



# TECHNICAL MEMORANDUM #4

DATE: November 20, 2020 Kittelson #: 20783  
MDT #: 110591

TO: Wade Salyards, PE Montana Department of Transportation

FROM: Andy Daleiden, PE, Mark Heisinger, EIT, and Krista Purser, EIT – Kittelson & Associates, Inc.

PROJECT: Exposition Dr & 1st Ave N - Billings - NH 16-1(53)0, UPN 7908000

SUBJECT: Preferred Alternative (Alternative 4 – Free Westbound Right-Turn Lane)

## Introduction

This memorandum summarizes the Tier 2 alternatives evaluation and screening, identifies the preferred alternative (Alternative 4 – Free Westbound Right-Turn Lane), and discusses areas of refinement still in-progress for the preferred alternative at the Exposition Drive/1<sup>st</sup> Avenue North intersection in Billings, MT. The information in this memorandum will be used to refine the preferred alternative as the project moves forward to the final design phase.

## PROJECT AREA

Located in Yellowstone County, within the Billings city limits, the Exposition Drive / 1<sup>st</sup> Avenue North intersection is located 1.3 miles northeast of downtown Billings and just southwest of MetraPark. This intersection resides on the Camino Real International Trade Corridor that connects Canada, United States, and Mexico, and is a critical junction that provides local and regional connectivity to downtown Billings, US 87, Highway 3, and Interstate 90. Figure 1 illustrates the project location within Billings and Yellowstone County. The eastern project limits end at the Dick Johnston Bridge which crosses the Yellowstone River and provides access to Interstate 90. A Montana Rail Link (MRL) railroad facility is located to the south of the study area and runs parallel to 1<sup>st</sup> Avenue North and US 87 over the Yellowstone River.

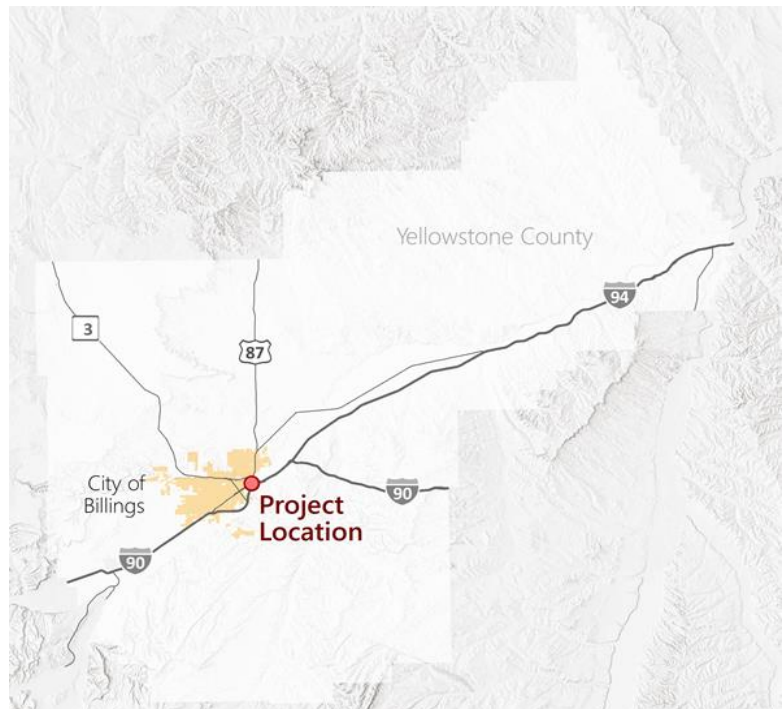


Figure 1 Project Area

## Alternatives Development/Screening Process

The project team applied a tiered process to develop and screen the intersection alternatives. The project team identified 16 initial options ranging from conventional intersection form to alternative intersections to grade-separated to system changes through new connections. The project team presented the 16 initial alternatives and evaluation results to the Project Advisory Committee (PAC), MDT, and Yellowstone County Commission in June, July, and August 2019. Through this discussion, the project team selected six alternatives to advance to Tier 1. The Tier 1 concepts were presented to the PAC, MDT, and local property and business owners in September 2019. Through the discussion and evaluation, three alternatives were chosen to advance to Tier 2. The Tier 2 alternatives were presented to the PAC, MDT, and to the public during an Open House in December 2019, as well as additional 1-on-1 meetings with property and business owners in February 2020. Through these discussions and evaluation, the project team chose a preferred alternative to move into final design and implementation.

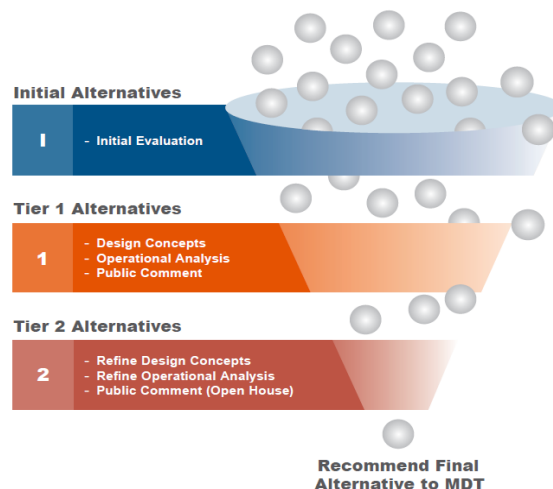


Figure 2 illustrates the overall alternatives development and screening process for the project.

Figure 2 Alternatives Development and Screening Process

## TIER 2 EVALUATION

The Tier 2 alternatives evaluation and screening was used to identify the preferred alternative to be moved forward into the final design phase. Descriptions of the key components of the Tier 2 alternatives are as follows:

- **Alternative 1 – No-Build:** Existing infrastructure remains in-place. Potential signal timing adjustments, but no equipment changes.
- **Alternative 4 – Free Westbound Right-Turn Lane:** Converts existing westbound right-turn lane into a free right-turn lane and brings northbound right-turn lane through traffic signal at the Exposition Drive/1st Avenue N intersection. Provides 4th northbound lane on Exposition Drive between 1st Avenue N and 4th Avenue N, which becomes the right-turn lane at 6th Avenue N.
- **Alternative 5 - Dual Westbound Right-Turn Lanes:** Provides second westbound right-turn lane and brings northbound right-turn lane through traffic signal at the Exposition Drive/1st Avenue N intersection

Table 1 (on the next page) compiles the evaluation results for each alternative. Alternatives 4 and 5 have similar operations in year 2040 traffic conditions and are projected to operate at under-capacity for similar lifespans in year 2040. Alternatives 4 and 5 have similar design and construction cost estimates. Pedestrian and bicycle facility quality is generally similar between the two alternatives. It should be noted that, although pedestrians are required to cross the free right-turn on Alternative 4, signal control will be provided to stop the vehicles when activated by the pedestrians.

Alternative 4 enhances access to MetraPark from Exposition Drive with the additional travel lane between 1<sup>st</sup> Avenue North and Bench Boulevard. This lane adds capacity to this segment of Exposition Drive and may function at times as an auxiliary lane for vehicles turning in MetraPark at 4<sup>th</sup> Avenue North and at Bench Boulevard.

Alternative 4 is expected to have a slightly higher area of impact on adjacent right-of-way. However, Alternatives 4 and 5 are still expected to impact the same number of parcels.

**Table 1 Alternatives Evaluation**

Criteria		Safety Performance	Number of Free Right-Turns	Pedestrian Facility Quality	Bicycle Facility Quality	Traffic Operations (2040 AM/PM Peak Hour LOS <sup>1</sup> )	Traffic Operations Lifespan (After 2040)	Right-Of-Way Impact (ft <sup>2</sup> )	Number of Properties Impacted	Design/Construction Cost Estimates
Alternative	1	Lower	1	Lower	Lower	C/F	0 years	0	0	None
		No pedestrian or bicycle crossings provided at intersection. Volume-to-capacity ratio is 1.20 with high delay (PM). Queues are long for the westbound approach.								
	4	Medium	1	Higher	Higher	C/D	8-12 years	59,500	7	\$7,500,000 <sup>2</sup>
		Requires crossing at free right-turn. Provides pathway connection to Jim Dutcher Trail. Volume-to-capacity ratio is 0.90 (PM). Queues are less for the westbound approach. Provides additional northbound capacity at Exposition Drive/4 <sup>th</sup> Avenue North intersection								
	5	Medium	0	Higher	Higher	C/D	8-12 years	55,000	7	\$7,400,000
		Provides crossings and several multi-use path options. Provides pathway connection to Jim Dutcher Trail. Volume-to-capacity ratio is 0.90 (PM). Queues are significantly less for the westbound approach.								

<sup>1</sup>Level of Service – Indicates the average level of vehicle delay at an intersection. Calculated with HCM 6th Edition Methodology

<sup>2</sup>This cost estimate does not include the relocation of the Phillips 66 oil pipeline. This item is discussed further in the areas for further refinement

## PAC MEETING #3 FEEDBACK

PAC Meeting #3 was held on December 12, 2019 at the Billings Public Library. The objectives of the meeting were to, a.) understand the Tier 2 alternatives, evaluation criteria, and results and b.) provide feedback on the Tier 2 alternatives.

After the Tier 2 alternatives were presented to the PAC, the meeting was spent discussing different design components of the Tier 2 intersection alternatives. Attendees were provided comment forms to give their feedback and recommendations for the preferred alternative. One comment sheet was turned into the project team. MetraPark indicated their preference for Alternative 4 on this sheet.

## PUBLIC OPEN HOUSE #1 FEEDBACK

We received 15 comment forms during the public open house and two more comment sheets via email during the public comment period. This section summarizes the feedback received on the comment forms.

### Things to Accomplish in This Project

The following responses (and # of responses) were given to the prompt “Things to accomplish in this project”:

- Bicycle/pedestrian improvements (12)

- Connectivity to Lockwood, Jim Dutcher Trail and other bicycle and pedestrian facilities
- Accessibility
- Increased safety
- Separated facilities, bicycle friendly signals, and other improvements
- Visibility of pedestrians crossing intersection
- Capacity improvements for motorists/reduce congestion (7)
  - Improved flow into and around MetraPark
- Safety for motorists (4)
- Beautification of area (4)
  - Gateway appearance
  - Modernize area's appearance
  - New MetraPark fence
- Improve access to properties south of intersection (4)
- Environmentally friendly design (2)
- Public transit access (1)
- Traffic calming/reduction (1)

As listed above, the most common responses for “things to accomplish in this project” were concerning bicycle and pedestrian improvements, safety for all intersection users, beautification of the area, capacity improvements, and access to the southside of the intersection.

## Feedback on Tier 2 Alternatives

Table 2 summarizes the comments that were given concerning the Alternatives 4 and 5 concept designs.

**Table 2 Feedback on Tier 2 Alternatives**

	Alternative 4	Alternative 5
What do you like about this alternative?	<ul style="list-style-type: none"> <li>▪ Bicycle/pedestrian improvements</li> <li>▪ Free flow right-turn movement</li> <li>▪ Longevity</li> <li>▪ Less lanes for pedestrians to cross</li> <li>▪ Inclusive of all users</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bicycle/pedestrian improvements</li> <li>▪ Longevity</li> <li>▪ Inclusive of all users</li> <li>▪ Two lanes will help reduce congestion</li> <li>▪ Helps westbound traffic</li> </ul>
What would you change?	<ul style="list-style-type: none"> <li>▪ Worried about access to southern properties with raised median</li> <li>▪ Increase aesthetics</li> <li>▪ Don't like proposed modification of eastbound right-turn lane</li> <li>▪ 4<sup>th</sup> lane on Exposition Drive</li> <li>▪ Pedestrian safety on free movement</li> <li>▪ Full light on WBR preferred, not flasher</li> </ul>	<ul style="list-style-type: none"> <li>▪ Worried about access to southern properties with raised median</li> <li>▪ Increase aesthetics</li> <li>▪ Don't like proposed modification of eastbound right-turn lane</li> </ul>

Other comments:	<ul style="list-style-type: none"> <li>▪ Keep having opportunities for feedback</li> <li>▪ Would prefer roundabout</li> <li>▪ Consider gateway feature in leftover space south of intersection</li> <li>▪ Project needs include access control—buying access rights as necessary</li> </ul>
-----------------	---

There were few responses that preferred Alternative 4 to Alternative 5, or vice versa. Generally, the responses indicated support for the bicycle/pedestrian improvements and capacity improvements. Some of the comments indicated that they would like to see greater aesthetic improvements. There was also some concern about access to the southern properties.

## Feedback Received Via E-mail

MDT and the project team received 14 different emails containing comments on the Exposition Drive and 1<sup>st</sup> Avenue N Tier 2 alternatives as of January 16, 2020. The following lists general comments received via email:

- Proposal of new alternative that would remove the existing 3<sup>rd</sup> eastbound through lane. This would allow the westbound right-turn lane to operate as a free movement and feed into the 3<sup>rd</sup> northbound lane on Exposition Drive without conflict. Could be completed with minimal impact to neighboring ROW.
- There is a need for an additional westbound right-turn lane.
- What is the long-term plan for the sidewalk on the south side of the intersection?
- Consider roundabout or overpass.
- Improve flow by modifying signal timing.

## Comments Concerning Driveway Access

Property and business owners south of the intersections have concerns about the potential removal of “left turn in” and “left turn out” movements from 1<sup>st</sup> Avenue N to the driveways south of intersection. This section summarizes the comments concerning this issue:

- These left-in and left-out movements provide important access to 7 or 8 businesses and are essential to their future growth and livelihood.
- Proposal to modify alignments so that Exposition Drive meets 1<sup>st</sup> Avenue North at a 90-degree angle, removing the existing skew, and then incorporate a fourth leg of the intersection providing access to the southern businesses.
- Several businesses are accessed daily by semi-trucks and tractor-trailers. Requiring a U-turn may limit access for these vehicles.
- Allowing only right-in/right-out movements is unacceptable. Allowing left-in but no left-out is more acceptable, but still has significant negative impact on businesses due to lack of left-out. Creating an access road and full access to the east would help a lot (signage would be requested to help navigate to full access). Request to provide both the full access/access road and left-in alternatives.
- Wants safer ingress and egress from site. Raised median on 1<sup>st</sup> Avenue N makes access to properties on south side of intersection difficult. Proposal for left-turn channelization.
- Left-in and left-out movements are critical for access. This site is accessed daily by customers and guests. Expecting those people to make a U-turn on 1<sup>st</sup> Avenue N is not acceptable.
- Request to continue conversation with MDT staff about access options.

## SELECTION OF PREFERRED ALTERNATIVE

Based on the results of the Tier 2 evaluation, feedback received from PAC Meeting # 3 and Public Open House #1, and further coordination with MDT, Alternative 4 was selected as the preferred alternative for further refinement and evaluation.

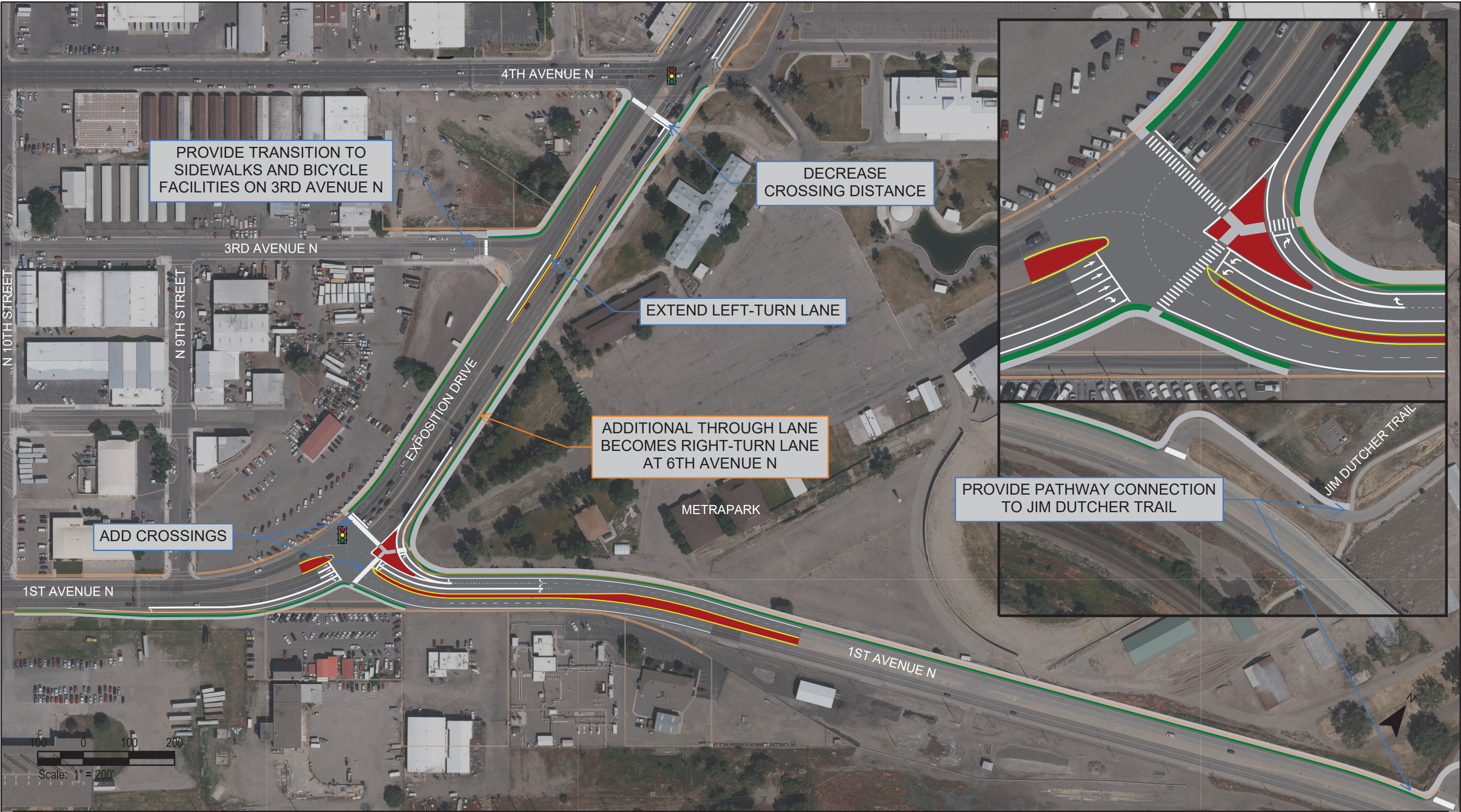
### Preferred Alternative (Alternative 4 – Free Westbound Right-Turn Lane)

The preferred alternative, previously referred to as Alternative 4 (Free Westbound Right-Turn Lane), is shown in Figure 3. The preferred alternative provides the following components:

- Converts existing westbound right-turn lane into a free right-turn lane and brings northbound right-turn lane through the traffic signal at the Exposition Drive/1<sup>st</sup> Avenue N intersection
- Provides 4<sup>th</sup> northbound travel lane on Exposition Drive between 1<sup>st</sup> Avenue N and 4<sup>th</sup> Avenue N, which becomes the right-turn lane at 6<sup>th</sup> Avenue N
- Extends southbound left-turn lane at the Exposition Drive/1<sup>st</sup> Avenue N intersection
- Refines intersection alignment to improve turning radii for trucks
- Adds pedestrian crossings to east and north legs of Exposition Drive/1<sup>st</sup> Avenue N
- Provides an opportunity for a pathway on both sides of Exposition Drive between 1<sup>st</sup> Avenue N and 4<sup>th</sup> Avenue N, provides sidewalks elsewhere
- Provides an opportunity for a pathway connection on north side of 1<sup>st</sup> Avenue N from Exposition Drive to Jim Dutcher Trail

The preferred alternative is projected to operate under-capacity through the year 2040, has similar design and construction cost estimates and has similar bicycle and pedestrian facilities to the other build alternative (which provided dual westbound right-turns) considered in Tier 2. Although the preferred alternative has slightly higher right-of-way impacts than the other build alternative, it provides enhanced access to MetraPark from Exposition Drive and additional capacity along Exposition Drive during non-event times with the additional travel lane between 1<sup>st</sup> Avenue North and Bench Boulevard.





LEGEND

- SIDEWALK OR PATHWAY
- ROADWAY

- RIGHT-OF-WAY
- LANDSCAPING
- MEDIAN



NEW OR MODIFIED TRAFFIC SIGNAL

Preferred Alternative - Free Westbound Right-Turn Lane  
Billings, Montana

Figure  
3



## Ongoing Investigations/Refinements for the Preferred Alternative

This project is currently in the survey phase of MDT's design process, which includes survey, design and right of way phases. The survey phase includes the process for identifying a preferred alternative, as well as field investigations for survey, right of way, geotechnical, drainage, and environmental conditions. The project team identified the preferred alternative, but still has several investigations and refinements to complete before moving from survey phase to the design phase. The ongoing investigations and refinements for the preferred alternative include the following:

- Environmental investigation
  - Complete the environmental engineering analyses report and cultural resource investigation
  - Perform a preliminary site investigation (PSI) to understanding the limits of the contaminated media in the planned work area
- Driveways on 1<sup>st</sup> Avenue N
  - Identify location and type of driveway access on the south side of 1<sup>st</sup> Avenue N
- Pedestrian and bicyclist crossing treatment with free westbound right-turn lane
  - Assess and recommend pedestrian and bicycle crossing treatment at the free westbound right-turn lane
- Shared-use path funding & maintenance
  - Identify shared-use path funding source and maintenance agreement
- Drainage
  - Complete the preliminary hydraulics report
- Coordination with MetraPark studies/projects
  - Coordinate with MetraPark's Entryway Beautification project
  - Coordinate with MetraPark's Master Plan project
- Phillips 66 Oil Pipeline on the east side of Exposition Drive
  - Coordinate with Phillips 66 regarding relocation of oil pipeline

These refinements are discussed further in this section.

## ENVIRONMENTAL INVESTIGATION

The engineering analyses report includes an aerial/records/database review of the study area to determine which environmental resource areas may be present within the study area. Resources include:

- low income and/or minority populations,
- prime/unique farmland or farmland of statewide importance,
- land use,
- historic resources that may be protected by Section 4(f),
- park and recreational lands that may be protected by Section 4(f),
- wildlife and waterfowl refuges that may be protected by Section 4(f),



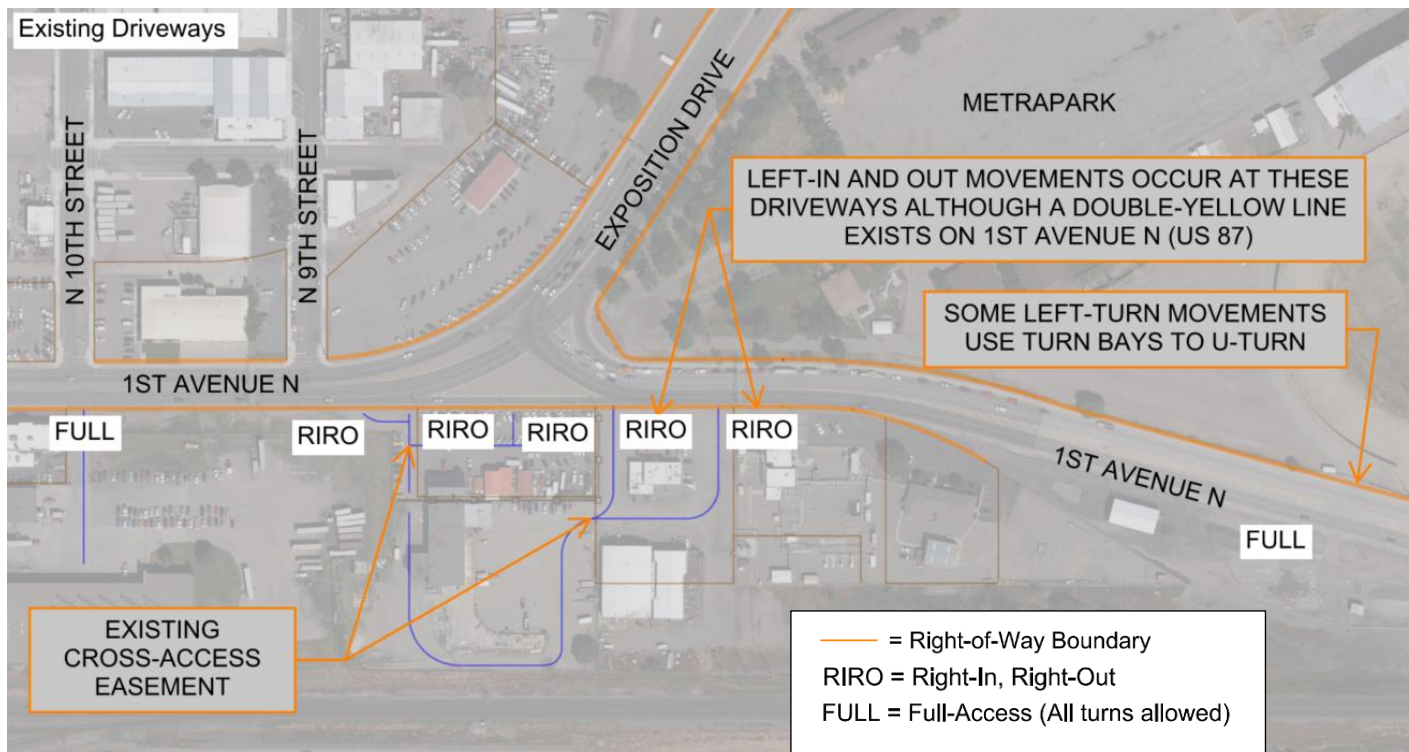
- parks, recreational areas, or other properties acquired and/or improved with LWCF funds,
- surface water resources,
- drinking water sources,
- wild and Scenic Rivers,
- storm water management facilities, and
- low Impact Development Practices features.

This engineering analyses report also includes a search of the State Historic Preservation Office (SHPO) and Cadastral records / database within the study area to identify any previously recorded sites that might be eligible for listing in the National Register of Historic Places.

The PSI includes completion of a subsurface soil and groundwater investigation in MDT right-of-way (ROW) and adjacent properties to identify contaminated media in the planned work area and provide additional information regarding potential environmental liability associated with ROW expansion/acquisition.

## DRIVEWAYS ON 1<sup>ST</sup> AVENUE N

Property and business owners south of the intersection have concerns about the implementation of the raised median on 1<sup>st</sup> Avenue N and the potential removal of “left turn in” and “left turn out” movements at the driveways on 1<sup>st</sup> Avenue N on the south side of the intersection. The existing driveway configurations on the south side of the intersection are shown in Figure 4.

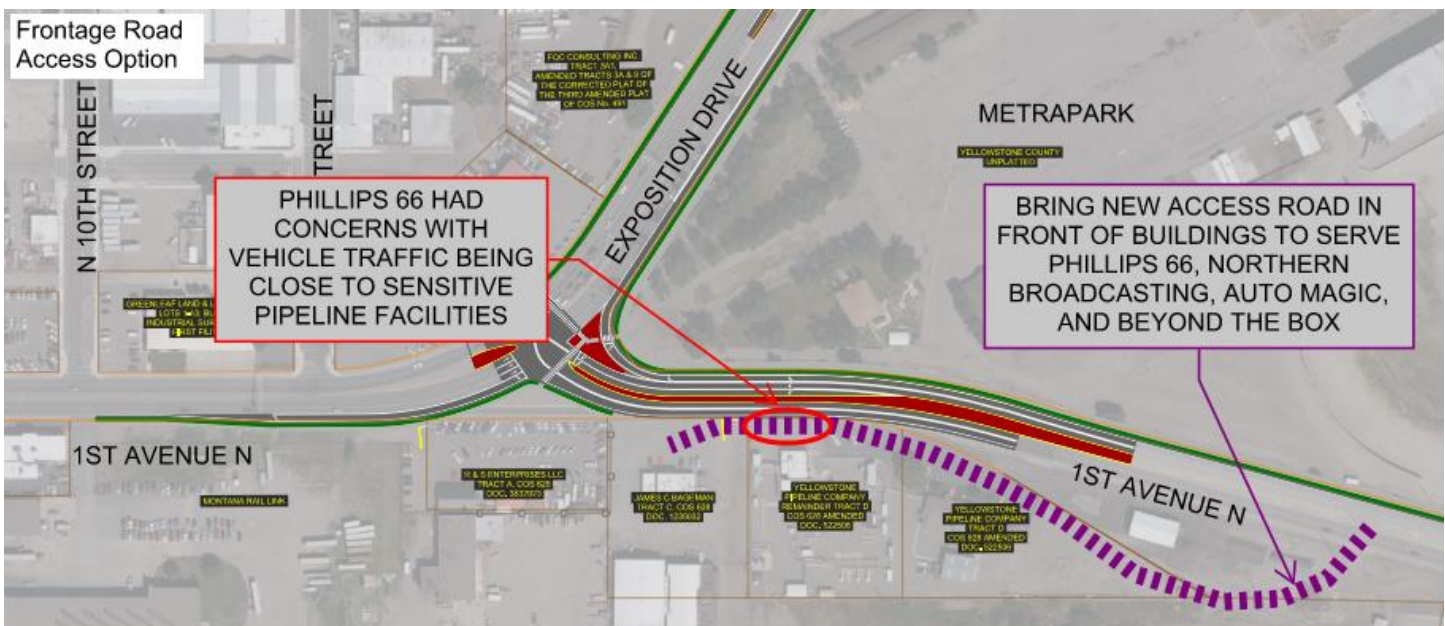


**Figure 4 Existing Driveways**

The project team explored access options using backage and frontage roads to provide access to properties south of the intersection. However, these were ultimately determined infeasible through conversations with property owners and MDT. The backage road option, shown in Figure 5 was determined to be infeasible due to the presence of the Yale Superfund Site and challenges with the Montana Rail Link property. The frontage road option, shown in Figure 6, was determined to be infeasible because of concerns associated with vehicle traffic being close to the Phillips 66 pipeline facilities.



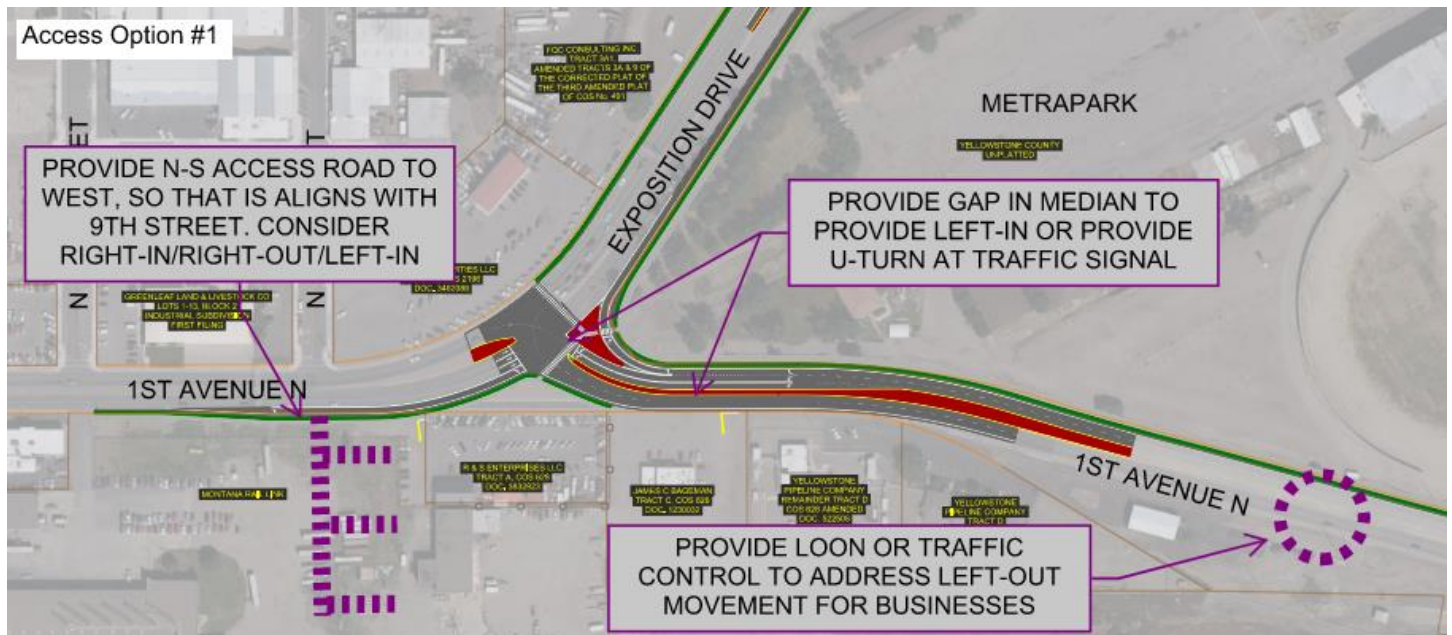
**Figure 5 Backage Road Access Option**



**Figure 6 Frontage Road Access Option**

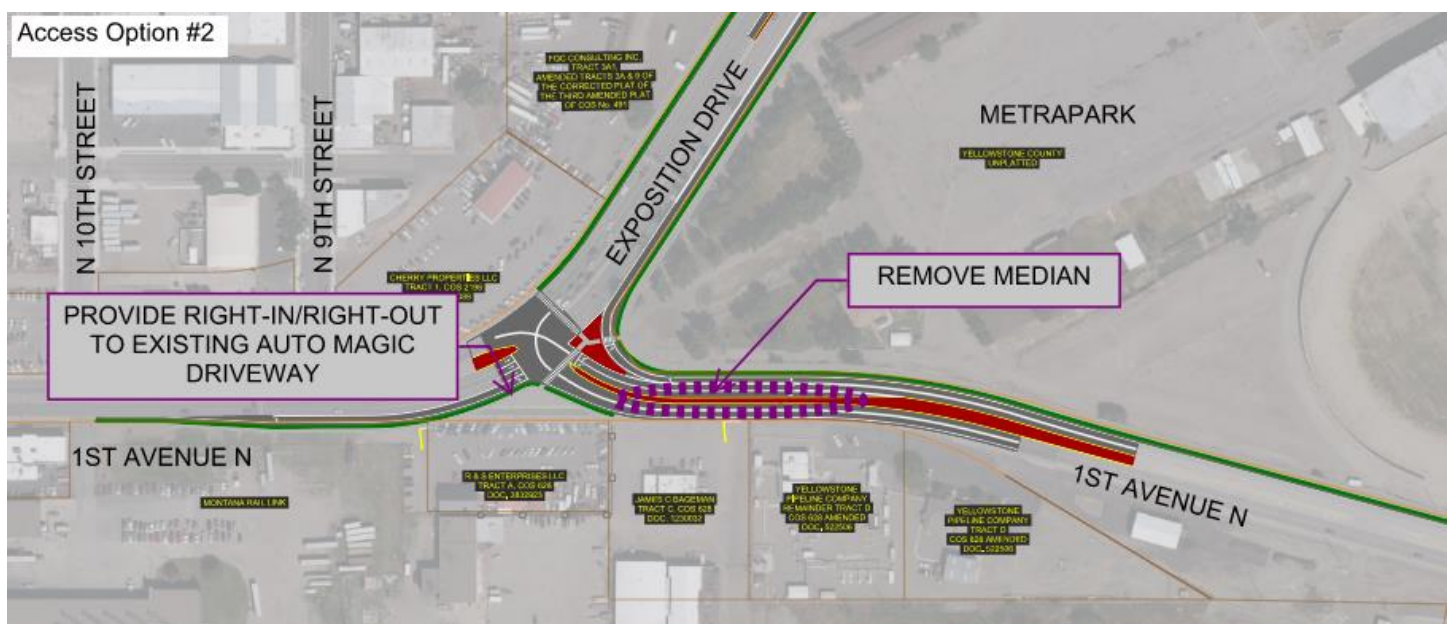


Figures 7 and 8 illustrate access options for further consideration. Access Option #1, shown in Figure 7, provides access to the properties south of the Exposition Drive/1<sup>st</sup> Avenue N intersection via a North-South access road that aligns with N 9<sup>th</sup> Street. A gap in the median on 1<sup>st</sup> Avenue N is provided or a westbound U-turn is allowed at the Exposition Drive and 1<sup>st</sup> Avenue N intersection to provide left-in access to properties along the east side of 1<sup>st</sup> Avenue N. A loon or traffic control is implemented to the east on 1<sup>st</sup> Avenue N to address the left-out movement for businesses on 1<sup>st</sup> Avenue N.



**Figure 7 Access Option #1**

Access Option #2, shown in Figure 8, removes the median on 1<sup>st</sup> Avenue N so that the existing access control along 1<sup>st</sup> Avenue N is maintained. A right-in-right-out access is provided to the existing driveway to AutoMagic south of the Exposition Drive/1<sup>st</sup> Avenue N intersection.



**Figure 8 Access Option #2**



## PEDESTRIAN AND BICYCLIST CROSSING WITH FREE WESTBOUND RIGHT-TURN LANE

Pedestrian and bicycle user safety at the free westbound right-turn lane arose from discussions during PAC meeting #3, open house and public comments as an area of concern. Concerns included driver yielding and expectation, as crossing activity may be low outside of MetraPark events and drivers will not be used to stopping at this turn, and pedestrian and bicycle visibility on the roadway curve. The preferred alternative recommends signal control for crossing pedestrians and bicyclists, providing them a walk phase with the northbound-through vehicle movement while the westbound right-turn vehicles see a red phase. Additional visibility and driver awareness could be provided by installing dynamic “No Turn on Red” signs which only show when the crossing has been activated.

## SHARED-USE PATH FUNDING & MAINTENANCE

MDT’s Highway State Special Revenue Account (HSSRA) and Shared Use Paths in MDT Right-of-Way policies dictate funding and maintenance responsibilities for inclusion of a shared-use path (SUP) on a project. In most cases, MDT requires that the local government or private entities fund the future maintenance of the SUP through the execution of a standard construction and maintenance (C&M) agreement.

Under HSSRA, factors affecting SUP C&M responsibilities include:

1. Based on preliminary project estimates, is the cost of the SUP less than 10% of the overall project cost?

The SUP reflects \$1.4 million (18.7%) of the \$7.5 million cost estimate. The SUP is \$700,000 more than providing a 6’ sidewalk (SUP is double the cost).

2. What is the project cost estimate for Alternative with the SUP broken out?
  - a. \$6.8 million with just sidewalks
  - b. \$7.4 million with SUP on the MetraPark side only and 5’ sidewalks on the west side of Exposition Drive from 1<sup>st</sup> Avenue N to 4<sup>th</sup> Avenue N.
  - c. \$7.5 million with SUP on the MetraPark side and the west side of Exposition Drive from 1<sup>st</sup> Avenue N to 4<sup>th</sup> Avenue N.

3. Is the path identified as a need in an environmental document or study?

- **2017 Billings Area Bikeway + Trails Master Plan Update** - 1<sup>st</sup> Ave N is identified as a future SUP within the entire extents of study area (dashed green line in map). An online survey identified “Downtown to the River/Lockwood” and “Downtown to the Billings Heights” as 2 of the top 7 most critical gaps in the trail and bikeway system.

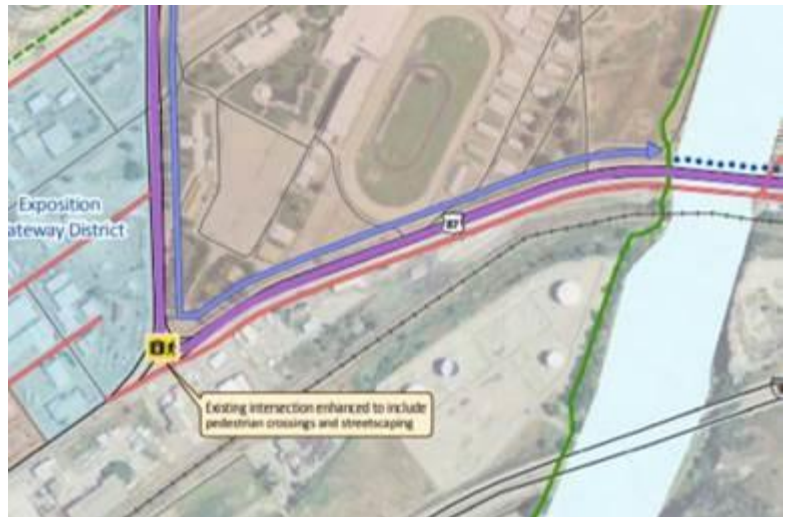


- **2018 Long Range Transportation Plan (LRTP)** – identifies the following pedestrian projects within the study area (refer to map for location of these projects):

- Project 31 identifies the need for sidewalks on the south side of 1st Ave N (east of 10th Street)
- Project 29 identifies the need for a pedestrian easement on US 87 from Airport Road to the Jim Dutcher Trail (adjacent to MetraPark)
- Project 49 identifies the need for a pedestrian overpass at 4th Ave N
- Projects 28 adds pedestrian crossings to the 1st Ave N/Exposition Drive intersection



- **2013 Billings - Hospitality Road Corridor Study** - Identifies need for wider pedestrian easement and the re-location of the MetraPark fence for a multi-use path on the US 87 corridor within extents of study area (shown by blue line on map)



4. How will the SUP promote or enhance traffic safety and convenience?

- The proposed SUP completes the connectivity between the Jim Dutcher Trail and bike lanes on 3rd Avenue. The SUP provides a separated facility for bicyclists and pedestrians, which enhances safety, accessibility, and convenience for users in this area. Bicyclists have been observed using the existing sidewalk today, which causes a speed differential between cyclists and pedestrians on a narrow facility. Bicyclists have also been observed using the high-speed roadways of 1st Avenue N and Exposition Drive, which are not adequate for most cyclists due to speeds and traffic volumes on these roadways. The proposed SUP provides separation and passing on a more comfortable and convenient facility for cyclists. The SUP also provides increased pedestrians space during MetraPark events, which observe over 1,000 pedestrian crossings at 4th Avenue in one day.

Under the Shared Use Paths in MDT Right-of-Way Policy, the following must be met:

- 4.4.1.1 A public sponsor/agency must be willing to accept ownership and long-term maintenance responsibility for the SUP.
  - MDT will need to work with a local sponsor/agency to determine who will accept ownership and long-term maintenance for the SUP. Potential entities include the City of Billings, Yellowstone County, and/or MetraPark. This item will be explored further with these groups in the next steps of the project.
- 4.4.1.2 It must be demonstrated that the SUP is principally to be used for transportation, not recreation.
  - The SUP will provide walking and bicycling transportation in the area. The SUP will move people to and from events at MetraPark, serve commuters via biking and walking to and from work, and facilitate other trips in the area.

- 4.4.1.3 The SUP must be located within three miles of the city limits of incorporated cities, or within three miles of the geographic center of unincorporated towns. Construction of new SUP's partially within the three-mile threshold may extend beyond the three-mile limit if they provide a transportation purpose.
  - The SUP is entirely within three miles of the City of Billings
- 4.4.1.4 Use of motorized vehicles, other than maintenance vehicles or snowmobiles, must not be permitted.
  - Motorized vehicles, other than maintenance vehicles or snowmobiles, will not be permitted on the SUP.
- 4.4.1.5 Construction of the SUP must promote or enhance traffic safety and convenience.
  - The SUP provides a separated facility for bicyclists and pedestrians, which enhances safety, accessibility, and convenience for users in this area. Bicyclists have been observed using the existing sidewalk today, which causes a speed differential between cyclists and pedestrians on a narrow facility. Bicyclists have also been observed using the high-speed roadways of 1st Avenue N and Exposition Drive, which are not adequate for most cyclists due to speeds and traffic volumes on these roadways. The proposed SUP provides separation and passing on a more comfortable and convenient facility for cyclists. The current sidewalk facilities range between 5 feet and 8 feet in width and are located adjacent without any separation/landscape buffer to the high-speed roadways of 1<sup>st</sup> Avenue N and Exposition Drive. Pedestrians utilize the sidewalks regularly and during events at MetraPark. Pedestrian safety and convenience is enhanced with the SUP as it provides separation from the high-speed roadways and connectivity to the Jim Dutcher Trail.
- 4.4.1.6 Generally, the path must be constructed in conjunction with a highway construction/reconstruction project. Standalone SUP projects may be constructed if they meet the requirements for full Highway Safety Improvement Program (HSIP) funding, or if they are selected for funding through the Transportation Alternatives (TA) program.
  - The SUP will be constructed in conjunction with roadway improvements to 1<sup>st</sup> Avenue N and Exposition Drive.
- 4.4.1.7 The SUP must provide connections to origins or destinations within a city or town, or be part of a system designed to do so.
  - The proposed SUP completes the connectivity between the Jim Dutcher Trail and bike lanes on 3<sup>rd</sup> Avenue, provides connectivity to and from MetraPark, and enhances the connectivity from Billings to/from the Yellowstone River bridge (connects to Lockwood)

As the project moves forward, MDT will need to explore a funding and maintenance agreement for the proposed SUP, in particular the segments adjacent to MetraPark located on the east side of Exposition Drive and north side of 1<sup>st</sup> Avenue N.

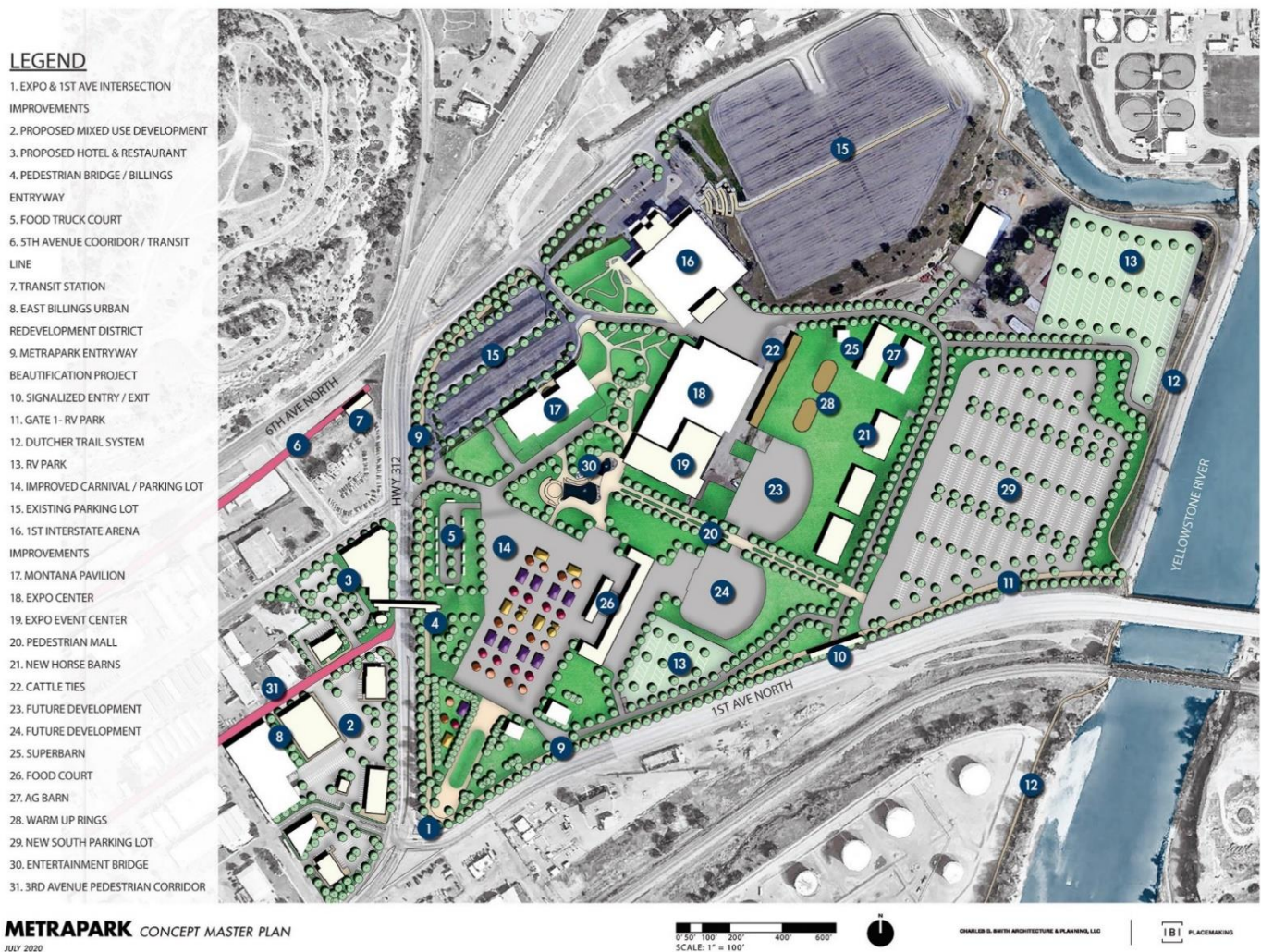
## DRAINAGE

The project team is working on the preliminary Hydraulics Report, which will include sufficient information to establish proposed alignment and grade for the preferred alternative. Key elements include developing a stormwater model of existing conditions, assess current deficiencies, identify potential options to improve drainage and assess options in conjunction with the preferred alternative.



## COORDINATION WITH METRAPARK STUDIES/PROJECTS

Big Sky Economic Development, on behalf of MetraPark and the Yellowstone County Board of County Commissioners, has started work on the MetraPark Entryway Beautification project. This project will develop a concept plan and preliminary design and cost estimates for redevelopment and upgrade of the south and west perimeter area of the MetraPark grounds from Gate 1 at the southeast corner of the facility to the primary entrance at the junction of Bench Blvd. and Main Street on the west side of the grounds. The goal is to create a more welcoming, attractive, and accessible area that will enhance the appearance of the MetraPark grounds and create a beautiful gateway into Billings. MetraPark is currently working on a Master Plan for its' ground to identify what it will look like in the next 10 to 20 years. Figure 9 shows MetraPark's current concept Master Plan for reference.



**Figure 9 MetraPark Concept Master Plan**

## PHILLIPS 66 OIL PIPELINE ON THE EAST SIDE OF EXPOSITION DRIVE

There is an existing oil pipeline located on the east of Exposition Drive. The preferred alternative adds a 4<sup>th</sup> northbound through lane on Exposition Drive, which is anticipated to be over the existing oil pipeline and undesirable for Phillips 66 given the length of the segment. Through initial discussions with Phillips 66 in February 2020, we understand that the existing oil pipeline would need to be relocated due to the widening of Exposition Drive for the additional northbound travel lane. The project team will explore this item further with Phillips 66 to understand the relocation design and costs associated with relocating the oil pipeline outside the roadway.

### Next Steps

The project team selected the preferred alternative (Alternative 4 - Free Westbound Right-Turn Lane) to move forward with the project. The concept design, shown in Figure 3 will be refined as the project team considers and evaluates further the environmental conditions, driveway location and type on 1<sup>st</sup> Avenue N, pedestrian and bicycle crossing, shared-use path funding, and potential changes to MetraPark access. Design components will continue to be refined through ongoing conversations with MDT, affected business and property owners, and other stakeholders within the project area. At the completion of these investigations in spring/summer 2021, the project team will develop a preliminary design and scope of work report for the project, which would be used by MDT to move the project into the design phase.