



VISION ZERO
zero deaths · zero serious injuries
MONTANA DEPARTMENT
OF TRANSPORTATION

**Dern/Springcreek
Reconstruction Q&A**
Updated as of October 16, 2018

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1. Why is it critical to fix the Dern/Springcreek intersection?

This is one of the Flathead Valley's most dangerous intersections – between 2003 and 2014, there were 48 crashes at the Dern/Springcreek intersection. One person was killed trying to cross Highway 2 West from Dern Road; another 12 people were seriously injured in crashes during this period. One life was lost, and many others potentially changed forever. Montana Department of Transportation is committed to creating a solution that vastly reduces or eliminates serious injuries or deaths at this intersection.

2. Why was a roundabout chosen over other options?

To find the best solution to improve safety at the Dern/Springcreek intersection, the Montana Department of Transportation studied 12 different alternatives. With nearly 50 crashes reported in the past 11 years, safety was a primary concern. Other options such as a traffic signal or four-way stop simply serve as a device to assign right-of-way to traffic – they aren't effective in reducing crashes. Neither can prevent driver behaviors that often lead to crashes (poor judgement, distraction). In fact, some drivers are more likely to race to "beat the light," increasing the risk of a T-bone or head-on collision.

A roundabout by comparison, is highly effective in reducing crashes at intersections. The Insurance Institute for Highway Safety found that on average, roundabouts reduce fatalities by 90%, serious injury crashes by 75%, and all kinds of crashes by 37%. Watch this video to learn more about why roundabouts reduce crashes: <https://www.youtube.com/watch?v=pFVSJZpS8h0&t=35s>.

After extensive study of 12 different options for this intersection, the safest long-term option proved to be a roundabout. When navigating roundabouts, drivers slow to 15 to 20 mph and travel in the same counterclockwise direction, significantly reducing the likelihood and severity of an accident. In addition, based on 50 years of traffic data assessed on this roadway and a thorough analysis of projected community growth, the roundabout will also be able to efficiently handle traffic volumes for the next 20 years.

3. What were the 12 options considered? With the exception of a roundabout, why weren't these other solutions selected?

The following options were considered, several of which had two variations.

a. Traffic light

See questions 4 and 6 for a comprehensive answer.

b. Four-way stop

Requiring traffic traveling Highway 2 West to stop in all instances (24/7) at a four-way stop would quickly cause increased traffic delays and backups on Highway 2 West, likely leading to driver frustration. Driver frustration may result in drivers running the stop if a driver does not "see" the need to stop, which elevates the opportunity for a crash in the intersection.

c. Do nothing

A primary component of the mission Montana's taxpayers have tasked MDT with is creating safer roads. Forty-eight crashes at one intersection in just 11 years signifies a serious problem that absolutely must be addressed. In addition, with Kalispell's increasing growth, this trend is likely to worsen in coming years if MDT does not make improvements to the Dern/Springcreek intersection. Doing nothing in this case, when lives are clearly at stake, is not an option if MDT is to uphold its responsibility to design, construct, and maintain safer roadways for all Montanans.

d. Close Dern Road.

Although closing Dern Road may seem to some like a simple, cost-effective solution, it has serious ramifications that would negatively affect both immediate neighbors on Dern Rd and the community at large. Most importantly, Dern Road serves as an important local route for localized Emergency Medical

Services and eliminating it would mean longer response times in critical situations. Although various options were discussed and researched, the County and MDT confirmed this was wouldn't be the best, or safest, overall solution for the community.

e. More signage

As an interim effort to reduce crashes while a permanent solution is in development, MDT has placed additional signage on Highway 2 West, Dern Road, and West Springcreek Drive. Those who drive through the area may be familiar with the host of brightly colored signage and flashing lights. Using signage, every effort has been made to visually alert drivers to pay attention when going through the intersection, however signage in this case is not a long-term solution.

The current in-place signage and traffic-activated flashing yellow lights warn approaching drivers but can't keep drivers from making poor decisions, misjudging oncoming traffic or sliding through an icy intersection. It also can't keep people from driving too fast through the intersection. The signage is a cost-effective, temporary measure to encourage traffic to slow down and pay attention but won't accomplish the overall mission of drastically reducing or eliminating serious crashes at the Dern/Springcreek intersection.

f. Roundabout (with either three legs or four legs)

See answers 1, 2 and 4.

h. Turn lanes

In talking with the public, adding a left-hand turn lane is a commonly suggested idea. This option does have merits however it doesn't solve all the issues at the Dern/Springcreek intersection. After assessing this solution, MDT determined a center left turn lane on Highway 2 West does allow vehicles turning off of Highway 2 onto either Dern Road or West Springcreek Drive a better place to cue while waiting for a gap in traffic, thereby potentially reducing rear end collisions.

However, a center left-hand turn lane also comes with a host of new issues for Dern/Springcreek traffic, whether trying to cross or enter the traffic stream on Highway 2 West.

- **Issue 1:** Adding a center left-hand turn lane will widen Highway 2, meaning drivers entering from Dern Road or Springcreek Drive must navigate across a wider roadway.
- **Issue 2:** Drivers will face the added complexity of assessing two flows of traffic versus one - some vehicles on Highway 2 West will be turning and others will continue through the intersection. This complicates the decision-making process.
- **Issue 3:** With vehicles on Highway 2 West using a center left-hand turn lane, drivers on Dern and West Springcreek will experience an obstructed view of oncoming traffic, and are more likely to make an error in judgment crossing the highway or merging into traffic.

i. Slope flattening

Filling in the "sag" on Highway 2 West and flattening the slope would increase visibility and reduce right-hand turn crashes, it would not fully address rear-end crashes at this intersection. At present day traffic volumes, rear-end crashes might be reduced but would still occur due to cars on Highway 2 West trying to make left-hand turns at an intersection where others in the same lane are traveling through at speeds of 55 miles per hour or more. Traffic data also shows that if this solution were implemented, as traffic grows on Highway 2 West, issues at this intersection would also increase.

j. Close or realign West Springcreek Road

Similar to closing Dern Road, closing West Springcreek Road has significant negative effects for both immediate neighbors on West Springcreek and for the community.

k. Lower the speed limit

Numerous folks have asked - why not just reduce the speed limit on this stretch of highway near the intersection? This is an option was studied. Based on traffic studies, a reduction of speed simply wouldn't fix the issue because on average, the overall traffic stream is traveling in speeds exceeding 45 miles per hour and they're likely to continue to do so. Essentially, lowering the speed limit here would just create a speed trap but wouldn't eliminate or drastically reduce the opportunity for serious crashes at this intersection.

4. Why is a roundabout the safest reasonable option?

a. Roundabouts force drivers to slow to speeds between 15-20 mph, reducing fatal collisions by 90 percent and injury-causing accidents by 75 percent. The single direction of travel also lessens the chance of a crash and without a light to beat, there is no incentive for drivers to speed. At the Dern/Springcreek intersection, the points of conflict will be reduced from 32 as it sits now, to just 8 once the roundabout is in place.

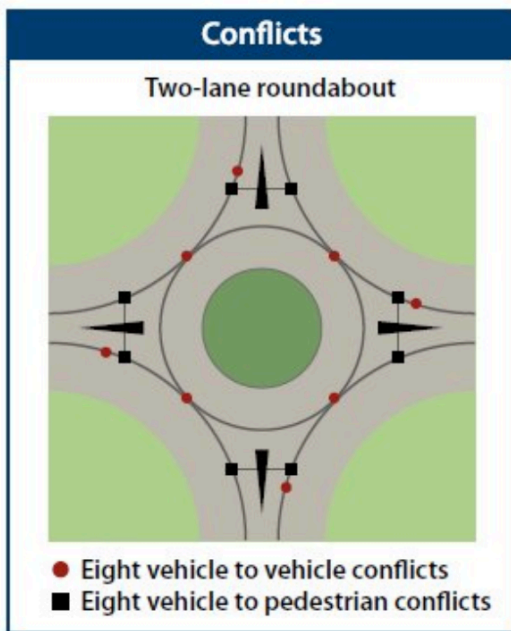


Figure 1: Eight vehicle conflict points
Source: FHWA Roundabouts: An Informational Guide

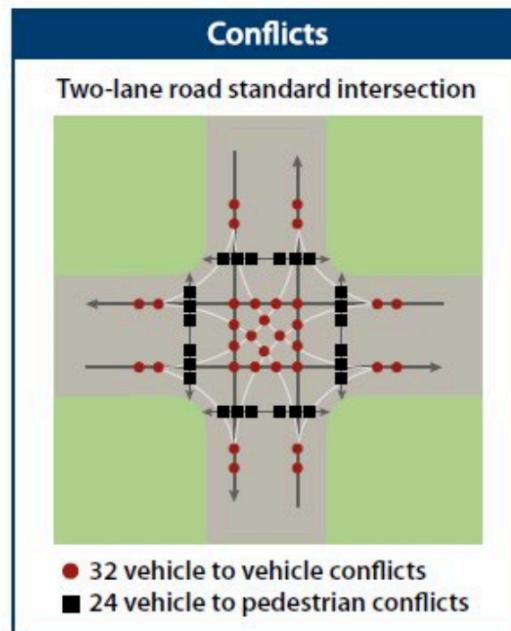


Figure 2: 32 vehicle conflict points
Source: FHWA Roundabouts: An Informational Guide

There are **8 points** where a crash could occur in a standard two-lane roundabout.

VS

There are **32 points** in a standard intersection where a crash could occur.

Are roundabouts really the safer option for many intersections? [Watch this video to find out more.](#)

5. Wouldn't creating an overpass, which would completely eliminate the intersection, make the most sense?

Naturally, some have asked why Montana Department of Transportation doesn't completely eliminate the intersection conflict with an interchange? On the surface, this seems like a great solution – it could offer a free flow of traffic and eliminate crashes at this intersection.

All that is true, however, this solution comes with huge engineering challenges, significantly more land acquisition than any other solution, and a gigantic price tag. Keeping Montanans safe on our highways is a top priority for MDT. MDT is also tasked with doing so in the most cost-effective way possible. Unfortunately, an overpass is simply not feasible due to cost.

Practically speaking, regardless of if an overpass was on Highway 2 West, carrying traffic over Dern/Springcreek, or Highway 2 West was engineered to run below Dern/Springcreek, steep grades on all sides of this intersection make this solution a massive, extremely expensive undertaking.

An overpass carrying Dern/Springcreek over Highway 2 West would “chase” the grade down the hill south beyond Ashley Creek. The Ashley Creek bridge would then need to be replaced and property impacts would be expanded far beyond the intersection, meaning more land would have to be acquired. Similarly, carrying Highway 2 West traffic in a “tunnel” under Dern/Springcreek has similar “chasing” the highway grade issues. Essentially, to get the roadway low enough to create an underpass while maintaining a grade that meets current safety standards, the limits of the project would have to be vastly expanded, driving up the costs of the project. Adding access on and off either of these overpass options would also require a great amount of land.

For an overpass, Montana taxpayers would end up footing 10-13% of the total cost, which in this case would be hundreds of thousands of dollars (federal funds cover the rest of the cost). Conversely, a roundabout qualifies as a safety project and therefore would be fully funded through the Highway Safety Improvement Program (HSIP) using federal dollars and not requiring a state match.

6. Why not put in a signalized intersection (stoplight) in instead of a roundabout?

At the Dern/Springcreek intersection with Highway 2, MDT is working to deliver on a key part of its mission – as tasked by Montana taxpayers – and that is to make our roadways as safe as possible. The primary focus of this project is to save lives and to drastically reduce crashes overall. Unfortunately, serious crashes and near misses are a common occurrence at this intersection. Although traffic lights can serve a valuable purpose at some intersections, a light would not be able to accomplish this goal at the Dern/Springcreek interchange. At a light, drivers still have the opportunity to be hit at a right angle or head-on at speeds of 60 miles (or more) per hour.

Given that history has shown this is an intersection with a crash trend, Montana Department of Transportation has to implement a solution that essentially eliminates the opportunity for a high-speed crash. It’s our responsibility to the traveling public. When it comes to saving lives at intersections with a crash trend, roundabouts truly are a solution. They all but eliminate the kinds of fatal and serious injury vehicle crashes seen at this intersection, while also significantly reducing pedestrian collisions and property damage from crashes.

Another concern that has been expressed by members of the public is that a roundabout will significantly increase commute time, versus either leaving the roadway as it is or installing a light. This is a two-part answer. First, drivers will have to slow down approaching this intersection, which given the crash trend here, is a wise idea. This has the potential to minimally increase commute time at peak traffic times. However, the good news is, the large majority of the time, drivers won’t even have to come to a complete stop (as they might at a light) but keep rolling right into the roundabout and be on the way. Comparatively with a signal, vehicles on either Dern/Springcreek or Highway 2 West will be stopped, even when there is no oncoming/intersecting traffic, which is a waste of both time and fuel. With a roundabout that’s operating within its projected capacity, this kind of delay is highly unlikely.

Wondering if big trucks really can get through a roundabout? See Question 9.

7. How much will it cost to construct the roundabout at this intersection?

The preliminary estimate at this time \$3.9 million to construct the roundabout and improve the grade of the road.

8. Who is paying for this?

Due to the number of serious crashes at this intersection, the Dern/Springcreek Reconstruction was nominated and funded as a Highway Safety Improvement Program (HSIP) project. HSIP funds are used strictly for safety projects and comprised of all federal dollars. Federal regulations allow the state to fund HSIP projects without

any state match, unlike other kinds of highway improvement projects, which require a state match of 10-13 percent. This is unique and means the project does not take from the state budget. It's a great return on investment!

9. How will trucks navigate the roundabout?

[Watch this VIDEO to learn if big rigs can safely get through a roundabout](#)

Contrary to popular belief here in Montana, large trucks can in fact navigate roundabouts and the Dern/Springcreek roundabout design is being formulated with these trucks in mind. The center apron will be mountable, allowing trucks to traverse over the middle area to complete their turns. The apron will also be constructed with a flat slope and low height to accommodate low-clearance vehicles. The single-lane roundabout will be 140' in diameter, with a 19' wide circulating road width and mountable 13' wide inner mountable truck apron giving large vehicles like trucks and trailers, ample space to maneuver and curbs in key spots that are relatively gradual, making it easier for trucks to use the apron when needed. Given that Highway 2 is a major trucking route, signage can also be removed to accommodate extra-large loads. MDT will also be partnering with local trucking agencies to identify additional practical ways to better the design for truck use.

10. What about the safety of bicycles and pedestrian? How will they cross?

Cyclists should navigate the roundabout just like they would any other stretch of roadway by traveling with the flow of traffic, yielding at the entrance to the roundabout like a car would and proceeding through the roundabout without stopping. Pedestrian crossings will be placed at each entrance/exit to the roundabout with signage alerting drivers of pedestrian traffic. Pedestrians are advised to look both ways for crossing, wait for a break in traffic and cross using the designated crosswalk.

Slowing traffic traveling through the intersection on Highway 2 West will make a safer crossing for pedestrians. For pedestrians, another safety benefit of the roundabout are median refuges in the crosswalk on each of the roundabout's four intersecting legs. Pedestrians only cross one lane of traffic at a time, allowing them to focus on a single lane of oncoming traffic (instead of traffic coming from two directions at the same time), cross into the raised median refuge, and then stop to focus to cross the other lane while they are in the refuge island.

Cyclists on the trail system will utilize the cross-walks the same as a pedestrian and has all the rights and responsibilities of a pedestrian.

11. Has the public been involved in this decision at all?

Yes. The Montana Department of Transportation held two public meetings during the preliminary stages of the project to gather feedback from the public. That said, MDT recognizes there is a need for further community conversation in order to discuss the scope of the project and to make sure MDT works toward making this intersection safer. It is important that the community is involved in development of the project, and MDT will continue to offer opportunities for collaboration with the community.

12. Many people in the Flathead Valley still seem unhappy about the idea of MDT putting a roundabout at the Dern/Springcreek intersection. Is MDT just going to forge ahead anyway and how can the agency justify this approach?

As public agency, MDT can't compromise our mission, even when that means the decisions we have to make are unpopular. It's tough and it can sometimes put us at odds with the public if we don't do enough to bring people along and help them understand that 1) **we do care, and we are listening;** 2) Additionally, why after gathering public input, a particular solution is chosen even if it doesn't coincide with popular opinion? A key part of MDT's mission, first and foremost, is to create the safest possible solutions with the budget available for the people of Montana. The taxpayers have mandated we prioritize this mission and we take that mission seriously, every single day.

In this case, MDT has determined that the solution that presents the public with the least amount of risk at an affordable price tag is a roundabout. MDT however is willing to listen to the community and

work towards other solutions that also reduce the risk to the traveling public while also maintaining a reasonable cost estimate.

13. Will there be any other opportunity for public comment or conversation about this project before the design is finalized?

Yes! MDT has heard the frustrations of the community -- we do care and we are listening. In the coming months, MDT will be making new efforts to share information about the Dern/Springcreek intersection improvement project and to take further comment from those with concerns and questions. Our goal is to go back and show our work so folks can better understand why we're looking at a roundabout and what other options were studied. In recent months, we've heard many great, valid questions around this project and we're committed to opening up a larger dialogue around this project and answering those questions.

We want to be transparent that at this time, MDT is still moving forward with the roundabout design but if there's something we've missed, we want to know about it. During this phase, we'll also be starting to show actual design concepts for the roundabout and we welcome the public to give feedback on the design as well as on the overarching project.

In addition, MDT will be working with groups specifically impacted by this project such as local truckers, landowners, and MDT's winter maintenance teams to find ways to address concerns with the developing design. We'll be talking with them early and often to identify potential challenges and opportunities.

14. How can a roundabout possibly work at this location given the steep approaches coming into the intersection? It seems dangerous.

a. Based on MDT's conversations with members of the public, this is a common question and it's a good one. Many people believe reconstructing the intersection to a roundabout will create a severely tilted intersection due to the terrain. The current intersection sits in a major dip in the road, which makes visibility extremely poor. In addition, the grade is somewhat steep, which can make stopping difficult, especially on icy roads. MDT recognizes both these challenges and is working to mitigate these issues by creating a new intersection alignment. Design plans are to relocate the intersection approximately 120 feet northwest of its current position, so that the intersection cuts into the hillside, providing a reasonably level, flatter intersection. By the time drivers get to the roundabout, they'll be on a much more level approach.

This doesn't apply just to vehicles approaching the roundabout on Highway 2 West. Shifting the intersection will allow a realignment on W. Springcreek Road to provide a much more reasonable grade leading into the intersection. In addition, MDT will level out some of the hillside around the intersection. To reduce the "sag" in Highway 2 east of the intersection, MDT will move some of that hillside dirt under main roadway, raising the low point east of the intersection up approximately seven feet. This will reduce the big dip that could create an issue for both cars and large/long rigs coming through a roundabout in this area.

15. Addressing just this intersection seems like a band aid fix. The entire corridor from Hartt Hill out to Kila needs to be improved. If MDT is worried about safety and being efficient with budget, why not just upgrade the entire corridor at the same time?

a. MDT recognizes that this stretch of Highway 2 West needs to be improved and it is on our radar. However, given current traffic volumes on this particular roadway, and other needs throughout the Flathead County (West Reserve Drive is a good example), there simply isn't money to upgrade the entire corridor right now. It would be a gargantuan project with a significant price tag that while great, wouldn't help reduce overall traffic congestion in the area as much as other projects might. Practically speaking, it's a great solution for the entire corridor that is probably at least 10 to 20 years down the road.

While traffic volumes may not demand an immediate fix, the safety concerns on this roadway are absolutely critical, which is why MDT is investing in a solution immediately to save lives. This cannot wait. If a roundabout is placed at the Dern/Springcreek intersection may it someday have to be redesigned or taken out to

accommodate a larger roadway? Possibly. However, the lives and taxpayer dollars it will save in the meantime will more than make up for the cost until something larger can be done with the entire corridor. MDT is also looking at ways to improve safety at other intersections throughout the corridor.

16. How do we know this won't turn into another Foys Lake roundabout where traffic flow rapidly outpaced predictions?

There are two important differences that differentiate the proposed roundabout at Dern/Springcreek from the Foys Lake roundabout. A considerable concern expressed by members of the public is, "If the Foys Lake roundabout isn't working, why would MDT place a roundabout on another highly traveled highway near Kalispell? Clearly, based on the Foys Lake example, roundabouts don't work here." While this is a completely understandable assessment, it misses the larger picture of why the Foys Lake roundabout is over capacity and backing up during peak travel times.

- **Why is the Foys Lake roundabout failing during peak travel hours?** Originally, MDT anticipated completing the bypass in its entirety (four full lanes for the length of the bypass and full interchanges at all but one intersection) in approximately 2030. With the fully developed infrastructure in place, the roadway would be equipped to carry the traffic volumes estimated for 2030. A combination of multiple beneficial factors, a primary one being funding, allowed MDT to advance full completion of the north half of the bypass approximately 13 years ahead of schedule, delivering it in 2017. Conversely, the roundabouts placed on south end of the bypass were put in place as an affordable option in order to secure the first part of the bypass. They were instituted when MDT believed the entire bypass would be a two-lane system until approximately 2030 when funds would be available to complete all overpasses and transition the entire bypass to four lanes. This is called phased development and allows a mid-stage solution while monies are accrued and property is acquired for the final, permanent solution. **MDT's full plan was always to replace the Foys Lake roundabout and the Airport Road roundabout with overpasses and expand the south half of the bypass to four lanes.** However, with the completion of the north end of bypass, traffic volumes increased dramatically, reaching the 2030 projections almost immediately due to the route's popularity. This 2030 traffic volume creates an especially large challenge at the Foys Lake roundabout, where the bypass transitions from four lanes to two lanes.

In addition, Foys Lake roundabout has a relatively balanced amount of traffic on all four legs meaning north/south traffic is slowed as traffic from the east/west enters the roundabout. At present, this is creating significant congestion at the Foys Lake roundabout during morning and evening commute times. By comparison, the Airport Road roundabout has limited east/west traffic intersecting the bypass, and there is generally a free-flow of traffic moving along the north-south bypass route.

- **The Dern/Springcreek roundabout doesn't face the same challenges that have created problems at the Foys Lake Roundabout.** First, the Dern/Springcreek roundabout is on an established highway route (Highway 2 West). This means traffic trends can easily be tracked and future traffic volumes accurately predicted. From a traffic flow perspective, traffic volumes at the Foys Lake roundabout are more than double those clocked at the Dern/Springcreek intersection on Highway 2 West. Traffic models demonstrate that a roundabout at the Dern/Springcreek roundabout will efficiently manage traffic until approximately 2040. Also important is the fact that the vast majority of traffic will be traveling through the roundabout on Highway 2 West traveling either east or west. A very small percentage will enter from either Dern Road or West Springcreek Road, which will allow for essentially a free-flow of traffic on Highway 2 through the intersection. When vehicles do need to enter from either Dern Road or West Springcreek Drive, they will have a safe way to do so.

17. Will putting in a roundabout slow down my commute?

a. If at all, it would be slowed minimally if you're traveling on Highway 2 West. For those coming from Dern Road or Springcreek Road, times will actually improve. That said, your commute will also be exponentially

safer and we believe that protecting your life on the road sometimes means we have to slow things down a bit in order to ensure our friends and neighbors get home every night for dinner, that our kids on the road make it to and from school without incident. Even if you spend a little more time on the road, with a roundabout, MDT can guarantee the chances of you getting into a serious crash at the Dern/Springcreek intersection will have been reduced drastically. According to the Insurance Institute for Highway Safety, roundabouts reduce fatalities by 90% and serious injury crashes by 75%.

18. How will construction affect traffic flow?

a. We get it. Construction is a pain; no one enjoys increased commute times or rough roadways. The good news is that because of the new alignment of the intersection, a large portion of the project can be built without affecting the current roadway or intersection on Highway 2 West and Dern Road. Regular use will continue on Highway 2 and Dern Road during much of the construction. Flaggers and pilot cars as needed will safely direct traffic through the construction zone. West Springcreek Road may experience more substantial, potential impacts due to the realignment of the intersection but these impacts are not yet defined.

19. What is the timeline for this project?

a. MDT's goal is to start construction on the Dern/Springcreek Reconstruction in the spring 2020.

20. Why are they drilling out at the Dern/Springcreek intersection in October?

a. The Montana Department of Transportation is drilling around the project site to get a better idea of soil composition and other material qualities that could impact construction. The more crews know in advance, the faster and more efficiently they can get the job done. The Montana Department of Transportation has been in communication with landowners and secured their permission to drill and test soils on the project-adjacent parcels.