

# Connecting Sisters, Oregon

Spring 2023

PPPM 438/538

Topics in Bicycle Transportation

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COLLEGE OF DESIGN

## **Acknowledgements**

The author wishes to acknowledge and thank the following staff for making this project possible:

Scott Humpert, Explore Sisters

Scott Penzarella, Sisters Trail Alliance

Scott Woodford, City of Sisters Community and Development Director

Jackson Dumanch, Public Works Project Coordinator, City of Sisters

Matthew Martin, Principal Planner, City of Sisters

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Ronald Tamse, Traffic Engineer (Utrecht, Netherlands)

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## About SCI

The Sustainable Cities Institute (SCI) is an applied think tank focusing on sustainability and cities through applied research, teaching, and community partnerships. We work across disciplines that match the complexity of cities to address sustainability challenges, from regional planning to building design and from enhancing engagement of diverse communities to understanding the impacts on municipal budgets from disruptive technologies and many issues in between.

SCI focuses on sustainability-based research and teaching opportunities through two primary efforts:

1. Our Sustainable City Year Program (SCYP), a massively scaled university-community partnership program that matches the resources of the University with one Oregon community each year to help advance that community's sustainability goals; and

2. Our Urbanism Next Center, which focuses on how autonomous vehicles, e-commerce, and the sharing economy will impact the form and function of cities.

In all cases, we share our expertise and experiences with scholars, policymakers, community leaders, and project partners. We further extend our impact via an annual Expert-in-Residence Program, SCI China visiting scholars program, study abroad course on redesigning cities for people on bicycle, and through our co-leadership of the Educational Partnerships for Innovation in Communities Network (EPIC-N), which is transferring SCYP to universities and communities across the globe. Our work connects student passion, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

## About SCYP

The Sustainable City Year Program (SCYP) is a yearlong partnership between SCI and a partner in Oregon, in which students and faculty in courses from across the university collaborate with a public entity on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner agency through a variety of studio projects and service-learning courses to

provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCYP's primary value derives from collaborations that result in on-the-ground impact and expanded conversations for a community ready to transition to a more sustainable and livable future.

## About City of Sisters

Located at the foot of the Cascade Mountains in Central Oregon, the city of Sisters offers beautiful natural surroundings, a variety of year-round recreational opportunities, and a vibrant local economy.

The City of Sisters is located near the Three Sisters mountains in Central Oregon.

Source: Visit Central Oregon, n.d. | [visitcentraloregon.com/cities/sisters](http://visitcentraloregon.com/cities/sisters)



Sisters was a place where Paiute, Warm Springs, and Wasco peoples stopped during movement across central Oregon. The name of Whychus Creek, a tributary that runs through town and joins the Deschutes River just beyond the city limits, comes from a Sahaptin phrase, “The Place We Cross the Water.” Sisters became a way station and became accessible once roads were constructed through McKenzie Pass and Santiam Pass in the Cascade Mountain Range. In the early twentieth century, Sisters was a center for sheep and cattle ranching and later became a focus for the timber industry, with numerous mills surrounding Sisters and even a mill in town.

The townsite of Sisters was platted in 1901, although the town was not incorporated until 1946. The original townsite for the City was six blocks in size, circumscribed by Adams Street on the north, Larch Street on the east, Cascade Street on the south, and Elm Street on the west, which represents the downtown core of the City of Sisters north of Cascade Avenue today.

With Sisters’ strategic location as the “Gateway to the Cascades,” major industries have included shepherding, cattle ranching, timber production, and provision of goods and services for travelers. Sisters has capitalized on

accommodating visitors, initially serving the transient tradesmen that traveled through central Oregon.

Many people know Sisters for its Western frontier design theme that derives architectural inspiration from the town's beginnings in the 1880s. However, Sisters did not always look this way. When Brooks Resources developed Black Butte Ranch, a resort community eight miles west of Sisters, it envisioned a plan to help the Sisters downtown core reinvent itself. In coordination with the City Council, Brooks Resources offered loans, forgivable after 10 years, to businesses who built with a Western theme. From this idea, the City developed a strong identity that helped

attract people to Sisters as a tourism destination. The economy strengthened, the population returned, and in 1992, the Sisters School District reopened its high school after 25 years of sending students to Redmond High School.

The 2021 population in Sisters totaled 3,475 residents, a result of the population doubling every decade since the 1990s. Sisters continues to serve as a gateway to the central Oregon region while also being known for local attractions including Hoodoo Ski Area and prominent community events such as the Sisters Rodeo, Rhythm and Blues Music Festival, Harvest Faire, the Sisters Outdoor Quilt Show, and the Sisters Folk Festival.

## Course Participants

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## Introduction

Situated in the northwest pocket of Deschutes County, Sisters includes varied outdoor recreation options, beautiful scenery, and top tier hiking and mountain biking trails.

The city's thriving downtown is bisected by East Cascade Avenue, which bustles with economic activity and serves as a throughway to Redmond, Bend, and central Oregon. The street is often congested with vehicular traffic, which keeps speeds slow and makes crossing for most pedestrians relatively easy, if not slightly uncomfortable. Crossing this primary street by bike, however, is more difficult, especially for less confident cyclists such as youth and the elderly.

Parallel streets to East Cascade Avenue also enjoy robust commercial uses, contain extensive car parking for the entire downtown region, and run the risk of acting as alternative 'through streets' for motorists trying to avoid East Cascade. A downtown bypass road to the north of East Cascade Avenue, primarily for diverting freight trucks from the city center, is being planned and developed, and will likely reduce truck traffic through the heart of Sisters, making viewsheds of pedestrians and cyclists crossing East Cascade Avenue slightly easier, though congested conditions are likely to be the

norm due to the popularity of Sisters as a regional destination and 'on the way' between central Oregon and the more populous regions to the west.

Population and housing growth are expected to continue over the next decade, putting pressure on Sisters to both accommodate new residents and maintain a high level of community livability. Sisters Elementary School will soon be moving to join a middle and high school on a single campus area on the southwest side of town. New housing developments are occurring throughout the entire Sisters community and many students live in outlying communities in the region as well, creating automobile traffic to the school and through the community during school drop-off and pick up.

Because of its small size, travelling within the city is relatively easy to do by foot, bike, or driving, though there could be more to explicitly support people on bike both in terms of infrastructure connectivity design and in encouraging its use. And with better support for cycling, both residents and tourists to the community stand to benefit. Below are some of the key ideas that can help move the community in this direction.

## Street Redesign Ideas

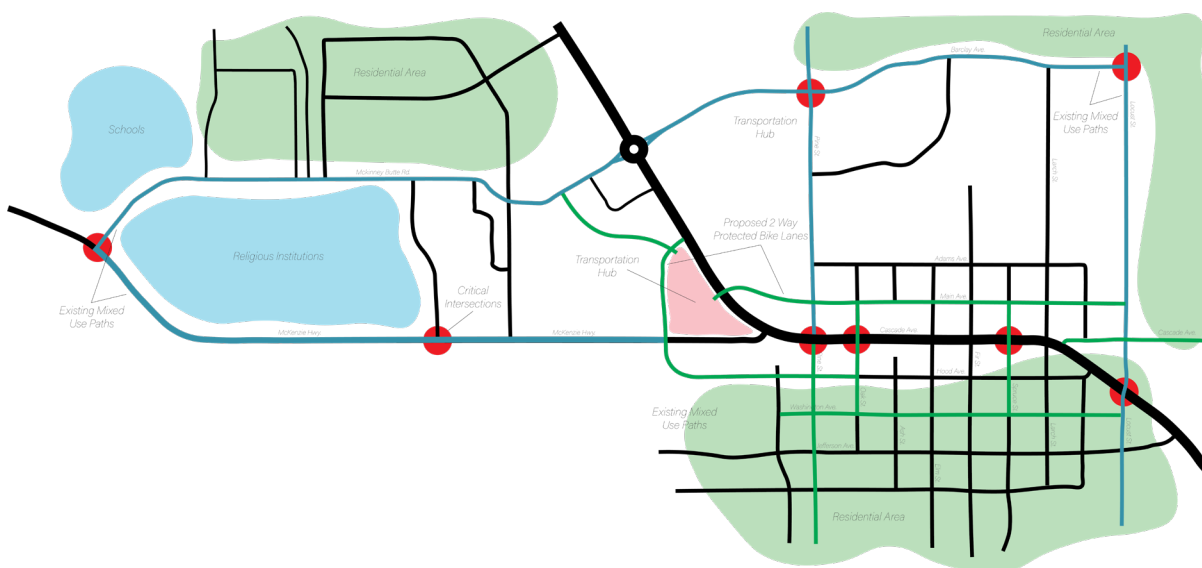
Sisters has relatively quiet streets, flat topography, and close proximity to most community destinations. And yet, as Sisters grows in the future, it must make some purposeful decisions to maintain that high quality of life while welcoming in new residents and visitors.

Communities that are overrun by vehicles undermines basic quality of life for all, thus finding ways for as many trips as possible, by residents and visitors, to occur on foot or bike while in town, will be very important going forward. Changes to street infrastructure will inevitably be part of the equation to maintain a livable community. Local streets should be reserved mostly for local traffic with speeds low to be consistent with the family nature of the community. Low vehicle speeds can best be accomplished through street design, as opposed to official speed limits. And keeping speeds low through design makes more streets more safe and more comfortable to people of all ages and abilities on bike.

Here are a few ideas of street redesign, intended to increase the comfort

and safety for cycling, while still accommodating the obvious need for car access.

Firstly, it is important to have a grand vision of what the priority bicycle network should be, while recognizing that people on bike ought to have safe and comfortable facilities on all streets just as private vehicles are allowed access. Below is one vision for the priority bicycle network for Sisters (green and blue lines) with key intersections highlighted in red to draw attention to locations where crossing streets require enhanced designs. For example, raising the entire intersections at key crossing points on East Cascade can be a way to both create a 'speed table' that keeps vehicular speeds low through the commercial area (when there are not many vehicles travelling) and marks a key bicycle crossing location.

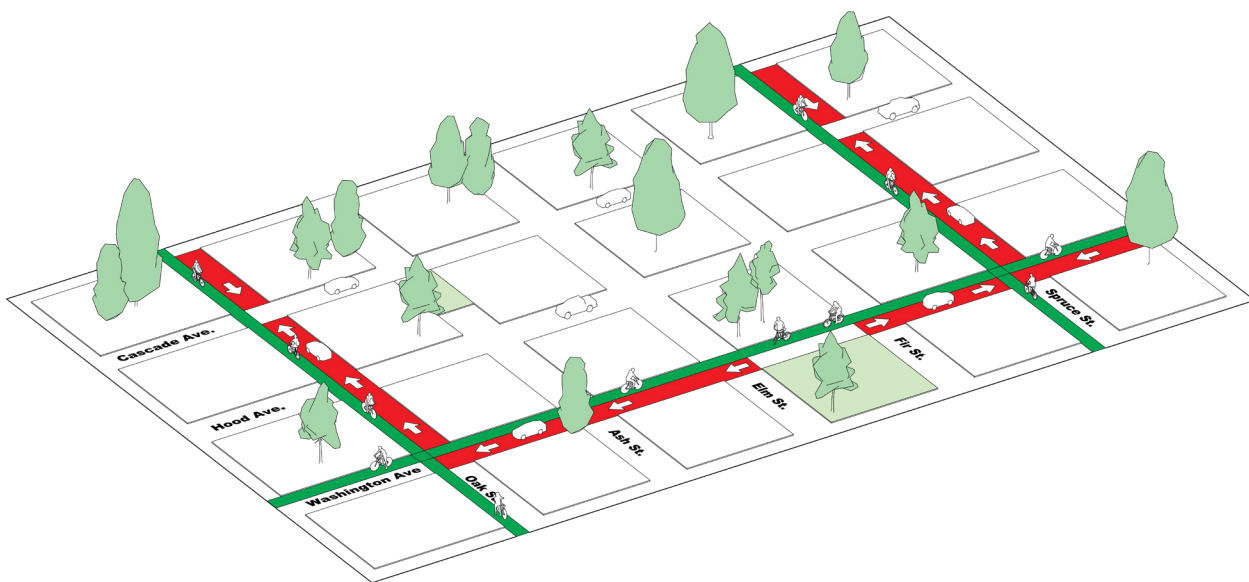




## Street Redesign Ideas

Below is perhaps the most forward-thinking redesign idea to the street network: creating a 'filtered' street network that reduces vehicular connectivity through quieter streets but maintains such connectivity for people on bike. This filtered approach keeps vehicle volumes and speeds low, which automatically enhances the safety and comfort for people on bike, while not denying vehicular access to homes and

businesses. There are different ways to do this, so the below graphic is just one example. In this example, some streets have been turned into one-way travel for cars with some segments coming at each other in those one-way directions. This approach has the effect of removing some streets as continuous for vehicles, but maintains that continuity for people on bike, yet vehicles can still access 100% of the properties currently accessible.



Other approaches to street filtering include changing some intersections such that there is entry and/or exit for cyclists only, but not for cars. This can be accomplished by significantly reducing the street width at the point of intersection with another street such that only bikes can come in or out (emergency vehicle access can still be achieved through such designs, or depending on the street grid, parallel streets can continue to provide such access without diminishing response times). For example, it may be that some of the streets intersecting East Cascade ought to be 'closed' to turning vehicles (or perhaps exiting vehicles) so that those cross streets can be prioritized for crossing by people on bike. All the properties and on-street parking on those cross streets can still be accessed by cars, but perhaps only through a slight one block detour. Such approaches can reduce unwanted car volume and speeds on the streets that ought not to be prioritized for car travel, while still allowing access by car, albeit slightly more indirectly.

Some of the benefits of street filtering include:

- Slower speeds
- Increased cycling comfort
- More connected bike network
- Improved traffic flow
- Connects residents to commercial areas and essential services
- Less cut-through traffic in residential areas
- More aesthetically pleasing!

The two main risks of pursuing street filtering include:

- Confusion during initial implementation
- Tension between cyclists and motorists

This filtered approach to street design is best practice internationally to maintain livable streets in both commercial and residential areas, Sisters' street network is a perfect setup for this type of intervention.

## More Redesigns

Again, Sisters has an easy-to-use street grid and with many existing streets that have enough existing right of way to integrate more and better uses out of what already exists. Combining some smart tweaks to the right of way can make it easier for more people of all ages and abilities to navigate Sisters by bike, reduce car volume and speeds where desired, and doing both things while still allowing relatively easy and ubiquitous access to all destinations by private vehicle as well.

Here are some additional thoughts and possible re-designs directly from some of the student groups' reports slides, and renderings. These groups did choose their focus streets strategically in terms of where they think the best value for the community can be gained through some basic street reconfigurations, but these types of principles can absolutely be applied to other areas as well in order to create a comprehensive and cohesive bicycle transport system throughout Sisters.

On Elm Street, near Village Green park, students suggest adding a few visual reminders to all users toward the acceptable presence of people on bike, including adding bike parking in a 'car' parking space, some street sharrow symbols, a reminder sign about yielding to pedestrians, and detectable warning pavers on the curb ramp - all elements designed to support the multi-generational users of this nice city park. One future improvement, not visualized here, would be to actually keep the crosswalk at the same grade all the way across the street, symbolically switching the situation from the sidewalk 'crossing' the street to the street 'crossing' the sidewalk. Such a change has two primary benefits:

- 1) it keeps the sidewalk at grade, which is easier for people in walkers, wheelchairs, strollers, etc.; and
- 2) the new raised crosswalk acts as a speed table for vehicles, keeping speeds down to appropriate levels for this residential and park-adjacent street.



## Redesign on Larch St.

### Proposed Redesign For North Larch Street

1. Our plans for this redesign were centered around reducing car congestion throughout the street with added in speed bumps to reduce speeding.
2. We also wanted to create a more bike friendly environment through the incorporation of a bike lane on the right hand side of the street. We deliberately colored the section green just identify it as a bike lane.
3. Still keeping in mind the idea of renovating this area we also wanted to incorporate more defined pedestrian walkways with sidewalks.
4. Later into our design phases we decided to add plant life through the installment of planters on the side of the road to also act as protectors for the bike lane.

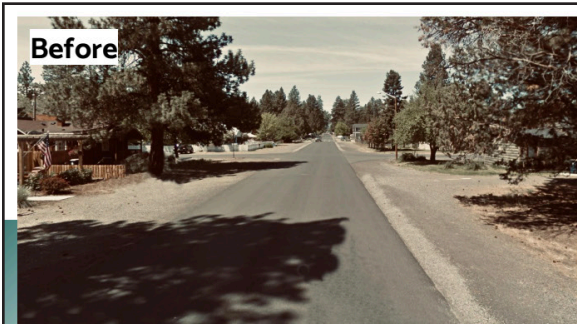


### Larch—Residential Section



**Larch—Commercial Section**





Before

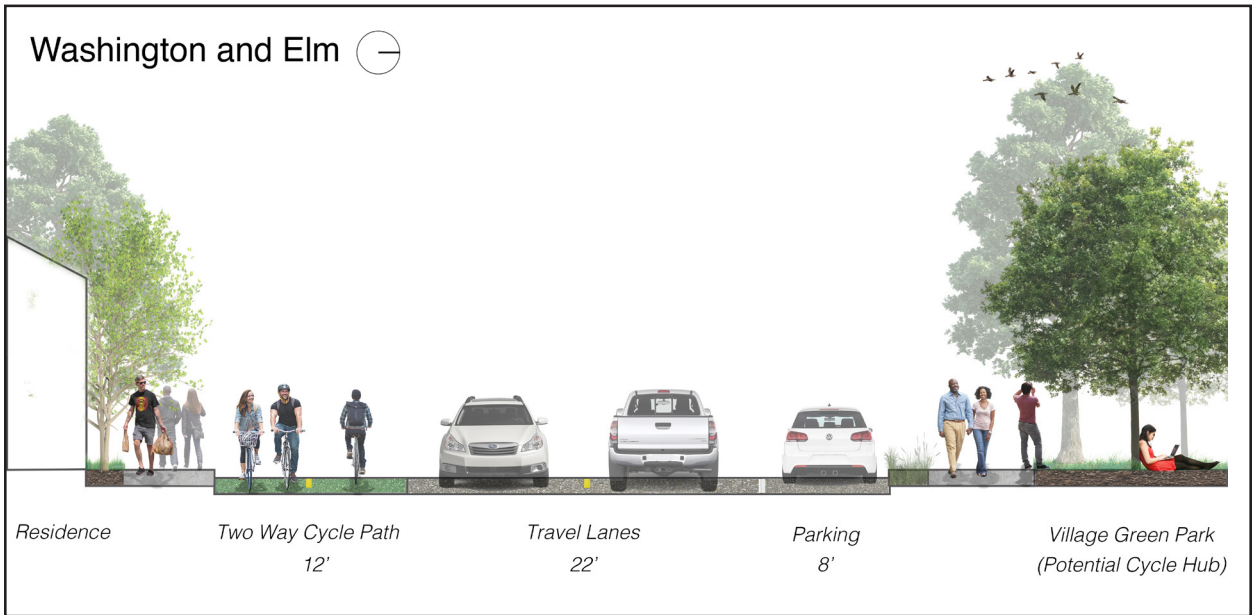


After


## Reimagining of East Washington Avenue

1. In our opinions Washington Avenue is an underdeveloped street in a residential neighborhood.
2. The roads definitely need a painted line down the middle to create lanes.
3. On the right hand side we thought the installment of a bike lane would be a great addition if done right.
4. On the left hand side and other side of the bike lane we wanted to incorporate a pedestrian walkway for hikers and citizens.
5. We wanted it to be green color coded with yellow dividers for consistent traffic flow.
6. We added in grey lined segments to show drive ways to both drivers and cyclists.











**Ash Street-Spruce Street**

Keeping this area a two way was the best option since this area is still being developed.



**Washington Avenue-Cascade Avenue**

By creating a divider in the street we will be restricting massive traffic flow causing drivers to find other routes.



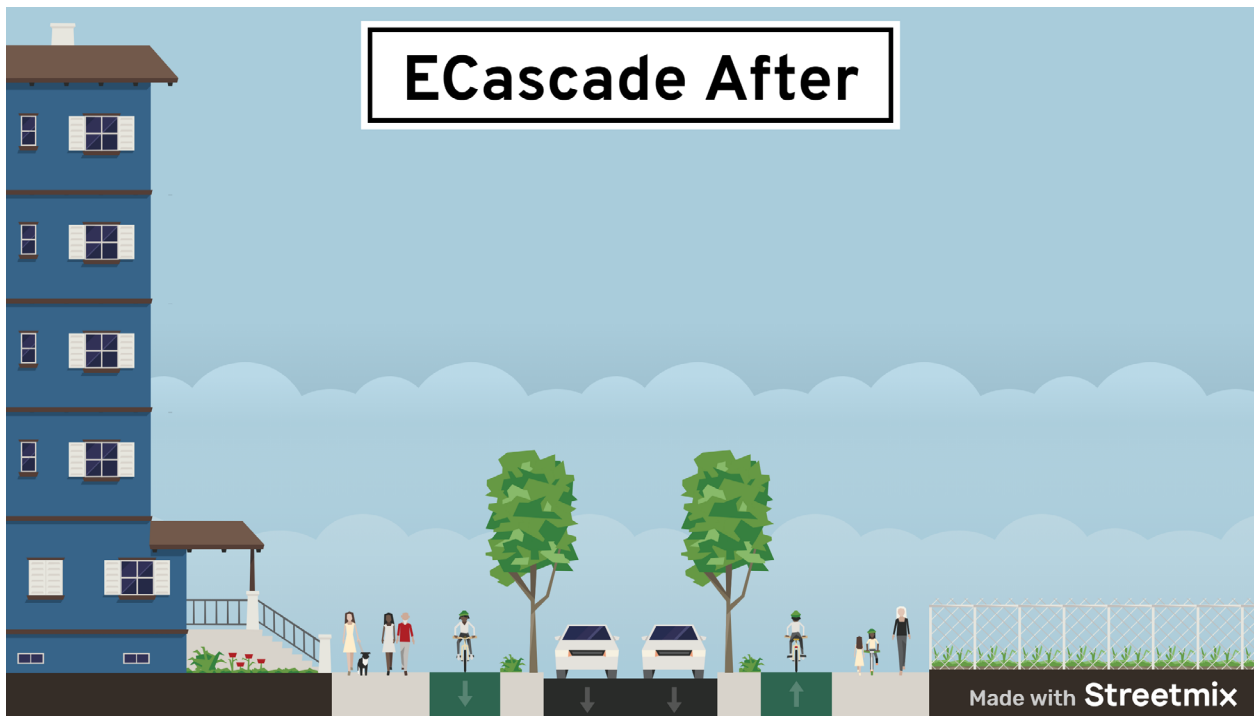
**Adams Avenue-Black Butte Avenue**

With the creation of a bike lane we are hoping to build a better connection between Adams and black butte avenue while also incorporating pedestrian areas.

**Wider View**

One student group looked at East Cascade, adjacent to the school district site, with an eye toward the future as that site gets redeveloped in ways that will likely include housing and other public

amenities. Thinking proactively about this street prior to new development can help guide the way that site redevelopment flows into the new circulation system. Here are their thoughts.

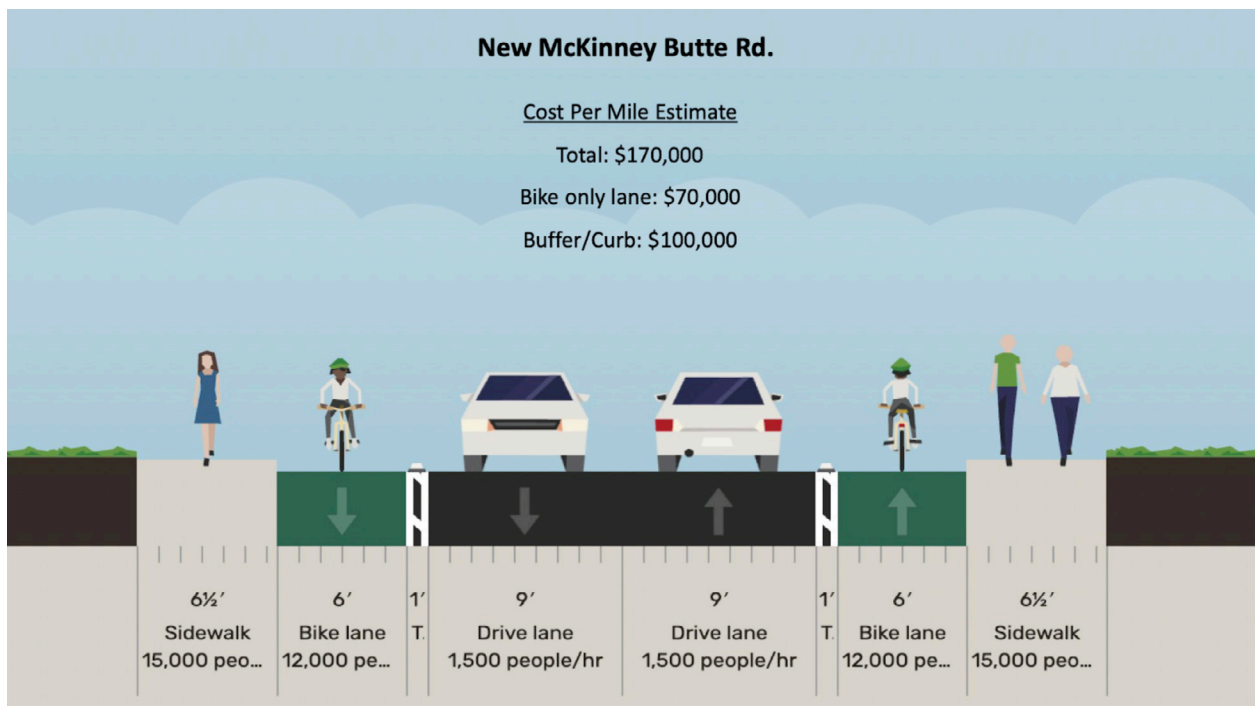
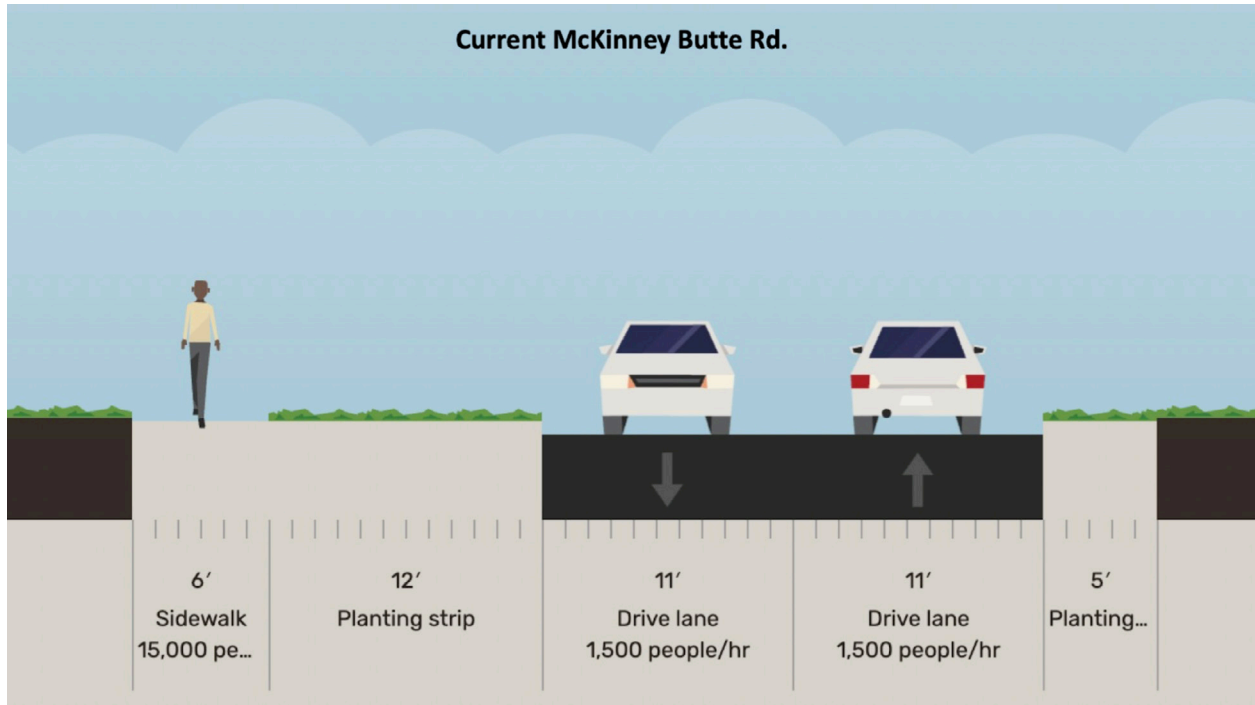


Street Redesign Ideas



Other students looked at some streets where the right of way may be available for expanding infrastructure rather than simply repurposing what already exists,

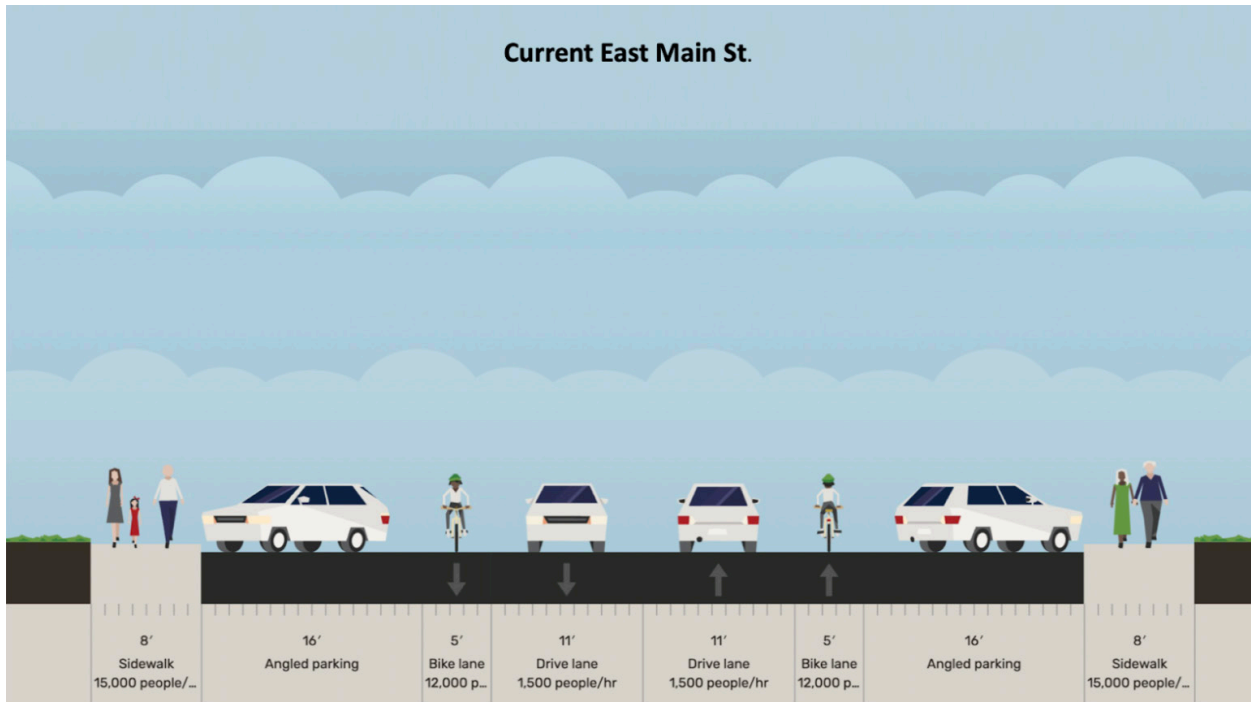
but have done so in order to create continuous, high-quality safe and comfortable bicycle infrastructure for all users.



Street Redesign Ideas

With East Main, students suggest flipping the bike lane and the car parking so that parked cars protect cyclists rather than cyclists protecting the parked cars. This small switch makes biking much more comfortable for more people because it reduces conflicts with cars, and by the same token reduces stress for drivers by giving cyclists their own separated

facility. Such a design also brings cyclists closer to adjacent businesses and with the addition of bike parking (much needed in downtown Sisters – even a car parking space or three could be turned into 12-bike parking spaces each) then the link between people on bike and stopping at a local store can be made much more fluid.



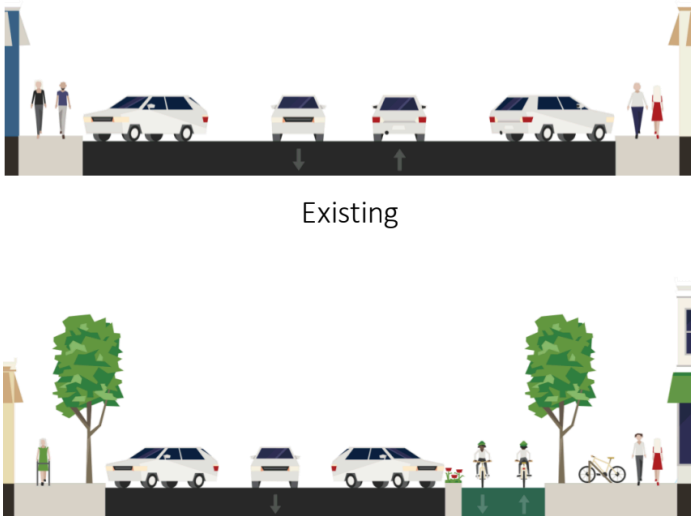
Many of the students also noted how wide many streets were and thought there could be some more purposeful re-allocation of that public right-of-way in order to achieve a more inclusive approach toward driving, walking, and

biking, all with an eye toward safety, comfort, and access. Here are a few of those street re-design suggestions via a graphical approach (courtesy of a free on-line tool called Streetmix):

## ▼ Oak St & Spruce St

**Existing conditions:**  
Both Oak and Spruce Streets are currently two-way roads with the entire right-of-way designed for vehicles. There is angled parking on each side with no bicycle infrastructure on the street space. On either side of the road there are small sidewalks for pedestrians.

**Proposed conditions:**  
Installing a two-way bike path separated from vehicles won't remove any parking and will create distinct lanes for each mode of travel. The road will become one-way towards Cascade Ave to limit the number of vehicles passing through residential neighborhoods to avoid traffic. Pedestrians and cyclists will be able to cross at the same location to increase overall safety for all users.



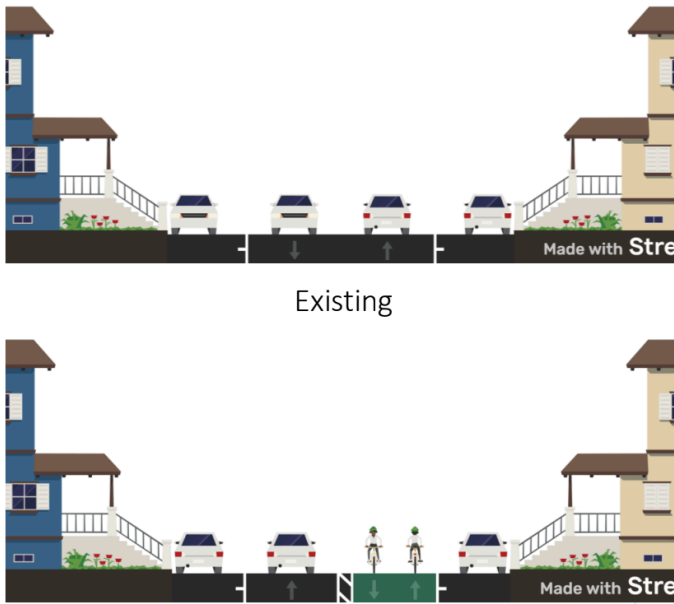
Existing

Proposed

## ▼ Washington Ave

**Existing conditions:**  
Washington Ave is currently a two-way street with large gravel sections on either side designated to parking for residents. The road currently has no bike infrastructure.

**Proposed conditions:**  
Installing a two-way "buffered" bike path that is separated by road paint will improve the connectivity of a biking network in Sisters. The road will be one-way for vehicle use but two-way for cyclists which will allow people on bikes to move more efficiently and freely than cars. There will be no parking removed through this redesign.



Existing

Proposed

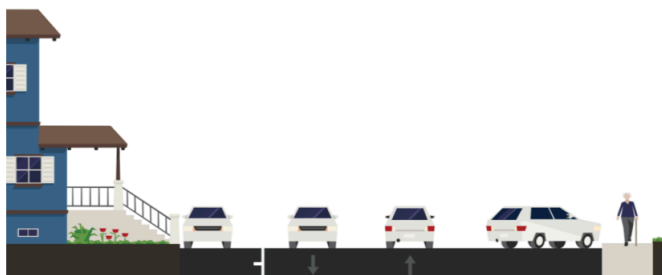
## Washington Ave (City Park)

### Existing conditions:

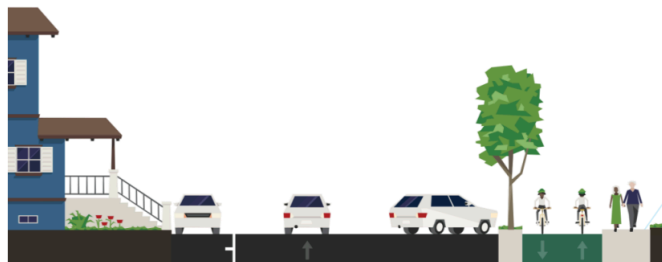
Washington Ave along the Village Green City Park is currently a two-way road with angled parking on the south side and parallel parking on a gravel surface on the north side. The street serves as a space for vehicles to pass through and park to use the recreational space.

### Proposed conditions:

Installing a two-way protected bike lane will improve cyclist safety because of the physical separation from vehicles. The street will be repurposed into a "park parking" street. There will still be the same amount of parking on the street however the road will be narrowed along this one block. This will reduce vehicle speeds and hopefully transform this section of Washington Ave to become a street with the goal of park parking and bicycle mobility.



Existing



Proposed

## Wayfinding and Communication Opportunities

A bicycle wayfinding system consists of comprehensive signage and pavement markings to guide bicyclists (and often all road users) to their destination along preferred routes, providing both guidance and legitimacy for people traveling by bike. Benefits of comprehensive wayfinding systems can include safety and security for all road users, reduced stress and anxiety during trips, increased

efficiency, opportunities for expanded community branding, possibilities for local business sponsorship and visibility, and enhancing the overall outdoor experience while travelling within the community.

Below are examples of a range of possible bicycle wayfinding enhancements within Sisters (and beyond).

## Branding through Murals, Artwork, and Possible Merchandise

Sisters already has some fantastic public art and murals; promoting some of the already existing scenic bicycle routes that interconnect with Sisters is a way to simultaneously elevate those rides and create more public art. The following is an example of what such a public mural

of Oregon Scenic Bikeways could look like, enticing future riders, bringing joy to those who have already used some of these routes, and adding general joy to all by showing just how much natural beauty exists in and around Sisters.

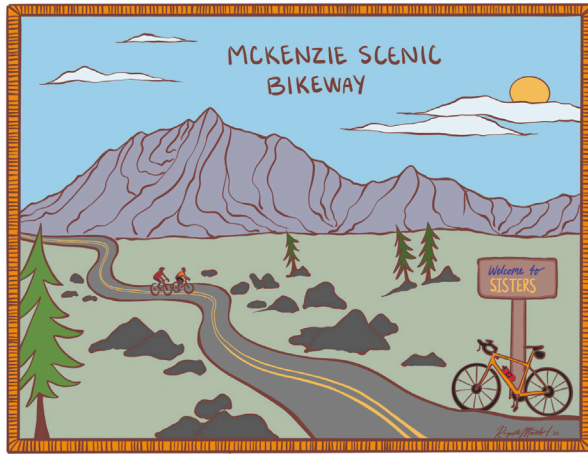




Wayfinding and Communication Opportunities

Additional mural or even poster art that supports the interconnectedness with

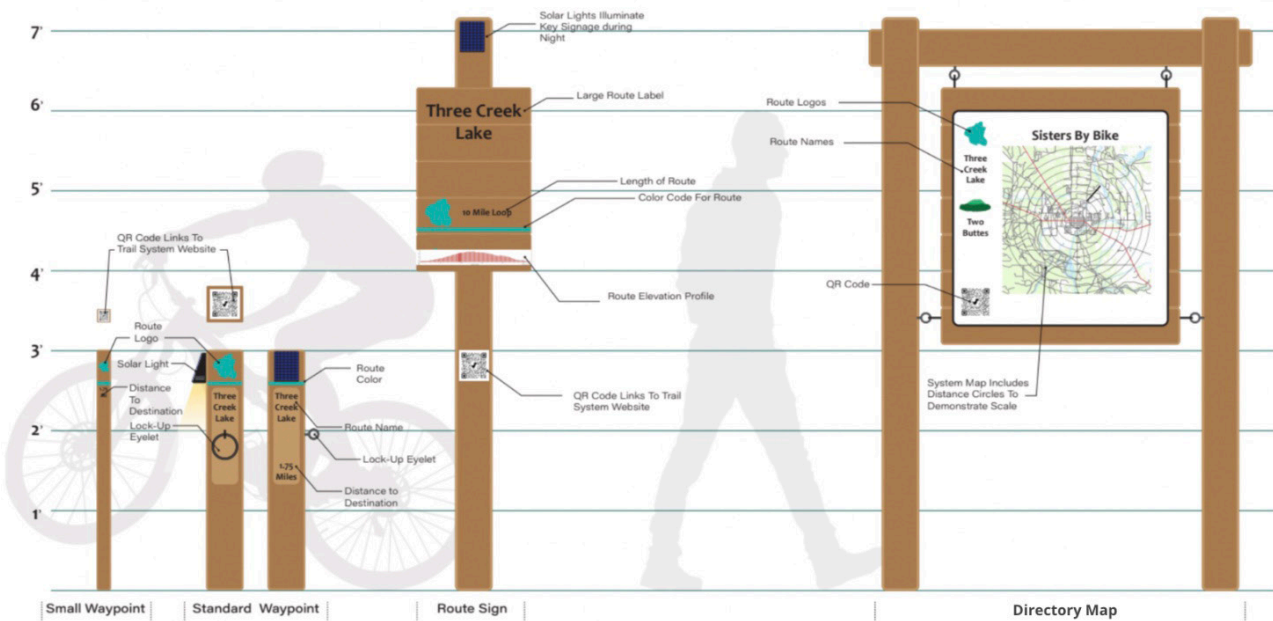
nature, Sisters, and cycling can be found in these examples:



### Signs

Wayfinding signs provide an opportunity to be both functional and visually additive to the Sisters landscape. Wayfinding is important – especially to new users on the infrastructure – as it helps guide cyclists to the destinations, they seek along the routes that are either most efficient, most comfortable, or both. When designed well, wayfinding can also contribute to a community’s branding identity while limiting the visual pollution that too many signs often brings to a streetscape.

Here are a variety of wayfinding signs that can integrate a unified visual theme across locations in order to provide needed information explicitly, as well as implicitly just by their recognizable look. Signs can range from informational kiosks at strategic central locations, signs at trailheads that offer a bit more information about the route itself (with a QR code to link to more on-line information), and smaller signposts that alert users that they are on the right path, similar to the use of blue diamonds in the forest to demarcate hiking/cross-country skiing routes.



## Wayfinding and Communication Opportunities

Here are two examples of the small post version in both in-town and out-of-town settings, as well as some wayfinding

markings on the pavement itself, which communicates to all road users that a route is a preferred bike route as well.



Here is one group's suggestion for sign placements along the longer rides from Sisters to beyond:

### Sisters Way-Finding Signage



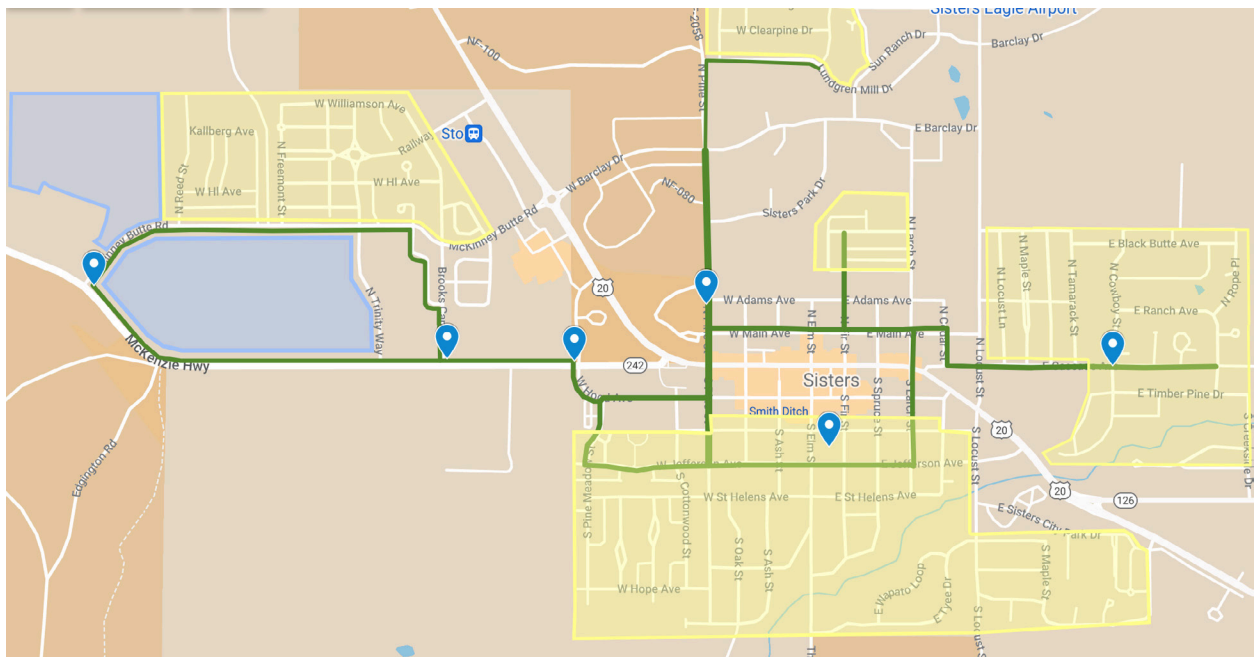
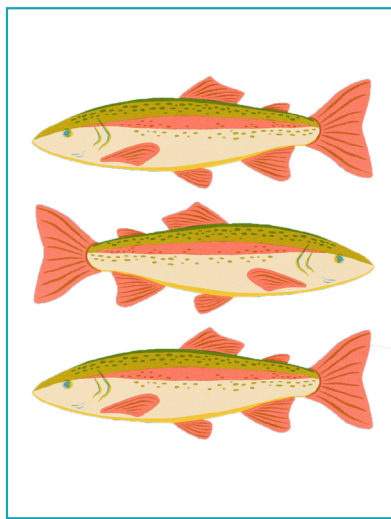


### Safe Routes to School

Many students focused specifically on ways that Sisters could be safer and more comfortable for youth on bikes. Making it easier and more comfortable for more kids to bike to school would enhance their physical activity and social engagement, plus allow them more independence of exploration of the entire community during non-school hours.

Focusing on safe routes to school offers the opportunity to have some fun as well

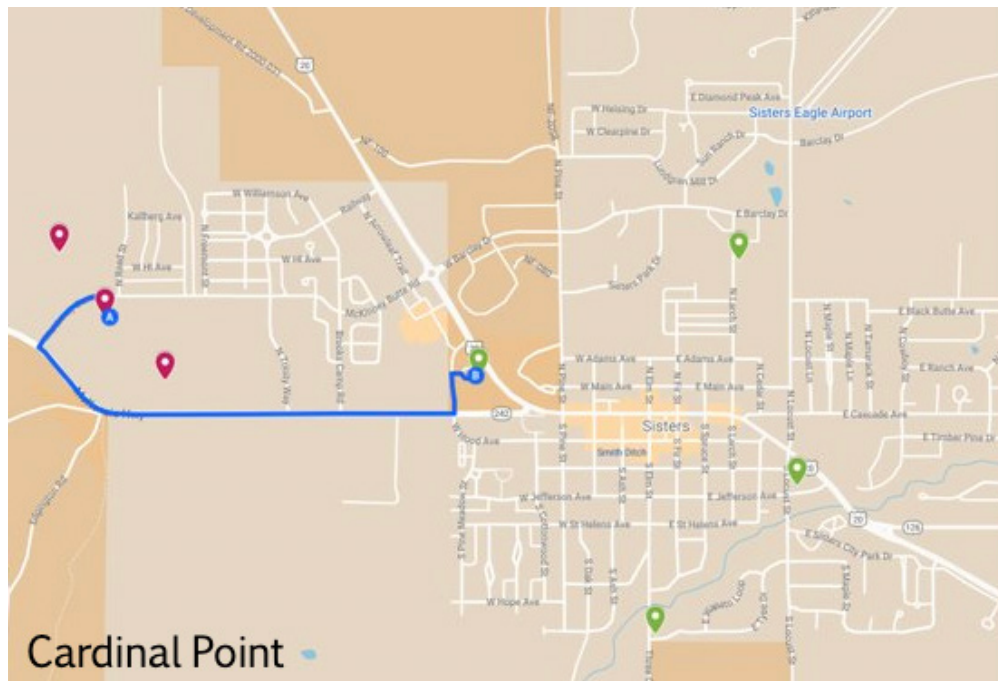
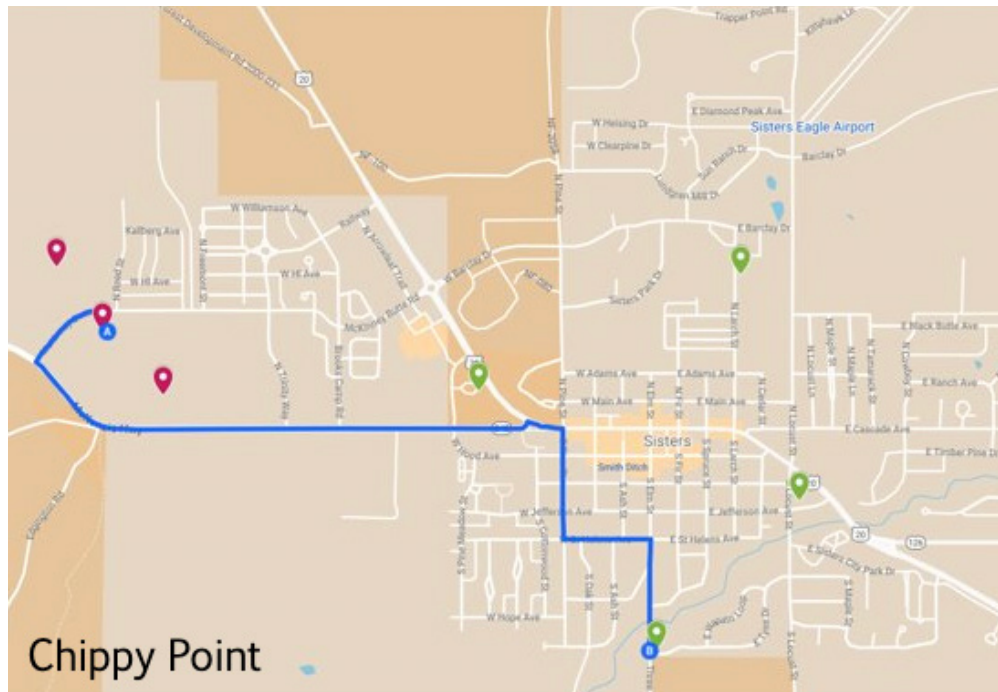
by providing support to kids who are moving about their community in this space efficient, low carbon, independent way. For example, murals along key routes (on the pavement or on signs or building facades) could be customized to make clear what the priority 'safe routes' are. The map and images below are an idea of both a comprehensive safe routes to school network along with some key mural locations and some mural examples that fuse fun and nature together.

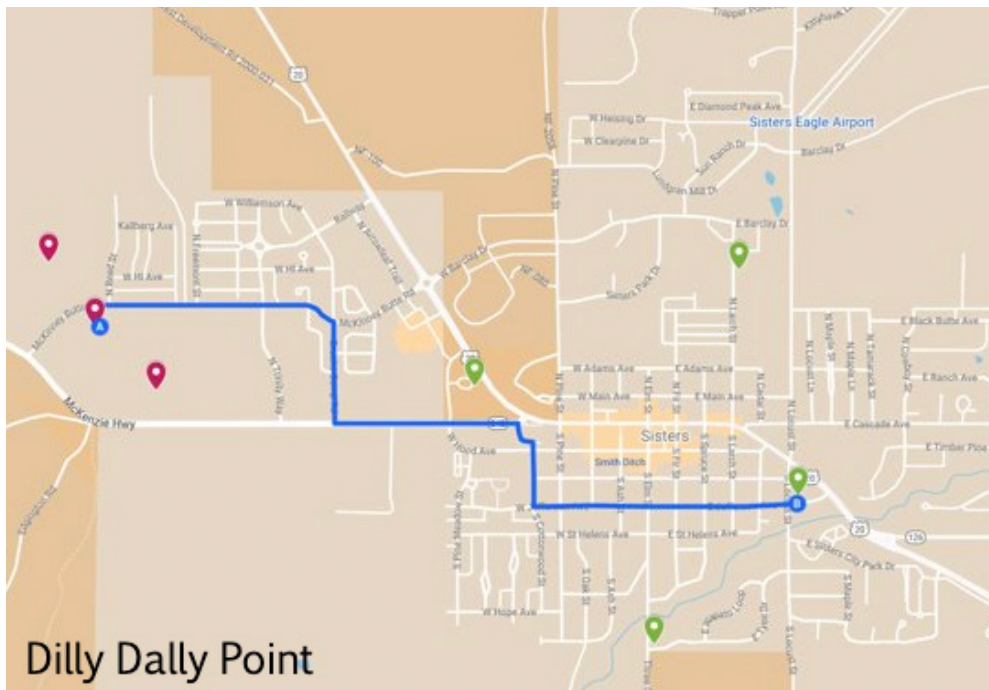
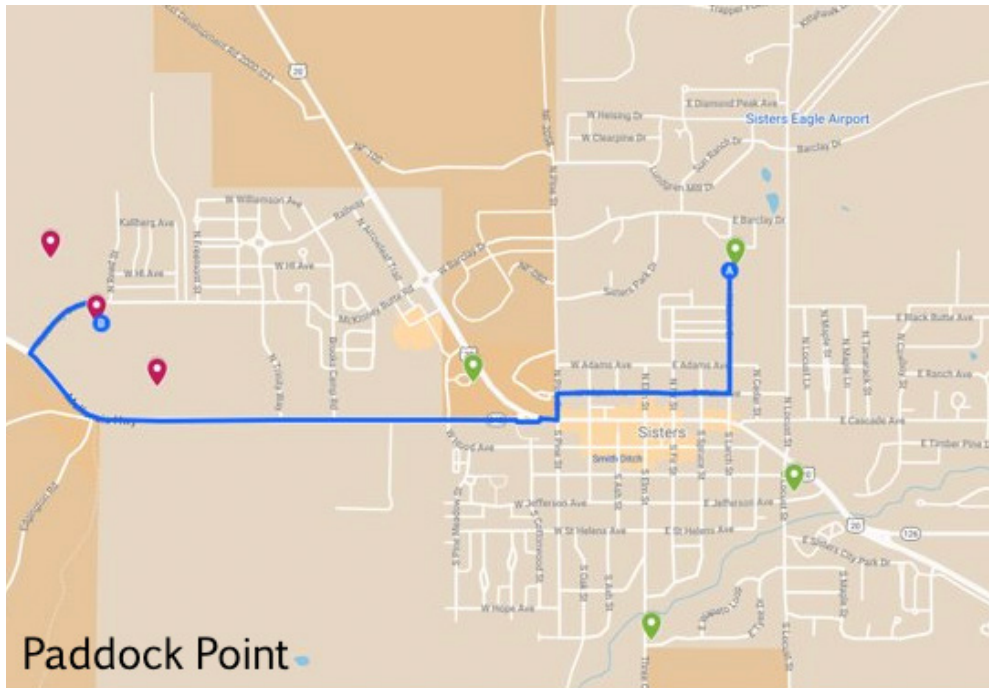


## Wayfinding and Communication Opportunities

For children that are coming from outside of Sisters, some students gave thought to 'park and ride' areas (see routes below), where parents could drop their children off at sites on the edge of Sisters and allow their kids to then bike to school just like local kids could. Creating safe storage of bikes at this drop-off/pick-up location

so that bicycle transport is unnecessary. Moreover, by designating these sites at the edge of Sisters, it could reduce the vehicular traffic through the community that are made exclusively for school trips. Reducing vehicular traffic makes it safer for all kids getting to school by foot or bike.

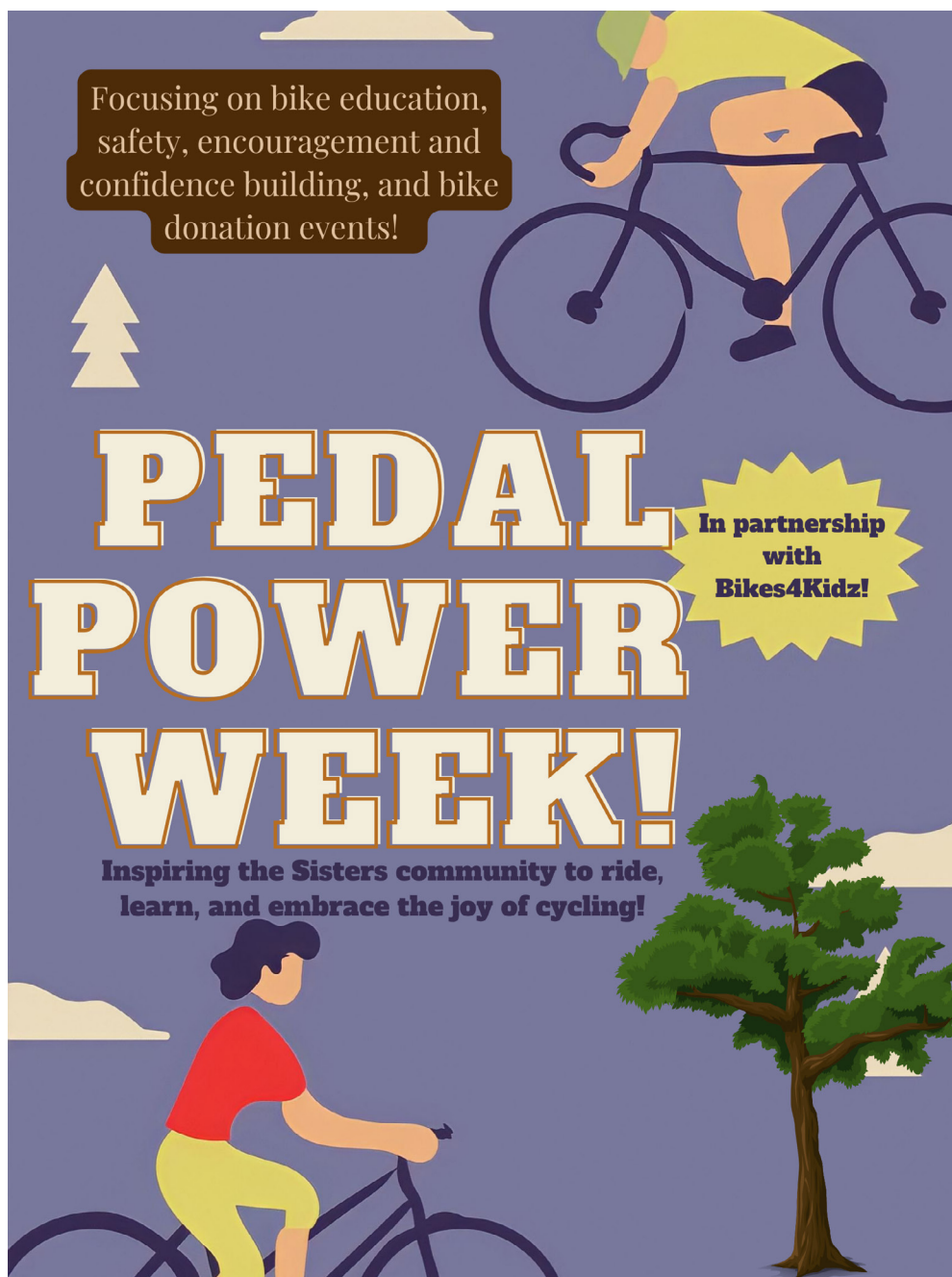






Students also suggested partnering with Bikes4kidz and both statewide and national Safe Routes to Schools

organizations to promote various activities to help kids get access to bikes and to use them in fun ways.



### **Better Connections Between Website and Location Information**

A consistent theme across student groups was the need for more user-friendly information about cycling routes on-line and in-person and to customize this information to a range of abilities so that each cyclist can find opportunities that match their comfort level for moving about by bike in and out of Sisters. Many student groups also strongly advocated for the inclusion of QR codes throughout community-based materials (including murals) to help direct more people to these on-line resources.

Student groups felt a better hierarchy of information on-line related to cycle streets and routes would be beneficial to all users—both residents and visitors alike. That hierarchy includes the following:

#### *Directory Map*

This map would show routes to get to outdoor destinations and key trail headers. Each destination or trail system should have a unique icon and colorway that would be consistent across signage, guiding riders from the hierarchy map to their location of choice. We recommend adding two of these maps – one at the upcoming East Mobility Hub and another at Village Green Park. Also, we recommend adding a radial overlay to the map where each circle represents a mile out from the center of town to make it easy to conceptualize the destinations within a distance someone visiting is willing to ride.

#### *Trail System Map*

Building on the work the Sisters Trail Alliance has already put in, trail system maps will show trail systems and appropriate usage forms at each trailhead. For example, trail options at Peterson Ridge and users (hikers, mountain bikers, equestrian, etc.). We suggest that these maps include the colorway and icon system they represent in line with the hierarchy maps to create a cohesive system. We also recommend that bike racks be placed near trailheads so that residents and tourists have the option to bike to hiking opportunities. Bike racks should be designed to mitigate theft (i.e. front tire and frame should be able to be attached to the locking post with a u-lock and the posts themselves should not be easy to remove). Finally, QR codes could be added so that users are able to scan and download a map of the trail to have with them.

#### *Route Headers*

These signs would be located at the starting point for major routes that are not associated with broader trail systems. They represent a “passing off” of the hierarchy map directions to the route itself. The hierarchy map gets riders from the hub to the starting point and the route headers mark where riders would look at a new map if their recreation destination of choice is a trail/route itself.

#### *Directional Markers/Posts*

These wooden posts (depicted above) can guide users once they’re on the route, indicating continuation and changes in direction as necessary to keep users on

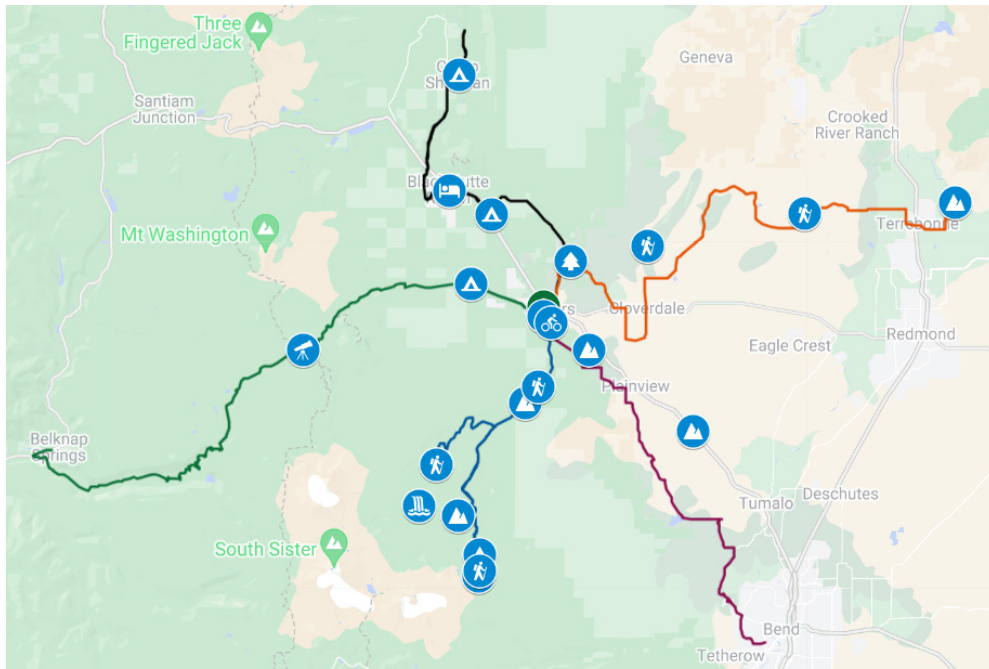
route. They can feature a QR code to a map or other on-line information to be easily accessible to tourists, but visually unobstructive for residents. They also can have the route icon and coordinating color stripe on each side to help users recognize directional cues as they're riding. Adding a "hitching post" style bike lock-up design for the markers in town can reinforce community branding and expand bicycle parking as desired. Care should be taken in implementing this aspect to (a) consider if the post locations match where people would want to park and (b) if bikes would obstruct the post for other users on the road, particularly in pedestrian-heavy locations.

### *Sign Features*

1. **Icons:** A unique image and color should be assigned to each major route/destination in and around Sisters. Having a shape and color associated with each destination makes the signage for each route easy to identify at a glance while riding, while still being identifiable by shape for colorblind individuals. Some routes/destinations we recommend "iconizing" are the Smith Rock Scenic Bikeway, Three Creek Lake, and Black Butte.
2. **Elevation gain:** A pictorial demonstration of general elevation gain and patterns for a ride are a valuable tool for people accessing the difficulty of a ride they are considering. This helps them make informed decisions about the trails they select and how to prepare for them.
3. **Distance Metrics:** We recommend listing distance on route headers and key directional marking signs. Distance should be conveyed as both mileage and estimated time to destination to help riders accurately conceptualize how long and how far they can expect to be riding.

### *QR Codes*

We recommend adding QR codes to each stage of signage that will direct users to a downloadable map of the system of routes in and around Sisters. The map should be downloadable so that it can still be accessed when users are outside of cell service range. While in cell service, the QR codes can be made specific to each sign/post so that a "you are here" marker will show up corresponding with where the code was scanned. There is also potential for the map and signpost QR-code system to be integrated with popular cycling apps so that post locations are identified on maps within those apps and riders know when to expect wayfinding support. The code below takes users to a sample map that the signage QR codes could direct to.



[logo]

[website introduction: information about Sisters as a cycling destination, description of scenic bike routes, links to other online cycling resources]

Routes

[map displays how to access the scenic bike routes from Sisters, includes link to a map with directions]

Cycling in Sisters

Website includes links to individual route information

Site shows a map of Sisters with the Safe Routes displayed

Individual routes have detailed descriptions

Other Ideas: Logos



## Mobility Hub Augmentation

There are two trailheads that currently exist at Village Green, but will be moved to East Portal as part of the mobility hub. Given that these cyclists will have completed a substantial journey, there should be something to welcome them to Sisters, so the conclusion or stop of their journey is momentous and not anticlimactic. In addition to the celebratory features, the new trailhead must point travelers to various things to do in town, so they can enjoy their stay. This can be done through signs and maps and other wayfinding methods.



A mobility hub is a central location that integrates different modes of transportation into one place, so residents and visitors have a wider variety of transportation options to suit their needs. This includes bicycle, pedestrian, public transit, and car infrastructure. A tourist could park their car at a mobility hub and continue their trip on a bike or bus, or a traveler could park and explore the area on foot.

The City of Sisters is currently in the process of developing a mobility hub on the westside of the city. This hub will be in a section of land currently operated by the Forest Service, known as East Portal. In addition to a regional bus stop and private car facilities, the Transportation System Plan of Sisters aims to incorporate bike and pedestrian facilities into East Portal as well, which is the focus of our recommendations.

A primary focus of the Mobility Hub should really be the visitors/tourists to Sisters, with an eye toward creating a culture of

‘Park and Play.’ In such a future, Sisters would be a logical destination for multi-day stays for visitors to access amenities within Sisters, as well as all of the beautiful resources beyond the city limits. Ideally, visitors can simply arrive at the Mobility Hub (side note: Sisters should come up with a catchy name of this location and certainly not ‘East Portal’ since it is on the west side)), and either park their car or get off the regional bus and be able to be car-free for the entire extent of their visit, whether they are staying in town the whole time or launching off from Sisters for a multi-day bike and/or backpacking excursion. Visitors ought to be able to park their vehicle, including charging their electric car (or bike), take local bikeshare transport to access Sisters, park their own bike securely, have an enjoyable place to congregate as they begin/end a journey or meet friends for a weekend together, and feel like they are in a memorable gateway to fun and adventure inside and out of Sisters. The Mobility Hub ought to be both functional and a place where memorable pictures are taken to mark a visit.

There are several opportunities to improve and incorporate bike access into the East Portal, including a range of cycling infrastructure in order to make the experience of biking easier for the user. Students propose including many elements that will support cycling such as short- and long-term parking, wayfinding, repairs stations, and accessible crossing points.

### **Parking**

Bicycle parking is essential to make cycling safe and easy, by ensuring that there is somewhere to park your bike when you reach your destination, and that it will still be there when you return. In addition to typical around town cycling, Sisters is the endpoint between various recreational sites. This means that many cyclists on longer journeys arrive in Sisters with camping equipment, clothes, and bike tools attached to their bikes. Bike lockers could make it smoother and easier to stop and explore the city without the need to worry about their belongings.

The first element to consider is both long- and short-term bicycle parking. Short-term parking is achieved through bike racks. These can come in a variety of shapes and sizes, but we recommend a 'horseshoe' shape to give a nod to the western heritage of Sisters, while maintaining functionality. We propose a minimum of 20 bike racks be installed; 10 at the central cycling area and 10 adjacent to the on-street parking on Cascade

Avenue. In addition, adding covered bike racks would be helpful to ensure bikes are not wet or snowy.

Long-term parking can be achieved through bike lockers. We propose that a minimum of six lockers be installed to allow for secure storage of bikes for those who want to secure the gear on their bikes. The lockers would be located at the central cycling area. The lockers would be covered to protect bikes from the elements but offer panels so that the content of the lockers can be seen from the outside. The lockers are about 4 feet in height and can store one or two bikes per locker, making them ideal for couples or friends.

### **Repair Stations**

A bike repair station is an important resource for the mobility hub. They are compact facilities that are easy to use and provide an assortment of tools and a bike pump that allow cyclists to make repairs to their bike as needed. They come in a variety of colors, styles, and sizes. We recommend that the city invests in a durable, long lasting repair station that is covered from the elements to ensure the longevity of the tool. The city should issue repairs to the bike repair station semi-regularly to ensure that parts have not been stripped and still functional.

### **Bathrooms**

ADA-accessible bathrooms and water refill stations are a must at the mobility hub.

### Accessible Crossing Points

Accessible crossing points will ensure that there are sufficient paths to connect the cycling infrastructure to the entry points and will help make entering and exiting the hub as easy as possible. For example, Highway US 20 cuts right through the heart of the City of Sisters, creating a significant barrier that hinders the seamless flow for pedestrians and cyclists. The absence of designated crossing specifically designed for non-motorized road users makes crossing the highway and unnecessary risk. Pedestrians and cyclists must navigate through fast-moving car traffic, which not only jeopardizes their safety but disrupts the flow of traffic. The lack of safe and accessible crossing points on Highway 20 poses constant danger for pedestrians, discouraging active modes of transportation and impeding connectivity within the city. Addressing the issue by establishing designated pedestrian and cyclist crossings is crucial to ensure the safety and mobility of all commuters within Sisters. Below is a list of common accessible crossing points used around the United States to allow pedestrians and cyclists to cross roads with significant traffic. The options are ranked in order of preference for the safety of pedestrians and cyclists:

- Underpass (tunnel)—Creating a tunnel or underpass beneath the highway, allowing pedestrians and cyclists to cross without interfering with motorized vehicular traffic. Tunnels are better than overpasses as they allow the downhill momentum for cyclists to carry them through to the uphill of the other side, as opposed to overpasses,

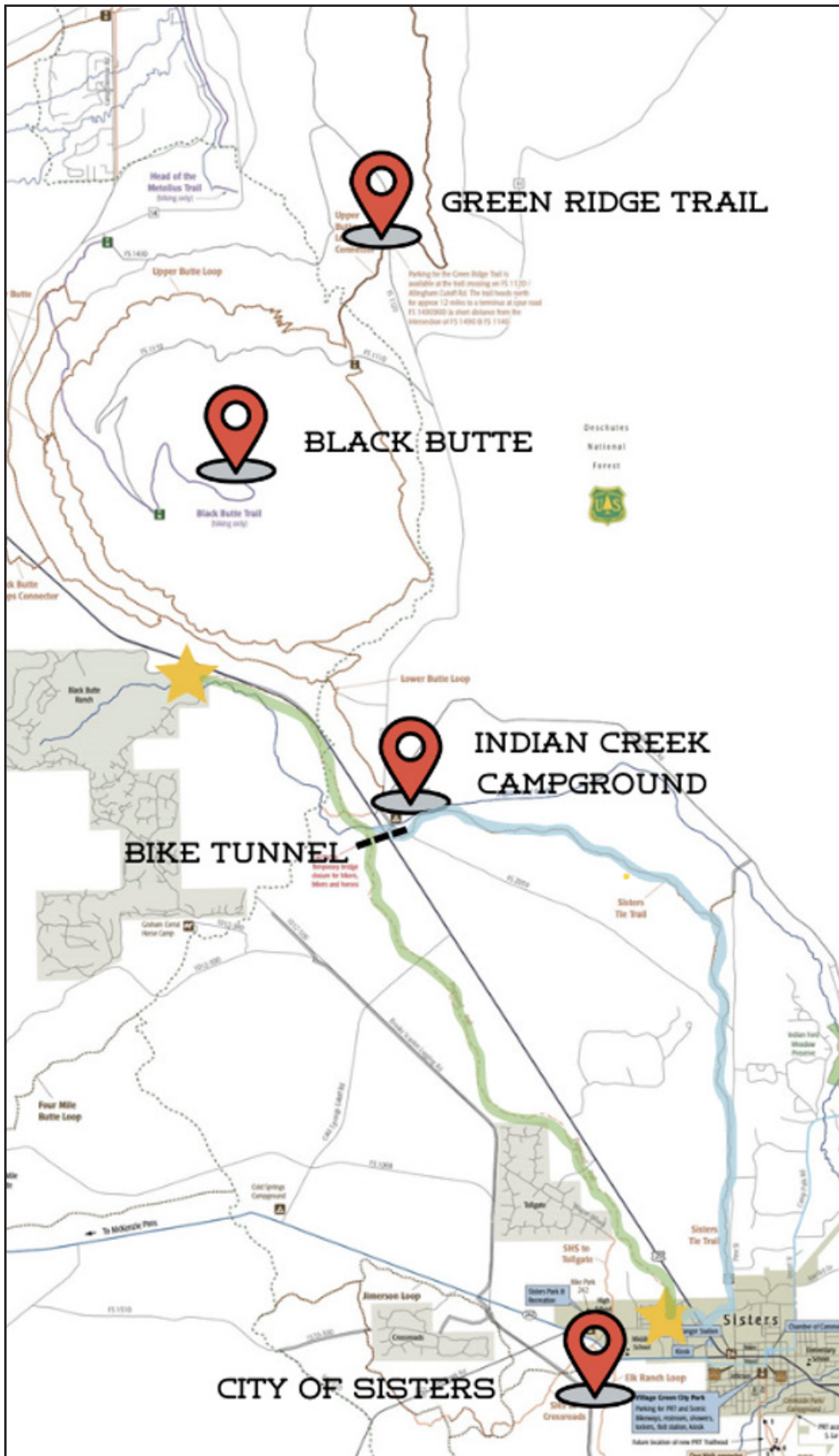
which require heavy effort to get to the apex. Examples of tunnels in nearby Sun Rover adds value to the idea here as it helps boost a regional identity or approach/support for cycling in central Oregon. A tunnel can also be an additional mural art opportunity as well. Tunnels also require less space than overpasses.

- Median refuge island—Constructing a raised island in the middle of the highway gives pedestrians and cyclists a protected space to wait for a pause in traffic, while simplifying the crossing. Crossing a single lane at a time creates a significant safety improvement compared to the crossing of two lanes. It is critical that in this design, that the refuge island be a bit wider than that of a typical bike so that someone their bike across the street can safely wait in the median with their bike. It is likely that more than one person at a time would be crossing, so the design should comfortably accommodate 3-5 people at a time.
- Painted crosswalk with signage—Marking a designated pedestrian crosswalk with proper signage, zebra markings, to alert drivers and prioritize pedestrian safety. Typically, this is the most cost-effective option.
- Painted crosswalk with flashing lights—Similar to a painted crosswalk with signage, except the addition of motion sensors flashing lights to create additional safety especially at night. In general, adding flashing beacons are a symbol of a poor intersection design, not to mention the light pollution that such lights add to the environment.

# Recreation from Sisters to Beyond







## More Bikes for More People in Sisters

Sisters has the opportunity to expand its economic and tourist opportunities by providing accessible transportation options within the city, which could help address traffic congestion and promote a healthier lifestyle.

One of Sisters' priorities is making the town more bikeable. Plans are in place to create a multi-modal Mobility Hub, which will connect the surrounding region to Sisters, as well as improving residential streets for cycling. Sisters is a quickly growing town that is looking to make biking easier and more pleasant—a bike share program could be the next step.

### **Bikeshare in Sisters**

The unique opportunity of bike share in Sisters, a tourist town already looking to improve its bikeability, is that a bike share program will bring those benefits to tourists.

In designing a bike share system, there are many choices that impact the end-product. Below are five choices that all have a significant effect on program experience/success, and what each choice prioritizes.

- ***Docked vs Dockless***  
Whether or not the bikes are meant to be locked up to a parking hub at the beginning and end of each trip determines the flexibility of commutes for users. Dockless systems go point to point, more like owning a personal bike. However, dockless bikes can add barriers to use, and rely on strategic planning to have enough bike parking at all destinations.
- ***Electric vs Non-Electric***  
Electric bikes make getting around much easier. For example, a bike trip to the grocery store is now much shorter and less physically draining, increasing accessibility for elderly or those with physical limitations. However, the clear trade-offs of electric bikes is cost, which is higher than traditional models, including the logistics of charging.
- ***Branded vs Non-Branded***  
Cohesively branded bikes can add to the brand of a town. For Sisters, that kind of branding is integral to the town's aesthetics. However, an overly or poorly branded system can not only be aesthetically unpleasing but impact the surrounding western theme appeal.
- ***Tourists vs Residents***  
Choosing whether to cater to tourists or residents can mean adjusting the location of parking docks, pricing plans, and methods for checking out a bike. Usually, providing a robust system for residents will create a solid base for adding extra amenities for tourists. Proper planning and consulting surround fundamental needs and uses for city bikes will provide a solid structure for the program.
- ***Formal vs Informal***  
Formal bikeshare is centralized and uses a standard process for checking out and returning city bikes. It reduces the risk of loss or theft, while providing a cohesive experience for users and increases time between repairs. However, maintaining a formal system will usually be more expensive, and an informal system can be easily customized for the specific needs of an area.

### **Bike Subsidy Program**

Local officials will make a contractual arrangement with a bike manufacturing company to create Sisters city-branded bicycles. These bicycles should have a distinguished color and labeling that reflects the unique cultural aesthetic of Sisters. The city will then put out a submission form to the public in which business owners can submit a purchase request for x-amount of subsidized bikes. Those requests will be used to order the proper amount of desired bikes through the manufacturing company. Such a process will ensure that there will always be proper overhead to cover the cost of the bikes.

The subsidy will have a targeted benefit to local businesses who participate in Sisters' hospitality and tourism industry: Hotels, BandBs, Airbnbs, VRBOs, etc. It will be an option for an additional amenity that reflects the Sisters' outdoorsy lifestyle at an affordable cost. Sisters' branded bikes have the potential to become a unique association for tourists, in which people will prefer to stay in town where they can ride the trendy city bikes across town.

During initial implementation, there can be an inaugural push where local businesses have the option to submit bike requests to the city by a deadline, in order to be a participant in a pilot program of Sister branded bikes. Following the inaugural push, businesses can submit new requests at any point moving forward to be processed by the city. Also, Sisters may hold an inaugural city event in hopes of bringing positive media attention to the program. Businesses participating could also gain advertisements by joining the celebration of the program.

In terms of tourism, the program would be an effective way for the City of Sisters and their local economy to contribute in reducing their carbon footprint. Not only is this an additional amenity that businesses can provide for their guests at an affordable cost, but it will further distinguish Sisters as an environmentally conscious city while benefiting public health and reducing air and noise pollution.

### **Risks**

A bike subsidy program is viable because it assumes low risk. One of the tricky elements of a public bike-share program in smaller cities is attaining enough demand to sustain proper maintenance of the program. In this case, there are no program upkeep costs because each business will be purchasing and taking ownership of the bikes. The demand for bikes will then spawn out of their marketing techniques toward independent customers.

Additionally, the proposed program would allow Sisters to start the process toward bike identity branding before committing to the idea and costs of an entire city bike share program. Tourists would have access to bikes and the program would receive free advertising every time a Sisters bike would be ridden across town. The subsidy program would allow the city to test the demand for a city bike program and increase recognition and demand throughout the duration of the subsidy. This would, in turn, lead to an easier implementation process if Sisters decides to take the step to invest into a city-wide bikeshare program in the coming years.

# Community Engagement and Events

## The Sisters Circuit: New Sisters-Based Challenge

One of the most interesting proposed events is the creation and marketing of a series of longer-distanced bike rides that begin and end in Sisters, called The Sisters Circuit. This series of rides takes riders to different destinations and on different cycling terrains, giving participants access to all the surrounding beauty and also challenges riders to experience different type of cycling environments.

Students saw these circuits as a flexible opportunity that can be formally organized and put on every other month to create an annual series, can be focused on the shoulder seasons when tourism is lower, or can just exist as stand-alone routes that individuals can 'acquire' at their own place. Routes can be branded and that branding can translate into local merchandise (shirt and tote bag examples are below).

Here are example flyers and routes for six circuits.



According to the student group, the overall purpose of “the Sisters Circuit” includes:

### *Promote Cycling*

The bike circuit will encourage people of all ages and skill levels to engage in cycling and will provide an accessible and enjoyable means for individuals to improve their fitness levels, enhance cardiovascular health, and strengthen muscles, promoting it as a healthy and sustainable means of transportation and recreation.

### *Boost Tourism*

By hosting a series of bike races, Sisters will attract cyclists from near and far, contributing to increased tourism and the local economy. Participants and spectators will explore the town's amenities, accommodations, restaurants, and shops, resulting in a positive economic impact. Sisters experiences high volumes of tourism during the summer months already, so having a race every other month will help to broaden this window and attract more regular tourists.

### *Community Engagement*

The bike circuit will foster community engagement by involving local businesses, organizations, and residents. It will provide opportunities for volunteering, sponsorship, and collaboration, creating a sense of pride and unity among community members.

### *Environmental Awareness*

Sisters and its surroundings offer breathtaking natural landscapes. The bike circuit will highlight the scenic trails, mountain buttes, and countryside, promoting the region as a premier cycling destination. By immersing participants in the environment, we hope to encourage them to opt for more sustainable modes of transportation to reduce their carbon footprint and help combat climate change to protect the environment.

### *Fundraising*

A percentage of participant entry fees (if this model is used) can be allocated towards a trail or transportation fund to help promote widespread cycling. By investing in these initiatives, the project aims to create lasting benefits for the community and foster a cycling culture beyond the events themselves.

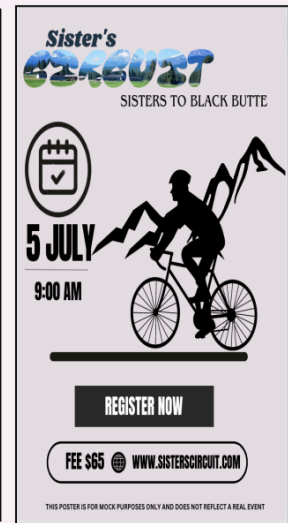
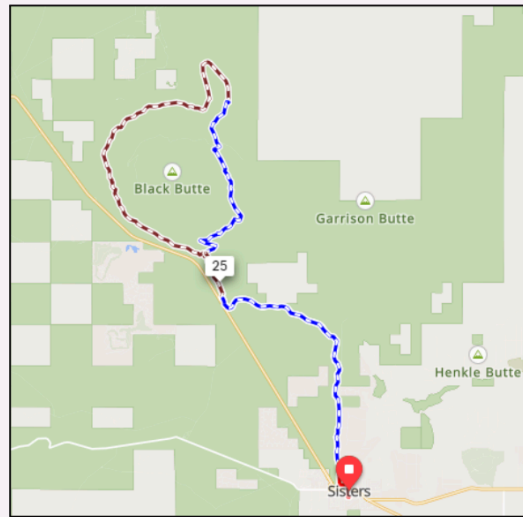
### *Education*

The circuit can incorporate educational initiatives to enhance participants' knowledge and skills related to cycling. It may include workshops on bike maintenance, bike and helmet fittings, and nutrition for cyclists. Additionally, the circuit may collaborate with local schools to implement cycling education programs, teaching students about road safety, environmental awareness, and the benefits of active transportation. By providing educational resources and opportunities, the circuit seeks to empower participants with the tools they need to become confident and responsible cyclists.

Here are the actual routes that students identified:

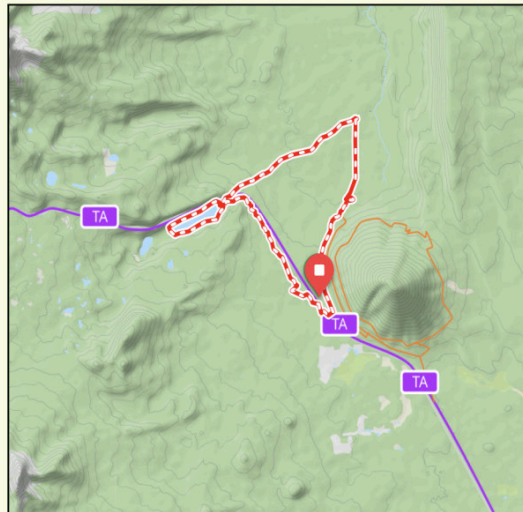
**Sisters to Black Butte:  
July 5th**

A biking route with moderate climbing, varied terrain, and various travel corridors that is not difficult to navigate and will prove challenging to beginners with a scenic view. A preferable route to visit during the summer months because of the reliable weather and snow-free trails.



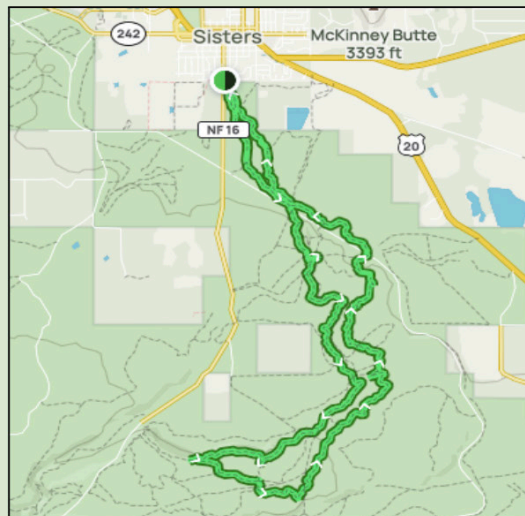
**Labor Day at the Lake:  
September 4th**

Labor Day at the Lake is a singletrack around Suttle Lake, also known as the Suttle Lake Loop. A fairly flat route that stays very close to the shoreline is a beginner's choice and for those who would like to enjoy a relaxing time viewing Sister's surrounding nature with only a 72 feet gain.



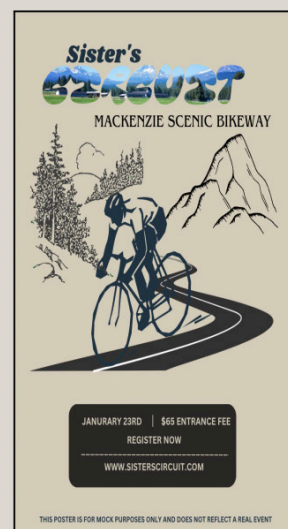
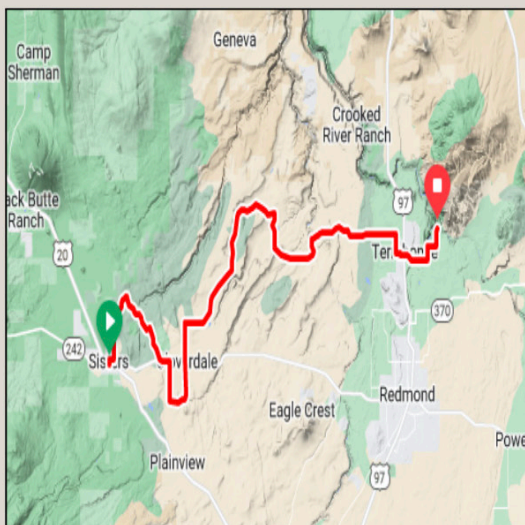
**Peterson Ridge Trail:  
November 22nd**

A renowned hiking and biking trail that offers breathtaking scenery and diverse terrain with over 25 miles that accommodate various riding challenges, ranging from flowing to technical sections. The path is a well-marked and beginner-friendly ride that has perfect conditions during the Summer seasons.



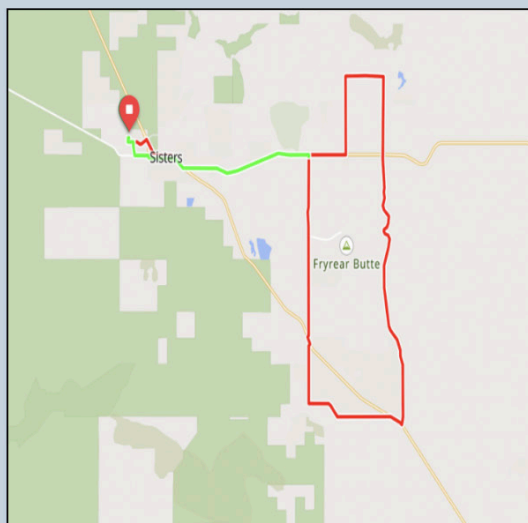
**McKenzie Scenic Bikeway:  
January 23rd**

The McKenzie Scenic Bikeway showcases forests and a lava-rock moonscape but is challenging at over 35 miles and high elevation. The route will see participants cycle through several landmarks such as McKenzie Pass, Windy Point, East Snow Gate, and Village Green Park, which is in the center of Sisters.



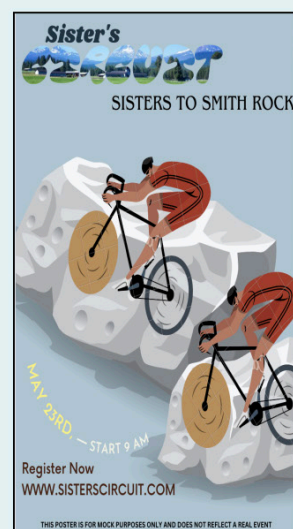
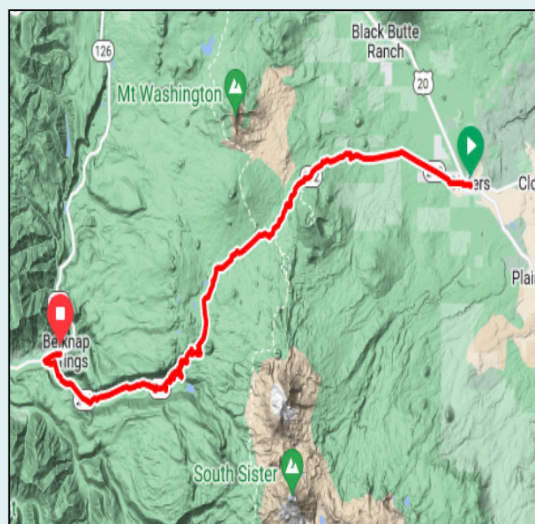
**Bike the Butte:  
March 15th**

Bike the Butte is 28.6 miles consisting of a closed loop of paved roads with challenging elevations but a picturesque view of Fryrear Butte. The varying terrain will consist of between 600 feet gain and over 600 feet loss, challenging any cyclist to train their physique and mental focus.



**Sisters to Smith Rock:  
May 23rd**

The Sisters to Smith Rock bikeway is 36.5 miles, with scenic rides past historical sites, gentle curves of the Deschutes River, and views of the Cascade Mountains. The path is moderately challenging, but the scenery makes up for it.



Fun merchandise that local businesses/ Sisters Chamber of Commerce can help organize, standardize, and produce would help participants remember their

excursions (“collect all six!”) and help spread Sisters as a global destination through this type of ‘active tourism’ marketing.





## Community Engagements and Events

Students also suggest special recognition be given to those completing the circuit in a single year similar to the way children may get passport stamps for visiting different national parks or adults can complete their own passport book for visiting multiple McMenamins brewpubs

in a single year. In this case, students designed a belt buckle with completion year as the memento, both honoring the achievement and encouraging participants to complete the circuit year after year to collect their annual prizes!



## Cascade Community Celebration

Students also propose to add festivals and integrate various bicycle elements to these new festivals on Cascade Avenue that uses the entire street for the benefit of pedestrians and cyclists, especially when the new bypass is completed making it easier to transform what is currently the main highway through town from a place for vehicles to a celebratory place for people. This festival would create a vibrant atmosphere in the downtown core,

free of cars, with ample access for people to explore the community in a comfortable and inviting space. The celebration would ideally be hosted in the fall or spring to create the opportunity for the community to congregate in the non-summer months. To do this, we would change the route of automobile access using the bypass that is planned in Sisters. Redirecting traffic to continue their routes along parallel streets would be similar to how Sisters opens up the roadway for the annual quilt show.

Art Tour:	Explore What Makes Sisters So Unique!	Food and Shop Tour:
Mother Earth Sculpture S Oak and Hood	On either 1.4 mile roundtrip stretch, residents and tourists will be able to easily tour the unique shops, food, and art that Sisters offers.	Sisters Bakery S Spruce and Cascade
Songbird Sculpture Fir Street Park		Sisters Coffee Company W Hood and S Oak
Sister's Museum N Spruce Street	No car is needed to explore the sights, allowing visitors to experience the small town feel by foot or bike in just half a day!	Hen's Tooth S Elm and W Hood
Wild Stallion Sculpture Spruce and Cascade		Dixie's N Elm and Cascade
Bronze Heron Sculpture Barclay Park		Sister's Saloon & Ranch Grill Cascade and N Fir
Sisters Mural Barclay Park		Stitchin' Post Cascade and S Oak



We envision a festival that combines the charm of a street fair with the excitement of live music, interactive bike obstacle courses, and delicious local cuisine. This will create an inviting atmosphere, attracting residents and tourists to explore the vibrant tapestry of the community and reveal how the area can be navigated without a car and car traffic.

Hosting a festival of this nature provides a platform for local vendors to showcase their goods and services and fosters a strong sense of community. From artisans and craftspeople to small businesses and entrepreneurs, we want to provide a lively and bustling marketplace in the street that connects them with customers.

Furthermore, the festival can serve as a catalyst for economic growth, stimulating increased foot traffic and encouraging residents to discover new businesses and establishments in the city. We believe that empowering local vendors through events like the Cascade Community Celebration will contribute to the overall prosperity and vitality of the Sisters community.

### **Mobility Hub Grand Opening**

Throughout this event, residents will have the opportunity to explore the newly redesigned space and talk with professionals about all its uses. Staff from different partnering organizations will be able to guide residents on proper uses and how to connect with other local amenities to make this space more comfortable for all.

It is also not a celebration without vendors, so collaboration with local food spots in Sisters along with the bike shops in the community creates the opportunity to support the local economy and connect people with new places and products. Collaboration with businesses could also create the chance to host a raffle as an attraction, and give away gift cards to local businesses or other sought-after merchandise. In addition, organizing live music will add to the ambiance and provide the opportunity to showcase local musicians and talents from within the Sisters schools and local community.

# MOBILITY HUB GRAND OPENING

March 19th 2024 — 12pm

W Hood Ave, Sisters, OR 97759

**Free  
Entry**

- Live music
- Food carts
- Bike tours

Come learn more about our new multi-modal hub!



<https://www.ci.sisters.or.us/>

## Community Engagements and Events

In addition to the ability to walk around the new space, citizens could also go on community bike rides led by volunteers. These routes will start at the new hub and will help individuals learn how to navigate to favorite destinations while providing the chance to cycle with neighbors around the city. These community rides would be organized by distance, age, and location, making routes that are accessible and exciting for a range of individuals. Bike route tours that go through different parts of town can help riders perceive what it might look like to incorporate cycling into their everyday day. Furthermore, a brochure at the mobility hub could make these tour routes available after the event. Promoting bike tours that showcase city art, shops, and the beautiful scenery could make the mobility hub a local favorite.

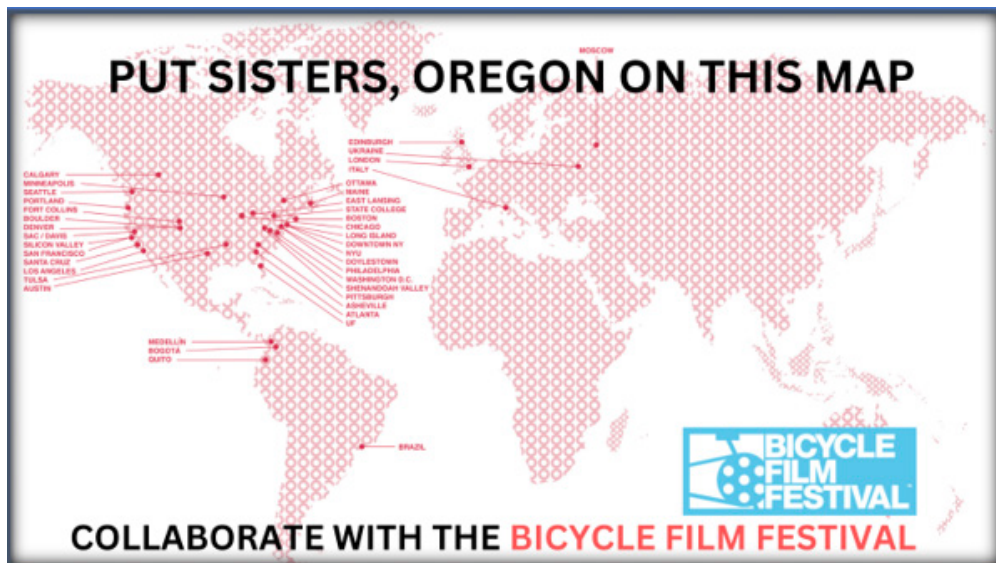
The guided bike tours could also focus on the scenic routes available on the outskirts of Sisters starting at the mobility hub. Hosting a guided ride provides the opportunity to navigate the numerous trails in a group setting, thus increasing the comfort of riding for novices. This event could also become reoccurring, where each year the city comes together to take part in different community bike rides to see the scenic views of Sisters. This is also an opportunity to partner with The Sisters Trail Alliance to design different scenic bike tours that start at the mobility hub and range across different levels of difficulty. Hosting tours that showcase both community created routes and the awesome scenic tours that have been created by other student groups would make the mobility hub event exciting for everyone.

### Other Events

Students had ideas for additional events that could exist as stand alone activities or ones that could be integrated into existing events throughout the year in Sisters given the annual event calendar is already quite robust.

One idea is to bring the Bike Film Festival to Sisters and invite the Central Oregon region to come and engage. This film

festival was brought to Eugene in 2023 and was quite a success, particularly as the local student organizers invited local film submissions to be paired with the official festival films – this is a great way to get people of all ages (especially youth) to combine their artistic abilities with cycling and their larger community. The Eugene event also included a community ride that ended at the film event itself, which was quite fun and celebratory.



## Give Kids a Challenge with a Bike Rodeo

Bike Rodeos are essentially pop-up bicycle obstacle courses that can be created adjacent to any community event, giving children a fun challenge and also encouraging their continued bicycle skill development. There are many on-line

design examples, but the key thing to remember is that they are loads of fun for kids and can be paired with prizes when certain age-appropriate challenges or skills are met. Bicycle Rodeos can also be paired with bicycle expos where kids and adults can try different styles of bikes.



## The (Bike) Future for Sisters

Sisters can connect both residents and visitors alike to the outdoors like they never have been before. This will make the town one of the greatest for biking in the state and will help it continue being a destination for outdoor recreation and bicycle tourism. Our plan details the different options Sisters could pursue to increase bicycle access, and the

many benefits those plans would bring, both in economic impacts and through increased livability. Through a relatively small amount of effort and money, Sisters can achieve something truly unique and transformative that would make the city stand out not only in the region but the nation while simultaneously building a more equitable city.