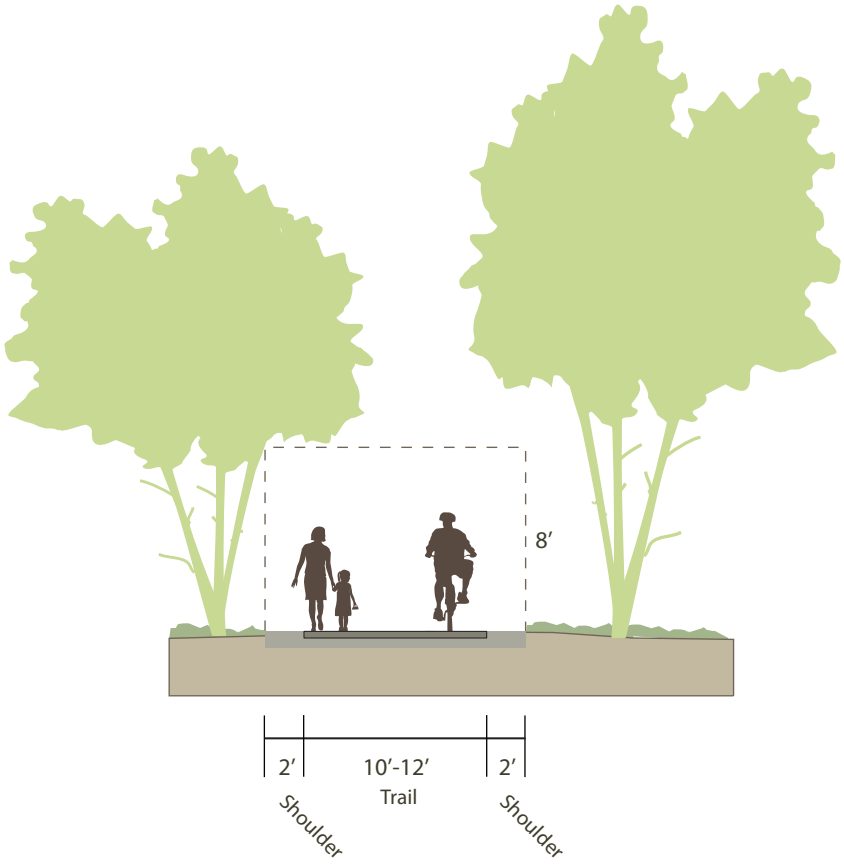
Dimensions

Multi-use trails should be developed with a minimum 8' paved width. Wider is preferred, with 10' or 12' providing adequate space to accommodate user volumes in most rural settings (very high-volume trails in urban settings may require widths of 14' or more.) Trails less than 8' in width may create unsafe user conflicts, and often will not meet requirements for federal or state grant-based funding.

In most cases management agencies are interested in designing multi-use trails to accommodate access by a pickup truck or other small maintenance vehicle as well as emergency vehicles. The city should consider maintenance practices and access needs during the design phase of any trail project.

Clearances

Trails require both vertical and horizontal clearances for user safety. Hazards that need to be considered include steep grades, roads, active railroad lines, trees, power poles, and similar obstructions. Design standards for clearances and the possible requirement of barriers or other treatments to protect trail users change periodically. To ensure compliance with federal requirements for grant funding current AASHTO and ODOT guidelines should be consulted prior to detailed design.



Lighting

Lighting is not typically provided for multi-use trails. They are generally closed from sunset to sunrise and nighttime use is discouraged. Lighting should be provided at under crossings, and may be appropriate at developed trailheads depending on specific user safety and management needs.

Furnishings and amenities

Furnishings and amenities including benches, water fountains, interpretive displays, bike racks, and equestrian facilities are desirable, but not required components of multi-use trails. In addition to initial capital costs these elements require ongoing maintenance and are often targets of graffiti or other vandalism. Commitment to maintaining amenities associated with trails should be evaluated before including these elements in final design.

However, where resources are available to install and maintain amenities, they can enhance the experience of trail users and the popularity of the trail. Where trail segments are short—including all of the proposed trails in Nyssa—development of most amenities can be focused on trailheads. Other locations can be developed in response to unique opportunities including quality views, heritage sites with interpretive opportunities, and water access.

Trail Opportunities for Nyssa

North Snake River Trail

This segment of multi-use trail would follow the river northwards from a starting point somewhere near Main Street, and continue north along the river to the northern end of the wastewater treatment lagoons. There are several optional or potential alignments for portions of the trail depending on the City's ability to secure right-of-way. The most desirable trail location is along the river's edge, following the shoreline as much as possible. This alignment provides an opportunity for an excellent trail experience, combining potential water access with scenic views and opportunities to view birds and other wildlife. Together with designated on-street non-motorized routes, the trail could provide opportunities for a variety of walking and biking loops of varying length. Also, city-owned properties along the trail have the potential for development as parks or other recreational facilities, which add extra value to the development of a trail facility.

Trail type

Public comments on this segment of trail favored a paved, multi-use facility. There was some interest in a separated soft-surface trail in addition to the main trail to accommodate slower-speed users and more nature-based activities, such as birdwatching, near the river.

Opportunities for enhancements and amenities

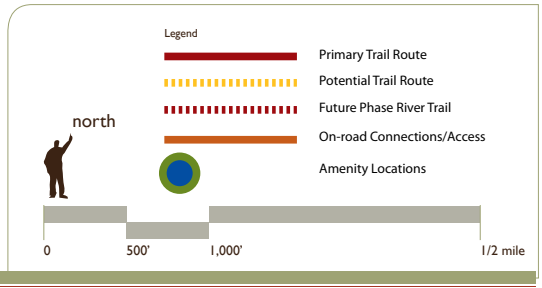
Options for access/trailheads at the southern terminus

There are two good options for trailheads at the southern end of the corridor, and it may be viable to develop both. The first option provides an on-street connection from Main Street to a publicly-owned parcel along the river at Ehrgood Street. This relatively large property could accommodate trailhead parking, new water access, and other recreational or civic amenities that would benefit from associated trail access. The preferred connecting route from Main Street follows East 2nd Street and Ehrgood Street to the proposed trailhead. A second trailhead option

Snake River Trail

City of Nyssa

Transportation Plan Update



for the southern end of the trail connects from the existing riverfront park with a trail segment crossing under the Snake River bridge and continuing north. This alignment has the advantage of connecting to an existing facility, however the connecting segment would require securing right-of-way through several privately-owned parcels between Main Street and the publicly-owned parcel on Ehrgood.

Street connections and access

Three street connections are available between the southern trailhead and the northern terminus of the trail. The first follows an extension of locust Avenue to the river trail. This alignment is partially in public ownership and partially in private ownership. This access would be developed as a non-motorized only route. Some minor pedestrian improvements to the current rail crossing would improve the safety at the crossing.

The second connection point is along the extension of Chestnut Avenue, an existing access point for the wastewater treatment system. This location would also be expected to be a no-motorized access only. The third access route connects to a potential trailhead and water access location at the northern end of the treatment ponds, accessing the river along another public roadway. This location would be improved for vehicle access, allowing users to park at the river's edge with small boats, or bicycles.

Viewpoints and interpretive sites

Regularly spaced resting areas with benches, viewpoints, and interpretive displays would provide locations to rest, enjoy the scenery, and interpret the history and ecology of the Snake River and the surrounding region.

North trail alignment options

At the north end of the trail two potential alignment options are shown, one at the river's edge and one more inland. The riverfront option would be preferred if possible, but would require acquisition of right-of-way. The inland option is located entirely on public ownership. It could be possible to develop both of these alignments as a phasing strategy if acquisition is challenging, ultimately building a small loop as part of the overall trail system.

Constraints to trail development

This segment of trail is relatively open, and much of the route is currently in public ownership. The terrain is well-suited to trail development, with some challenges at the northern end of the route if the riverside alignment can be acquired. There is sufficient width to develop a 10- to 12-foot wide asphalt trail with associated shoulders.

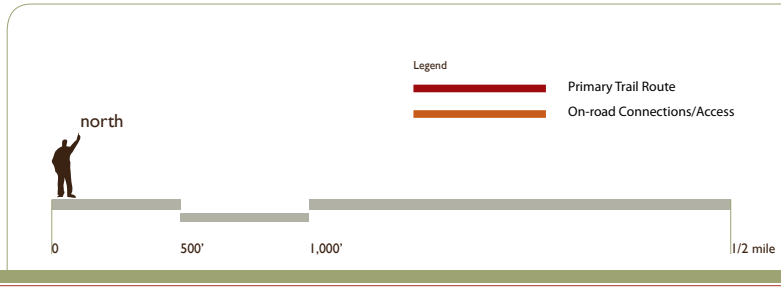
Development of a trail adjacent to the treatment plant will require human health and safety planning to ensure that health department standards are met, and no trail users are endangered. The trail may need to include fencing, buffer planting, or similar treatment to discourage trail users from accessing the treatment ponds and associated equipment.

Northwest Ditchline Trail

This short trail segment connects between Chestnut and Columbia, following the approximate extension of 9th St. The trail would be developed primarily on a segment of irrigation ditch maintenance road. This short segment of trail provides a valuable non-motorized connection in the northwest corner of the city, allowing walkers and bicyclists to avoid a busy section of Thunderegg Blvd.

Northwest Ditch Trail

City of Nyssa
Transportation Plan Update



Trail type

This trail segment could be either hard or soft-surface, although a paved trail would accommodate a wider variety of users.

Opportunities for enhancements and amenities

This trail segment is intended to be a connector for non-motorized travel, rather than a destination-type trail. No developed trailhead, interpretive or wayside facilities are expected for this trail.

Constraints to trail development

This trail segment is accessed by privately-owned street at the southern end, and the ditch road itself is privately owned. Easements or other right-of-way access would need to be secured prior to trail development. The side slopes to the adjacent ditch are relatively steep, and some protective fencing will likely be necessary.

South Snake River Trail

This segment of trail continues south from the riverfront park, continuing through the beet plant site and connecting back to the street system at Beck Road. This segment is an attractive connecting system, however feasibility depends on future use of the beet processing plant.

4 Basic Financial Element

The following section includes the summary of the basic financial element, with planning level cost estimates for proposed routes/improvement type projects. To improve the usability of the planning level cost estimates, a hierarchy of bike lane, bike route, and intersection crossing improvements is provided on a per-block basis. A unit price section was added to allow for quick updating of construction cost elements to improve the usability of this cost estimate tool as the plan ages.

For an expanded detail of the surface design and supporting elements, please refer to the *City of Nyssa Planning Level Cost Estimate for Pedestrian and Bicycle Facilities spreadsheet*. This spreadsheet also includes assumptions for costs such as preliminary engineering, environmental/permitting, construction engineering, contingency, surveying, traffic control, mobilization, and right-of-way acquisition costs, which can be tailored with additional detail as funding becomes available or projects are able to proceed into preliminary design.

Type of Facility	General Improvements	Costs per Mile
Low End Bike Lane	Restriping and no drainage improvements	$68,000
High End Bike Lane/Sidewalks with Overlay	Restriping, new sidewalks, drainage improvements, and roadway overlay	$2,414,000
High End Bike Lane/Sidewalks without Overlay	Restriping, new sidewalks, and drainage improvements	$2,090,000
Low End Bike Route	Restriping and signage	$58,000
High End Bike Route	Restriping, signage, and roadway overlay	$368,000
Low End Separated Trail	Paved off-road trail	$377,000
High End Separated Trail	Paved off-road trail plus retaining wall and drainage	$1,132,000
New Sidewalk Only	Grading, sidewalk and drainage	$1,693,000
Improvement on Existing Sidewalk	Removal and new sidewalk	$973,000
		Cost per Location
Low End Improved Crossing	Sign and stripe	$14,000
High End Improved Crossing	Sign, stripe and signal improvement	$356,000

Figure 7. Basic Cost Elements for Facility Types

The addition of a road overlay would assume the roadway surface was inadequate for bicycling and would likely need replacing. Additional costs associated with high end improved crossing provides for the construction of intersection control improvements such as an illuminated or signalized pedestrian crossing, traffic signal, or intersection control device such as a traffic circle.

Prioritized list of improvements

This section describes the elements used to evaluate the proposed projects and develop a general list of prioritized improvements for the City of Nyssa for proposed pedestrian/transit accommodations, pathway, bicycle, and pedestrian improvements. Elements used to evaluate and prioritize proposed projects include the following:

- **Relevance to Project Objectives** (low / medium / high)
  - Low: facility represents a connector routes
  - Medium: facility connects to direct routes, the school, and key destinations
  - High: facility provides direct connections to school, key destinations, and residential areas, and/or is a location of concern for pedestrian and bicycle safety

- **Adequacy of Existing Facility** (superior / moderate / very poor)
  - Superior: requires a minor upgrade to the existing facility to accommodate the proposed bicycle/pedestrian improvement
  - Moderate: requires some minor geometric, intersection control, and/or storm water improvements
  - Very Poor: requires significant upgrade or replacement of existing infrastructure

- **Realistic Cost / Estimated Planning Level Cost (high / low)**
  - High: improvements would require substantial City financial contribution based on planning level cost estimate
  - Low: improvements would require minimal City financial contribution based on planning level cost estimate

- **Available Funding Sources** (none / some / all)
  - None: City would likely be required to contribute all funds necessary for project construction
  - Some: Project could be partially to fully funded through a competitive grant process
  - All: Project could be completely funded through a competitive grant process

- **Technical Implementation** (complex / simple)
  - Complex: coordination would be required with multiple stakeholders, such as ODOT, City, County, homeowner(s), and would likely require property acquisition
  - Simple: all or most of the improvements occur within the City right-of-way

- **Political Implementation** (difficult / easy)
  - Difficult: requires local political champions to assist City staff in project implementation
  - Easy: project occurs within the City right-of-way

- **Potential Use as Part of a Total Network** (low / high)
  - Low: secondary route connecting destinations
  - High: primary route connecting destinations such as residential areas, downtown, and schools or completes an existing route

The ranking of projects in the table below will change over time. As projects are constructed and the current funding climate evolves, projects will need to be reevaluated, which should include an update of project costs and evaluation of project alignments. Also, if opportunities to construct facilities through partnerships arise, projects should receive increased emphasis for implementation. Also, any identification of a change in the safety of the bicycle and pedestrian facility, especially on a route to school, should be introduced into the proposed project list based on the input received from the Project Management Team, Technical Advisory Committee, and through the public involvement process.

	Relevance to Project Objectives	Adequacy of existing facility	Realists cost	Available funding sources	Technical implementation	Political implementation	Potential use as part of a total network
	High	Very Poor	Low	All	Simple	Easy	High
Ratings	Medium	Moderate	High	Some	Complex	Difficult	Low
	Low	Superior		None			
Bike Lanes							
Main Street Extension-East	High	Moderate	Low	Some	Simple	Easy	High
Main Street Extension-West	Medium	Moderate	Low	Some	Simple	Easy	Low
Adrian Boulevard	High	Moderate	High	Some	Simple	Difficult	Low
3rd Avenue	Low	Moderate	High	Some	Complex	Difficult	Low
Bike Routes							
Columbia Avenue	Medium	Very Poor	Low	Some	Simple	Easy	High
Chestnut Avenue	Medium	Moderate	Low	Some	Simple	Easy	Low
Locust Avenue	High	Moderate	Low	Some	Simple	Easy	High
Park and 1st	Medium	Moderate	Low	Some	Simple	Easy	Low
11th Street	High	Very Poor	High	Some	Complex	Easy	High
5th Street	High	Moderate	Low	Some	Simple	Easy	High
Trails							
Snake River Trail	High	Very Poor	High	Some	Complex	Difficult	High
Ditch Road Trail / 9th Street	Medium	Moderate	High	Some	Complex	Difficult	High

	Relevance to Project Objectives	Adequacy of existing facility	Realists cost	Available funding sources	Technical implementation	Political implementation	Potential use as part of a total network
	High	Very Poor	Low	All	Simple	Easy	High
Ratings	Medium	Moderate	High	Some	Complex	Difficult	Low
	Low	Superior		None			
Intersections							
Main Street / River Park	High	Very Poor	Low	Some	Simple	Easy	High
Bower Avenue / Thunderegg Boulevard	High	Very Poor	High	Some	Complex	Difficult	High
Adrian Boulevard at Good Street	High	Moderate	Low	Some	Simple	Easy	High
Adrian Boulevard at King Street	High	Very Poor	Low	Some	Simple	Easy	High
7th St. N and Thunderegg one-way	High	Very Poor	High	Some	Complex	Difficult	High
8th St. N and Thunderegg one-way	High	Very Poor	High	Some	Complex	Difficult	Low
General Intersection Control	Medium	Moderate	High	Some	Complex	Difficult	High

Figure 8. Summary Evaluating Results of Proposed Projects

Funding Programs

The following section outlines funding programs, which were available in 2010. Due to the constant changing environment of the federal, statewide, and regional funding programs, contacts have been provided in order to update this section of the plan as it is implemented over time. Most funding programs are highly competitive and can require significant effort on the local jurisdiction to put together a competitive proposal; therefore, only the highest priority projects were identified for funding in this version of the plan. This section is organized by Federal, Statewide and Regional, and Other funding programs.

Federal Funding Programs

The Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users Act (SAFETEA-LU) is the fourth iteration of the transportation investment strategy established by Congress in 1991. Funding is administered through the State and regional planning agencies. The majority of funding programs included in SAFETEA-LU emphasize reducing auto trips and providing inter-modal connections. Specific funding sources include the following (some of which are described in additional detail in the Local Agency Guidelines, June 2009).

Surface Transportation Program

The purpose of the STP program is to develop, improve, and/or preserve an integrated transportation system that encourages multimodal choices to the public. Projects must be on roads federally functional classified higher than rural minor collector and local access roads. All transportation modes may be eligible. A number of types of projects are eligible including, highway and transit safety improvements; highway and transit research and technology transfer; surface transportation planning; and, transportation enhancement activities. The Regional Surface Transportation Program (RSTP) is a block grant program which provides funding for bicycle projects, among many other transportation projects. Under the RSTP, Metropolitan Planning Organizations (MPOs), prioritize and approve projects which will receive RSTP funds. The MPO distributes the RSTP funds to local jurisdictions. MPOs can transfer funding from other federal transportation sources to the RSTP program to gain more flexibility with the way the monies are allocated. Contact the ODOT Regional Local Agency Liaison if clarification of eligibility is needed (FHWA reserves approval on eligibility determinations). The basic program is 80 percent federal funding with a 20 percent local match; although certain safety improvements listed in 23 USC 120(c) have a federal share of 100 percent.

Transportation Enhancement (TE) Program

The purpose of the TE program is to strengthen the cultural, aesthetic, or environmental value of the transportation system by providing funds for projects in 12 specific TE activities, which includes activities such as pedestrian and bicycle facilities, provision of safety and educational activities for pedestrians and bicyclists; acquisition of scenic easements; landscaping and other scenic beautification; and preservation of abandoned railway corridors. The intent of the federal TE program is for such transportation improvements to become a common part of transportation investment policy and to integrate them into many projects. The minimal local match is 10.27 percent. All eligible projects must be approved by FHWA and must be included in the Statewide Transportation Improvement Program (STIP).

Railway/Highway Grade Crossing Program

The purpose of the Rail/Highway Grade Crossing program is to reduce the number of fatalities and injuries at public highway-rail grade crossings through the elimination of hazards and/or the installation/upgrade of protective devices at crossings. This program reduces the number and severity of highway accidents by eliminating hazards to vehicles, pedestrians, and train crews at existing railroad crossings. Railroad/highway at-grade crossing improvement projects include, but are not limited to installation and upgrade of railroad protection systems to a state-of-the-art condition for at-grade crossings and grade crossing eliminations. Projects are selected based on a state-wide analysis of all public crossings using an accident prediction model. There are no matching requirements.

Highway Safety Improvement Program

The purpose of Highway Safety Improvement Program (HSIP) is to provide federal-aid funds to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) creates a new Highway Safety Improvement Program (HSIP) and replaces the previous Hazard Elimination Program (STPS or HEP). HSIP is intended to make significant progress in reducing highway fatalities and serious injuries. Federal funding for HSIP was increased significantly over the previous HEP program. Federal share funding is 90 percent, with a 10 percent match required, except that the federal share is 100 percent for certain safety improvements listed in 23 USC 120(c).

High Risk Rural Roads

The purpose of the High Risk Rural Roads (HR3) Program is to carry out safety improvement projects on rural roads, with identified safety issues, to achieve a significant reduction in traffic fatalities and serious injuries. HR3 is a federally-funded set-aside program within the Highway Safety Investment Program (HSIP) for improvements on rural roads. HSIP is managed by ODOT. To be eligible, roadways must have a crash rate for fatalities and incapacitating injuries that exceeds the statewide average for those functional classes of roadways. FHWA will reimburse costs at 92.22 percent, which requires a match of 7.78 percent.

Congestion Mitigation and Air Quality Improvement Program

The purpose of the Congestion Mitigation and Air Quality Improvement Program (CMAQ) program is to fund transportation projects and programs that contribute to the attainment and maintenance of National Ambient Air Quality Standards (NAAQS) in non-attainment or air quality maintenance areas for ozone, carbon monoxide, or particulate matter under provision in the Federal Clean Air Act. The fund is administered by ODOT. Bicycle and pedestrian projects and programs are eligible for funding. Federal share payable is up to 100 percent for 2008 through 2009. CMAQ is a reimbursement program that requires applicants to provide non federal matching funds that are at least 10.27 percent of the project cost with a higher match rate for projects that are public-private partnerships.

Transportation, Community and System Preservation Program

The Transportation, Community and System Preservation (TCSP) Program is a comprehensive initiative of research and grants, that provides federal funding for transit oriented development, traffic calming and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers. This program

provides communities with the resources to explore the integration of their transportation system with community preservation and environmental activities. TCSP Program funds require a 20 percent match. This grant is administered by FHWA, see http://www.fhwa.dot.gov/tcsp/index.html.

Recreational Trails Program

The Recreational Trails Program of SAFETEA-LU provides funding for states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other motorized uses. The federal share will be in accordance with 23 USC 120(b), but Oregon requires a 20 percent match. In Oregon, the funds are administered by the Oregon Department of Parks and Recreation.

RTP projects must be ADA compliant, and may be used for the following:

- Maintenance and restoration of existing trails
- Purchase and lease of trail construction and maintenance equipment
- Construction of new trails; including unpaved trails
- Acquisition of easements or property for trails
- State administrative costs related to this program (limited to seven percent of a State's funds)
- Operation of educational programs to promote safety and environmental protection related to trails.

See: www.fhwa.dot.gov/environment/rectrails/index.htm

Land and Water Conservation Fund

Land and Water Conservation Fund is a federally funded program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. The Fund is administered by the National Parks Service and the Oregon Parks and Recreation Department, and has been reauthorized until 2015. Cities, counties and districts authorized to acquire, develop, operate and maintain park and recreation facilities are eligible to apply for uses such as hiking, running, and bicycling. Types of projects include building new recreation trails, including building trail bridges and installing wayfinding signs, developing and rehabilitating trailhead facilities, acquiring land and permanent easements, and water trails. Project sponsors provide at least 20 percent of the project total costs, eligible matches include cash, force account labor, volunteer labor, donated equipment, grants, and more. Property acquired or developed under the program must be retained in perpetuity for public recreational use. See, http://egov.oregon.gov/OPRD/GRANTS/lwcf.shtml. Since 1964, this national grant has awarded more than $55 million for Oregon recreational areas and facilities.

Rivers, Trails and Conservation Assistance Program

The Rivers, Trails and Conservation Assistance Program (RTCA) is the community assistance arm of the National Parks Service. The RTCA is a program that provides technical assistance, via direct staff involvement, to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only for planning assistance—there are no implementation monies available. Projects are prioritized for assistance based upon criteria which include conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation

and focusing on lasting accomplishments. See, http://www.nps.gov/ncrc/programs/rtca/.

Energy Efficiency and Conservation Grant Block Program

The United States Department of Energy, Energy Efficiency and Conservation Grant Block (EECGB) program funds are available to assist state, local, territorial and tribal governments in implementing strategies to reduce fossil fuel emissions, energy use, and improve energy efficiency. Eligible programs include bike lanes and multi-use paths. See, http://www1.eere.energy.gov/wip/eecbg.html and http://www1.eere.energy.gov/financing/

Federal Lands Highway Funds

The primary purpose of the Federal Lands Highway Funds (FLHP) is to provide funding for a coordinated program of public roads that serve the transportation needs of the federal lands, which are not a state or local government responsibility. These funds may be used to build bicycle facilities, in conjunction with roads and parkways, at the discretion of the department charged with administration of the funds. The projects must be transportation-related and tied to a plan adopted by the State and MPO (Metropolitan Transportation Commission). Federal Lands Highway Funds may be used for planning and construction. The federal share of the costs for any project eligible under this program is 100 percent.

Safe Routes to School

The purpose of the Safe Routes to School program is to provide funds to states to substantially improve the ability of primary and middle school students to walk and bicycle to school safely. Additionally, program funds are used:

- To enable and encourage children, including those with disabilities, to walk and bicycle to school.
- To make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age.
- To facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity (approximately two miles) of primary and middle schools (Grades K-8).

The Federal-aid Safe Routes to School (SRTS) program was created in 2005 by section 1404 of the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users Act (SAFETEA-LU), which funded $612 million over five years (2005 through 2009). Eligible projects are those identified projects that will reduce barriers and hazards to children, Kindergarten through Grade 8, walking or bicycling within two miles of their school and include sidewalk improvements, traffic calming, pedestrian and bicycle crossing improvements, on-street bicycle facilities, speed reduction improvements, and more. The federal share is 100 percent.

The Oregon Safe Routes to School Coordinator: See: http://www.saferoutesinfo.org/contacts/OR.cfm

Julie Yip: Transportation Safety Division, Oregon Department of Transportation, 235 Union Street, Salem, OR, 97301, (503) 986-4196, email: julie.a.yip@odot.state.or.us

Two groups of funding are available through the SRTS program,

- Infrastructure projects within two miles of the school,
- Non-infrastructure activities; education, encouragement, and traffic enforcement activities within two miles of the school.

Statewide and Regional Funding Programs

Oregon's Bicycle and Pedestrian Program Grants

Oregon State law (ORS 366.514) requires ODOT, cities and counties to spend reasonable amounts of their share of the State Highway Fund on footpaths and bicycle trails. The Pedestrian and Bicycle Grant Program is a competitive grant program that provides approximately $5 million dollars every two years to Oregon cities, counties, and ODOT regional and district offices. The ODOT local assistance grant program would be a source of funding for improvements such as filling in missing gaps in sidewalks, ADA upgrades, intersection crossing upgrades, and providing minor shoulder widening or re-striping for bicycle lanes. See: http://www.oregon.gov/ODOT/HWY/BIKEPED/grants1.shtml

Immediate Opportunity Fund (IOF)

This fund supports primary economic development in Oregon. It does this by building and improving streets and roads in strategic locations. The maximum amount available for a single project is $500,000. Starting in 2002, all new IOF projects will be represented in the Modernization Program.

Regional and County Funding

The Regional Transportation Improvement Program (RTIP) is a derivative of the STIP program, and identifies projects which are needed to improve regional transportation. Such projects may include bicycle facilities, safety projects and grade separations, among many others. RTIP project planning, programming and monitoring may be funded with up to 5 percent of total RTIP funds in urbanized regions. The MPO prepares the RTIP, consisting of projects to be funded through STIP, and helps to prioritize projects. Funded projects must be identified in the Regional Transportation Plan.

Other Funding Programs

Community Development Block Grants

The Community Development Block Grants (CDBG) program provides money for streetscape revitalization. Federal Community Development Block Grant grantees may "use CDBG funds for activities that include (but are not limited to): acquiring real property; reconstructing or rehabilitating housing and other property; building public facilities and improvements, such as streets, sidewalks, community and senior citizen centers and recreational facilities; paying for planning and administrative expenses, such as costs related to developing a consolidated Plan and managing CDBG funds; provide public services for youths, seniors, or the disabled; and initiatives such as neighborhood watch programs." See, www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm

Requirements for New Developments

With the increasing support for "routine accommodation" and "complete streets," requirements for new development, road widening and new commercial development provide opportunities to efficiently construct bicycle and pedestrian facilities.

Impact Fees

One potential local source of funding is developer impact fees, typically tied to trip generation rates and traffic impacts produced by a proposed project. A developer may attempt to reduce the number of trips (hence, impacts and cost) by paying for on- and off-site bicycle improvements designed to encourage residents, employees and visitors to the new development to bike rather than drive. Establishing a clear nexus, or connection, between the impact fee and the project's impacts is critical to ensure legal soundness.

Volunteer and Public-Private Partnerships

Volunteer programs may substantially reduce the cost of implementing some of the proposed pathways. Use of volunteer organizations and assistance groups such as RARE, will be effective at reducing project costs. Local schools or community groups may use the bikeway projects as a project for the year, possibly working with a local designer or engineer. Work parties may be formed to help clear the right-of-way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may also be a good source of local funding, where corporations 'adopt' a bikeway, helping construct and maintain the facility

Implementation Strategy and Project Readiness

The section describes implementation strategies and project readiness categories that apply to the high priority proposed projects found in Chapter 11.

Implementation Strategy

To increase the access and mobility of people in Nyssa, infrastructure improvements are important, but so are efforts to change people's choice and perceptions about bicycling and walking. All of the in-town destinations in the City of Nyssa are bikeable and walkable today. Therefore, the City should consider programs and opportunities to promote bicycling and walking in Nyssa. Strategies for improving bicycling and walking could include the following:

Implement Safe Routes to Schools Plan: the City could work with the City of Nyssa Schools and other partner agencies, such as ODOT, to implement a Safe Routes to School Strategic Plan.

Promote bicycling and walking to youth activities: the City could promote bicycling and walking among youth to activities outside of school, such as minor league sports.

Promote bicycling and walking for health purposes: the City could promote bicycling and walking for health purposes through the creation of programs in coordination with local business and tourism, such as promoting local volunteer clean-up programs for parks and bicycle and pedestrian facilities and coordinating with programs and projects at the school.

Promote bicycling and walking to work: the City could promote walking to work, through events such as the bike and walk to work week.

Develop bicycling and walking maps: the City could collaborate with other public and private entities to develop official walking maps, and showcase the great places in Nyssa.

The implementation of projects is strengthened by identifying partnerships with cooperative management or development responsibilities exist, understanding the development and construction climate in terms of competitive bidding, but first understand what stakeholders should be notified early and who needs to be coordinated with to ensure projects are constructed to the appropriate design standards. A summary list of stakeholders and agencies likely to require notification or early coordination with are included in Chapter 11 for the Proposed Projects. Also, the Memorandum Agreement developed for this project lays a solid foundation for the development of the Snake River Trail, Ditch Road Trail / 9th Street, and bicycle and pedestrian facilities on County and State facilities.

Project Readiness

In order to implement bicycle and pedestrian projects in the City of Nyssa, a demonstrated need for the improvement and an opportunity for the improvements to occur are required. For example, although projects going through the prioritization process the City of Nyssa Project Management Team, Technical Advisory Committee, and City Council approved ranked as a high priority, there still needs to be the opportunity to implement the improvement—the opportunity for some projects will little impact to right-of-way, low cost, and existing partnerships can be inherent in a project. However, projects requiring additional ground truthing, extensive outside funding, and coordination with many different agencies and land owners need to have the opportunity for implementation carefully created and strategized to ensure a smooth and successful project. Likewise, other projects with a lower priority may have an opportunity arise to integrate the improvements into another infrastructure improvement project in a short time frame.

A project readiness level of high, medium, or low was assigned for each potential improvement project based upon current information available. The readiness level was defined as follows:

- **High Project Readiness:** a project with bicycle and/or pedestrian improvements is in a capital program and is substantially funded.
- **Medium Project Readiness**: a project with bicycle and/or pedestrian improvements is in a capital program and has been partially funded or is included as part of a regional or statewide capital program; or, project is included in a capital program where the proposed project could be integrated into the total project package. Also, a preliminary design study has been completed or is underway.
- **Low Project Readiness**: a project not included in a capital program and that doesn't align with a project included as part of a capital program. Also, no planning or design study has been completed to demonstrate project feasibility.

Maintenance

The following table summarizes the potential maintenance items and estimated annual operation and maintenance costs per mile or location for each type of facility. For a detailed summary of how these costs were calculated refer to the *City of Nyssa Planning Level Cost Estimate for Pedestrian and Bicycle Facilities spreadsheet.*

Type of Facility	Potential Maintenance Items	Estimated Annual O & M Costs per Mile
Low End Bike Lane	Repainting bike lane, sign and Stencil replacement as needed. Assume every 5 years.	$6,000
High End Bike Lane/Sidewalks with Overlay	Repainting bike lane, sign, and stencil replacement as needed. Assume every 5 years. Storm water inlet clean out every year.	$7,000
High End Bike Lane/Sidewalks without Overlay	Repainting bike lane, sign, stencil replacement as needed. Assume every 5 years. Storm water inlet clean out every year.	$7,000
Low End Bike Route	Repainting bike stencil in roadway. Assume every 3 years. Sign replacement every 5 years.	$7,000
High End Bike Route	Repainting bike stencil in roadway. Assume every 3 years. Sign replacement every 5 years.	$7,000
Low End Separated Trail	Removal of debris/vegetation overgrowth, every year. Assume no lighting for trail	$1,000
High End Separated Trail	Removal of debris/vegetation overgrowth, every year. Assume no lighting for trail	$1,000
Low End Improved Crossing	Repainting crosswalk stripe. Assume every 3 years.	$1,000
High End Improved Crossing	Repainting crosswalk stripe. Assume every 3 years. Annual signal maintenance.	$2,000

Figure 9. Operation and Maintenance Costs

The majority of the bicycle routes and multi-use trails will be the responsibility of the City to operate and maintain. However, bike lanes on the state facility would be maintained by ODOT.

Proposed Projects

Based on the prioritization of the proposed routes the projects ranking as high priority projects for the City of Nyssa for bicycle, pedestrian, and intersection improvements resulted in the following:

High Priority Projects

Project:	Main Street / River Park		
Description:	Install pedestrian crossing improvement across Main Street / State Route 20/26, for connecting to proposed multi-use trail along the Snake River and proposed Main Street bike lane extensions.	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Intersection improvement
Project Readiness:	Low		
Potential Partners:	Schools, ODOT, County		

Project:	Main Street Extension-East		
Description:	Extend the existing bike lanes on Main Street to the east to connect to Riverfront Park.	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Bike Lane
Project Readiness:	Low	**Distance:**	0.34
Potential Partners:	Schools, ODOT		

Project:	Locust Avenue		
Description:	Bike route connects between Thunderegg Boulevard/11th Street and the proposed Snake River Trail (would require a trail extension from the end of Locust Avenue to the proposed trail).	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Bike Route
Project Readiness:	Medium	**Distance:**	0.85 miles
Potential Partners:	Schools, ODOT, County		

Project:	5th Street		
Description:	Bike route connects between King Avenue and Locust Avenue, providing a connection between South Park and North Park.	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Bike Route
Project Readiness:	Low	**Distance:**	0.76 miles
Potential Partners:	Schools, ODOT, County		

Project:	Columbia Avenue		
Description:	Bike route would connect proposed bike lanes on Thunderegg Boulevard , the proposed Ditch Road Trail / 9th Street connection, and the proposed Snake River Trail	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Bike Route
Project Readiness:	Low	**Distance:**	1.80 miles
Potential Partners:	ODOT, Schools		

Project:	11th Street		
Description:	Bike route connects Adrian Boulevard and Locust Avenue behind the school campus.	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Bike Route
Project Readiness:	Low	**Distance:**	0.76 miles
Potential Partners:	Schools		

Project:	Snake River Trail		
Description:		**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Multi-use trail
Project Readiness:	Low		
Potential Partners:	ODOT, County, Schools, local businesses		

Project:	Main Street / Thunderegg Boulevard		
Description:	Install pedestrian crossing improvements such as enhanced crosswalk and connection through property on north side of Thunderegg Boulevard. This crossing provides a critical connection to the Nyssa school campus.	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Intersection improvement
Project Readiness:	Low		
Potential Partners:	Schools, ODOT		

Project:	Bower Avenue / Thunderegg Boulevard		
Description:	Install pedestrian crosswalk to improve pedestrian crossing movement from the school campus across Thunderegg Boulevard (SR 26 and Highway 201).	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Intersection improvement
Project Readiness:	Low		
Potential Partners:	Schools, ODOT		

Project:	Adrian Boulevard at Good Street		
Description:	Install pedestrian-activated warning light at existing crossing.	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Intersection improvement
Project Readiness:	Low		
Potential Partners:	Schools, ODOT		
Project:	Adrian Boulevard at King Street		
Description:	Install new pedestrian crosswalk to improve pedestrian crossing movement to the schools campus. The project would enhance safety for students traveling between the schools campus and residential neighborhoods to the south and east. The project includes ADA enhancements to existing sidewalks, new striping, and pedestrian-activated warning lights.	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Intersection improvement
Project Readiness:	Low		
Potential Partners:	Schools, ODOT		
Project:	Bower Avenue / Thunderegg Boulevard		
Description:	Install pedestrian crosswalk to improve pedestrian crossing movement from the school campus across Thunderegg Boulevard (SR 26 and Highway 201).	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Intersection improvement
Project Readiness:	Low		
Potential Partners:	Schools, ODOT		
Project:	North 7th St. at Thunderegg Boulevard One-way		
Description:	Extend curb and restrict traffic to one-way northbound for one block along North 7th Street at Thunderegg Boulevard.	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Intersection improvement
Project Readiness:	High		
Potential Partners:	ODOT		

Project:	North 8th St. at Thunderegg Boulevard One-way		
Description:	Extend curb and restrict traffic to one-way northbound for one block along North 8th Street at Thunderegg Boulevard.	**Priority:**	High
Phasing/Timing:	Based on funding availability	**Facility:**	Intersection improvement
Project Readiness:	High		
Potential Partners:	ODOT		

Inclusion in the plan is not a guarantee of funding. Suggestions for funding sources are indicated (ODOT, City, etc.) but do not assure the availability or approval of such improvements.

Oregon Highway Plan Highway Segment Designations

The Project Management Team reviewed the Oregon Highway Plan (OHP) highway segment designations, which foster compact development patterns in providing more opportunities to walk, bicycle, or use transit services along the highway (consistent with the 1999 [Amended 2006] OHP, TSP, and Oregon Administrative Rule 734, Division 51 Access Management Guidelines).