City of Billings Complete Streets Progress Report 2020

Image Credit: Big Sky Economic Development

October 2020

Project Credits

Melissa Henderson, Healthy By Design

Hannah Groves, Healthy By Design

Morgan Miller, RiverStone Health

Kathy Aragon, Citizen

Jed Barton, Living Independently for Today and Tomorrow

Wyeth Friday, City of Billings Planning and Community Services Department

Monica Plecker, City of Billings/Yellowstone County Planning Division

Scott Walker, City of Billings/Yellowstone County Planning Division

Lora Mattox, City of Billings/Yellowstone County Planning Division

Elyse Monat, City of Billings/Yellowstone County Planning Division

Erin Claunch, City of Billings Public Works Engineering Division

Mike Dotson, City of Billings Public Works Engineering Division

Rusty Logan, City of Billings MET Transit

September 14, 2020

We are proud to introduce the 2020 City of Billings Complete Streets Policy Progress Report. This report examines the progress we have made since the policy's adoption in 2011 and offers a vision for the future. We challenge Billings to continue to expand upon the work already completed and to be creative about what a Complete Street is and how we can implement more Complete Streets in our community.

Our streets belong to all of us. There is no one specific design for a Complete Street, because each Complete Street responds to the needs of the local community. According to the National Complete Streets Coalition, Complete Streets may include: "sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, roundabouts, and more."[i]

The COVID-19 pandemic has reinforced why we need to make sure our streets are accessible to all. During the stay-at-home order from Governor Bullock, streets, trails, and parks were some of the few public places we could still access. As restaurants, schools, workplaces, and gyms closed, we could count on waving to our neighbors and friends as we passed them on our walks or bike rides. Many of us turned to our streets to stay healthy and relieve stress through physical activity. We purchased bicycles in record numbers and we, of all ages and from all walks of life, used them on our trails and bikeways.

Billings' Complete Streets Policy can help ensure that more of our streets become accessible to all residents, no matter their age, race, gender, disability status, income level, neighborhood, or mode of travel. Great streets come from conscious design, community involvement, and an openness to evolve over time based on community need. They allow the entire community, regardless of transportation mode, access to healthy food, healthcare, social services, education, work, friends, and family. Complete Streets are smart investments that benefit local economies and have higher returns on investment than roads built only for motor vehicles.[ii]

Now is the time to work together to create a vibrant, resilient, and healthy community. Please join us in adopting this vision.

This report will continue to be updated every three years and is available online at: https://ci.billings.mt.us/2336/Transportation-Resources.

Mayor	CEO	CEO	CEO
City of Billings	Billings Clinic	RiverStone Health	SCL Health - St. Vincent

[i] "What are Complete Streets?" National Complete Streets Coalition, Smart Growth America, accessed September 14, 2020. https://smartgrowthamerica.org/program/national-complete-streets-coalition/publications/what-are-complete-streets/

[ii] National Complete Streets Coalition. *Economic Revitalization: Complete Streets Stimulate the Local Economy.* Washington, DC: Smart Growth America. Accessed June 15, 2020. https://smartgrowthamerica.org/app/uploads/2016/08/cs-economic.pdf

Table of Contents

Section One: Introduction

Image Credit: Chuck Aragon

Street design directly impacts life, from the economic vitality of the entire community to the health and safety of each and every citizen. Complete Streets are designed:

- with everyone in mind: people of all ages and abilities, whether youth, seniors or in between, whether traveling with or without the use of an assistive device.
- to be beneficial for people driving cars or riding in buses as well as those walking, riding, and rolling.
- to accommodate kids walking or rolling to school, as well as the senior citizen who would like to age in place.
- and operated to maximize the safety of everyone by making it easy to walk to shops, bike to work, cross the street, or catch a bus.

Both the US Federal Highway Administration (FHWA) and the US Department of Transportation (USDOT) include guidance for Complete Street elements. The USDOT cites the following research: "Complete Streets reduce motor vehicle-related crashes and pedestrian risk, as well as bicyclist risk when well-designed bicycle-specific infrastructure is included. They can promote walking and bicycling by providing safer places to achieve physical activity through transportation. One study found that 43% of people reporting a place to walk were significantly more likely to meet current recommendations for regular physical activity than were those reporting no place to walk."[1] [2] [3]

Complete Streets policies ensure inclusion of elements at the time of construction and provide flexibility for reconstruction projects. Retrofitting elements like sidewalks, accessible ramps, separated side paths, bus pullouts, etc. can be difficult or prohibitively expensive if right-of-way is limited. The policies enable limitations to be addressed while still working to accommodate all users in most situations. Planning ahead for these elements with new projects is fiscally responsible and can leverage opportunities with other public and private investments, including but not limited to right-of-way dedications, tax increment financing, developer contributions, improvement districts, grants, and bonds.

The Complete Streets resolution was adopted by the Billings City Council in 2011. The Complete

Streets policy (the Policy) for Billings, as defined in the resolution, means “a transportation and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages, abilities regardless of their mode of transportation.”[4] The *Benchmark Report* was created in 2013 and progress reports are created every three years to track measurable local attributes, called performance measures, that show how our streets are being improved to meet the transportation needs for all people of all abilities. Many of the sections in this report have performance measures.

"A Complete Streets approach integrates people and place in the planning, design, construction, operation, and maintenance of our transportation networks. This helps to ensure streets are safe for people of all ages and abilities, balance the needs of different modes, and support local land uses, economies, cultures, and natural environments."

National Complete Streets Coalition Website[5]

Section Two: Complete Streets for Billings

Image Credit: Western Heritage Center

Above: A 1915 photograph of N Broadway

The Complete Streets Policy

In the early 1900's, Billings was already developing Complete Streets to accommodate people walking, biking, and riding horses. Over the years, our streetscape evolved as cars became a more popular mode of travel and it became harder to walk or bike safely.

Due to a growing recognition that a return to Complete Streets makes communities healthier, safer, and improves the quality of life, the City of Billings adopted the first Policy by a resolution in 2011. Along with 1,500 other Complete Streets policies implemented across the United States as of 2020, the Policy ensures that people traveling by all modes of transportation have a safe way to get where they are going.[6]

The City updated the Policy in May of 2016 and added a checklist to clarify the application of the Policy elements. The updated Policy also provides opportunity for public comment for projects on arterial and collector roadways at the 30% design phase.

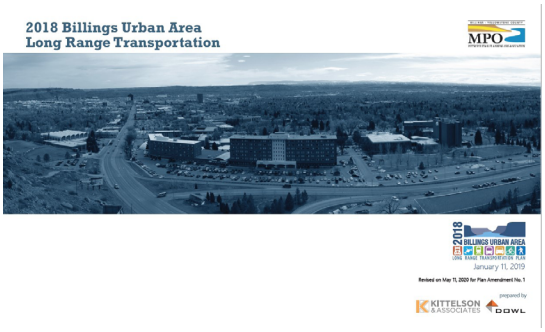
Local Plans

While it adopted the Complete Streets policy in 2011, Billings began adopting plans with Complete Streets elements long before. The *BikeNet Plan*, adopted in 1995, had a "vision for improving our quality of life by making the Billings community an inviting place for bicycles and pedestrians."[7]

Since then, the City has adopted many plans with Complete Streets components to them, several of which address the Billings Urbanized Area, specific neighborhoods, and/or a specific corridor. The following list covers plans between 2016 and 2020.

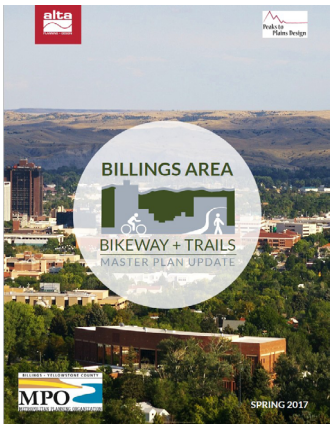
Billings Urban Area Wide Plans

- ***2018 Long Range Transportation Plan***
  Guides transportation projects for all modes in the Billings Urban Area.
- ***2017 Billings Area Bikeway + Trails Master Plan Update***
  Establishes a vision for walking, biking, and rolling in the Billings Urban Area.
- ***2020 Wayfinding Signage Plan***
  Standardizes wayfinding signage for trails and bikeways.



2018 Long Range Transportation Plan (*LRTP*)

The *LRTP* "is a framework to guide the development and implementation of multi-modal transportation system projects for the Billings urban area. The *LRTP* is updated every four years."[8] The *LRTP* includes recommendations for all modes including personal motor vehicles, public transit, trucking, and rail in addition to active transportation. It lists more than 300 pedestrian, bikeway, and trail facility projects, many of which are drawn from previous plans.



2017 Billings Area Bikeway + Trails Master Plan Update (*BABTMP*)

The *BABTMP* "establishes both a long-term vision and defined, achievable short-term actions to improve mobility and recreation opportunities in the Billings area."[9] The plan provides recommendations for improving active transportation under the six E's: Engineering, Education, Encouragement, Enforcement, Evaluation, and Equity. The plan is updated about every five years.

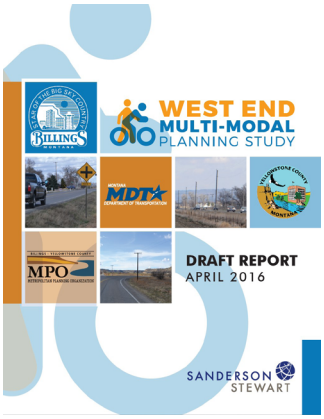
2020 Wayfinding Signage Plan

Wayfinding can help "people orient themselves in a physical space and navigate from place to place." The *Billings Wayfinding Signage Plan* designed a cohesive bicycle and pedestrian wayfinding system with "the potential to get a) more people walking and bicycling, b) increase the safety of pedestrians and bicyclists, and c) normalize walking and bicycling as legitimate modes of transportation."[10] The plan includes signage for on-street bikeways and off-street trails.

Neighborhood Specific Plan

2016 West End Multi-Modal Planning Study

Takes a more in-depth look at multi-modal planning in the developing part of the West End than the Bikeway + Trails Master Plan.



2016 West End Multi-Modal Planning Study

The purpose of the study is "to evaluate the cumulative effect of ongoing and projected future land development and population growth on the multi-modal transportation system for the area of Billings west of Shiloh Road."[11] The study includes both short- and long-term improvements for bikeways, trails, sidewalks, transit and motor vehicles.

Corridor Specific Plans

2016 Rimrocks to Valley Bike/ Ped Feasibility Study

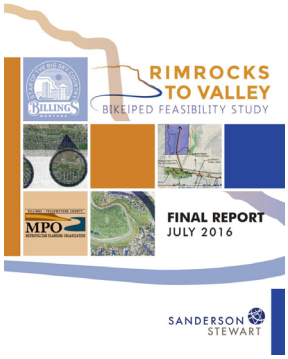
Investigates four possible pedestrian and bicycle routes from the top of the Rimrocks to the valley below.

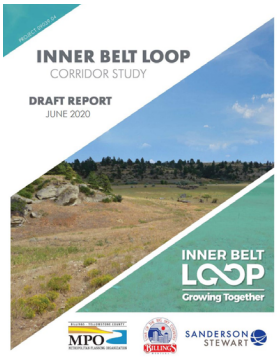
2020 Inner Belt Loop Corridor Study

Suggests design standards for the Inner Belt Loop Corridor, including a ten foot wide multi-use path.

Rimrocks to Valley Bike/Ped Feasibility Study

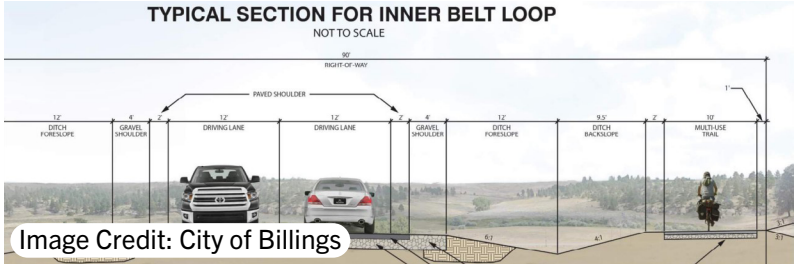
The 300+ foot sandstone cliff known as the Rimrocks presents a barrier for people walking and biking between the Rimrocks and the valley. This study explores four possible trail connections to help eliminate this barrier.



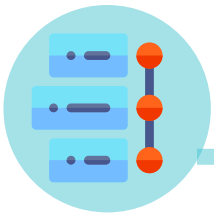


Inner Belt Loop Corridor Study

The Inner Belt Loop will connect the Billings Heights to the West End via Highway 3/Zimmerman Trail. This road will have a ten foot wide multi-use trail along it to facilitate people biking and walking.



Above: A typical proposed cross section for the Inner Belt Loop.



Complete Streets Time Line 2011 - 2020

The time line below shows important dates in the history of the Complete Streets policy. Please see each section for a time line specific to that subject.

August 2011: Complete Streets policy adopted

June 2013: Complete Streets Benchmark Report published

May 2016: Complete Streets policy updated

2017: 1st Complete Streets Progress Report published

September 2020: 2nd Complete Streets Progress Report published

Complete Streets Milestones

Complete Streets Policy Adopted
After being identified as a need in the 2009 *Billings Urban Area Long-Range Transportation Plan*, a grassroots effort led by the Healthy By Design Coalition worked with City Council to adopt Billings' first Complete Streets policy. The Policy specified different types of Complete Streets infrastructure as well as states that the City will consider every street project as an opportunity to incorporate the principles of Complete Streets.

Benchmark and Progress Reports
The City of Billings in partnership with Healthy By Design published the first Benchmark report in June 2013. This report established data points to track in order to better evaluate the success of the Complete Streets policy. Updates are published about every 3 years.

"Over the past decade, Billings has made great strides in making walking and biking an easier and more accessible option for our community members. I am excited to see our momentum continue!"

Melissa Henderson
Healthy By Design Coalition Manager

Complete Streets Policy Updated
City Council updated the Complete Streets policy in 2016 and added a checklist for implementation, understanding that it may not be feasible to include Complete Street elements on every street. For example, right-of-way limitations are a huge factor in determining the ability to add Complete Street elements. In addition, each arterial and collector street project is presented to the City Council and the public at 30% design. This provides an opportunity for City Council and the public to review and comment on elements and propose alternatives or additions. In some cases, projects may be revised based on these comments.

Section Three: Walking and Rolling

Image Credit: City of Billings

Above: The intersection at 5th St W and Grand Ave gets a new accessible ramp during summer 2020. Other improvements included new traffic lights and new accessible pedestrian push buttons.

Putting Walking and Rolling in Context

Walking and rolling are essential modes of transportation. All trips begin and end with a walk, even if the majority of the trip is taken via car, bus, or bike. People who use mobility devices such as wheelchairs or walkers are also considered pedestrians.

Walking is a healthy, sustainable mode of travel. As with all modes of active transportation, walking can turn a commute into a workout, a time to relax, and a time to connect with the local community. Without any specialized equipment needed, walking can be an affordable mode of transportation for those with tight budgets.

Sidewalks are the cornerstone of walking infrastructure, but many other features can increase or decrease the walkability of a place. Accessible curb ramps are now required at intersections to allow accessibility for people who use mobility devices. Measures that slow down vehicular traffic, such as narrower lanes, landscaped boulevards, and creative placemaking, make walking safer and more pleasant by reducing the speed of cars passing by. Well-lit streets increase safety and walkability at night. Shorter crossings, marked crosswalks, and pedestrian refuges increase the comfort of crossing the street.

While affordable, walking is not equally accessible to all. Neighborhoods have varying levels of access to walking infrastructure. Certain people may be more susceptible to harassment or violence while walking. These issues are also Complete Streets issues. If they are not addressed, they can limit the ability of everyone to have access to safe, healthy, and low-cost transportation.

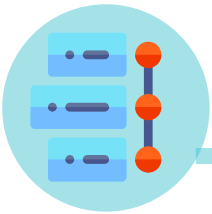
Walking and Rolling in Billings

Historic photos show Billings had at least some sidewalks since its incorporation in 1883. However, gaps exist in the network. Many gaps exist where areas developed in the County have been annexed into the City. As of 2017, *Yellowstone County Subdivision Regulations* now require sidewalks in new developments in all zoning districts, except for Agricultural Open Space or Agricultural Suburban Zoning Districts, so areas annexed in the future are more likely to have sidewalks.[12]

In neighborhoods that are missing sidewalks, property owners pay for sidewalk construction through assessments. In May 2018, the Mayor and City Council approved a resolution approving a missing sidewalk and a repair/replace defective sidewalks program.[13] As a result, the Public Works Department currently has $700,000 per year to install or replace curb, gutters, and sidewalks.[14] This funding is used for cost sharing between the City and the property owner.

In addition to this sidewalk funding, as of 2020, the City budgets $250,000 per year towards installation of accessible ramps.[15] Locations are selected based on observation of need from Public Works staff or upon request by members of the community.

Billings has a system of multi-use trails that can be used for walking, rolling, and biking. While some trails may be used mainly for recreation, most also serve transportation purposes. The Public Works Department now constructs multi-use trails alongside arterial roads during construction or reconstruction when possible. This adds approximately 1 mile of trail to Billings' trail network every year. Outside of this funding for arterial roads, no dedicated source of funding exists for trail construction.



Walking and Rolling Time Line 2017-2020

Spring 2017: *Bikeway + Trails Master Plan Update* adopted

Fall 2017: Safe Routes to School audits conducted. Safe Routes to School maps created

May 2018: City Council approves updated missing sidewalk program

Summer 2019: Healthy By Design brings Streetwyze to Billings

August 2019: Walking school buses launch

October 2019: Inclusive Interdisciplinary Walk Audit with Living Independently for Today and Tomorrow (LIFTT)

Summer 2020: LIFTT conducts audits using the *Safe and Accessible Routes Evaluation Checklist*

Walking and Rolling Milestones

Safe Routes to School Maps created

Billings Public Schools changed the school attendance boundaries in fall 2017. In response to this change, Billings Public Works Department created new Safe Routes to School (SRTS) maps for all 22 elementary schools.

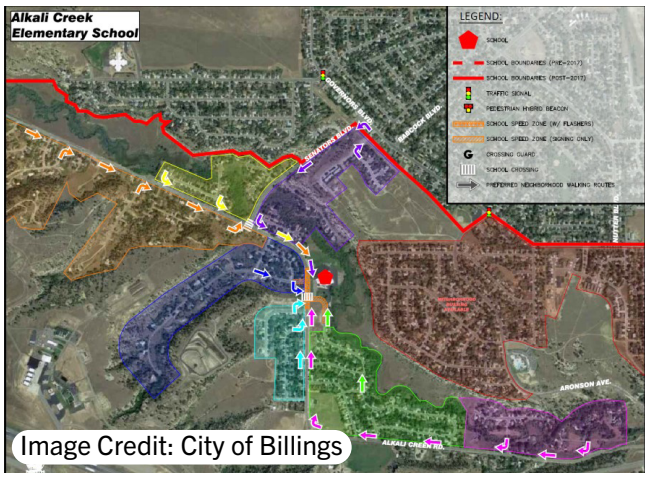


Image Credit: City of Billings

Missing Sidewalk Project

City Council passed *Resolution 18-10719* which updated the policy for constructing or repairing curb, gutter, and sidewalk. This resolution set the stage for installing missing sidewalk in existing neighborhoods.

Partner Spotlight:

RiverStone Health and Safer Routes to School

RiverStone Health helped revive Safe Routes to School in 2017 with walk audits of ten local elementary schools. Staff compiled reports of the audits and provided recommendations under the five E's: Engineering, Education, Encouragement, Enforcement, and Evaluation.

Image Credit: Healthy By Design

RiverStone Health presented the findings back to the schools. Four different schools then partnered with RiverStone to implement interventions designed to increase active commuting to school. In partnership with the Healthy By Design Coalition, RiverStone marked safer routes to four schools with sign toppers. The sign toppers featured the schools' logos and students voted on the color.

In addition, RiverStone Health organized a group to get walking school buses off the ground. A walking school bus is when a trusted adult walks a group of students to school, stopping at "bus stops" along the route to pick the students up. Walking school buses can help put parents' minds at ease that their students arrive to school safely. McKinley and Highland Elementary Schools implemented walking school buses in fall 2019.

Above: Streetwyze Platform

Streetwyze
Healthy By Design brought Streetwyze to Billings, a digital platform that allows residents to share what they like about their community and what they think could be improved. Although users could comment on any aspect of their community, many submitted comments about what they thought could make their community more walkable.

Inclusive Interdisciplinary Walk Audit
Participants evaluated different parts of our built environment as they relate to walkability, bikeability, and inclusivity for everyone. Attendees included people with disabilities, city staff, the local public health community, and others. Living Independently for Today and Tomorrow (LIFTT) and the City of Billings helped organize the event. Healthy By Design sponsored the event.

Above: Interdisciplinary Walk Audit

LIFTT Audits with the *Safe and Accessible Routes Evaluation Checklist*
In June 2020 with the support of the Montana Disability & Health Program a team from LIFTT examined the design and conditions of the sidewalks, curbs, crossings, and alleys in a four-block radius of Rose Park Elementary School. The purpose of this evaluation was to get a sense of just how accessible the school site is to students, staff, parents, and community members regardless of any disabilities they may have or the mode of transportation they might utilize.

Walking and Rolling Performance Measures

Performance Measures for Walking and Rolling include:

- Pedestrian Counts at select intersections (Figure 3.1)
- Inventory of existing facilities (Figure 3.2 and Figure 3.3)
- Number of crashes involving people walking (Figure 3.4)

> "Ultimately, individuals make the decision to walk. However, the decision to walk can be made easier by improving and connecting routes and destinations in communities."
>
> Centers for Disease Control And Prevention "Designing Activity Friendly Communities"[16]

In an effort to establish consistent pedestrian counts, five Billings intersections have been counted for non-motorized transportation. The first count was completed with the initial *Complete Streets Benchmark Report* in September 2013. For the *2017 Progress Report*, counts were completed in May of 2016 and 2017. The months of May and September were used to capture school age children as well as adults. Please note a couple of years of counts are missing due to construction and other barriers.

Figure 3.1 Average Per Hour Pedestrian Counts

The data below has been averaged per hour. Counts include one weekday and one weekend day.

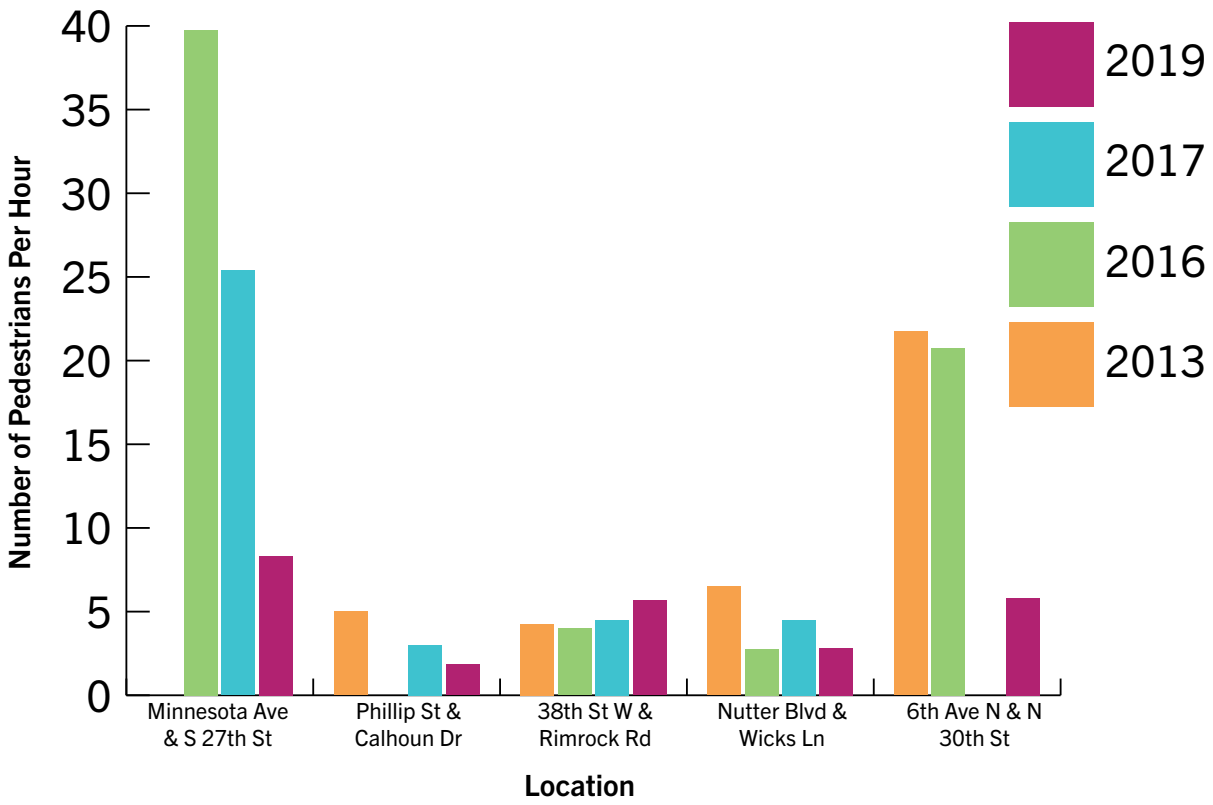


Figure 3.2 Percentage of streets with sidewalks

71% of streets in Billings have sidewalks on at least one side, up 4% from the last *Complete Streets Progress Report* in 2017.

Even a short gap in sidewalks can be detrimental to walkability, especially to the most vulnerable users such as children, seniors, and people with disabilities.

Figure 3.3 Billings Sidewalk Inventory

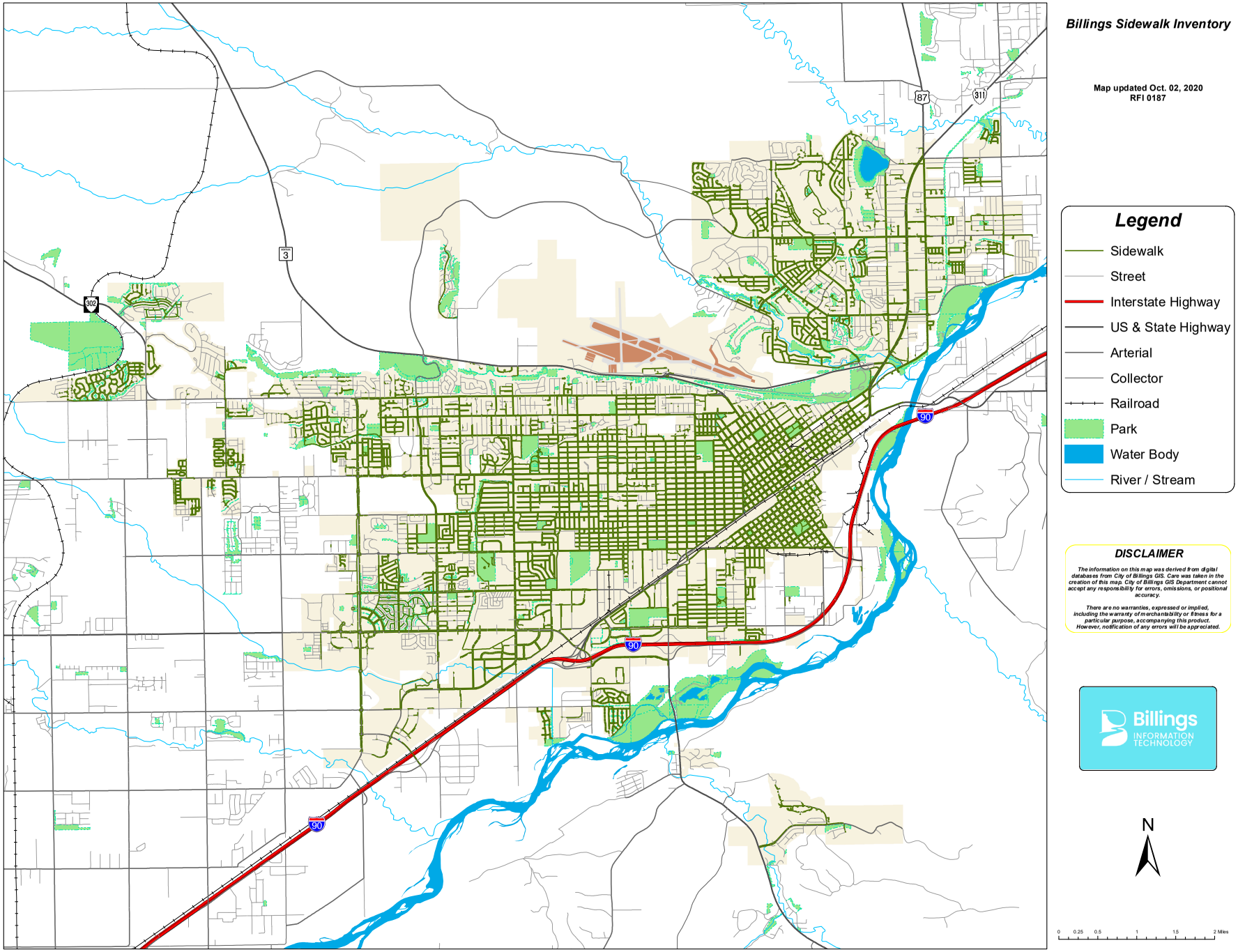
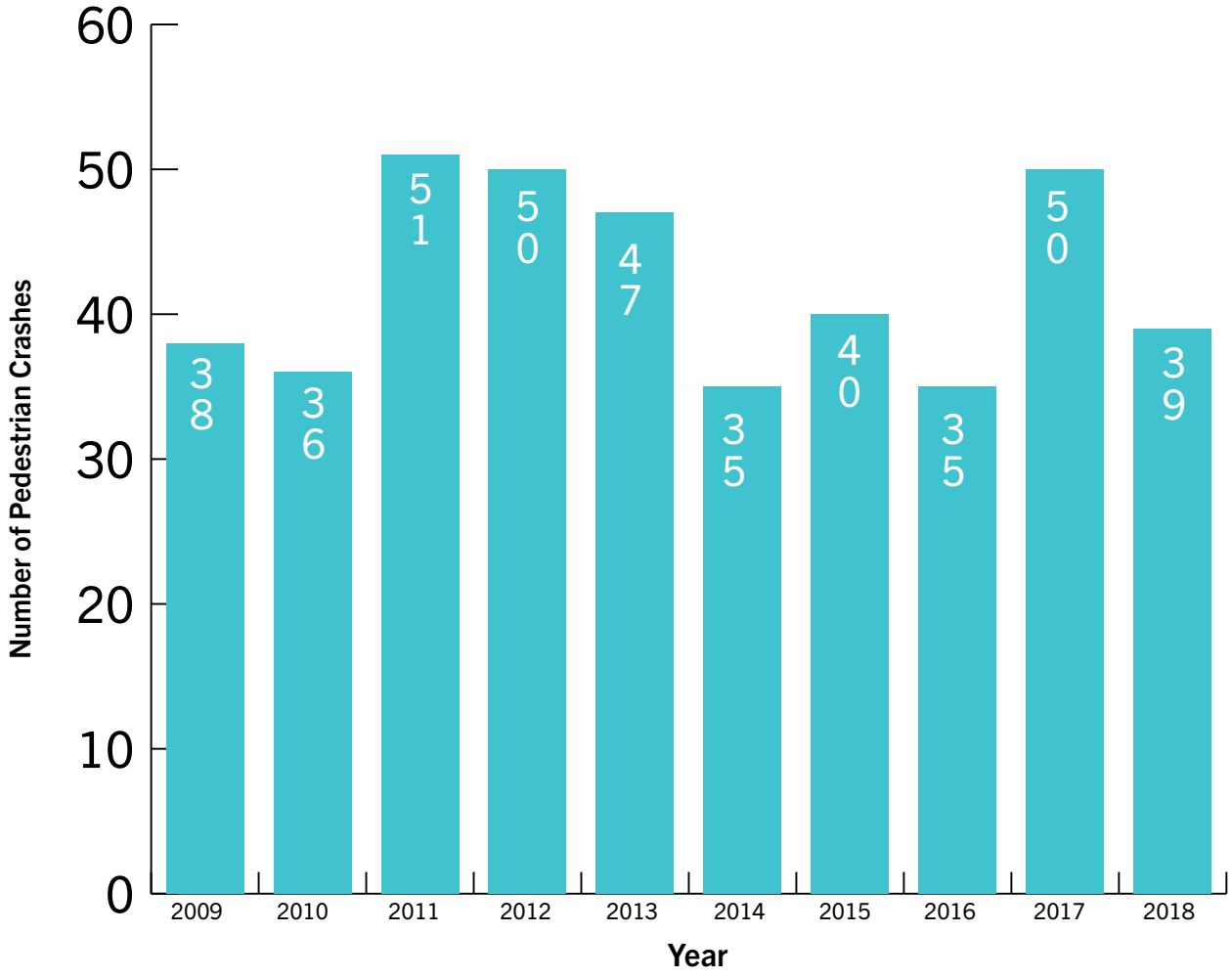


Figure 3.4 Billings Pedestrian Crashes



Behind the Numbers

According to a national study, the number of pedestrian deaths in 2018 was the highest in 28 years.[17] In line with the national trend, five people were killed while walking in Billings in 2018, more than any time in the past nine years.[18] The non-profit who authored the report says that widespread use of trucks and SUVs, distraction, and alcohol impairment contributed to this increase nationwide.[19]

While 2018 was a deadly year for people walking in Billings, the number of pedestrians involved in crashes was down 31% over its peak in 2011, the year City Council adopted the Complete Streets policy. Implementing more Complete Streets improvements should help to further reduce this number.

Streets for All


Image Credit: Healthy By Design

For people with disabilities, the quality of sidewalks is very important. Large cracks in the sidewalk can cause a bumpy ride in a wheelchair or can be hard to navigate. Raised curbs, whether at a driveway or intersection, may require those with disabilities to enter the street, private property, or make a route completely impassible without additional help. Obstacles such as mailboxes, trashcans, streetlights, and outdoor seating can cause similar issues if the sidewalk is not wide enough to accommodate all uses.

Strong cross slopes, slopes that run perpendicular to the direction of travel, are also a barrier for people with disabilities. Cross slopes mean that those using a wheelchair have to use extra effort to stay on course.

There are additional elements that are important for people who are blind or have low vision. Pedestrian push buttons with audial in addition to visual cues provide a necessary duplication. Truncated domes, the bump pads located on sidewalk ramps, provide both an indication that the user is reaching the intersection and directionality for where to look for the sidewalk on the other side of the street. Misplaced truncated domes and ramps can send pedestrians with blind or low vision into traffic.

The *Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way* (PROWAG) document outlines how the Americans with Disabilities Act can be applied to sidewalks and streets. While the document has not yet been adopted at the federal level, many states and localities use it as a guideline to design accessible streets for all.


Image Credit: Kids In Motion

Section Four: Bicycling

Image Credit: Chuck Aragon

Putting Bicycling in Context

Bicycling can be a healthy, inexpensive, and sustainable mode of transportation. With more than half of all trips in the US within a 20-minute bike ride or less, bicycling can also be convenient.[20]

For many years, multi-use trails and striped bike lanes provided the majority of bicycle infrastructure in the United States. Oftentimes, these facilities are limited or do not exist, and people biking are forced to ride without any separation from motor vehicle traffic or to enter the sidewalk where they can be a hazard for pedestrians.

More recently, bikeways that prioritize the comfort of people biking have become popular. Separated bike lanes provide a physical barrier between the rider and motorized traffic. These barriers can vary from flexi-posts to a concrete curb. Bicycle boule-

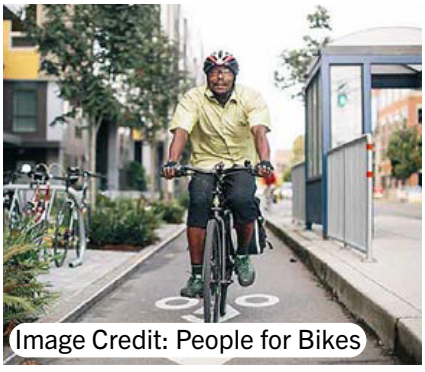


Image Credit: People for Bikes

Image Credit: Adam Fukushima

Above: A bicycle boulevard
Left: Separated bike lane

vards have also become popular. These facilities are located on local streets with low motor vehicle traffic and speeds. They generally provide additional wayfinding signage and improved crossings that reduce or slow down cars while decreasing the need for people biking to stop.

Bicycling in Billings

Billings has been working towards a safer and better connected bike network since 1994 when it published the first *BikeNet Plan.* The *BikeNet Plan* paved the way for investments in multi-use trails, bikeways, and more. The *BikeNet Plan* has been updated numerous times, most recently in 2017 as the *Billings Area Bikeway and Trails Master Plan (BABTMP)*. The *BABTMP* provides recommendations for a full build-out of the bikeway and trail system as well as non-infrastructure recommendations.

The Complete Streets policy ensures that bicycle facilities are considered during certain road construction and reconstruction. Billings has a series of on-street bike lanes. When possible, the Public Works Department continues to add bike lanes as appropriate and as designated by the *BABTMP* during resurfacing projects. As previously mentioned, the Public Works Department also adds multi-use trails next to arterial roads during construction or reconstruction, as space allows.

In summer of 2021, Billings will get its first bicycle boulevard. The bicycle boulevard will provide a comfortable route across town. Surrounding neighborhoods will benefit from traffic calming, and will hopefully feel safer walking, biking, and playing outside.

Figure 4.1 Billings' future bicycle boulevard highlighted in green

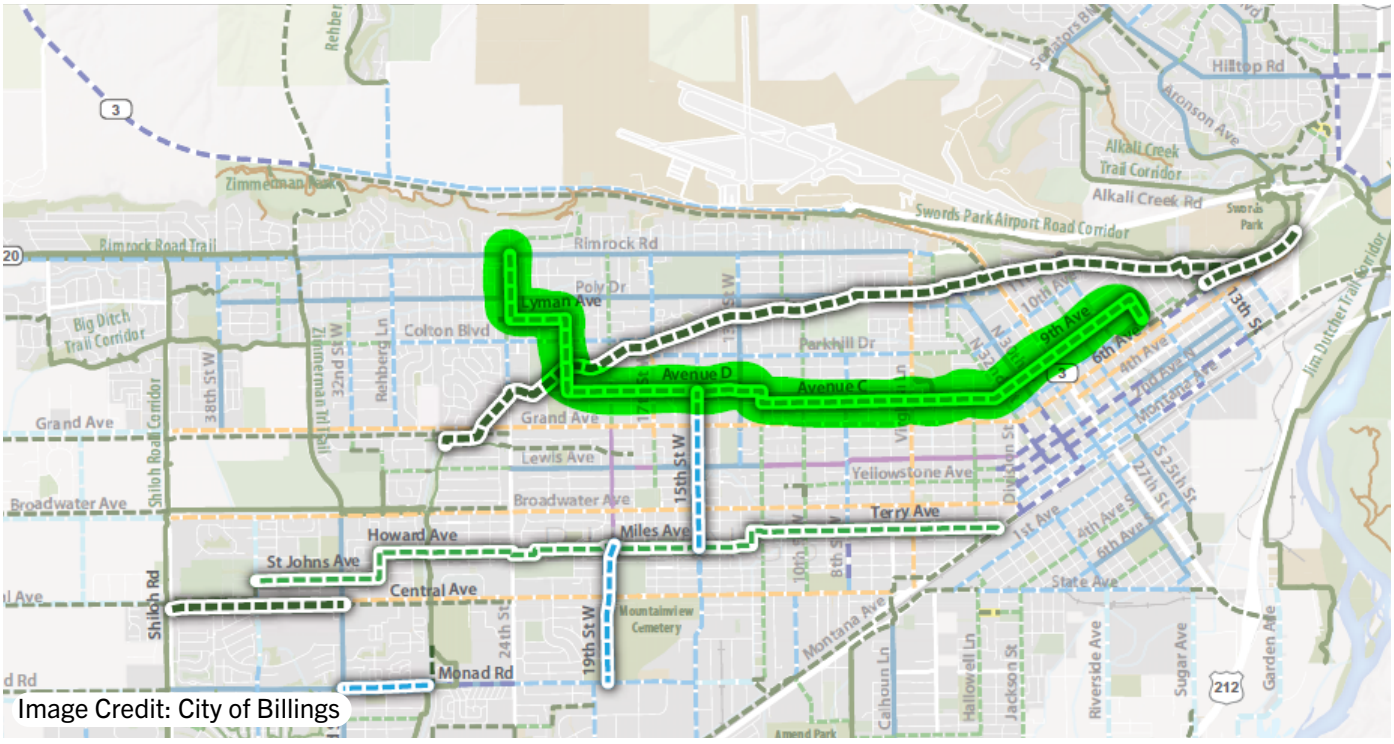
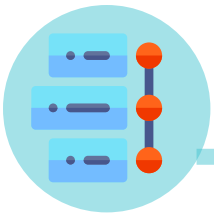


Image Credit: City of Billings



Bicycling Time Line 2017-2020

Spring 2017: *Bikeway + Trails Master Plan Update* adopted

2017: Bicycle Friendly Business applications promoted

Summer 2019: Bike lane striped on 20th St W

Summer 2019: "Billings, Montana's Trailhead" bike racks installed downtown

February 2020: *Wayfinding Signage Plan* completed

Spring 2020: Billings Heritage Trails App released and bikeway and trail map updated

June 2020: Bicycle Friendly Community status renewed

Summer 2020: Bike lanes striped on Lake Elmo Dr and 17th St W

Summer-fall 2020: *5th Ave Corridor Feasibility Study* conducted

Summer-fall 2020: *Bike and Scooter Share Feasibility Study* conducted

Kids In Motion (KIM): Ongoing

Bicycling Milestones

Bicycle Friendly Business Applications Promoted
The Healthy By Design Coalition worked with partners Billings TrailNet, the Billings/Yellowstone County Planning Division, and Billings Clinic to promote the League of American Bicyclists' Bicycle Friendly Business applications. As of 2020, Billings has five of the seven Bicycle Friendly Businesses in Montana.

Billings Area Bikeway and Trails Master Plan Update (BABTMP)
The *BABTMP* is a guiding document for a connected active transportation system in Billings. See *Section Two* for further details.

Downtown Bike Racks
Billings implemented a downtown bike parking program in 2015. Through the program, downtown businesses can contribute $50 for a bike rack. The Downtown Billings Alliance (DBA) installs the racks. In 2019, Billings received a Montana Tourism Grant for 39 "Billings, Montana's Trailhead" branded bike racks. The racks were well received by business owners and the community. They joined 11 racks already

downtown.

Wayfinding Signage Plan
As previously discussed, the *Wayfinding Signage Plan* standardized wayfinding for bikeways and trails in Billings. This signage is expected to be implemented for the first time along the bicycle boulevard. See *Section Two* for further details.

Billings Heritage Trails Map Mobile Application
In Spring 2020, the Billings-Yellowstone County Metropolitan Planning Organization released the Billings Heritage Trails map mobile application (app) for Apple and Android users. The app allows residents and visitors to easily find trails, parks, and other landmarks in Billings. Users can even navigate to their destinations via routes optimized for biking and walking.

Bicycle Friendly Community
The League of American Bicyclists renewed Billings' status as a Bronze-level Bicycle Friendly Community in June 2020. The League evaluated Billings on bicycling education, engineering (infrastructure), evaluation, encouragement, and enforcement, all under the lens of equity. Ridership levels, crashes, and fatalities are also considered.

Bike and Scooter Share Feasibility Study
As of the writing of this document, Billings is currently conducting a bike and scooter share feasibility study to determine if bike and/or scooter share is possible in Billings, and if so, how to implement it. With bike/scooter share, residents and visitors alike can rent out bikes for a short period of time for use around town.

5th Ave Corridor Feasibility Study
The 5th Ave Corridor exists between developed 4th and 6th Aves N. Part of the corridor is still an active rail line and part has been integrated into the rest of the urban landscape. As of the writing of this document, City/County Planning is studying if 5th Ave could be turned into a corridor for walking, bicycling, and transit. The corridor runs from Division St to Main St.

Kids in Motion
Kids In Motion (KIM) is a collaborative active transportation program facilitated by Billings Public Schools, the Education Foundation for Billings Public Schools, the City of Billings, and other community partners. KIM combines free bike repair clinics with in-class education to empower youth with the skills and confidence needed to walk and ride their bicycle every day. KIM hosts four to five bike repair clinics per semester. During the COVID-19 pandemic, KIM held a few modified events per semester.

Image Credit: Mel Barbour

Partner Spotlight:

Billings TrailNet

Billings TrailNet is a non-profit, grass-roots organization that supports urban trails in and around Billings. Billings TrailNet raises money for the trail system through continuous fundraising and several annual events such as Ales for Trails. In the spring, the organization hosts the Tour de Fleur, an event that celebrates women and the joy of bicycling.

With the dollars raised over the years, Billings TrailNet has provided the local match needed for federal funds for many trails around the Billings area. Due to cuts at the federal level, Billings TrailNet has begun to raise money to fund the entire Skyline Trail, a trail from Zimmerman Park to Swords Park. The Skyline trail is now fully funded through a federal grant (see *Section Ten* for further details). The organization also continues to look for ways to create local public funding for trails.

Bicycling Performance Measures

Performance measures for bicycling include:

- Bicyclist Counts at select intersections (Figure 4.2)
- Collisions involving people biking (Figure 4.3)
- Miles of trails (Figure 4.4)
- Miles of bike lanes (Figure 4.5)

Image credit: Gregory Miller Photography

Figure 4.2 Average Per Hour Bicyclist Counts

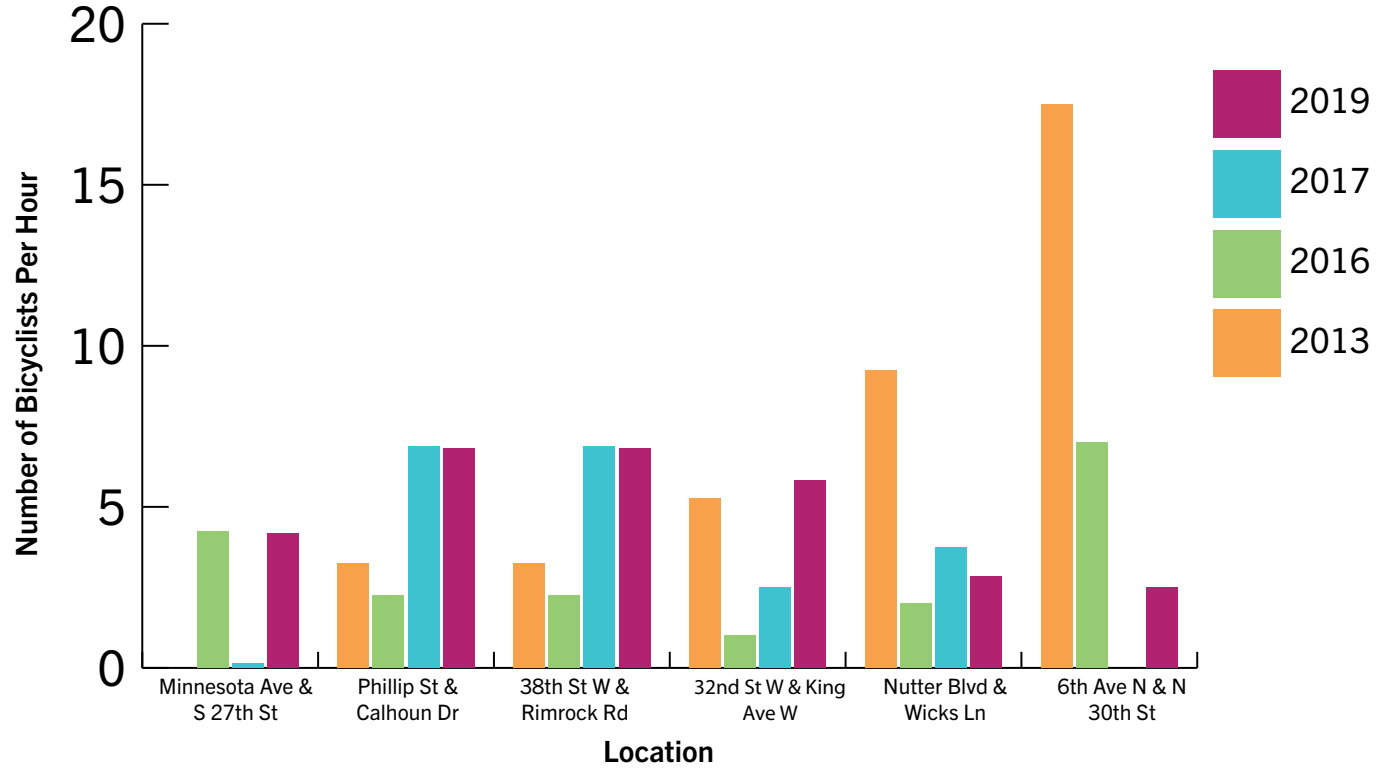


Figure 4.3 Billings Bicyclist Crashes

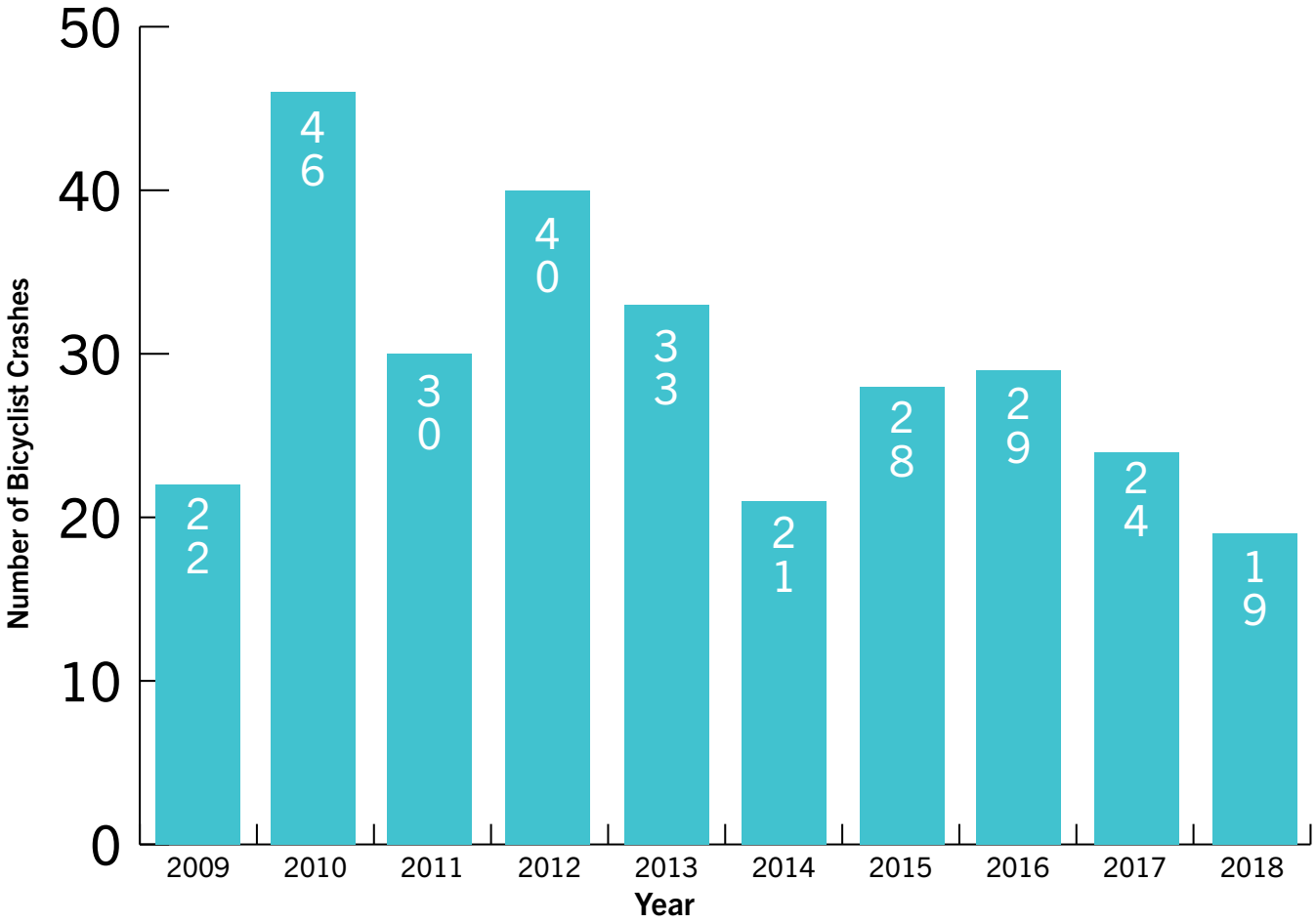


Figure 4.4 Yearly Shared Use Path Mileage Added & Total

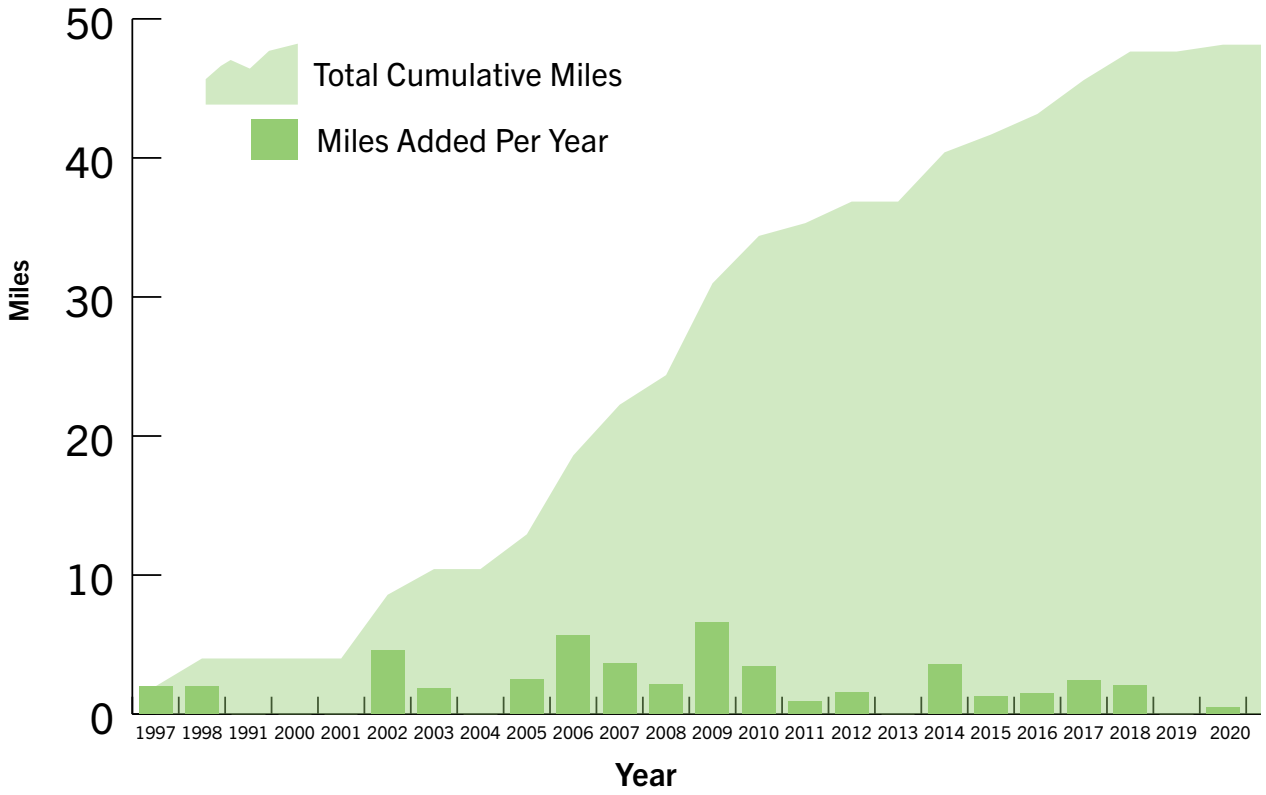
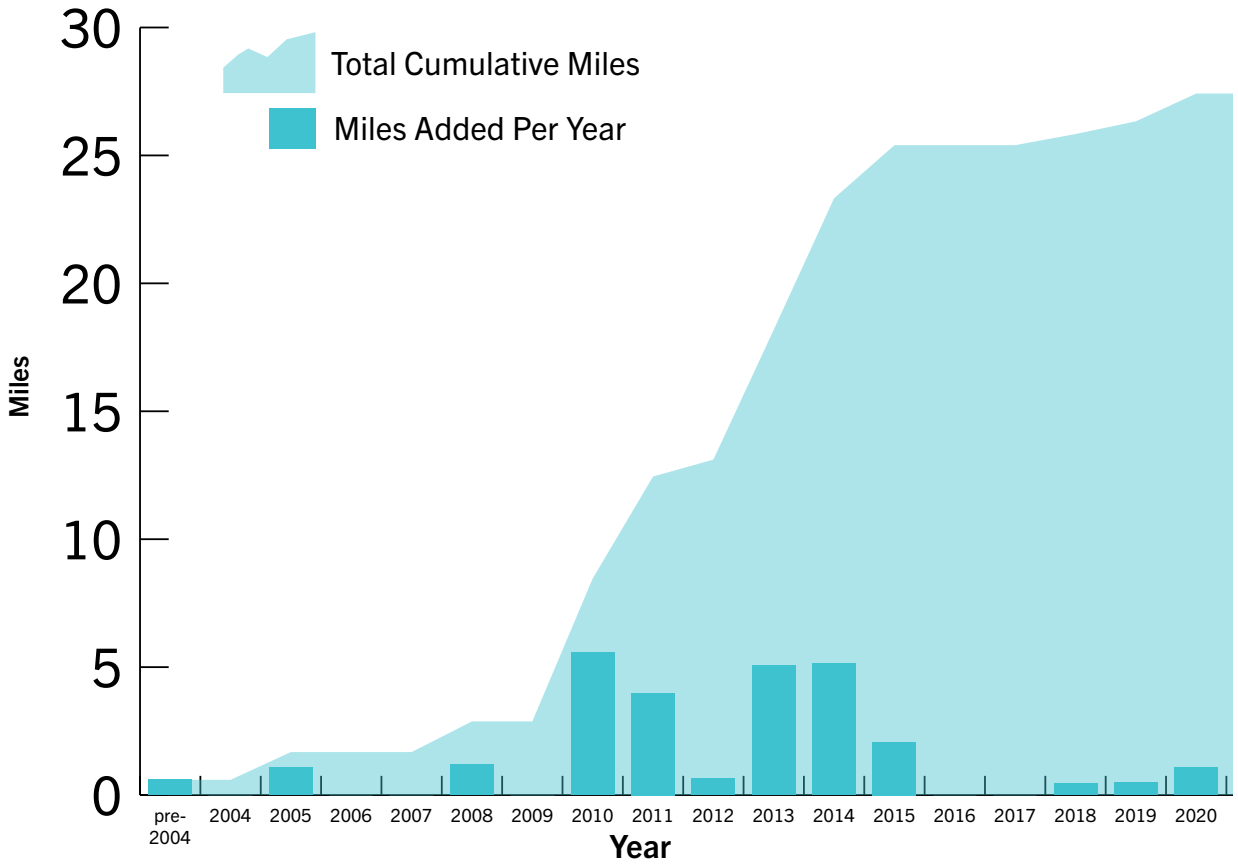


Figure 4.5 Yearly Bike Lane Mileage Added & Total



Note: numbers in figures 4.4 and 4.5 may differ slightly from previous reports as data sources are updated and improved.

Behind the Numbers

With two exceptions, counts of people biking remained fairly steady or increased during 2019. One way to further increase the number of people bicycling would be to construct more bikeways, especially ones that are comfortable for all levels of riders. A report from the National Association of City Transportation Officials (NACTO) found that on streets with new separated bike lanes, ridership rates rose 21%-171%.[24] Another study found that safety increases when bikeways are connected, but that the increases in cycling correspond more with the number of bikeways.[25] As a result, connecting existing bikeways and adding new bikeways are both important steps to increase biking in Billings.

Streets for All

Bicycling as a mode of transportation for people with disabilities is not often discussed or promoted. In an article published in *Disability Studies Quarterly*, Dr. Kay Inckle, a researcher who herself has a disability, interviewed seven people with disabilities who cycle. Based on her interviews and her own lived experience, she concluded that cycling is not well promoted to adults with disabilities. Many of those she interviewed discovered cycling by chance or by participating in a cycling program as a child. To back up this qualitative evidence, Dr. Inckle cites a study from Transport for London that found 70% of people with disabilities in London said they can cycle, although only 6% did on a regular basis.[21]

Image Credit: RAD Innovations

Dr. Inckle also states that cycling can be easier for people with disabilities than walking or using a wheelchair due to sidewalk conditions, falling hazards, long-term wear on joints from wheelchairs or crutches, or pain. Her interviewees shared that cycling was key for them to being able to access basic services, get enough physical activity, and as an opportunity to connect with their communities. Barriers to cycling included bike lanes and bike parking that is not accessible to adaptive bicycles as well as poor roadway conditions.[22]

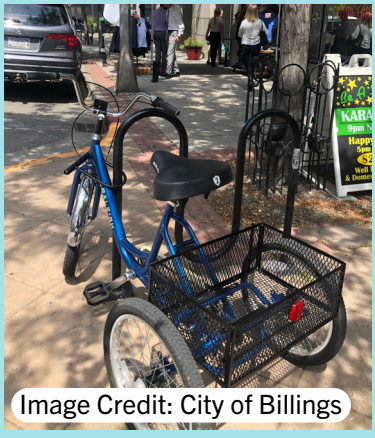


Image Credit: City of Billings

> "I am a proud developmentally disabled woman. I have cerebral palsy. I got my first trike when I was 12 and it opened the world to me."
>
> Maria Town
> "Disabled People Ride Bikes (and Trikes, and Tandems and Recumbents)!" Video Produced by Rooted in Rights[26]

Cycling for people with physical disabilities can take many forms. In 2019 and 2020, Wheels for Wellbeing surveyed more than 200 cyclists with disabilities in the United Kingdom. 44% used standard two-wheeled bikes, some with adaptations. The next most popular type of bike was a trike or recumbent trike. Other types of bicycles used include handcycles and tandem bikes.[23]

Section Five: Transit

Image Credit: MET Transit

Putting Transit in Context

An effective public transit system is a core component of any transportation system. Transit, in its most basic definition, is the conveyance or transportation of people from one place to another. Public transit fills the need for conveyance over larger areas that may otherwise not be easily accessible by individuals who do not own automobiles or utilize walking or biking as their primary transportation. Transit also provides a means of transportation for individuals who may be unable to operate a motor-vehicle, bicycle, or walk long distances due to age, disability or other mobility constraints.

With the increased worldwide and national focus upon climate change and decreasing carbon footprints, public transit also provides a more climate friendly transportation option to the communities it serves. Even through the utilization of clean-diesel buses, carbon footprints may be significantly reduced by encouraging individuals to minimize travel in individual automobiles and utilize transit to meet transportation needs.

For transit to function effectively, transportation infrastructure must include not only functional roadways but also accessible sidewalks and bikeways to provide essential access to transit stops.

Public Transit in Billings

The City of Billings Aviation and Transit Department operates MET Transit, the local public transit system. This system consists of both fixed-route bus service and paratransit service within the Billings city limits. Fixed-route service consists of large vehicles traveling on designated routes and schedules, while paratransit service is origin to destination service for individuals who cannot use fixed-route service for reason of age or disability. The fixed-route service is currently a "flag stop" system, meaning passengers may catch the bus at most intersections where it is safe for the bus to stop.


Image Credit: MET Transit

Public Transit Time Line 2017-2020

July 2018:
Began fixed-route service to Billings Logan International Airport

October 2018:
Implemented real-time bus tracking application, DoubleMAP, for fixed-route buses

November 2018:
Awarded federal competitive grant funding for bus replacement

September 2019:
Again awarded federal competitive grant funds for bus replacement and technology improvements

January 2020:
Completed the *Community-Wide Public Transit Survey* regarding feedback and improvements to the transit system

February 2020:
Added technology improvements to fixed-route buses including onboard internet access and automated annunciators on upcoming vehicles

Public Transit Milestones

Fixed-Route Service to Billings Logan International Airport
Through route re-design and reallocation of resources, MET Transit began bus service to the Billings Logan International Airport in July 2018 via the 1-METLink route on weekdays.

Image Credit: MET Transit

Real-Time Bus Tracking
In a partnership with DoubleMAP GPS, MET Transit rolled out a real-time bus tracking smartphone application and webpage in October 2018. This enhancement allows passengers to see where fixed-route buses are in real time and aids both convenience and accessibility in use of the fixed-route system.

Awarded 2018 and 2019 Bus and Bus Facility Competitive Grants
MET Transit successfully authored, applied for, and was awarded significant federal grant funding in both 2018 and 2019; this funding is to replace fixed-route buses which have exceeded usable life benchmarks as well as add significant technology and convenience features for passengers.

Image Credit: MET Transit

Technology Updates and WIFI
Through funding received in the Bus and Bus Facility Competitive grants, MET was also able to add significant technology updates to the existing and future fleet. All current fixed-route buses were equipped with on-board wireless internet (WIFI) for passenger use. The upcoming replacement buses will also be equipped with automated voice annunciation of bus stops as well as on-board infotainment screens.

Community Wide Transit Survey
MET Transit published an online Community Wide Transit Survey with the intent of gathering feedback on the current transit system and suggestions for future improvements. MET received a total of 627 responses to the survey and obtained over a 95% confidence level with a 5% margin of error within the results based on area population. MET will continually use the collected data in moving the system into the future.

Partner Spotlight:

Community Partners in Transit

MET Transit partners with multiple organizations throughout the city for the purposes of providing effective transit, improving transportation, and ensuring access to essential services for all members of the public.

Many of these partnerships are carried out through cooperative agreements developed and continually improved through the local Human Services Transportation Coordination Group. This group meets quarterly and includes entities such as Healthy By Design, the Adult Resource Alliance, and the State of Montana. They focus on addressing transportation issues for seniors, individuals with disabilities and low-income populations.

MET Transit has also continued to develop partnerships with organizations outside of the human services realm, including the Associated Students of Montana State University-Billings (ASMSUB). Through a pilot partnership, MET and ASMSUB developed a semester long fixed-route bus pass program to provide students access between the main MSU-B campus and the Community College.

Public Transit Ridership Performance Measures

Performance Measures include:

- Yearly Ridership (Figure 5.1)
- Yearly Ridership by Passenger Type (Figure 5.2)
- Yearly Passenger Miles Traveled (Figure 5.3)
- Yearly On-bus Amenity Usage (Figure 5.4)

As is the trend with may transit agencies across the nation, ridership has seen slight decreases over the last four years. Issues which affect ridership generally stem from availability of other transportation options. Changes in transit usage can also be tied to development supporting transit usage as well as land usage patterns and changes in once popular areas. If infrastructure development fails to provide sidewalks and biking paths to connect with transit routes between popular destinations, ridership will be negatively impacted. Further, if development is not encouraged in dense areas, such as a city's downtown area, businesses which draw ridership may move to locations that are difficult to serve.

Figure 5.1 Yearly MET Ridership FY16-FY19

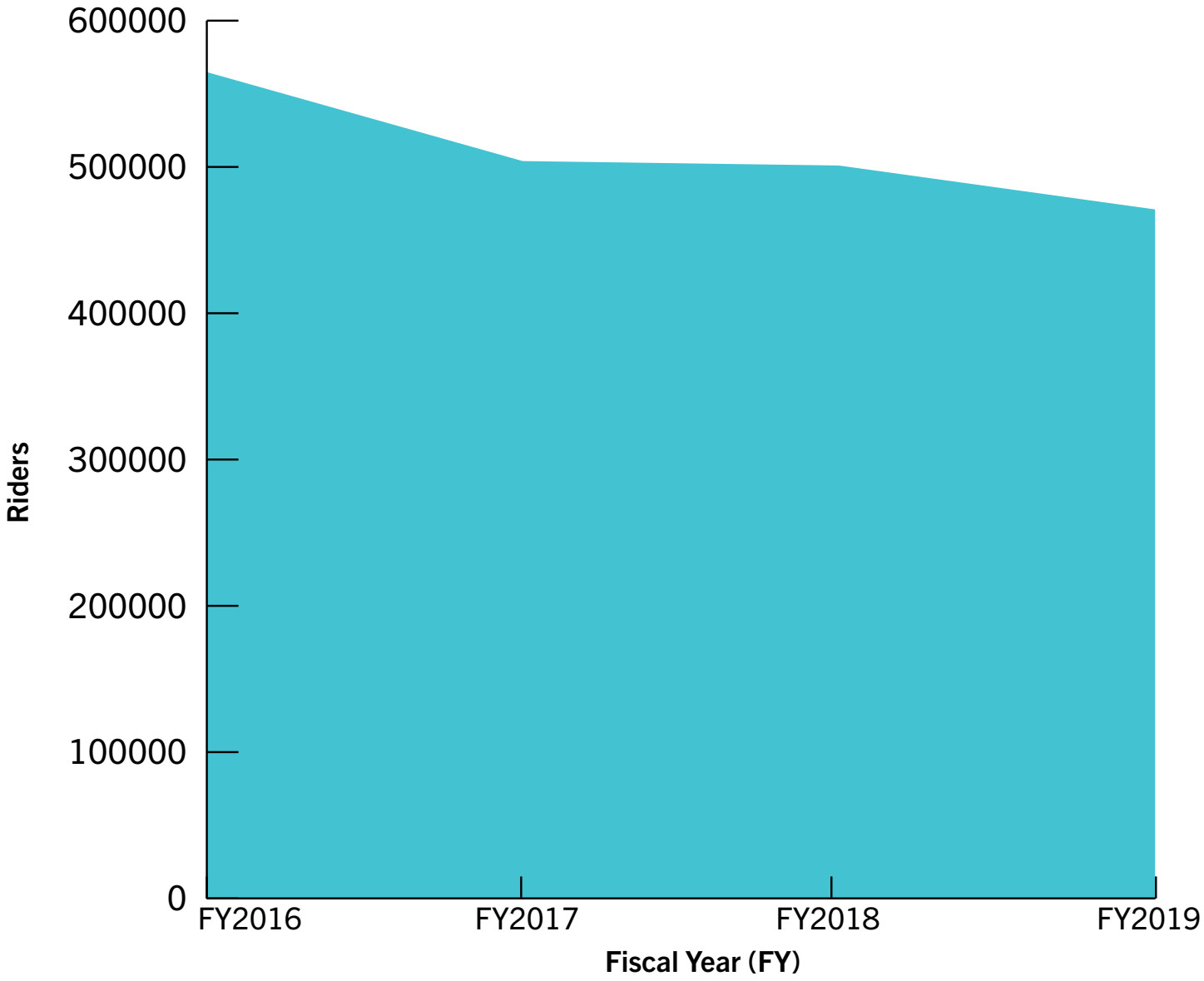
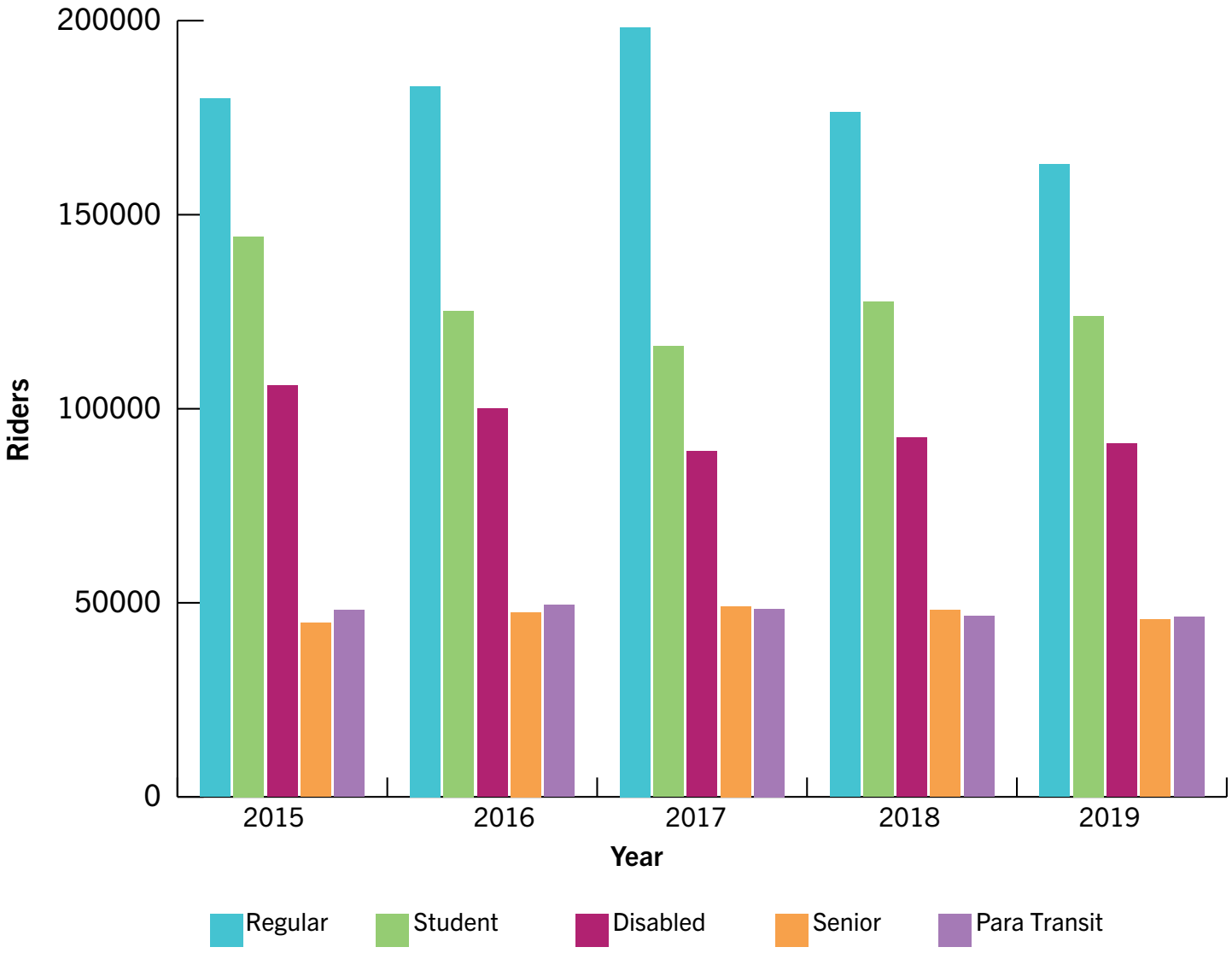


Image Credit: Stan Parker

Figure 5.2 Yearly Ridership by Passenger Type FY16-FY19



As displayed by the above graph, a large portion of MET Transit's yearly ridership is composed of students, seniors, and individuals with disabilities. A majority of users of the MET system utilize public transit as a primary mode of transportation and may not have access to a vehicle or other options. With this in mind, ensuring access to transit lines via continued development of pedestrian and bikeway infrastructure is increasingly important to ensure access to transportation and essential services for the transit dependent population. While MET is continually working to attract ridership from all populations and demographics within the area, the continued service to transit dependent groups is essential to a healthy and thriving community.

"MET Transit makes it easy to find an alternative way to commute. The route I use is convenient and boards nearby."

Anonymous
2020 Survey Respondent

Figure 5.3 Yearly Passenger Miles Traveled FY16-FY19

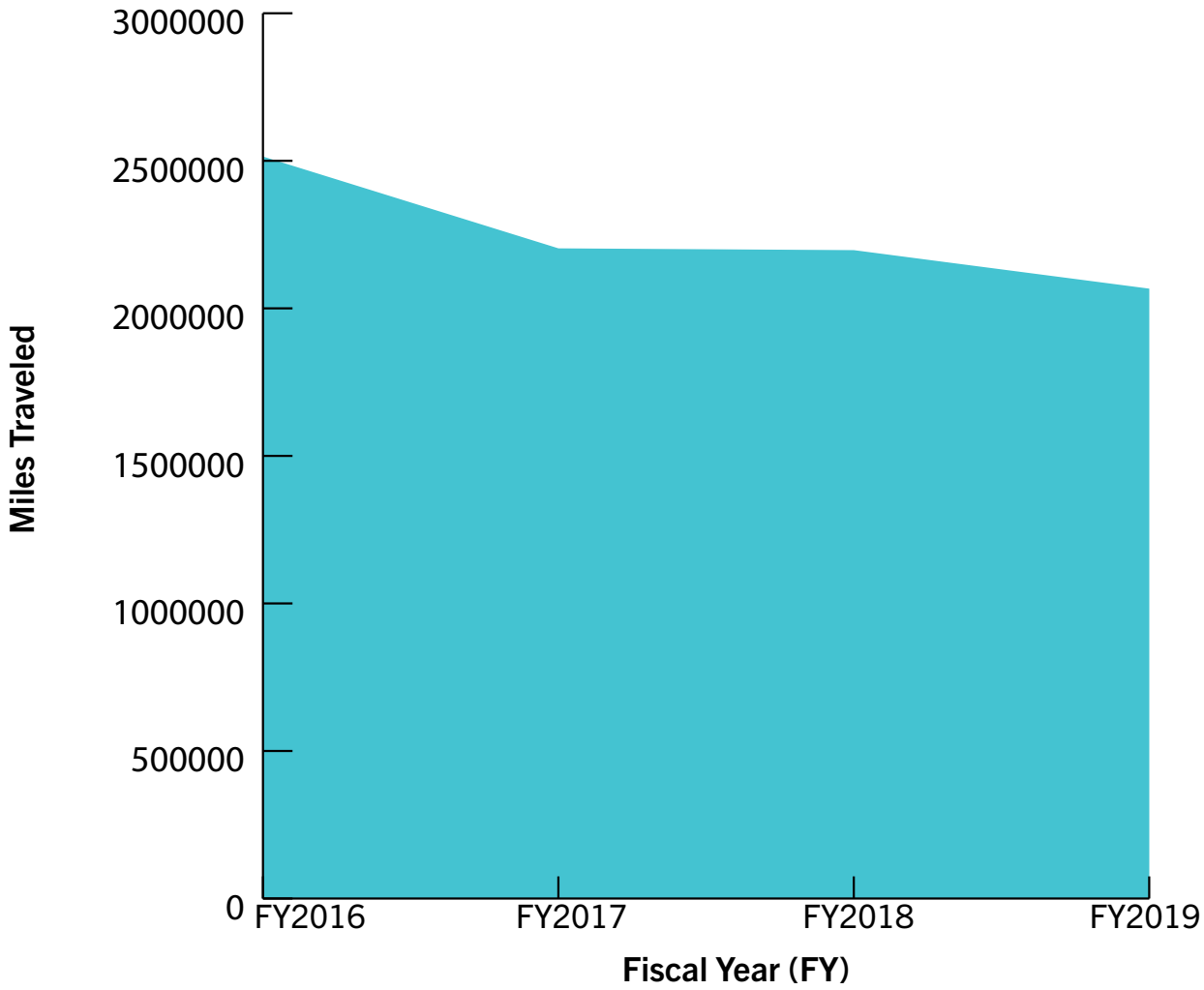
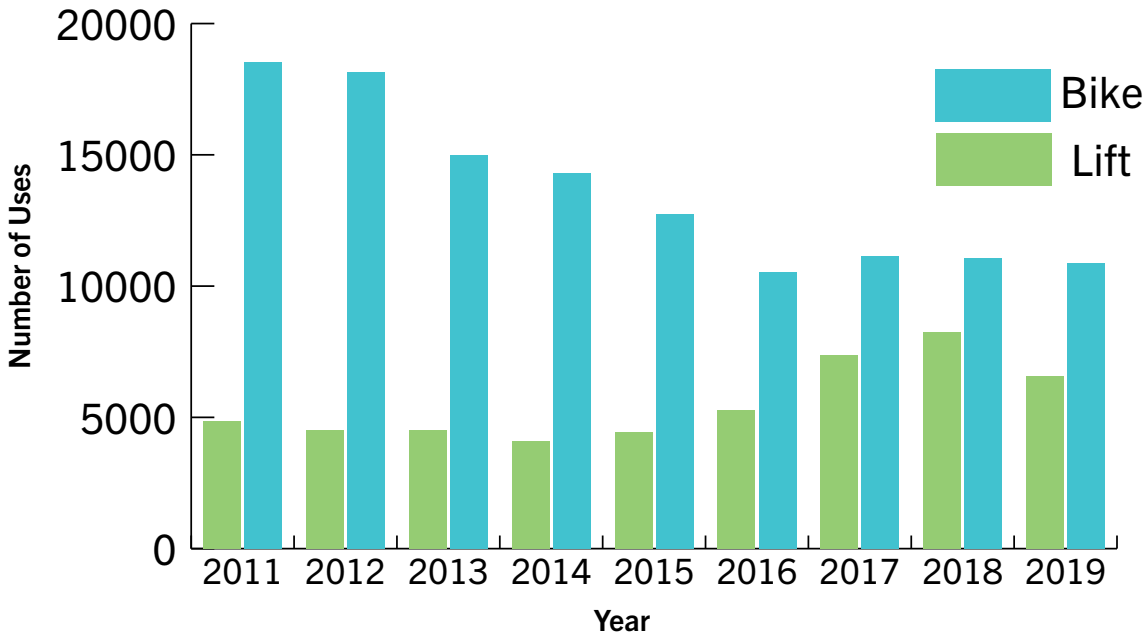


Figure 5.4 Yearly Bike Rack and Lift Uses on MET buses



Behind the Numbers

While ridership decreased over the past four years, the average trip length of a passenger utilizing the system has remained relatively stable. In fiscal year 2016, the average length a passenger traveled per ride was 4.45 miles; this number only slightly decreased to 4.39 miles per trip in FY 2019. This means the average transit rider is accessing areas with over four miles between their origin and destination, reinforcing the notion that the system supports those who depend upon transit to travel distances that may be outside of typically walking or biking range.

Streets for All

As a transit operator in receipt of federal funds, MET Transit complies with the ADA and other applicable laws and regulations in delivery of transit service. All MET Transit vehicles are equipped with mobility device lifts or ramps and contain areas in which mobility devices may be secured. All fixed-route buses are capable of "kneeling " the front of the vehicle in order to allow for ease of boarding when the ramp or lift is not required.

Image Credit: MET Transit

MET Transit also operates paratransit service (referred to as MET PLUS) to compliment the fixed-route bus service. Paratransit services are intended for individuals who cannot utilize fixed route services due to age or disability reasons. Use of the system requires application for and approval of services in conjunction with supporting documentation from a medical provider or other professional entity. Federal regulations require paratransit service within 0.75 miles of any fixed-route bus line, but MET Transit will provide service anywhere within the City of Billings city limits as time and space permits.

MET PLUS

Section Six: Automobile

Image Credit: City of Billings

Putting Automobiles in Context

Complete Streets increase safety for all users, including those driving motor vehicles. Complete Streets help to make people walking and biking more visible and predictable, thus decreasing the risk that drivers will hit and injure a fellow traveler. Complete Streets have been shown to have benefits for older drivers by slowing traffic down and giving more time to react.[27] Research has shown that after implementing road diets, a type of Complete Streets element, traffic crashes decreased between 18-43%.[28]

Automobile Use in Billings

A review of the most current available mode split data compared to the *2014-2018 ACS* (American Community Survey), shows an increase of drive alone vehicles from 80% to over 83%; this corresponds to the reduced carpool percentage from 10.2% to 8% during the same time period.[29] [30]See Figure 6.2. This could relate to falling gas prices over the last few years compared to the 2010-2014 period. MET Transit also saw a decrease of ridership during this period. However, as discussed in *Section Five*, MET has implemented new technology that should increase ridership in the future.

The Complete Streets policy was adopted and implemented not only to develop a transportation system for non-motorized travel, but also to provide motorists and other users a sense of predictable transporta-

tion movements. In a sense, a properly implemented Complete Streets policy provides safe travel areas for all types of transportation, whether this be via bike lanes, sidewalks or transit pull-outs. This type of infrastructure informs all users that a bike, pedestrian or transit rider may be present.

Also, by increasing the choices users have in transportation modes, this may reduce automobile use, thus improving the air quality, reducing congestion, and providing a healthy alternative to driving.

Automobile Performance Measures

Automobile Performance measures will include:

- Crash data from all modes (Table 6.1 and Figure 6.1)
- Commute Mode Share in Billings (Figure 6.2)

In December of 2016 the Billings Metropolitan Planning Organization (MPO) adopted a *Billings Community Transportation Safety Plan* (*Billings CTSP*). The vision of the *Billings CTSP* was defined as follows:

> The Billings community will achieve zero fatalities and serious injuries through a culture of safety for all travelers.

This vision ties directly to the Montana Department of Transportation's Vision Zero policy. The goal for the *Billings CTSP* is to reduce fatalities and serious injuries by 20% from a starting point of 70 deaths in 2014 to 56 deaths by 2020. With 45 serious or fatal crashes in 2018, the most recent data available as of the writing of this document, Billings has already met this goal.

Table 6.1 City of Billings All Mode Crash Data 2011-2018[31]

Crash Severity	2011	2012	2013	2014	2015	2016	2017	2018
Fatal Crash	8	6	5	8	6	6	2	14
Serious Injury Crash	24	32	39	41	39	24	40	31
Other Injury Crash	656	743	674	725	727	631	703	653
No Injury Crash	1,805	1,936	1,927	1,897	1,880	1,590	1,717	1,587
Unknown/Other Crash	171	26	49	35	48	46	40	107
Total	*2,664*	*2,743*	*2,694*	*2,706*	*2,700*	*2,297*	*2,502*	*2,392*
		Before *CTSP* Adoption			After *CTSP* Adoption			

Figure 6.1 City of Billings All Mode Crash Data Trend 2009-2018[32]

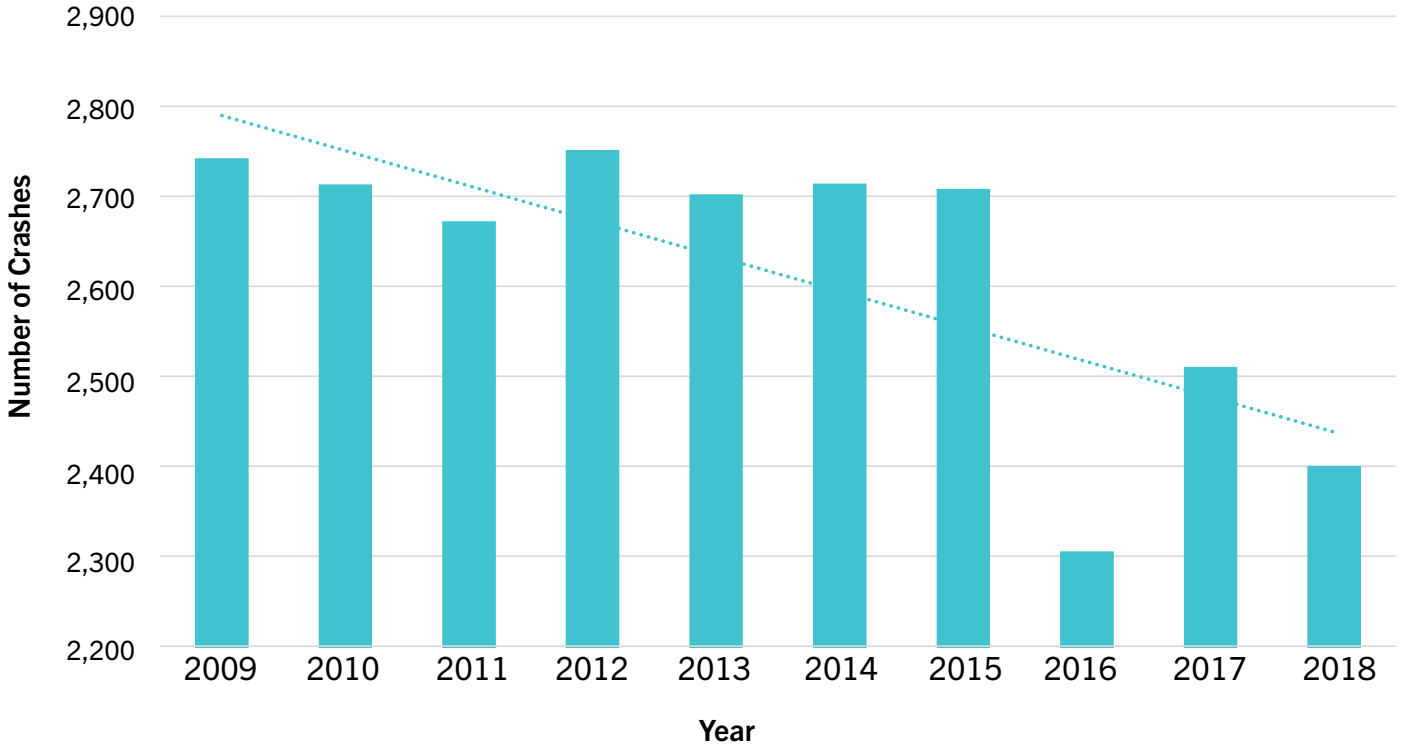
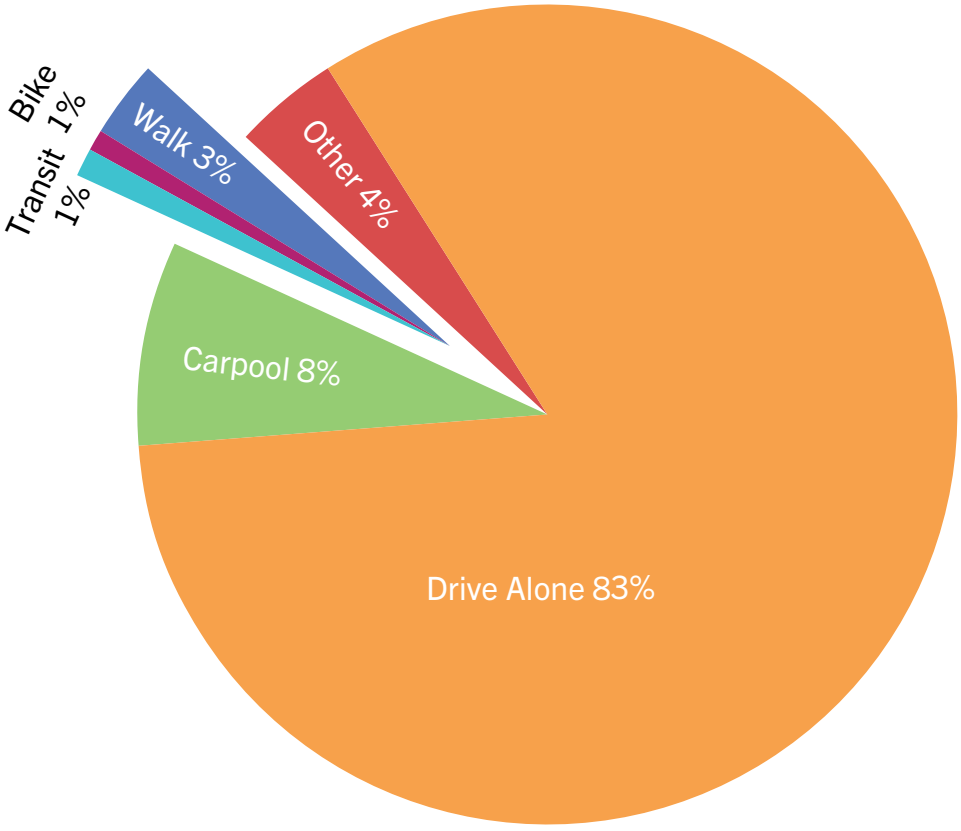


Figure 6.2 City of Billings Commute Mode Share 2011-2018[33]



Behind the Numbers

In reviewing crash data, we often review the trends. Although total crash numbers vary from year to year, a review of the trend shows that we are reducing the overall number of crashes per year. Figure 6.1 shows the total number of crashes between 2011 and 2018 with the overall trend line.

Streets for All

An adapted automobile is an automobile adapted for ease of use by people experiencing disabilities. Automobiles, whether a car or van, can be adapted for a range of physical disabilities.

Image Credit: Mobility Van Sales

Types of an adapted automobile include alterations in foot pedals and the installation of hand-controlled devices. Foot pedals can be raised, relocated or replaced completely with hand controls. The most common hand controls consist of a push-pull handle located on the steering column that act as the accelerator and brake pedals. More information on adaptive automobiles can be found on the National Highway Traffic Safety Administration (NHTSA) website here: https://www.nhtsa.gov/road-safety/adapted-vehicles

Another interesting evolution in automotive technology is the development of automated driving systems. It is anticipated that eventually fully automated cars and trucks will completely drive us instead of us driving them. NHTSA is following the development of automated vehicles and the impact to public safety. Additional information can be found here: https://www.nhtsa.gov/vehicle-manufacturers/automated-driving-systems

Image Credit: City of Billings

Section Seven: Connectivity

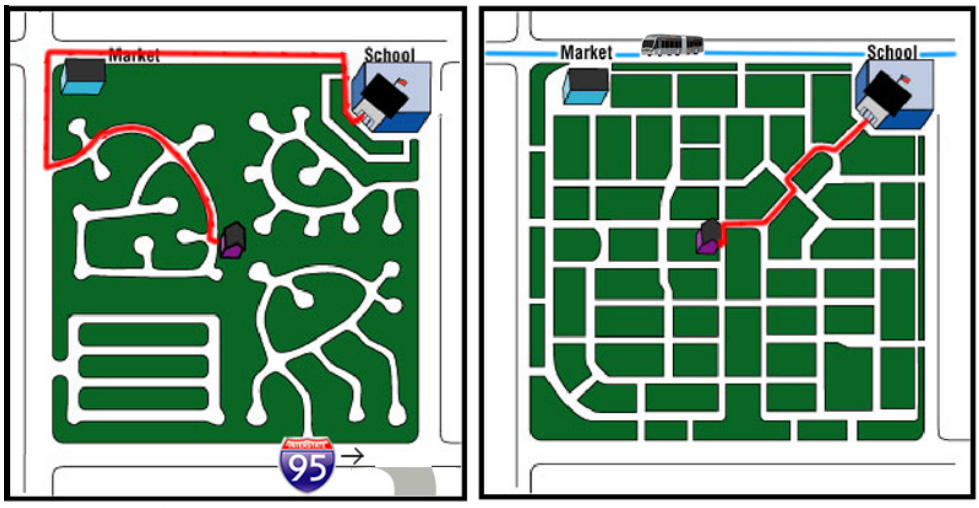
Image Credit: City of Billings

Putting Connectivity in Context

The U.S. Department of Transportation states that "strategies to improve pedestrian and bicycle connectivity include:

- Short block lengths
- Implementation of a Complete Streets policy
- Bicycle/pedestrian outlets for cul-de-sacs and dead ends
- Prioritization of multimodal access to public transportation
- Safe and visible bicycle and pedestrian facilities"[34]

As illustrated in the image to the right, dead ends and cul-de-sacs without connections can make it difficult to bike or walk in between relatively close destinations. Connectivity also includes ensuring that sidewalks, bike lanes, and trails connect to each other and between residential areas and destinations like stores, workplaces, healthcare, and parks.



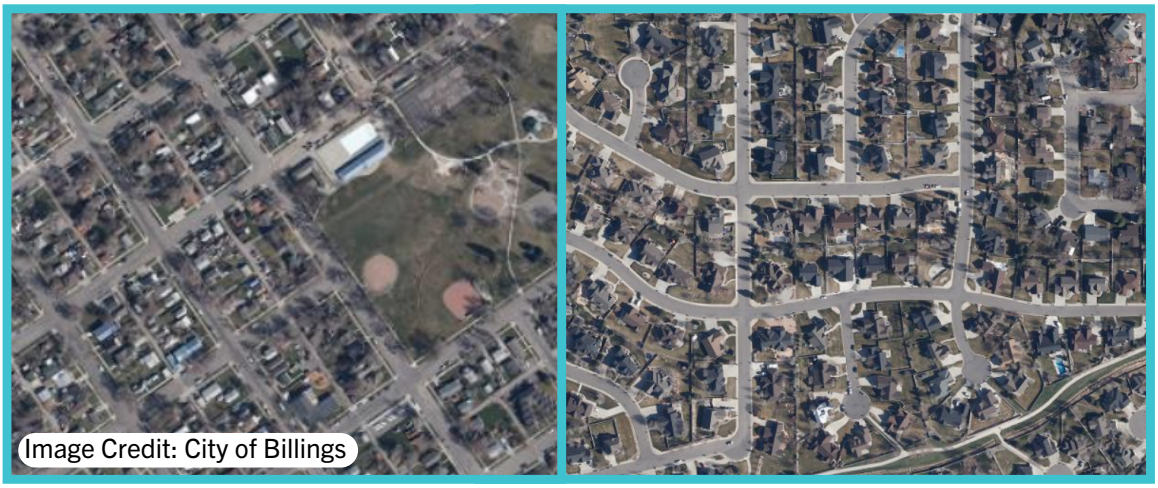
Driving-only transportation pattern

Walkable connected transporation network

Image Credit: Congress for New Urbanism

Connectivity in Billings

Historic development patterns in Billings were 300 feet by 300 feet square blocks in the central city, mainly a grid-like pattern. A similar block pattern continued until recent decades when the block pattern design continued primarily on arterial streets and not local. Subdivision development took on a cul-de-sac pattern with dead end streets that is not conducive to connecting bicyclists and pedestrians to outside areas.

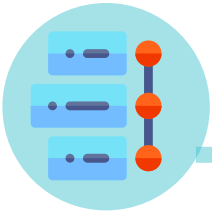


On the left, the street grid on the South Side of Billings contrasts with a less connected development on the West End, shown in a picture on the right. A trail in the southern edge of the image on the right does provide added connectivity that would not otherwise exist.

To help meet these connectivity needs, the Public Works Engineering Division identified short-term implementation projects to be funded through the *Capital Improvement Plan (CIP)* process.[35] These projects were included in the *2017 Billings Area Bikeway and Trails Master Plan*.

Table 7.1 Short-term Project List

Project Name	Project Notes
6th Ave N shared use path	From Exposition Dr to N 13th St
Khyl Ln – shared use path	Connecting the street to the Kiwanis trail Completed
Howard Ave/ Terry Ave Bicycle Boulevard	Striping and signage
Lyman Ave/ Ave D / Ave C/ 9th Ave N and 24th St W/ Arvin Rd Bicycle Boulevards	Striping and signage Planned for 2021
19th St W – Miles Ave to Monad Rd Bike Lanes	Add striping
15th St W – Miles Ave to Ave D Bike Lanes	15th St W – Miles Ave to Ave D Bike Lanes
BBWA Canal – 6th Ave N to Shiloh Rd	Start the process, full project will take longer than 5 years
Annandale Rd / St Andrews Dr – Bike Lanes	Add striping
Wicks Ln – Gleneagles Blvd to Kiwanis trail - Shared Use Path	Add Shared Use Path to south side of the street
Central Ave – 32nd St W to Shiloh Rd – Shared Use Path	With road project Completed
Monad Rd – 32nd St W to 29th St W – Bike Lanes	Through overlay project



Connectivity Time Line 2017-2020

Summer 2017: Trails constructed on Broadwater Ave and Grand Ave

Summer 2018: Trails constructed on Central Ave and Midland Rd

Summer 2018: Sidewalk connection added on Khyl Ln

Summer 2019: Sidewalks added on Barrett Rd, Murphy Ave, 21st St W, and 54th St W

Summer 2020: Sidewalks added on 11th Ave N and accessibility improvements added on 24th St W

Summer 2020: Trail constructed on King Ave E

Connectivity Milestones

Trails Added
The trails added were part of construction or reconstruction projects from Billings Public Works. Generally constructed on arterial roads, these can help fill in gaps along busy streets.

Sidewalks Added
The sidewalks listed in the time line above were constructed as part of the missing sidewalk program. Infill sidewalk projects will continue to be added each year as long as the program exists.

"Well-connected, multimodal networks are characterized by seamless bicycle and pedestrian infrastructure, direct routing, accessibility, few dead-ends, and few physical barriers."

U.S. Department of Transportation "Promoting Connectivity"[36]

Connectivity Performance Measures

Performance Measures include:

- Neighborhood Sidewalks (Figure 3.3) / Connector Trails (Figure 7.2) / Bikeways (Figure 7.3)
- Transit–Trail Connections (Figure 7.4)

Neighborhood Sidewalk/Bike Lane/Connector Trails

Sidewalk, bike lanes, and connector trails play a large role in providing connections within and between city neighborhoods. Pedestrians and bicyclists seek out these facilities to get from one neighborhood to another as they provide safe means of travel for all ages and abilities. The *BABTMP* outlines suggestions for the complete build out of a bikeway and trails network.

As of 2020, there are approximately 27 miles of on-street bike lanes in place within existing transportation corridors. In addition, there are approximately 11 miles of neighborhood connectors, and 48 miles of paved multi-use trails. Billings has an estimated 693 miles of sidewalk. 446 centerline miles of streets, out of 630 centerline miles total, align with at least one portion of sidewalk. This translates to approximately 71% of in-city streets having sidewalk on at least one side.

Figure 7.1 Bikeway and Trails Recommendations Map from 2017 Billings Area Bikeway and Trails Master Plan shows future connectivity

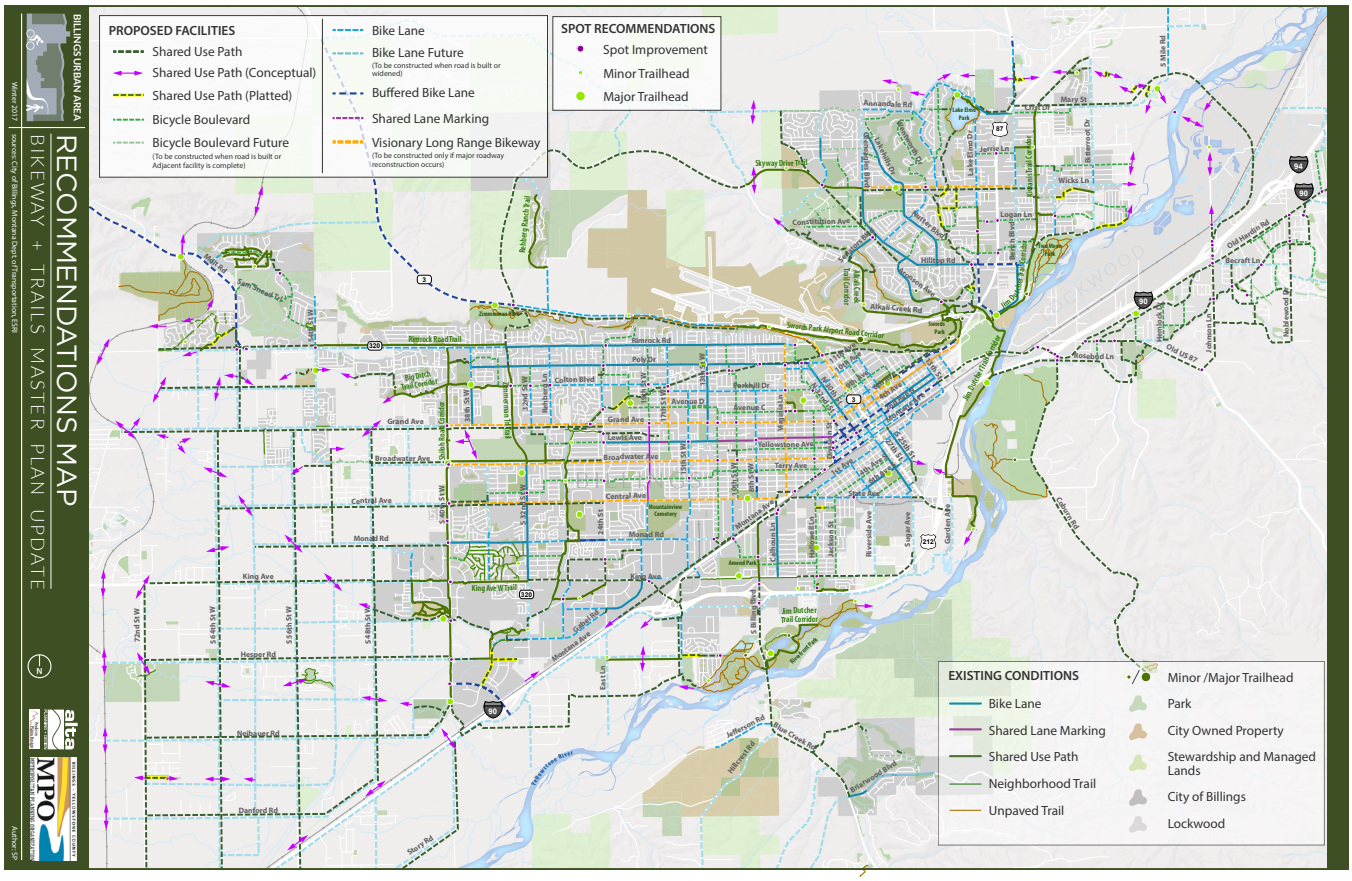


Figure 7.2 Trails in Billings

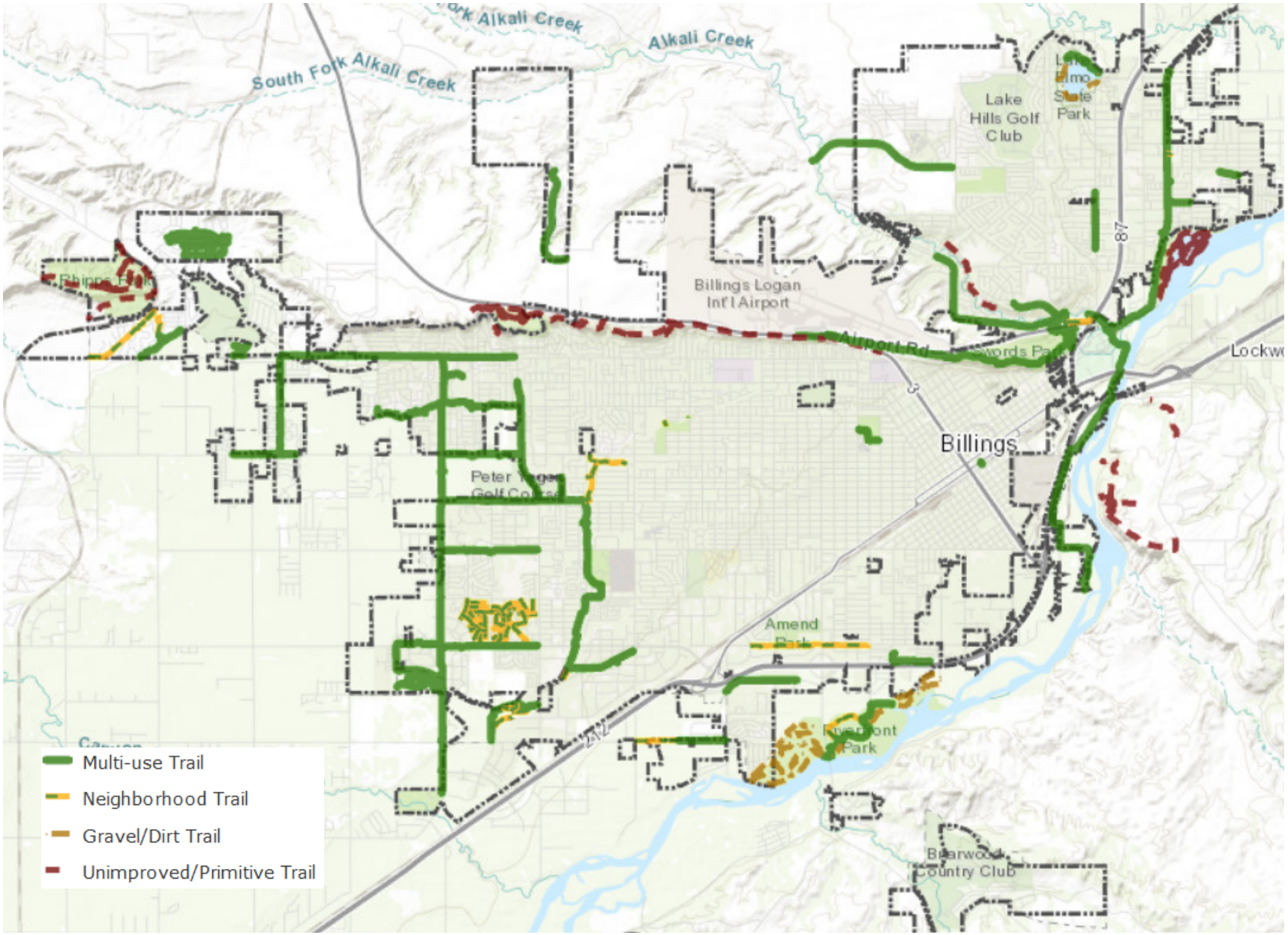


Figure 7.3 Bikeways in Billings

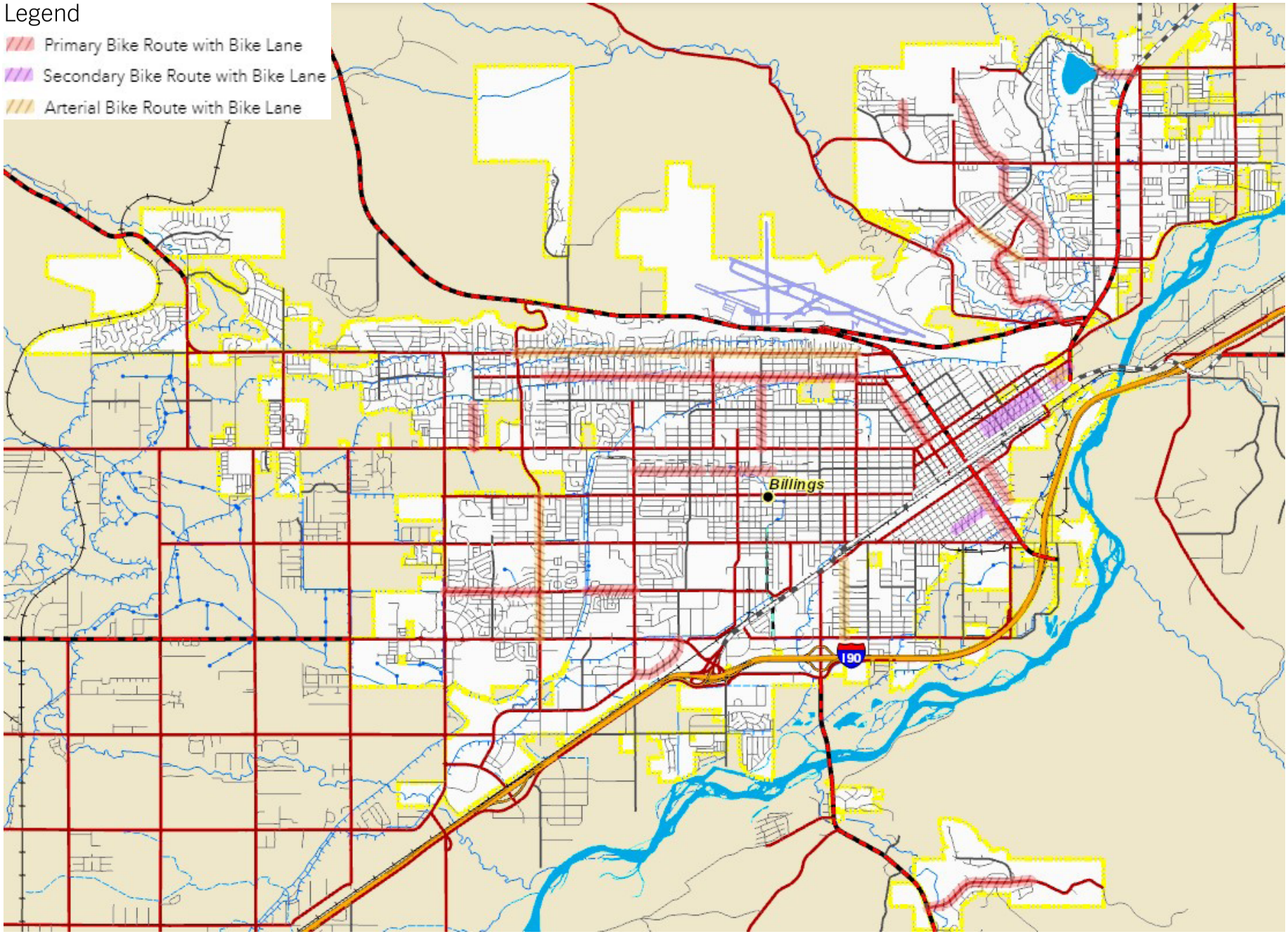
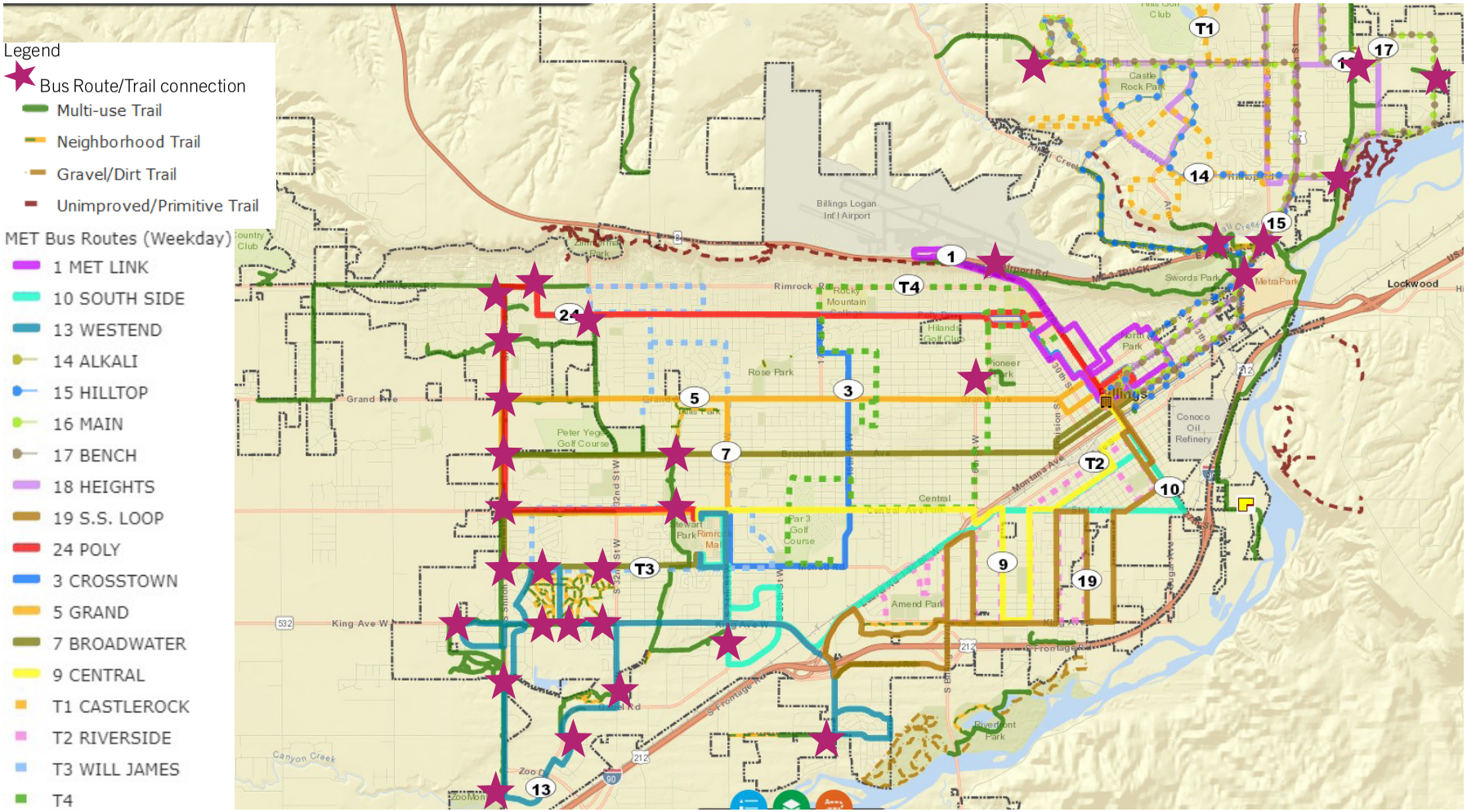


Figure 7.4 Bus/Trail Connections in Billings in 2020



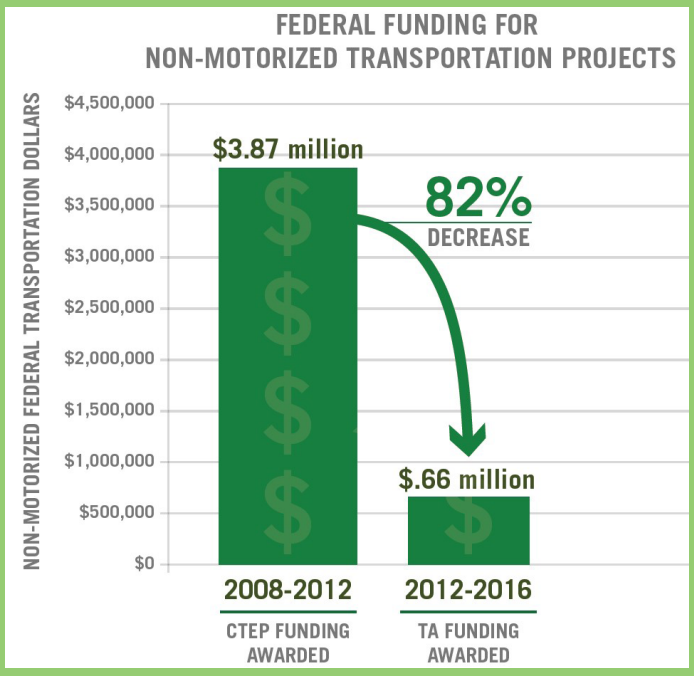
Transit-Trail Connections

As of August 2020, there are currently approximately 31 locations in Billings where a bus route intersects an existing trail. Please note that because routes are currently "flag stop" and riders can flag a bus down at most corners where bus routes run parallel to trails, there are more possible stop locations than currently listed. For example, a rider on the 24 Poly bus could catch the MET bus from many places along the Shiloh trail.

These connection points allow trail and transit users to easily switch modes throughout their trip. The more trail/transit intersections there are, the more flexibility travelers have getting around the City.

Behind the Numbers

Billings was able to build many miles of trails between 1992 and 2012 due to the federal Community Transportation Enhancement Program (CTEP) grants. The state distributed a consistent amount of funds each year to Billings. Since 1992, the community received more than $13.3 million in CTEP funds and completed 61 projects. CTEP was replaced by the Transportation Alternative (TA) program in 2012. Montana receives fewer funds overall under TA, and the funds are awarded competitively, so Billings is not guaranteed to receive funds each year. As a result, trails are generally only now built along roadways as part of construction or reconstruction projects, or as part of subdivision construction.



To the right, workers perfect the concrete for a crossing along the Central Ave trail during fall 2018


Image Credit: City of Billings

Streets for All

Connectivity is essential for people with disabilities. What may seem like an inconvenience to some, may be a difficult or impassible barrier to others. For example, a stretch of missing sidewalk near a park may mean a person who uses a wheelchair cannot access the park, even if it is only a short distance from their home or work.

When planning for and designing our streets, it is important to keep all users in mind, not just people without disabilities.

Section Eight: Community Health

Image credit: Gregory Miller Photography

Putting Community Health in Context

According to the *Physical Activity Guidelines* put forth by the U.S. Department of Health and Human Services, adults should strive to meet one or both of the following recommendations:

1. Moderate-intensity physical activities for at least 30 minutes on five or more days of the week, or,

2. Vigorous-intensity physical activity three or more days per week for 20 or more minutes per occasion.[37]

Children should strive for 60 minutes of moderate to vigorous physical activity each day for optimal health.

Neighborhoods that support active living, nutritious eating, and supportive social relationships reduce overweight and obesity, leading causes of heart disease, stroke, hypertension, diabetes, some cancers, depression, and other mental health challenges. Unsafe neighborhoods and streets, due to poor infrastructure, lack of access to daily needs, and/or perceived lack of safety increase the risk of physical inactivity, poor nutrition, stress, social isolation, and violence.[38] [39] Neighborhoods with welcoming parks, sidewalks,

> "Everyone deserves to have a safe place to walk or wheelchair roll, but in too many of our communities, that is not the reality... To enjoy better health and other rewards— we need to make strolling and striding a natural part of daily life again... by removing the personal and physical barriers that discourage us from walking..."
>
> Dr. Vivek Murthy
> 19th Surgeon General of the United States[43]

and safe, accessible bikeways, provide more opportunities for physical activity. Residents with increased access to multi-modal transportation infrastructure have an easier time meeting their daily needs, such as access to healthy, affordable foods and opportunities to socialize with others. Roadways designed for all users provide infrastructure for safer routes to schools, which improve students' attendance and tardiness, physical activity, personal development, readiness to learn, and performance during the school day.[40] [41]

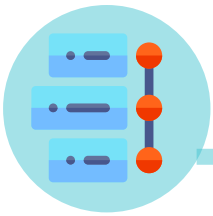
A recent survey conducted by the Office of the US Surgeon General found that 94% of Americans say walking is "good for their health", yet most fall short of meeting the recommended guidelines. The most commonly cited barriers to walking included a poorly walkable neighborhood (40%), few places within walking distance from home (40%), lack of time (39%), lack of sidewalks or speeding traffic (25%), no walking partner (25%), and neighborhood crime (13%).[42]

Community Health in Billings

Every three years, the healthcare Alliance of Billings Clinic, RiverStone Health, and St. Vincent Healthcare co-administer a county-wide *Community Health Needs Assessment* (*CHNA*). The *CHNA* has relied upon several primary and secondary data sources to identify and monitor community health needs since 2005.[44]

> "We don't have a friendly, walkable city. Bike paths are nice, but biking around town is tough, cars don't like bikes on the streets and the drivers are terrible to cyclists. I know, I try to bike around town and it's scary."
>
> Anonymous
> 2020 Respondent
> Community Health Needs Assessment[45]

Image credit: Gregory Miller Photography



Community Health Time Line 2017-2020

February 2017: *2016-2017 Community Health Needs Assessment* report released

2017-2020: *Community Health Improvement Plan* developed and implemented

February 2020: *2020 Community Health Needs Assessment* report released

Summer 2020: *2020-2023 Community Health Improvement Plan* implementation begins

Community Health Milestones

***2016-2017 Community Health Needs Assessment* (*CHNA*) report released**
The 2016-2017 report showed that the percentage of children and adults in Yellowstone County who were overweight remained essentially the same since 2014.[46]

***2017-2020 Community Health Improvement Plan* developed and implemented**
The *Community Health Improvement Plan* (*CHIP*) contains evidence-based strategies to help improve health outcome shortfalls identified in the Community Health Needs Assessment. Between 2017 and 2020, the *CHIP* focused on healthy weight. Healthy By Design (see *Partner Spotlight* on p. 48) implemented several strategies that related to active transportation under the umbrellas of "Creating and Improving Access to Places, Parks, and Playgrounds for Physical Activity; Creating and Maintaining Safe Neighborhoods" and "Community Scale Urban Design and Land Use Policies."[47]

***2019-2020 Community Health Needs Assessment* (*CHNA*) report released**
The *2020 CHNA* showed that the percentage of children and adults in Yellowstone county who are overweight increased from 2017. A new data point in 2020, 28% of people said that they walked, biked, or used public transportation at least monthly.[48]

***2020-2023 Community Health Improvement Plan* implementation begins**
The *2020-2023 CHIP* focuses on healthy weight, mental health, and substance abuse as priority areas. Strategies to improve healthy weight and related to active transportation include "Healthy Neighborhoods," "Healthy Connections," and "Healthy Investments."[49]

Partner Spotlight:

Healthy By Design Coalition

The Healthy By Design Coalition (HBD) is a multi-sector collaborative of local leaders and organizations working together to make the healthy choice, the easy choice throughout Yellowstone County. The Coalition was created by Billings Clinic, RiverStone Health, and St. Vincent Healthcare more than a decade ago to address our community's most pressing health needs at the population level. In 2010, members of the Healthy By Design Coalition worked with Billings City Council to introduce and unanimously adopt a Complete Streets resolution. HBD has continued to support improved transportation infrastructure in Billings through sidewalk poetry, safer routes to school street sign toppers, and the introduction of public art to activate neighborhood transportation corridors. In addition, HBD has created several public messages around active transportation and walkability, and actively engaged in several city-wide projects including the 2016 Complete Streets resolution update, *BABTMP*, Project Re:Code, and more.[50]

Community Health Performance Measures

Performance Measures will include:

- Weight status (Figures 8.1 and 8.2)
- Participation in regular, sustained moderate or vigorous physical activity (Figures 8.3 and 8.4)
- Participation in leisure-time physical activity (Figure 8.5)

Figure 8.1 Prevalence of Total Overweight

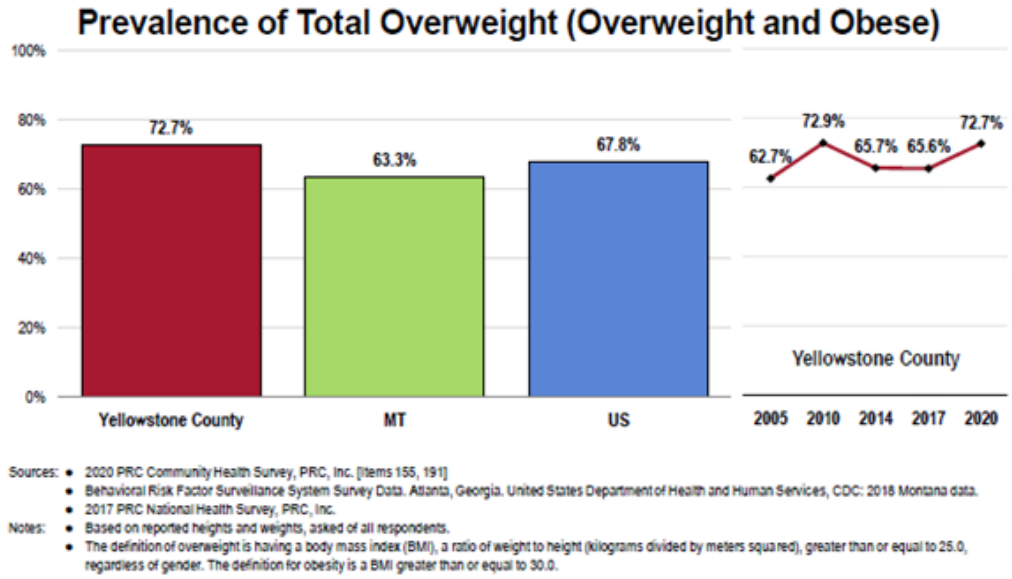
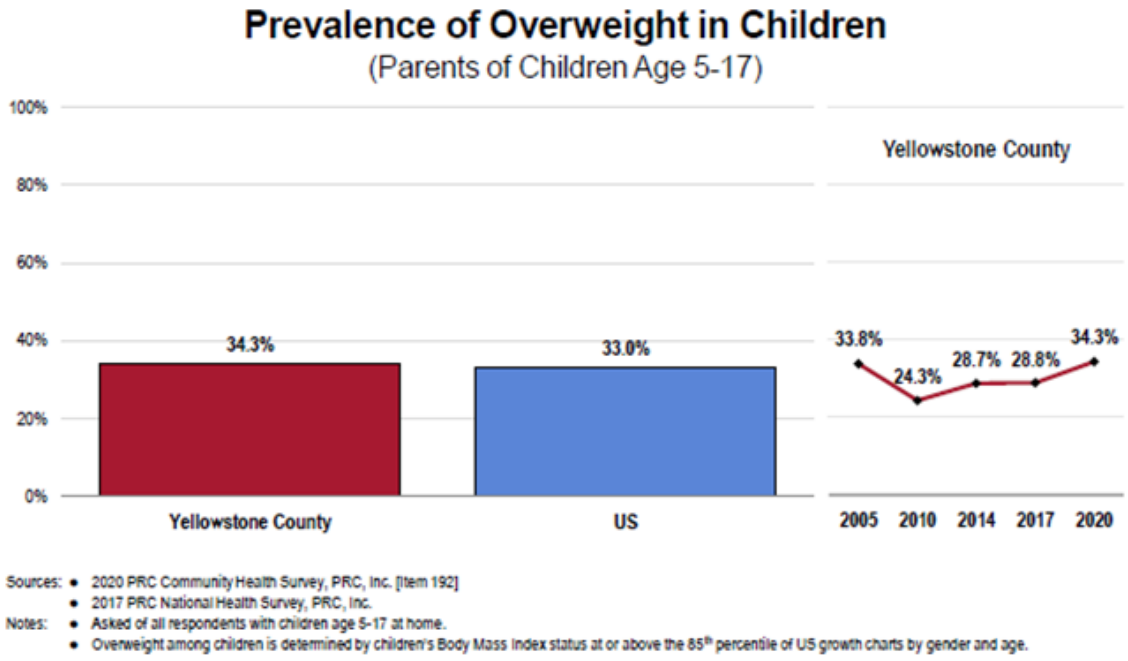


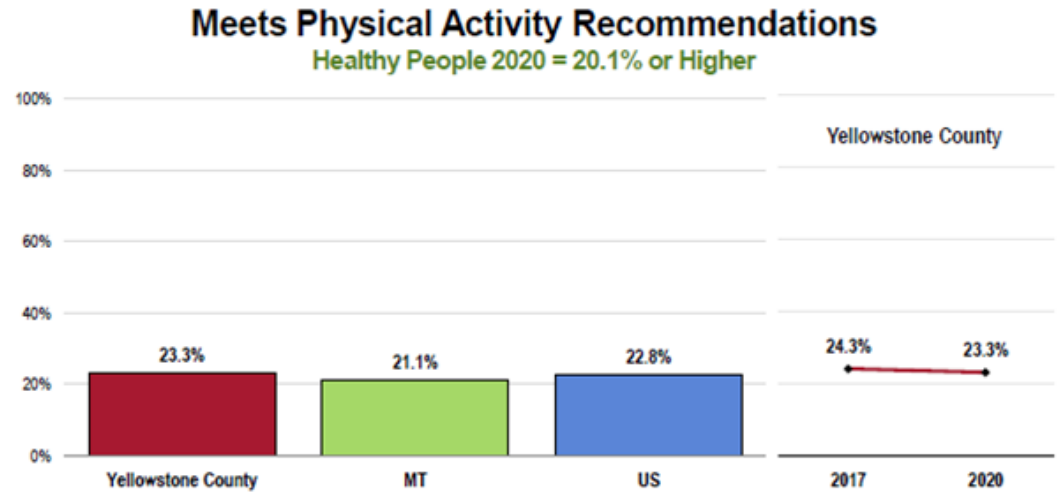
Figure 8.2 Prevalence of Total Overweight Children



Sources:
- 2020 PRC Community Health Survey, PRC, Inc. [Item 192]
- 2017 PRC National Health Survey, PRC, Inc.

Notes:
- Asked of all respondents with children age 5-17 at home.
- Overweight among children is determined by children's Body Mass Index status at or above the 85th percentile of US growth charts by gender and age.

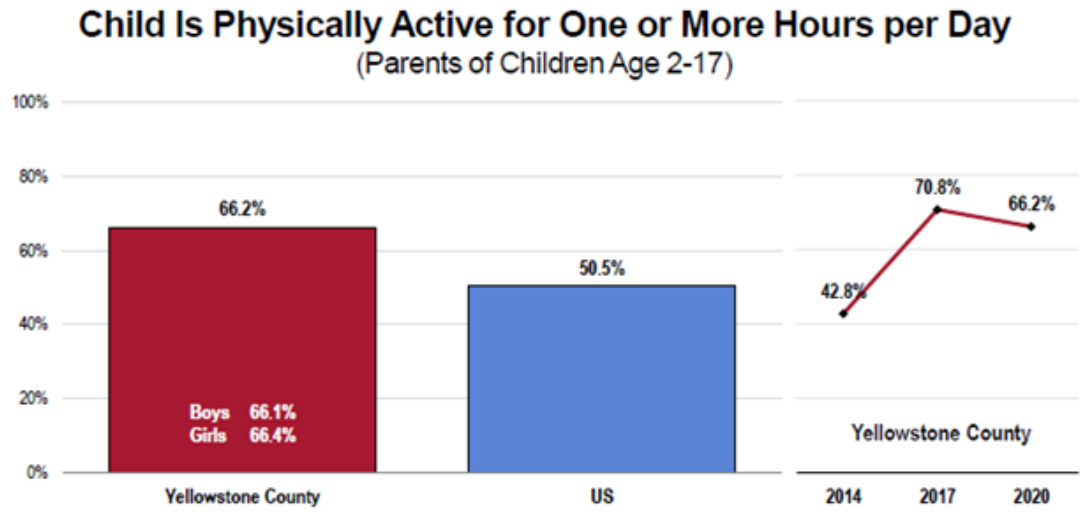
Figure 8.3 Meets Physical Activity Recommendations



Sources:
- 2020 PRC Community Health Survey, PRC, Inc. [Item 152]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC); 2017 Montana data.
- 2017 PRC National Health Survey, PRC, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective PA-2.4]

Notes:
- Asked of all respondents.
- Meeting both guidelines is defined as the number of persons age 18+ who report light or moderate aerobic activity for at least 150 minutes per week or who report vigorous physical activity 75 minutes per week or an equivalent combination of moderate and vigorous-intensity activity and report doing physical activities specifically designed to strengthen muscles at least twice per week.

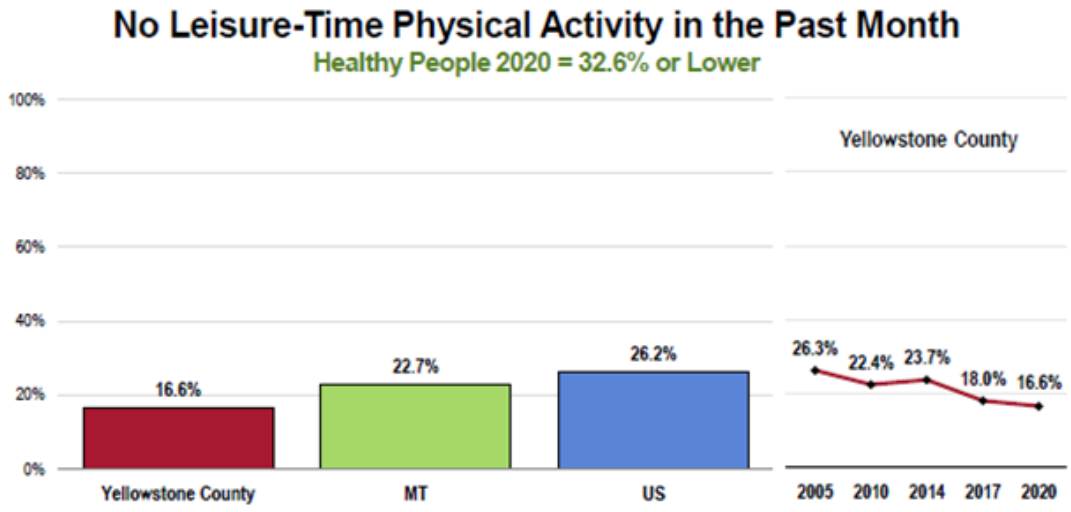
Figure 8.4 Child Is Physically Active for One or More Hours per Day



Sources:
- 2020 PRC Community Health Survey, PRC, Inc. [Item 124]
- 2017 PRC National Health Survey, PRC, Inc.

Notes:
- Asked of all respondents with children age 2-17 at home.
- Includes children reported to have one or more hours of physical activity on each of the seven days preceding the survey.

Figure 8.5 No Leisure-Time Physical Activity in the Past Month



Sources:
- 2020 PRC Community Health Survey, PRC, Inc. [Item 89]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2018 Montana data.
- 2017 PRC National Health Survey, PRC, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective PA-1]

Notes:
- Asked of all respondents.

Behind the Numbers

According to the most recent *Yellowstone County CHNA*, area residents continue to struggle with getting an adequate amount of physical activity each week. However, fewer adults report not having any leisure time in the past month, which is a significant improvement since the adoption of the Complete Streets policy in 2010. Approximately 23.3% of adults and 64.4% of youth meet their respective physical activity recommendations. Nearly seven in ten adults have attempted to increase their physical activity through changes to everyday behavior, such as taking the stairs, parking further from destinations, walking or biking instead of driving, etc. in the past year. This is less common among men, seniors, and low-income adults. More than one in four children spend three or more hours in front of screens such as a television, computer, smart phone, or video game each day.

A total of 72.7% of adults and 34.3% of youth are considered overweight. These numbers have seen an increase over time. A total of 36.9% of adults and 21.7% of youth are considered obese in Yellowstone County, which are worse than Montana levels and have also seen an increase over time.[51]

Streets for All

The *2020 Yellowstone County CHNA* highlights several disparities related to health behaviors and outcomes among area residents, specifically based on gender, age, and income. In 2020, women, seniors (ages 65+), and middle to high income residents were least likely to meet physical activity recommendations, and were also the least likely to use active transportation to increase their daily physical activity. Lower income residents were the least likely to feel safe in their neighborhood.[52]

Due to the population size of the *CHNA* study area, disparities based on neighborhood or zip code, special health care needs, race and ethnicity are not available; however HBD Coalition initiatives engage various groups in planning to ensure underlying disparities are addressed. In fall 2020, HBD partnered with the City of Billings and LIFTT to sponsor an inclusive walk audit as part of the *2020 CHNA*. Key opportunities to improve Complete Streets infrastructure for individuals experiencing mobility, vision, hearing, and other limitations include:

- Current efforts to make sidewalks accessible for people with disabilities focus on corners and intersections, however, there is opportunity to consider the entire length of the sidewalk. Alleyway drives and driveways tend to create sloping or inconsistent pavement, which can hinder accessibility and safety.
- ADA accessible parking would also increase access to the transportation network and destinations. For example, the Gardeners' Market at South Park added temporary ADA parking spaces during the event, which was previously cited as a barrier to participation among seniors experiencing mobility challenges.
- Inclusive walk audits with individuals with firsthand experience with mobility, vision, hearing, and other limitations are an important tool to improve the implementation of Complete Streets in Billings.[53]

Section Nine: Economics

Image credit: Visit Billings

Putting Economic Benefits in Context

Implementing Billings' Complete Streets policy helps grow the local economy. Making it easier for people to walk, bike, or take public transportation to local businesses and services can increase sales, raise property values, and save on transportation costs.[54] People who are more physically active also experience health benefits and have reduced medical costs. [55] [56]

Streets designed with all users in mind create a more cohesive transportation network that allows people to get to work and other destinations safely. This increased connectivity can help reduce traffic congestion and associated time and revenue loss.[57]

Safe and effective transportation improves quality of life and our community's viability. Quality of life is important for workforce recruitment and retention, and Complete Streets can be used as a strategy to recruit and attract skilled workers.[58] According to the Association of Chamber of Commerce Executives (ACCE), "A community's quality of place is essential for talent attraction and retention. Simply put, there is no substitute for being a great place…"[59] Complete Streets policies, when implemented, can positively improve transportation effectiveness, safety, and quality of life in our community.

Image credit: Visit Billings

Economic Benefits in Billings

According to Big Sky Economic Development's *2019 Economic Pulse* report, Billings has a largely aging workforce that will need to be replaced. With almost 40% of the workforce in the 55+ age category, it is important to attract new workers to our community.[60] Better street design that encourages active transportation can be a driver in attracting young, skilled workers to Billings. Billings might learn from other communities, such as Lincoln, Nebraska, that are highlighting their trails and related amenities to address their worker shortage and spur economic development.[61]

Over the last several years, the Billings Chamber of Commerce has concentrated on improving the quality of life for Billings' residents through efforts surrounding walking and biking infrastructure. Improvements in these areas can help attract new businesses and residents to Billings. The Chamber's continued work on the non-motorized network has been a valuable tool for a city branded as "Montana's Trailhead".

In addition, tourism is a large industry in Montana and in Billings. In a study conducted from 2011-2013, The University of Montana Institute for Tourism & Recreation Research found that an average bicyclist spends $75 per day and stays for an average of eight nights while touring in Montana. It is estimated that there are 500,000 bicycle tourist visitors each year and that number is growing.[62] If each cyclist spent $75, this would result in an estimated $38 million in revenue each day for Montana. Complete Streets implementation can help provide the necessary infrastructure to encourage active transportation tourism that ultimately benefits the local economy.[63]

Economic Benefits Milestones

High Quality of Life and a Place to Thrive

Big Sky Economic Development collects data on economic growth and quality of life in the Billings area. The infographics to the left show Billings' residents have short commutes, are satisfied with their community, and have had their wages grow faster than the in U.S. overall. While there are many other factors that make economic vibrancy possible, Complete Streets and investing in the Billings community can help.

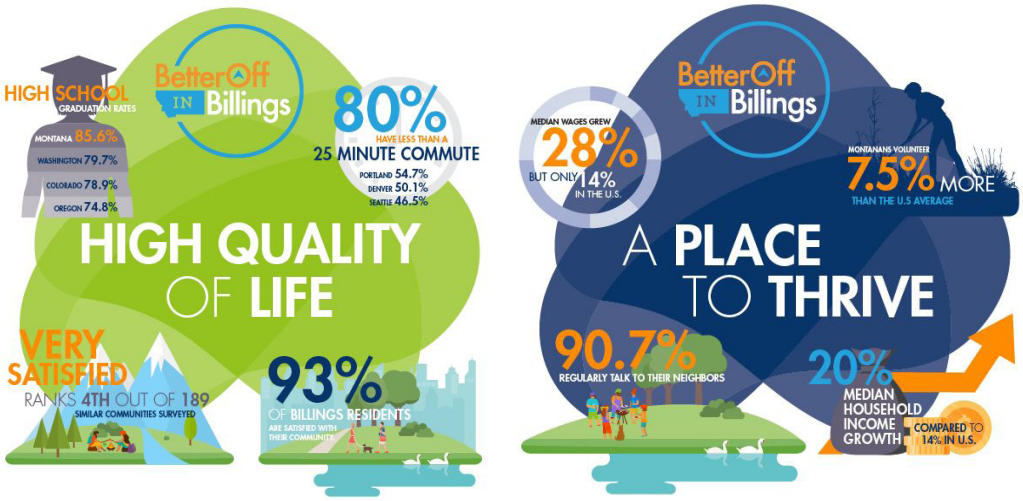


Image credits: Big Sky Economic Development

Economic Benefits Data

Numerous studies show that Complete Streets benefit the local economy. One study in Fort Worth, Texas showed that adding bike lanes and bike parking led to a 100% increase in local retail sales.[64] In Whitefish, Montana the 42 mile "Whitefish Trail" sees over 73,000 visitors every year and generates around $3.6 million in revenue through spending at local businesses.[65]

Investment in Complete Streets projects can create twice as many jobs as would investment in a highway project. Once a project has been implemented, additional private investments tend to follow. Enhancements along a ¾ mile corridor in Washington D.C. led to increased foot traffic, sales, and 40 new businesses in the area.[66] Lancaster, California experienced "$125 million in private investment, a 26% increase in sales tax revenue, and 800 new jobs, after a public investment of $10.6 million in Complete Streets."[67]

> "Entrepreneurs and creative workers alike seek locations with a high quality of life. Transportation is a huge part of the equation, including bicycle trails, safe routes for pedestrians, and creating a safe network of connections."
>
> John Brewer
> CEO
> Billings Chamber of Commerce[69]

Walkability, bikeability, and public transit are important to people on an individual level as well. According to AARP, eight in ten people prefer living in a walkable community and six in ten people prefer places with easy, walkable access to destinations. Neighborhoods and communities that invest in Complete Streets infrastructure see the benefits. A house that increases its Walk Score by 1 point can increase in value by $700-$3000 and houses with sidewalks and street trees sell faster than those that do not.[68]

Image credit: Visit Billings

Streets for All

Lack of transportation can contribute to lack of employment for people with disabilities. According to the Department of Transportation Bureau of Transportation Statistics, 20% of people 18-64 with disabilities that limit travel are employed, compared to more than 75% of people in the same age group without disabilities. This lack of access to transportation likely contributes to poverty. More than 50% of working-age people with disabilities live in households with annual incomes below $25,000 while 15% of people without disabilities do.

People with disabilities are less likely to travel in a personal vehicle than people without disabilities and are less likely to have access to one. They are more likely to walk, use transit, and other modes of transportation than people without disabilities. 70% of people with travel-limiting disabilities reduce their day-to-day travel to make up for travel limitations.[70]

Complete Streets can help people with disabilities access jobs, errands, and social connections. Increased access to employment could offer families and individuals increased opportunities, and would benefit local and national economies. One report found that if 1% more of people with disabilities were employed, the US Gross Domestic Product could grow $25 billion.[71]

Image credit: Marcus Aurelius from Pexels

Section Ten: The Future

Image Credit: City of Billings

The Complete Streets policy is a great foundation for an active, healthy community. It ensures that all projects on arterial roads are considered for Complete Streets elements. Solutions on are based on the local context and consider the needs of the community.

While there have been many Complete Streets successes in Billings, there are still challenges. As previously mentioned, funding for Complete Streets elements generally comes from road construction or reconstruction. There have been some successes in allocating funding for Complete Streets elements outside of road construction projects, such as the upcoming bicycle boulevard. However, certain transportation elements have no dedicated source of funding, such as trails that run through parkland and private property, although these trails may be built as the general Parks, Recreation, and Public Lands Department budget allows. Trails that do not run parallel to the roadway are more comfortable for users than those that are directly next to a roadway. With trails next to a roadway, people using the trail have to keep a constant look-out for people in cars turning into and out of driveways and side streets. Trails in parkland and private property also offer a respite from roadway noise. A dedicated funding source for trails and bikeways could help implement Complete Streets elements such as additional bicycle boulevards, separated (protected) bike lanes, and trails. The *2017 Billings Area Bikeway and Trails Master Plan* includes several options by which Billings could raise funds for these projects.

> "Policies alone won't create safer streets unless communities implement them in ways that change what gets built, where it gets built, and how it's designed."
>
> Emiko Atherton
> Former Director
> National Complete Streets Coalition[72]

Capital Improvement Program

The *Capital Improvement Program* (*CIP*) identifies needs for construction of capital projects or improvements to the City's infrastructure. Each update is created with input from the public and direction from the City Council. Projects on the CIP cost $25,000 or more.[73]

Table 10.1 City of Billings Capital Improvement Program Projects FY 2021-2025[74]

Project Name	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
32nd St W-King Ave to Gabel Rd	$2,800,000					$2,800,000
36th St W - Central Ave to Broadwater Ave			$250,000	$2,250,000		$2,500,000
6th Ave N Multi-Use Trail				$450,000		$450,000
Annual ADA Replacement	$250,000	$250,000	$250,000	$250,000	$250,000	$1,250,00
Annual Gravel Street Reconstruction	$2,450,000	$2,450,000	$2,450,000	$2,450,000	$2,450,000	$12,250,000
Annual Pedestrian Crossings	$100,000	$100,000	$100,000	$100,000	$100,000	$500,000
Annual SIDs	$1,050,000	$1,050,000	$1,050,000	$1,050,000	$1,050,000	$5,250,000
Annual Street Reconstruction	$1,580,000	$1,580,000	$1,580,000	$1,580,000	$1,580,000	$7,900,000
Bike Lanes/Boulevards	$215,000			$150,000	$150,000	$515,000
Broadwater Ave-Vermillion Dr to Shiloh Rd				$600,000	$3,000,000	$3,600,000
Hallowell Ln Improvements	$1,630,000					$1,630,000
Inner Belt Loop		$7,000,000				$7,000,000
Intersection Capacity Improvements	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000
Misc. Curb, Gutter, and Sidewalk Program	$700,000	$700,000	$700,000	$700,000	$700,000	$3,500,000
Mullowney Rd		$400,000	$3,700,000			$4,100,000
PAVER Program	$2,450,000	$2,600,000	$2,750,000	$2,750,000	$2,750,000	$13,300,000
Pedestrian Crossing of Exposition Dr		$3,800,000				$3,800,000
SBURA Unimproved Street Improvements	$500,000	$500,000	$500,000	$500,000		$2,000,000
Traffic Signal Controller Upgrade	$650,000	$650,000	$650,000			$1,950,000
Travel Corridor Coordination	$100,000	$100,000	$50,000	$50,000	$50,000	$350,000
Wicks Ln-Main St to Bitterroot Dr					$2,200,000	$2,200,000
Total	$14,975,000	$21,680,000	$14,530,000	$13,380,000	$14,780,000	$79,345,000

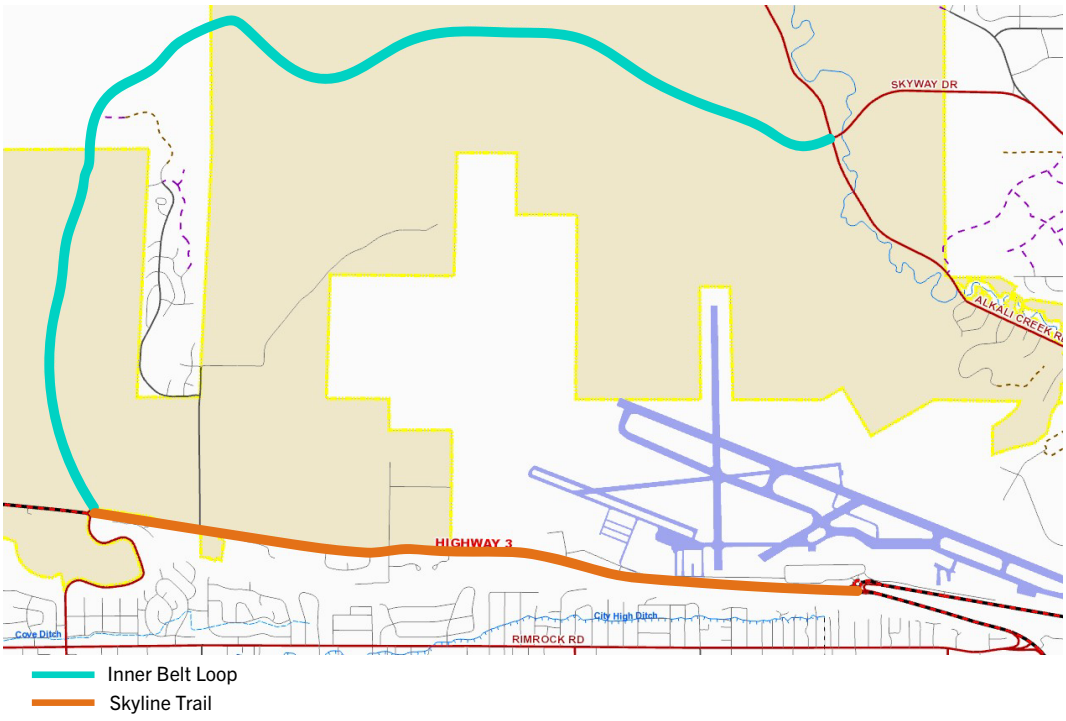
The City developed the list of projects in *Table 10.1* as roadway projects to construct between Fiscal Year 2021-2025. Many projects listed will be considered for Complete Streets elements or are projects that accommodate people walking, biking, rolling, or using transit. For example, the first project, 32nd St W from King Ave to Gabel Rd, will include a multi-use trail along the side. The traffic controller upgrades will replace current induction loop detection that does not detect people bicycling with camera controllers that will detect people bicycling. *Please note that these projects are subject to change.*

This report serves as a guide to future Complete Streets implementation. As more Complete Streets elements are constructed, the data from the performance measures in this document will continue to improve.

BUILD Grant

In September 2020, Billings was informed it won $11.6 million from the federal BUILD (Better Utilizing Investment to Leverage Development) Grant. These funds will build the Inner Belt Loop, a road with a trail alongside that connects the Billings Heights to HWY 3 and Zimmerman Tr, and the Skyline trail that runs along the rims from Highway 3 and Zimmerman Tr to Swords Park. With these trail connections, trail users will be able to traverse 20 miles of connected trails. See Figure 10.1 for a map of the BUILD grant projects.

Figure 10.1: Map of BUILD Grant Projects



Conclusion

This report serves as a guide to future Complete Streets implementation. As more Complete Streets elements are constructed, the data from the performance measures in this document will continue to improve.

Appendix A: Complete Streets Policy

RESOLUTION NO. 16-10550

A RESOLUTION OF THE CITY OF BILLINGS
TO ADOPT A COMPLETE STREETS POLICY

WHEREAS, in enacting this resolution, it is the intent of the City Council to encourage healthy, active living; reduce traffic congestion; and improve the safety and quality of life of Billings residents by providing safe, convenient, and comfortable routes for walking, bicycling, and public transportation; and

WHEREAS, the promotion of transportation improvements that are planned, designed and constructed to encourage walking, bicycling, and transit use increase the general safety, health and overall welfare of the citizens of and visitors to the City of Billings; and

WHEREAS, the Billings Urban Area Long-Range Transportation Plan 2009 Update states, as one of its Guiding Principles, "the City will develop a complete streets policy which will design and operate to enable safe access for all users including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities to safely move along and across a complete street"; and

WHEREAS, the 2010 Community Investment Plan: City of Billings City Council and Staff Strategic Priorities identifies one of its goals to be the "development of a comprehensive, multi-modal transportation system" and includes "complete streets" as a priority; and

WHEREAS, Section 61-8-602 of the Montana Code Annotated (MCA) makes bicycle riders rightful road users, and Section 61-8-501, MCA, recognizes pedestrians as rightful road users; and

WHEREAS, the health, safety and welfare of the citizens of and visitors to the City of Billings will be enhanced by the adoption of a policy that promotes a complete transportation system that meets the needs and expectations of all transportation users; and

WHEREAS, the City Council of the City of Billings desires to establish a clear policy ensuring the needs of adjacent land users and all transportation users, including but not limited to pedestrians, bicyclists, transit users, people with disabilities, the elderly, emergency responders, motorists, and freight providers are considered.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL that Resolution 11-19097 of the City of Billings is hereby repealed and the following Complete Streets Policy is adopted.

Statement of Intent:

The City of Billings through the adoption of the Complete Streets Policy intends to promote and encourage the development of a multi modal transportation systems that will provide access to all users were practicable.

COMPLETE STREETS POLICY

Complete Streets is a transportation and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages, abilities regardless of their mode of transportation.

1. DEFINITIONS. The following words and phrases, whenever used in this Policy shall have the meanings defined in this section unless the context clearly requires otherwise:

"Complete Streets Infrastructure" According to the National Complete Streets Coalition, appropriate elements that make up a complete street would include sidewalks, bicycle lanes, shared – use paths, designated transit lanes, safe and accessible transit stops, safe crossings for pedestrians, including median islands, accessible pedestrian signals, and curb extensions. Additionally, they could include any features identified in the Billings Area Bikeway and Trail Master Plan, and the Manual on Uniform Traffic Control Devices.

(a) "Street" per Montana Code Annotated 76-1-103 includes streets, avenues, boulevards, road, lanes, alleys, and all public ways.

(b) "Street Project" means the construction or reconstruction of any Street, and includes the planning, design, approval, and implementation processes.

(c) "Multi-modal Transportation Network" means all facilities, vehicles and devices designed to facilitate the mobility of people.

(d) "Users" are individuals who use the Multi-modal Transportation Network. Categories of Users include pedestrians; bicyclists; motor vehicle drivers; public transportation riders and people of all ages and abilities.

2. IMPLEMENTATION.

(a) The City of Billings shall consider every Street Project an opportunity to incorporate the principles of Complete Streets.

(b) The City of Billings will work in coordination with other organizations, agencies, and jurisdictions to achieve a safe, convenient and connected Complete Streets Infrastructure within the Multi-modal Transportation Network.

(c) This policy will be used as a guide to the City of Billings in the development of transportation plans, transit plans, and design standards. As practicable, these documents and tools will be updated to reflect this Complete Streets Policy.

(d) Implementation of the Complete Streets Policy will consider the adjacent neighborhood, completion of the multi-modal network, priority corridors, and the financial costs of implementation and maintenance of the Complete Streets elements.

(e) The City will provide periodic training on how to integrate, accommodate, and balance the needs of each category of User. Training will be available to City staff, private industry, other jurisdictions, and community members.

(f) The Complete Streets Checklist will be used in the routine consideration of bicyclists and pedestrians in the planning, design, and construction or reconstruction of all transportation projects.

(g) Public Works Engineering (PW) will present to the Mayor and City Council at Work Sessions all Collector and Arterial Street reconstruction and construction projects at approximately 30% design. PW will present the preliminary design representing the intent of the Complete Streets Policy to the Mayor, City Council, and public. The presentation will include Complete Streets Checklist results, recommended design section, alternative improvements if any, construction cost estimates for each alternative, maintenance responsibility, and estimated maintenance costs.

3. DATA COLLECTION AND PROGRESS REPORTING.

(a) The City will periodically collect, review and report performance data and benchmark measurements to demonstrate the effectiveness of the policy. This

information could include: number of projects completed, number of projects incorporating complete streets infrastructure, actual infrastructure added, number of transit and non-motorized users, community attitudes and perceptions, and safety and health indicators.

(b) Existing advisory boards and committees such as the Technical Advisory Committee, the Traffic Control Board, the Bicycle and Pedestrian Advisory Committee, the Aviation and Transit Board, Public Works Board, Yellowstone County Board of Health and the Yellowstone County Board of Planning are encouraged to provide ongoing feedback and act as conduit for public participation on the implementation of Complete Streets practices.

PASSED by the City Council and APPROVED this 23rd day of May 2016.

THE CITY OF BILLINGS:

BY: Thomas W. Hanel
Thomas W. Hanel, Mayor

CITY OF BILLINGS SEAL YELLOWSTONE COUNTY, MONTANA

ATTEST:

BY: Denise R. Bohlman
Denise R. Bohlman, City Clerk

Complete Streets Checklist

1. Existing Conditions

- What accommodations for bicycles, pedestrians, and transit are included on the existing facility and on facilities that it intersects or crosses:
- If there are no pedestrian or bicycle facilities, how far from the proposed project are the closet parallel walkways and bicycle facilities:
- Are there existing challenges the proposed project could address for bicycle, transit, and pedestrian travel:
- What trip generators (current or future) are in the vicinity of the proposed project that potentially attract pedestrians, bicyclists, students, employees, or others:
- Did the project design consider collisions involving pedestrians and bicyclists along the proposed roadway? If so, what are the potential options?
- Do any adopted plans call for the installation of bicycle or pedestrian facilities on, crossing, or adjacent to the proposed facility? If yes, list the applicable plans.

2. Project Scope

- What accommodations, if any, are included for bicycle, pedestrians, and transit in the proposed project design?
- If the proposed project does not incorporate bicycle and pedestrian facilities, list reasons.
- Cost of the bicycle and pedestrian improvements and their proportion of the total project cost?
- What agency will be responsible for the maintenance of the bicycle and pedestrian facilities and how will they be budgeted?

Appendix B: Glossary of Terms

AARP
"A nonprofit, nonpartisan organization that empowers people to choose how they live as they age."[75]

Accessible Curb Ramps
A ramp that allows people using mobility devices to easily enter the sidewalk from the street. Accessible curb ramps are designed to be not too steep, to have transitions that are level to the sidewalk and the street, and to have bump pads, often called truncated domes, to indicate to users who are blind or have low vision that they are entering the street.

ACS
American Community Survey. See https://www.census.gov/programs-surveys/acs.

ADA
Americans with Disabilities Act. See https://www.ada.gov/.

Arterial Streets
The highest class of highways and roads. These roadways are intended to serve higher volumes of traffic, particularly through-traffic, at higher speeds. They also serve truck movements and should emphasize traffic movement over access to adjacent property. Arterial roadways are further designated as Principal and Minor Arterials.

BABTMP
Billings Area Bikeway and Trails Master Plan. See p. 8 for further explanation.

Bicycle Boulevard
"Streets with low motorized traffic volumes and speeds, designed and designated to give bicycle travel priority."[76]

CHIP
Community Health Improvement Plan. See p. 49 for further explanation.

CHNA
Community Health Needs Assessment. See p. 48 for further explanation.

CIP
Capital Improvement Plan. See p. 59 for further explanation.

Collector Streets
Collectors represent the intermediate class of roadways. As the name suggests, these roadways collect traffic from the local street system and link travel to the arterial roadway system. These roadways provide a balance between through-traffic movement and property access, and provide extended continuity to facilitate traffic circulation within an urban community or rural area.

Creative Placemaking
"A process where community members, artists, arts and culture organizations, community developers and other stakeholders use arts and cultural strategies to implement community-led change."[77]

CTSP
Community Transportation Safety Plan. See p. 36 for further explanation.

Facilities
Space on the roadway or nearby that is dedicated to a certain mode. A crosswalk is a pedestrian facility, while a bus stop is a transit facility, although each may serve other users as well.

FHWA
Federal Highway Administration. See https://www.transportation.gov/tags/fhwa.

HBD
Healthy By Design. See p. 50 for further explanation.

KIM
Kids In Motion. See p. 22 for further explanation.

League of American Bicyclists
A national non-profit organization that "represents bicyclists in the movement to create safer roads, stronger communities, and a Bicycle Friendly America."[78]

LIFTT
Living Independently for Today and Tomorrow. LIFTT provides "services in Southeastern Montana which empower people with disabilities to live independently in and have access to their communities."[79] See https://www.liftt.org/.

LRTP
Long Range Transportation Plan. See p. 8 for further explanation.

MET Transit
Billings' Public Transportation Agency. See https://ci.billings.mt.us/2885/MET-Transit.

Mode share/mode split
The percentage of travelers using a particular type of transportation or number of trips using said type.

MSUB
Montana State University-Billings. See http://www.msubillings.edu/.

NHTSA
National Highway Traffic Safety Administration. See https://www.nhtsa.gov/.

Pedestrian Refuge
A safe place for people walking to wait, generally in the middle of the intersection. This shortens the crossing distance and makes it easier to cross the street.

PROWAG
Public Rights-of-Way Accessibility Guidelines. See p. 18 and https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way for further explanation.

Sidewalk Boulevards
The buffer between the sidewalk and the street. This buffer can be grass, plantings, rocks, or other landscaping. Sidewalk boulevards are required under the City of Billings subdivision regulations. Boulevards help people walking on the sidewalk feel safer.

Traffic-Calming
The process of improving safety and comfort for all roadway users by decreasing the speed of traffic and increasing ease of use, accessibility, and connectivity.

USDOT
United States Department of Transportation. See https://www.transportation.gov/.

Walk Audit
An evaluation of the built environment as it relates to walkability. Generally done while walking, these audits can help evaluate sidewalks, crossings, and accessibility for people with disabilities, among others.

References in Order of Appearance

1 U.S. Department of Transportation. "Complete Streets." Transportation.gov. U.S. Department of Transportation. Accessed August 4, 2020. https://www.transportation.gov/mission/health/complete-streets.

2 Reynolds, Conor CO, M Anne Harris, Kay Teschke, Peter A Cripton, and Megan Winters. "The impact of transportation infrastructure on bicycling injuries and crashes: a review of the literature." *Environ Health* no. 8:47 (October 21, 2009): accessed August 4, 2020. https://pubmed.ncbi.nlm.nih.gov/19845962/.

3 Powell, Kenneth E., MD, MPH, Linda M. Martin, MS, and Pranesh P. Chowdhury, MBBS, MPH. "Places to Walk: Convenience and Regular Physical Activity." *Am J Public Health,* no. 93(9) (September 2003): 1519-1521. Accessed August 4, 2020. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1448003/.

4 City of Billings. *Resolution No. 16-10550: A resolution of the City of Billings to Adopt a Compete Streets Policy.* Billings, Montana: City of Billings, May 23, 2016. https://ci.billings.mt.us/DocumentCenter/View/32886/Complete-Streets-Policy-Revised-Draft

5 National Complete Streets Coalition. Smart Growth America. Accessed August 4, 2020. https://smartgrowthamerica.org/program/national-complete-streets-coalition/

6 National Complete Streets Coalition. Smart Growth America. Accessed August 4, 2020. https://smartgrowthamerica.org/program/national-complete-streets-coalition/

7 Fischer & Associates. *BikeNet: Bicycle Plan For The Billings Urban Transportation Planning Area.* Billings, Montana: Yellowstone County Planning, December 15, 1994.

8 Kittleson and Associates and DOWL. *2018 Billings Area Long Range Transportation.* Billings, Montana: Billings-Yellowstone County Metropolitan Planning Organization, January 11, 2019.

9 Alta Planning+Design and Peaks to Plains Design. *Billings Area Bikeway + Trails Master Plan Update.* Billings, Montana: Billings-Yellowstone County Metropolitan Planning Organization, 2017.

10 Alta Planning+Design. *Wayfinding Signage Plan.* Billings, Montana: Billings-Yellowstone County Metropolitan Planning Organization, February 2020.

11 Sanderson Stewart. *West End Multi-Modal Planning Study.* Billings, Montana: Billings-Yellowstone County Metropolitan Planning Organization, 2016.

12 Yellowstone County. *Yellowstone County Subdivision Regulations.* Billings, Montana: Yellowstone County, 2019. https://ci.billings.mt.us/DocumentCenter/View/1956/Yellowstone-County-Subdivision-Regulations?bidId=

13 City of Billings. *Resolution 18-10719.* Billings, Montana: City of Billings, 2018. https://ci.billings.mt.us/DocumentCenter/View/36345/RES-18-10719-Repealing-resolutions-99-17447-and-04-

18137-and-adopting-new-sidewalk-curb-and-gutter-policy

14 City of Billings. *Capital Improvement Plan FY 2021- FY 2025.* Billings, Montana: City of Billings. https://ci.billings.mt.us/DocumentCenter/View/39842/City-of-Billings-CIP-FY21-FY25?bidId=

15 City of Billings. *Capital Improvement Plan FY 2021- FY 2025.* Billings, Montana: City of Billings. https://ci.billings.mt.us/DocumentCenter/View/39842/City-of-Billings-CIP-FY21-FY25?bidId=

16 Centers For Disease Control and Prevention. "Designing Activity-Friendly Communities." Centers for Disease Control and Prevention, last reviewed June 28, 2019. https://www.cdc.gov/nccdphp/dnpao/features/walk-friendly-communities/index.html

17 Romo, Vanessa."Pedestrian Deaths Reach Highest Level in Decades, Report Says." *NPR,* February 28, 2019. https://www.npr.org/2019/02/28/699195211/pedestrian-deaths-reach-highest-level-in-decades-report-says

18 Montana Department of Transportation. *All Montana Crashes.* https://www.mdt.mt.gov/publications/datastats/crashdata.shtml

19 Retting, Richard. *Pedestrian Traffic Fatalities by State.* Governors Highway Safety Association, February 2019. https://www.ghsa.org/sites/default/files/2019-02/FINAL_Pedestrians19.pdf

20 Bhattacharya, Torsha, Ph.D., Kevin Mills, J.D., Tiffany Mulally, Ph.D. *Active Transportation Transforms America: The Case for Increased Public Investment in Walking and Biking Connectivity*. Washington, D.C. Rails-to-Trails Conservancy, 2019. https://www.railstotrails.org/media/847675/activetransport_2019-report_finalreduced.pdf

21 Transport for London. *Attitudes towards cycling Annual report 2012.* London, Great Britain: Mayor of London, 2012. http://content.tfl.gov.uk/attitudes-towards-cycling-2012-report.pdf

22 Inckle, Kay. "Disabled Cyclists and the Deficit Model of Disability." *Disability Studies Quarterly* 39, no. 4 (2019). https://dsq-sds.org/article/view/6513/5468

23 Wheels for Wellbeing. *Wheels for Wellbeing's Annual Survey of Disabled Cyclists (2109/20)*. Wheels for Wellbeing, 2020. https://wheelsforwellbeing.org.uk/wp-content/uploads/2020/07/WFWB-Annual-Survey-Report-2019-FINAL.pdf

24 "High-Quality Bike Facilities Increase Ridership and Make Biking Safer." National Association of City Transportation Officials press release, July 20, 2016. National Association of City Transportation Officials website. https://nacto.org/2016/07/20/high-quality-bike-facilities-increase-ridership-make-biking-safer/

25 Anderson, Michael. "Landmark Study Tests a Bike Network's Effects on Safety and Ridership." Streetsblog USA. May 31 2017. https://usa.streetsblog.org/2017/05/31/landmark-study-tests-a-bike-networks-effects-on-safety-and-ridership/

26 Rooted in Rights. "Disabled People Ride Bikes" *National Association of City Transportation Offi-*

cials video, 7:40. June 9, 2020. https://www.youtube.com/watch?v=OzCPvsPGhbU&feature=emb_title.

27 Perk, Victoria, Martin Catalá, Maximilian Mantius, and Katrina Corcoran. *Capturing the Benefits of Complete Streets.* Florida, National Center for Transit Research and Flordia Department of Transportation, December 2015. https://www.nctr.usf.edu/wp-content/uploads/2016/01/NCTR-977-04-Capturing-the-Benefits-of-Complete-Streets-2015-1.pdf

28 McCann, Barbara and Suzanne Rynne, Editors. *Complete Streets: Best Policy and Implementation Practices.* Chicago, IL, American Planning Association, March 2010. https://collaboration.worldbank.org/content/usergenerated/asi/cloud/attachments/sites/collaboration-for-development/en/groups/eastern-partnership-transport-panel/files/jcr:content/content/primary/library/safer_roads_and_mobi-OAI6/2_non_eap_countries-Ytn7/urban_safety-yOkl/2010_-_complete_stre-kjgi/2010%20-%20Complete%20Streets,%20best%20policy%20and%20IImplementation%20practices.pdf

29 United States Census Bureau. *2018: ACS 5-year Estimates Data Profiles Selected Economic Characteristics, 2018.* https://data.census.gov/cedsci/table?d=ACS%205-Year%20Estimates%20Data%20Profiles&table=DP03&tid=ACSDP5Y2018.DP03&g=0400000US30_1600000US3006550&vintage=2018

30 United States Census Bureau. 2010-2014: *ACS 5-year Estimates Data Profiles Selected Economic Characteristics, 2010-2014*. https://data.census.gov/cedsci/table?g=0400000US30_1600000US3006550&d=ACS%205-Year%20Estimates%20Data%20Profiles&tid=ACSDP5Y2014.DP03

31 Montana Department of Transportation. *All Montana Crashes.* https://www.mdt.mt.gov/publications/datastats/crashdata.shtml

32 Montana Department of Transportation. *All Montana Crashes.* https://www.mdt.mt.gov/publications/datastats/crashdata.shtml

33 United States Census Bureau. *2018: ACS 5-year Estimates Data Profiles Selected Economic Characteristics, 2018.* https://data.census.gov/cedsci/table?d=ACS%205-Year%20Estimates%20Data%20Profiles&table=DP03&tid=ACSDP5Y2018.DP03&g=0400000US30_1600000US3006550&vintage=2018

34 U.S. Department of Transportation. "Promoting Connectivity." U.S. Department of Transportation, last reviewed August 24, 2015. https://www.transportation.gov/mission/health/promoting-connectivity

35 Alta Planning+Design and Peaks to Plains Design. *Billings Area Bikeway + Trails Master Plan Update.* Billings, Montana: Billings-Yellowstone County Metropolitan Planning Organization, 2017.

36 U.S. Department of Transportation. "Promoting Connectivity." U.S. Department of Transportation, last reviewed August 24, 2015. https://www.transportation.gov/mission/health/promoting-connectivity

37 U.S. Department of Health and Human Services. *Physical Activity Guidelines for Americans, 2nd edition.* Washington, DC: U.S. Department of Health and Human Services, 2018. https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf

38 ChangeLab Solutions. *Healthy Planning Guide: Strategies to Promote Healthier Communities.* ChangeLab Solutions, 2010. https://www.changelabsolutions.org/product/healthy-planning-guide

39 Professional Research Consultants, Inc. *2020 Community Health Needs Assessment Report*. Yellowstone County, Montana: Billings Clinic, RiverStone Health, and St. Vincent Healthcare, February 10, 2020. http://www.healthybydesignyellowstone.org/community-data/

40 U.S. Department of Health and Human Services. *Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities.* Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General, 2015. https://www.hhs.gov/sites/default/files/call-to-action-walking-and-walkable-communites.pdf

41 Centers for Disease Control and Prevention, Office of the Associate Director for Policy and Strategy. Safe Routes to School (SRTS); 2018. Available at: https://www.cdc.gov/policy/hst/hi5/saferoutes/index.html

42 U.S. Department of Health and Human Services. *Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities.* Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General, 2015. https://www.hhs.gov/sites/default/files/call-to-action-walking-and-walkable-communites.pdf

43 U.S. Department of Health and Human Services. *Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities.* Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General, 2015. https://www.hhs.gov/sites/default/files/call-to-action-walking-and-walkable-communites.pdf

44 Professional Research Consultants, Inc. *2020 Community Health Needs Assessment Report*. Yellowstone County, Montana: Billings Clinic, RiverStone Health, and St. Vincent Healthcare, February 10, 2020. http://www.healthybydesignyellowstone.org/community-data/

45 Professional Research Consultants, Inc. *2020 Community Health Needs Assessment Report*. Yellowstone County, Montana: Billings Clinic, RiverStone Health, and St. Vincent Healthcare, February 10, 2020. http://www.healthybydesignyellowstone.org/community-data/

46 Professional Research Consultants, Inc. *2016-2017 Community Health Needs Assessment Report*. Yellowstone County, Montana: Billings Clinic, RiverStone Health, and St. Vincent Health care, February 2017.

47 Healthy By Design. *Community Health Improvement Plan 2017-2020.* Yellowstone County, Montana: Healthy By Design, 2017. https://www.healthybydesignyellowstone.org/wp-content/uploads/Report_YellowstoneCoCHIP_HBD.2017-2020.pdf

48 Professional Research Consultants, Inc. *2020 Community Health Needs Assessment Report*.

Yellowstone County, Montana: Billings Clinic, RiverStone Health, and St. Vincent Healthcare, February 10, 2020. http://www.healthybydesignyellowstone.org/community-data/

49 Healthy By Design. *2020-2023 Yellowstone County Community Health Improvement Plan.* Yellowstone County, Montana: Healthy By Design, 2020. https://www.healthybydesignyellowstone.org/wp-content/uploads/Plan_2020-2023YellowstoneCountyCHIP_Final_2020.06.30-1.pdf

50 "Healthy By Design." Healthy By Design. Accessed July 2020. https://www.healthybydesignyellowstone.org/

51 Professional Research Consultants, Inc. *2020 Community Health Needs Assessment Report*. Yellowstone County, Montana: Billings Clinic, RiverStone Health, and St. Vincent Healthcare, February 10, 2020. http://www.healthybydesignyellowstone.org/community-data/

52 Professional Research Consultants, Inc. *2016-2017 Community Health Needs Assessment Report*. Yellowstone County, Montana: Billings Clinic, RiverStone Health, and St. Vincent Healthcare, February 2017.

53 "Billings I2WALK and Streetwyze Workshop." Inclusive Walk Audit Findings. Conducted October 15, 2019.

54 National Complete Streets Coalition. *Economic Revitalization: Complete Streets Stimulate the Local Economy.* Washington, DC: Smart Growth America. Accessed June 15, 2020. https://smartgrowthamerica.org/app/uploads/2016/08/cs-economic.pdf

55 Carlson SA, Fulton JE, Pratt M, Yang Z, Adams EK. "Inadequate physical activity and health care expenditures in the United States." *Prog Cardiovasc Dis.* 57, no.4 (2015) :315-323. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4604440/

56 Bhattacharya, Torsha, Ph.D., Kevin Mills, J.D., Tiffany Mulally, Ph.D. *Active Transportation Transforms America: The Case for Increased Public Investment in Walking and Biking Connectivity*. Washington, D.C. Rails-to-Trails Conservancy, 2019. https://www.railstotrails.org/media/847675/activetransport_2019-report_finalreduced.pdf

57 National Complete Streets Coalition. *Economic Revitalization: Complete Streets Stimulate the Local Economy.* Washington, DC: Smart Growth America. Accessed June 15, 2020. https://smartgrowthamerica.org/app/uploads/2016/08/cs-economic.pdf

58 Bhattacharya, Torsha, Ph.D., Kevin Mills, J.D., Tiffany Mulally, Ph.D. *Active Transportation Transforms America: The Case for Increased Public Investment in Walking and Biking Connectivity*. Washington, D.C. Rails-to-Trails Conservancy, 2019. https://www.railstotrails.org/media/847675/activetransport_2019-report_finalreduced.pdf

59 Regan, Ryan and Matthew Tarleton. "Talent Attraction and Retention: Competing for Tomorrow's Workforce." *Chamber Executive,* Winter 2016. https://secure.acce.org/magazine-archive/winter-2016/talent-attraction-and-retention-competing-for-tomorrow-s-workforce/?back=magazine_

archive

60 Corbyn, Allison. *Spring 2019 Economic Pulse.* Yellowstone County, Montana, 2019. https://www.bigskyeconomicdevelopment.org/wp-content/uploads/BSED_2019_EconomicPulse_FNL.pdf

61 Bhattacharya, Torsha, Ph.D., Kevin Mills, J.D., Tiffany Mulally, Ph.D. *Active Transportation Transforms America: The Case for Increased Public Investment in Walking and Biking Connectivity*. Washington, D.C. Rails-to-Trails Conservancy, 2019. https://www.railstotrails.org/media/847675/activetransport_2019-report_finalreduced.pdf

62 N. Nickerson, J. Jorgenson, M. Berry, J. Kwenye, D. Kozel, and J. Schutz. *Bicycle Tourism: Providing Economic Development Opportunities for Montana.* Missoula, Montana: Institute for Tourism and Recreation Research Publications, 2014.

63 National Complete Streets Coalition. *Economic Revitalization: Complete Streets Stimulate the Local Economy.* Washington, DC: Smart Growth America. Accessed June 15, 2020. https://smartgrowthamerica.org/app/uploads/2016/08/cs-economic.pdf

64 McLeod, K., Herpolsheimer, S., Clarke, K., & Woodard, K. *2018 Benchmarking Report on Bicycling and Walking.* Washington, DC: The League of American Bicyclist, 2018.

65 Bhattacharya, Torsha, Ph.D., Kevin Mills, J.D., Tiffany Mulally, Ph.D. *Active Transportation Transforms America: The Case for Increased Public Investment in Walking and Biking Connectivity*. Washington, D.C. Rails-to-Trails Conservancy, 2019. https://www.railstotrails.org/media/847675/activetransport_2019-report_finalreduced.pdf

66 National Complete Streets Coalition. *Economic Revitalization: Complete Streets Stimulate the Local Economy.* Washington, DC: Smart Growth America. Accessed June 15, 2020. https://smartgrowthamerica.org/app/uploads/2016/08/cs-economic.pdf

67 National Complete Streets Coalition. *Economic Revitalization: Complete Streets Stimulate the Local Economy.* Washington, DC: Smart Growth America. Accessed June 15, 2020. https://smartgrowthamerica.org/app/uploads/2016/08/cs-economic.pdf

68 AARP and Walkable and Livable Communities Institute. *Sidewalks: A Livability Fact Sheet.* AARP and Walkable and Livable Communities Institute, 2014. https://www.aarp.org/content/dam/aarp/livable-communities/livable-documents/documents-2014/Livability%20Fact%20Sheets/Sidewalks-Fact-Sheet.pdf

69 National Transportation Enhancements Clearing House. "Bringing the Message of TE to Washington." *TE Corner: The National Transportation Enhancements Clearinghouse Newsletter.* Washington, DC: Federal Highway Administration and Rails-To-Trails Conservancy, Spring 2011. https://www.billingschamber.com/media/TE-Corner_Spring2011.pdf

70 Brumbaugh, Stephen. *Issue Brief: Travel Patterns of American Adults with Disabilities.* Bureau of Transportation Statistics United States Department of Transportation, September 2018. https://www.bts.gov/topics/passenger-travel/travel-patterns-american-adults-disabilities

71 AAPD and Disability:IN. *Getting to Equal: The Disability Inclusion Advantage.* Accenture, 2018. https://www.accenture.com/t20181108T081959Z__w__/us-en/_acnmedia/PDF-89/Accenture-Disability-Inclusion-Research-Report.pdf#zoom=50

72 Riverón, Natasha. *The Best Complete Streets Policies of 2018.* Washington, DC: Smart Growth America, May 2019. https://smartgrowthamerica.org/app/uploads/2019/05/Best-Complete Streets-Policies-of-2018.pdf

73 City of Billings. "Capital Project Request." City of Billings. Accessed August 12, 2020. https://www.ci.billings.mt.us/2662/CIP-Project-Request#:~:text=Capital%20Improvement%20Plan%20(CIP),direction%20from%20the%20City%20Council.

74 City of Billings. *Capital Improvement Plan FY 2021-FY 2025.* Accessed August 12, 2020. https://www.ci.billings.mt.us/wView/39842/City-of-Billings-CIP-FY21-FY25?bidId=

75 AARP. Accessed October 14, 2020. https://www.aarp.org/concept-topic-tiles/

76 National Association of City Transportation Officials. "Bicycle Boulevards." National Association of City Transportation Officials. Accessed October 20, 2020. https://nacto.org/publication/urban-bikeway-design-guide/bicycle-boulevards/

77 American Planning Association. "Creative Placemaking." American Planning Association. Accessed October 20, 2020. https://www.planning.org/knowledgebase/creativeplacemaking/#:~:text=Creative%20placemaking%20is%20a%20process,to%20implement%20community%2Dled%20change.

78 The League of American Bicyclists. "About The League." The League of American Bicyclists. Accessed October 20, 2020. https://www.bikeleague.org/content/about-league

79 Living Independelty for Today and Tomorrow. Accessed October 14, 2020. https://www.liftt.org/

Icons from Flaticon.com.