

Why 4-Lane to 3-Lane Conversion?

If you've driven on portions of Junction Avenue in Sturgis; or Canyon Lake Drive, Sheridan Lake Road, or Fairmont Boulevard in Rapid City, you've experienced three-lane roadways with similar average daily traffic counts to Jackson Boulevard in Spearfish.

The conversion from 4-lanes to 3-lanes on Jackson Boulevard in Spearfish has been analyzed and recommended by the traffic engineers hired to analyze daily traffic counts, traffic flow, and safety.

From a traffic standpoint, the three-lane configuration works very similar to the four-lane now. The three-lane configuration would provide a level of service similar to the current configuration.

Many older four-lane roadways in communities were initially overbuilt and for safety reasons are now being reduced to three-lanes.

The conversion would not change the street configuration to 3 lanes for the entire length of the project. The current configuration of five lanes at the intersection of Main Street and Jackson Boulevard would remain the same, except that the right lanes would be right turn only.



Reducing the number of lanes is not due to any expansion of building construction along the edges of the street. The right-of-way will remain the same width.

The “pros” of the reduced lanes include:

1. Improved safety – studies have shown overall crash reductions on average of 30 percent
2. Reduces the following accident types:
 - a. Left turning motorists getting rear-ended.
 - b. Hidden vehicle crashes. (Left turning vehicles and vehicles in the opposing right lane unable to see each other due to traffic in the left lane)
 - c. Side swipes. (Lane changes)
3. Reduced speeds and traffic calming
4. Improved pedestrian environment and safety and improved bicyclist accessibility
5. Additional space for other uses or items within the right-of-way
6. Improved green space and aesthetics

The “cons” of the reduced lanes include:

1. Initial public reaction, with cities completing the conversion noting initial negative reaction since it seems logical that eliminating a lane reduces traffic capacity/increases delays
2. Potential negative impacts to roadway function if the roadway is not evaluated properly to determine vehicular mobility and access, including average daily traffic, peak hour volumes, and peak direction, turning volumes, and patterns

Why a Roundabout?

The existing traffic signal at the Ames Street intersection does not meet current design standards. It would be difficult to design a signalized intersection at this location to meet these standards due to the skew at which Ames Street intersects Jackson Boulevard and the curve in Jackson Boulevard at this location.

The traffic study did not dictate a necessity for a signal at the Ames Street intersection. The traffic study did, however, dictate a necessity for a signal at Saint Joe Street, but this was determined to be inadvisable because the hill on the west leg of the intersection is too steep. So a roundabout at Ames Street was determined to be the best option for traffic flow. The roundabout provides improved access to Jackson Boulevard from Ames Street, which is easily accessed from Saint Joe Street. A roundabout also eliminates the perpetual electrical costs associated with a new traffic signal.

The “pros” of roundabouts include:

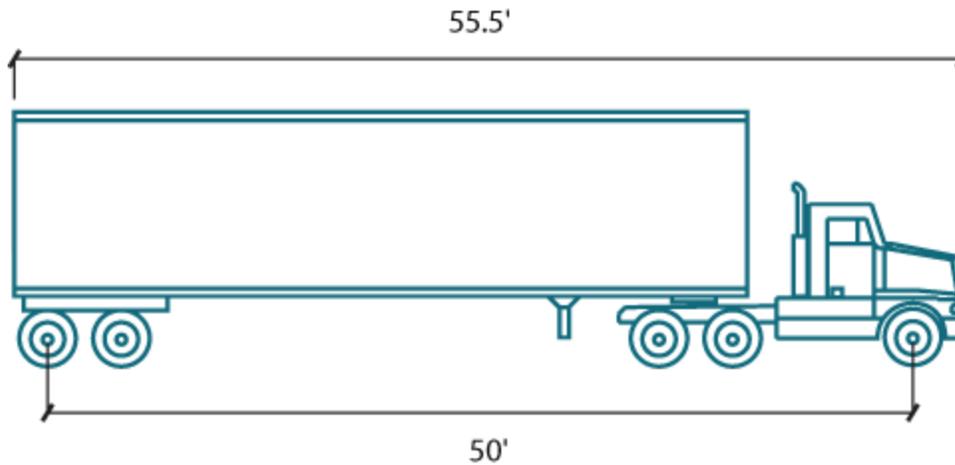
1. Increased traffic safety, decreasing fatal and severe injuring crashes, as there are fewer conflict points and slower speeds
2. Decreased vehicle delays versus traffic signals or all-way stops
3. Increased traffic calming, slowing vehicle speeds along the corridor
4. Reduced costs without the ongoing electrical use of a signal

The “cons” of roundabouts include:

- More space is required, and the city would need to obtain additional right-of-way at the southeast corner of the Ames Street/Jackson Boulevard intersection
- Emergency vehicles are not given priority in a roundabout, as equal treatment is given to every approach
- Public education is required in areas where roundabouts are not the norm

Once people go through it and understand it once or twice, it's easy. It's very simple to get through. The proposed roundabout is in a relatively level area, with good sight distance. During the design phase, the engineers modeled how a WB-50 semi-trailer would be able to go all the way around the roundabout which shows that RVs, buses, fire trucks, etc., can also make it through the configuration.

WB-50 Semi-Trailer



Public education is most always a difficult issue to face. A lot of people don't like anything new. Studies have been performed and data has been collected for individuals before and after they read this type of information and actually experience driving through a roundabout. Most of the time, the public does not initially want the roundabout to be constructed, and then after driving through it, the number of people against roundabouts switches and goes down significantly. While there are higher construction costs initially, the electrical savings and societal savings, such as reduced crashes from improved safety factors, are realized following the construction.

Why Bicycle Lanes?

Simply said, we're an active community, and it's safer. On these larger roads, we've got to start thinking about more than just vehicles. There are pedestrians and bicyclists to think about. Whether motorists like these other users on that road or not, is irrelevant, these other users are on the road, and we need to safely provide access for all users.

On-street bicycle lanes are proposed preliminary design from University to Fifth streets along Jackson Boulevard, which would be the first in Spearfish. After the first 2 rounds of public comment bike lanes were originally proposed from University to 11th streets, which have since been cut back to University to Fifth streets.

The "pros" of protected bicycle lanes include:

1. Increased on-street bicycle use
2. Increased bicycle safety, reducing injury per bike trip
3. Increased community connectivity
4. Increased buffering between bicycles and vehicles
5. Bicycle commuters often travel at speeds of 15 to 20 MPH, which is not safe on a sidewalk.
6. Spearfish is host to over 500 mountain bikers (and their families) from across the country every year for the Dakota-Five-O race.

The "cons" of protected bicycle lanes include:

1. No existing use data; since these would be a first for Spearfish, there is uncertainty about how much use they would get, as there is no existing on-street bicycle data for comparison.
2. Increased maintenance, uncertainty about how the lanes would be maintained in the wintertime. The City will develop a snow removal plan for the bike lanes prior to completion of construction. A likely scenario is that they will be used for snow storage for a number of days after a snow storm until it is convenient to remove the snow. Removing the snow from the bicycle lanes on the same schedule as the street may be necessary if/when on-street bicycle use increases to a point that it justifies the additional expense.

How will the new design affect snow removal?

Snowplowing has been a point of discussion since the project was first proposed. The City Departments will have to make decisions about the methods of snowplowing once the final designs are approved before construction.

Snow removal will be a challenge. There could be some additional cost in equipment and man-hours, especially as we learn. There are plenty of other communities with this type of road configuration in northern environments. We too will figure out how best to effectively and efficiently remove snow with this road configuration in our environment.

Snow plowing is not as much of an issue with the roundabout. The medians and protected bicycle lanes are more so the challenge.

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What is the estimated cost of the project?

The overall project budget is currently estimated to be around \$7.68 million.

The preliminary cost estimates, followed by recommended funding sources, include:

1. water improvements, \$605,000 – water enterprise funds
2. storm and/or sanitary sewer improvements, \$1,100,000 – sewer enterprise funds
3. storm sewer improvements, \$275,000 – hydro funds
4. street improvements, looking at the required rehabbing/reconstruction of the current roadway, \$3,000,000 – second penny, highway bridge, loan and/or bond
5. “other” improvements, including streetscaping/landscaping, medians, new lighting/electrical, bicycle lanes, bridge enhancements, roundabout, tape striping, additional green space, \$2,700,000 - second penny, highway bridge, loan and/or bond

What is the Tax-Increment Financing (TIF) district for project amenities?

In October, the city council set TIF (tax-increment financing) district #5 boundary around Jackson Boulevard, extending a full block to Kansas and Illinois streets in either direction along Jackson Boulevard, from Exit 12 to University Street. The TIF district was proposed to finance amenities above and beyond the roadway, water, and sewer improvements planned for the reconstruction project, such as landscaping, enhanced sidewalks, crosswalks, street furniture — things that are not essential but affect the aesthetics, much like the past Main Street reconstruction project that added the clock tower and fireplace at the corner of Hudson and Main streets, street furniture, etc.

A TIF district is an economic development tool used to encourage development in an area.

It is a public financing system that uses future increases in property tax to reimburse the costs of public improvements built within a designated TIF district boundary. As real estate value increases within that boundary area, higher tax revenues result. That “tax increment” is then used to refund the costs of public improvements created to support the project, paid back to the source, which in this case would be the city of Spearfish.

Setting the boundary is one part of creating a TIF district. The next step is for a project plan to be created that describes the improvements to be paid for by the TIF district, their locations, and cost. The plan also presents a statistical assessment of the financial impact to the various taxing entities, including the city, county, and school district, and the project plan is then submitted for review. It is shared with the county and school district, who offer their input, and then the plan must go through the planning commission and city council for approval before the TIF district is created.

What is the project phasing?

The project will be broken into two phases: the first phase includes the portion of Jackson Boulevard from Interstate 90 to Spearfish Creek, and the second phase includes the portion from Spearfish Creek to University Street.

Preliminary design is underway for phase 1, with bid advertising scheduled for the fall of 2018. Construction for phase 1 will begin in the early spring of 2019. The first portion of construction for phase 1 will focus on the underground utilities and storm sewer/drainage. Construction of the street surface will be designated as the second portion of phase 1, and will take place in the fall of 2019.

Phase 2 of construction will consist of a similar construction schedule as phase 1, and shall take place the following year in 2020. Underground work for phase two will begin in the early spring of 2020, and construction of the street surface will begin in the fall of 2020.