BROADWATER COUNTY COMMISSIONERS
515 Broadway, Townsend
Meetings are held at the Flynn Building on 416 Broadway St.

Current and previously recorded meetings, official agenda, and minutes may be viewed on the website at https://www.broadwatercountymt.com.

Per Montana Code Annotated (MCA) 2-3-202, the agenda must include an item allowing public comment on any public matter that is not on the agenda of the meeting and that is within the jurisdiction of the agency conducting the meeting. Public comments will be taken either in writing before the meeting or in person at the beginning of the meeting. Mail and items for discussion and/or signature may occur as time allows during the meeting. Issues and times are subject to change. Working meetings will be posted on the agenda and will not be recorded.

OFFICIAL agendas are posted in the Courthouse (1st-floor bulletin board), on our website at www.broadwatercountymt.com, in the window of the Flynn Building at least 48 hours in advance of the meeting, and in the local MT43 Newspaper

Monday, April 8, 2024

11:00 AM	**Working Meeting with Bill Jarocki, County Administrative Officer, regarding projects and deadlines. This will be in the Commission Office**

Wednesday, April 10, 2024

10:00 AM	**Public Comment on any subject not on the agenda, that the Commission has jurisdiction over.**
10:00 AM	**Discussion/Decision, Nick Rauser, Broadwater County Sheriff, Sale of Search and Rescue Van to Townsend School District #1**
10:05 AM	**Discussion/Decision, Airport By-Laws**
10:10 AM	**Discussion/Decision, Nichole Brown, Community Development and Planning, MT Crossroads Minor Subdivision (Section 15, Township 2 North, Range 1 East), discussion of a material amendment to the approval of the Preliminary Plat-Amended Traffic Impact Study (TIS)**
10:25 AM	**Discussion/Decision, Nichole Brown, Community Development and Planning Director, Parks and Rec County Liaison, Connors Field Vault Toilet Installation Project, Scope of Work and Timeline**
10:30 AM	**Discussion/Decision, Nichole Brown, Community Development and Planning Director, Albe Minor Subdivision (Section 3, Township 7 North, Range 1 East) Amendment to Findings of Fact and Order**
10:35 AM	**Discussion/Decision, Nichole Brown, Community Development and Planning Director, Brady BLR #2 (Building for Lease or Rent) Storage Units (Section 34, Township 3 North, Range 1 East)**

Items for Discussion / Action / Review / Signature – Consent Agenda

- ✓ Certificate of Survey review
- ✓ Management – on-going advisory board appointments
- ✓ Claims/Payroll/minutes
- ✓ County Audit / Budget
- ✓ Mail – ongoing grants
- ✓ Correspondence – support letters

Debi Randolph, Vice Chairman	(406) 266-9270 or (406) 980-2050
Darrel Folkvord, Chairman	(406) 266-9272 or (406) 980-1213
Lindsey Richtmyer	(406) 266-9271 or (406) 521-0834
E-mail:	commissioners@co.broadwater.mt.us

Future Meetings will be held at the Flynn Building (416 Broadway)
Please note: These meeting times/dates may change, please check the county website)

- *Trust Board Meeting on April 9th at 11:30 AM*
- *Planning Board Meeting/Public Hearing on April 9th at 2 PM*
- *Solid Waste Board Meeting on April 9th at 6:00 PM*
- *Mental Health LAC Meeting on April 10th at 2 PM*
- *Fair Board Meeting on April 11th at 5:30 PM*
- *Noxious Weed Meeting on April 16th at 7:00 PM*
- *Parks and Recreation Board Meeting on April 29th at 6:00 PM*

The Commissioners may be attending these board meetings (except the Planning Board)

Melinda Banks

From: Nick Rauser
Sent: Wednesday, April 3, 2024 12:35 PM
To: Melinda Banks
Subject: April 10th agenda

I would like to discuss selling a van Search and Rescue was given to the Townsend Schools. SAR has not used the van like they originally thought and the school has a need for a new van. I would sell the van for $5500 which is the low end of KBB.

NICK RAUSER
BROADWATER COUNTY
Sheriff | Coroner
519 Broadway
Townsend, MT 59644
PHONE 406.266.9265 | Dispatch 406.266.3441
website | email

BROADWATER COUNTY PARKS AND RECREATION ADVISORY BOARD BYLAWS

ARTICLE I. ORGANIZATION AND PURPOSE

Section 1. Name. The Broadwater County Commission's intent to create the Board was established on August 8, 2011, through Resolution 2011-13 and on September 19, 2011, through Resolution 2011-17. The name of this organization is the **BROADWATER COUNTY PARKS AND RECREATION ADVISORY BOARD,** hereinafter referred to as the "Board".

Section 2. Principal Office. The principal office of the Board shall be at the Broadwater County Courthouse at 515 Broadway, Townsend, Montana 59644.

Section 3. Mission Statement: To advise the county commissioners of opportunities for healthy, safe, and diverse recreation in Broadwater County.

Section 4. Purpose. The purposes for which the Board is organized are:

- To provide an open process by which all members of the community may involve themselves in the achievement of preserving, protecting, maintaining, improving, and enhancing our natural resources, parkland, and recreational opportunities for current and future generations.
- To make a positive impact on the citizens of Townsend and Broadwater County community.
- To advise the county commissioners on the adequacy of existing recreational facilities and to explore possible expansion if future needs should mandate.
- To advise the county commissioners on possible enhancements and opportunities to develop recreational facilities through grants, donations, and fundraising activities.
- To work with county, city, and school district officials to coordinate enhancements and expansions of recreational programs in Broadwater County

The Board shall have the responsibility of establishing policy, and short and long-term goals of the Board. The policy and goals shall be reviewed and adjusted as needed annually at the January meeting. The Board shall adhere to a policy of welcoming all comments from the

community regarding recreational development. That policy shall include requesting all recommendations to be in the form of letters. After considering the recommendations, the Board shall invite presentations of those recommendations if they so desire. Any and all recommended changes shall be approved by the Broadwater County Commissioners.

ARTICLE II. BOARD MEMBERSHIP AND RESPONSIBILITIES

Section 1. Members. The Board shall consist of seven (7) voting members who are appointed by the commissioners and serve at their pleasure. Appointments shall be made according to the Broadwater County Boards Appointment & Function Policy.

Section 2. Terms. Terms of each member shall be staggered. The commissioners shall establish the staggered order of terms. The first year of appointment shall be for one (1) year, following years' appointments shall be two (2) or three (3) years staggered. Appointments are made for calendar year or as vacancies arise.

Section 3. Removal of Members from the Board. As the proper functioning of a board is seriously impaired by the absence of its members, if a member has three (3) consecutive unexcused absences from regularly scheduled meetings during the year, the commissioners may be informed, and a replacement requested.

Section 4. Advisory Members. Advisory members will include a County Commissioner "ex-officio" member and an "ex-officio" Planning Director. Additional advisory members may be appointed as non-voting members. Advisory members may also include a City Council liaison as an ex-officio member.

Section 5. Vacancies. Vacancies for voting members shall be filled by the commissioners for the unexpired portion of the term. Section 7-1-201 (3)(c), MCA.

Section 6. Compensation. Members and advisory non-voting members are not compensated other than for necessary expenses which must be approved in advance by the commissioners. Transportation and actual expenses may be reimbursed per the Broadwater County Reimbursement Policy based on state per diem rates with prior approval from the commissioners. No other compensation shall be allowed.

ARTICLE III. BOARD OFFICERS

Section 1. Elections. Officers shall be elected by members of the board at the first regular meeting in each calendar year and shall serve one (1) year. Officers may be re-elected to serve multiple years, there shall be no term limits.

Section 2. Chair. The board shall elect a Chair who shall conduct all meetings and business of the Board according to Open Meeting Laws and to encourage Public Participation of all citizens. The Chair shall take public comment at all meetings and prior to all votes and shall maintain civility.

Section 3. Vice Chair. The board shall elect a Vice Chair who shall conduct all meetings and business of the Board in the Chair's absence.

Section 4. Secretary. The board shall elect a Secretary if no Administrative Assistant is appointed by the County. An appointed Administrative Assistant is not a voting member and shall perform the described duties of Secretary. If a Secretary is elected, he or she shall take minutes at meetings and is responsible for correspondence. The Secretary shall be responsible for posting meeting notices at least 48 hours prior to the meeting and email a copy of the agenda and relevant information to board members prior to the meeting.

ARTICLE IV. MEETINGS OF THE BOARD

Section 1. Annual Organizational Meetings. An annual organizational meeting is held at the first regular meeting in each calendar year. Calendar year begins on January 1 and ends on December 31. At this meeting the agenda will include but is not limited to:

- Elect officers and appoint advisory members;
- Review the board objectives which guide the board;
- Review the By Laws of the board;
- Provide overview and training as needed for new members.

Section 2. Regular Meetings. The Broadwater County Parks and Recreation Board will hold a regular monthly meeting not less than ten (10) times per year. The Board's regular monthly meeting date, time, and location shall be the third (3rd) Monday of every month, at 6:00 p.m., in the Commissioners' meeting room of the Flynn Building, unless determined, by a majority of members that, because of a conflict or other need arises, a change may be made by electronic communication before the next meeting or, if possible, no later than the adjournment of any regular monthly meeting.

All meetings, regular and special, including all Board deliberations during such meetings, are open to the public. Public comment is acceptable only during that portion of the meeting designated for such comment, or upon deliberation of any agenda item for which an individual or group has specific business as identified by the agenda for that meeting. The Chair may ask

members of the public present at any meeting to state their business with the Board so that the Board may consider rescheduling that business item for the convenience of the individual or group.

Section 3. Special Meetings. Special meetings shall be called a necessary by the Chair, or at the request of any two (2) board members. Meetings may be held at any predestined place or time to encourage Public Participation.

Section 4. Quorum. A majority of board members constitutes a quorum for all meetings. If any meeting is convened where there is not a quorum, the directors present may discuss routine matters but may not hear testimony or take formal action on any matter requiring motion and a vote. No meeting shall be held unless all members of the Board have been given notice.

Section 5. Manner of Action. An act of a majority of the members at a meeting at which a quorum is present shall be the act of the Broadwater County Parks and Recreation Board, except where otherwise provided by law. There is no proxy voting. There is no email voting. Online and phone voting shall be allowed if the member has all materials and stays for the entire meeting.

Section 6. Parliamentary Procedure. For all procedural matters not specifically covered in the Bylaws, the controlling parliamentary authority shall be Robert's Rules of Order.

- The Chair, being a co-equal director of the Board, shall in addition to presiding, have a right to participate in debate, and shall vote on all motions, and not only where the vote of the chair would create or break a tie.
- A motion, once stated and seconded, limits the debate to points relevant to the motion. Prior to a formal motion being stated, general discussion of and the presentation of information relevant to an agenda item being considered is in order.
- Before taking of any action, the Chair shall allow members of the audience to be heard. All public comment shall be civil. All boards members shall conduct themselves in a civil manner as they serve for the citizens of Broadwater County. No member of the audience may be heard during Board discussion. The Chair may reasonably limit audience participation but must do so in an equitable manner.
- Reconsideration of any action of the Board may be allowed at any time, upon motion of a board member who voted affirmatively.

- Routine matters, such as setting meeting times and adjournment, setting future agenda items, or appointment of committees, may be by consensus rather than by motion and vote.

Section 7. Agendas and Notice of Meetings. The Board, through its Secretary or appointed Administrative Assistant, shall ensure that an agenda and location of all meetings, including special meetings, is published and available for public inspection at least forty-eight (48) hours, consisting of time in business days only, in advance of the meeting. A majority of Board members constitutes a quorum for the purposes of conducting business and exercising Board powers. Action may be taken by a majority vote of the members present and voting.

Section 8. Open Meetings Requirements. All meetings are open to the public. Section 2-3-203(1) MCA. Meetings may be closed to the public when the discussion relates to a matter of individual privacy and then only where the Chair determines on the record that the demands of individual privacy clearly exceed the merits of public disclosure. The right of individual privacy may be waived by the individual about whom the discussion pertains and, in that event, the meeting remains open to the public. Section 2-3-203(2)(3), MCA. To comply with the spirit and intent of the open meeting and public participation laws, public notice of not less than two business days shall be given of all Board meetings, regular and special. Two business days' notice need not be given where the Board must deal with an emergency situation affecting public health, welfare, or safety. Section 2-3-112(1) MCA.

Section 9. Minutes. Minutes of all the Board meetings shall be kept by the appointed Administrative Assistant or Secretary and shall be signed by the Chair and/or Vice Chair, after approval by the Board at the next meeting. Minutes of all open meetings, and portions of meetings that are open to the public, shall be kept available for inspection by the public in the Clerk & Recorder's office. The secretary shall keep separate minutes of all discussions and votes held during executive sessions, those shall be sealed and kept in the Human Resource/Finance Office. The minutes need not have detailed reports of discussions but shall have all motions and a roll call vote. The minutes should include the names of members present and absent, and staff and/or public present.

Section 10. Financial Report. An analysis of funds received and disbursed shall be provided at each regular meeting by the Secretary or appointed Administrative Assistant. Any payments of filed claims must be approved by the Board for recommendation to the Broadwater County Commissioners. The fiscal year of the Board shall be a period of July I to June 30.

ARTICLE V. SUBCOMMITTEES

The Chair may appoint Subcommittees as the Chair deems necessary to carry out the work of the Board. . Subcommittees may be composed of representatives of public agencies, private volunteer groups and public members, but members of the Board must make up a majority of any subcommittee.

ARTICLE VI. CONFLICT OF INTEREST

Section 1. Conflicts of Interest. It is in the best interests of the Board to be aware of and properly manage all conflicts of interest and appearances of a conflict of interest. Conflict of interest arises whenever the personal or professional interest of an individual member of the Board is potentially at odds with the best interests of the County. Board members will avoid where possible even the appearance of a conflict of interest or impropriety. This provision is intended to supplement, but not replace, any applicable laws governing conflict of interest. Personal or professional interests include, an interest of any kind, which, in view of all the circumstances, is substantial enough that it would, or reasonably could, affect a member of the Board's judgment with respect to transactions to which that person is a party. Because many situations involve potential conflict of interest, the following procedures apply.

If an issue is to be decided by the Board that involves potential conflict of interest for a member of the Board:

1) It is the responsibility of that member of the Board to:
    a. Identify the potential conflict of interest;
    b. Not participate in discussion of the matter or motion being considered, nor shall he or she attempt to exert his or her personal influence with respect to the matter, either at or outside the meeting. Such non-participation may necessarily include physically leaving the meeting; and
    c. That member shall not vote nor be counted in determining the presence of a quorum for purposes of the vote.
2) It is the responsibility of the Board or members thereof to:
    a. Identify any potential conflict of interest, if known, and

b. Record in the minutes of the Board Meeting the conflict or potential conflict of interest and the actions taken and use the procedures and criteria of this provision.

The Board shall review this provision of the bylaws annually. Any changes shall be communicated to all interested persons.

Article VII

Legal Assistance

The County Attorney represents Broadwater County Boards on matters relating to their functions, powers, and duties.

Article VIII

Indemnification of Directors

Except as otherwise limited by Montana Codes Annotated, Broadwater County may indemnify any board member against claims, liabilities, expenses, and costs necessary incurred in the connection with the defense, compromise or settlement of any action, suit, or proceeding, civil or criminal, in which such board member is made a party by reason of being or having served on a Broadwater County board.

Article IX

Board Responsibility

Non-withstanding any other provision of these bylaws, no member shall take any action or carry on any activity by or on behalf of the Board not permitted to be taken or carried on by a vote of the board.

All proposed expenditures must be approved by majority vote of the board and approved by the Board of County Commissioners.

A majority vote by the board constitutes a board decision. No member may move forward contrary to a board decision. A dissenting member should continue to work with the board in that direction, or on that project.

Article X

Amendments to Bylaws

The bylaws may be altered, amended or repealed and new bylaws may be adopted by two thirds (2/3) majority vote of the Board members present at any meeting if, at least two weeks written notice is given to each member of the board of the intention, at such meeting, to alter, amend or repeal or to adopt new bylaws. The Broadwater County Commissioners must give approval to any alteration, amendment, repeal or new bylaw(s) prior to implementation. The Secretary or Administrative Assistant shall provide an up-to-date copy of these by-laws with the County Commission annually.

Article XI

Approval and Adoption of Bylaws

These bylaws were approved and adopted by Broadwater County City/County Parks and Recreation Board on _____ 2024, effective upon adoption and approval of the county commissioners.

Board Members' Names and Signatures:

_____
Chair *Date*

_____
Vice Chair *Date*

_____
Secretary *Date*

Board of County Commissioners:

_____
Darrel Folkvord, Chair *Date*

_____
Debi Randolph, Vice Chair *Date*

_____
Lindsey Richtmyer, Commissioner *Date*

Attest:

_____
Angie Paulsen, Broadwater County Clerk and Recorder

ADDENDUM TO MONTANA CROSSROADS MINOR SUBDIVISION STAFF REPORT

Preliminary Plat
Dated 10/19/2021

MONTANA CROSSROADS MINOR
SUBDIVISION Preliminary Plat

To: Broadwater County Commissioners
From: Nichole Brown, Broadwater County Community Development Director
Subject: A proposed subdivision to be known as **Montana Crossroads Minor Subdivision**

GENERAL INFORMATION

Date of Application:	October 28, 2021
Element Complete:	December 27, 2021
Date of Sufficiency:	January 6, 2022
Preliminary Approval Granted:	February 23, 2022

SUBDIVIDER: Montana Crossroads, LLC
c/o Craig Rickert
34 Outlier Way
Bozeman, MT 59718

SUBDIVIDER'S REPRESENTATIVE: Alpine Surveying and Engineering
714 Stoneridge Drive, Suite 3
Bozeman, MT 59718

LEGAL DESCRIPTION: Situated in NW ¼ of Section 15, Township 2 North, Range 1 East, Broadwater County, Montana

GENERAL LOCATION: The proposed subdivision is situated off of US Highway 287, approximately thirty (30) miles south of the city of Townsend, Montana.

NEW INFORMATION ANALYSIS BY THE BROADWATER COUNTY COMMISSION:

Section 76-3-615, MCA governs the consideration of new information presented during the review of a subdivision application. On February 8, 2024 the Broadwater County Community Development Director was given documentation for the further review of the Montana Crossroads Minor Subdivision. The Broadwater County Community Development Director determined that this document constitutes new information regarding this subdivision application that had not been considered at a public meeting before the Broadwater County Planning Board.

Pursuant to the 2021 Broadwater County Subdivision Regulations, Section II-A-5-a, the applicable review period is suspended while the subdivision administrator considers the amended application. At a March 7, 2024 meeting with the Subdivider, his consultant, Broadwater County Community Development Director, one Broadwater County Commissioner, Broadwater County Attorney, Broadwater County Deputy Attorney and the Broadwater County Administrative Officer the Subdivider requested to make his request for an addendum to the Montana Crossroads Minor Subdivision Staff Report to the Broadwater County Commissioners during their April 10, 2024 regular business meeting. The Broadwater County Commissioners have scheduled a public meeting for consideration of **only the new** information that may have an impact on the findings and conclusions that the governing body will rely upon in making its decision on the proposed subdivision.

ATTACHMENTS: A. Amended Traffic Impact Study (TIS)

NEW INFORMATION:

The new information/documents submitted as part of this subdivision application process since the last Broadwater County Commission public meeting on February 23, 2022, are discussed in this Addendum to the Staff Report. Recommended findings of fact as they related to the primary review criteria and conditions to mitigate the impacts of the findings of fact are set forth in each section for the Broadwater County Commissioners' consideration, as well as an analysis of the 2020 Broadwater County Growth Policy. The Broadwater County Commissioners will also have to **analyze** public comment received during the public meeting to determine if the public comment is relevant, and if so, whether the public comment requires new/additional findings of fact and conditions to mitigate the impacts of those findings of fact. **Only public comment on the new information can be heard by the Broadwater County Commissioners during the public meeting.** *(Section 76-3-615(2)(b), MCA).*

A. NEW INFORMATION – AMENDED TRAFFIC IMPACT STUDY (TIS)

1. SUMMARY: Traffic was discussed in the Staff Report and the Findings of Fact Order Report originally submitted to the Planning Board and Commissioners under FINDINGS OF FACT REGARDING ROADS AND TRAFFIC. The Staff Report stated:

Internal subdivision roads will meet Broadwater County Road Standards for the Road Standard indicated necessary by the developer's Traffic Impact Analysis.

Traffic was also discussed in the Staff Report and the Findings of Fact and Order Report originally submitted to the Planning Board and Commissioners under THE PROVISION OF LEGAL AND PHYSICAL ACCESS TO EACH PARCEL WITHIN THE PROPOSED SUBDIVISION. The Staff Report and Findings of Fact and Order Report stated:

A condition of approval for the proposed subdivision will require a signed and stamped road plan from the project engineer, and upon time of final plat approval request shall provide a

certification letter from the project engineer that all subdivision roadways have been constructed to said plans and Broadwater County subdivision road standards.

The Traffic Impact Study provided in the original preliminarily approved subdivision application predicted to generate 6,613 new vehicle trips per day. This traffic was proposed to be generated by anticipated commercial uses for an all suites hotel, a building materials and lumber store, a supermarket, a fast-food restaurant with drive-through window and a coffee/donut shop with drive-through window. With this level of average daily trips, the developer would be required to construct the internal subdivision roads to a #4 Major Collector with a paved surface width of 36 feet – 40 feet.

The newly provided Traffic Impact Study anticipates varying amounts of traffic on each of the three subdivision roads. New traffic counts for 'Colter's Run' are 1,305 average weekday trips, for 'Wheatland Road' (which is identified as 'Alexander's Way' on the preliminary plat) 1,070 average weekday trips and for Berron's Way a split traffic count of 1,305 average weekday trips traveling south and 1,070 average weekday trips traveling north. This traffic is proposed to be generated by anticipated commercial uses for a ranch & home supply store, a coffee/donut shop with drive-through, a drive-in bank and an industrial park on two of the lots. With these new traffic counts the internal subdivision roads shall be build to a #2 Local Road standard with a paved surface width of 24 feet.

Based on the above findings a condition of approval for the improvements to the internal subdivision roads was required by the Broadwater County Commissioners. It reads as follows:

1. The applicant shall complete the following to construct the internal access roads **(Mitigates Findings of Fact under "Impacts on Utilities and Impacts on Roads and Traffic under Local Services and the Provision of Legal and Physical Access to each parcel within the proposed subdivision"):**

    a. Prior to submitting the final subdivision plat application, the applicant shall improve all subdivision roads providing legal and physical access to all lots to the specifications required by the County Subdivision Regulations
    b. All roads are to be built in accordance with the reviewed and approved plans. An engineer registered in the State of Montana shall certify all road improvements as meeting County Subdivision Road Standards. The applicant shall be responsible for all costs associated with meeting this condition of approval. (Sections 76-3-102, 501, 504(1)(g)(i), and 608(3), MCA; Chapters I-C, V-E and V-H, Broadwater County Subdivision Regulations)

2. ANALYSIS: According to the 2021 Broadwater County Subdivision Regulations Section V-H-c-i-B, "ADT for commercial/industrial developments must be calculated according to the most current version of Institute of Traffic Engineer's (ITE) Trip Generation Manual, or by a traffic study completed by a qualified professional engineer licensed in the State of Montana."

3. SUGGESTED FINDING: Upon the County's acceptance of the amended Traffic Impact Study, this mitigates the developer's potential requirement to build the internal subdivision roads to a #4 Major Collector.

4. SUGGESTED CONDITIONS: Since the previously imposed condition of approval did not cite the specific standard that the internal subdivision roads should be built to, the previously approved condition of approval is still applicable even though there is a proposed reduction of daily traffic.

5. CONCLUSION: With the existing conditions of approval, the impacts on the Findings of Fact regarding Roads and Traffic and the Provision of Legal and Physical Access to Each Parcel Within the Subdivision shall be mitigated.

ATTACHMENT A

Amended TIS

FEBRUARY
2024

TRAFFIC IMPACT STUDY UPDATE

MONTANA CROSSROADS

Three Forks, Broadwater County, Montana

E5 ENGINEERING, PLLC

Prepared For
Montana Crossroads, LLC

Traffic Impact Study Update

MONTANA CROSSROADS

Three Forks, Broadwater County, Montana

Prepared For

Montana Crossroads, LLC

February 2024

Project No. 24-0101

MONTANA
THOMAS E. EASTWOOD
No. 14769 PE
2/20/2024
LICENSED PROFESSIONAL ENGINEER

PTOE Certification – 2020

619 Milestone Drive • Belgrade, Montana 59714 • (406) 209-3960 • E5EngineeringPLLC@gmail.com

Table of Contents

List of Tables

List of Figures

Executive Summary

Purpose of Report & Study Objectives

This report summarizes the results of a traffic impact study update conducted by E5 Engineering, PLLC for the proposed Montana Crossroads in Three Forks, Broadwater County, Montana. For this traffic impact study update, the focus is primarily on US 287 and its intersections with the existing Wheatland Road and the proposed Colter's Run as well as the proposed Berron's Way intersections with Colter's Run and Wheatland Road. The objectives of the traffic study are as follows:

- Determine the existing vehicular, pedestrian, bicycle, and transit conditions in the study area to establish a base condition.
- Assess the impact that the proposed development will have on transportation conditions in the area.
- Determine any street, access, bicycle, and pedestrian modifications and/or improvements that will be necessary to effectively accommodate and mitigate future conditions.

Study Area

Location & Land Use

Currently, the site of the proposed Montana Crossroads development is vacant. The site is located on Tract C-1 of Certificate of Survey Book 2, Page 658 in Broadwater County, Montana. The project is bounded by United States Highway 287 (US 287) to the west, vacant rangeland to the north and east, and vacant commercial property to the south. Future commercial development is proposed to the west across US 287. Other properties in the immediate area are also primarily commercial, but there are residential properties located across US 287 further northwest.

Study Area Roadway

US 287 (C000008) is functionally classified as a principal arterial by MDT and is a non-interstate, national highway system route. Within the study area, US 287 has a single travel lane in both the northbound and southbound directions separated by a northbound left-turn lane and accompanying painted median for lane transitions. The posted speed limit is 70 miles per hour (70 mph), transitioning from 45 mph just north of Vigilante Way. The combined, paved surface width is approximately 52 feet, inclusive of 12-foot-wide travel lanes plus 8-foot-wide shoulders in each direction.

Study Area Intersections & Traffic Volumes

Current peak period traffic, pedestrian, and bicycle counts were utilized based on previous counts conducted by DOWL on Tuesday, September 28, 2021, for the intersection of US 287 and Wheatland Road. The counts were conducted during the morning (7:00 – 9:00 a.m.) and evening (4:00 – 6:00 p.m.) peak periods. The results of the traffic counts showed that the peak hours occurred between 7:30 and 8:30 a.m. and 4:00 and 5:00 p.m. within the study area. The count data were not adjusted for seasonal and daily variations to allow for a slightly more conservative analysis. Monthly and daily adjustment factors available through MDT would result in a reduction in observed volumes.

Alternative Modes of Transportation

No dedicated facilities for pedestrians or bicyclists are currently included, nor are any specific transit facilities available within the study area.

Proposed Development

The proposed Montana Crossroads has been evaluated based on the following:

- Estimated trip generation for the proposed development was derived utilizing Institute of Transportation Engineers (ITE) trip generation rates based on a ranch and home supply store (ITE Land Use Code 810 – tractor supply store); drive-in bank (ITE Land Use Code 912); coffee/donut shop with a drive-through and without indoor seating (ITE Land Use Code 938); and industrial park (ITE Land Use Code 130) land uses.
- The proposed project is estimated to generate a total of 2,208 average weekday net new vehicle trips spread among the two proposed accesses and interior roadway – Colter's Run, Wheatland Road, and Berron's Way. Forecast average weekday vehicle trips (AWT) for each of those roadways based on the estimated trip distribution noted below are shown in Figure 6 on page 11 for full buildout conditions:
    - Colter's Run – 1,305 AWT
    - Wheatland Road – 1,070 AWT
    - Berron's Way South (at its intersection with Colter's Run) – 1,305 AWT
    - Berron's Way North (at its intersection with Wheatland Road) – 1,070 AWT
- Weekday peak hour net new vehicle trips at full buildout are projected at 134 during the AM and 190 during the PM peak. Pass-by trips are anticipated with the coffee/donut shop land use (ITE Land Use Code 938) and have also been analyzed with the proposed development.
- Pedestrian and/or bicyclist related trips are not anticipated to comprise a significant number of trips with the proposed development due to its location in relation to activity centers near the study area.
- Access to the development is proposed via two approaches to US 287 – Colter's Run and an extension of Wheatland Road. Additionally, the proposed Berron's Way will provide access to the lots within the minor subdivision. All interior subdivision roadways are proposed as local roadways per Broadwater County road standards.

The proposed Montana Crossroads has been evaluated on the basis that Lots 1-3 will be fully built and occupied by the year 2027 and Lots 4-5 will be completely developed by the year 2032.

Transportation Analyses

Operations

Existing & Baseline Conditions

Capacity and level of service (LOS) analyses were performed for the intersection of US 287 and Wheatland Road for existing traffic and non-motorized user conditions based on existing traffic control and intersection geometry. The analyses of existing traffic operations found that the intersection is currently operating within acceptable levels of service (LOS B or better). No specific crash experience concerns were identified for the intersection of US 287 and Wheatland Road.

Projected Traffic

No substandard traffic operations or other transportation related impacts were identified through the year 2027 and 2032 analyses for estimated background or total traffic conditions for US 287 and its intersections with Wheatland Road or the proposed Colter's Run. Additionally, no substandard traffic operations or other transportation related impacts were identified for the Montana Crossroads interior intersections of Colter's Run and Berron's Way or Wheatland Road and Berron's Way.

Auxiliary Turn Lane Analyses

United States Highway 287 (US 287) and its intersections with the proposed Colter's Run and Wheatland Road were evaluated for consideration for auxiliary turn lanes utilizing criteria from the MDT Traffic Engineering Manual (November 2007). The analyses found that the intersections did not meet minimum criteria for consideration of installing left- or right-turn lanes at the intersection of US 287 and Wheatland Road based on any of the analysis scenarios evaluated as a part of this study. At the intersection of US 287 and Colter's Run, the analyses showed that the intersection may meet the criteria for a southbound left-turn lane during the weekday, AM peak hour.

At the intersection of US 287 and Colter's Run, criteria for consideration of a southbound left-turn lane were marginally met for the weekday, AM peak hour based on projected 2032 total traffic volumes. Due to the intersection's limited southbound left-turn volumes projected for 2032 total traffic (8 vehicles during the weekday, AM peak hour and 3 vehicles during the weekday, PM peak hour) and projected favorable traffic operations, it is not recommended that a southbound left-turn lane be installed at this time. Consideration of turn lane installations may be re-evaluated with future development proposals for the lots included with Montana Crossroads or other projects in the area based on known land uses with development proposals and actual traffic volumes in the area at the time of development.

Conclusions & Recommendations

Analysis of trip generation estimates, traffic operations, and considerations for alternative modes of transportation reveal that the proposed Montana Crossroads project will have minimal impact on area traffic operations. Based on the analyses included herein, the following are recommended as appropriate:

Site Accesses

The proposed accesses for the Montana Crossroads to and from US 287 should be designed in accordance with MDT standards and provide adequate intersection sight distance in accordance with MDT and AASHTO standards.

Alternative Modes of Transportation

No off-site facilities for pedestrians and bicyclists are currently proposed to be included with the Montana Crossroads. No specific transit improvements are included with the proposed Montana Crossroads.

Improvements & Traffic Control Guidance

Included recommendations for mitigation and the proposed Montana Crossroads improvements should be installed in accordance with Broadwater County requirements, the most current editions of the *Montana Public Works Standard Specifications*, Montana Department of Transportation standards, and the *Manual on Uniform Traffic Control Devices*.

Proposed Study Area Development

Proposed Development Plan

The proposed Montana Crossroads Minor Subdivision is located on Tract C-1 of Certificate of Survey Book 2, Page 658 situated in the northwest quarter of Section 15, Township 2 North, Range 1 East of the Principal Meridian of Montana (NW ¼, Sec. 15, T2N, R1E, P.M.M.). The project is bounded by United States Highway 287 (US 287) to the west, vacant rangeland to the north and east, and vacant commercial property to the south. Access to the development is proposed via two approaches to US 287 – Colter's Run and an extension of Wheatland Road. Additionally, the proposed Berron's Way will provide access to the lots within the minor subdivision. The site location and study area are shown in Figure 1 on the following page. The proposed layout is shown in Figure 2 on page 6.

Development Horizon

The proposed Montana Crossroads has been evaluated on the basis that Lots 1-3 will be fully built and occupied by the year 2027 and Lots 4-5 will be completely developed by the year 2032.

Transportation Elements of the Proposed Development

Trip Generation

Estimated trip generation for the proposed development was derived utilizing rates published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual, 11th Edition*. The rates used in the analyses were based on a ranch and home supply store (ITE Land Use Code 810 – tractor supply store); drive-in bank (ITE Land Use Code 912); and industrial park (ITE Land Use Code 130) land uses with the estimated 1,000 square feet (ft^2) of gross floor area as the independent variable. Additionally, the coffee/donut shop with a drive-through and without indoor seating land use (ITE Land Use Code 938) was utilized with the number of drive-through lanes as the independent variable. Each estimated land use was also based on a general urban/suburban setting.

For the assumed industrial park land use for Lots 4 and 5, the gross floor area was estimated at approximately 13% of the total combined lot area. This is based on looking at gross floor area ratios for properties in the vicinity of the subdivision and using an estimate that is roughly the 90th percentile of the comparable gross floor area ratios. For comparison, the Wheat Montana site has a gross floor area ratio of approximately 15%.

Based on the ITE trip generation rates, the proposed project is estimated to generate a total of 2,208 average weekday net new vehicle trips; 134 net new vehicle trips during the weekday, AM peak hour; and 190 net new vehicle trips during the weekday, PM peak hour spread among the two proposed accesses and interior roadway – Colter's Run, Wheatland Road, and Berron's Way. Pedestrian and/or bicyclist related trips are not anticipated to comprise a significant number of trips with the proposed development.

Pass-by trips are projected to represent a portion of development traffic related to the coffee/donut shop evaluated as part of this study. Pass-by trips are those that result from traffic passing on an adjacent roadway that enters the site and then exits, resuming travel in the same direction. Pass-by trips are anticipated to account for 92% of coffee/donut shop traffic during the weekday; 90% during the weekday, AM peak hour, and approximately 98% during the weekday, PM peak hour. Pass-by trip estimates were obtained from the ITE *Trip Generation Handbook, 3rd Edition* for ITE Land Use Code 938 except for weekday estimates. A weighted average of weekday, AM and PM peak hour pass-by trips was utilized in estimating weekday pass-by trip composition. The estimated vehicular trip generation for the proposed development is presented in Table 1 on page 7 and is provided in Appendix B.

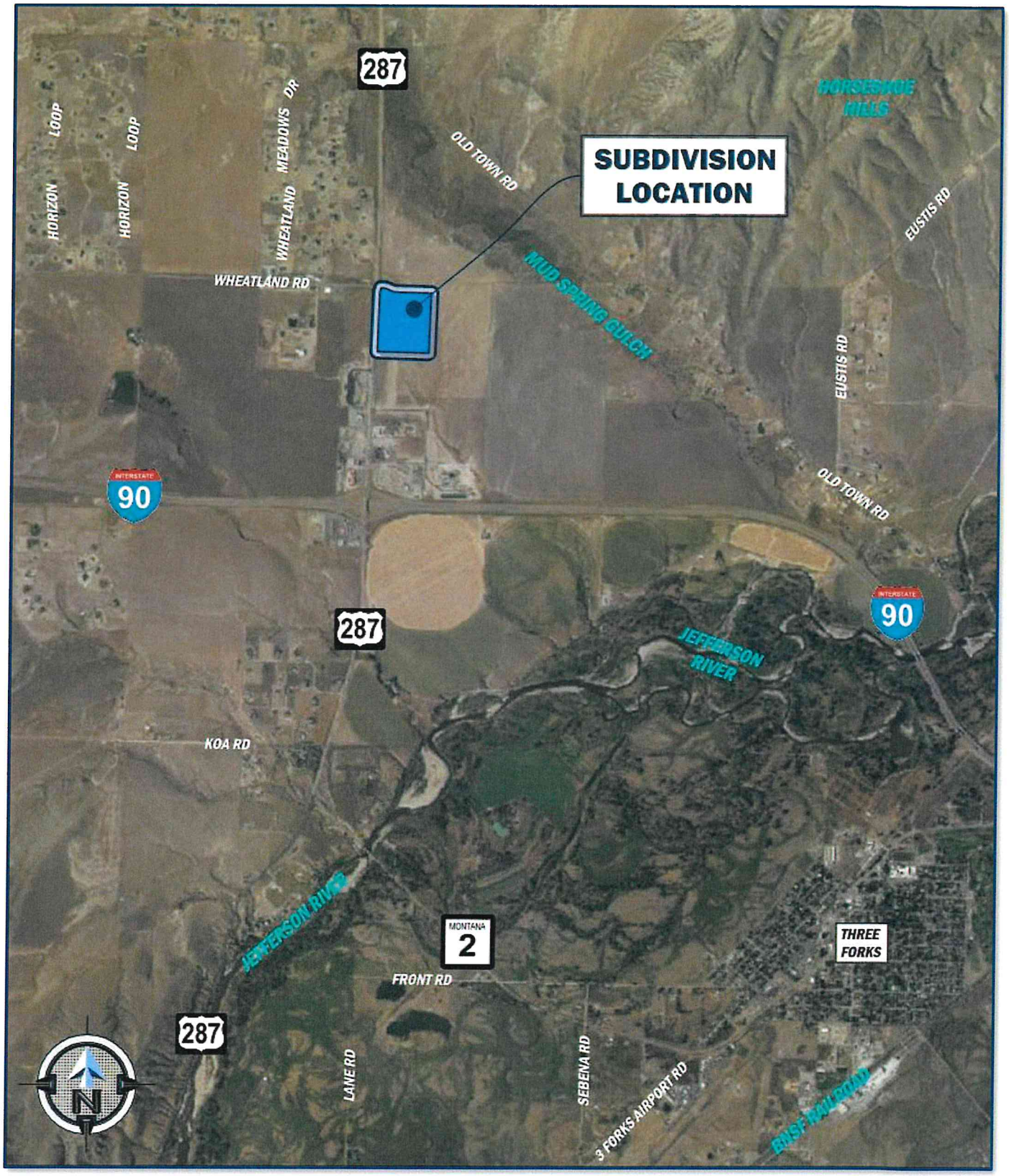


Figure 1: Subdivision Location & Study Area

Figure 2: Subdivision Layout

Table 1: Estimated Montana Crossroads Trip Generation

Land Use	ITE Code	Quantity	Average Weekday Trip Ends			Weekday, AM Peak Hour Trip Ends			Weekday, PM Peak Hour Trip Ends		
			Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Estimated Total Vehicle Trip Ends											
Lots 1-3 Development											
Ranch & Home Supply Store *(Tractor Supply Store)*	810	50.0 GFA	377	377	754	23	26	49	33	37	70
Drive-In Bank	912	3.5 GFA	176	176	352	20	15	35	37	37	74
Coffee/Donut Shop with Drive-Through without Indoor Seating	938	1 DTL	90	90	180	20	20	40	8	8	16
Estimated Pass-By Vehicle Trip Ends											
Coffee/Donut Shop with Drive-Through without Indoor Seating	938	1 DTL	83	83	166	18	18	36	8	8	16
Lots 4-5 Development											
Industrial Park *(Lots 4 & 5)*	130	132.7 GFA	544	544	1,088	37	9	46	10	36	46
Total Units =		**186.2 GFA 1 DTL**									
Total Estimated Net New Vehicle Trip Ends =			**1,104**	**1,104**	**2,208**	**82**	**52**	**134**	**80**	**110**	**190**

GFA = 1,000 ft² of Gross Floor Area & DTL = Drive-Through Lanes

Trip Distribution

Trip distribution is evaluated from the probable traffic routes that development related traffic will utilize based on likely trip origins and destinations given the characteristics of the proposed development and the surrounding area. Various methods are available for estimating trip distribution, including the analogy, trip distribution model, area of influence, origin-destination (O-D), and surrogate data methods. This study utilized primary trip distribution included in the *Montana Crossroads Development: Systems Impact Analysis Report* prepared by DOWL dated September 2022. For pass-by trip distribution, the analogy method was utilized that bases the trip distribution on existing travel patterns on the transportation network around the proposed development. Figure 3 on the following page shows the estimated Montana Crossroads trip distribution.

Traffic Assignment

The assignment of development traffic provides the information necessary to determine the level of subdivision related impacts to the area roadway system and intersections. It involves determining the volume of traffic and its movements within the transportation system. At a minimum, trip assignment must also consider route choice, how the existing transportation system functions, and travel times to and from the development. The resulting traffic assignment within the Phase 1 study area is shown in Figure 4 on page 9.

Figure 3: Estimated Primary & Pass-By Trip Distribution

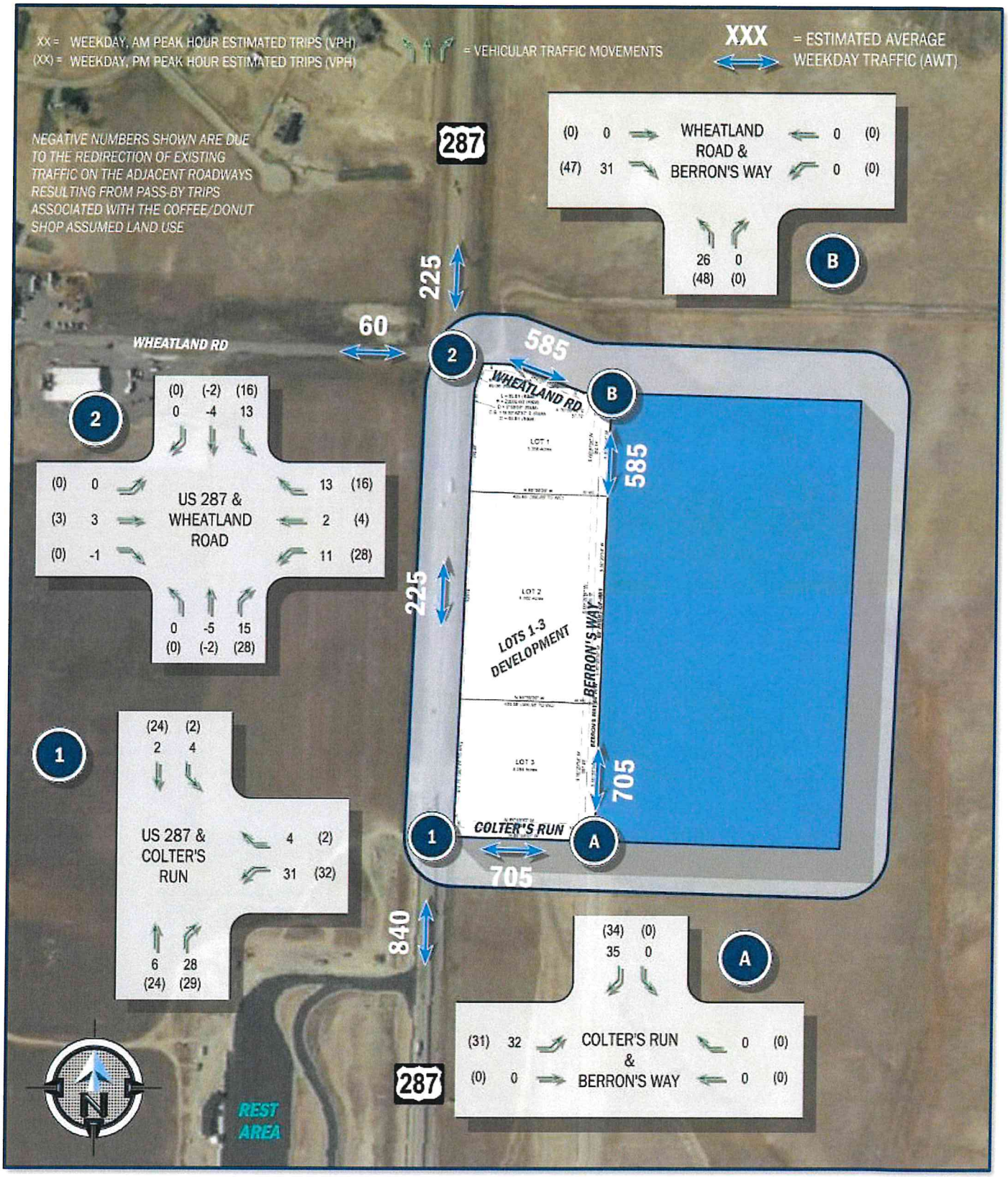


Figure 4: Estimated Traffic Assignment for Development of Lots 1-3

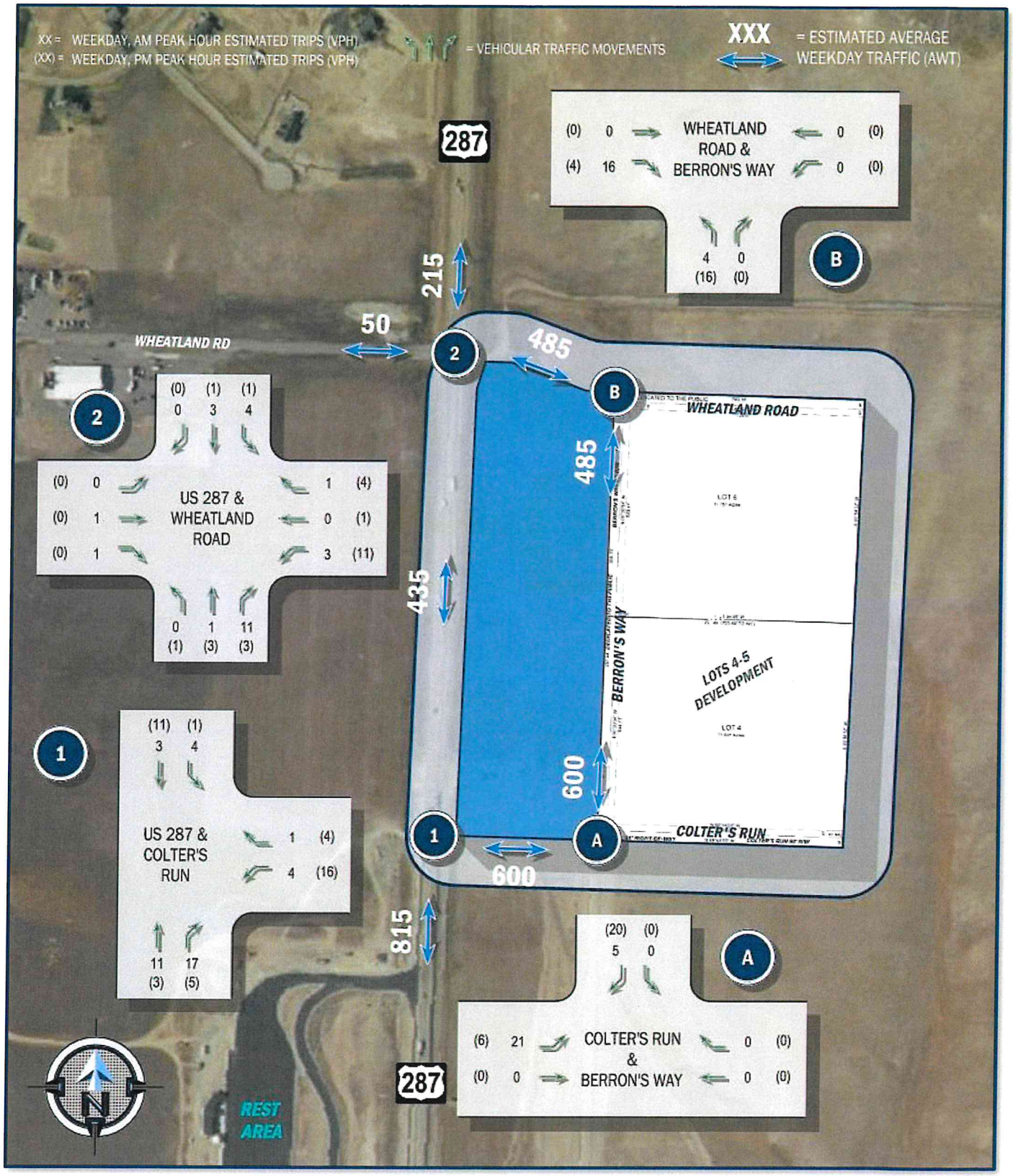


Figure 5: Estimated Traffic Assignment for Development of Lots 4-5

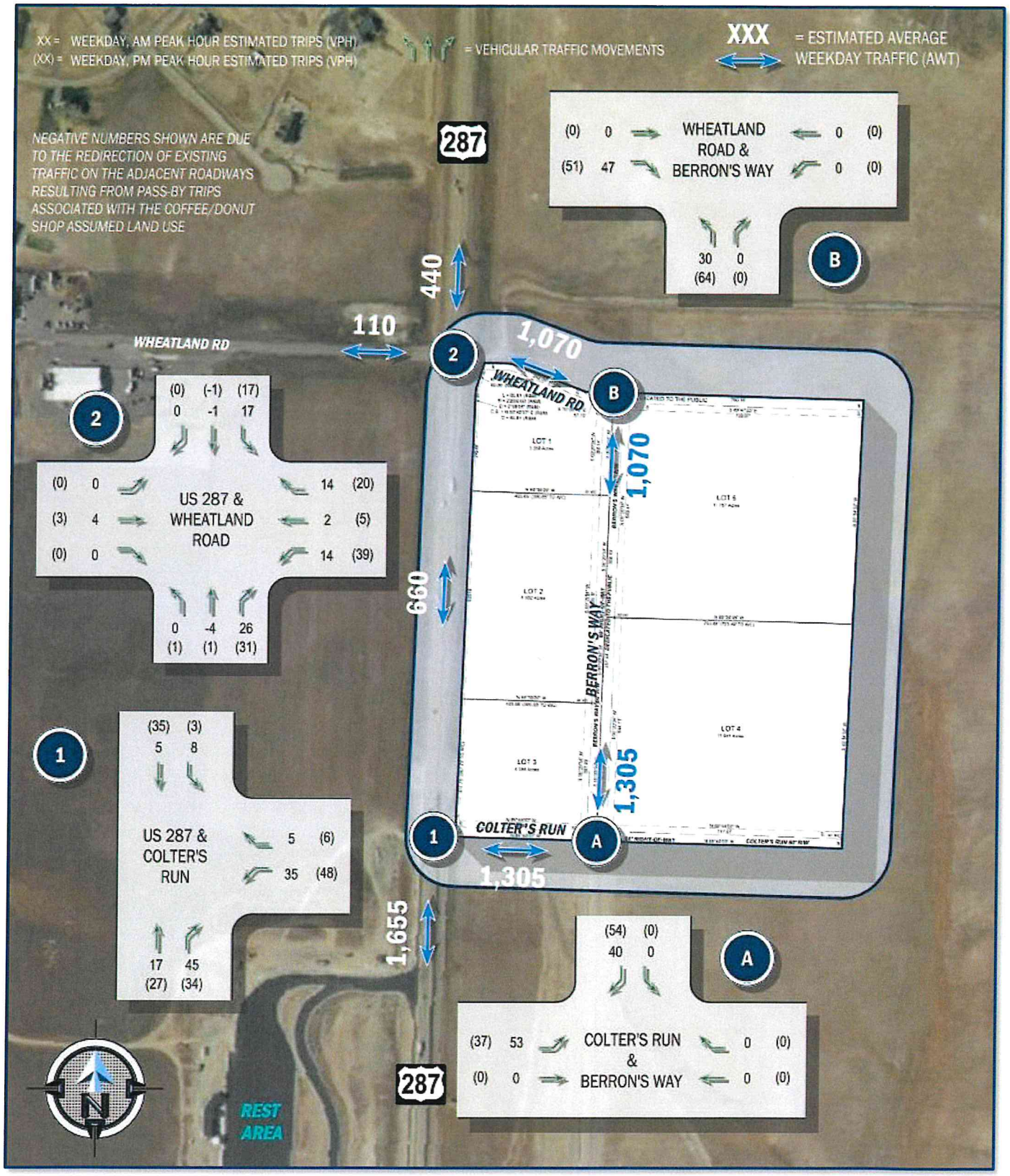


Figure 6: Montana Crossroads Full Buildout Estimated Traffic Assignment

Pedestrians & Bicyclists

No off-site facilities for pedestrians and bicyclists are currently proposed to be included with the Montana Crossroads Minor Subdivision development.

Transit Service

No specific transit improvements are included with the proposed Montana Crossroads.

Existing Conditions

Study Area Land Use

Currently, the site of the proposed Montana Crossroads development is vacant. The site is located on Tract C-1 of Certificate of Survey Book 2, Page 658 in Broadwater County, Montana. The project is bounded by United States Highway 287 (US 287) to the west, vacant rangeland to the north and east, and vacant commercial property to the south. Future commercial development is proposed to the west across US 287. Other properties in the immediate area are also primarily commercial, but there are residential properties located across US 287 further northwest.

Transportation Network

Study Area Roadway

United States Highway 287 (US 287, C000008) is functionally classified as a principal arterial by MDT and is a non-interstate, national highway system route. Within Montana, the roadway generally runs north-south, entering Montana at the west entrance to Yellowstone National Park and passes by Hebgen Lake and Quake Lake, crossing through the Madison Valley, Ennis, Norris, Harrison, Sappington Junction, and northeasterly along the Jefferson River corridor to Interstate 90. US 287 then continues northerly to Townsend and Helena where it joins Interstate 15. US 287 follows Interstate 15 to Wolf Creek where it diverges and continues to its northern terminus in Choteau, Montana. Outside of the study area, US 93 is a major northwest-southeast route in the western United States, beginning in Port Arthur, Texas and traverses Texas, Oklahoma, Colorado, Wyoming, and Montana to its northern end.

Within the study area, US 287 has a single travel lane in both the northbound and southbound directions separated by a northbound left-turn lane and accompanying painted median for lane transitions. The posted speed limit is 70 miles per hour (70 mph), transitioning from 45 mph just north of Vigilante Way. The combined, paved surface width is approximately 52 feet, inclusive of 12-foot-wide travel lanes plus 8-foot-wide shoulders in each direction. Land uses along US 287 within the study area are primarily commercial with some agricultural properties.

Study Area Intersections

For this traffic impact study update, the focus is primarily on US 287 and its intersections with the existing Wheatland Road and the proposed Colter's Run as well as the proposed Berron's Way intersections with Colter's Run and Wheatland Road. Current traffic control plus the geometric configuration for the intersection of US 287 and Wheatland Road is summarized in Table 2 on the following page.

Table 2: US 287 & Wheatland Road Intersection Existing Characteristics

Intersection ID	Intersection Roadways	Traffic Control	Approach	Lane Configuration	Bike Lane	Pedestrian Accommodations Crossing	Pedestrian Accommodations Marked Crosswalk
2	US 287 & Wheatland Road	STOP 2-Way *(EB & WB – WB Not Signed)*	EB				
			WB				
			NB				
			SB				

Alternative Modes of Transportation

No dedicated facilities for pedestrians or bicyclists are currently included, nor are any specific transit facilities available within the study area.

Traffic Volumes

Count Locations & Data

Current vehicle, pedestrian, and bicycle conditions within the study area, peak period traffic, pedestrian, and bicycle counts were utilized based on previous counts conducted by DOWL on Tuesday, September 28, 2021, for the intersection of US 287 and Wheatland Road. The counts were conducted during the morning (7:00 – 9:00 a.m.) and evening (4:00 – 6:00 p.m.) peak periods. The results of the traffic counts showed that the peak hours occurred between 7:30 and 8:30 a.m. and 4:00 and 5:00 p.m. within the study area.

The count data were not adjusted for seasonal and daily variations to allow for a slightly more conservative analysis. Monthly and daily adjustment factors available through MDT would result in a reduction in observed volumes. Summaries of the count data conducted by DOWL are shown in Figure 7 on the following page.

Safety

Crash Experience

Traffic safety conditions in the study area were documented by reviewing the crash history of the study area using data provided from the Montana Department of Transportation (MDT) crash database. Public crash information for the period 2018 through 2022, the most recent five years available, was reviewed. MDT reported two (2) crashes occurring near the intersection of US 287 and Wheatland Road over the five-year period. Limited data is available through the public crash information provided by MDT. A review of the specific crash reports would be required to obtain additional crash information such as type; weather, roadway, and lighting conditions; number of vehicles, pedestrian, or bicyclist involvement; age and gender of drivers; and other potentially contributing conditions.

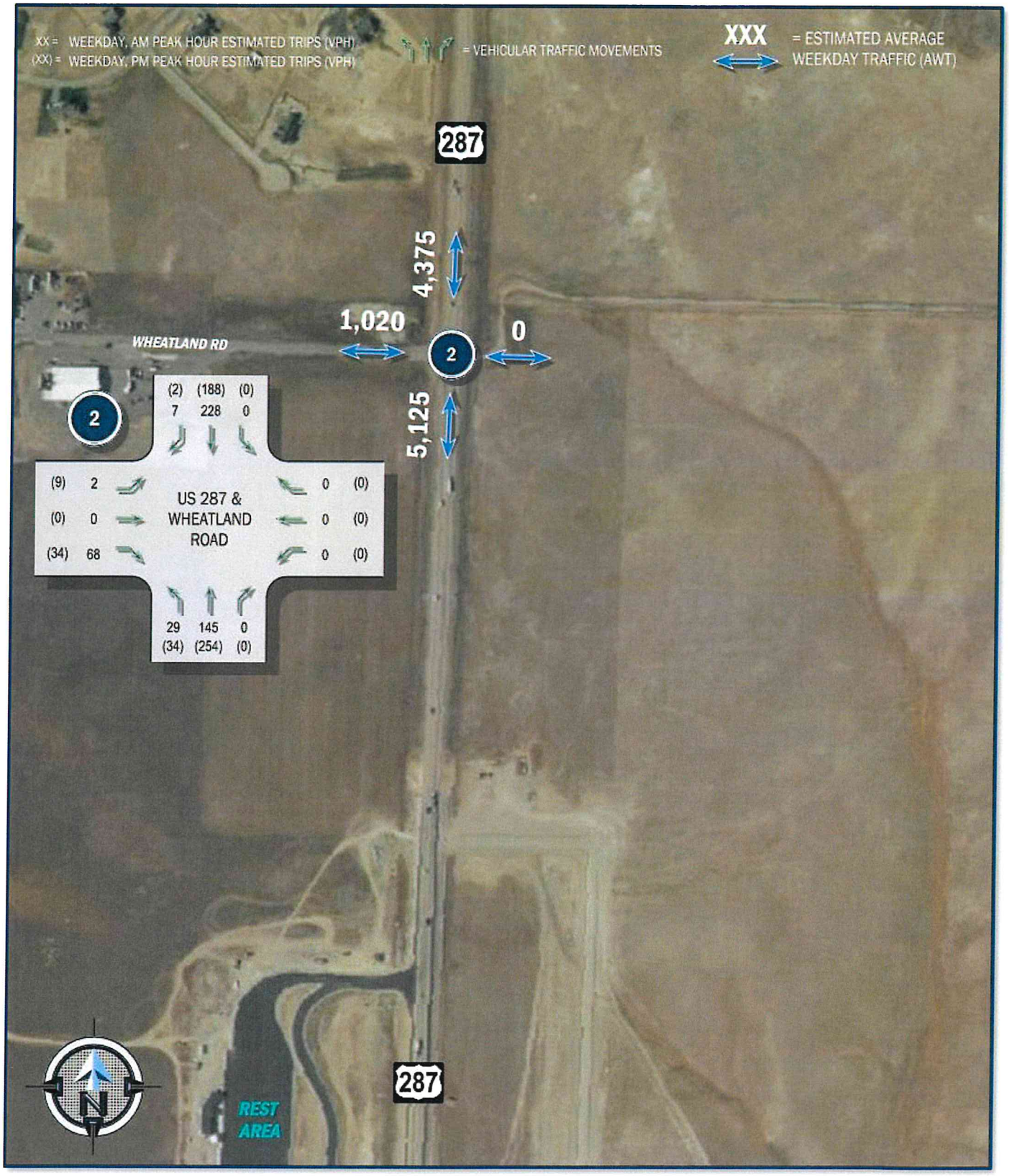


Figure 7: US 287 & Wheatland Road 2021 Traffic Volumes

Table 3: 2018 – 2022 US 287 & Wheatland Road Intersection Vicinity Reported Crash Experience Summary

Data		US 287 & Wheatland Road Intersection Vicinity
Reported Crashes	2018	0
	2019	2
	2020	0
	2021	0
	2022	0
	5-Year Total	2
	5-Year Average	0.4
Estimated Average Annual Daily Traffic (AADT)	September 2021 Weekday Traffic Volume Entering Intersection	5,265
	AADT Seasonal Adjustment Factor	0.891
	Estimated 2021 AADT Volume Entering Intersection	4,690
Reported 5-Year Average Crash Involvement Rate for Intersection Vicinity *Per Million Entering Vehicles (MEV)*		0.23

Projected Traffic

Through Traffic Projections

Growth Rate Projections

Estimated traffic volumes for the 2027 and 2032 analysis years due to growth outside of the study area were projected by applying an average annual growth rate (AAGR) to the 2021 traffic volumes. Traffic growth for US 287 was evaluated between the years 1998 and 2022 to develop forecast growth trends within the study area through the 2027 and 2032 analysis years. The AAGRs utilized as a part of this study are summarized in Table 4 below and the analyses are provided in Appendix C. Traffic growth for Wheatland Road was estimated to be the same as that for US 287 to account for additional development of properties found to the west of the intersection.

Table 4: Estimated Average Annual Growth Rates

Roadway	Location	Roadway Segment 3 & 5-Year Average AAGR	Roadway Segment 10-Year Average AAGR
US 287	North & South of Wheatland Road	5.74%	3.82%
Wheatland Road	West of US 287	5.74%	3.82%

Planned Developments

Traffic growth projections developed by applying the AAGR values are assumed to account for proposed developments within the study area that are expected to be in development through the 2027 and 2032 analysis years.

Projected Background Traffic Volumes

Projected 2024 Baseline Conditions

To gauge an initial assessment of projected existing conditions for the year 2024, the 2021 DOWL count data were adjusted using the AAGR analyses. The estimated 2024 volumes are shown in Figure 8 on the following page.

Projected 2027 & 2032 Background Traffic Volumes

Estimated 2027 background traffic volumes from growth rate projections within the study area were developed to establish the background conditions for the impact analyses resulting from the proposed development of Lots 1-3 of Montana Crossroads and are shown in Figure 9 on page 18. The estimated 2032 background traffic volumes include growth rate projections within the study area as well as full buildout of Lots 1-3 of Montana Crossroads. The estimated 2032 background traffic volumes are shown in Figure 10 on page 19.

Total Traffic Projections

Estimated 2027 total traffic volumes include the combination of background traffic volumes with those projected for the proposed development of Montana Crossroads Lots 1-3, which are shown in Figure 11 on page 20. The estimated 2032 total traffic volumes include background traffic growth in combination with full buildout of the proposed Montana Crossroads development that are shown in Figure 12 on page 21.

Transportation Analyses

Analysis Scenarios

To identify significant project impacts, the following scenarios were evaluated:

- Existing Conditions (2021)
  Operational analysis of year 2021 count data for the intersection of US 287 and Wheatland Road.
- Baseline Conditions (2024)
  Operational analysis of year 2024 projected traffic volumes for the intersection of US 287 and Wheatland Road.
- No Build Scenario – Estimated 2027 Background Traffic Volumes
  Consists of projected, non-site background traffic volumes through the year 2027.
- Phase 1 Buildout Scenario – Estimated 2027 Total Traffic Volumes
  Consists of estimated 2027 background traffic volumes in combination with forecast traffic from the proposed development of Montana Crossroads Lots 1-3.
- Future Phases No Build Scenario – Estimated 2032 Background Traffic Volumes
  Consists of projected, non-site background traffic volumes through the year 2032 in combination with forecast traffic from the proposed development of Montana Crossroads Lots 1-3.
- Full Buildout Scenario – Estimated 2032 Total Traffic Volumes
  Consists of estimated 2032 background traffic volumes in combination with forecast traffic from the development of Montana Crossroads Lots 4-5.

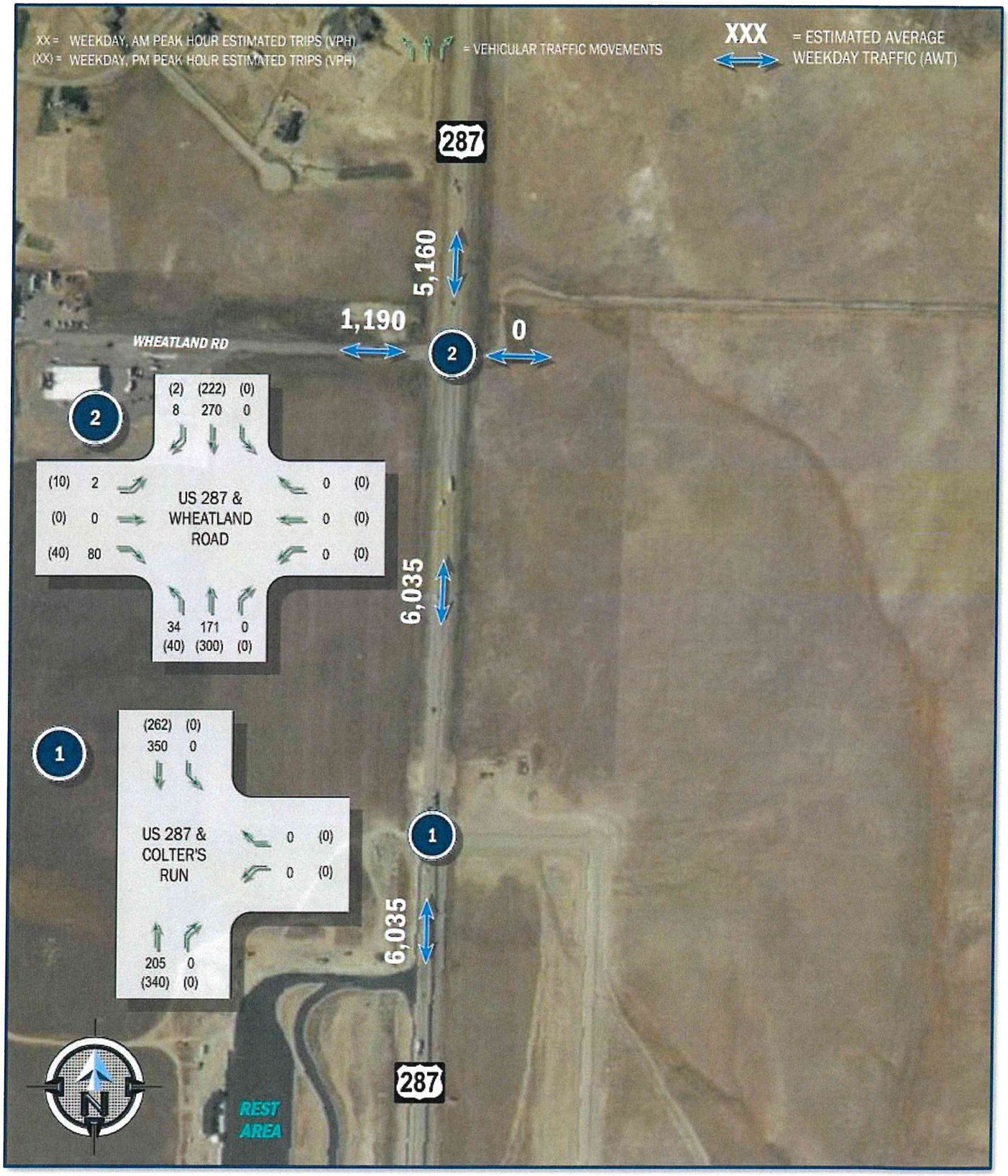


Figure 8: Estimated 2024 Baseline Traffic Volumes

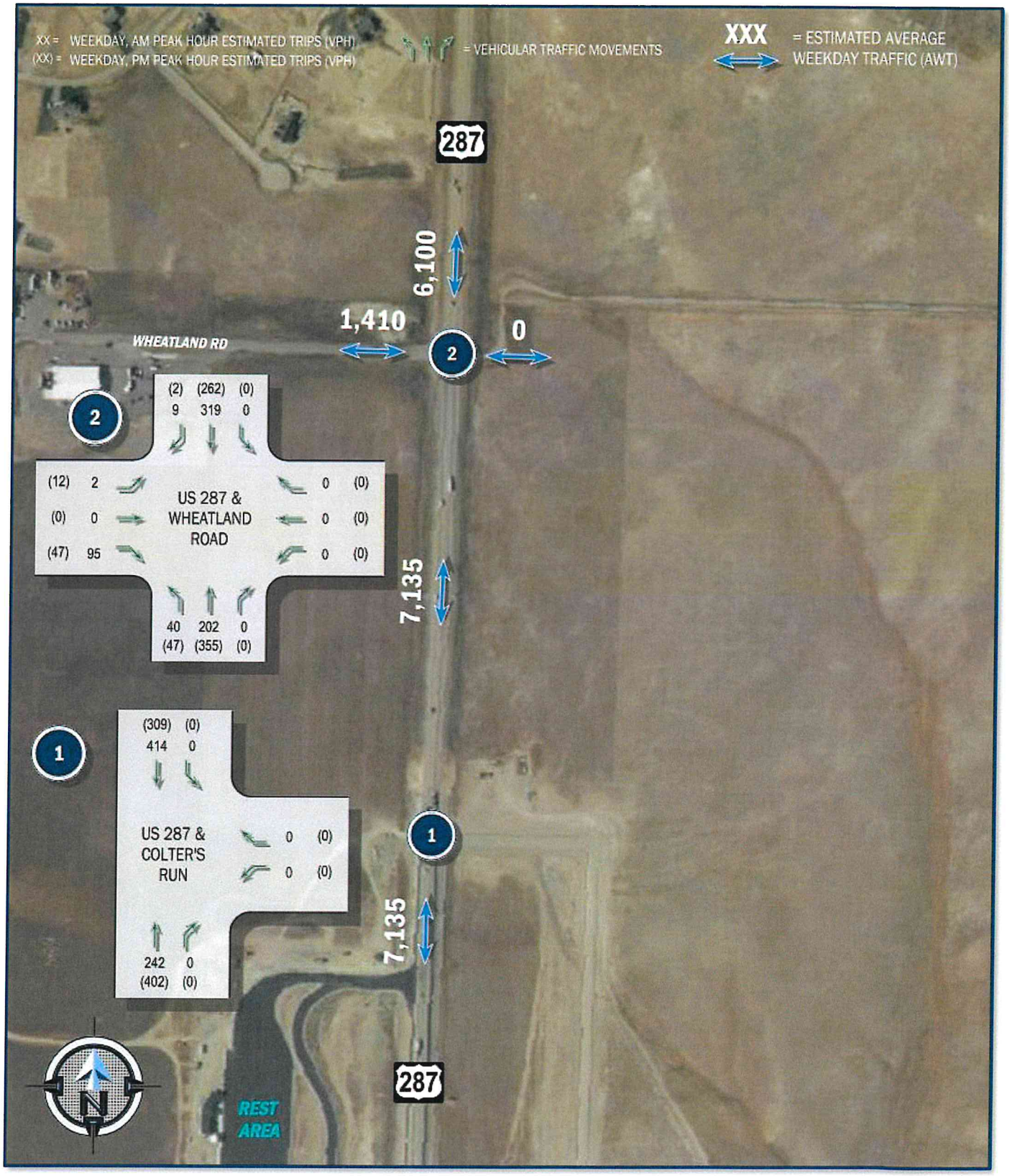


Figure 9: Estimated 2027 Background Traffic Volumes

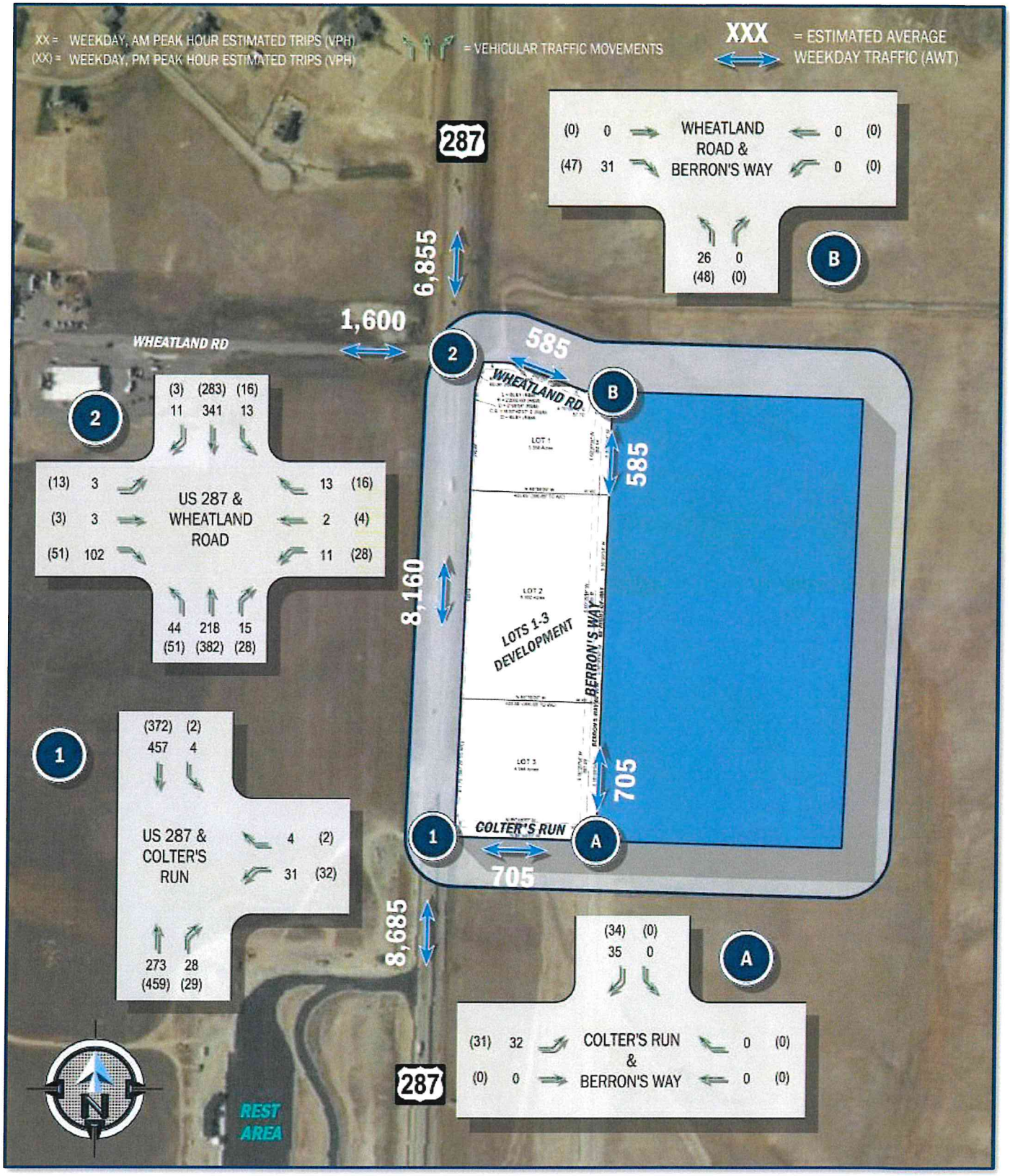


Figure 10: Estimated 2032 Background Traffic Volumes

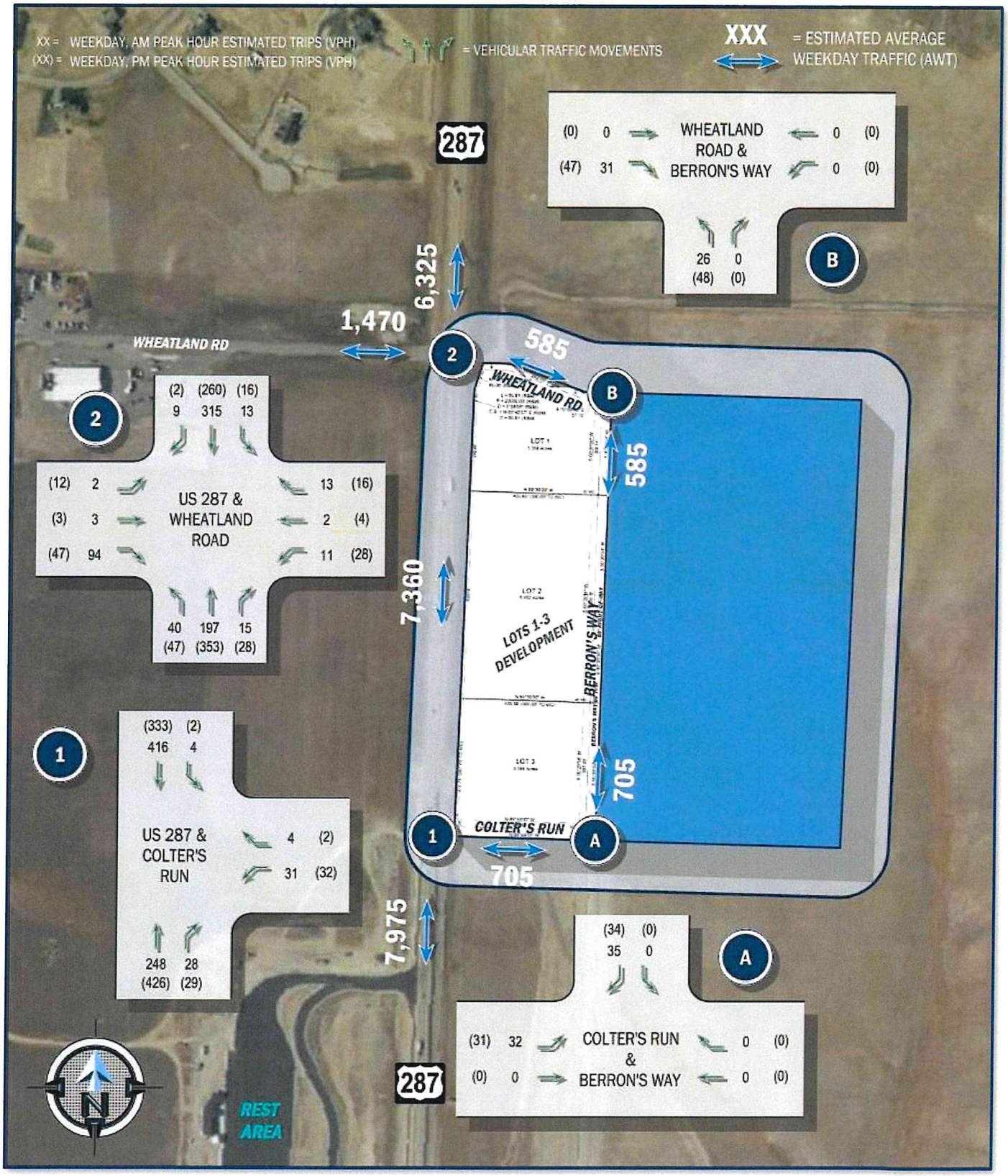


Figure 11: Estimated 2027 Total Traffic Volumes

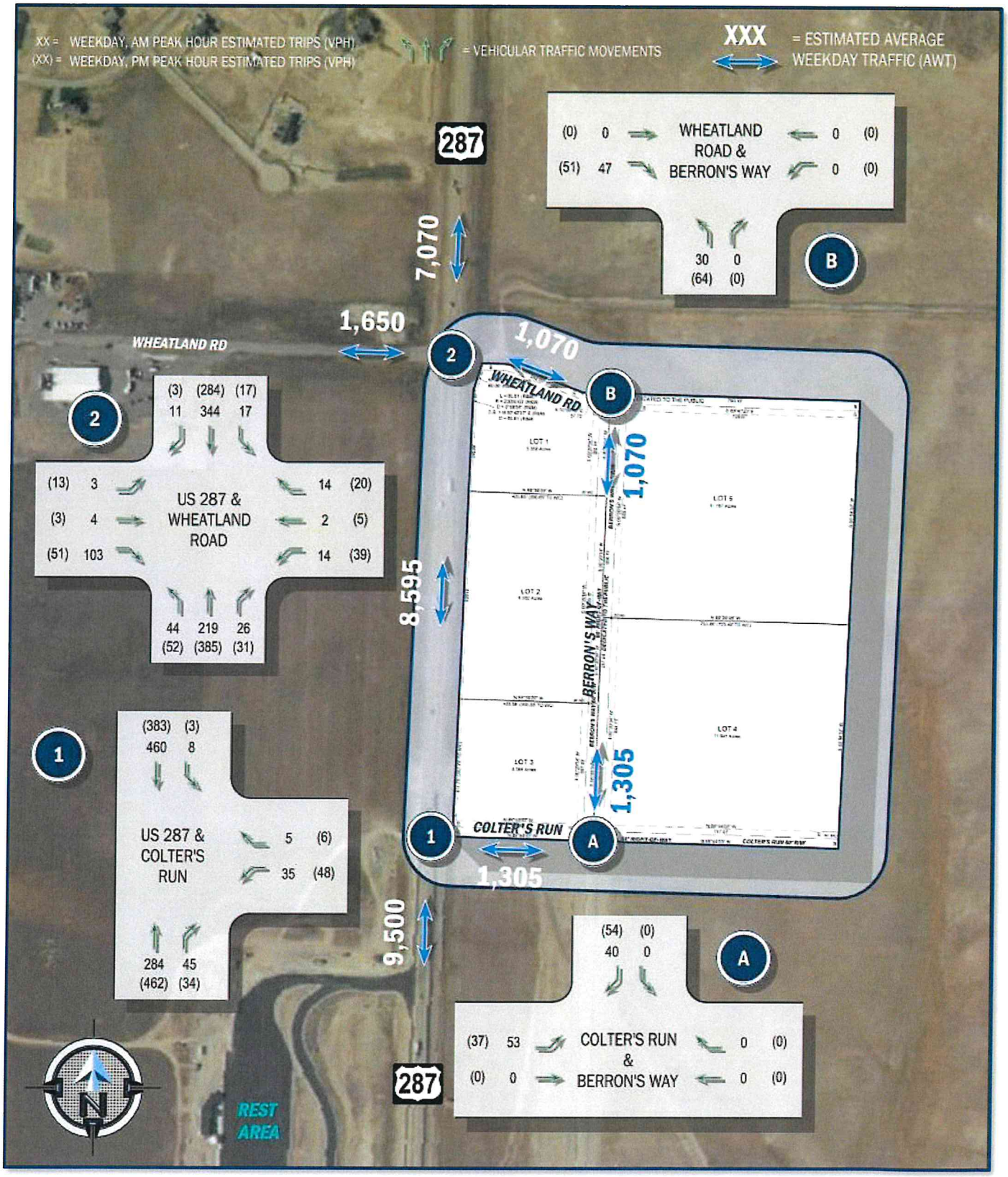


Figure 12: Estimated 2032 Total Traffic Volumes

Analysis Methodologies

Operations

The intersection analyses employ methodologies based on empirical research conducted by the Transportation Research Board (TRB) and other authorities, utilizing level of service (LOS) as the performance measure to evaluate the cumulative effects of such things as travel speed, traffic volumes, roadway and intersection capacity, travel delay, and traffic interruptions. Operating conditions are designated as LOS A through LOS F, representing the most to least favorable.

LOS for intersections is determined by control delay, which is defined as the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. The total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from the free flow speed to the speed of vehicles in the queue. LOS characteristics based on varying durations of average vehicle delay as listed in the *Highway Capacity Manual, 7th Edition | A Guide for Multimodal Mobility Analysis* (HCM) published by the TRB are summarized in Appendix A.

Unsignalized Intersections

The methodology used to determine the level of service for unsignalized intersections is based on Chapter 20 of the HCM for two-way stop controlled (TWSC) intersections. The LOS criteria are applicable for both two-way and all-way stop-controlled intersections. The TWSC analyses were performed using *HCS TWSC Version 8.2* developed and maintained by the McTrans Center at the University of Florida. The HCM methodology for evaluating TWSC intersections is based on gap acceptance and conflicting traffic for vehicles stopped on minor street approaches. The critical gap (or minimum acceptable gap) is defined as the minimum time interval in the major street traffic stream that allows entry for one minor street vehicle. Average control delay and LOS for the minor street approach(es) is/are reported. LOS is not defined by the HCM for the intersection because major street traffic volumes and operations may skew the results of the LOS analyses.

Study Scenario Analyses

Intersection capacity and LOS analyses for the study scenarios were performed using the existing geometry and traffic control at each of the study area intersections. The analyses are summarized in the following figures and detailed results are included in Appendix D.

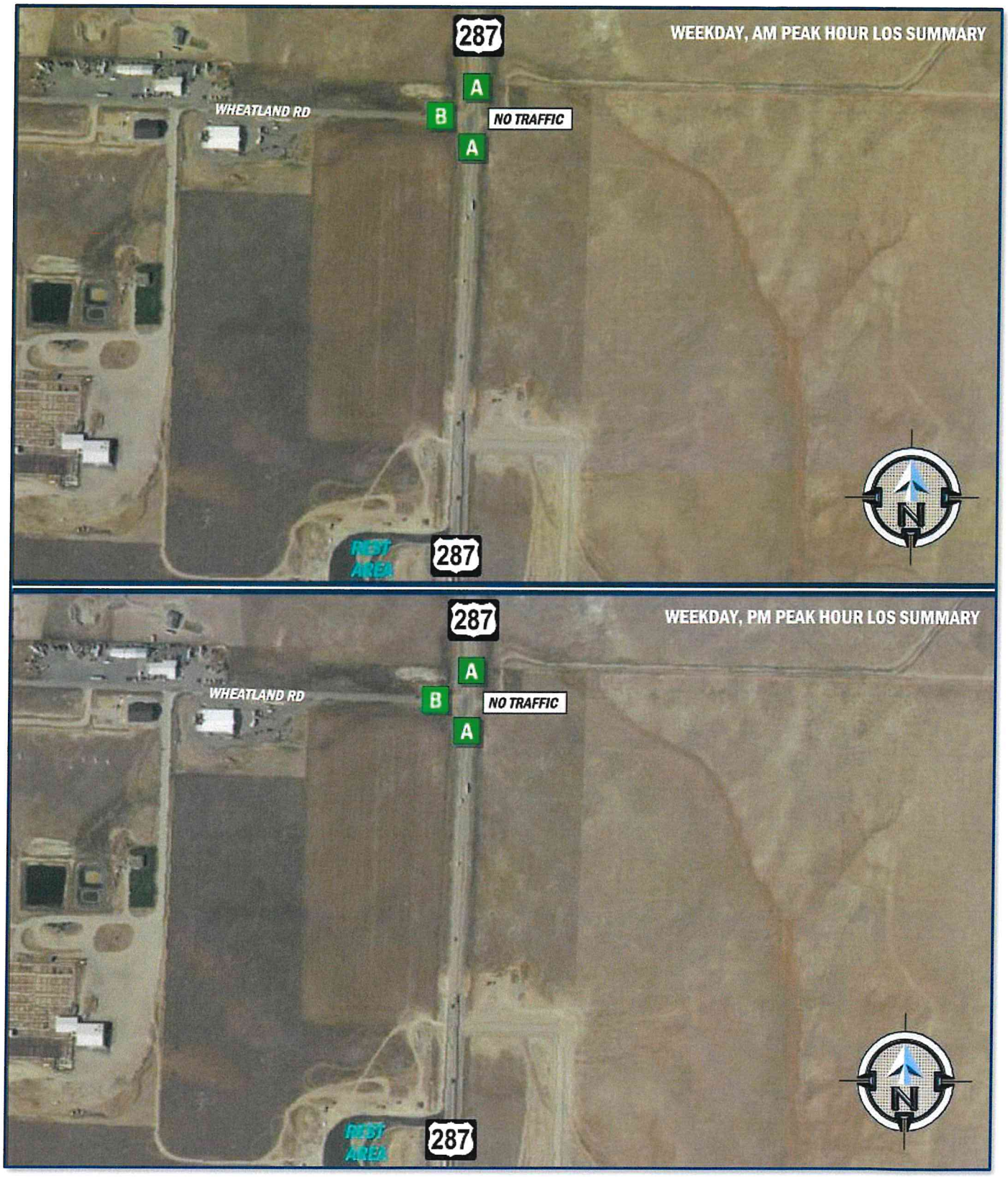


Figure 13: Traffic Operations Summary for 2021 Existing Conditions

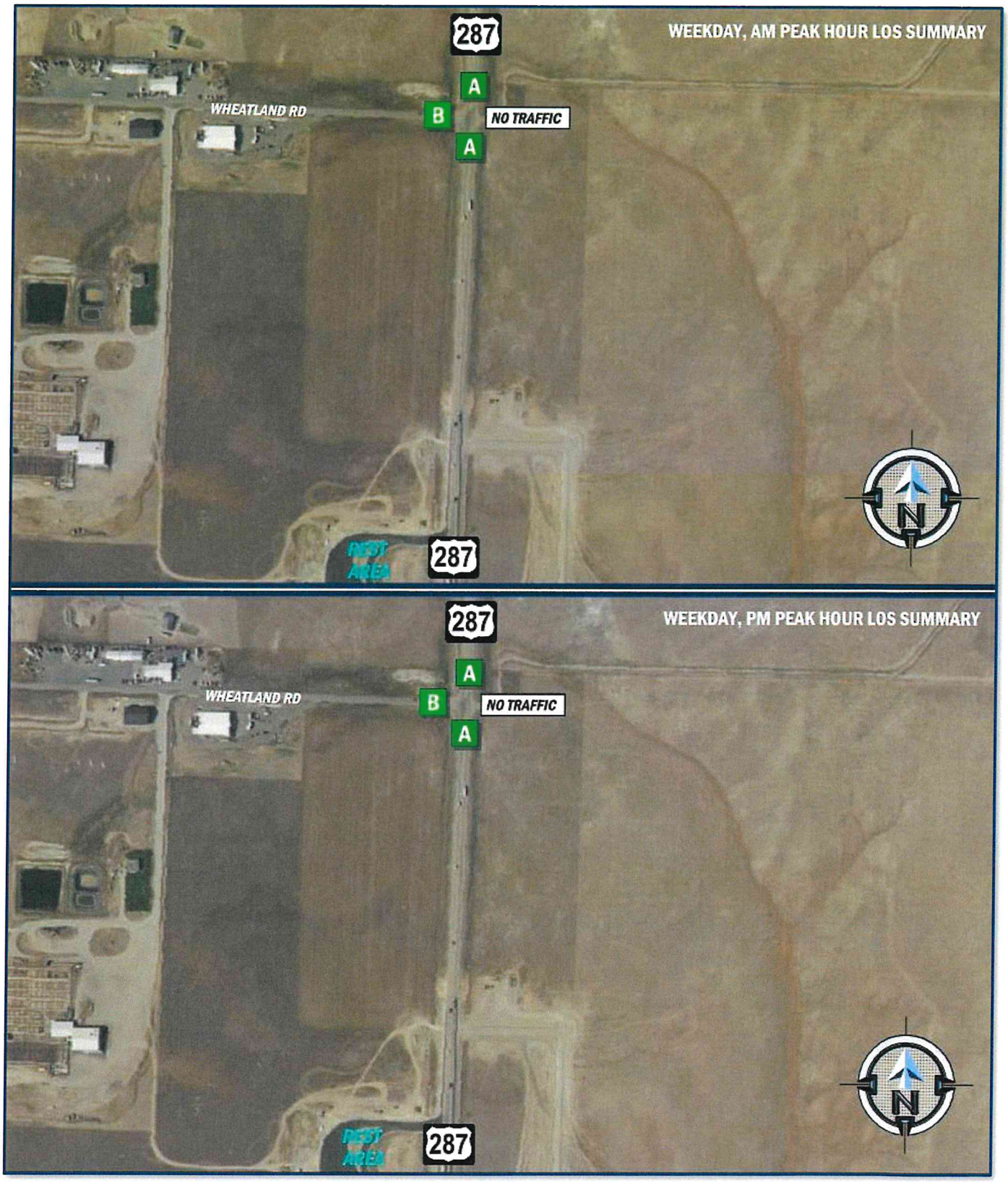


Figure 14: Traffic Operations Summary for Estimated 2024 Baseline Traffic Conditions

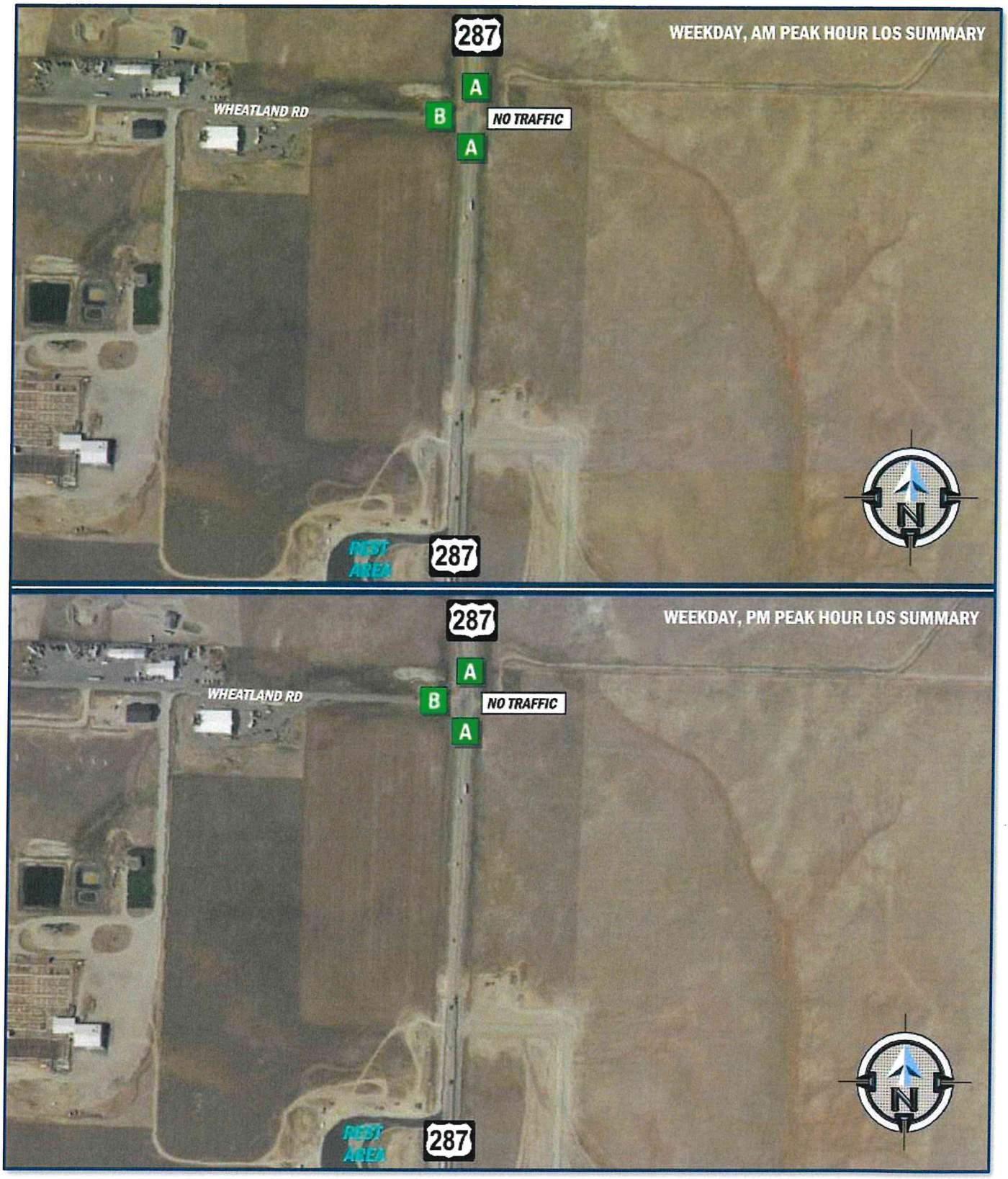


Figure 15: Traffic Operations Summary for Estimated 2027 Background Traffic

Figure 16: Traffic Operations Summary for Estimated 2027 Total Traffic

Figure 17: Traffic Operations Summary for Estimated 2032 Background Traffic

Figure 18: Traffic Operations Summary for Estimated 2032 Total Traffic

Auxiliary Turn Lane Analyses

United States Highway 287 (US 287) and its intersections with the proposed Colter's Run and Wheatland Road were evaluated for consideration for auxiliary turn lanes utilizing criteria from the MDT Traffic Engineering Manual (November 2007). The analyses found that the intersections did not meet minimum criteria for consideration of installing left- or right-turn lanes at the intersection of US 287 and Wheatland Road based on any of the analysis scenarios evaluated as a part of this study. At the intersection of US 287 and Colter's Run, the analyses showed that the intersection may meet the criteria for a southbound left-turn lane during the weekday, AM peak hour. The results of the analyses are provided in Appendix E.

Assessment of Impacts

Traffic Analyses

Operations

The intersection of US 287 and Wheatland Road is currently operating within acceptable levels of service and is projected to continue to do so with development generated traffic from the proposed Montana Crossroads. Additionally, the proposed intersections of US 287 and Colter's Run as well as Berron's Way and its intersections with Colter's Run and Wheatland Road are projected to operate within acceptable levels of service.

Auxiliary Turn Lane Analyses

The auxiliary turn lane analyses found that US 287 and its intersections with Colter's Run and Wheatland Road are not projected to satisfy minimum criteria for installation of northbound right-turn lanes based on forecast traffic volumes through the year 2032. The US 287 and Wheatland Road intersections also did not satisfy minimum criteria for installation of a southbound, left-turn lane. At the intersection of US 287 and Colter's Run, criteria for consideration of a southbound left-turn lane were marginally met for the weekday, AM peak hour based on projected 2032 total traffic volumes. Due to the intersection's limited southbound left-turn volumes projected for 2032 total traffic (8 vehicles during the weekday, AM peak hour and 3 vehicles during the weekday, PM peak hour) and projected favorable traffic operations, it is not recommended that a southbound left-turn lane be installed at this time. Consideration of turn lane installations may be re-evaluated with future development proposals for the lots included with Montana Crossroads or other projects in the area based on known land uses with development proposals and actual traffic volumes in the area at the time of development.

Safety

A significant crash experience trend was not identified within the study area.

Alternative Modes of Transportation

Previous sections noted there are currently no dedicated facilities for pedestrians or bicyclists, nor are any specific transit facilities available within the study area. No off-site facilities for pedestrians and bicyclists are currently proposed to be included with the Montana Crossroads. No specific transit improvements are included with the proposed Montana Crossroads.

Compliance with Applicable Local Codes

The proposed Montana Crossroads improvements should be installed in accordance with Broadwater County and MDT requirements, as applicable.

Conclusions & Recommendations

Analysis of trip generation estimates, traffic operations, and considerations for alternative modes of transportation reveal that the proposed Montana Crossroads project will have minimal impact on area traffic operations. Based on the analyses included herein, the following are recommended as appropriate:

Site Accesses

The proposed accesses for the Montana Crossroads to and from US 287 should be designed in accordance with MDT standards and provide adequate intersection sight distance in accordance with MDT and AASHTO standards.

Alternative Modes of Transportation

No off-site facilities for pedestrians and bicyclists are currently proposed to be included with the Montana Crossroads. No specific transit improvements are included with the proposed Montana Crossroads.

Improvements & Traffic Control Guidance

Included recommendations for mitigation and the proposed Montana Crossroads improvements should be installed in accordance with Broadwater County requirements, the most current editions of the *Montana Public Works Standard Specifications*, Montana Department of Transportation standards, and the *Manual on Uniform Traffic Control Devices*.

References

1. American Association of State Highway and Transportation Officials. (2018). A Policy on Geometric Design of Highways and Streets, 2018 7th Edition – 2nd Printing. Washington, DC.
2. DOWL. (September 2022). Montana Crossroads Development: Systems Impact Analysis Report. Helena, MT.
3. Institute of Transportation Engineers. (2005). Transportation Impact Analyses for Site Development: An ITE Proposed Recommended Practice. Washington, DC.
4. Institute of Transportation Engineers. (September 2017). Trip Generation Handbook, 3rd Edition. Washington, DC.
5. Institute of Transportation Engineers. (2021). Trip Generation Manual, 11th Edition. Washington, DC.
6. Transportation Research Board. (2022). Highway Capacity Manual, 7th Edition | A Guide for Multimodal Mobility Analysis. Washington, DC: The National Academies of Sciences · Engineering · Medicine.

E5
ENGINEERING, PLLC

Appendix A

Level of Service Concepts, Analysis Methodologies,
& Standards of Significance

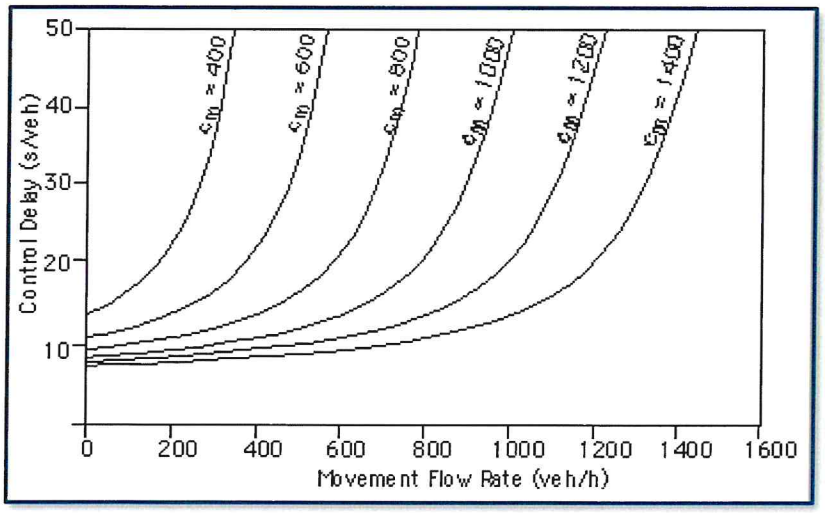
Unsignalized Intersection Level of Service

The method presented in the *Highway Capacity Manual, 7th Edition | A Guide for Multimodal Mobility Analysis* (HCM) published by the Transportation Research Board (TRB) for evaluating unsignalized, stop-controlled intersections is based on the average total delay for each impeded movement. As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. This time includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average total delay for any minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The resulting delay is used to determine the level of service as shown in Table A-1 below.

Table A-1: Level of Service Criteria for Stop-Controlled Intersections

Average Control Delay	Level of Service (LOS)	Characteristics
≤ 10 seconds	A	Little or no delay
10.0 – 15.0 seconds	B	Short traffic delay
15.0 – 25.0 seconds	C	Average traffic delay
25.0 – 35.0 seconds	D	Long traffic delays
35.0 – 50.0 seconds	E	Very long traffic delays
> 50.0 seconds	F	When the demand exceeds the capacity of the lane, extreme delays will be encountered, and queuing may cause severe congestion to the intersection.

Source: *Highway Capacity Manual, 6th Edition | A Guide for Multimodal Mobility Analysis* (Transportation Research Board, 2016)



Source: *Highway Capacity Manual 2000,* Page 17-24 (Transportation Research Board, 2000)

Figure A-1: Control Delay and Flow Rate

E5
ENGINEERING, PLLC

Appendix B

Trip Generation Analyses

HCS Two-Way Stop-Control Report

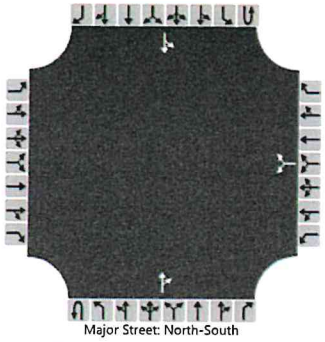
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	US 287 & Colter's Run
Jurisdiction	MDT / Broadwater County
East/West Street	Colter's Run
North/South Street	US 287
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						35		5			284	45		8	460	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							45							9		
Capacity, c (veh/h)							329							1168		
v/c Ratio							0.14							0.01		
95% Queue Length, Q_{95} (veh)							0.5							0.0		
95% Queue Length, Q_{95} (ft)							13.0							0.0		
Control Delay (s/veh)							17.7							8.1	0.1	
Level of Service (LOS)							C							A	A	
Approach Delay (s/veh)					17.7								0.2			
Approach LOS					C								A			

HCS Two-Way Stop-Control Report

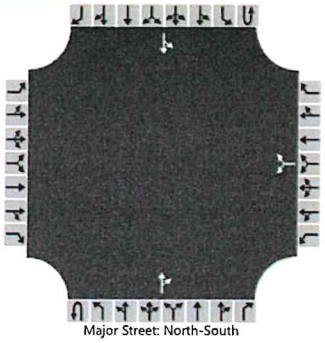
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Background Traffic

Site Information

Intersection	US 287 & Colter's Run
Jurisdiction	MDT / Broadwater County
East/West Street	Colter's Run
North/South Street	US 287
Peak Hour Factor	0.89
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						32		2			459	29		2	372	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							38							2		
Capacity, c (veh/h)							291							1006		
v/c Ratio							0.13							0.00		
95% Queue Length, Q_{95} (veh)							0.4							0.0		
95% Queue Length, Q_{95} (ft)							10.4							0.0		
Control Delay (s/veh)							19.3							8.6	0.0	
Level of Service (LOS)							C							A	A	
Approach Delay (s/veh)	19.3								0.1							
Approach LOS	C								A							

HCS Two-Way Stop-Control Report

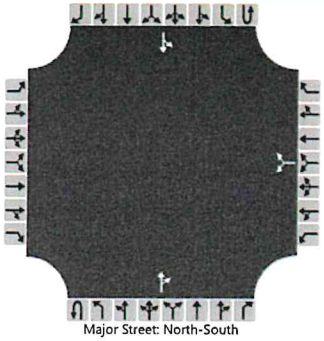
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Background Traffic

Site Information

Intersection	US 287 & Colter's Run
Jurisdiction	MDT / Broadwater County
East/West Street	Colter's Run
North/South Street	US 287
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						31		4			273	28		4	457	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							40							5		
Capacity, c (veh/h)							345							1200		
v/c Ratio							0.12							0.00		
95% Queue Length, Q_{95} (veh)							0.4							0.0		
95% Queue Length, Q_{95} (ft)							10.4							0.0		
Control Delay (s/veh)							16.8							8.0	0.0	
Level of Service (LOS)							C							A	A	
Approach Delay (s/veh)					16.8								0.1			
Approach LOS					C								A			

HCS Two-Way Stop-Control Report

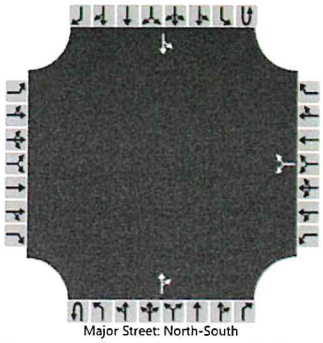
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	US 287 & Colter's Run
Jurisdiction	MDT / Broadwater County
East/West Street	Colter's Run
North/South Street	US 287
Peak Hour Factor	0.89
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						32		2			426	29		2	333	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							38							2		
Capacity, c (veh/h)							324							1039		
v/c Ratio							0.12							0.00		
95% Queue Length, Q_{95} (veh)							0.4							0.0		
95% Queue Length, Q_{95} (ft)							10.4							0.0		
Control Delay (s/veh)							17.6							8.5	0.0	
Level of Service (LOS)							C							A	A	
Approach Delay (s/veh)						17.6							0.1			
Approach LOS						C							A			

HCS Two-Way Stop-Control Report

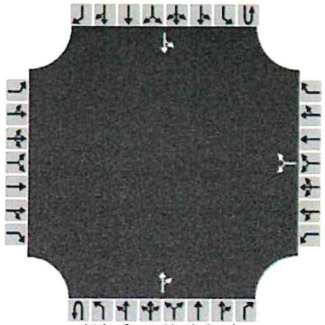
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	US 287 & Colter's Run
Jurisdiction	MDT / Broadwater County
East/West Street	Colter's Run
North/South Street	US 287
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						31		4			248	28		4	416	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							40							5		
Capacity, c (veh/h)							380							1230		
v/c Ratio							0.10							0.00		
95% Queue Length, Q_{95} (veh)							0.3							0.0		
95% Queue Length, Q_{95} (ft)							7.8							0.0		
Control Delay (s/veh)							15.6							7.9	0.0	
Level of Service (LOS)							C							A	A	
Approach Delay (s/veh)						15.6							0.1			
Approach LOS						C							A			

Intersection Operations Summary

United States Highway 287 (US 287) & Colter's Run

Weekday, AM Peak Hour

Analysis Scenario	Traffic Control	Performance Measure	Intersection Operations		US 287	US 287	Colter's Run
			Total	Minor Approach(es)	NB TR	SB LT	WB LR
Estimated 2027 Total Traffic	STOP WB Stop Controlled	Level of Service (LOS)	A	C	A	A	C
		Delay (sec/veh)	1.0	15.6	0.5	0.1	15.6
		Entry Volume (veh/hr)	731	35	276	420	35
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.01	0.10	0.00	0.00	0.10
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.3
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			360	1,395	370
Estimated 2032 Background Traffic	STOP WB Stop Controlled	Level of Service (LOS)	A	C	A	A	C
		Delay (sec/veh)	1.0	16.8	0.5	0.1	16.8
		Entry Volume (veh/hr)	797	35	301	461	35
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.01	0.12	0.00	0.00	0.12
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.4
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			360	1,395	370
Estimated 2032 Total Traffic	STOP WB Stop Controlled	Level of Service (LOS)	A	C	A	A	C
		Delay (sec/veh)	1.2	17.7	0.7	0.2	17.7
		Entry Volume (veh/hr)	837	40	329	468	40
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.01	0.14	0.00	0.01	0.14
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.5
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			360	1,395	370

Weekday, PM Peak Hour

Analysis Scenario	Traffic Control	Performance Measure	Intersection Operations		US 287	US 287	Colter's Run
			Total	Minor Approach(es)	NB TR	SB LT	WB LR
Estimated 2027 Total Traffic	STOP WB Stop Controlled	Level of Service (LOS)	A	C	A	A	C
		Delay (sec/veh)	0.9	17.6	0.3	0.1	17.6
		Entry Volume (veh/hr)	824	34	455	335	34
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.01	0.12	0.00	0.00	0.12
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.4
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			360	1,395	370
Estimated 2032 Background Traffic	STOP WB Stop Controlled	Level of Service (LOS)	A	C	A	A	C
		Delay (sec/veh)	0.9	19.3	0.3	0.1	19.3
		Entry Volume (veh/hr)	896	34	488	374	34
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.01	0.13	0.00	0.00	0.13
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.4
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			360	1,395	370
Estimated 2032 Total Traffic	STOP WB Stop Controlled	Level of Service (LOS)	A	C	A	A	C
		Delay (sec/veh)	1.4	21.0	0.3	0.1	21.0
		Entry Volume (veh/hr)	936	54	496	386	54
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.01	0.21	0.00	0.00	0.21
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.8
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			360	1,395	370

NB = Northbound; SB = Southbound; and WB = Westbound

TR = Thru-Right; LT = Left-Thru; and LR = Left-Right

XXX = Queue length exceeds available queue storage

- Average intersection delay and volume-to-capacity ratio for minor approach(es) is a weighted average provided for reference purposes. The *Highway Capacity Manual, 7th Edition: A Guide for Multimodal Mobility Analysis* (HCM) does not define overall average delay for the intersection as a whole for two-way or single approach stop-controlled intersections.
- The northbound (NB) through-right lane group volume-to-capacity ratios (v/c) are calculated from a weighted average of the number of through vehicles divided by a theoretical capacity of 1,800 vehicles per hour for that movement and the number of right turning vehicles divided by a theoretical capacity of 1,500 vehicles per hour for that movement.The theoretical capacities are based on values derived from the HCM.
- A design vehicle length of twenty-five feet (25 ft) is used in the queue length calculations.

E5
ENGINEERING, PLLC

Appendix D

Capacity & Level-of-Service (LOS) Analyses

Traffic Growth Rate Analyses

Study Area

United States Highway 287
Traffic Growth Projections

MDT Count Location 04-2-003 (US Highway 287 - 1 Mile North of Interstate 90)						
Year	Reported AADT	1-Year AAGR	3-Year AAGR	5-Year AAGR	10-Year AAGR	20-Year AAGR
1998	2,830	-	-	-	-	-
1999	2,240	-20.85%	-	-	-	-
2000	1,210	-45.98%	-	-	-	-
2001	2,710	123.97%	-1.43%	-	-	-
2002	3,080	13.65%	11.20%	-	-	-
2003	3,160	2.60%	37.71%	2.23%	-	-
2004	3,010	-4.75%	3.56%	6.09%	-	-
2005	3,690	22.59%	6.21%	24.98%	-	-
2006	3,680	-0.27%	5.21%	6.31%	-	-
2007	4,330	17.66%	12.89%	7.05%	-	-
2008	3,050	-29.56%	-6.15%	-0.71%	0.75%	-
2009	3,160	3.61%	-4.95%	0.98%	3.50%	-
2010	3,940	24.68%	-3.10%	1.32%	12.53%	-
2011	3,490	-11.42%	4.59%	-1.05%	2.56%	-
2012	3,990	14.33%	8.08%	-1.62%	2.62%	-
2013	3,730	-6.52%	-1.81%	4.11%	1.67%	-
2014	3,990	6.97%	4.56%	4.77%	2.86%	-
2015	3,620	-9.27%	-3.19%	-1.68%	-0.19%	-
2016	4,823	33.23%	8.94%	6.68%	2.74%	-
2017	4,438	-7.98%	3.61%	2.15%	0.25%	-
2018	5,362	20.82%	13.99%	7.53%	5.80%	3.25%
2019	6,425	19.82%	10.03%	10.00%	7.35%	5.41%
2020	6,014	-6.40%	10.66%	10.69%	4.32%	8.35%
2021	6,201	3.11%	4.97%	5.15%	5.92%	4.23%
2022	6,238	0.60%	-0.98%	7.05%	4.57%	3.59%
AVERAGES =	3,936	6.86%	5.74%	5.10%	3.82%	4.96%

AADT = Average Annual Daily Traffic AAGR = Average Annual Growth Rate

AADT data obtained from the Montana Department of Transportation (MDT)

E5
ENGINEERING, PLLC

Appendix C

Average Annual Growth Rate (AAGR) Analyses

Estimated Trip Generation Summary

Montana Crossroads Development

ITE Land Use Code 130: General Light Industrial | Setting/Location = General Urban/Suburban				
Trip Ends Analysis Case	**Estimated Trip Ends Analysis Equation**	**Directional Distribution**		**R^2 Value**
Estimated Vehicle Trip Ends On a Weekday	Ln(T) = 0.52 Ln(X) + 4.45 *T = Estimated Vehicle Trip Ends* *X = 1,000 Square Feet of Gross Floor Area*	50% Entering	50% Exiting	R^2 = 0.58
Estimated Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7:00 and 9:00 a.m.	T = 0.34(X) *T = Estimated Vehicle Trip Ends* *X = 1,000 Square Feet of Gross Floor Area*	81% Entering	19% Exiting	N/A *Estimated Rate Utilized*
Estimated Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4:00 and 6:00 p.m.	T = 0.34(X) *T = Estimated Vehicle Trip Ends* *X = 1,000 Square Feet of Gross Floor Area*	22% Entering	78% Exiting	N/A *Averate Rate Utilized*

ITE Land Use Code 810: Tractor Supply Store | Setting/Location = General Urban/Suburban				
Trip Ends Analysis Case	**Estimated Trip Ends Analysis Equation**	**Directional Distribution**		**R^2 Value**
[2]Estimated Vehicle Trip Ends On a Weekday	T = 1.40(X) / 9.3% *T = Estimated Vehicle Trip Ends* *X = 1,000 Square Feet of Gross Floor Area*	50% Entering	50% Exiting	N/A *Estimated Rate Utilized*
[3]Estimated Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7:00 and 9:00 a.m.	T = 6.5% [1.40(X) / 9.3%] *T = Estimated Vehicle Trip Ends* *X = 1,000 Square Feet of Gross Floor Area*	47% Entering	53% Exiting	N/A *Estimated Rate Utilized*
Estimated Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4:00 and 6:00 p.m.	T = 1.40(X) *T = Estimated Vehicle Trip Ends* *X = 1,000 Square Feet of Gross Floor Area*	47% Entering	53% Exiting	N/A *Averate Rate Utilized*

ITE Land Use Code 912: Drive-In Bank | Setting/Location = General Urban/Suburban				
Trip Ends Analysis Case	**Estimated Trip Ends Analysis Equation**	**Directional Distribution**		**R^2 Value**
Estimated Vehicle Trip Ends On a Weekday	T = 100.35(X) *T = Estimated Vehicle Trip Ends* *X = 1,000 Square Feet of Gross Floor Area*	50% Entering	50% Exiting	N/A *Average Rate Utilized*
Estimated Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7:00 and 9:00 a.m.	T = 9.95(X) *T = Estimated Vehicle Trip Ends* *X = 1,000 Square Feet of Gross Floor Area*	58% Entering	42% Exiting	N/A *Average Rate Utilized*
Estimated Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4:00 and 6:00 p.m.	T = 21.01(X) *T = Estimated Vehicle Trip Ends* *X = 1,000 Square Feet of Gross Floor Area*	50% Entering	50% Exiting	N/A *Average Rate Utilized*

ITE Land Use Code 938: Coffee/Donut Shop with Drive-Through without Indoor Seating | Setting/Location = General Urban/Suburban				
Trip Ends Analysis Case	**Estimated Trip Ends Analysis Equation**	**Directional Distribution**		**R^2 Value**
Estimated Vehicle Trip Ends On a Weekday	T = 179.00(X) *T = Estimated Vehicle Trip Ends* *X = Drive-Through Lanes*	50% Entering	50% Exiting	N/A *Average Rate Utilized*
Estimated Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7:00 and 9:00 a.m.	T = 39.81(X) *T = Estimated Vehicle Trip Ends* *X = Drive-Through Lanes*	50% Entering	50% Exiting	N/A *Average Rate Utilized*
Estimated Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4:00 and 6:00 p.m.	T = 15.08(X) *T = Estimated Vehicle Trip Ends* *X = Drive-Through Lanes*	50% Entering	50% Exiting	N/A *Average Rate Utilized*
Estimated Pass-By Vehicle Trip Ends On a Weekday	T = 92% [179.00(X)] *T = Estimated Vehicle Trip Ends* *X = Drive-Through Lanes*	50% Entering	50% Exiting	N/A *Average Rate Utilized*
Estimated Pass-By Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7:00 and 9:00 a.m.	T = 90% [39.81(X)] *T = Estimated Vehicle Trip Ends* *X = Drive-Through Lanes*	50% Entering	50% Exiting	N/A *Average Rate Utilized*
Estimated Pass-By Vehicle Trip Ends On a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4:00 and 6:00 p.m.	T = 98% [15.08(X)] *T = Estimated Vehicle Trip Ends* *X = Drive-Through Lanes*	50% Entering	50% Exiting	N/A *Average Rate Utilized*

[2]Estimated based on percentage of weekday traffic occurring during the weekday, PM peak hour using hourly vehicular traffic distribution data from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* (2021) for ITE Land Use Code (LUC) 812 - Building Materials & Lumber Store; LUC 815 - Freestanding Discount Store; and LUC 816 Hardware & Paint Store.

[3]Estimates for trip generation and directional distribution based on percentage of weekday traffic occurring during the weekday, AM peak hour using hourly vehicular traffic distribution data from the ITE *Trip Generation Manual, 11th Edition* (2021) for ITE LUC 812 - Building Materials & Lumber Store; LUC 815 - Freestanding Discount Store; and LUC 816 Hardware & Paint Store.

Source: Institute of Transportation Engineers - *Trip Generation Manual, 11th Edition* (2021).

Estimated Trip Generation Summary

Montana Crossroads Development

Land Use	ITE Code	Quantity	[1]Units	Estimated Weekday Trip Ends			Estimated Weekday, AM Peak Hour Trip Ends			Estimated Weekday, PM Peak Hour Trip Ends		
				Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Lots 1-3 Development												
Ranch & Home Supply Store	**810**	**50.0**	**GFA**									
Total Estimated Vehicle Trip Ends				377	377	754	23	26	49	33	37	70
Drive-In Bank	**912**	**3.5**	**GFA**									
Total Estimated Vehicle Trip Ends				176	176	352	20	15	35	37	37	74
Coffee/Donut Shop with Drive-Through without Indoor Seating	**938**	**1**	**DTL**									
Total Estimated Vehicle Trip Ends				90	90	180	20	20	40	8	8	16
Total Estimated Pass-By Vehicle Trip Ends				83	83	166	18	18	36	8	8	16
Total Estimated Net New Vehicle Trip Ends				**7**	**7**	**14**	**2**	**2**	**4**	**0**	**0**	**0**
Lots 4-5 Development												
Lots 4 & 5 - Industrial Park	**130**	**132.7**	**GFA**									
Total Estimated Vehicle Trip Ends				544	544	1,088	37	9	46	10	36	46
Total Commercial 1,000 Square Feet of Gross Floor Area =		**186.2**	**GFA**									
Total Commercial Drive-Through Lanes =		**1**	**DTL**									
Total Estimated Net New Vehicle Trip Ends =				**1,104**	**1,104**	**2,208**	**82**	**52**	**134**	**80**	**110**	**190**

[1]Units: GFA = 1,000 Square Feet of Gross Floor Area & DTL = Drive-Through Lanes

HCS Two-Way Stop-Control Report

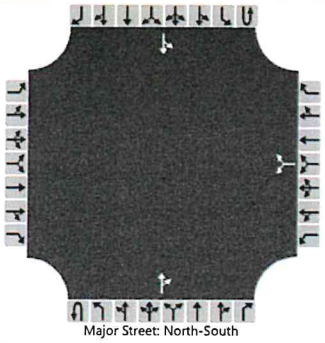
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	US 287 & Colter's Run
Jurisdiction	MDT / Broadwater County
East/West Street	Colter's Run
North/South Street	US 287
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						48		6			462	34		3	383	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							61							3		
Capacity, c (veh/h)							286							993		
v/c Ratio							0.21							0.00		
95% Queue Length, Q_{95} (veh)							0.8							0.0		
95% Queue Length, Q_{95} (ft)							20.8							0.0		
Control Delay (s/veh)							21.0							8.6	0.0	
Level of Service (LOS)							C							A	A	
Approach Delay (s/veh)						21.0								0.1		
Approach LOS						C								A		

Intersection Operations Summary

United States Highway 287 (US 287) & Wheatland Road

Weekday, AM Peak Hour

Analysis Scenario	Traffic Control	Performance Measure	Intersection Operations		Wheatland Road	Wheatland Road	US 287		US 287
			Total	Minor Approach(es)	EB LTR	WB LTR	NB L	NB T+TR	SB LTR
2021 Existing Conditions	STOP EB & WB Stop Controlled	Level of Service (LOS)	A	B	B	A	A	A	A
		Delay (sec/veh)	2.1	10.3	10.3	0.0	8.0	0.0	0.1
		Entry Volume (veh/hr)	479	70	70	0	29	145	235
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.02	0.10	0.10	0.00	0.03	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.3	0.0	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	0	25	0	0
		Available Queue Storage (ft)			600	230	630	1,395	3,640
Estimated 2024 Baseline Traffic Conditions	STOP EB & WB Stop Controlled	Level of Service (LOS)	A	B	B	A	A	A	A
		Delay (sec/veh)	2.1	10.8	10.8	0.0	8.1	0.0	0.1
		Entry Volume (veh/hr)	565	82	82	0	34	171	278
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.02	0.13	0.13	0.00	0.03	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.4	0.0	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	0	25	0	0
		Available Queue Storage (ft)			600	230	630	1,395	3,640
Estimated 2027 Background Traffic	STOP EB & WB Stop Controlled	Level of Service (LOS)	A	B	B	A	A	A	A
		Delay (sec/veh)	2.2	11.5	11.5	0.0	8.3	0.0	0.1
		Entry Volume (veh/hr)	667	97	97	0	40	202	328
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.03	0.16	0.16	0.00	0.04	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.6	0.0	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	0	25	0	0
		Available Queue Storage (ft)			600	230	630	1,395	3,640
Estimated 2027 Total Traffic	STOP EB & WB Stop Controlled	Level of Service (LOS)	A	B	B	C	A	A	A
		Delay (sec/veh)	3.0	12.5	11.8	15.0	8.3	0.4	0.4
		Entry Volume (veh/hr)	714	125	99	26	40	212	337
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.03	0.15	0.17	0.08	0.04	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.6	0.2	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	25	25	0	0
		Available Queue Storage (ft)			600	355	630	1,395	3,640
Estimated 2032 Background Traffic	STOP EB & WB Stop Controlled	Level of Service (LOS)	A	B	B	C	A	A	A
		Delay (sec/veh)	3.0	13.2	12.4	16.3	8.4	0.3	0.4
		Entry Volume (veh/hr)	776	134	108	26	44	233	365
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.03	0.18	0.20	0.08	0.05	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.7	0.3	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	25	25	0	0
		Available Queue Storage (ft)			600	355	630	1,395	3,640
Estimated 2032 Total Traffic	STOP EB & WB Stop Controlled	Level of Service (LOS)	A	B	B	C	A	A	A
		Delay (sec/veh)	3.3	13.7	12.6	17.5	8.5	0.5	0.5
		Entry Volume (veh/hr)	801	140	110	30	44	245	372
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.04	0.19	0.21	0.11	0.05	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.8	0.4	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	25	25	0	0
		Available Queue Storage (ft)			600	355	630	1,395	3,640

EB = Eastbound; WB = Westbound; NB = Northbound; and SB = Southbound LTR = Left-Through-Right; L = Left; T+TR = Through+Through-Right ***XXX*** *= Queue length exceeds available queue storage*

- Average intersection delay and volume-to-capacity ratio for minor approach(es) is a weighted average provided for reference purposes. The *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis* does not define overall average delay for the intersection as a whole for two-way or single approach stop-controlled intersections.
- The northbound (NB) through-right lane group volume-to-capacity ratios (v/c) are calculated from a weighted average of the number of through vehicles divided by a theoretical capacity of 1,800 vehicles per hour for that movement and the number of right turning vehicles divided by a theoretical capacity of 1,500 vehicles per hour for that movement.The theoretical capacities are based on values derived from the HCM.
- A design vehicle length of twenty-five feet (25 ft) is used in the queue length calculations.

Intersection Operations Summary

United States Highway 287 (US 287) & Wheatland Road

Weekday, PM Peak Hour

Analysis Scenario	Traffic Control	Performance Measure	Intersection Operations		Wheatland Road	Wheatland Road	US 287		US 287
			Total	Minor Approach(es)	EB LTR	WB LTR	NB L	NB T+TR	SB LTR
2023 Existing Conditions	EB & WB Stop Controlled	Level of Service (LOS)	A	B	B	A	A	A	A
		Delay (sec/veh)	1.4	11.0	11.0	0.0	7.8	0.0	0.1
		Entry Volume (veh/hr)	521	43	43	0	34	254	190
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.01	0.07	0.07	0.00	0.03	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.2	0.0	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	0	25	0	0
		Available Queue Storage (ft)			600	230	630	1,395	3,640
Estimated 2024 Baseline Traffic Conditions	EB & WB Stop Controlled	Level of Service (LOS)	A	B	B	A	A	A	A
		Delay (sec/veh)	1.5	11.6	11.6	0.0	7.9	0.0	0.0
		Entry Volume (veh/hr)	614	50	50	0	40	300	224
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.01	0.09	0.09	0.00	0.03	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.3	0.0	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	0	25	0	0
		Available Queue Storage (ft)			600	230	630	1,395	3,640
Estimated 2027 Background Traffic	EB & WB Stop Controlled	Level of Service (LOS)	A	B	B	A	A	A	A
		Delay (sec/veh)	1.6	12.8	12.8	0.0	8.1	0.0	0.0
		Entry Volume (veh/hr)	725	59	59	0	47	355	264
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.01	0.12	0.12	0.00	0.04	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.4	0.0	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	0	25	0	0
		Available Queue Storage (ft)			600	230	630	1,395	3,640
Estimated 2027 Total Traffic	EB & WB Stop Controlled	Level of Service (LOS)	A	C	B	C	A	A	A
		Delay (sec/veh)	3.0	16.5	14.0	19.8	8.1	0.4	0.5
		Entry Volume (veh/hr)	816	110	62	48	47	381	278
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.03	0.16	0.15	0.18	0.04	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.5	0.7	0.1	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	25	25	0	0
		Available Queue Storage (ft)			600	355	630	1,395	3,640
Estimated 2032 Background Traffic	EB & WB Stop Controlled	Level of Service (LOS)	A	C	B	C	A	A	A
		Delay (sec/veh)	3.2	17.9	15.0	22.0	8.2	0.3	0.5
		Entry Volume (veh/hr)	878	115	67	48	51	410	302
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.03	0.18	0.17	0.20	0.05	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.6	0.7	0.2	0.0	0.0
		HCM 95% Max Queue Length (ft)			25	25	25	0	0
		Available Queue Storage (ft)			600	355	630	1,395	3,640
Estimated 2032 Total Traffic	EB & WB Stop Controlled	Level of Service (LOS)	A	C	C	C	A	A	A
		Delay (sec/veh)	3.7	19.7	15.2	24.5	8.2	0.4	0.5
		Entry Volume (veh/hr)	903	131	67	64	52	416	304
		Ped/Bike Volumes (ped+bike/hr)	0	0	0	0	0		0
		Volume-to-Capacity Ratio (v/c)	0.04	0.23	0.18	0.28	0.05	0.00	0.00
		HCM 95% Max Queue Length (veh)			0.6	1.1	0.2	0.0	0.1
		HCM 95% Max Queue Length (ft)			25	28	25	0	25
		Available Queue Storage (ft)			600	355	630	1,395	3,640

EB = Eastbound; WB = Westbound; NB = Northbound; and SB = Southbound

LTR = Left-Through-Right; L = Left; T+TR = Through+Through-Right

XXX = *Queue length exceeds available queue storage*

- Average intersection delay and volume-to-capacity ratio for minor approach(es) is a weighted average provided for reference purposes. The Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis does not define overall average delay for the intersection as a whole for two-way or single approach stop-controlled intersections.
- The northbound (NB) through-right lane group volume-to-capacity ratios (v/c) are calculated from a weighted average of the number of through vehicles divided by a theoretical capacity of 1,800 vehicles per hour for that movement and the number of right turning vehicles divided by a theoretical capacity of 1,500 vehicles per hour for that movement.The theoretical capacities are based on values derived from the HCM.
- A design vehicle length of twenty-five feet (25 ft) is used in the queue length calculations.

HCS Two-Way Stop-Control Report

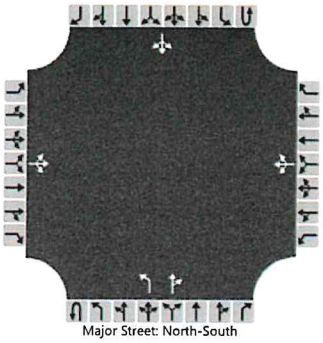
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	9/28/2021
Analysis Year	2021
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Existing Conditions

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.89
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		2	0	68		0	0	0		29	145	0		0	228	7
Percent Heavy Vehicles (%)		0	0	3		0	0	0		14				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.23		7.10	6.50	6.20		4.24				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.33		3.50	4.00	3.30		2.33				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			79				0			33				0		
Capacity, c (veh/h)			763				0			1234				1428		
v/c Ratio			0.10							0.03				0.00		
95% Queue Length, Q_{95} (veh)			0.3							0.1				0.0		
95% Queue Length, Q_{95} (ft)			7.7							2.8						
Control Delay (s/veh)			10.3							8.0				7.5	0.0	0.0
Level of Service (LOS)			B							A				A	A	A
Approach Delay (s/veh)	10.3								1.3				0.0			
Approach LOS	B								A				A			

HCS Two-Way Stop-Control Report

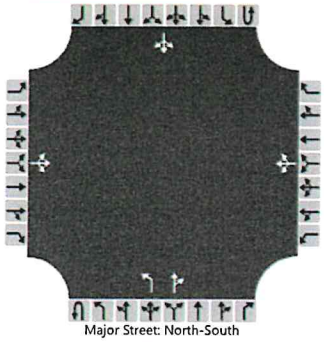
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	9/28/2021
Analysis Year	2021
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Existing Conditions

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		9	0	34		0	0	0		34	254	0		0	188	2
Percent Heavy Vehicles (%)		45	0	6		0	0	0		9				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.55	6.50	6.26		7.10	6.50	6.20		4.19				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.91	4.00	3.35		3.50	4.00	3.30		2.28				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			48				0			38				0		
Capacity, c (veh/h)			650				0			1319				1292		
v/c Ratio			0.07							0.03				0.00		
95% Queue Length, Q_{95} (veh)			0.2							0.1				0.0		
95% Queue Length, Q_{95} (ft)			5.6							2.7						
Control Delay (s/veh)			11.0							7.8				7.8	0.0	0.0
Level of Service (LOS)			B							A				A	A	A
Approach Delay (s/veh)	11.0								0.9				0.0			
Approach LOS	B								A				A			

HCS Two-Way Stop-Control Report

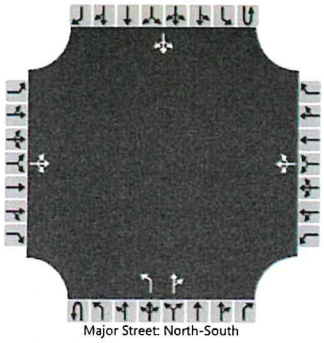
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2024
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Baseline

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.89
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		2	0	80		0	0	0		34	171	0		0	270	8
Percent Heavy Vehicles (%)		0	0	3		0	0	0		14				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.23		7.10	6.50	6.20		4.24				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.33		3.50	4.00	3.30		2.33				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			92				0			38				0		
Capacity, c (veh/h)			717				0			1183				1393		
v/c Ratio			0.13							0.03				0.00		
95% Queue Length, Q_{95} (veh)			0.4							0.1				0.0		
95% Queue Length, Q_{95} (ft)			10.2							2.8						
Control Delay (s/veh)			10.8							8.1				7.6	0.0	0.0
Level of Service (LOS)			B							A				A	A	A
Approach Delay (s/veh)	10.8								1.4				0.0			
Approach LOS	B								A				A			

HCS Two-Way Stop-Control Report

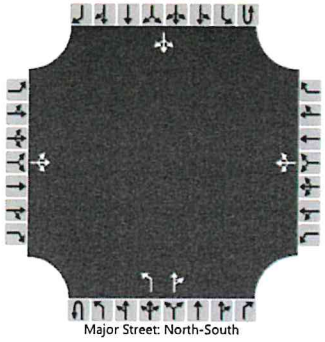
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2024
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Baseline

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		10	0	40		0	0	0		40	300	0		0	222	2
Percent Heavy Vehicles (%)		45	0	6		0	0	0		9				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.55	6.50	6.26		7.10	6.50	6.20		4.19				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.91	4.00	3.35		3.50	4.00	3.30		2.28				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			56				0			44				0		
Capacity, c (veh/h)			597				0			1277				1237		
v/c Ratio			0.09							0.03				0.00		
95% Queue Length, Q_{95} (veh)			0.3							0.1				0.0		
95% Queue Length, Q_{95} (ft)			8.3							2.7						
Control Delay (s/veh)			11.6							7.9				7.9	0.0	0.0
Level of Service (LOS)			B							A				A	A	A
Approach Delay (s/veh)	11.6								0.9				0.0			
Approach LOS	B								A				A			

HCS Two-Way Stop-Control Report

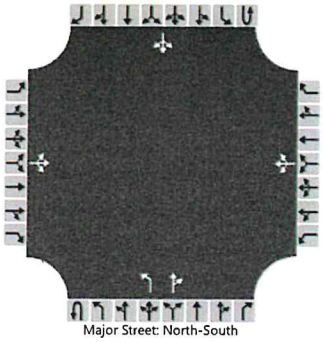
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Background

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.89
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		2	0	95		0	0	0		40	202	0		0	319	9
Percent Heavy Vehicles (%)		0	0	3		0	0	0		14				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.23		7.10	6.50	6.20		4.24				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.33		3.50	4.00	3.30		2.33				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			109				0			45				0		
Capacity, c (veh/h)			666				0			1127				1353		
v/c Ratio			0.16							0.04				0.00		
95% Queue Length, Q_{95} (veh)			0.6							0.1				0.0		
95% Queue Length, Q_{95} (ft)			15.4							2.8						
Control Delay (s/veh)			11.5							8.3				7.7	0.0	0.0
Level of Service (LOS)			B							A				A	A	A
Approach Delay (s/veh)	11.5								1.4				0.0			
Approach LOS	B								A				A			

HCS Two-Way Stop-Control Report

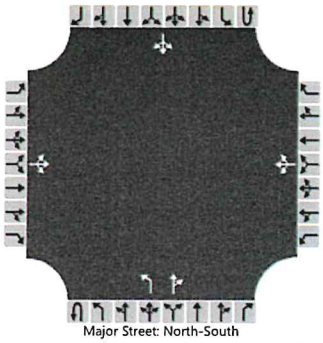
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Background

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		12	0	47		0	0	0		47	355	0		0	262	2
Percent Heavy Vehicles (%)		46	0	6		0	0	0		9				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.56	6.50	6.26		7.10	6.50	6.20		4.19				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.91	4.00	3.35		3.50	4.00	3.30		2.28				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			66				0			52				0		
Capacity, c (veh/h)			528				0			1229				1175		
v/c Ratio			0.12							0.04				0.00		
95% Queue Length, Q_{95} (veh)			0.4							0.1				0.0		
95% Queue Length, Q_{95} (ft)			11.1							2.7						
Control Delay (s/veh)			12.8							8.1				8.1	0.0	0.0
Level of Service (LOS)			B							A				A	A	A
Approach Delay (s/veh)	12.8								0.9				0.0			
Approach LOS	B								A				A			

HCS Two-Way Stop-Control Report

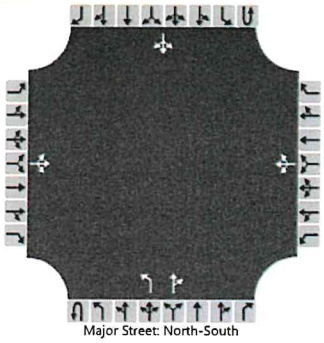
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		2	3	94		11	2	13		40	197	15		13	315	9
Percent Heavy Vehicles (%)		0	5	3		5	5	5		14				5		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.55	6.23		7.15	6.55	6.25		4.24				4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.05	3.33		3.55	4.05	3.35		2.33				2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			113				30			45				15		
Capacity, c (veh/h)			644				389			1127				1308		
v/c Ratio			0.17				0.08			0.04				0.01		
95% Queue Length, Q_{95} (veh)			0.6				0.2			0.1				0.0		
95% Queue Length, Q_{95} (ft)			15.4				5.2			2.8						
Control Delay (s/veh)			11.8				15.0			8.3				7.8	0.1	0.1
Level of Service (LOS)			B				C			A				A	A	A
Approach Delay (s/veh)	11.8				15.0				1.3				0.4			
Approach LOS	B				C				A				A			

HCS Two-Way Stop-Control Report

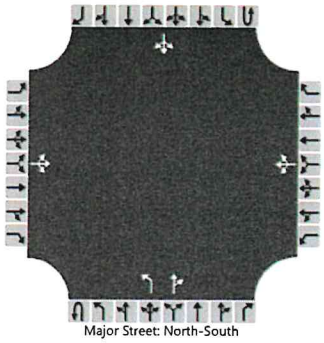
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.89
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		12	3	47		28	4	16		47	353	28		16	260	2
Percent Heavy Vehicles (%)		46	5	6		5	5	5		9				5		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.56	6.55	6.26		7.15	6.55	6.25		4.19				4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.91	4.05	3.35		3.55	4.05	3.35		2.28				2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			70				54			53				18		
Capacity, c (veh/h)			469				297			1228				1115		
v/c Ratio			0.15				0.18			0.04				0.02		
95% Queue Length, Q_{95} (veh)			0.5				0.7			0.1				0.0		
95% Queue Length, Q_{95} (ft)			13.9				18.2			2.7						
Control Delay (s/veh)			14.0				19.8			8.1				8.3	0.2	0.2
Level of Service (LOS)			B				C			A				A	A	A
Approach Delay (s/veh)	14.0				19.8				0.9				0.6			
Approach LOS	B				C				A				A			

HCS Two-Way Stop-Control Report

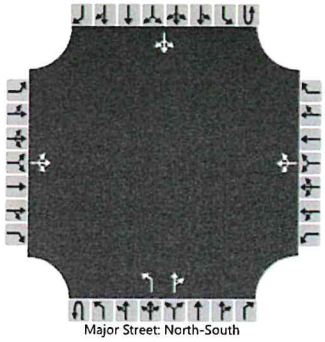
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Background Traffic

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		3	3	102		11	2	13		44	218	15		13	341	11
Percent Heavy Vehicles (%)		0	5	3		5	5	5		14				5		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.55	6.23		7.15	6.55	6.25		4.24				4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.05	3.33		3.55	4.05	3.35		2.33				2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			123				30			50				15		
Capacity, c (veh/h)			611				349			1096				1282		
v/c Ratio			0.20				0.08			0.05				0.01		
95% Queue Length, Q_{95} (veh)			0.7				0.3			0.1				0.0		
95% Queue Length, Q_{95} (ft)			17.9				7.8			2.8						
Control Delay (s/veh)			12.4				16.3			8.4				7.8	0.1	0.1
Level of Service (LOS)			B				C			A				A	A	A
Approach Delay (s/veh)	12.4				16.3				1.3				0.4			
Approach LOS	B				C				A				A			

HCS Two-Way Stop-Control Report

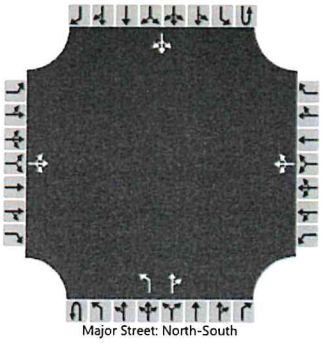
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Background Traffic

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.89
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		13	3	51		28	4	16		51	382	28		16	283	3
Percent Heavy Vehicles (%)		46	5	6		5	5	5		9				5		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.56	6.55	6.26		7.15	6.55	6.25		4.19				4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.91	4.05	3.35		3.55	4.05	3.35		2.28				2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			75				54			57				18		
Capacity, c (veh/h)			436				265			1200				1085		
v/c Ratio			0.17				0.20			0.05				0.02		
95% Queue Length, Q_{95} (veh)			0.6				0.7			0.2				0.1		
95% Queue Length, Q_{95} (ft)			16.6				18.2			5.4						
Control Delay (s/veh)			15.0				22.0			8.2				8.4	0.2	0.2
Level of Service (LOS)			B				C			A				A	A	A
Approach Delay (s/veh)	15.0				22.0				0.9				0.6			
Approach LOS	B				C				A				A			

HCS Two-Way Stop-Control Report

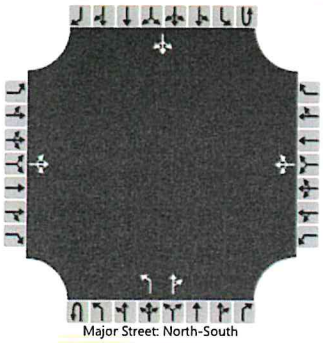
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		3	4	103		14	2	14		44	219	26		17	344	11
Percent Heavy Vehicles (%)		0	5	3		5	5	5		14				5		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.55	6.23		7.15	6.55	6.25		4.24				4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.05	3.33		3.55	4.05	3.35		2.33				2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			125				34			50				19		
Capacity, c (veh/h)			600				323			1093				1267		
v/c Ratio			0.21				0.11			0.05				0.02		
95% Queue Length, Q_{95} (veh)			0.8				0.4			0.1				0.0		
95% Queue Length, Q_{95} (ft)			20.5				10.4			2.8						
Control Delay (s/veh)			12.6				17.5			8.5				7.9	0.2	0.2
Level of Service (LOS)			B				C			A				A	A	A
Approach Delay (s/veh)	12.6				17.5				1.3				0.5			
Approach LOS	B				C				A				A			

HCS Two-Way Stop-Control Report

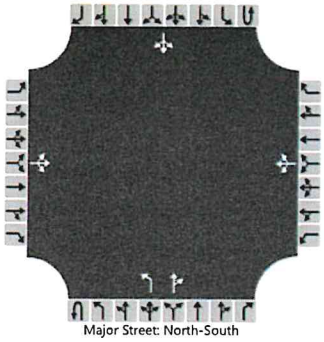
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	North-South
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	US 287 & Wheatland Rd
Jurisdiction	MDT / Broadwater County
East/West Street	Wheatland Road
North/South Street	US 287
Peak Hour Factor	0.89
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	0	1	0
Configuration			LTR				LTR			L		TR			LTR	
Volume (veh/h)		13	3	51		39	5	20		52	385	31		17	284	3
Percent Heavy Vehicles (%)		46	5	6		5	5	5		9				5		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.56	6.55	6.26		7.15	6.55	6.25		4.19				4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.91	4.05	3.35		3.55	4.05	3.35		2.28				2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			75				72			58				19		
Capacity, c (veh/h)			427				256			1199				1079		
v/c Ratio			0.18				0.28			0.05				0.02		
95% Queue Length, Q_{95} (veh)			0.6				1.1			0.2				0.1		
95% Queue Length, Q_{95} (ft)			16.6				28.6			5.4						
Control Delay (s/veh)			15.2				24.5			8.2				8.4	0.2	0.2
Level of Service (LOS)			C				C			A				A	A	A
Approach Delay (s/veh)	15.2				24.5				0.9				0.6			
Approach LOS	C				C				A				A			

Intersection Operations Summary

Colter's Run & Berron's Way

Weekday, AM Peak Hour

Analysis Scenario	Traffic Control	Performance Measure	Intersection Operations		Colter's Run	Colter's Run	Berron's Way
			Total	Minor Approach(es)	EB LT	WB TR	SB LR
Estimated 2027 Total Traffic	STOP	Level of Service (LOS)	A	A	A	A	A
		Delay (sec/veh)	7.9	8.5	7.3	0.0	8.5
		Entry Volume (veh/hr)	67	35	32	0	35
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.03	0.04	0.02	0.00	0.04
	SB Stop Controlled	HCM 95% Max Queue Length (veh)			0.1	0.0	0.1
		HCM 95% Max Queue Length (ft)			25	0	25
		Available Queue Storage (ft)			370	700	150
Estimated 2032 Total Traffic	STOP	Level of Service (LOS)	A	A	A	A	A
		Delay (sec/veh)	7.8	8.5	7.3	0.0	8.5
		Entry Volume (veh/hr)	93	40	53	0	40
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.04	0.05	0.04	0.00	0.05
	SB Stop Controlled	HCM 95% Max Queue Length (veh)			0.1	0.0	0.1
		HCM 95% Max Queue Length (ft)			25	0	25
		Available Queue Storage (ft)			370	700	150

Weekday, PM Peak Hour

Analysis Scenario	Traffic Control	Performance Measure	Intersection Operations		Colter's Run	Colter's Run	Berron's Way
			Total	Minor Approach(es)	EB LT	WB TR	SB LR
Estimated 2027 Total Traffic	STOP	Level of Service (LOS)	A	A	A	A	A
		Delay (sec/veh)	7.9	8.5	7.3	0.0	8.5
		Entry Volume (veh/hr)	65	34	31	0	34
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.03	0.04	0.02	0.00	0.04
	SB Stop Controlled	HCM 95% Max Queue Length (veh)			0.1	0.0	0.1
		HCM 95% Max Queue Length (ft)			25	0	25
		Available Queue Storage (ft)			370	700	150
Estimated 2032 Total Traffic	STOP	Level of Service (LOS)	A	A	A	A	A
		Delay (sec/veh)	8.1	8.6	7.3	0.0	8.6
		Entry Volume (veh/hr)	91	54	37	0	54
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.05	0.06	0.03	0.00	0.06
	SB Stop Controlled	HCM 95% Max Queue Length (veh)			0.1	0.0	0.2
		HCM 95% Max Queue Length (ft)			25	0	25
		Available Queue Storage (ft)			370	700	150

NB = Northbound; SB = Southbound; and WB = Westbound

LT = Left-Thru; TR = Thru-Right; LT = Left-Thru; and LR = Left-Right

XXX = Queue length exceeds available queue storage

- Average intersection delay and volume-to-capacity ratio for minor approach(es) is a weighted average provided for reference purposes. The *Highway Capacity Manual, 7th Edition: A Guide for Multimodal Mobility Analysis* (HCM) does not define overall average delay for the intersection as a whole for two-way or single approach stop-controlled intersections.
- A design vehicle length of twenty-five feet (25 ft) is used in the queue length calculations.

HCS Two-Way Stop-Control Report

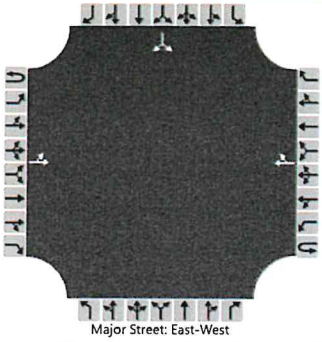
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	East-West
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	Colter's Run & Berron's Way
Jurisdiction	Broadwater County
East/West Street	Colter's Run
North/South Street	Berron's Way
Peak Hour Factor	0.80
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		32	0				0	0						0		35
Percent Heavy Vehicles (%)		5												5		5
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.45		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		40													44	
Capacity, c (veh/h)		1604													1076	
v/c Ratio		0.02													0.04	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
95% Queue Length, Q_{95} (ft)		2.6													2.6	
Control Delay (s/veh)		7.3	0.2												8.5	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	7.3												8.5			
Approach LOS	A												A			

HCS Two-Way Stop-Control Report

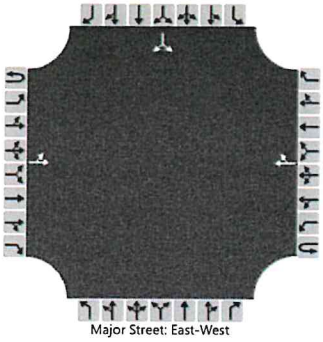
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	East-West
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	Colter's Run & Berron's Way
Jurisdiction	Broadwater County
East/West Street	Colter's Run
North/South Street	Berron's Way
Peak Hour Factor	0.80
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		31	0				0	0						0		34
Percent Heavy Vehicles (%)		5												5		5
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.45		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		39													43	
Capacity, c (veh/h)		1604													1076	
v/c Ratio		0.02													0.04	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
95% Queue Length, Q_{95} (ft)		2.6													2.6	
Control Delay (s/veh)		7.3	0.2												8.5	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	7.3												8.5			
Approach LOS	A												A			

HCS Two-Way Stop-Control Report

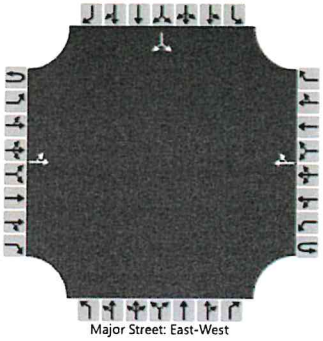
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	East-West
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	Colter's Run & Berron's Way
Jurisdiction	Broadwater County
East/West Street	Colter's Run
North/South Street	Berron's Way
Peak Hour Factor	0.80
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		53	0				0	0						0		40
Percent Heavy Vehicles (%)		5												5		5
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.45		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		66													50	
Capacity, c (veh/h)		1604													1076	
v/c Ratio		0.04													0.05	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
95% Queue Length, Q_{95} (ft)		2.6													2.6	
Control Delay (s/veh)		7.3	0.3												8.5	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	7.3												8.5			
Approach LOS	A												A			

HCS Two-Way Stop-Control Report

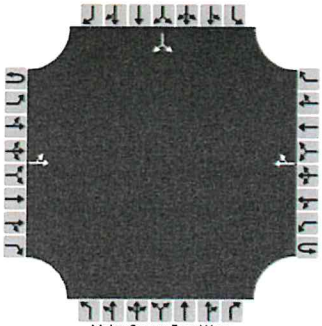
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	East-West
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	Colter's Run & Berron's Way
Jurisdiction	Broadwater County
East/West Street	Colter's Run
North/South Street	Berron's Way
Peak Hour Factor	0.80
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		37	0				0	0						0		54
Percent Heavy Vehicles (%)		5												5		5
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.45		6.25
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.55		3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		46													68	
Capacity, c (veh/h)		1604													1076	
v/c Ratio		0.03													0.06	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
95% Queue Length, Q_{95} (ft)		2.6													5.2	
Control Delay (s/veh)		7.3	0.2												8.6	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	7.3												8.6			
Approach LOS	A												A			

Intersection Operations Summary

Wheatland Road & Berron's Way

Weekday, AM Peak Hour

Analysis Scenario	Traffic Control	Performance Measure	Intersection Operations		Wheatland Road	Wheatland Road	Berron's Way
			Total	Minor Approach(es)	EB TR	WB LT	NB LR
Estimated 2027 Total Traffic	STOP NB Stop Controlled	Level of Service (LOS)	A	A	A	A	A
		Delay (sec/veh)	6.7	8.8	5.0	0.0	8.8
		Entry Volume (veh/hr)	57	26	31	0	26
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.01	0.03	0.00	0.00	0.03
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.1
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			335	700	150
Estimated 2032 Total Traffic	STOP NB Stop Controlled	Level of Service (LOS)	A	A	A	A	A
		Delay (sec/veh)	6.5	8.8	5.0	0.0	8.8
		Entry Volume (veh/hr)	77	30	47	0	30
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.02	0.04	0.00	0.00	0.04
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.1
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			335	700	150

Weekday, PM Peak Hour

Analysis Scenario	Traffic Control	Performance Measure	Intersection Operations		Wheatland Road	Wheatland Road	Berron's Way
			Total	Minor Approach(es)	EB TR	WB LT	NB LR
Estimated 2027 Total Traffic	STOP NB Stop Controlled	Level of Service (LOS)	A	A	A	A	A
		Delay (sec/veh)	7.0	8.9	5.0	0.0	8.9
		Entry Volume (veh/hr)	95	48	47	0	48
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.03	0.06	0.00	0.00	0.06
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.2
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			335	700	150
Estimated 2032 Total Traffic	STOP NB Stop Controlled	Level of Service (LOS)	A	A	A	A	A
		Delay (sec/veh)	7.2	9.0	5.0	0.0	9.0
		Entry Volume (veh/hr)	115	64	51	0	64
		Ped + Bike Volume (ped+bike/hr)	0	0	0	0	0
		Volume-to-Capacity Ratio (v/c)	0.04	0.08	0.00	0.00	0.08
		HCM 95% Max Queue Length (veh)			0.0	0.0	0.3
		HCM 95% Max Queue Length (ft)			0	0	25
		Available Queue Storage (ft)			335	700	150

EB = Eastbound; WB = Westbound; and NB = Northbound TR = Thru-Right; LT = Left-Thru; and LR = Left-Right XXX = *Queue length exceeds available queue storage*

- Average intersection delay and volume-to-capacity ratio for minor approach(es) is a weighted average provided for reference purposes. The *Highway Capacity Manual, 7th Edition: A Guide for Multimodal Mobility Analysis* (HCM) does not define overall average delay for the intersection as a whole for two-way or single approach stop-controlled intersections.
- The eastbound (EB) through-right lane group volume-to-capacity ratios (v/c) are calculated from a weighted average of the number of through vehicles divided by a theoretical capacity of 1,800 vehicles per hour for that movement and the number of right turning vehicles divided by a theoretical capacity of 1,500 vehicles per hour for that movement.The theoretical capacities are based on values derived from the HCM.
- A design vehicle length of twenty-five feet (25 ft) is used in the queue length calculations.

HCS Two-Way Stop-Control Report

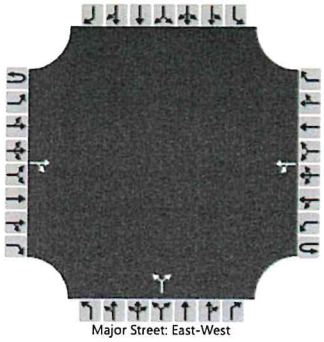
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	East-West
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	Wheatland Rd & Berron's Way
Jurisdiction	Broadwater County
East/West Street	Wheatland Road
North/South Street	Berron's Way
Peak Hour Factor	0.80
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			0	31		0	0			26		0				
Percent Heavy Vehicles (%)						0				5		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.45		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.55		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					33					
Capacity, c (veh/h)						1584					990					
v/c Ratio						0.00					0.03					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
95% Queue Length, Q_{95} (ft)											2.6					
Control Delay (s/veh)						7.3	0.0				8.8					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)										8.8						
Approach LOS										A						

HCS Two-Way Stop-Control Report

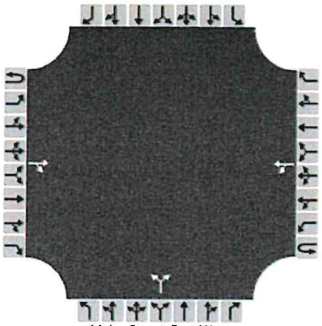
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	1/30/2024
Analysis Year	2027
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	East-West
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	Wheatland Rd & Berron's Way
Jurisdiction	Broadwater County
East/West Street	Wheatland Road
North/South Street	Berron's Way
Peak Hour Factor	0.80
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			0	47		0	0			48		0				
Percent Heavy Vehicles (%)						0				5		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.45		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.55		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					60					
Capacity, c (veh/h)						1558					977					
v/c Ratio						0.00					0.06					
95% Queue Length, Q_{95} (veh)						0.0					0.2					
95% Queue Length, Q_{95} (ft)											5.2					
Control Delay (s/veh)						7.3	0.0				8.9					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)										8.9						
Approach LOS										A						

HCS Two-Way Stop-Control Report

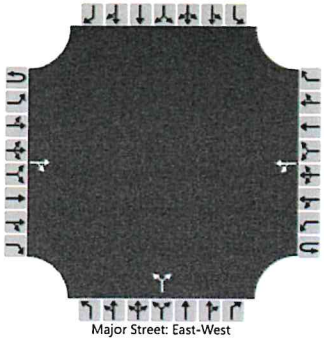
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, AM Peak Hour
Intersection Orientation	East-West
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	Wheatland Rd & Berron's Way
Jurisdiction	Broadwater County
East/West Street	Wheatland Road
North/South Street	Berron's Way
Peak Hour Factor	0.80
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			0	47		0	0			30		0				
Percent Heavy Vehicles (%)						0				5		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.45		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.55		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					38					
Capacity, c (veh/h)						1558					977					
v/c Ratio						0.00					0.04					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
95% Queue Length, Q_{95} (ft)											2.6					
Control Delay (s/veh)						7.3	0.0				8.8					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)										8.8						
Approach LOS										A						

HCS Two-Way Stop-Control Report

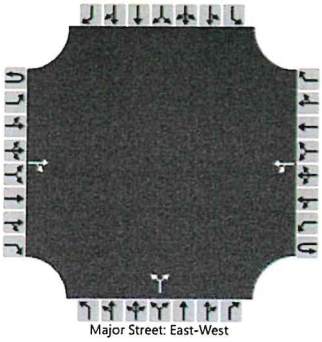
General Information

Analyst	T. Eastwood
Agency/Co.	E5 Engineering, PLLC
Date Performed	2/14/2024
Analysis Year	2032
Time Analyzed	Weekday, PM Peak Hour
Intersection Orientation	East-West
Project Description	Montana XRoads | Estimated Total Traffic

Site Information

Intersection	Wheatland Rd & Berron's Way
Jurisdiction	Broadwater County
East/West Street	Wheatland Road
North/South Street	Berron's Way
Peak Hour Factor	0.80
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			0	51		0	0			64		0				
Percent Heavy Vehicles (%)						0				5		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.45		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.55		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					80					
Capacity, c (veh/h)						1552					974					
v/c Ratio						0.00					0.08					
95% Queue Length, Q_{95} (veh)						0.0					0.3					
95% Queue Length, Q_{95} (ft)											7.8					
Control Delay (s/veh)						7.3	0.0				9.0					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)										9.0						
Approach LOS										A						

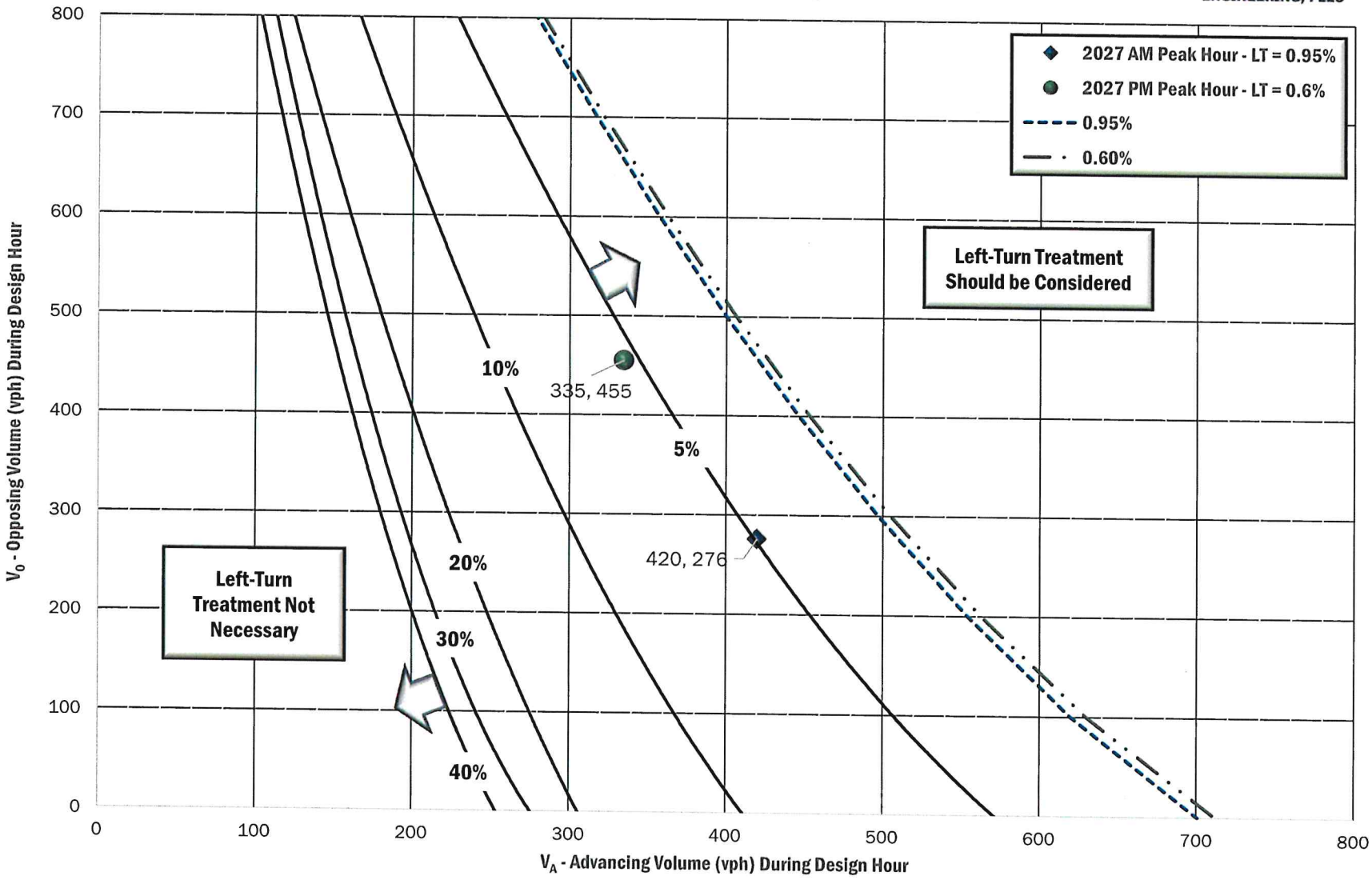
E5
ENGINEERING, PLLC

Appendix E

Auxiliary Turn Lane Analyses

Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways (≥ 60 mph)

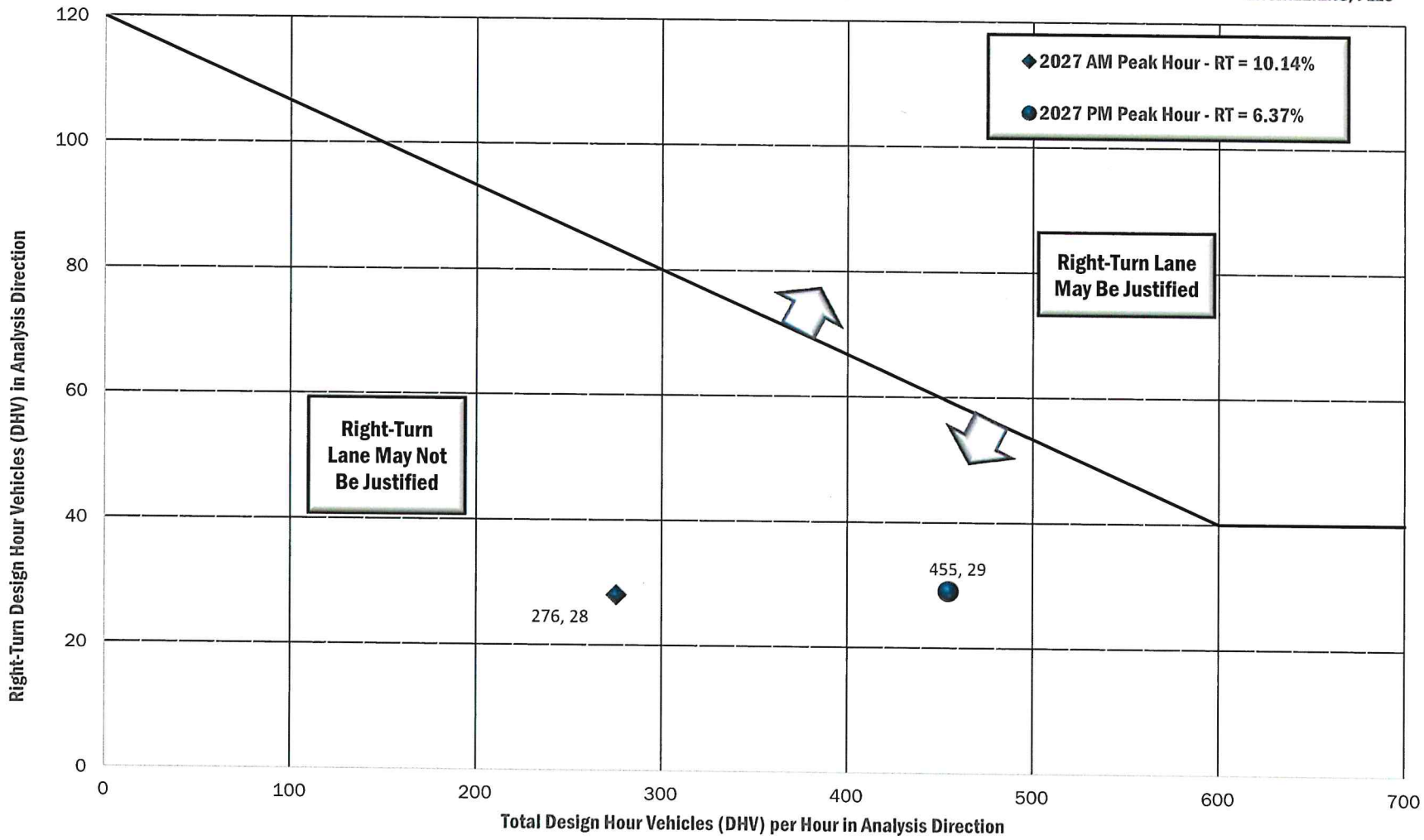
United States Highway 287 (US 287) & Colter's Run



E:\E5 Engineering PLLC\Projects\24-0101 Montana Crossroads\Auxiliary Turn Lane Analyses\US-287+Colter's-Run_2-Ln-Unsig-LT-Eval_60mph

Guidelines for Right-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

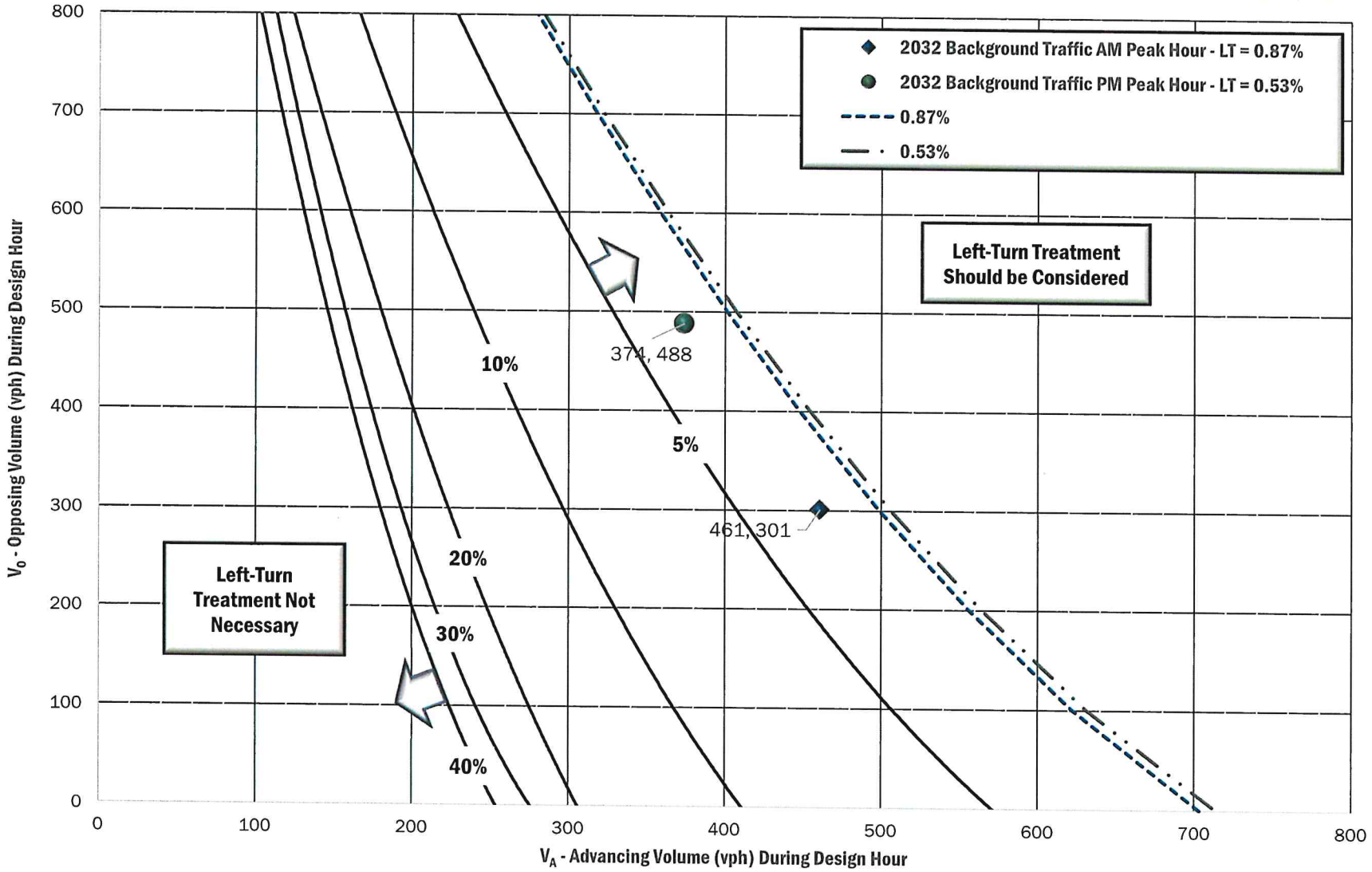
United States Highway 287 (US 287) & Colter's Run



Note: For Highways with a design speed below 50 mph (80 km/h) with a DHV < 300 and where right turns are > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways (≥ 60 mph)

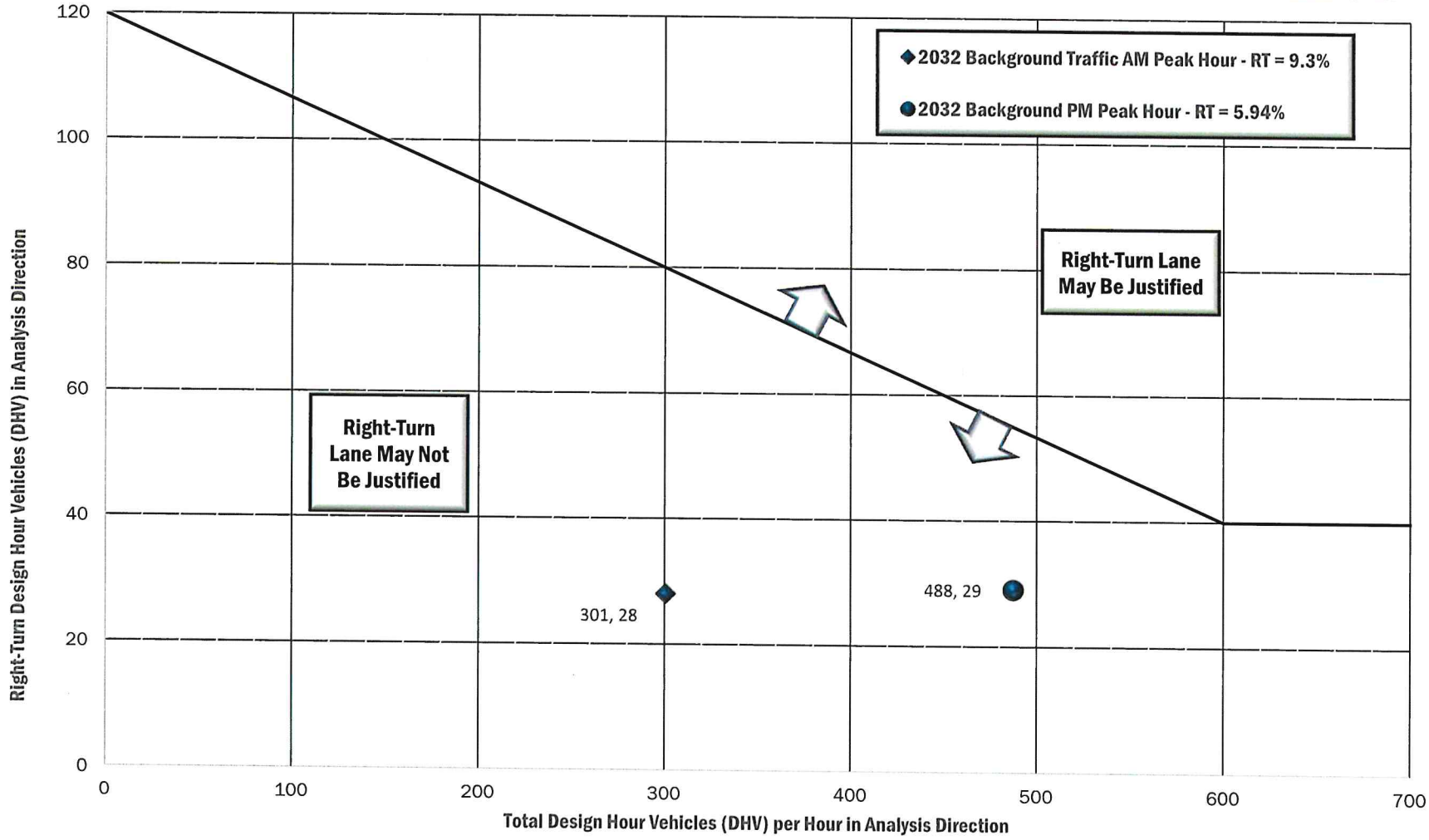
United States Highway 287 (US 287) & Colter's Run



E:\E5 Engineering PLLC\Projects\24-0101 Montana Crossroads\Auxiliary Turn Lane Analyses\US-287+Colter's-Run_2-Ln-Unsig-LT-Eval_60mph_2032-Bkgnd

Guidelines for Right-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

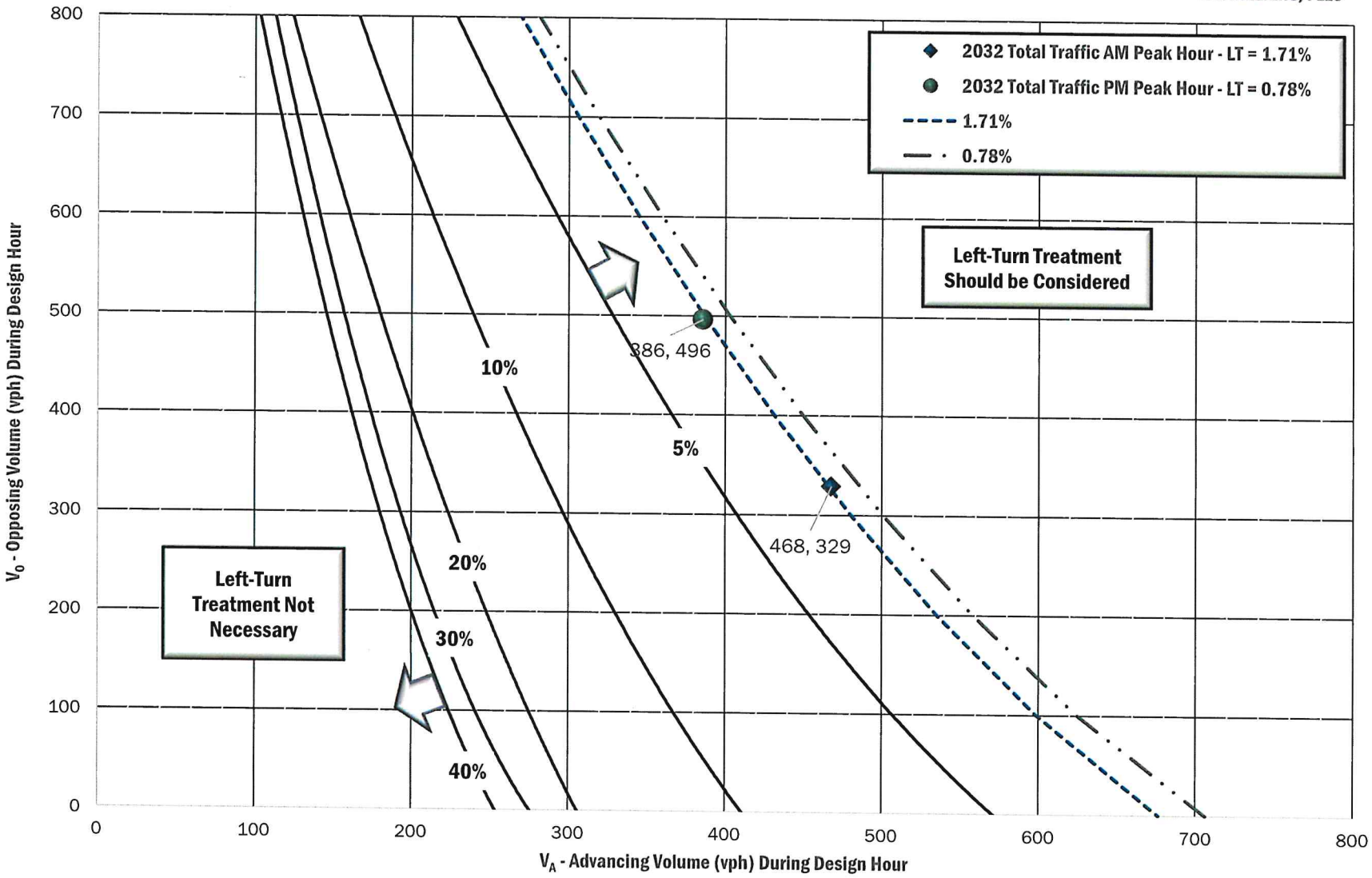
United States Highway 287 (US 287) & Colter's Run



Note: For Highways with a design speed below 50 mph (80 km/h) with a DHV < 300 and where right turns are > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

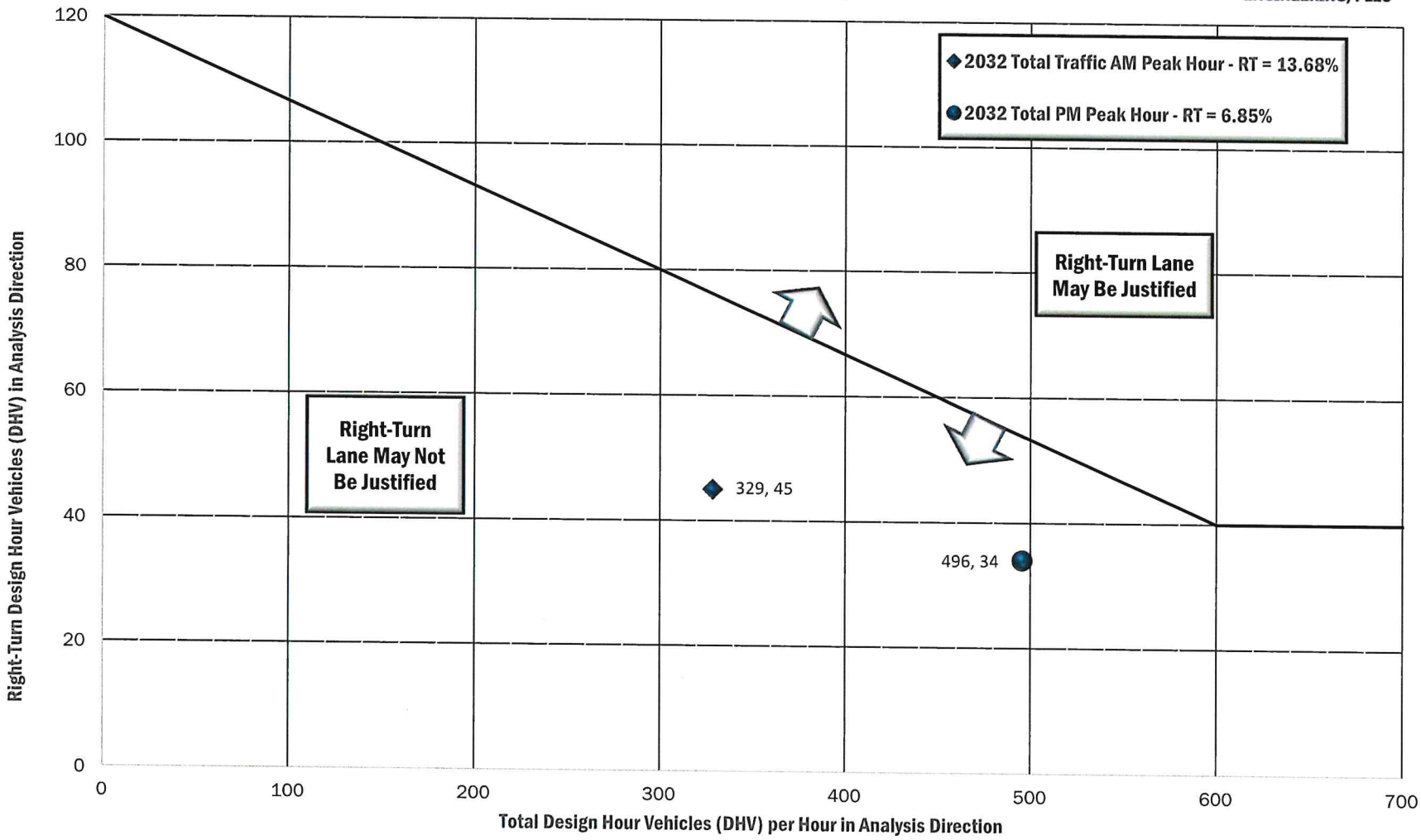
Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways (≥ 60 mph)

United States Highway 287 (US 287) & Colter's Run



Guidelines for Right-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

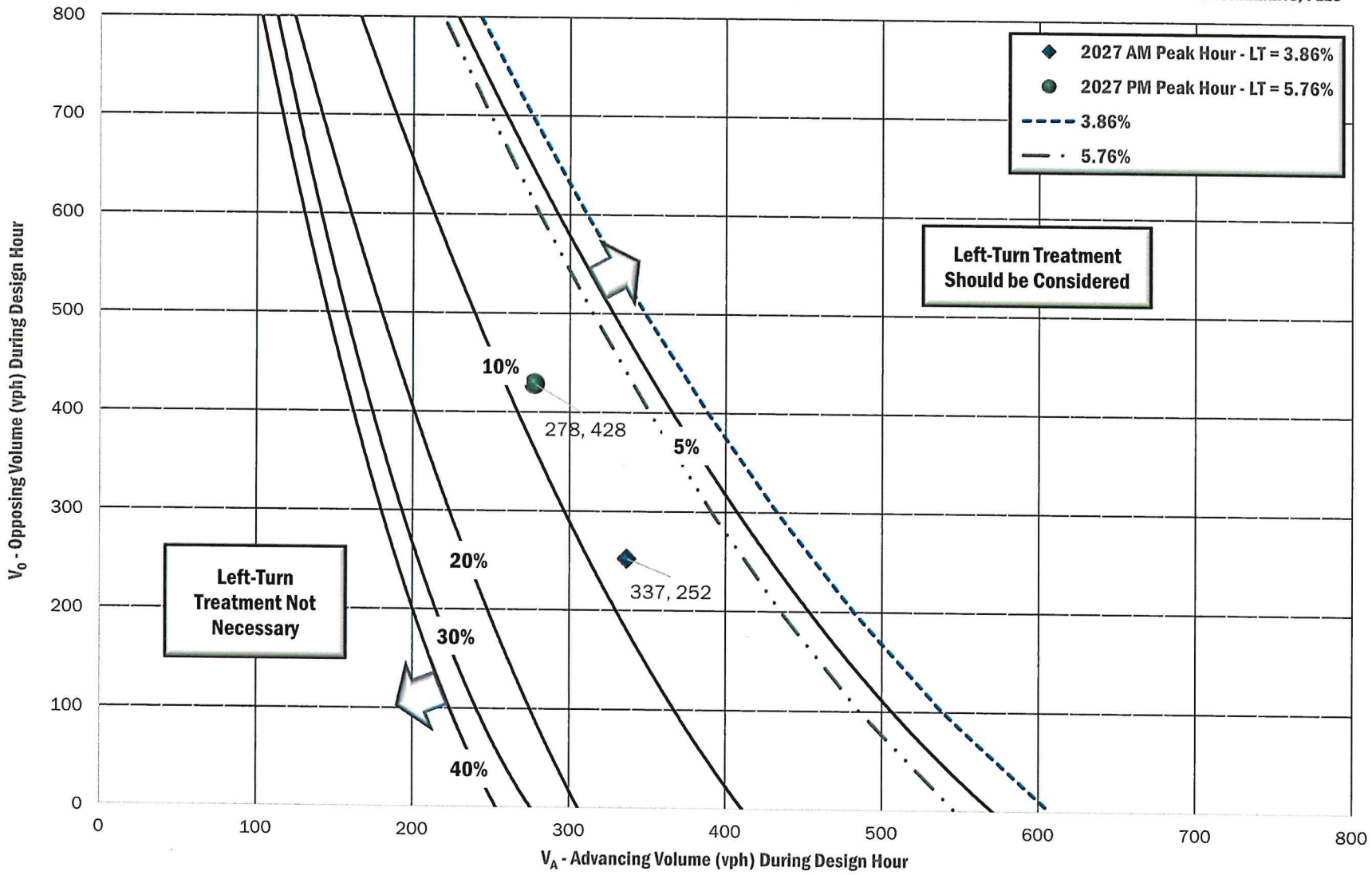
United States Highway 287 (US 287) & Colter's Run



Note: For Highways with a design speed below 50 mph (80 km/h) with a DHV < 300 and where right turns are > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways (≥ 60 mph)

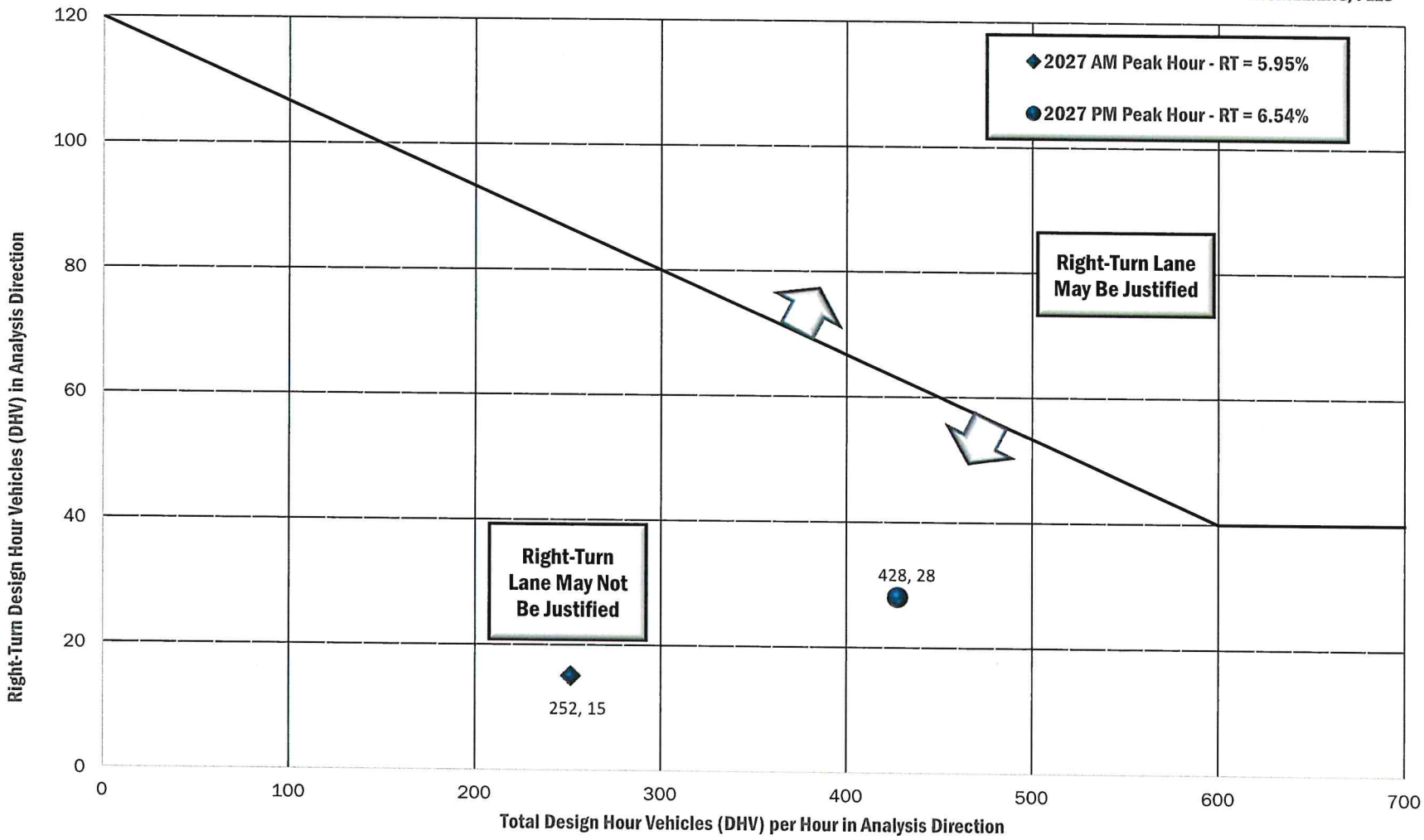
United States Highway 287 (US 287) & Wheatland Road



E:\E5 Engineering PLLC\Projects\24-0101 Montana Crossroads\Auxiliary Turn Lane Analyses\US-287+Wheatland-Rd_2-Ln-Unsig-LT-Eval_60mph

Guidelines for Right-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

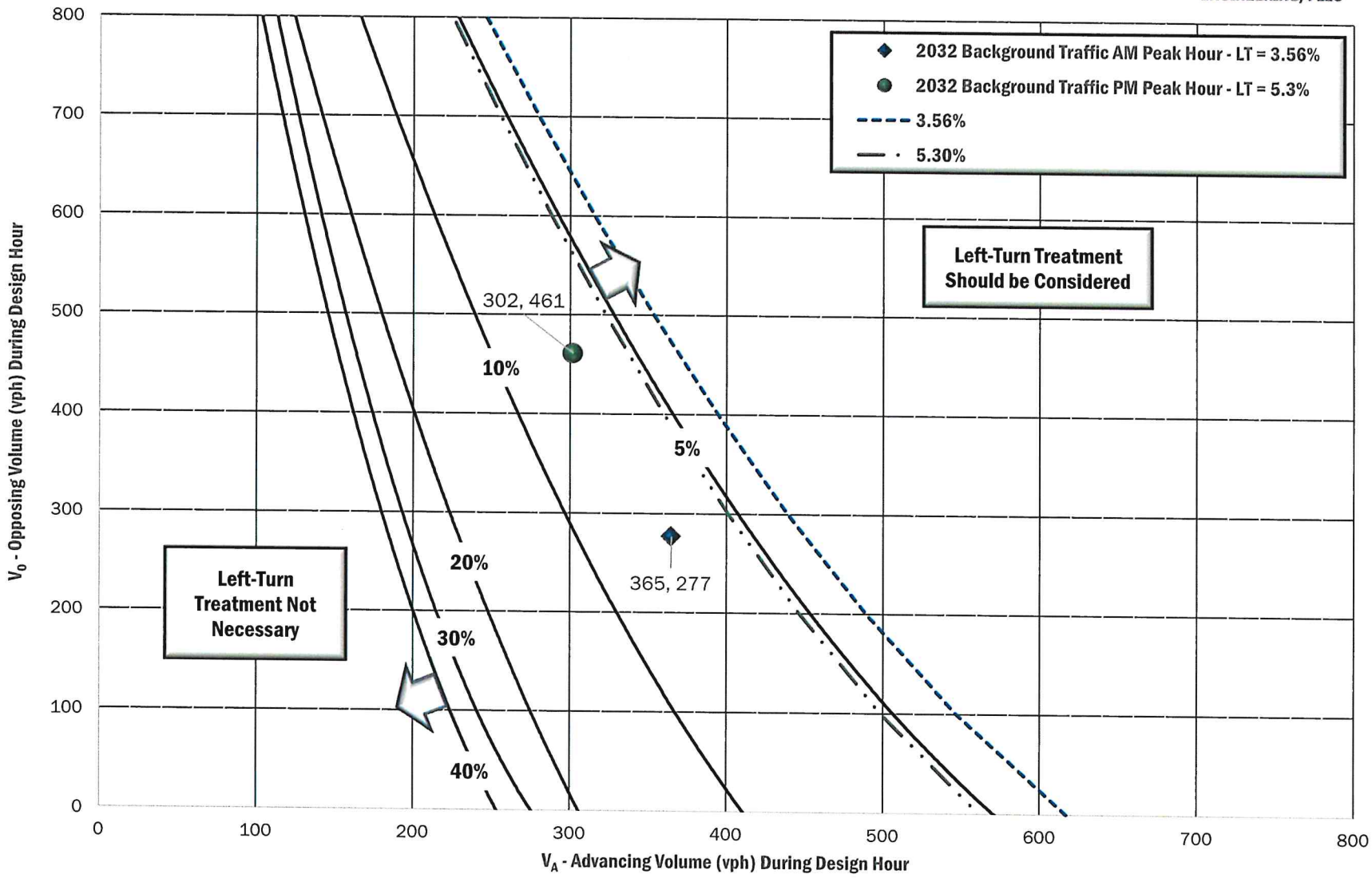
United States Highway 287 (US 287) & Wheatland Road



Note: For Highways with a design speed below 50 mph (80 km/h) with a DHV < 300 and where right turns are > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways (≥ 60 mph)

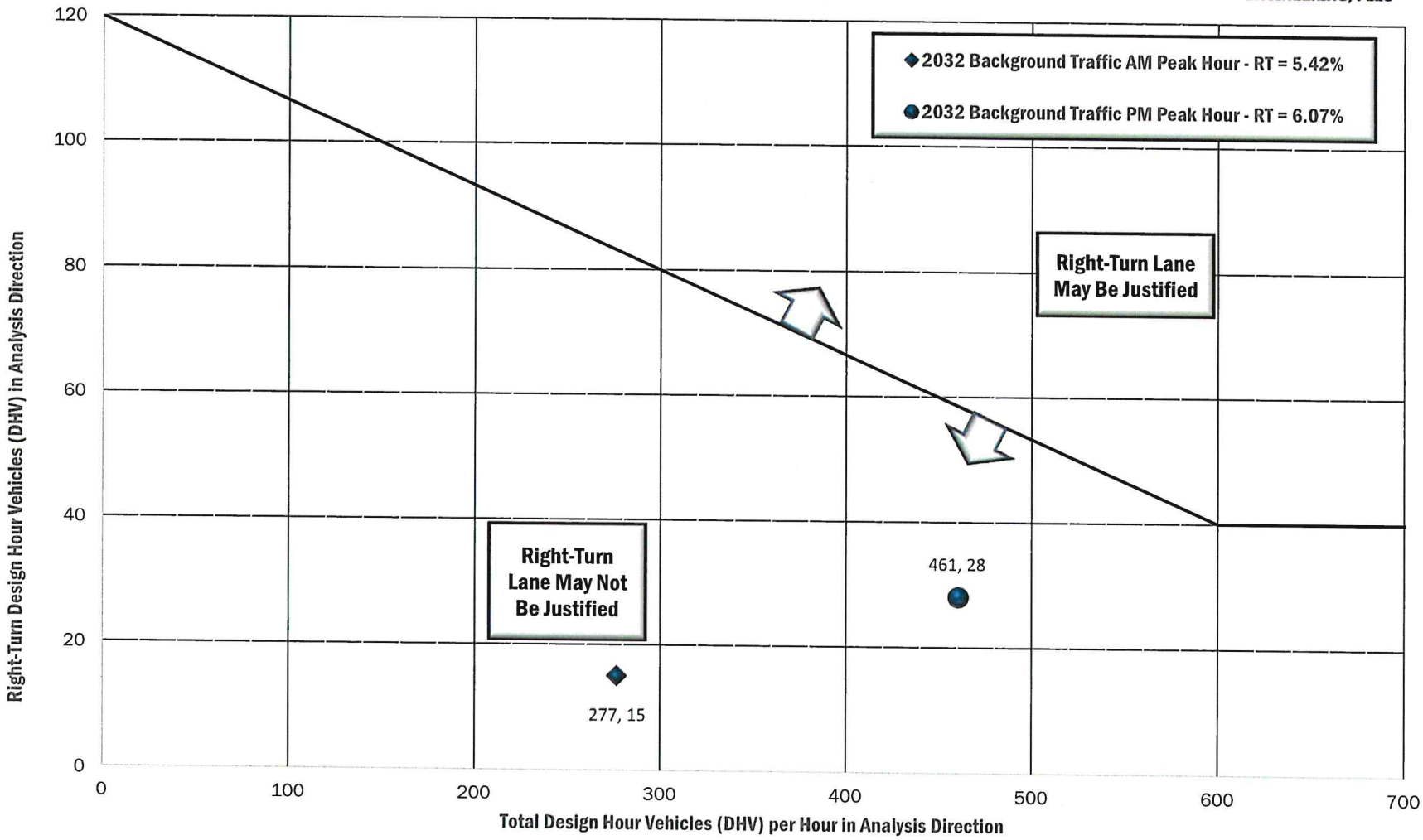
United States Highway 287 (US 287) & Wheatland Road



E:\E5 Engineering PLLC\Projects\24-0101 Montana Crossroads\Auxiliary Turn Lane Analyses\US-287+Wheatland-Rd_2-Ln-Unsig-LT-Eval_60mph_2032-Bkgnd

Guidelines for Right-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

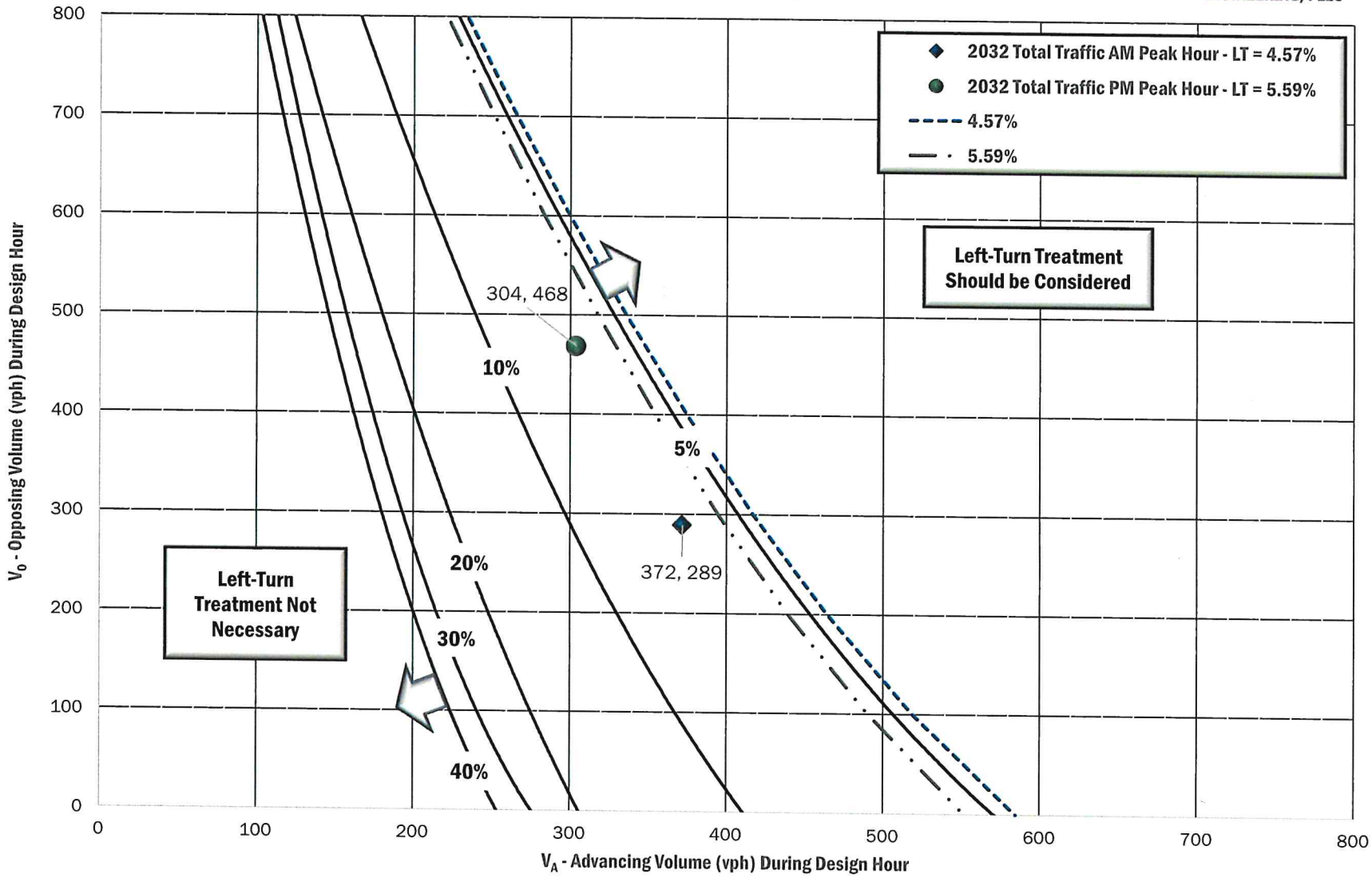
United States Highway 287 (US 287) & Wheatland Road



Note: For Highways with a design speed below 50 mph (80 km/h) with a DHV < 300 and where right turns are > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways (≥ 60 mph)

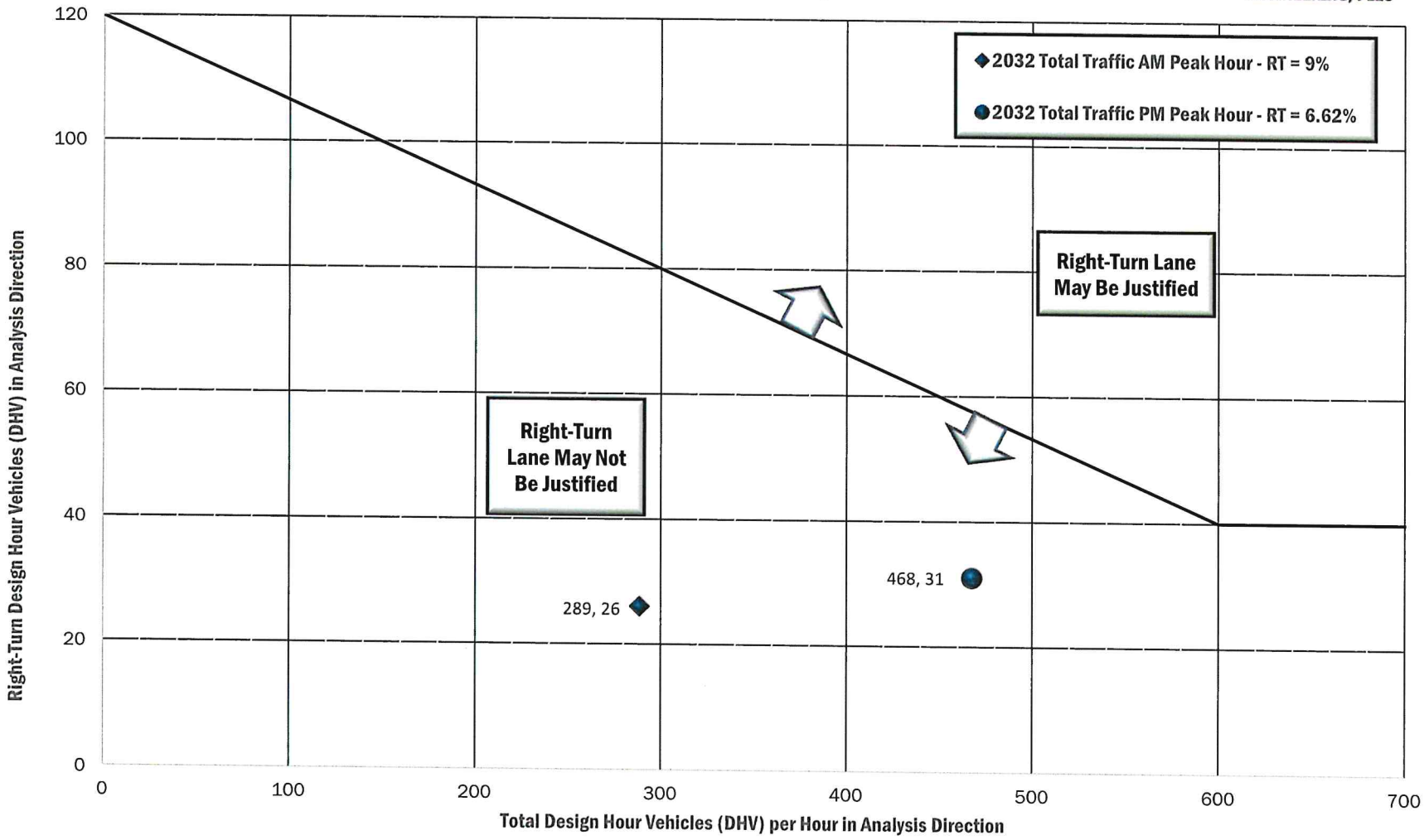
United States Highway 287 (US 287) & Wheatland Road



E:\E5 Engineering PLLC\Projects\24-0101 Montana Crossroads\Auxiliary Turn Lane Analyses\US-287+Wheatland-Rd_2-Ln-Unsig-LT-Eval_60mph_2032-Total

Guidelines for Right-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

United States Highway 287 (US 287) & Wheatland Road



Note: For Highways with a design speed below 50 mph (80 km/h) with a DHV < 300 and where right turns are > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

E5

ENGINEERING, PLLC

619 Milestone Drive • Belgrade, Montana 59714 • (406) 209-3960 • E5EngineeringPLLC@gmail.com

AMENDED FINDINGS OF FACT AND ORDER REPORT

Preliminary Plat
Dated 11/20/2022

ALBE MINOR SUBDIVISION Preliminary Plat

To: Broadwater County Commissioners
From: Nichole Brown, Broadwater County Community Development Director
Subject: A proposed subdivision to be known as **Albe Minor Subdivision**

GENERAL INFORMATION

Date of Application: November 10, 2022
Element Complete: November 21, 2022
Date of Sufficiency: November 21, 2023
Review Period Ends: January 12, 2024

SUBDIVIDER: Steve Upton
Townsend, MT 59644

SUBDIVIDER'S REPRESENTATIVE: Bernadette Swenson
64 Jack Farm Road
Townsend, MT 59644

LEGAL DESCRIPTION: Situated in Section 3, Township 7 North, Range 1 East, Broadwater County, Montana

GENERAL LOCATION: The proposed subdivision is located off Foster Drive, approximately six (6) miles northwest of Townsend, Montana.

I. EXECUTIVE SUMMARY

The Subdivider intends to create four (4) lots from an existing 15.54-acre parcel. Lots range in size from 2.73 to 5.51 acres. All lots are being submitted for review as residential lots. Wastewater will be provided via individual on-site wastewater treatment systems for each lot. Water will be provided to each lot via individual on-site wells. Access will be provided from Foster Drive. The required preliminary review fee of $1,900.00 has been paid.

II. REQUEST

Approval of the 4-lot Minor Subdivision for 4 single-family homes.

III. STAFF RECOMMENDATION

Staff recommends APPROVAL of the proposed Albe Minor Subdivision Preliminary Plat subject to the conditions of approval based on the recommended findings of fact included in the Staff Report.

IV. LOCATION

The proposed subdivision is located off of Foster Drive approximately 6 miles northwest of the City of Townsend.

V. EXISTING DEVELOPMENT AND USES

The property is currently vacant land.

VI. ADJACENT LAND USES

North: Vacant residential
South: Residential
East: Residential
West: Residential

VII. PUBLIC COMMENT

Public Comment was taken at the December 27, 2023 Planning Board Regular Business Meeting and subsequent Commissioner Meeting(s).

VIII. PROJECT BACKGROUND

Water is proposed to be provided via individual wells. The well sites will be reviewed and approved by the Department of Environmental Quality (DEQ).

Wastewater is proposed to be managed utilizing individual wastewater treatment systems. DEQ will review the newly created parcels for the location of wastewater treatment systems.

Access will be off of Foster Drive with a Shared Driveway Easement proposed for Lot 2 and Lot 3; sn individual driveway approach for Lot 4; and a Shared Driveway Grant of Access Easement for Lot 1.

IX. STAFF ANALYSIS

Review is performed pursuant to the Montana Subdivision and Platting Act, Title 76, Chapter 3, Montana Codes Annotated, the 2021 Broadwater County Subdivision Regulations and the 2020 Broadwater County Growth Policy. The proposed preliminary plat, Albe Minor Subdivision, as submitted by the Subdivider, together with the required supplementary plans and information, appear to satisfy the requirements of these regulations and comply with the Broadwater County Growth Policy, with the suggested mitigating conditions.

X. CRITERIA FOR REVIEW:

In accordance with 76-3-608(3), MCA, a subdivision proposal must undergo review for impacts on the following primary criteria: 1. Agriculture; 2. Agricultural Water User Facilities; 3. Local services; 4. Natural Environment; 5. Wildlife and Wildlife Habitat; 6. Public Health and Safety; 7. Compliance with the County's Subdivision Regulations; 8. Compliance with Survey Requirements; 9. The provision of easements within and to the proposed subdivision for the location and installation of any planned utilities; and 10. A

provision for providing legal and physical access to each parcel within the proposed subdivision.

FINDINGS OF FACT AND CONCLUSIONS:

A. IMPACTS ON AGRICULTURE:

1. DEFINITION OF AGRICULTURE: Farming or ranching include the cultivation or tilling of the soil, the production, cultivation growing, harvesting of agricultural or horticultural commodities that are on site, such as food, feed, and fiber, the raising of livestock and poultry, bees, biological control insects, fruits and vegetables, and sod, ornamental, nursery, and horticultural crops, and including timberlands and forest lands. *Broadwater County Subdivision Regulations, Definition 3.*

2. NARRATIVE: According to the preliminary plat application, none of this property is considered prime farmland if irrigated.

3. FINDING: This proposed subdivision should not have an effect on agricultural productivity since no land is being removed from agriculture.

   Per Chapter V-A of the Broadwater County Subdivision Regulations, all subdivisions must be designed and developed to provide satisfactory building sites that properly relate to topography, and must, to the extent possible, preserve the natural environment.

   Conditions of approval for the proposed subdivision will require a Noxious Weed Management Plan be on file and recorded with the final plat; Restrictive covenants providing notice of agricultural operations in the vicinity; That the property shall be maintained in a weed-free manner; and restraining domestic pets on the property. Other conditions of approval will provide the opportunity to financially guarantee any improvements required by the Weed Management Plan.

Conditions of Approval Numbers 12, 14-c, 14-g, 14-h and 15 are required to mitigate impacts on agriculture. (A full list of the Conditions of Approval is found starting on page number 10)

CONCLUSION: The impacts to agriculture, as set forth in the Findings of Fact, will be mitigated by the imposed Conditions of Approval, based upon the record, when satisfactorily completed.

B. IMPACTS ON AGRICULTURAL WATER USER FACILITIES:

1. DEFINITION OF AGRICULTURAL WATER USER FACILITIES: Those facilities which provide water for irrigation or stock watering to agricultural lands to produce agricultural products. Any part of an irrigation system historically used to produce an agricultural product on property used for agricultural purposes. These facilities include, but are not limited to, ditches, head gates, pipes and other water

conveying facilities. *Broadwater County Subdivision Regulations, Definition 5.*

2. NARRATIVE: The proposed subdivision will create four residential lots between 2.73 and 5.51 acres.

3. FINDINGS: The proposed subdivision property should not have an impact any agricultural water user facilities since none are located on the property.

Conditions of Approval Numbers 14-c, 14-g, 14-h and 15 are required to mitigate impacts on agricultural water user facilities. (A full list of the Conditions of Approval is found starting on page number 10)

CONCLUSION: The impacts to agricultural water user facilities, as set forth in the Findings of Fact, will be mitigated by the imposed Conditions of Approval, based upon the record, when satisfactorily completed.

C. IMPACTS ON LOCAL SERVICES:

1. DEFINITION OF LOCAL SERVICES: All services or facilities local government is authorized to provide that benefit their citizens, such as water supply, sewage disposal, law enforcement, fire protection, emergency services, transportation system, educational system, noxious weed control, as well as services that local government does not provide such as power, telephone, state highways, etc. *Broadwater County Subdivision Regulations, Definition 34.*

2. NARRATIVE: The proposed subdivision will be accessed from individual driveway approaches, shared driveway approaches and shared access easements on to Foster Drive. It is within the jurisdiction of the Broadwater County Sheriff's Office as well as the Townsend School System. Fire protection will be offered by the Broadwater County Rural Fire District.

3. FINDINGS:

   a. SOLID WASTE:
   Individual lot owners will haul their solid waste to Broadwater Solid Waste Canister site in Townsend. Subdivision residents will have the option of hiring an independent contractor to pick up their solid waste or transport it themselves.

   b. MAIL DELIVERY:
   It is anticipated that mail will be delivered by the United States Postal Service and plans for any mail receptacles on-site are subject to review and approval by the Townsend Post Office.

   c. UTILITIES:
   It is anticipated that Northwestern Energy provide electrical service to the proposed

subdivision. Future dry utilities are anticipated to be installed underground.

d. ROADS AND TRAFFIC:
No transportation plan has been officially adopted for this area. The proposed development could cause an impact to 'Foster Drive'; therefore, a Preliminary Engineering Report (PER) should be performed prior to final plat approval to determine whether or not the applicant would be responsible for any improvements to the subdivision road, 'Foster Drive'. The proposed development could cause an impact to 'Antelope Road'; therefore, a Preliminary Engineering Report (PER) should not be performed prior to final plat approval to determine whether or not the applicant would be responsible for any improvements to the county road, 'Antelope Road'.

The estimated Average Daily Trips (ADT) for four (4) residential lots is thirty-two (32) ADT. (AASHTO standards)

e. SCHOOLS:
The proposed subdivision is served by the Townsend Schools. The potential for new students from this development should not have an impact on existing bus routes.

f. EMERGENCY SERVICES:
The proposed subdivision is within the Broadwater Sheriff Department's jurisdiction. Due the rural nature of this subdivision, response times for emergency services could be longer than expected.

g. FIRE SERVICES
The proposed subdivision is located within the Broadwater Rural Fire District. The nearest firehouse is Townsend Fire Hall, an unmanned, volunteer fire house. The Subdivider will need to propose a fire protection plan for review and approval by the Broadwater Rural Fire District.

Conditions of Approval Numbers 2, 4, 5, 6, 7, 8, 9, 10, 13 and 14-b are required to mitigate impacts on local services. (A full list of the Conditions of Approval is found starting on page number 10)

CONCLUSION: The impacts to local services, as set forth in the Findings of Fact, will be mitigated by the imposed Conditions of Approval, based upon the record, when satisfactorily completed.

D. IMPACTS ON THE NATURAL ENVIRONMENT

1. DEFINITION OF NATURAL ENVIRONMENT: The natural environment is defined as the physical conditions which exist within a given area, including land, air, water, mineral, flora, fauna, sound, light, and objects of historic and aesthetic significance. *Broadwater County Subdivision Regulations, Definition 47.*

2. NARRATIVE: According to the preliminary plat application the property is relatively flat with no waterways or wetlands. The proposed subdivision is outside of the FEMA mapped 100-year floodplain.

3. FINDINGS: The property is located within the Intermountain Seismic Belt that extends through western Montana and frequently produces small earthquakes and has previously developed some major earthquakes. Property damage and risk can be minimized with construction techniques and earthquake planning.

   Per Chapter V-B of the Broadwater County Subdivision Regulations, the design and development of subdivisions must provide satisfactory building sites which are properly related to topography, and must, to the extent possible, preserve the natural environment.

   All grading, drainage and erosion control shall be in compliance with Chapter V-J of the Broadwater County Subdivision Regulations.

   All post development generated stormwater will be detained within the subdivision boundaries. A stormwater pollution prevention plan will be implemented and will remain in effect during the construction phase of this project and until disturbed soils are properly stabilized. The grading and drainage plan will be provided for review to the Environmental Health Officer and the Department of Environmental Quality.

   Per Chapter V-R of the Broadwater County Subdivision Regulations, a Weed Management Plan shall be approved by the Broadwater County Weed Board prior to the subdivision application being considered complete.

   A Noxious Weed Management Plan has been completed by the developer, submitted, and approved by the Broadwater County Weed Coordinator and the Broadwater County Weed Board. No critical plant species have been identified. Existing vegetation will only be disturbed for necessary construction of roads, driveways, utilities and structures. Any construction disturbance will be reseeded with an approved grass seed mix. A Weed Management Plan has been approved by the Broadwater County Noxious Weed District to control and prevent the growth of noxious weeds. The Subdivider will be responsible for adhering to the Weed Management Plan until all lots are sold or the responsibility is turned over to a homeowners' association. (*Source: Application for Preliminary Plat: Item 28—Weed Management Plan).*

   A letter was received from the Montana Historical Society (MHS) on October 4, 2022 for the Albe Minor Subdivision, to determine if there are any known historical, cultural or archaeological sites which may be affected by the proposed development. According to Damon Murdo, MHS Cultural Records Manager, there had been one previously recorded sites within the designated area; the historic Northern Pacific Railroad, which is outside of the proposed project area. (*Source: Application for Preliminary Plat: Item - 31, Letter from*

Damon Murdo dated October 4, 2022)

Conditions of Approval Numbers 12, 14-c and 16 are required to mitigate impacts on the natural environment. (A full list of the Conditions of Approval is found starting on page number 10)

CONCLUSION: The impacts on the natural environment, as set forth in the Findings of Fact, will be mitigated by the imposed Conditions of Approval, based upon the record, when satisfactorily completed

E. IMPACT ON WILDLIFE AND WILDLIFE HABITAT

1. DEFINITION OF WILDLIFE AND WILDLIFE HABITAT: Those animals that are not domesticated or tamed, or as may be defined in a Growth Policy; and The place or area where wildlife naturally lives or travels through. *Broadwater County Subdivision Regulations, Definitions 84 and 85.*

2. NARRATIVE: Wildlife such as antelope, mule deer, white-tailed deer, upland game birds, other small birds, rabbits and other rodents likely utilize the proposed subdivision. However, there should be no displacement of wildlife since the surrounding area is residential and expansive agricultural property.

3. FINDINGS: The impacts on wildlife habitat will be negligible based upon the surrounding uses. Landowners are encouraged to install wildlife friendly fencing, contain domestic animals, and secure solid waste to reduce wildlife incidents whenever possible.

Conditions of Approval Number 14-c and 14-h are required to mitigate impacts on wildlife habitat. (A full list of the Conditions of Approval is found starting on page number 10)

CONCLUSION: The impacts to wildlife habitat, as set forth in the Findings of Fact, will be mitigated by the imposed Conditions of Approval, based upon the record, when satisfactorily completed.

F. IMPACT ON PUBLIC HEALTH AND SAFETY:

1. DEFINITION OF PUBLIC HEALTH AND SAFETY: The prevailing healthful, sanitary condition of well-being for the community at large. Conditions that relate to public health and safety include but are not limited to disease control and prevention; emergency services; environmental health; flooding, fire or wildfire hazards, rock falls or landslides, unstable soils, steep slopes, and other natural hazards; high voltage lines or high pressure gas lines; and air or vehicular traffic safety hazards. *Broadwater County Subdivision Regulations, Definition 59.*

2. NARRATIVE: The proposed subdivision will be served by on-site wells. Each lot will have its own wastewater system as well as stormwater retention basin.

3. FINDINGS:

a. WATER SUPPLY:
The proposed subdivision is not within the service area of a public water system. The proposed lots will be served by individual on-site water wells, drilled into each lot, according to the Preliminary Plat Application. The use of these exempt wells is subject to review and approval by the DNRC.

b. WASTEWATER
Wastewater for the proposed subdivision will be provided by the use of individual on-site wastewater treatment systems (septic drain fields). DEQ will review and issue approval for the lots for adequacy and impact of the wastewater systems on groundwater quality and will issue a determination of non-significant impacts in a Certificate of Subdivision Approval.

c. STORMWATER
A stormwater retention plan will be created with concurrence by DEQ prior to final plat approval.

Conditions of Approval Numbers 11, 14-c, 14-d, 14-e, 14-f and 16 are required to mitigate impacts on public health and safety. (A full list of the Conditions of Approval is found starting on page number 10)

CONCLUSION: The impacts on public health and safety, as set forth in the Findings of Fact, will be mitigated by the imposed Conditions of Approval, based upon the record, when satisfactorily completed.

G. COMPLIANCE WITH SUBDIVISION REGULATIONS

1. FINDINGS: The proposed subdivision meets all Subdivision Regulations, and it will remain in compliance with these regulations if all conditions of approval are satisfied. No variances have been requested.

All conditions of approval are required to address compliance with the Subdivision Regulations. (A full list of the Conditions of Approval is found staring on page number 10)

CONCLUSION: Compliance with subdivision regulations, as set forth in the Findings of Fact, will be addressed by the imposed Condition of Approval, based upon the record, when satisfactorily completed.

H. COMPLIANCE WITH SURVEY REQUIREMENTS

1. FINDINGS: A land survey and plat completed by a registered land surveyor in the state of Montana will need to be prepared. A review of the plat by the Community Development Department and the Examining Land Surveyor at the time of final plat application will ensure that the plat conforms to all conditions of approval, plat rules and

regulations.

Condition of Approval number 13 are required to address compliance with survey requirements. (A full list of the Conditions of Approval is found starting on page number 10)

CONCLUSION: Compliance with survey requirements, as set forth in the Findings of Fact, will be addressed by the imposed Condition of Approval, based upon the record, when satisfactorily completed.

I. PROVISION OF EASEMENTS WITHIN AND TO THE PROPOSED SUBDIVISION FOR THE LOCATION AND INSTALLATION OF ANY PLANNED UTILITIES

1. FINDINGS: Utility easements will have to be shown and described on the plat, in accordance with the Subdivision Regulations and in consultation with the utility providers, where utilities are or will be installed, and where necessary for the future extension of services.

Conditions of Approval number 13 is required to address the provision of easements within and to the proposed subdivision for the location and installation of planned utilities. (A full list of the Conditions of Approval is found starting on page number 10)

CONCLUSION: The provision of easements within and to the proposed subdivision for the location and installation of any planned utilities, as set forth in the Findings of Fact, will be addressed by the imposed Condition of Approval, based upon the record, when satisfactorily completed.

J. PROVISION OF LEGAL AND PHYSICAL ACCESS TO EACH PARCEL WITHIN SUBDIVISION

1. FINDINGS: Legal and physical access to the subdivision is provided via Foster Drive, which is a privately maintained public road. Therefore, no approach permits are required. The three new approaches to be installed on 'Foster Drive' will not be reviewed nor approved by any agency or entity.

Conditions of Approval Numbers 4, 5, 9, 13 and 17 are required to address the provision of legal and physical access to each parcel within the proposed subdivision. (A full list of the Conditions of Approval is found staring on page number 10)

CONCLUSION: The provision of legal and physical access to each parcel within the proposed subdivision as set forth in the Findings of Fact, will be addressed by the imposed Conditions of Approval, based upon the record, when satisfactorily completed.

IX. RECOMMENDED CONDITIONS

The Albe Minor Subdivision is recommended for approval with the following conditions:

1. Any and all adopted State and County requirements and standards which apply to this proposed subdivision must be met unless otherwise waived for cause by the governing body. (**Mitigates Findings of Fact under "Compliance with Subdivision Regulations"**) (*Section 76-3-608, MCA; Chapter I, Broadwater County Subdivision Regulations.*)

2. Plans for sewage treatment and water supply shall be submitted to the Department of Environmental Quality (DEQ) for review and approval. The Certificate of Subdivision Approval shall be filed with the final plat. All specifications in the approved plans shall be met. (**Mitigates Findings of Fact under "Impacts on Water and Wastewater under Local Services"**) *(Sections 76-4-101, et. Seq., MCA; Sections 17.36.101, et. seq., ARM; Sections 76-3-102(4), 501(1)(f)(iii), and 608(3)(a), MCA; Chapter III-A-7-d., Broadwater County Subdivision Regulations)*

3. A Preliminary Engineering Report (PER) must be prepared and certified by an engineer licensed in the State of Montana to provide an estimated cost of improvements necessary to make 'Foster Drive' meet or exceed Broadwater County Road Standards from the southwest corner of the proposed subdivision north to the intersection with 'Antelope Road'. **(Mitigates Findings of Fact under "Impacts on Roads and Traffic under Local Services and the Provision of Legal and Physical Access to each parcel within the proposed subdivision"):** *(Chapter V-H-a-iv, Broadwater County Subdivision Regulations)*

4. A Preliminary Engineering Report (PER) must be prepared and certified by an engineer licensed in the State of Montana to provide an estimated cost of improvements necessary to make 'Antelope Road' meet or exceed Broadwater County Road Standards from the intersection with 'Foster Drive' east to the intersection with US Highway 287. **(Mitigates Findings of Fact under "Impacts on Roads and Traffic under Local Services and the Provision of Legal and Physical Access to each parcel within the proposed subdivision"):** *(Chapter V-H-a-iv, Broadwater County Subdivision Regulations)*

5. In cooperation with Broadwater County, the applicant shall create, or expand an existing Rural Improvement District for the maintenance, preservation and repair of the internal subdivision roads or establish a Property Owners' Association or a Road User Agreement which provides for the maintenance of the internal subdivision road network. **(Mitigates Findings of Fact under "Impacts on Road and Traffic under Local Services")** (Sections 7-11-1003, 76-3-102, 501, 504 and 608(3), MCA; *Chapter V-H-b, Broadwater County Subdivision Regulations*)

6. The applicant shall create a Driveway Maintenance Agreement for the maintenance, preservation, and repair of the shared driveway for Lots 2 and 3 of the Albe Minor Subdivision.. **(Mitigates Findings of Fact under "Impacts on Road and Traffic under Local Services")**

7. The applicant shall create and execute a Grant of Shared Driveway Access Easement which shall be signed and notarized by all landowners adjacent to the 60' wide Access Easement along the north boundary of the proposed Albe Minor Subdivision. This document shall be recorded with the final plat. If Lot 19-B or Lot 1 of the Albe Minor Subdivision are further subdivided, the cost of improving the shared driveway to Broadwater County Subdivision Road Standards must be the responsibility of the developer at the time of subdivision. **(Mitigates Findings of Fact under "Impacts on Road and Traffic under Local Services")**

8. The applicant shall create a Driveway Maintenance Agreement for the maintenance, preservation, and repair of the shared driveway for Lots 1 and Amended 18-A. **(Mitigates Findings of Fact under "Impacts on Road and Traffic under Local Services")**

9. Utilizing the formula in the Broadwater County Subdivision Regulations Section V-H-a-iv, the applicant shall complete the following for the subdivision access road: **(Mitigates Findings of Fact under "Impacts on Utilities and Impacts on Roads and Traffic under Local Services and the Provision of Legal and Physical Access to each parcel within the proposed subdivision"):**

a. The applicant shall be responsible for their proportionate share of improvements to 'Foster Drive'; or (*Sections 76-3-102, 501, 504(1)(g)(i), and 608(3), MCA; Chapters I-C, V-E and V-H, Broadwater County Subdivision Regulations*)
b. The proportionate share of funds derived from the estimated cost to improve 'Foster Drive' shall be placed in a reserve account held and used by the County for the upgrade of 'Foster Drive' only.

10. Plans for the location and installation of individual mailboxes shall be reviewed and approved by the United States Postal Service prior to installation. The Subdivider shall submit documentation from the United States Postal Service verifying their review and approval. When required, Subdivider shall provide an off-street area for mail delivery. The Subdivider, its successors and assigns shall be responsible for all costs associated with meeting this condition of approval. **(Mitigates Findings of Fact under "Impacts on Mail Delivery under Local Services")** (*Sections 76-3-102(4), 76-3-501(1), and 76-3-608(3)(a)-(b); Chapter V-I, Broadwater County Subdivision Regulations.)*

11. Prior to submitting the final subdivision plat application, the applicant shall complete a Fire Protection Plan for the purpose of furthering fire protection. The Fire Protection Plan shall be created with concurrence by the Broadwater County Rural Fire District. **(Mitigates Findings of Fact under "Impacts on Emergency Services under**

Local Services and Impacts on Public Health and Safety") (Sections 76-3-102, 501, 504 and 608(3), MCA; *Chapter V-Q, Broadwater County Subdivision Regulations*)

12. Prior to any development and/or soil disturbance, the applicant shall submit a Subdivision Noxious Weed Management and Revegetation Plan for the proposed subdivision to the Broadwater County Weed District for review and approval. All specifications and requirements of the approved plan shall be met at the cost of the applicant. The applicant shall submit documentation to the Broadwater County Community Development Department from the Weed District verifying their review and approval. **(Mitigates Findings of Fact under "Impacts on Agriculture and Impacts on Natural Environment")** (Sections 76-3-102(5 and 6), and 608(3)(a), MCA; *Chapters I-C-9* and *V-R, Broadwater County Subdivision Regulations*)

13. The final plat shall be prepared in accordance with the applicable State survey requirements, Montana Subdivision and Platting Act survey requirements and the County Subdivision Regulations. The final plat shall be in substantial compliance with the plat and plans submitted for preliminary plat review, except as modified by these conditions. The final plat shall provide for the following: **(Mitigates Findings of Fact under "Impacts on mail Delivery, Utilities, Roads and Traffic under Local Services", "Compliance with Survey Requirements, the provision of Easements within and to the Proposed Subdivision for the Location and Installation of any Planned Utilities and Provision of Legal and Physical Access to each Parcel within the Proposed Subdivision")** *(Section 76-3-102, 76-3-402, 76-3-501, 76-3-504, and 76-3-608(3), MCA; Rule 24.183.1107, ARM; Chapter II-B-2, Broadwater County Subdivision Regulations)*

a. All existing and proposed utility easements on the subject property; and
b. All existing access and utility easements adjacent to the subject property.

14. The Book and Page reference to the restrictive covenants (filed with the County Clerk and Recorder) shall be indicated on the face of the final plat. In addition, the forgoing restrictive covenants, shall be placed upon the property and shall provide for the following **(Mitigates Findings of Fact under all Review Criteria listed in the Staff Report)** *(Section 76-3-608(3)(a), MCA; Chapters I and III, County Subdivision Regulations)*

a. Notice is hereby given that all lots shall be used for Residential purposes only per the subdivision application **(Mitigates Findings of Fact under "Compliance with Subdivision Regulations")** (*Chapter I-C and III-A, Broadwater County Subdivision Regulations*);
b. Notice is hereby given that each owner of any lot by acceptance of a deed therefore, whether or not it shall be so expressed in such deed, waives the right to protest joining or the amendment of a Rural Improvements District for the installation, maintenance, preservation, and repair of the following: roads that provide access to the subdivision, stormwater improvements for the subdivision; fire protection improvements for the subdivision. **(Mitigates Findings of Fact under "Impacts on Roads and Traffic under Local Services")** (Section 76-3-102(4), MCA; *Chapter V-H-b, Broadwater County Subdivision Regulations*)

c. Notice is hereby given that each lot shall be maintained in a weed-free manner and a Noxious Weed and Revegetation Plan has been prepared for the subdivision and is on file with the Broadwater County Clerk & Recorder's Office. **(Mitigates Findings of Fact under "Impacts on Agriculture, Impacts on Agricultural Water Users, Impacts on the Natural Environment, Impacts on Wildlife and Wildlife Habitat and Impacts on the Public Health and Safety")** (Sections 76-3-102 and 608(3), MCA; *Chapters I-C-9 and V-R, Broadwater County Subdivision Regulations*)

d. Notice is hereby given of the potential health risk from radon concentrations and that such risk can be evaluated through soil tests and mitigated through radon abatement techniques incorporated into structures. **(Mitigates Findings of Fact under "Impacts on Public Health and Safety")** (Section 76-3-608(3)(a), MCA)

e. Notice is hereby given that all structures within the subdivision should be constructed to specifications which meet or exceed equivalent provisions in the applicable State building code for this seismic zone (Zone 3). **(Mitigates Findings of Fact under "Impacts on Public Health and Safety")** (Section 76-3-608(3)(a), MCA)

f. Notice is hereby given of a restrictive covenant, binding the landowner, any heirs, successors and assigns, and all future owners of property within the subdivision, agreeing therein to hold Broadwater County harmless and indemnify Broadwater County from all claims, demands, obligations, suits, causes of action, damages, and liability, including the County's costs and attorney's fees, arising in any manner whatsoever out of, or relating to, the existence, use, operation, repair and/or maintenance of the following: **(Mitigates Findings of Fact under "Impacts on Public Health and Safety")**(76-3-608(1) and (4), MCA; *Chapter I-C-10, Broadwater County Subdivision Regulations*)
    i. Exposure to radon;
    ii. Earthquake fault zone and any seismic activity; and
    iii. Water availability

g. Notice is hereby given of the presence of agricultural operations in the vicinity and such operations may occur at varying times and seasons and include, but are not limited to, the noises and odors due to the operation of machinery, the pasturing and feeding of livestock, irrigation, and the application of fertilizers, herbicides, and pesticides to fields. **(Mitigates Findings of Fact under "Impacts on Agriculture and Impacts on Agricultural Water User Facilities")** (section 76-3-608-(3)(a), MCA; *Chapter III-A-7-b, Broadwater County Subdivision Regulations*)

h. Notice is hereby given that domestic pets should be restrained on the property at all times **(Mitigates Findings of Fact under "Impacts on Agriculture, Impacts on Agricultural Water User Facilities, Impacts on Wildlife and Wildlife Habitat")** (Section 76-3-608(3)(a), MCA; *Chapter I-C and III-A-7, Broadwater County Subdivision Regulations*)

15. The Subdivider shall include a notarized "Right to Farm" declaration with final plat affirming that "No agricultural or farming operation, place, establishment or facility or any of its appurtenances or the operation thereof is

or becomes a public or private nuisance because of the normal operations thereof as a result of changed residential or commercial conditions in or around it locality of the agricultural or farming operation, place, establishment or facility has been in operation longer than the complaining resident has been in possession or commercial establishment has been in operation." **(Mitigates Findings of Fact under "Impacts on Agriculture, Impacts on Agricultural Water User Facilities)** (*Section 27-30-101, MCA*)

16. Prior to submitting the final plat, the following improvements shall be installed or otherwise guaranteed. **(Mitigates Findings of Fact under "Impacts on Utilities, Roads and Traffic, Mail Delivery, the Natural Environment and Public Health and Safety)** (*Sections 76-3-507 and 76-3-608(3)(a), MCA and Chapter III-A-7-a-iii, County Subdivision Regulations)*
    a. Any necessary improvements required by the stormwater drainage plan, weed management plan, fire protection plan, or approach permits;
    b. Installation of mail delivery facilities; and
    c. Utilities abutting and available to each lot.

17. A 'No Access Restriction' shall be shown on the final plat from Lot 4 on to the 30' foot wide Driveway Access and Utility Easement along the southern boundary of the property and from Lot 18-A on the 30' foot wide Shared Driveway Access and Utility Easement along the northern boundary. **(Mitigates Findings of Fact under "Provision of Legal and Physical Access to Each Parcel Within the Subdivision")**

18. Prior to final plat approval the applicant shall:
    a. Provide proof that all real property taxes and special assessments assessed and levied on the property are paid for the current tax year; including any past delinquencies **(Mitigates Findings of Fact under "Compliance with the Subdivision Regulations")** (Section 76-3-611(1)(b), MCA; *Chapter I-H, Broadwater County Subdivision Regulations*)

    b. Provide documentation showing that the applicant is the lawful owner of the property with the apparent authority to subdivide the same and showing the names of lien holders or claimants of record **(Mitigates Findings of Fact under "Compliance with the Subdivision Regulations")** (Section 76-3-612, MCA; *Chapter I-H, Broadwater County Subdivision Regulations*)

This preliminary approval shall be in force for three (3) calendar years. At the end of this approval period, the Board of County Commissioners may, at the written request of the applicant, extend its approval if that approval period is included as a specific condition of a written agreement between the Board of County Commissioners and the applicant. **(Mitigates Findings of Fact under "Compliance with the Subdivision Regulations")**

DATED this _____ day of April, 2024

BROADWATER COUNTY COMMISSION

ATTEST:

_____

_____
Angie Paulsen, Clerk & Recorder

_____

_____

STAFF REPORT
FOR THE BRADY STORAGE UNITS #2

Date:	February 21, 2024
Type of Application:	Buildings for Lease or Rent (BLR)
Name of Project:	Brady Storage Units
Number of Units:	109
Legal Description:	Located in SW ¼ of Section 3, T2N, R1E, P.M.M., Broadwater County, Montana
Landowner:	Pat Brady
Designated Representative:	Jason Crawford
Commission Meeting Date(s):	April 3, 2024
Staff Recommendation:	Adopt findings of fact and recommend approval, subject to conditions.

Report written and presented by Nichole Brown, Broadwater County Community Development Director

INTRODUCTION

This report presents findings of fact and recommended conditions of approval for the project. It is organized in two main sections:

1. Findings of Fact, which includes a general description of the project (Project Summary) and findings based on the applicable review criteria, and
2. Recommended Conditions of Approval, based on he findings of fact and the Broadwater County Buildings for Rent or Lease Regulations (BLR Regulations)

FINDINGS OF FACT

Project Summary

1) Proposal

Pat Brady is proposing to rent 109 storage units on an existing 659 acre parcel. The property is located at the intersection of US Highway 287 and Old Town Road. The property was previously approved for 68 storage units, but they were never constructed

The owner is proposing to construct six buildings containing the 109 enclosed storage units and two separate outside parking areas for vehicles, campers, RVs and for boat storage. The South building 50'x 360'with 18,000 square feet of ground coverage consisting of twenty-four (24) 15'x 50' units. The West building will be 50'x 75' with 3,750 square feet of ground coverage consisting of five (5) 50' x 15' units. The North building will be 30'x 200' with 6,000 square feet of ground coverage consisting of thirty-six (36) 10'x 15' units and twelve (12) 5'x 10' units. The farthest North buildings will consist of three buildings that are all 15'x 80' with 3,600 square feet of total ground coverage consisting of twenty (20) 10'x 15' units and twelve (12) 5'x 10' units. The total ground coverage of all six buildings totals 31,350 square feet.

Access to the storage unit facility will be via Old Town Road, a county road. Prior to construction of the facility a County Road Approach Permit must be approved by the Broadwater County Public Works Director.

2) Project Characteristics

Size:	659 acres
Present land use:	Vacant land with one shed for the owner's personal use
Access:	Approach to Old Town Road

Utilities:	No current utilities to the property, but power for outdoor lighting is anticipated
Water/Sewer:	None proposed
Adjacent land uses:	Residential and Agricultural
Zoning:	This property is not currently zoned
Covenants:	None proposed

3) Findings

This application is being reviewed according to the Application & Review of Building for Lease or Rent (Section 6) of the BLR Regulations. Evaluation of the application's compliance with Section 6 of the BLR Regulations is discussed below, with recommended conclusions summarizing findings based on each evaluation.

a. Compliance with Section 6.A of the BLR Regulations
Section 6.A of the BLR Regulations outlines what is required of an "Application Submittal" for a BLR Application. The application and review fees were submitted to the Broadwater County Community Development Office on February 1, 2024 and additional material was submitted and deemed sufficient on March 7, 2024. All of the required documents have been submitted.

4) Review Process

This application is being reviewed according to the Review Process outlined by Section 6.B of the BLR Regulations. The following is the timeline of the application:

- The applicant's representative submitted the application and fees on February 1, 2024
- A letter of incompleteness, requesting additional information, was mailed to the applicant's representative on February 16, 2024
- The applicant's representative submitted the requested information on February 23, 2024
- The application was deemed complete on March 7, 2024
- The County Commissioners are scheduled to review the application April 3, 2024
- The County Commissioners must send a letter to the landowner of the approval, conditional approval or denial of the application prior to the end of the 60 day review period (May 31, 2024)

5) Relevant Review Criteria

The recommended findings of the reviewer are stated below and are based on the BLR Application materials provided by the applicant's representative and in accordance with the Governing Body Decision (Section 6.C) of the 2014 Broadwater County Building for Lease or Rent (BLR) Regulations.

Per Section 6.C of the BLR Regulations, the governing body may approve or conditionally approve the proposed buildings for lease or rent upon finding:

a. The proposed buildings for lease or rent, as submitted or conditioned, comply with these regulations and other regulations applicable to the property, and avoid or minimize potential significant impacts on the physical environment and human population in the area affected by the buildings for lease or rent;

The BLR Regulations do not include specific design or performance standards that are applicable to the project, but rely on the review criteria and administrative provisions of the regulations, which the project complies with. For this application, no other regulations are applicable since the land, buildings and units will remain under the ownership of the applicant.

b. Adequate water, wastewater, and solid waste facilities are available to serve the buildings for rent or lease;

No water, wastewater or solid waste facilities are proposed for this storage unit facility.

c. Adequate access to the site is provided to serve the buildings for lease or rent;

There is one proposed access for entering and exiting the property. The access is proposed to be located approximately 450 feet east of the Highway 287/Old Town Road intersection. Upon entry to the site, vehicles will be able to drive completely around the north building allowing access from all sides and will be able to drive on the North side of the South building allowing access from the front. An approach will need to be requested, and approved by the Broadwater County Public Works Director.

d. Adequate emergency medical, fire protection, and law enforcement services are available to serve buildings for rent or lease;

According to the BLR Application, there are no proposed emergency medical, fire or law enforcement services proposed to serve the buildings. However, in the event of an emergency at this location the Three Forks

Ambulance Service, Three Forks Fire Department and the Broadwater County Sheriff's Office have jurisdiction.

e. The buildings for lease or rent comply with any applicable flood plain regulations

This property is not located within a designated floodplain.

6) RECOMMENDATION

Staff recommends approval of the BLR application for the Brady Storage Units #2, subject to the conditions below. All conditions are based on the findings identified in this report and are recommended to ensure compliance with the BLR Regulations and other applicable laws and regulations.

CONDITIONS

1. The development and use of the property as a storage unit facility providing buildings for lease or rent shall be in substantial compliance with the plans reviewed and approved by the governing body. *(BLRR 6.C)*

2. The approval of the Brady Storage Units BLR application is based on the proposal to lease or rent the individual storage units, which shall continue to be owned by the landowner. Any change that results in the current or future landowner or designee selling the individual storage units, as a separately owned unit, is not approved. Residential use of the facility, in any capacity, is expressly prohibited. *(BLRR 6.C)*

3. An approach permit shall be obtained from the Broadwater County Public Works Department for access from the county road to the storage unit facility. Installation of the approach shall be completed in accordance with the approved permit and installation approved by Broadwater County. The approved approach permit shall be submitted to the Broadwater County Community Development Office upon approval. (BLRR 6.C)

4. These conditions of approval shall be met within two years from the date of approval (BLRR 2)

TRIPLE TREE ENGINEERING

January 17, 2024

Nichole Brown, Community Development Director
Broadwater County
515 Broadway
Townsend, MT 59644

RE: Brady Storage Units Building for Rent or Lease Application

Dear Nichole:

In accordance with the Broadwater County Building for Rent or Lease Application & Review Process and the January 6th, 2022 pre-application meeting with Jason Crawford, we are submitting the following for the County Consideration.

Brady Storage Units Application Form:
The application form, copy of the deed, and the title report are included in Exhibit A. A check in the amount of $1,750 for the review fee has been sent separately from this submittal.

Site Plan
A site plan including the required information is included on Exhibit B.

Existing and Proposed Buildings:
The Brady Storage Units project is located at the Northeast corner at the intersection of Highway 287 and Old Town Road located 2 miles North of the I-90/Highway 287 interchange. There are no existing buildings in or around the area of the proposed project on the landowner's property. There will be six proposed buildings containing multiple units in each for storage purposes. The South building will be 50' x 360' (18,000 sq ft of ground coverage) consisting of twenty-four 15' x 50' units. The West building will be 50 ft x 75 ft (3,750 sq ft of ground coverage) consisting of five 50 ft X 15 ft units. The North building will be 30 ft X 200 ft (6,000 sq ft of ground coverage) consisting of thirty-six 10 ft X 15 ft units and twelve 5' x 10' units. The farthest North buildings will consist of three buildings that are all 15' x 80' (3,600 sq ft of total ground coverage) consisting of twenty 10' x 15' units and twelve 5' x 10' units.

Proposed Water, Wastewater, and Solid Waste Disposal Facilities:
There are no proposed water, wastewater, and solid waste disposal facilities intended to serve the buildings.

Emergency Medical, Fire, and Law Enforcement Services:
There are no proposed emergency medical, fire, or law enforcement services proposed to serve the buildings.

Existing and Proposed Access:
There is no existing access to the land where the project is proposed. There is one proposed access for entering and exiting traffic approximately 450 ft East of Highway 287 off of Old Town Rd. The approach is proposed to access the property to the North from Old Town Rd. Upon entry to the site, vehicles will be able to drive completely around the North building allowing access from all sides and will be able to drive on the North side of the South building allowing access from the front.

Potential Significant Impacts:
The land is currently dry agricultural pastureland so the impacts on the surrounding environment will be minimal with moderate building footprints and gravel as the roadway surface material. We do anticipate a small increase in traffic as a result of the project, but because there is no consistency to when the facility will experience traffic (tenants can come and go at anytime) we expect the impacts to be negligible. The storage units will provide a service to the surrounding residence.

Please call me at (406) 461-2115 if you have any questions or need additional information.

Sincerely,

Triple Tree Engineering, Inc.

Jason Crawford, P.E.

EXHIBIT A

PO Box 162 // Helena, MT 59624 // 406.461.0692
www.tripletreemt.com

Building for Rent or Lease Application

Broadwater County	Office Use Only Date: _____ Accepted by: _____ Fee: $_____ Cash/Check #:_____

1. **OWNER(S) OF RECORD:**

   Name: Pat Brady (Brady Family Ranch Properties, LLC)

   Mailing Address: 16 Interstate Dr.

   City/State/Zip: Somersworth, NH 03878 Phone: (603) 781-6336

   Email: pbrady@labeltechinc.com

2. **APPLICANT** *[person(s) authorized to represent the owner(s) of record and to whom copies of all correspondence is to be sent]:*

   Name: Jason Crawford

   Mailing Address: PO Box 162

   City/State/Zip: Helena, MT 59635 Phone: (406) 461- 2115

   Email: jcrawford@tripletreemt.com

3. **LEGAL DESCRIPTION OF PROPERTY:**

   Street Address: _____ Sec. No. 03 Township 02N Range 01E

   Subdivision Name: _____ Tract No. _____ Lot No. _____ Block No. _____

   Lot Size: _____ Acres/Square Feet (circle)

4. **DESCRIPTION OF PROPOSED USE** *[use separate sheets as necessary]*:

   The owner is proposing to construct 6 buildings with a total of 109 units. The storage units would be located at the corner of Highway 287 and Old Town Road in the South end of Broadwater County.

6. CERTIFICATION

I hereby certify under penalty of perjury and the laws of the State of Montana that the information submitted herein, on all other forms, documents, plans or any other information submitted as a part of this application to be true, complete, and accurate to the best of my knowledge. Should any information or representation submitted in connection with this application be incorrect or untrue, I understand any approval based thereon may be rescinded and other appropriate action taken. The signing of this application signifies approval for representatives of Broadwater County to be present on the property for routine monitoring and inspection during the review process.

Manager Brady Family Ranch — 1/16/24

Landowner Signature — Date

Patrick A Brady
Mgr Brady Family Ranch — 1/16/24

Applicant Signature — Date

After recording, return to:
Rocky Mountain Title & Insured Closing Svcs., Inc.
400 N. Park Avenue
Helena, MT 59601

WARRANTY DEED

EUGENE R. GAUSS, JR, of P.O. Box 1329, Three Forks, Montana 59752-1329, herein referred to as Grantor, whether one or more, in consideration of ONE DOLLAR AND OTHER VALUABLE CONSIDERATIONS ($1.00 o.v.c.), grants and warrants unto **BRADY FAMILY RANCH PROPERTIES, LLC, a Montana limited liability company, of** _____, herein referred to as Grantee, whether one or more, and Grantee's successors and assigns forever in the following real property in Broadwater County, Montana:

Township 2 North, Range 1 East, M.P.M., Broadwater County, Montana.
Section 2: Lot 4, SW1/4NW1/4, W1/2SW1/4
Section 3: Lots 1, 2, 3, 4, S1/2N1/2, S1/2, EXCEPTING THEREFROM a strip of land conveyed to the State of Montana Department of Transportation described by deed recorded in Book 82 of Micro., page 187, AND EXCEPTING that portion of land conveyed to Vigilante Electric Cooperative, Inc., described by deed recorded in Book 112 of Micro., page 230, Certificate of Survey recorded in Book 2 of Plats, page 222, AND EXCEPTING that portion of land conveyed to the State of Montana Department of Transportation described by bargain and sale deed recorded in Book 141 of Micro., page 899, AND FURTHER EXCEPTING that portion of land as shown on Certificate of Survey recorded in Book 2 of Plats, page 370.
Section 10: All, EXCEPT those portions of land conveyed to Radersburg Railroad Company described in deed recorded in Book 23 of Deeds, page 135, AND EXCEPTING those portions of land described in Certificate of Survey recorded in Book 8, page 661, AND EXCEPTING that portion of land conveyed to the State of Montana Department of Transportation described by bargain and sale deed recorded in Book 141 of Micro., page 899, AND FURTHER EXCEPTING a parcel of land described in Certificate of Survey recorded in Book 2 of Plats, page 370.
Section 11: W1/2 EXCEPTING THEREFROM those portions of land described in Certificate of Survey recorded in Book 8, page 661, AND FURTHER EXCEPTING a parcel of land described in Certificate of Survey recorded in Book 2 of Plats, page 370.

Township 3 North, Range 1 East, M.P.M., Broadwater County, Montana.
Section 26: S1/2
Section 27: All those portions of the E1/2, SW1/4, N1/2NW1/4, SE1/4NW1/4 lying East of U.S.

Highway No. 10N, EXCEPTING THEREFROM those portions of land conveyed to the State of Montana Department of Transportation described by Bargain and Sale Deed recorded in Book 82 of Micro., page 187.
Section 34: All that part lying East of U.S. Highway No. 10N, EXCEPTING THEREFROM those portions of land conveyed to the State of Montana Department of Transportation described by Bargain and Sale Deed recorded in Book 82 of Micro., page 187.
Section 35: All

Deed Reference: Book 138 of Micro., page 452.

TOGETHER WITH all tenements, hereditaments and appurtenances thereto, and all reversions and remainders, and all rents, issues and profits thereof, and all right, title and interest of the Grantor therein, including easements and rights-of-way for access and utilities shown on the public records or plats filed or recorded with the Clerk and Recorder of Broadwater County, Montana, if any.

SUBJECT TO THE EFFECT OF:

(a) easements, covenants (including protective or restrictive covenants, and amendments thereto, if any), improvement agreements, resolutions, conditions, restrictions and rights-of-way shown or indicated in the public records or plats filed or recorded in the office of the County Clerk and Recorder of Broadwater County, Montana, or which may be ascertained from a visual inspection of the land, including ditch and utility rights-of-way and easements;

(b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims of title to water, claims to all minerals in or under said land including, but not limited to metals, oil, gas, coal, other hydrocarbons, sand gravel or other common variety materials, stone, mineral rights, mining rights, and easement rights, or other matters relating thereto, whether expressed or implied and whether or not shown by the public records;

(c) taxes and other governmental charges and assessments accrued or imposed after the date hereof, which Grantee assumes and agrees to pay as of the date hereof; and,

(d) zoning ordinances and land use restrictions, if any.

TO HAVE AND TO HOLD all and singular the said premises together with tenements, hereditaments and appurtenances unto the Grantee, and Grantee's successors and assigns forever.

TOGETHER WITH the usual covenants of warranty set forth in Section 30-11-110, Montana Code Annotated.

IN WITNESS WHEREOF, this instrument is executed this _____ day of October, 2020.

_____
EUGENE R. GAUSS JR.

STATE OF MONTANA)
:ss
County of _____)

This instrument was acknowledged before me on the _____ day of October, 2020, by Eugene R. Gauss Jr.

(SEAL):

_____
Notary Public for the State of Montana

REALTY TRANSFER CERTIFICATE

Confidential Tax Document: The information contained in this certificate is confidential by Montana law. Unauthorized disclosure of this information is a criminal offense, *15-7-308, MCA.*

GEOCODE(S) _____

ASSESSMENT CODE: _____

The Department of Revenue will change the name on ownership records used for the assessment and taxation of real property when this form is fully completed and signed by the preparer. (Please read the attached instructions on page 1 for assistance in completing and filing this form.)

Montana law requires this form be completed and may impose up to a $500 penalty for failure to file a Realty Transfer Certificate (15-7-304, 15-7-305 and 15-7-310, MCA)

PART 1 – DATE OF TRANSFER (SALE)

_____(MM/DD/YYYY)

PART 2 – PARTIES

Please complete this section in full; if additional space is required, please attach a separate page

Seller (Grantor)

Name Eugene R. Gauss, Jr.

Mailing Address P.O. Box 1329

(Permanent) _____

City Three Forks ST MT Zip 59752

Seller Principal Residence __Yes __No

Enter the last 4 digits of the SSN or FEIN

SSN XXX - XX - _____

SSN XXX - XX - _____

FEIN XX - XXX

Daytime Phone (406) 600-7589

Email Address ggauss@ajsackett.com

Buyer (Grantee)

Name Brady Family Ranch Properties, LLC

Mailing Address _____

(Permanent) _____

City _____ ST____ Zip _____

Buyer Principal Residence __Yes __No

Mailing Address _____

For Tax Notice _____

(If different) City _____ ST____ Zip _____

SSN XXX - XX - _____

SSN XXX - XX - _____

FEIN XX - XXX

Daytime Phone _____

Email Address _____

Transfer to Trustee, Custodian, or other Representative:

Trust FEIN XX - XXX

Minor SSN XXX - XXX - _____

Assessor Code or Parcel # _____

Main Geocode _/_/_/_/_/_/_/

PART 3 – PROPERTY DESCRIPTION

Please complete fully; if additional space is required, please attach a separate page.

Legal Description _____ Attachment ☑

Add/Sub _____ Block _____ Lot _____

County _____ City/Town _____ Section _____ Township _____ Range _____

PART 4 – DESCRIPTION OF TRANSFER

Please complete fully, more than one may apply.

☑ Sale ☐ Gift ☐ Barter ☐ Nominal or no consideration ☐ Part of 1031 or 1033 exchange

☐ Transfer is subject to a reserved life estate ☐ Transfer on Death deed

Distressed sales: ☐ Sheriff's deed ☐ Trustee's deed ☐ Deed in lieu of foreclosure ☐ Short sale ☐ Other

Transfer by Operation of Law

☐ Termination of joint tenancy by death ☐ Termination of life estate by death ☐ Court order or decree (except sheriff's sale) ☐ Merger, consolidation, or other business entity reorganization

PART 5 – EXCEPTIONS FROM PROVIDING SALES PRICE INFORMATION

Please complete fully, more than one may apply.

☐ Transfer between husband/wife or parent/child for nominal consideration
☐ Termination of joint tenancy by death
☐ Transfer to a revocable living trust
☐ Gift
☐ Correction, modification, or supplement of previously recorded instrument, no additional consideration
☐ Merger, consolidation or reorganization of business entity
☑ Land currently classified as agricultural land and for continued use for agricultural purposes *(15-7-307, MCA)*
☐ Transfer made in contemplation of death without consideration
☐ Transfer of property of a decedent's estate
☐ Transfer pursuant to court decree (except sheriff's sale)
☐ Termination of life estate by death
☐ Transfer by government agency
☐ Tax deed
☐ Land currently classified as forestland and for continued use for producing timber *(15-7-307, MCA)*

PART 6 – SALE PRICE INFORMATION

Please complete fully, more than one may apply.

Actual Sale Price $ _____

Financing: __Cash __FHA __VA __Contract __Other

Terms: __New loan OR __Assumption of existing loan

Value of personal property included in sale $ _____

Value of inventory included in sale $ _____

Value of licenses included in sale $ _____

Value of good will included in sale $ _____

Was an SID payoff included in the sale price? ____Yes ____No

Did the buyer assume an SID? ____ Yes ____No

Amount of SID paid or assumed: $ _____

Was a mobile home included in the sale? ____ Yes ____No

PART 7 – WATER RIGHT DISCLOSURE

Disclosure is only applicable to the property identified in PART 3 above.

☐ A. Property is served by a public water supply, i.e., city, irrigation district, or water district provides water.
☐ B. Seller has no water rights on record with DNRC to transfer.
☐ C. Seller is transferring ALL water rights on record with DNRC to the Buyer.
☐ D. Seller is dividing or exempting (reserving) water rights. Seller must file Water Right Update form.

X Seller (Grantor) Signature _____ Date _____

PART 8 – PREPARER INFORMATION

Preparer's signature is required.

X Signature Charlotte Chonko Mailing Address 2066 Stadium Drive, Suite 101

Name/Title Charlotte Chonko / McLean, Younkin & Willett, PLLC (please print)

City Bozeman State MT Zip 59715

Daytime Phone (406) 582-0027

Clerk and Recorder Use Only

Recording Information: Document No._____ Book_____ Page_____ Date_____

Department of Revenue Copy

RTC EXHIBIT A

Township 2 North, Range 1 East, M.P.M., Broadwater County, Montana.
Section 2: Lot 4, SW1/4NW1/4, W1/2SW1/4
Section 3: Lots 1, 2, 3, 4, S1/2N1/2, S1/2, EXCEPTING THEREFROM a strip of land conveyed to the State of Montana Department of Transportation described by deed recorded in Book 82 of Micro., page 187, AND EXCEPTING that portion of land conveyed to Vigilante Electric Cooperative, Inc., described by deed recorded in Book 112 of Micro., page 230, Certificate of Survey recorded in Book 2 of Plats, page 222, AND EXCEPTING that portion of land conveyed to the State of Montana Department of Transportation described by bargain and sale deed recorded in Book 141 of Micro., page 899, AND FURTHER EXCEPTING that portion of land as shown on Certificate of Survey recorded in Book 2 of Plats, page 370.
Section 10: All, EXCEPT those portions of land conveyed to Radersburg Railroad Company described in deed recorded in Book 23 of Deeds, page 135, AND EXCEPTING those portions of land described in Certificate of Survey recorded in Book 8, page 661, AND EXCEPTING that portion of land conveyed to the State of Montana Department of Transportation described by bargain and sale deed recorded in Book 141 of Micro., page 899, AND FURTHER EXCEPTING a parcel of land described in Certificate of Survey recorded in Book 2 of Plats, page 370.
Section 11: W1/2 EXCEPTING THEREFROM those portions of land described in Certificate of Survey recorded in Book 8, page 661, AND FURTHER EXCEPTING a parcel of land described in Certificate of Survey recorded in Book 2 of Plats, page 370.

Township 3 North, Range 1 East, M.P.M., Broadwater County, Montana.
Section 26: S1/2
Section 27: All those portions of the E1/2, SW1/4, N1/2NW1/4, SE1/4NW1/4 lying East of U.S. Highway No. 10N, EXCEPTING THEREFROM those portions of land conveyed to the State of Montana Department of Transportation described by Bargain and Sale Deed recorded in Book 82 of Micro., page 187.
Section 34: All that part lying East of U.S. Highway No. 10N, EXCEPTING THEREFROM those portions of land conveyed to the State of Montana Department of Transportation described by Bargain and Sale Deed recorded in Book 82 of Micro., page 187.
Section 35: All

Deed Reference: Book 138 of Micro., page 452.

REALTY TRANSFER CERTIFICATE

Confidential Tax Document: The information contained in this certificate is confidential by Montana law. Unauthorized disclosure of this information is a criminal offense, *15-7-308, MCA.*

GEOCODE(S) _____

_____

_____

ASSESSMENT CODE: _____

The Department of Revenue will change the name on ownership records used for the assessment and taxation of real property when this form is fully completed and signed by the preparer. (Please read the attached instructions on page 1 for assistance in completing and filing this form.)

Montana law requires this form be completed and may impose up to a $500 penalty for failure to file a Realty Transfer Certificate (15-7-304, 15-7-305 and 15-7-310, MCA)

PART 1 – DATE OF TRANSFER (SALE)

_____(MM/DD/YYYY)

PART 2 – PARTIES

Please complete this section in full; if additional space is required, please attach a separate page

Seller (Grantor)

Name Eugene R. Gauss, Jr.

Mailing Address P.O. Box 1329

(Permanent) _____

City Three Forks ST MT Zip 59752

Seller Principal Residence __Yes __No

Buyer (Grantee)

Name Brady Family Ranch Properties, LLC

Mailing Address _____

(Permanent) _____

City _____ ST____ Zip _____

Buyer Principal Residence __Yes __No

Mailing Address _____

For Tax Notice _____

(If different) City _____ ST____ Zip _____

PART 3 – PROPERTY DESCRIPTION

Please complete fully; if additional space is required, please attach a separate page.

Legal Description _____ Attachment ☑

_____

Add/Sub_____ Block _____ Lot _____

County_____ City/Town _____ Section _____ Township _____ Range _____

PART 4 – DESCRIPTION OF TRANSFER

Please complete fully, more than one may apply.

☑ Sale ☐ Gift ☐ Barter ☐ Nominal or no consideration ☐ Part of 1031 or 1033 exchange

☐ Transfer is subject to a reserved life estate ☐ Transfer on Death deed

Distressed sales: ☐ Sheriff's deed ☐ Trustee's deed ☐ Deed in lieu of foreclosure ☐ Short sale ☐ Other

Transfer by Operation of Law

☐ Termination of joint tenancy by death ☐ Termination of life estate by death ☐ Court order or decree (except sheriff's sale) ☐ Merger, consolidation, or other business entity reorganization

PART 5 – EXCEPTIONS FROM PROVIDING SALES PRICE INFORMATION

Please complete fully, more than one may apply.

☐ Transfer between husband/wife or parent/child for nominal consideration

☐ Termination of joint tenancy by death

☐ Transfer to a revocable living trust

☐ Gift

☐ Correction, modification, or supplement of previously recorded instrument, no additional consideration

☐ Merger, consolidation or reorganization of business entity

☒ Land currently classified as agricultural land and for continued use for agricultural purposes *(15-7-307, MCA)*

☐ Transfer made in contemplation of death without consideration

☐ Transfer of property of a decedent's estate

☐ Transfer pursuant to court decree (except sheriff's sale)

☐ Termination of life estate by death

☐ Transfer by government agency

☐ Tax deed

☐ Land currently classified as forestland and for continued use for producing timber *(15-7-307, MCA)*

PART 6 – SALE PRICE INFORMATION

Please complete fully, more than one may apply.

Actual Sale Price $ _____

Financing: __Cash __FHA __VA __Contract __Other

Terms: __New loan OR __Assumption of existing loan

Value of personal property included in sale $ _____

Value of inventory included in sale $_____

Value of licenses included in sale $_____

Value of good will included in sale $ _____

Was an SID payoff included in the sale price? ____Yes ____No

Did the buyer assume an SID? ____ Yes ____No

Amount of SID paid or assumed: $ _____

Was a mobile home included in the sale? ____Yes ____No

PART 7 – WATER RIGHT DISCLOSURE

Disclosure is only applicable to the property identified in PART 3 above.

☐ A. Property is served by a public water supply, i.e., city, irrigation district, or water district provides water.

☐ B. Seller has no water rights on record with DNRC to transfer.

☐ C. Seller is transferring ALL water rights on record with DNRC to the Buyer.

☐ D. Seller is dividing or exempting (reserving) water rights. Seller must file Water Right Update form.

X Seller (Grantor) Signature _____ Date_____

PART 8 – PREPARER INFORMATION

Preparer's signature is required.

X Signature Charlotte Chonko

Name/Title Charlotte Chonko / McLean, Younkin & Willett, PLLC
(please print)

Mailing Address 2066 Stadium Drive, Suite 101

City Bozeman State MT Zip 59715

Daytime Phone (406) 582-0027

Clerk and Recorder Use Only

Recording Information: Document No._____ Book_____ Page_____ Date_____

Buyer/Seller Copy

ROCKY MOUNTAIN TITLE & INSURED CLOSING SVCS., INC.

STATEMENT OF SETTLEMENT FOR BORROWER(S)

PROPERTY ADDRESS: Copper City Ranch, Three Forks, MT 59752

BORROWER(S): Brady Family Ranch Properties, LLC, a Montana Limited Liability Company

SELLER(S): Eugene R. Gauss Jr.

SETTLEMENT DATE: October 28, 2020 DISBURSED: October 28, 2020 PRORATION DATE: October 28, 2020

LEGAL DESCRIPTION:

Township 2 North, Range 1 East, M.P.M., Broadwater County, Montana.
Section 2: Lot 4, SW¼NW¼, W½SW¼
Section 3: Lots 1, 2, 3, 4, S½N½ , S½, EXCEPTING THEREFROM a strip of land conveyed to the State of Montana Department of Transportation described by deed recorded in Book 82 of Micro., page 187, AND EXCEPTING that portion of land conveyed to Vigilante Electric Cooperative, Inc., described by deed recorded in Book 112 of Micro., page 230, Certificate of Survey recorded in Book 2 of Plats, page 222, AND EXCEPTING that portion of land conveyed to the State of Montana Department of Transportation described by bargain and sale deed recorded in Book 141 of Micro., page 899, AND FURTHER EXCEPTING that portion of land as shown on Certificate of Survey recorded in Book 2 of Plats, page 275, AND FURTHER EXCEPTING a parcel of land described in Certificate of Survey recorded in Book 2 of Plats, page 370.
Section 10: All, EXCEPT those portions of land conveyed to Radersburg Railroad Company described in deed recorded in Book 23 of Deeds, page 135, AND EXCEPTING those portions of land described in Certificate of Survey recorded in Book 8, page 661, AND EXCEPTING that portion of land conveyed to the State of Montana Department of Transportation described by bargain and sale deed recorded in Book 141 of Micro., page 899, AND FURTHER EXCEPTING a parcel of land described in Certificate of Survey recorded in Book 2 of Plats, page 370.
Section 11: W½ EXCEPTING THEREFROM those portions of land described in Certificate of Survey recorded in Book 8, page 661, AND FURTHER EXCEPTING a parcel of land described in Certificate of Survey recorded in Book 2 of Plats, page 370.

Township 3 North, Range 1 East, M.P.M., Broadwater County, Montana.
Section 26: S½
Section 27: All those portions of the E½, SW¼, N½NW¼, SE¼NW¼ lying East of U.S. Highway No. 10N, EXCEPTING THEREFROM those portions of land conveyed to the State of Montana Department of Transportation described by Bargain and Sale Deed recorded in Book 82 of Micro., page 187.
Section 34: All that part lying East of U.S. Highway No. 10N, EXCEPTING THEREFROM those portions of land conveyed to the State of Montana Department of Transportation described by Bargain and Sale Deed recorded in Book 82 of Micro., page 187.
Section 35: All

Deed Reference: Book 138 of Micro., page 452.

			DEBIT	CREDIT
Sale Price of Property			4,000,000.00	
County Taxes	10/28/20 to 01/01/21		61.83	
County Taxes	10/28/20 to 01/01/21		1,529.20	
Deposit				100,000.00
Title - Lender's Title Insurance		to Rocky Mountain Title & Insured Closing Svcs	40.00	
Title-Settlement Fee		to Rocky Mountain Title & Insured Closing Svcs	2,037.50	
Recording Fees		to Rocky Mountain Title & Insured Closing Svcs	14.00	
Water Right Transfer		to DNRC	25.00	
Subtotals			$ 4,003,707.53	$ 100,000.00
Balance Due FROM Borrower				$ 3,903,707.53
TOTALS			$ 4,003,707.53	$ 4,003,707.53

The above figures do not include sales or use taxes on personal property

APPROVED and ACCEPTED

BORROWER(S):

Brady Family Ranch Properties, LLC.

BY:_____

ESCROW AGENT:

_____
ROCKY MOUNTAIN TITLE & INSURED CLOSING SVCS

EXHIBIT B

PO Box 162 // Helena, MT 59624 // 406.461.0692
www.tripletreemt.com

HWY 287
EX. UNDERGROUND FIBER OPTIC
PROP. STORAGE UNIT A (TYP)
PROP. FENCE (TYP)
EASEMENT (TYP)
EX. FENCE (TYP)
PROP. GRAVEL SURFACE
PROP. STORAGE UNIT C (TYP)
PROP. STORAGE UNIT B (TYP)
EX. POWER POLE (TYP)
EX. GROUND CONTOURS
PROPERTY LINE (TYP)
OLD TOWN RD
PROP. STORAGE UNIT E (TYP)
PROP. STORAGE UNIT D (TYP)
EX. OVERHEAD POWER (TYP)
CONSTRUCTION NOTES
Storage Unit A: 15' x 50'
Storage Unit B: 10' x 15'
Storage Unit C: 5' x 10'
Storage Unit D: 5' x 10'
Storage Unit E: 10' x 15'
PRELIMINARY NOT FOR CONSTRUCTION
SCALE
0
30
60
FEET
N
TRIPLE TREE ENGINEERING
Jan 02, 2024 - 3:29pm - P:\Broadwater County\21-91_Brady Storage Units\Design\CADD\Exhibits\Application (Building for Lease or Rent)\21-91_SitePlan.dwg
PROJECT #
23-04
DRAWN BY:
INITIAL
CHECKED BY:
INITIAL
DATE
01/02/2024
SHEET
1
BRADY STORAGE UNITS
PAT BRADY
BROADWATER COUNTY
Site Plan
REVISIONS
DATE
DESCRIPTION